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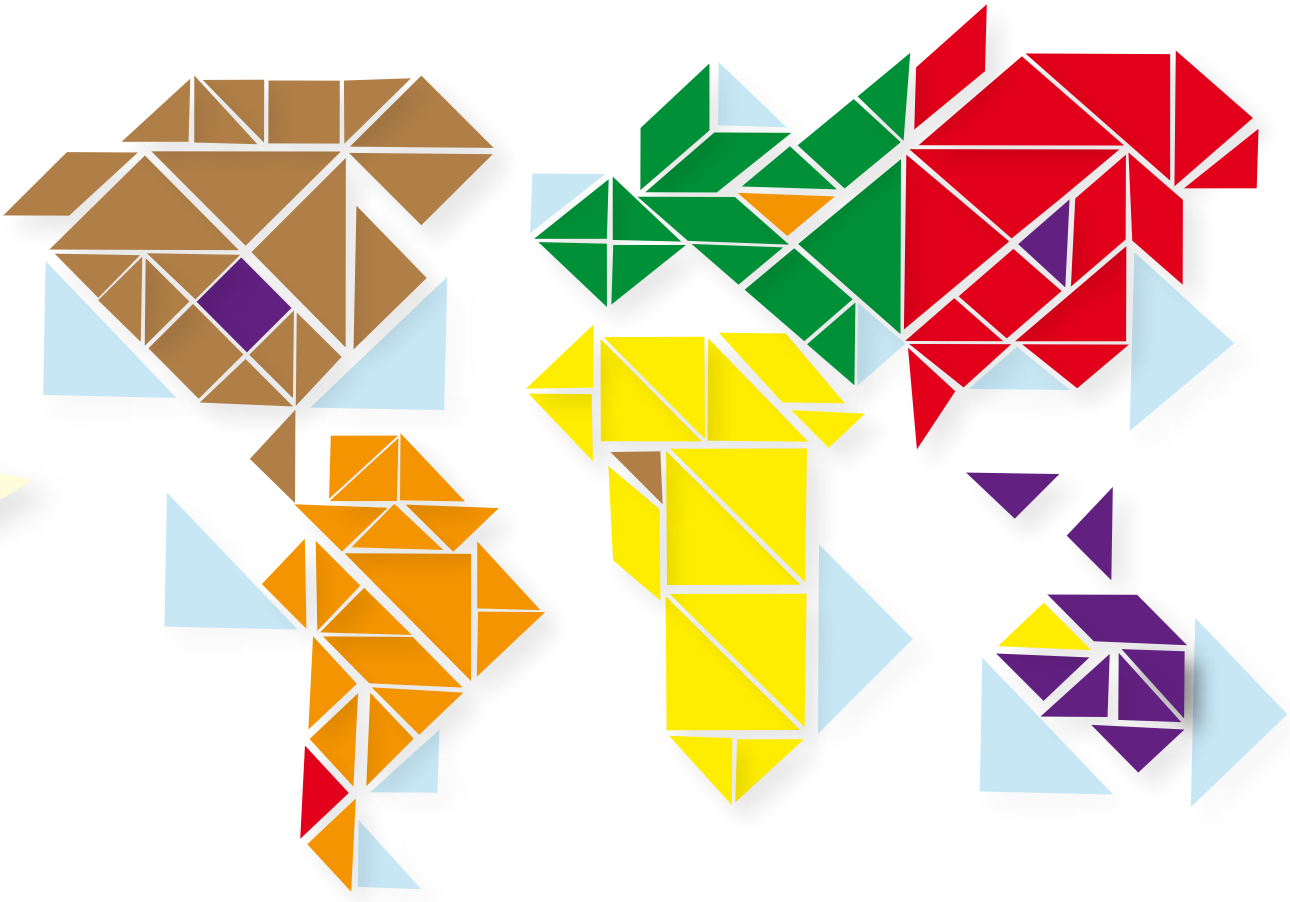
2013

IMAGINING CULTURES OF COOPERATION:
UNIVERSITIES NETWORKING TO FACE THE NEW DEVELOPMENT CHALLENGES

Proceedings of the III Congress of the University Network for Development Cooperation (CUCS)

Turin, 19-21 September 2013



POLITECNICO DI TORINO

UNIVERSITÀ DEGLI STUDI DI TORINO

Egidio Dansero, Francesca De Filippi, Emanuele Fantini, Irene Marocco (eds.)

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CUCS TORINO 2013

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FOREWORD

The Proceedings of the CUCS Torino 2013 Congress are the result of the fruitful confrontation on development and cooperation activities which many Italian universities, as well as members of the international development cooperation system are engaged in. The organization of the CUCS Torino 2013 was possible thanks to collaboration between the Italian universities belonging to CUCS (Italian University Network for Development Cooperation), the General Directorate of Development Cooperation at the Ministry of Foreign Affairs and the Ministry of Education and Research.

The fact that the two Turin universities chose to promote and organize in synergy the Congress and the publication of the Proceedings is due to their desire to contribute to the consolidation of a local development cooperation system, in partnership with all those who made the event possible. Special thanks go to: the local institutions (the Piedmont Regional, the Province of Turin, the Municipality of Turin, the Network of local municipalities for peace - Co.Co.Pa., Gruppo Trasporti Torinesi-GTT), the Turin School of Development (ILO), the Chamber of Commerce (CCIAA), Compagnia di San Paolo, Fondazione CRT and the Piedmont NGOs Consortium.

The very title of the Congress - "Imagining cultures of cooperation. Universities networking to face the new development challenges " - reflects multiple objectives. Here below are the main ones:

- the acknowledgement of the creative and innovative role which academic knowledge can produce and make available for the international development cooperation system;
- the joint commitment of the two Turin universities in the field of international development cooperation, as demonstrated by the 2013 Turin CUCS Congress. Their conviction is that cooperation is worthwhile it and that it is necessary "to cooperate in order to cooperate better";
- the active participation of the universities in the debate on the definition of the Post-2015 Development Agenda, by contributing with research, knowledge and the education of the future ruling classes, who will eventually be required to turn the objectives into policies and concrete results;
- a deep reflection on the relationship between development cooperation and the internationalization of university institutions and, more in general, of our territory.

In most cases academic mobility and university internationalization processes are first of all inspired by a competitive approach. The organization of the CUCS Torino 2013 Congress, its outcomes included within these Proceedings, and the projects that were born during the days of the Congress testify the richness, the effectiveness and ultimately the strong necessity for a cooperative approach in order to promote awareness in citizens who will be active and desirous of responding to the new global challenges.

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IMAGINING CULTURES OF COOPERATION: UNIVERSITIES NETWORKING TO FACE THE NEW DEVELOPMENT CHALLENGES

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THE CUCS UNIVERSITY NETWORK: COOPERATING TOWARDS A BETTER COOPERATION

The Proceedings of the CUCS Torino 2013 Congress (19-21 September 2013) represent the final step of a scientific project and of an organisational and relational process that have proved challenging, engaging and ultimately rewording. At the same time the Proceedings testify the growing contribution by the Italian universities to the debate on international development and set a new beginning towards the next CUCS Congress to be held in 2015 in Brescia, as well as towards a more tight and effective cooperation between Politecnico di Torino, University of Turin and all the other actors involved in international development cooperation within the territory of Turin and Piedmont (international organisations, local institutions, NGOs, foundations, private companies…).

Founded in 2007, the Italian Universities Network for Development Cooperation (CUCS) encompasses today 28 universities[i]. CUCS represents nowadays the widest academic and scientific forum in Italy where universities can exchange and debate among themselves and with other international cooperation partners on development issues.

CUCS Torino 2013 came after the first CUCS Congress in Pavia (June 2009), focused on "Universities and Youth for Cooperation and Peace" and the second CUCS Congress in Padua (September 2011), on "Academic cooperation and the synergy with civil society and business community"[ii].

The present Proceedings contribute to highlight the rapid pace at which CUCS is growing in terms of enthusiasm by its participants and in terms of quality of their scientific contribution to the current national and international debate on development, as acknowledged also by Caterina Bertolini (Coordinator of University Cooperation at the Minister of Foreign Affairs - General Directorate of Development Cooperation), in her introductory remarks to these Proceedings.

A detailed overview of CUCS objectives, institutional structure, historical evolution and future perspectives is offered by Emanuela Colombo (Polytechnic of Milan) on behalf of CUCS in the introductory session in these Proceedings. Gianni Vaggi's (University of Pavia) introductory remarks discusses the role that CUCS - and knowledge and training in broader terms - should play in the rapidly changing global scenarios of international development cooperation, while Eduardo Missoni (Bocconi University) focuses particularly on the contribution that universities might offer to the key area of global health.

THE CUCS TORINO 2013 CONGRESS: STRUCTURE AND GOALS

The title of the CUCS Torino 2013 Congress – "Imagining cultures of cooperation. Universities networking to face the new development challenges" – echoes the very mission of the University: being a space for debate and for producing and sharing culture, it aims at promoting a broader innovative effort to critically assess previous experiences in order to enhance the effectiveness of cooperation within and between universities, as well as with other development partners.

Consequently, one of the main objectives of the Congress was to offer such a space, in front of the need of evaluating, raising awareness, and to know how to produce a Culture of Cooperation in all academic research fields. Therefore CUCSTorino2013 gave the opportunity to researchers working in/for development cooperation to take the stock of the current debate and start with new grip and ideas.

A second objective was to enhance relations within the CUCS network and between the network and other development cooperation actors, such as governmental and local authorities, civil society and NGOs, private companies and international organizations (in particular the UN and EU agencies based in Turin).

A third objective was to promote a deep reflection regarding the changes occurring at different levels on current development trends (theories, policies, and practices) and cooperation, and on the role of Universities as development cooperation actors, in terms of research, education and training, solutions implementation in the field, technology transfer and co-creation. Moreover the III CUCS Congress reflected on the achievements and perspectives of the Millennium Development Goals (MDGs), and on the contribution that universities should offer to the definition of the post 2015 development agenda.

The Congress has been organised in four plenary sessions, three parallel sessions and two poster sessions attended by more than 400 participants from 31 Italian universities and 10 foreign universities, international organisations, national ministries, local authorities, NGOs, and private companies. The three days of the Congress were hosted in three different venues, the University of Turin, the Politecnico di Torino and the International Training Centre of the International Labour Organisation (ITC-ILO), as a symbolic and spatial representation of the cooperation efforts between different institutions that has made the Congress possible and successful. On the evening of Friday the 20th, the

Municipality of Turin hosted a side-event to the Congress, with the projection of videos on development issues.

In the first day of the Congress, the opening session was held in the Aula Magna of the University of Turin, with the introductory remarks by the Rectors, and by representatives of the Piedmont Region, the Province of Turin, the Minister of Foreign Affairs - General Directorate of Development Cooperation (MAE-DGCS), the Italian NGOs Association (AOI) and the CUCS network. Following the openings, a first plenary session was devoted to a special event on food security in preparation of the World Food Day, jointly organised by the CUCS and the Ministry of Foreign Affairs, with speakers from FAO, IFAD, WFP, NGOs and universities. The second plenary session aimed at introducing the scientific debate of the Congress, with interventions by the CUCS delegates from University of Pavia, Bocconi University of Milan and by the Ministry of Education and Scientific Research.

On the second day of the Congress, three keynote lecturers addressed the plenary in the Aula Magna of the Politecnico di Torino: Francesco Bicciato (UNDP), Mazen O. A. Hasna, (Qatar University) and Jean-Claude Bolay (Ecole Polytechnique Fédérale de Lausanne). During the third day of the Congress, the final plenary session was held at the International Training Center-ILO. This final session focused on the role of universities in the post 2015 development agenda, with representative from ILO-ITC, UNDP, UNESCO, European Commission DG Dev, OECD-DAC. The Italian Deputy Minister of Foreign Affairs, Mr. Lapo Pistelli, closed the session and the whole Congress by addressing in his concluding remarks the issues of the post 2015 development agenda and the process of reform of the Italian development cooperation.

Panels and posters sessions alternated the plenary sessions during the first two days of the Congress. The 33 thematic panels were selected through a call for panels, followed by a call for papers and posters; 155 papers and 93 posters were selected through a second call, with the scientific advise by the panels' coordinators. By involving both academicians and practitioners in the two rounds of selection, the Congress managed to enlarge the number of participants compared to the previous editions, and thus to enrich the quantity and the quality of the debate.

Being CUCS a multidisciplinary network, panel sessions have been defined considering a cross- and trans-disciplinary approach, identifying nine main thematic sections*:* Education, training and human resources; Global health; Security, risks, conflicts and vulnerability; Human settlements, territories and communities; Economic development: actors, networks and processes; Development cooperation methods and approaches; Rural development, natural resources and environment; Cultural cooperation; ICT and media for development. Each thematic session included different panels dealing with papers about theoretical and/or methodological approaches, while projects and experiences of research, education, technology co-creation and implementation in the field are included in poster format.

Paper' presenters were invited to contribute to at least one of the following overarching questions:

- *Partnerships and frameworks to enhance cooperation:* which styles, practices, strategies, actors, approaches and instruments strengthen the culture and the effectiveness of cooperation? How and with which specificities do Universities cooperate with other actors within development programs and processes? How to enhance their contribution?
- *The link between knowledge, technology and power within the processes of local and global development:* knowledge and technology play a crucial role in upholding the processes of economic development, in shaping power relations and in promoting or hampering human rights and democracy; how do Universities participate to these processes? How do they balance the detachment proper of scientific research with the inclination to civic and moral engagement in the processes of social transformation?
- *Technology transfer and co-creation:* which methods and instruments are the most appropriate to guarantee the sustainability of the technology transfer and co-creation? How to analyse its impact on receiving societies? Which kind of academic contribution? Which is the relationship between general and theoretical knowledge, on one side, and local and contextualised knowledge on the other? From technology transfer from the North to the South to technology co-creation and knowledge sharing, mainly thanks to ICT: utopia or reality?

THE CUCS TORINO 2013 PROCEEDINGS AND THE WAY FORWARD

The Proceedings of the CUCS Torino 2013 Congress collect most of the papers and of the posters presented during the Congress. The papers included in the Proceedings have been selected in close cooperation with panels' coordinators; they have been edited and revised following the Congress debate and an internal review by the panel coordinators in the aftermaths of the Congress. The Proceedings seek to contribute to the national and international debate on development cooperation activities carried out by the Italian Universities by sharing research-based analysis, stimulating debate and building common ground among key stakeholders.

The general picture offered by the whole of the papers and of the posters in the Proceedings is extremely rich and articulated, addressing the broader spectrum of the universities' field of intervention in international development cooperation. All the three university's missions are involved: research, training and the so called "third mission", that broadly covers the involvement of the university within the society, its engagement and outreach. In this respect, universities are contributing through training and research *for* development cooperation – i.e. producing general knowledge that might be used as a background for development cooperation initiatives -, *in* development cooperation –

getting directly involved within development cooperation activities by dint of applied training and research – and *on* development cooperation – approaching development cooperation and its social, political, cultural and technical dynamics as the privileged object of its study. These issues are explicitly addresses in the Proceeding section on "Education, Training and Human Resources"; they also represent a crosscutting theme to almost all the panels.

Beyond the specific contribution offered by each panel, paper and poster, we believe that the CUCS Torino 2013 Congress and its Proceedings represent a step forward towards a deeper and more effective engagement by the Italian universities within the rapidly evolving scenarios of international development cooperation. International development actors, theories, strategies, policies and practices are evolving both at the global and at the local scales. The Proceedings section on "Methods and approaches in development cooperation" specifically offers a glimpse of such dynamics, which again were addressed directly or indirectly in most of the panels. New donors such as China, Turkey and Brazil are emerging, redefining the traditional North-South equilibriums. They introduce new practices and devices in international cooperation, beside the conventional channels of official development assistance (ODA). The economic and political influence of these new donors often challenge more consolidated approach within the international development forums, such as those affirming the link between development and the promotion of democracy and human rights. On the other side, new ways of understanding and measuring development and well-being are emerging from the bottom up, both in high and low income countries. The Proceedings section on "Economic development" specifically addresses the growing role of economic actors, the private sector, and migrants' entrepreneurship in shaping these processes and orienting the definition of new development strategies in the context of the economic crisis affecting consolidated development models such us the European one, and resulting in the shrinking of public resources allocated to international development cooperation. Several other Proceedings sections and panels – ICT, media and development; ICT and Capacity building; Sustainability of environmental technologies in developing countries; Geomatics for emergency,… - address the role of technology, and in particular ICT as an instrument to empower new path of development, denouncing at the same time the risk of reproducing asymmetric power relations linked to knowledge and technology.

Are the traditional actors of international development cooperation, such us Italy and specifically Italian universities, aware of the magnitude of these changes? Are they equipped to tackle them? We consider the approval of the long awaited reform of the Italian development cooperation in August 2014 as an encouraging step towards a positive answer to these questions. The reform process was discussed during the CUCS Congress too, confirming the Italian universities' willingness to engage and cooperate with the Italian Ministry of Foreign Affairs and other development partners in the definition of national strategies and guidelines. In these respect, the Italian universities are looking forward further discussion and future implementation of the new Ministry's "Principles, guidelines and priorities for development cooperation with Universities, Research and Training Centres".

While these progresses are encouraging, we believe that there is still a long way ahead to sharpen the Italian universities contribution to international development. Therefore, on the basis of the CUCS experience and of the CUCS Torino 2013 Congress debate, we would like to conclude by sharing a set of questions developed in order to raise awareness, effectiveness and efficiency within universities development cooperation initiatives and towards a University policy on international development cooperation. These are the questions that will orient the future engagement of the Politecnico di Torino and the University of Turin, including their join initiatives, on international development cooperation. We hope that they might also inspire other universities, within the CUCS network and beyond.

1. Universities, international cooperation and the post 2015 development agenda

- Why universities should get involved in international development cooperation?
- How international development cooperation has been addressed within the different missions of the university (training, research and the "third mission" dealing with universities' public engagement and outreach)?
- How universities understand the new global scenarios and the new geographies of development? How do they insert in these processes?
- How universities are contributing to the definition of the post 2015 development agenda? How this agenda will shape their future engagement on international development cooperation?

2. Universities' internal organisation for development cooperation

- How the engagement in international development cooperation initiatives fits within universities broader strategies on academic mobility and internationalisation? The competitive approach based on university benchmarking and inspiring universities' internationalisation strategies is complementary or alternative to the spirit of international development cooperation?
- Do universities need to elaborate a specific agenda on international development cooperation? Or the issue should be rather tackled as cross-cutting theme in the ordinary planning and activities of the universities?
- Which are universities' best practices in terms of internal organisation to manage development cooperation initiatives, information sharing on these projects within the university and outside, and promotion of trans-disciplinary working groups for development cooperation?

- Which are the most suitable modalities to organise and offer training on international development cooperation issues for universities' students and staff?
- Which are the most effective tools to promote the research on international development cooperation issues?
- Which are the most needed mechanisms to monitor and evaluate universities' development cooperation initiatives?

3. The partnership for international development cooperation

- Which are the national and international academic networks more interesting and promising for international development studies?
- Which partnership should be established or reinforced with the other international development cooperation actors (governments, international organisations, NGOs, local authorities, private companies, foundations, religious actors,…)? Which are the most effective spaces and tools to foster such a partnership?
- Which academic partnership should be prioritised (top ranking international universities in high income countries or universities and other research/training centres in the countries of intervention)?

AKNOWLEDGMENTS

The Proceedings of the CUCS Torino 2013 Congress - edited by Politecnico di Torino and University of Turin – have been made possible thanks to the work of all the panels' convenors that have accepted to act as reviewers of the papers presented in their respective panels, as well as thanks to all the authors that have accepted to re-draft and submit for publication their papers and posters in the aftermath of the Congress. We wish to thank all of them for their valuable scientific contribution.

We are particularly grateful to Elena Giglia and Alessandro Leccese (University of Turin) for their guidance and support in publishing these Proceedings as a first issue of a new open access journal, JUNCO- Journal of universities and development cooperation. We hope that this will be the first of a long series of issues, allowing JUNCO to become a space where universities can share and debate the results of their researches among them and with other international development cooperation partners.

The publication of these Proceedings represents the last step of a long scientific and organisational process started in July 2012. Throughout this process we have met and we have been supported by the work of many people. In acknowledging all of them by name there is the risk to forget somebody, nevertheless we try.

A collective thanks to all the friends, colleagues, Rectors, Delegates of the CUCS network, particularly to Emanuela Colombo and Gianni Vaggi, tireless coordinators and spokespersons, and to Ferruccio Miglietta, CUCS' fundamental organising support.

A special thanks for their daily commitment on promoting international cooperation initiatives within the universities to: Marco Gilli, Rector of Politecnico, and Laura Montanaro, Deputy Rector for Internationalisation, and Silvia Vacca of the International Affairs Department of the Politecnico di Torino; Ezio Pelizzetti, former Rector of the University of Turin and Gianmaria Ajani, the current Rector; Sergio Roda, former Deputy Rector and Maria Lodovica Gullino former Vice Rector for International Relations of the University of Turin, as well as to the colleagues of the International Relations Offices of the University of Turin, (Claudio Borio, Rosa Tamburro, Fernanda Negro, Daniela Lauretta, Johan Fauriat, Valeria Sanchini, Maria Calabretta).

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(IFAD), Claudia Sorlini (University of Milan); Piero Sardo (Slow Food), Cristiana Peano (University of Turin), Federico Perotti (Focsiv – Volontari nel mondo). Equally we would like to acknowledge all the participants to the final plenary session of the Congress at the ITC-ILO Campus: George Jadoun (Turin School of Development-ITC ILO), Nicoletta Merlo (European Commission, DG-DEV), Michela Miletto (UNESCO-WWAP), Federico Bonaglia (OECD-DAC), Federico Bicciato, (UNDP).

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[i] CUCS Partner Universities are: Istituto Universitario di Studi Superiori di Pavia, Politecnico di Milano, Politecnico di Torino, Università IULM di Milano, Università degli Studi di Bergamo, Università degli Studi di Bologna, Università degli Studi di Brescia, Università Cattolica del Sacro Cuore di Milano, Università Commerciale Luigi Bocconi, Università degli Studi di Ferrara, Università degli Studi di Firenze, Università degli Studi di Genova, Università dell'Insubria, Università degli Studi di Milano, Università degli Studi di Milano-Bicocca, Università degli Studi di Modena e Reggio Emilia, Università degli Studi di Padova, Università degli Studi del Piemonte Orientale "Amedeo Avogadro", Università degli Studi di Parma, Università degli Studi di Pavia, Università degli Studi di Siena, Università degli Studi di Trento, Università degli Studi di Torino, Università degli Studi di Trieste, Università degli Studi di Urbino, Università della Valle D'Aosta, Università Cà Foscari di Venezia.

[ii] For the proceedings of the previous editions of the CUCS Congress see: Vaggi G., Colombo E., Miglietta F. (eds.) (2010), "L'Università e i giovani per la cooperazione e la pace. Formazione, ricerca, innovazione e partenariati per lo sviluppo globale", Atti del I Congresso CUCS 2009, Poliscript, Politecnico di Milano; "La cooperazione universitaria e la sinergia con la società civile e le imprese", Atti del II° Congresso Nazionale CUCS sulla Cooperazione Universitaria, Padova, 15-16 Settembre 2011, Università di Padova (CD-Rom).

ITALY AND THE POST 2015 DEVELOPMENT AGENDA. THE ROLE OF UNIVERSITIES

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The production of knowledge, the sharing of know-how and the training of qualified human resources are all becoming more and more meaningful in sustainable development policies.Participants must increasingly have more specific capacities of analysis and interpretation, of pinpointing appropriate but flexible strategies and of dialogue with beneficiaries and with other cooperation actors, both at the level of single countries and at an international level.

The Italian academic world and the world of research have for some time been contributing to development cooperation by means that have been evolving in time. In recent years, while the cooperation paradigm was in the process of thorough transformation thanks to the IV High Level Forum on Aid Effectiveness of Busan(2011), universities and R&D bodies have seen their role as cooperation actors fully recognized.

This role, on the one hand, presupposes an evolved concept of capacity development in favor of partner countries and, on the other, the scientific and intellectual contribution of the academic world to the international debate as regards development issues.Training is leading – through support activities and the formation of partnerships – to the creation in partner countries of university centers and research. These have been enhanced by training courses and can support scientific research in areas which are of utmost importance for the development of those countries.

On the other hand, the contribution of the academic world to cooperation themes can be particularly meaningful, also thanks to the Italian position in international debates. In the 2014-15 period, Italy has been playing a principal negotiating role within the UN system in the definition of the new 2015-2030 development agenda. This was preceded by the first high level meeting of the “Global Partnership for Effective Development Cooperation” in Mexico in April 2014 and will be followed by the semester of the Italian Presidency of the European Union in the second half of the year. Another major cooperation opportunity will be offered by the 2015 Milan Universal Exposition, a unique venue for international debates which will be characterized by original contributions, the result of experience gained in the field of cooperation and of the intellectual contributions of the Italian academic and scientific world.

The CUCS Congress, held in Turin in September 2013, offered a prime example of the level and the breadth of the development themes which Italian universities are facing with competence and enthusiasm, both in Italy and abroad. High level papers were presented dealing with education and training, economic development, conflicts and vulnerability, to mention just a few of the topics found in the Congress proceedings. Moreover, university interest and research undoubtedly add meaningful elements to the practical methods used and to the evaluation of final outcomes.Contents and methodology are two aspects which the General Direction of Development Cooperation will continue to work on, relying on the collaboration of Italian universities, to achieve results in line with the principles of efficient aid.

United Nations Educational, Scientific and Cultural Organization · UNESCO Chair in Energy for Sustainable Development

UNIVERSITY NETWORKS AS ACTORS OF SCIENTIFIC AND MULTIDISCIPLINARY PARTNERSHIPS: HISTORY AND DEVELOPMENT OF CUCS

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History and Mission of the CUCS (Coordinamento Universitario per la Cooperazione allo Sviluppo - University Network for Development Cooperation)

In December **2004**, the **Direzione Generale Cooperazione allo Sviluppo** (General Directorate for Development Cooperation) of the Minister of Foreign Affairs, promoted a wide project aiming to involve youths in the creation of **regional university networks**. The mission of this project, activated by the then Director General Deodato with the support of Prof. Caneva, was to foster the coordination between university and institutions. This coordination continued along the years thanks to the support of all succeeding Directors General, and in particular thanks to Director General Belloni and the current Director General Cantini, who reinforced the original scheme.

In this framework, some Universities, already part of one of the regional university networks in the northern region of Italy realized the importance and somehow the urgency of deepening the debate and keeping it at an academic level. Moreover, they gave birth to a University coordination which found its essence in the original characteristics and peculiarities of each University. This was the beginning of Coordinamento Universitario per la Cooperazione allo Sviluppo (CUCS) in 2007, that today includes 28 Universities. In the MoU signed by the Rectors and their reference delegates, the complex and multidisciplinary challenges of Human and Sustainable Development and Cooperation, as well as the necessity of strong partnerships, are recognized. Four are the fundamental elements:

- **Competences in Cooperation**: setting patterns of education, training, design and scientific communication in the sector, to give impulse to the creation of new generations of researchers, academicians and professionals (here and in Development Countries). Cooperation today needs to be seen in this professional frame. Voluntary attitude and inclination are positive engines, but they must be supported by consolidated experience and competence;
- **Cooperation models**: bringing innovation in the practice of cooperation using research for improving the efficacy. A research aiming at technologies and development models that are appropriate and participated, able to induce individual development and not dependence, and with the awareness that a unique optimum does not exist, but rather that each solution is strictly related to the specific context of action. Giving particular attention to genuine listening, reading and interpretation capacities and dialogue with local stakeholders lead to a positive n approach of mutual learning;
- **Partnerships**: building Networks of competences (among Universities, NGOs, International Organizations, Non Profit, Enterprises, local and national institutions), since it is true that being alone allows you to run faster, but you can't go far when such themes assume the complexity typical of our society.

The CUCS was born as a voluntary organism and each partner accepted to define the internal roles, the commitments and all the necessary functions in a participatory manner. Within this approach and in cooperation with the General Directorate of Development Cooperation of the Ministry of Foreign Affairs, the CUCS organized three **national congresses**, one every two years starting from Pavia 2009, then Padovaa 2011 and today Torino 2013, and several dedicated days in the years in between, giving space to the description of experiences of cooperation but also giving the opportunity to analyze some fundamental topics: We remember in 2009 the role of cooperation in the University, in 2011 the partnerships between University and Civil Society and between University and Private Sector, and today the role of training and research in the post 2015 agenda.

The relevance of Cooperation and Sustainable Development in the mission of University

Why do these themes have such relevance in the academia? What is the relation with the academic mission? Is only the domino of the so called third mission? In our opinion there is more, and there is a deep linkage with the first and the second mission of the University, that are education and research. We live in a further complex society, where we can't help recognizing the necessity to create solid bases of knowledge and specific competences as well as solid capacities of systemic analysis as well. This is requested by the current challenges of society. Thus, also from the University point of

view, it emerges the relevance **to enrich training curricula** of future citizens and professionals and the **role of scientific research in bringing innovation (that not always has to be conceived as invention)**.

Enriching training curricula: the original mission of University is training **graduates able to cover an active role in the transformation of the society**, both in the South and in the North of the World.

Time and challenges are changing: from the MDGs of today to the challenges of tomorrow post 2015 agenda, hence training methods and contents must adapt. Sustainable development must be somehow integrated in the curricula of the students (whatever disciplines they are studying), either from the theoretical knowledge either from the more practical point of view of the appropriate instruments. This is urgent not only for those who will operate in Cooperation, but also for all the individuals that will operate in global contexts, that are almost all our graduates. We all speak about internationalization. Also these capacities, beyond the personal skills of speaking one or more different idioms besides their mother tongue, may be considered as "internationalization".

These considerations are open at the international level and include also the role of Universities in promoting principles of sustainable development and possible paths. The CUCS is involved at all levels in this frame, from European projects to specific experiences, and intends to give its own contribution to the discussion both from the theoretical and practical point of view, implementing practical experiences and seeking a coordination at institutional level with our reference Ministries to debate on these topics.

Scientific Research for Innovation: **scientific research becomes a tool for development.** Today challenges are linked and cross the traditional disciplines. To make some examples:

- Developing countries still express emergencies to face in a synergic manner: food security and safety, access to energy and water, to an acceptable health care system, to education, the problem of urban development and its sustainable planning.
- Emerging countries, together with developed countries, need to face global issues that are integrated by definition and concern the compatibility of the economic development with the environmental protection, land ownership, labor and employment, peace and international security. Nowadays there is great attention to the Water Energy and Food nexus, Climate change, Land Energy and Water, urban development, quality of life, decent work. In this vision, technology and innovation, together with those models implemented in human sectors that represent the results of research, are further seen as tools able to support society in overcoming cultural, economic, environmental frontiers of human development. Finally, technology and know-how transfer become a collective building for a real and mutual learning (a humankind that grows and gives value to strengths, mitigating weaknesses).

Final considerations

The CUCS represented and represents a platform for debating all the issues pertaining the scientific and academic dimension of university cooperation.

We all know how it is really difficult to coordinate each other. And the few working example of network at the European level confirms the analysis. It is worth mentioning the presence in Europe of thematic networks as EADI or national as UNIPiD, very similar to CUCS even if more restricted (7-8 Finnish Universities). The Italian experience represents one of the very few example at European level. Its voluntary nature is certainly a big strength: it confirms, in every meeting and event, the real interest in the topic of Cooperation and the sincere sharing within the network, which is based primarily on mutual trust.

On the other hand, this voluntary nature expresses some limits in recognizing CUCS from a formal point of view, with a legal nature and able to apply to calls and refer in behalf of members. This topic is particularly important today. Indeed, in its future the CUCS needs to:

- become a more and more **representative speaker**, recognized and distinguished within the civil society and the institutions, in order to develop fruitful relationships from which the South of the World could gain benefit;
- widen the **design and intervention knowledge, skills and competences of University** in the Cooperation (by implementing joined projects and actions, as the Palestine case).

Therefore, the moment in which the CUCS should assume a more formal structure has arrived, though maintaining its voluntary nature and counting on the trust among partners.

The coordination has still many steps to make and share in order to grow, but it is already a relevant speaker for every program of development, education, institutional building or rebuilding. It is relevant where a synergic action among Government, Civil Society, University and Enterprises is desirable to have a real effect on the cultural, social and anthropologic change that is further requested by the global world.

For this change we must go on in doing our job, we must prepare the next generation of citizens and professionals; they need to be prepared and provided with adequate instruments to face the current and future challenges and to coop with them with deep ethics of responsibility.

We need this change for them, for us and for the future of our world.

THE DEVELOPMENT SCENARIOS AND UNIVERSITY COOPERATION

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ABSTRACT

The notion of development has greatly changed during the last thirty years and it includes many more dimensions than income per capita. Health education, environment gender are now regarded as some of the many faces of development. Debate is now going on the post 2015 Goals. In parallel with the evolution in the notion of development policies too have changed from the purely economic conditionalities known as Washington Consensus to a broader view of partnership for development. However the last thirty years have also seen important changes in the economic scenarios. Many countries in Asia have experienced long sustained economic growth and the economy has also improved in many countries in Africa and Latin America. We have also seen the emergence of the so called new donors, which are extremely important players in the world economy. But the present economic crisis is also largely due to an excess of productive capacity and to the saturation of demand in many important sectors. Many countries try to overcome the economic difficulties by cutting domestic demand and fostering exports. This however leads to increasing competition and to neo-protectionist attitudes.
International cooperation must take into account the changed economic relations. At the same time it must work along the line indicated by the view of development as empowerment and ownership. Two concepts which highlight the changing relations among the actors of international cooperation. From the donors-beneficiaries relationship we are moving to a more equal partnership, which however will also bring to the different judgments and evaluation which can be expressed. The smoothing of these differences is a challenge in order to achieve mutual trust. University cooperation has a great role to play in this endeavour, also because in the case of university partnerships distances are much smaller than in other type of cooperation. Networking, academic mobility, joint research are part of the process which must lead to a better mutual knowledge among the people of the world.

THE EVOLUTION OF THE NOTION OF DEVELOPMENT

In the beginning it was economic growth; in the fifties and sixties development was mainly regarded as economic growth: the increase in the Gross Domestic Product (GDP) per capita. Economic growth models focused on capital accumulation and on exogenous technical progress. According to the dominant views capital would flow to the countries in which it is scarce, typically developing countries and where labour was abundant; technology too would circulate more or less free of charge across countries, being a bonus for the poorest ones.

Today development is regarded as a multi-faced phenomenon, even better it is an ever evolving process. Let us briefly point out some of the major contributions to this new view. It all started with debates in the sixties and seventies, but it is only towards the end of the eighties which a general consensus began to emerge on a broader definition of development, more in [1].

In 1987 Bruntland Report by the United nations the idea of sustainable development receives a first definition, as the process which can satisfy the needs of present generations without compromising the possibilities of future generations, see [2]. Since this report the environment dimension and the idea of sustainability become essential aspects of the notion of development, recall the 1992 Rio Conference on sustainable development.

In 1990 we have the first Human Development report by UNDP with the Human Development Index, which includes not only income but also education and health.

In September 2000 the Millennium Declaration by the United Nations, the OECD, the World Bank and the IMF present the Millennium Development Goals, eight goals which provide the now most widely accepted definition of development, including health, education, environment and gender.

In 2012 at the conference Rio+20 the idea of the Sustainable Development Goals, SDGs, emerged; the sustainability dimension was receiving a broader definition not limited to the environmental aspect.

The MDGs were set for the year 2015 which is now quite close and on may 2013 the United Nations published a report which represents a first step in order to set new goals and a new time frame [3]. This is just a proposal for debate which now includes twelve goals and five ‘transformative shifts’, which focus on jobs and inclusive growth, leave no one behind, peace, sustainability and finally a global partnership, which is in fact a repetition of former MDG number eight.

This evolution has been strengthened in recent years thanks to the fact that the very notion of Gross Domestic

Product is being questioned has an appropriate indicator of the standard of living of people. The research work focuses on the definition of well-being, perhaps the most famous report is the so called Sarkozy Report of 2008 [4]. A lot of attention is also dedicated to the issue of environmental sustainability, see for instance the work of Dasgupta at Cambridge [5]. And in 2012 we have the first World Happiness Report which owes a lot the work of a team at Columbia University led by Jeffrey Sachs [6]. In 2013 in Italy we have the first report on the with an indicator for the BES - Benessere Equo e Sostenibile (Equitable and Sustainable Well-being).

Poverty too is no longer defined in terms of income only, but more in general as 'deprivation', or the lack of capabilities, in the sense of lack of the possibility to decide and to choose about one's life. Since 2010 we have the *Multidimensional poverty* by OPHI, the Oxford Poverty and Human Development Initiative [7].

All these approaches are quite recent ones and even if they show some relevant differences, nevertheless there are major similarities in respect to the view of development they support. Let us single out just two of these similarities. First is the idea that development corresponds to the enlargement of opportunities and possibilities of choice by the people. Second development it is a process which is valued and regarded as in a positive way by the people who are involved in it. The evolution of the notion of development and the emergence of that of 'human development' owes a lot to the work of Nobel laureate Amartya Sen [8].

DEVELOPMENT POLICIES AND INTERNATIONAL COOPERATION

In the eighties and nineties we had the *Washington Consensus*; a set of economic reforms which was based on two main ideas. First, economic growth will derive thanks to reduction of the role of the state and to the opening of the economy; second, economic benefits will trickle down to the entire society. Therefore let the markets do their job in terms of allocation of resources and development will arrive.

In the late nineties different views emerged focusing more on the role of institutions and the so called 'second generation reforms', which were related much more to the social features of the economy, to the accountability of the governments and to an appropriate interaction between the state and the markets; the so called *post-Washington Consensus*. Less well-known but equally important is the approach to development policies proposed in 1999 by the then President of the World Bank James Wolfenshon: the *Comprehensive Development Framework*, which implied both an holistic view of development and a set of possible policies based on multiplicity of actors, from private firms, to local governments, to civil society and international organization.

Beginning in 2000 with the Monterrey conference on 'Finance for development' a series of High Level Forum has been held in order to define some sort of best practices in international cooperation. They go from Rome to 2003 to the Paris declaration of 2005 to the Accra Agenda for Action of September 2008 and to the 2011 Busan fourth forum on Aid Effectiveness, which has ended up with the *Busan Partnership for Effective Development Co-operation.*

The major topic of all these conferences has been aid effectiveness, which has however been examined from different points of view. Monterrey stressed the fact that if developing countries have to meet the MDGs by 2015 they must implement the appropriate policies and reforms, above all good governance, but the rich countries must commit to more and more predictable and stable aid flows. Up till now only five of countries reaches the *0.7% of GDP* which is the target set by the UN since the seventies. Monterrey also emphasizes the role of global public goods. The 2005 Paris declaration recommends the donor to have more accountable programs, to adopt coherent aid policies and to coordinate among themselves. In Accra the notion of *country ownership* is underlined. Finally Busan focuses on development effectiveness and not just aid effectiveness, which requires having a shared tools between all partners, including partners in the 'South', for the evaluation of programs and projects. The involvement of the civil society is another important issue and more attention is dedicated to the development outcomes of projects and policies rather than to input indicators only.

THE ECONOMY STRIKES BACK

The debates of the last thirty years give a very useful view of development and they also indicate the procedures and the strategies which should be adopted in order to try to achieve it. We are therefore in a very convenient position to think about the way in which international cooperation should be approached and university cooperation in particular. However we must consider the overall scenario in which cooperation must operate in the coming decades and in some major changes in the world economy since the last decade of the twentieth century. This should help us to set international cooperation, and in particular European cooperation in a realistic context.

Let us point to some of the most important new elements in the world economy during the last generation. On the positive side, first.

One, at the world level goal one of the MDGs - halving the number of those living on less than 1.25 dollar a day - will be achieved largely thanks to economic growth in Asia and in China in particular. Most of the poor people now leave in middle income countries (see [9], p. 1) and all the more so if we take the 2 dollars a day threshold (see [9], p. 6).

Two, the twenty first century will be the century of Asia. Luckily enough we have had the Asian Miracle, with

many countries in the continent upgrading from Low Income to Middle income. The notion of emerging markets did not exist twenty years ago, not we had the BRICS. This is of the utmost importance because it takes us away from the gloomy perspectives in which some regions have a destiny of economic stagnation; now there are success stories and not only in China.

Three, the 'lost decade' of the eighties and nineties of the last century, saw stagnating income per capita in three world regions: Middle East and North Arica, Latin America and Sub-Saharan Africa. Since the year 2000 even Sub-Saharan Africa, the poorest region, has been doing better than before growing on average around 5%; it is not China and let us see if these growth rates can be sustained over the years, but there are reasons for optimism. Something similar has taken place in Latin America, where there has also been some decrease in inequality.

Four, the so called South now presents some global power, China, perhaps India and some regional powers, Brazil, South Africa and Russia, therefore the old division rich-poor countries, north-south needs not be replaced by a more articulated geography. From G7 and G8 the world has moved to G20. This is good because it means that there are more players and potentially more opportunities for the poorest countries. This does not mean that trade relations of China with Africa are positive ones, but the emergence of the new economic powers, or new donors - not members of the OECD-DAC club - gives African countries an opportunity to deal with more countries, instead of being stuck into the traditional economic relations dating back either to the colonial period or to the post World War II economic setting. This fact also opens the possibility for the always advocated south-south cooperation.

Five, since 1998 Foreign Direct Investment and remittances have become the largest financial flows to developing countries, with around 600 and 450 billion dollars respectively. Remittances include only the officially registered ones, hundreds of billions are assumed to enter developing countries in an unofficial way. International aid is around 130 billion.

For many years we have advocated trade not aid, now we should all be happy about that. However... there is also the dark side.

One, the financial crisis of 2007-2008 is not yet over and it has drastically reduced employment opportunities in many high income economies, most notably in Europe. Financial markets whose size stills overtakes the World Income by almost nine times, have proved to be extremely volatile and risky and is still not yet clear how they can help to produce wealth and job opportunities around the world. In modern finance there is an inherent element of systemic risk and of volatility.

Two, since the late eighties income distribution has worsened in all High Income economies reversing a pattern of increasing equality which had taken place since 1950, this is indeed extremely worrying because it means that all the social achievements of the last sixty years might be at danger. This includes the welfare system in western Europe, which by the guarantees decent minimal conditions and less unequal opportunities in education and health to everybody; notice that these are the two pillars of the notion of human development.

Three, even if growth rates are higher than before in many developing countries young people do not find appropriate employment. The situation is particularly severe in some Arab countries which should generate between 2.5 and 3 million of new jobs every year in order to absorb all those who are entering the labour market. Here there appears to be a kind of mismatch between the number of qualified people holding university degrees looking for a job and the ability of the economies to absorb them; quite often the result is migration.

Four, the present crisis has many features of a crisis of overproduction. For many years China has been investing 35-40% of GDP and other countries in Asia have followed similar path even if not with such exceptionally high investment ratios. This has lead to a situation of overcapacity at the world level; the overall productive structure could produce more goods than those which can profitably be sold on international markets. This is clear in some productive sectors which appear to be saturated, the car industry being a case in point.

The world economy is now much more interconnected that it was forty years ago, but it is also going through a period of deep changes in what we can call the international division of labour. This is leading to huge imbalances which show both in the different growth rates among countries and above all in the deficits and surplus of the balances of payments. This happens among different countries and regions but also inside regional groups, the Euro area being an obvious example. In many countries this leads to budget constraints and to deflationary policies, with negative impact on resources for both knowledge and international cooperation. Even more dangerous are the tendencies towards isolation, the opposition to free movements of people and to neo-protectionist policies. Economic competition is now quite fierce and countries tend to protect their economies and to pursue both strict budgetary policies and to repress domestic demand in favour of exports. Remember that Asian economic growth is largely explained by a combination of export–led growth, industrial policies and huge accumulation of physical capital.

EMPOWERMENT AND OWNERSHIP

If economic forces are so powerful and even dominant, what about all the nice ideas of development as a complex process, the importance of human rights, the new MDGs and cooperation as partnership? These are well established points and we need to debate and to progress from them. However, we must not underestimate the strength of economic forces, the opportunities they offer but also how ruthless they can be.

Empowerment and ownership are two words which very well describe the recent trends in the debates about

development and cooperation. Empowerment is the possibility to enlarge one's opportunities and her set of choices [10]. Ownership has the ability of developing countries and people to take the development process into their own ends. Both notions lead to a situation in which we will have to interpret cooperation as a dialogue among more equal partners. International cooperation will not immediately cease to be also partly donor-driven, but the role of traditional donors will become less relevant and more voices from the 'global south' will make themselves heard. It is a complicated process already under way and the economic facts we have examined in the previous section do reinforce it.

Cooperation as a partnership among actors who now feel they have the right to decide about their future. We are rapidly moving from *working for* to *working with*.

But the partners differ in terms of culture, tradition, social organization and conditions of life. How to decide the priorities: infrastructures or health? Economic growth or human rights? Traditional village authorities versus equal rights and voices.

DISTANCE, DIALOGUE AND UNIVERSITY COOPERATION

In international cooperation we are used to *distance*, but that is mainly described in terms of different standard of living, which can be quantified thanks to economic, social, demographic indicators and so on. However there is another aspect of distance which has to do with the notion of *otherness*, and in particular with the fact that we may have different views on what is right or wrong, good or bad. People do differ in the way in which they formulate judgements. All these is of course particularly relevant in international politics, but it applies to a variety of situation and conditions, including judgment about what is an appropriate ethical conduct. Human beings all other the world continuously make judgments about simple and complex situations, which goes from how to organize family life to international politics. We also differ in terms of emotions and feelings, which are a very important element in the process of formulation of judgements. The perception of distance is also largely subjective; how poor do I feel I am? Does it depend on the indicators of international organizations? How much do I value income *vis-à-vis* culture, family bonds etc.?

International cooperation is about reducing these distances; the gap will never close completely and does not have to disappear because each of us is entitled to her identity; we must not end up all thinking in the same way. Nevertheless when distance is quite large there are problems in sharing initiatives and projects and in working together.

Dialogue is the process by which distances in judgements might be reduced; of course politics plays an extremely important role, but we must not underestimate all the opportunities of direct knowledge among different actors. A pre-requisite for dialogue is mutual knowledge. International cooperation will more and more become a dialogue between equal partners who need to know each other better.

In this scenario *University cooperation* enjoys several advantages, I would say even privileges. We work with young people and we have to do with education and research, that is to say with *knowledge* in the sense of transferring and even producing it; knowledge is now regarded as new global public good (see [11], p. 35). We also have several tools to appreciate the differences and the same time to reduce distance: joint research programs, academic mobility, different networks, ranging from scientific societies to thematic networks, to regional networks and so on. All this networks provide also a sense of commonality, a sense of belonging, which is an important tool in reducing the distance.

In the case of university cooperation distance is not so large. How far are we from a poor villager in a remote part of Kenya? How far are we from a colleague of the university of Nairobi? In the latter case we have many common tools for communication, words easily have similar meanings, all the more so if we belong to the same academic field.

The ability to appreciate differences and to ask ourselves questions is a fundamental springboard for the improvement and enlargement of knowledge: otherness is also a way to learn. But when distance is quite large this may be difficult either because we are unable to communicate, or because our original positions are so far away that the whole process to re-approach them is painful and does not seem to produce positive outcomes.

In university cooperation it is much easier to have positive feedbacks: sharing a project is complicated but it is not so difficult to achieve a situation in which there is satisfaction by all partners. Thanks to the positive experience we can think of carrying on our collaboration. Dialogue needs to produce some positive outcome which strengthens trust and mutual feelings; empathy improves.

When distance is large it is more difficult to come to a common sense of satisfaction; dialogue requires more time and patience, and if some unpleasant event takes place the whole process of closing the gap might stop and even be reversed.

In his 2006 *Identity and violence* and in the 2009 *The idea of justice* Amartya Sen faces the issue of the different identities which characterize people around the world and how they might lead to conflicts and separation. To move from closed social groups to more open ones is a fundamental issue in today's debate on global justice. This is a crucial issue for the coming decades and we can do a lot to favour the process of opening up our identities. Indeed this is perhaps the most important challenge but also the most important opportunity of university cooperation.

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ROLE AND SOCIAL RESPONSIBILITY OF THE UNIVERSITY IN PROMOTING INTERNATIONAL COOPERATION FOR GLOBAL HEALTH

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The acceleration of the process of globalization, understood as interconnectedness and economic interdependence, has pushed a process of cultural homogenization, along with the adoption of a Western, neoliberal development model, based on the dogma of economic growth and maximization of profit, which in turn requires indefinite and unsustainable consumption of resources and production of waste. Zygmunt Bauman's “I consume, thus I am” well synthesizes this contemporary way of recognizing the existence of the human being.

Social and environmental determinants embedded in our growth-society have dramatic consequences on health. On the one side, they are associated with substantial epidemiological changes in the profile of risk factors, with a growing double burden on poor countries and populations now facing both the challenge of “traditional” infectious diseases and the upsurge of chronic degenerative diseases of “modernity”, once associated with wealthy life styles. On the other side unregulated growth societies go hand in hand with growing inequities in the distribution of health and access to health services.

In developing countries, impoverished National health systems face a growing shortage of health personnel for whose training significant domestic resources were invested. Active “pull” policies from rich societies and “push” factors associated with local living conditions favour brain drain from rural to urban areas, and from the South to the richer North of the world.

The loss of trust in multilateralism, the advent of global philanthro-capitalism and the push for a stronger role of the private sector in global health, gave rise to a mushrooming of public-private ventures, an increasing fragmentation of international aid to development, lack of coordination, exogenous models and procedures imposed on recipient countries, with ever increasing transaction and operational costs, in spite of the widely recognised and repeatedly reaffirmed principles of Aid effectiveness (ownership, alignment, harmonization, outcome based management and accountability).

These are only few examples of the increasing complexity of the world scenario and pose new challenges to education and research in the field of health.

Beyond the traditional approaches of “Tropical” medicine - an exotic legacy of colonial times erroneously attributing to geography the origin of diseases - and International Health - narrowly defining intergovernmental relations related to the health sector and medical practice abroad -, Global Health is an emerging area for interdisciplinary studies, research and practice that considers the effects of globalization on health -understood in the comprehensive meaning of a complete state of physical, mental and social well-being- and the achievement of equity in health for all people worldwide, emphasizing transnational health issues, determinants and solutions, and their interactions with national and local systems.

University plays a fundamental role in building new knowledge and competences for Global Health, which obviously links with international and transnational cooperation, starting from a wider reflection on, and rethinking of development. Thus, four areas of research appear to be relevant to the purpose: research on development (what should be really understood as human progress?); research for development (studies on: societal models and policies, methodologies, approaches, technologies, etc.); research on Development Cooperation (studies on: policies, governance, procedures, financing, practices of cooperation, etc.); and, in Development Cooperation (action research, north-south, and triangular collaborative research projects, etc.).

Regarding University's educational mission, higher education institutions dealing with the education of medical doctors and other health care professionals, including professionals trained in other disciplines (economic, social, political, etc.) that will operate in health-related or health-influencing fields, can no longer leave out a comprehensive understanding and consequences of the existing interrelationships between the local and global context. In today's globalized world, the promotion of the awareness of those interrelationships and appalling inequities, and the education of new generations of health professionals committed to social justice has become an ethical imperative. In that direction, the inclusion in the learning process of future professionals of an intercultural exposure and the direct experience of problems and life conditions in poorer societies, represent powerful educational tools.

There is a pressing need to reflect not only on “what is taught” (content) but on “how it is taught”, inserting the training of future professionals in a values context that will prepare them to act as citizens of the world, for a world capable of future (in peace, sustainable and equitable). To that end, especially for Universities promoting international development cooperation, providing the students with the tools and the environments facilitating their “learning to be” and their “learning to do it together” should be at the centre of their social role and responsibility.

PARTNERSHIPS BETWEEN ACADEMIA AND NGOs IN TECHNICAL STUDIES IN ITALY

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ABSTRACT

This paper presents selected partnership experiences between technical universities and NGOs in Italy aimed at promoting Sustainable Human Development (SHD) through formal higher education initiatives. It stems from the GDEE project (Global Dimension in Engineering Education) as part of a series of actions aimed at assessing and reinforcing cooperation between NGOs and academia which is recognized as a key factor in reinforcing the presence of SHD in formal teaching programs at all levels of university education. Four higher education programs based in technical (science and engineering) university departments are presented, which reveal several common traits in their goals, approach and activities. The paper is co-authored by both academic and NGO staff. In all the examined initiatives, partnerships between academia and NGOs both at local and international level are seen as a fundamental element of the educational approach. Thanks to the adopted multi-perspective viewpoint, the paper critically discusses the main strengths, open challenges and future perspectives of the selected initiatives. This preliminary analysis can serve as a basis for programs aimed at systematically reinforcing NGO-University partnerships as a win-win strategy within both the higher education and international development cooperation systems.

INTRODUCTION

Higher education has a great potential of promoting Sustainable Human Development (SHD), although such potential is often exploited only to a limited extent, particularly in technical studies such as those in science, technology, engineering and architecture, despite considerable progress has been made at international level especially in the past two decades [1]. Within the current international framework, actions that positively impact on the knowledge, skills and attitudinal values of future professionals in relation to SHD are increasingly needed.

There is an increasing demand of future professionals to be equipped with appropriate knowledge, skills and attitudinal values needed to interpret the dynamics that lie and emerge from completely different cultures, traditions, experiences, environments and economies. This need is not restricted to the actors of international cooperation for development but rather it is expressed by a much broader ensemble of private and public actors at both local and international level, as it emerges clearly from different sources, like a 2011 survey carried out by Politecnico di Milano in collaboration with Fondazione Politecnico di Milano and Assolombarda: engineering companies operating in the global context ask for highly specialized technical skills and also for a set of soft skills (interpersonal skills, teamwork, communication, etc.) which represent an added value in the modern context. For this reason, the promotion novel educational opportunities and approaches is increasingly being adopted by several universities at international and national level, often integrating academic curricula with “on the field” activities jointly developed with civil society organizations, thus improving the services offered by academia in terms of professional learning opportunities. The competencies the students can develop within such learning programmes are well recognized by a variety of stakeholders therefore also bringing a competitive advantage to the students in their future hiring process.

However, one of the main gaps that need coordinated action among networks of higher education institutions is a still significant shortage of academics actively involved and committed in fostering and directly introducing the SHD dimension, together with these related learning goals, in teaching activities, particularly in technical studies.

Global Dimension in Engineering Education (GDEE) is a 2-years (2013-2015) EuropeAid-funded project that aims (i) at improving the competences of academics to introduce SHD in the curricula and (ii) at facilitating the engagement of both staff and students in academic initiatives related to SHD. The foreseen activities to achieve such outcomes are i) to produce and spread teaching materials, ii) to train teachers in SHD integration, iii) to promote networking among them, and iv) to link academics with NGOs through formal and non-formal actions at universities. The main foreseen outcomes are the integration of SHD in regular subjects and to set up, in collaboration with civil society organizations (NGOs), other SHD-related activities.

The present paper has been conceived within the fourth project activity, namely the one oriented at reinforcing the linkages between academics and NGOs, and it has been co-authored by both academics and staff from NGOs, with the aim to achieve a critical, multi-perspective view on the subject. It performs a preliminary investigation of the partnerships between academia and NGOs in a series of selected technical university curricula in Italy, which have commonly recognized the added value of such cooperation within their educational approach. More specifically the paper aims to: (1) present together four SHD-related higher education programs in four different technical Italian universities; (2) highlight the role of NGOs in those experiences; (3) discuss the main strengths and challenges of NGO-university cooperation in those programs and (4) briefly summarize the strategic perspectives of this partnership.

THE EXAMINED, SHD-ORIENTED, HIGHER EDUCATIONAL INITIATIVES

Four educational programs promoted by four different academic institution in Italy have been reviewed with a focus on the role of partnerships between academia and NGOs to promote the development of SHD relevant knowledge, skills and values for students of technical curricula. A summary of the main SHD-oriented experiences of these institutions in technical studies is reported in Table 1 and given below.

Table 1 - Summary of the SHD-oriented higher education Italian programs examined within the present work.

	CETAMB University of Brescia	**Politecnico di Milano**	**Univ. of Milano Bicocca**	**University of Trento**
Undergraduate level and lower	*University seminars and other initiatives with high schools*	*University seminars and peer education (university and high school students)*	*Not examined within this study*	*CIVICAS – 1 ECTS open to all students*
Graduate level (Master)	*Final degree theses*	*Final degree theses* *"Energy for Development" track of Energy Engineering program*	*MSc Water Resources Management in International Development Cooperation*	*"Environmental Management in International Cooperation" track of Environmental Engineering program* *Final degree theses*
Graduate level (PhD)	*PhD in Appropriate Methodologies and Techniques for International Development Cooperation*	*Individual PhD projects* *Staff exchange – PhD student from DCs*	*Not examined within this study*	*Individual PhD projects*

1. CeTAmb – University of Brescia

CeTAmb (Research Centre on Appropriate Technologies for Environmental Management in Developing Countries), a research centre of the Department of Civil Engineering, Architecture, Land, Environment and Mathematics (DICATAM) of the University of Brescia since April 2000, deals with international cooperation regarding the technical-environmental aspects, trying to work as a meeting point among the academic world, the international cooperation sector and the young people, in particular PhD, university and high school students. This summary presents the methodological approach proposed and applied by CeTAmb in the implementation of its training and research activities, aimed at playing a role as a scientific technical support for NGOs working in developing countries and, at the same time, involving and training young people (from high-school to PhD students) in this sector.

CeTAmb's main objective is the implementation of training and research activities to promote and share knowledge addressed to improve the quality of the environment and the promotion of the concept of sustainable development in developing countries (DCs) through the application of appropriate technologies. These technologies are designed, planned, implemented, managed according to criteria of simplicity, economy and sustainability, while respecting the peculiarities of the context of intervention. CeTAmb's main intervention sectors are: drinking water supply and treatment, wastewater treatment and reuse, solid waste management and improved energy access from solid fuels.

The activity is carried out through direct participation in international cooperation projects and through the education programs. This allows to achieve the general objectives of the centre:

- to contribute to the international cooperation sector through the direct participation in projects that are useful and sustainable over time.
- to apply scientific and rigorous methods, promoting research and innovation in the field of appropriate technologies for environmental management in DCs,
- to educate and train young people to the issues of international cooperation.

In order to adopt a multidisciplinary approach in the implementation of these activities, in the years CeTAmb has created a network of contacts, including research centres (Italian and international), Italian and local Non-Governmental Organizations (NGOs) and involving actively high-school and undergraduate students and professionals.

Moreover, since 2008, in collaboration with the Faculty of Medicine of Brescia, a PhD course in "Appropriate Methodologies and Techniques for International Development Cooperation" has been activated, aiming to strengthen research in the environmental and health sector.

2. UNESCO Chair in Energy for Sustainable Development – Politecnico di Milano (PoliMi)

The challenge of supporting sustainable development and human promotion has become a mission at Politecnico di Milano in line with the international claim (Lozano et al., 2013), led through the collaboration with governmental, academic and international institutions. The issue has recently joint the specific activities of the Department of Energy, where initiatives like Sustainable Energy for All and the problem of access to energy are being faced, under the UNESCO Chair in Energy for Sustainable Development, which has been established in March 2012.

Activities have been tailored to combine the innovative and rigorous methodologies for the performance evaluation of energy conversion systems with a holistic and creative approach which aims at meeting the constraints of economic, environmental and social sustainability. Research and teaching are focused on strategies for improving energy access and for the impact evaluation of energy project. The activity also counts in the effective contribution of PhD students, coming from Developing Countries.

The general objective of Politecnico di Milano in this initiative is to enrich the new generation of professionals and citizens by promoting methodologies, contents and tools able to face current challenge with a multidisciplinary approach, merging technical aspects with social, economic, policy understanding.

The specific objectives are:

- *Broadening Knowledge and Promoting Research for development*
- Starting from this overall objective, courses and activities aim to prepare a professional figure with a broad knowledge in technical and scientific fields, able to operate in the energy sector at a multi-scale level, including the development of specific technologies and the energy analyses of different scenarios in different areas, by the choice of appropriate solutions and the attention to functionality and empowerment of people.
- *Curricula innovation*
- Courses link theory and practice and are implemented with several actors of cooperation to development, as the NGOs, with the presentation of real cases in which students are involved with a participative approach for their final project work. This gives the opportunity to students to face sustainable development with a comprehensive approach, analyzing international policies and legislation, understanding all interested actors in cooperation, highlighting the interrelation among economic, social and technical dimensions.
- *Enforcing networking and knowledge sharing*
- Staff exchanges and joint projects are implemented in line with the interest of Politecnico enforcing the SHD-oriented network especially with universities from developing countries. The staff exchange is tailored to knowledge sharing: incoming PhD students carry out part of their research activity at Politecnico in order to acquire the tools for effective development of cooperation projects, while outgoing PhD students develop such tools on the field, thus completing their formation.

To achieve those objectives, the main activities are structured as follows:

- *Broadening knowledge and research for development*
- Students are offered to work on MSc & PhD theses in joint cooperation with universities from Developing Countries. Contents are mainly related to: demand side planning in relation to the local framework, multi-

criteria, multi-objective and multi-stakeholders evaluation for selection of strategies in DCs, appropriate technologies and their integration in small scale grid based on RE sources, monitoring and evaluation of the impact for energy project and systems, result chain evaluation for project (from input to outcome), evaluation of the impact over the capitals of the local contest.

- *Curricula innovation*
- PoliMi has implemented a new track on Energy for Development within the MSc in Energy Engineering. It aims at combining engineering fundamentals with a multidisciplinary approach to address global problems by using the required methodology to assess impacts of technological solutions. Two courses within the track are specifically tailored towards these aspects: "Development Economy" and "Engineering and Cooperation for Development". Students are introduced to the concepts of development, to the roles of the different stakeholders such as Academia and NGOs, and of Ethics and Human Rights. Staff from NGOs actively participate to the courses by presenting real cases where students are asked to solve and deliver a project work.
- *Enforcing networking and knowledge sharing*
- Partnership with universities in DCs has been enforcing through EC-funded projects proposals, aiming at upgrading higher education system on Sustainable Development, Sustainable Energy strategies and North-South cooperation and two lecturers (from Tanzania and Cameroon) are now developing their PhD research at the Department of Energy. Networking is also fostered through annual high level, multi-stakeholder international conferences on the necessary integrated approach to global resource management (water, energy, food), where technology, economic and policy aspects are faced together.

3. Water resources management in international development aid – University of Milano Bicocca

The origin of the MSc in "Water Resources Management in International Development Cooperation" is rooted in the cooperation among the University of Milan Bicocca and several national-level NGOs. Active participation of NGOs in the Master occurs both at the management and training levels: staff from the NGOs are part of the Management Board of the Master, together with academics, and are also strongly involved in teaching, where they facilitate tailoring the MSc topics to the evolving framework of international cooperation. Strategic choices related to the development and update of the Master contents have been promoted on the basis of indications and suggestions from practitioners who are active in the field, with the aim to increase the relevance of the taught modules for future employment of the participants. Overall, NGO staff and in general practitioners of international cooperation represent nearly 50% of the teaching staff of the Master.

Almost one third of the learning activities are part of a practical stage in the field with a project of one of the NGOs that is co-managing or externally supporting the Master. Each stage is jointly defined between academics and NGOs to reflects at best the interests of the NGO itself and the learning needs of each participant

4. UNESCO Chair in Engineering for Human and Sustainable Development – University of Trento

The strategic goal of the Chair is to contribute to the growth of a new generation of engineers able to make technological choices that promote development in its sustainable, human, social, environmental and economic dimensions. Within such broad scope, education and research topics of the Chair preferentially focus on environmental engineering in a interdisciplinary perspective, in close partnership with actors from the developing world.

The institutional activities of the Chair are part of the undergraduate and graduate programs in Environmental Engineering at the University of Trento. Their general objective is to contribute to the creation of a new generation of engineers, socially and culturally aware and responsible, able to work in interdisciplinary and intercultural contexts and to foresee and assess the overall impact of engineering project on the local communities and on the environment. The key educational activities of the Chair can be grouped as follows:

- *Undergraduate education*: the main activity is CIVICAS, a 1 ECTS short course opened to last-year undergraduate students enrolled at the University of Trento, aimed at introducing the issues of international development in the education of young future professionals, using the perspective of international cooperation for development as a preferential viewpoint. It is a joint project between the Chair, other Departments and the Training Center for International Cooperation (TCIC) and it represents an innovative experience at a national level.
- *Graduate education*: The graduate courses are part of the Track "Integrated Environment and Landscape design in the context of international cooperation", within the MSc in Environmental Engineering. The specific objectives of this curriculum, a core activity of the Chair, are: (i) to integrate the traditional skills of environmental engineers with knowledge of notions about human and sustainable development, international cooperation, multi-stakeholder participation; (ii) to provide engineering students a first awareness of the international dimension of environmental engineering, also fostering practical experiences in international development projects and (iii) to develop the necessary knowledge and skills for making engineering choices appropriate to the local environmental and social context.

- This Track intends to develop professionals able to design, implement and coordinate environmental engineering projects and programs that fit with the specific social, environmental, economical and cultural context, both at an international and local level. This curricula therefore aims to equip students with the necessary technical knowledge, tools and critical skills needed to detect environmental problems, related causes and underlying processes and dynamics, to identify context-appropriate solution strategies able to integrate environmental protection with sustainable human development. The educational package comprises 6 courses of 6 ECTS each. The methodology integrates lectures with active learning approaches including group activities (Role plays, joint project development), field visits, practical fieldwork (including design and data post-processing). Two internship (short and long) can be part of the program on the basis of the student choice. The short internship is a group work [4], the long one is individual work on environmental issues within a development project.
- *Research and knowtransfer*: the broad thematic competence areas of the Chair are: river management, water supply and sanitation, urban and environmental planning and analysis, biodiversity conservation and forest management, biodiversity policies and development, solid waste management. Within its mission, the Chair promotes applied research activities on the above topics. Research is strongly linked with real-world contexts and the Chair is committed to share and disseminate the research outcomes for practical uses in the field.

THE ROLE OF NGOs IN TECHNICAL UNIVERSITY EDUCATION

The partnerships between the examined SHD-oriented technical academic programs and the NGOs working in international cooperation for development show that the cooperation between these two entities can take different forms. At the educational level they can be grouped as follows:

- *Direct involvement of NGO staff in university teaching*: NGO staff give seminars, series of lectures, often drawing from their direct experience in real project to present case studies, to deepen theoretical concepts, to link together topics that are usually taught under different technical disciplines, or to promote the active learning of the course participants through techniques such as role plays. This mode of cooperation is common to all the examined experiences.
- *Participation of NGO staff in the management of academic programs:* in many of the examined cases staff from NGOs take part in the decision making process that governs the educational program. This promotes a stronger partnership, allows to examine in detail the different interests and needs of both academics and field practitioners. This is seen as a key requirement for a complete development of the educational potential of NGO-University cooperation.
- *Practical experiences of university students in the field*: a shared opinion among the authors is that in all the examined educational programs a key added value is provided by the practical experience of students in the field, in the framework of NGO-leaded development cooperation projects. This most often takes the form of individual internships aimed at preparing the final degree thesis, but in some cases [4] it can be the stage of a team of students supervised by tutors in the field. In all cases, this constitutes a unique opportunity to translate theoretical knowledge into practical actions, to become aware of the reality of a completely different cultural, social, legal and often also environmental context, and of its implications for working as an engineer or, in general, as a technician. Students learn the basis of planning and conducting technical fieldwork in these contexts and are often involved in post-internship follow up with the partner NGO. It is not infrequent that the outcomes of the internship produce a positive feedback on the NGO's activities in the project, either by promoting its development or by enabling the application of new methodologies for specific purposes.

These modes of cooperation have been developing along a period of time of roughly 10 years for almost all the examined programs. The collaboration often foresees other complementary ways of interaction concerning applied research, knowledge transfer and sharing, joint fund raising strategies, which are out of the scope of the present analysis and are not examined herein.

DISCUSSION

The critical review of the university-NGO collaboration within the examined educational programs has allowed to point the main strengths and critical areas that require improvement and, in some cases, joint revision. The following items emerge as a preliminary interaction among the coauthors, and precedes a panel session at the *CUCSTorino2013* Conference, where it is be expected that further relevant elements will be added to provide a more comprehensive picture.

Strengths of NGO-University cooperation

There is a clear mutual interest, which has been growing in recent years, to which the relative long duration and stability of many existing collaborations can be related.

NGOs increasingly need professional competencies, from the phases of needs analysis and project preparation to implementation, assessment and post-project monitoring. In all these phases the need emerges of continuously being up-to-date about relevant new theories and applications relevant to the evolving international framework, especially on key priority areas such as climate change, land use, food security, energy and water management. The size and organizational structure of most of the developmental NGOs in Italy does not allow the existence of a permanent, specialized technical staff within the organization able to fit these needs, and support from private technical consultants only is often useful in specific cases but cannot provide a systematic answer. On the contrary, partnership with universities has a strong potential to overcome such limitation.

On the other hand, many universities at the national level, coherently with a broader international academic wave in the past two decades, have been increasingly focusing on SHD in their educational and research activities. Academia can strongly benefit from the field experience of the civil society which can offer many chances to validate/revise their theoretical or modeling approaches based on real case studies. Within their educational domain, universities seek linkages with real-world applications and NGOs working in international cooperation for development represent the most suitable partners for this purpose, because they often have strong roots, established relationships and a privileged viewpoint both in the local and in the international contexts where they operate. The continuous interaction with the world of NGOs ensures the continuous relevance of the educational contents and approaches for the teaching activities themselves (i.e. for the field internships) and for the future students' employability.

The above two viewpoints can match almost perfectly when both parties commit themselves to develop a common language, to understand each others' needs and interests, with the ultimate aim of creating added values to their respective actions aimed at the promotion of sustainability, especially in relation to global priorities like poverty reduction and human development.

Critical areas of NGO-University cooperation

The first critical element lies in the "strategic" dimension of the collaboration. A proper planning and follow-up of the collaboration among NGOs and Universities and of each student involved in field internships is a key success factor for a fruitful interaction, able to produce positive impacts on both the educational and applied research dimensions. On the contrary unstructured collaborations frequently result into frustrating experiences for both sides that can be exacerbated by the context of isolation which is an inherent part of individual internships.

Besides those related to unstructured collaborations, the main criticalities that have been pointed out within continued NGO-University educational partnerships can be grouped into the following three main categories.

- *Different basic priorities of academics and practitioners*: successful project implementation and ultimate achievement of development impact on the local context is often among the main priorities for NGOs, while Universities are characterized by increasing internal pressures to publish the research outcomes in indexed, peer reviewed scientific journals. While this is inherent in the nature of the two different types of institutions, the way it is managed by both sides can make a difference: in the worst cases is foster divergences and hinders a successful cooperation, with adverse effects on the learning process of the student.
- *Different constraints in relation to time:* this is highlighted by both academics and practitioners and is often related to the difference in priorities. When NGO project have a research component, which is partially delegated to supervised students, the timely and professional implementation of research is mandatory. If interests diverge and poor clarification has been made by both parties at the beginning of their cooperation, supervision from either the NGO or the academic side may not be as effective. Sometimes the students may be squeezed between the two constraints, with both positive and negative consequences on their learning process of learning. Theoretical studies might be partially discarded by the student in favor of the application to be completed, and also potentially relevant information cannot be included in the project.
- *Existing gaps in SHD competencies of academic staff.* While there is evidence of recent improvements on this side, still technical support often suffer from the limited knowledge and experience of academic experts about development issues, the local context thus making it hard to match the actual needs of the development programs. Addressing this gap is the key priority area of intervention of the GDEE project, which has motivated the present study.
- *Evolving international university context.* This has been highlighted by only one of the coauthoring institutions: the increasing know-how of local universities and of consultancy firms in southern countries has sometimes reduced the added value of a direct involvement of Northern Universities in technical assistance.

CONCLUSIONS AND PERSPECTIVES

Albeit preliminary and incomplete, this paper has attempted a first step towards a more comprehensive assessment of the present state, the strengths and critical areas, and of the future perspectives in strategic partnerships between NGOs and universities in technical university curricula in Italy. It stems from the GDEE project (Global Dimension in Engineering Education) as part of a series of actions aimed at assessing and reinforcing cooperation between NGOs and academia which is recognized as a key factor in reinforcing the presence of SHD in formal teaching programs at all levels of university education. It has been coauthored by representatives of all the involved institutions thus allowing integrating and comparing different views and perspectives on the topic. The paper precedes a related panel session at the *CUCSTorino2013* Conference, where it is expected to achieve a more complete view of the relevant elements and actors.

The future perspectives of the cooperation between development NGOs and technical universities in Italy can be derived from an "appreciative enquiry" [5] perspective, through consideration of the positive elements that already allowed facing some of the described criticalities in past experience.

It is the opinion of several coauthors that the outlined challenges can find room for improvement when the cooperation becomes effective all throughout the project cycle, thus providing true educational and research opportunities for academics, who in turn commit themselves to create the necessary working conditions that fit the practitioners' needs. Such enabling environment makes it possible to share the critical elements as they emerge, which can be better tackled together than separately. Also the inherent differences between the parties can be viewed as a continuous stimulus for a dynamical relationship that stimulates new questions with high potential for innovation.

There is a great, still largely unexploited potential for a broader sharing of practically relevant knowledge resulting from the large number of educational and applied research initiatives. University networks such as CUCS (the Italian University Network for Development Cooperation) can play an important role in increasing the dissemination and impact of new methodologies, theories and applications that are shown by NGO-University cooperation to be relevant in the field. Proper exploiting of this opportunity would positively feedback in the education systems for young professionals of the future.

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COOPERATION PROGRAMS ON EDUCATION AND TEACHERS TRAINING: THE ROLE OF UNIVERSITY AND EFFECTIVENESS EVALUATION

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This panel outlines the analysis of international development cooperation projects on education and training, which involve the university both as a promoter and as a partner. The aim is to highlight the specific support by universities in developing multi level actions: some of the projects aim at promoting policies to grant everybody the right to schooling, others projects are focused on training professionals, and some others introduce direct tests, in scholastic or extra-scholastic environments characterized by generalized difficulties or by multiple risk factors. The panel collects experiences carried out in different countries, where converging issues can be found, both in the aims of the projects and their results, though on extremely different levels.

F. Zanetti's contribution shows the experience of the University of Bologna in Kosovo. The program, carried out by the Dipartimento di Scienze dell'Educazione, funded by Save the Children and by the Italian Development Cooperation, was aimed at promoting processes of local development and specifically the culture for integration of impaired students. The project was carried out in collaboration with the Minister of Education Science and Technologies of the Republic of Kosovo and with Prishtina University. The initiative led to the realization of a strategic program for the comprehensive education of children with special needs and a coherent project of university training for special needs teachers. The perspective adopted is characterized by three main topics: the empowerment of the participants aimed at avoiding the creation of inferiority and subjection conditions in the targeted groups; the long term sustainability of the actions to counterbalance welfare dependency; the active involvement of the beneficiaries. The proposed model of training, therefore, enhances the teachers' social competences, turning them into innovation carriers, as active protagonists within the projects as well as subjects able to detect different needs throughout the territory and to provide comprehensive and adapted answers.

The contribution of C. Coggi and P. Ricchiardi from the University of Torino, on a similar theme, proposes an appraisal and sustainable training model for educators and teachers, tested in Brazil and in some countries of Central America and Africa. These training modules are tightly connected to empirical tests, aimed at detecting learning difficulties in students who grew up in multiple risk factor conditions, the most suitable programs and the training needs of the professors. The survey carried out focused on the specificities of the role of the university in a fruitful cooperation with NGOs and scholastic institutions based in the analyzed territories. The University should first of all *make an in-depth analysis of special needs*, concerning the training requirement, which often comes out as the teachers and educators' difficulty in dealing with complex learning problems as well as significant delays in *school readiness*. Observational studies and targeted surveys shall be carried out, aimed at outlining any specific student weaknesses and the needs of the professionals. Thus the research groups shall *elaborate on the identified issues, aligning them within a written international framework*, in order to *define innovative action programs* to propose to local professionals, so that these can access them and adapt them to the needs within their specific contexts. Hence, the University can start pilot studies, with the support of local professionals, in order to study and select the most effective actions to meet the required needs, checking both on short and medium term results. Based on empirical evidence, the constituted group of international research, also involving local universities in a profitable synergy, can organize *training sessions* for the professionals acting in the analyzed territory. Such actions are necessary to encourage the sustainability of the actions proposed and must be performed in compliance with the modalities of actively involving the people they are targeting. Concerning this item, the research group has tested two different models. The first is the responsive model, constructing knowledge and offering methodological directions to the people involved in training, starting from their requests for learning support. The second is the *training-research model*, foreseeing an initial sharing of the principles of the proposed method, in order to offer an orientation based horizon to those that these actions are targeted towards; a phase of familiarization and re-alignment of the materials of the group; some lab simulations and finally pilot experiments in classrooms and with the support, remotely, of the research group of the University, and of local NGOs. The University validates the approach and summary *assessment of the effectiveness* of the proposed interventions and actions, involving all the players, and the *socialization of the results*, through publications in the several involved Countries.

A research group from the University of Torino verified the model in Central and South America and Africa. The team carried out special studies on learning difficulties, developing consistent training actions, in order to develop within local professionals, strategies of cognitive and motivational empowerment of pupils with special needs. The proposed training model is aimed at increasing the competences of teachers in cognitive and emotional-affective mediation, by using a recreational approach to learning, which uses play-materials for pupils aged between 3-6 years and free online teaching software for pupils aged between 6-11. Teachers and trainers are offered an intuitive knowledge-based teaching structure, in small groups, through an involvement experience, focused on essential core

disciplines, in languages, mathematics and logic. The programs started in the countries where this cooperation is happening foresee, at least for the primary school, the use of computers, also improving digital awareness. Technology transfer though, creates several sustainability issues, mainly linked to the need to keep the hardware working, to update software and to access the web. Further difficulties the group of research had to deal with, in carrying out the programs of cooperation, concern above all, the selection of local skilled professionals ready to manage the coordination and to support the activities, once the training and pilot experimentations have been concluded. Institutions have not always been able to be in charge of the program. Where this happened (ex. Minas Gerais) it was clear that the teachers trained in several schools had accepted the principles of the method, substantially modifying their approach to the teaching criteria in their classes. This result was acknowledged and appreciated also by local authorities.

The panel illustrated the two formative models in an analytical way. T. Bonasso presented the training research-action presentation carried out Teofilo Otoni, in Minas Gerais. R. Trinchero presented the responsive model performed at Kigali in Rwanda.

Formative experiences have covered the themes of cognitive enhancement which exploited games on calculators. The intervention in Africa was divided into the following steps: 1) tracking of the expectations and preliminary knowledge of the participants; 2) software based re-aligning; 3) exposure of the basic concepts of cognitive enhancement; 4) comprehension test and feedback of participants-trainer and trainer-participants; 5) tracking of the problems met on the field by teachers, based on the acquired theoretical knowledge, with case studies; 6) isolation of paradigm problems and exposure of possible techniques and action strategies; 7) planning of class interventions and first preliminary experimentations; 8) final test with the request to participants to describe possible actions they would like to undertake in class, based on what they learnt during the course. In both situations, Rwanda and Minas Gerais, the activities are continuing thanks to the collaboration of NGOs and the involvement of local authorities.

FROM A DISCIPLINARY APPROACH TO THE CULTURE OF INCLUSION: THE ROLE OF THE DEPARTMENT OF EDUCATION STUDIES OF THE UNIVERSITY OF BOLOGNA IN THE PROJECT "INCLUSIVE EDUCATION FOR CHILDREN WITH DISABILITIES IN KOSOVO"

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ABSTRACT

Particularly over the past decade, the Department of Education Studies of the University of Bologna has consolidated its role in education and consulting in the field of socio-educational interventions in international cooperation. In different contexts and with different social stakeholders, the common purpose has always been to foster the development of autonomy and construction of aware identities by the inhabitants and communities in the project territories. In the latest project, funded by Save The Children Italia Onlus and the Italian Development Cooperation, from 30/11/2012-30/04/2013, generally aimed to contribute to the inclusion of more vulnerable groups in the economic and social life of Kosovo, starting from school. With 50% of the population aged under 25, the implementation of quality inclusive education starting from pre-school age for all citizens, whatever their ethnic, social belonging, their disability/ies, represents a priority for the Government for the development and democratisation of the country. A specific objective is to guarantee access to quality preschool and primary education for children with disabilities in 8 municipalities of the 7 regions of Kosovo. The operational plan of the project was based on the cooperation between Save the Children, the MEST "Minister of Education, Science and Technology" of the Republic of Kosovo, the Faculty of Education of the University of Prishtina and the Department of Education Studies of the University of Bologna with the aim of: - implementing the "Strategic plan for organizing inclusive education for children with special educational needs in pre-university education in Kosovo", drafted by the MEST; - providing technical support to the MEST and the University of Prishtina for drafting a teacher training plan for teachers and support teachers, based on inclusive education (establishment of a Master Course of Inclusive Education; renewal of the Preschool Programme and Primary Education Programme with a view to social inclusion); - viewing and knowledge of the Bologna degree programme for support teachers; - activating and supporting a process of renewal in teacher training, recalling the social function of school and professionalism which may be a factor for innovation in the quality of course contents in new training courses and social policies.

CONCEPTUAL ORIENTATION FOR DEVELOPMENT COOPERATION AND THE NEW ROLE OF UNIVERSITY COOPERATION

Socio-educational and learning interventions in the context of development cooperation cannot be removed from an in-depth reflection on the very concept of cooperation and development, in relation to social transformations and new global scenarios, which demand models and practices that take account of sustainability, governance and an educational dimension that is increasingly linked to autonomy, participation and inclusion.

The aim is to analyse new potential conceptual orientations, through models, instruments, thoughts on good practices that offer ideas for adjusting the aim of intervention policies. This means starting from changes in the complex concept of development in order to be able to define new cooperation instruments and models.

The concept of development dates back to the post-war period, defining the process through which, thanks to the support of more industrialised countries, "backward" countries would have reached the same level of so-called progress, in the name of modernisation and economic growth, in a western, post-colonial perspective. According to this meaning, antinomies are created that are still very difficult to overcome, despite their inadequacy: developed/developing, rich/poor, industrialised/non industrialised.

Around fifty years later, during which time economic growth has not managed to achieve the illusory objective of putting an end to poverty, we examine the profound contradictions that mark the activities undertaken with a view to development, which is still very often perceived as more in terms of damage than of opportunity. The attempt to create a fairer world has failed, the global socio-economic divide has taken a stronghold, the difficulties caused by development have increased where the poverty of certain groups or countries has been used as a pretext to promote investments with positive effects mainly in the richer countries.

In the 1990s a new concept of development took hold, with a different meaning: "human", combining the criteria of

social progress with those of economic progress; “sustainable”, implying a focus on the conservation of natural resources and respect for the environment; “participatory”, considering the process of democratisation and the protection of human rights. A new concept of poverty and social exclusion took hold, the prelude to a vision of intervention no longer oriented to a compensatory action but rather to participated development blending solidarity and entrepreneurship, aiming to foster processes to strengthen social networks and cultural change following logics of empowerment [1].

This therefore led progressively to an approach to development marked by: a new awareness of the multidimensionality of development (and the consequent loss of centrality of economic growth); from a vision of development as an equality of opportunities to realise one's own skills (and therefore the possibility to choose); from the establishment of the global dimension of development processes, making the north and south of the world of common interest; from the recognition of the plurality of parties to development and the consequent need to ensure complementarity between the actions of different parties with different, public and private natures.

In continuing to investigate the complex idea of development of both society and individual, and on the nature of the poverty that can be eliminated by development, the educational dimension holds a broader social function: on one hand, it becomes strategic and transversal to all types of interventions focusing on human development, and on the other, the complex weave of elements described above have made the processes of negotiation and construction of joint meaning, which must be tackled by operators in the field, more difficult and complex; in order to work effectively the problem of competencies and training becomes fundamental and strategic.

Precisely in the light of the analysis of this scenario and the new role played by the educational dimension, since 2000 the Department of Education Studies has set a priority twofold objective. The first is to develop competences suited to the complexity of these new humanitarian aid and development cooperation contexts that are able to promote relations between cultures and the capacity for social and cultural change through the empowerment of human resources in local communities. In the field of socio-educational intervention, in particular, the lack of skills leads to methods of action in which the undoubted inspiration of solidarity risks being accompanied by choices of an exclusively assistential nature or even to more or less aware introduction of burdensome elements of cultural colonisation which do not foster the development of growth processes for the autonomy and construction of aware identities among the inhabitants of the territories involved.

The second is that of overcoming the dominant logics of emergency among cooperation stakeholders. Projects work mainly in a perspective of immediate intervention, aiming to guarantee the survival of populations and the structural recovery of services: consequently, cooperation workers and project volunteers often have more sense of commitment and human solidarity than the skills required for long-term support interventions that are functional to accompanying the slow process of requalification of the realities affected by conflict from the inside. There is a clear difficulty in connecting humanitarian emergency interventions with organic choices and assistance in development: substantially, the ability to promote development "from the inside" which would constitute the most qualified professional heritage of international cooperation.

The participation of university experts (working in the design, management and assessment of interventions in the socio-educational field) in international cooperation agencies (the United Nations, national and international NGOs, the Italian Development Cooperation office of the Ministry of Foreign Affairs), has covered and continues to cover various sectors, from basic education (for children and adults), social services also in emergency situations, the prevention of children's distress, the fight against the sexual exploitation of minors and child labour, up to processes of teaching innovation and social and school inclusion, again in the field of medium and long-term interventions, able to contribute to the local implementation of experiences that accompany the perspectives of education with those of the promotion of peace and socio-economic development and always pursuing the purpose of human development and support for vulnerable groups and those at risk of social exclusion.

THE PROJECT “INCLUSIVE EDUCATION FOR CHILDREN WITH DISABILITIES IN KOSOVO”: THE REFERENCE FRAMEWORK

In the latest project, funded by Save The Children Italia Onlus and the Italian Development Cooperation, from 30/11/2012-30/04/2013, generally aimed to contribute to the inclusion of more vulnerable groups in the economic and social life of Kosovo, starting from school. With 50% of the population aged under 25, the implementation of quality inclusive education starting from pre-school age for all citizens, whatever their ethnic, social belonging, their disability/ies, represents a priority for the Government for the development and democratisation of the country. A specific objective is to guarantee access to quality preschool and primary education for children with disabilities in 8 municipalities of the 7 regions of Kosovo. The operational plan of the project was based on the cooperation between Save the Children, the MEST “Minister of Education, Science and Technology” of the Republic of Kosovo, the Faculty of Education of the University of Prishtina and the Department of Education Studies of the University of Bologna with the aim of:

- implementing the “Strategic plan for organizing inclusive education for children with special educational need in pre-university education in Kosovo”, drafted by the MEST;

- providing technical support to the MEST and the University of Prishtina to develop a teacher training plan for teachers and support teachers, based on inclusive education (establishment of a Master Course of Inclusive Education; renewal of the Preschool Programme and Primary Education Programme with a view to social inclusion);
- understanding the degree programme for support teachers (specialisation programme for teaching support activities envisaged under MIUR decree of 30 September 2011);
- activating and supporting a process of renewal in teacher training, recalling the social function of school and professionalism which may be a factor for innovation in the quality of course contents in new training courses and social policies.

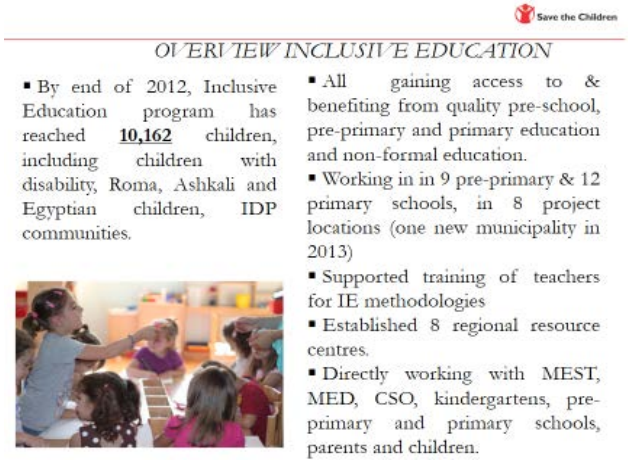
Specifically the teaching staff of the Department of Education Studies of the University of Bologna (composed by Roberta Caldin, Roberto Dainese, Elena Malaguti, Elena Pacetti, Federica Zanetti) coordinated the work of the group consisting of professors of the Faculty of Education of the University of Prishtina, the representatives of the MEST and the staff from Save the Children, agreeing on some aspects that characterise the approach to inclusive education.

The project is set within a context marked by social and educational change in which the Ministry of Education, Science and Technology and the Faculty of Education, University of Prishtina play an active and strategic role for the development of Kosovar society, as demonstrated in a number of reference documents:

- *Strategic plan for organizing inclusive education for children with special educational needs in pre-university education in Kosovo 2010-2015*, Ministry of Education, Science and Technology, 2010;
- *Administrative instruction. Professional assessment of children with special instructive-educational needs*, Cabinet of the Minister, Ministry of Education, Science and Technology, 2012;
- *Personnel qualifications working with students of special education needs*, Cabinet of the Minister, Ministry of Education, Science and Technology, 2012;
- *Criteria for election of assistants and instructors for inclusive education and their obligations*, Ministry of Education, Science and Technology, 2012;
- *Current Status and the Future*, Faculty of Education, University of Prishtina, 2012.

Since the 1950s the education system in Kosovo has run special schools, differentiated according to different types of disability; only since 2000 have the first steps been taken towards the integration of children with special needs in the mainstream school system. However, it was not until 2007 that educational policies began to move towards inclusive education. As underlined in the document "Strategic plan for organizing inclusive education for children with special needs in pre-university education in Kosovo 2010-2015": "*This strategy reflects the close cooperation and consensus of many partners who contribute to the development of this process in central level, local level, civil society, professional organizations etc. Strategic document has summarized all the concerns and challenges that accompany this process by defining its purpose and vision and strategic objectives such as: early identification and intervention and increase the inclusion of children with special educational needs; provide and strengthen support mechanisms for inclusive schools; professional development of educational personnel; improvement of physical infrastructure for inclusive schools and increase awareness on inclusive education. A the same time it provides ideas and concrete activities for the realization of these objectives. Establishing an inclusive educational community is the duty of each member of society, therefore it remains the responsibility of each of us to give the maximum contribution to the implementation of planned activities being convinced that it is the society the one who benefits the most*" [2].

The process initiated by Save the Children, with the involvement of the MEST and the Faculty of Education, University of Prishtina is innovative and complex, and goes beyond mere school; it is a cultural transformation which changes the relationship between school, family and society, among the teachers in the schools; it changes the university context and the approach to knowledge by both students and teachers.


Save the Children

OVERVIEW INCLUSIVE EDUCATION

- By end of 2012, Inclusive Education program has reached **10,162** children, including children with disability, Roma, Ashkali and Egyptian children, IDP communities.
- All gaining access to & benefiting from quality pre-school, pre-primary and primary education and non-formal education.
- Working in in 9 pre-primary & 12 primary schools, in 8 project locations (one new municipality in 2013)
- Supported training of teachers for IE methodologies
- Established 8 regional resource centres.
- Directly working with MEST, MED, CSO, kindergartens, pre-primary and primary schools, parents and children.

Fig. 1 - Final Workshop: Perspective of Inclusive Education in Kosovo, Prishtina, 18 April '13. *From the presentation "SAVE THE CHILDREN IN KOSOVA/O Implementing Inclusive Education Model in Kosova/o" by Ahmet Kryeziu, Country Director, Save the Children in Kosova/o.*

Talking of inclusive education in the training of teachers and specialist support figures means first of all rediscovering and promoting the social function of school. Priority tasks of schools of all levels are both the learning and socialisation of students. School sets out to remove or overcome the obstacles which prevent or hinder the full individual and social realisation of the individual and the community they operate in.

Inclusive education requires the profound modification of traditional teaching methods. It demands teaching that is able to blend the right to equality with the right to diversity. In other words, it requires teaching which, on one hand, is able to pursue strategies of individualisation, adopting tools that as far as possible put students in a condition to achieve the same objectives, and which on the other hand, allows individual students and groups of students to develop personalised competences according to their own specific motivations and resources.

The framework of rights establishes the passage from a model of primary exclusion, insertion and integration, to the current model of inclusive pedagogy and education, focusing on the prospects of inclusion and specifically of educational processes. In 2011, aiming to develop policies and projects targeting people with disabilities, the World Health Organisation and the World Bank produced the *The World Report on Disability*[3], which includes a specific section on education and childhood. Recognising the greater risk of exclusion and emargination from society lying in the condition of disability compared to the population without disability, it aims to provide useful indications for steering innovative policies. The document clearly highlights how the presence of conditions of disability “today” still suffers from forms of discrimination and the undermining of human rights, even more so for women and children with disabilities. From this point of view, the Convention on the Rights of Persons with Disabilities promoted by the United Nations in May 2008 offers strong support. The report marks and epoch-making change in the protection and support policies targeting people living in conditions of disability. Among the innovative elements it brings is the passage from a vision of incapacity as an individual problem to the possibilities that the context can offer in order to eliminate all obstacles, barriers and prejudices. Disability is therefore a relationship between a person's characteristics and the way in which society considers and faces them.

It therefore introduces a solution for tackling the issue of diversity based not so much on health care but rather on social inclusion policies. The reflections emerging from recent international legislation (UNESCO [4], WHO [5], UN [6]) on inclusive education revolutionise the way of conceiving the approach to disability and vulnerability and through the assumption of responsibility force us to revise the referred cultural models and implicit theories which guide day to day educational practices.

In international legislative documents, the concept of inclusion is closely related to the concept of right, non-exclusion, equal opportunities, which requires schools to take on board all children, with all their differences. Inclusive education is linked to the right to life [7], understood as the right to "quality of life”, which depends on social participation and the sense of common belonging. Inclusion in social life passes through inclusion in school; as a new educational model, the inclusive perspective recalls our responsibilities as educators, trainers of future teachers, and demands a change of paradigm towards the cultural reference models respecting the greater interests of children and their rights and duties [8].

FROM THE DISCIPLINARY APPROACH TO THE CULTURE OF INCLUSION

In the Republic of Kosovo the school system and the university training system have begun a process of innovation which moves from the right to access to school for children with disabilities to their full inclusion in school and social contexts (community-based approach, informal education…). This process also demands renewal in the field of teacher training, which lacks specific competence in this area; in the quality of the contents of the new learning paths and in social policies.

As Lulavere Behluli, from the Ministry of Education, Science and Technology, stated in the report “Inclusive education in Kosovo: vision, plans and challenges for the future”, during the final workshop “Perspective of Inclusive Education in Kosovo” - Prishtina, 18 April 13 – the inclusive approach does not remain limited to the disciplinary contents of special pedagogy, but opens up to new needs and new challenges:

- it must be part of all the faculties providing training for teachers and other educational figures;
- it must be a characterising element of the training of teachers of all levels;
- it must be included in senior school curricula focusing on inclusive education;
- it must be further studied through field research.

The work carried out by the teachers of the Department of Education Studies aimed to respond to these learning and cultural needs by tackling two particularly important aspects.

The innovation of Preschool Programmes and Primary Education Programmes in an inclusive perspective is possible only if the social professionalism of the teacher is recognised. The traditional professional dimensions of the teacher, focusing on the possession of specific disciplinary and teaching skills depending on the specific role covered, must be accompanied by dimensions of social competences which aim to support the general role of the school. Social professionalism of teachers mainly concerns the following competences [9]:

- competences concerning the reading and critical analysis of the complex social, cultural and economic context in which the school lies;
- competences concerning the measurement and interpretation of the specific social conditions of every pupil and the class groups with which they work directly;
- competences in the field of collaboration with all staff working in the school;
- interpersonal competences for communication with the pupils' families;
- competences to collaborate with the services and operators who support students with certified deficits or in any case with disabilities deriving from individual psycho-physical conditions or situations of social disadvantage;
- competences in planning and local cooperation;
- competences in the documentation of individual and group learning paths for pupils, as well as their families and the local community.

The second aspect concerns an analysis and comparison of what it means to adapt course contents to an inclusive approach in university programmes.

Building the foundations for design in inclusive schooling means starting from the consideration of the educational group as a resource, a potential for learning and socialisation, a possibility for the school to represent the place where inclusion practices are implemented in order to foster participation in the social, cultural, economic and political life of the community.

For the teacher, this implies transforming one's own vision of the class from linear to systemic-circular, from considering separate individuals to enhancing their network of relationships. The “bureaucratic” class becomes the class-group through the intersection of three different levels: the personal level, through which the teacher deals with the emotional plane, experiences and lives of every student; the interpersonal level, in which the teacher focuses on the way of communicating, the methods through which the students build their own relations; and the systemic level, through which the group is considered as a subject of construction and transformation both in terms of learning and socialisation [10].

There are three fundamental strengths in the reference framework of inclusive schools, in which inclusive education becomes a driver of the process of promoting social inclusion:

1. children learn more and better in an environment where they feel appreciated and in which their abilities are enhanced.
2. An effective teaching style must link teaching experiences with the personal experiences of the pupils, for the learning to acquire meaning. In this perspective, in heterogeneous groups, collaborative learning, the main characteristics of which include positive interdependence, individual and group responsibility, constructive and direct interaction of co-construction processes and sharing of knowledge and group assessment, becomes an added value.
3. Upturning the paradigm, focusing attention not longer only on the missing elements and deficits but also on a global vision and an approach to multi-factoral and multi-perspective health. This approach does not in any way exclude the biological dimension (the knowledge of limits and deficits) and specific enabling, rehabilitating and education interventions, but recognises the individual as historical and historicised within a true reality (and therefore inclusive as it also includes disabled persons, those with special education needs, vulnerable people or those who live in conditions of marginality, poverty and exclusion); it also contemplates the philosophical, cultural, historical, mental, social and educational dimension, and the relationships which are built with the territory as a whole.

These elements, shared and discussed during the work carried out during the various missions, were included in training the teachers involved by Save the Children, and are included in the documents of the Ministry, which outline the future direction of educational policies and which were accepted as new challenges for the processes of change in progress in the University, particularly the Faculty of Education.

The innovative path taken represents a long-term challenge, a new allegiance with the territory and society as a place of differences, not only linked to disability, but also to cultures, genders, identities, a transformation that implies a passage from the “special” disciplinary approach to the culture of inclusion, from the theory to the practice of inclusive education, from the inclusion of “one” to the inclusion of all, from sensitivity to professionalism based on training and competences.

These aspects of the educational dimension of international cooperation underline new sensitivities and visions of international aid, including human development and the promotion and protection of human rights, with specific attention on the child, recalling the need to use specific methods and competences in social and educational work.

These cannot be removed from three fundamental dimensions:

1. empowerment: the process through which a person generally excluded from power and decision-making becomes able to exercise his own powers, and make his own choices. In education, the concept of empowerment refers to educational interventions which aim to place their interlocutors (and no longer mere recipients of the intervention) in a condition to be able to become or re-become stakeholders responsible for

their own life and choices, in the present and the future. Empowerment is therefore the opposite of any educational intervention which creates dependence and subjection in the persons or groups it targets.

2. Sustainability of the projects we implement and the processes we activate, we must consider the capacity of the project to be sustainable for the community, which has to organise resources in order to be able to take care of common goods and protect its own rights. It is the opposite of assistentialism.
3. Inclusion: there can be neither development nor well-being without allowing the populations involved to take a leading role and be beneficiaries of the interventions carried out in their territories and their relative changes.

The promotion and enhancement of organic collaboration of university staff with the academic and non-academic world of development cooperation can strengthen innovation and experimentation, like a generative action which proceeds through processes of action-knowledge-action for subsequent experimentation and the formulation of new hypotheses and new projects. Among these, for example, the promotion of exchanges coordinated by university staff; the coordination and participation in international interdisciplinary research and collaboration in order to promote, through training and support to research and experimentation, pedagogical and social innovation, the development of skills in the persons and institutions with responsibility for education, care and aid in situations of suffering, distress, exploitation, disadvantage and difficulty; the promotion and experimentation of educational and learning methods and activities to foster equal opportunities and the enhancement of individual and group differences; the promotion of ideas and practices of "community education", which underline the need to build an education system into which all educational resources flow with a view to collaboration and avoiding phenomena of the total delegation of education to individuals, which identifies the educational dimension as a fundamental factor of living together, participation and the democratic development of the community.

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[1] Cf. M. Black, The No-Nonsense Guide to International Development, New Internationalis, Oxford, 2002.

[2] Republic of Kosova, Government of Kosova, Ministry of Education, Science and Technology, *Strategic plan for organizing inclusive education for children with special needs in pre-university education in Kosovo 2010-2015*, Prishtina, March 2010, p. 4; Cf. Republic of Kosova, Government of Kosova, Ministry of Education, Science and Technology, Curriculum framework for Pre-University Education in the Republic of Kosovo, Prishtina, August 2011.

[3] World Health Organisation, The World Bank, The World Report on Disability, 2011, English version: http://whqlibdoc.who.int/publications/2011/9789240685215_eng.pdf.

[4] A cornerstone of the UNESCO proposal is the principle of inclusive education adopted for the first time at the Salamanca World Conference on Special Needs Education in 1994, and subsequently reconfirmed at the World Education Forum in Dakar in 2000.

[5] The new criterion of the ICF classification - International Classification of Functioning, Disability and Health, 2001- introduces a cultural change into the medical field. Disability is not related merely to illness but also to the different contexts which may have a facilitating or hindering function. The intervention focuses not so much on people as on the environment.

[6] UN Convention on the Rights of Persons with Disabilities, 13 December 2006. Among the innovative elements introduced by the Convention, the Preamble highlights how disability is an evolving concept. The cultural transformation introduced by the Convention marks the passage from a vision of incapacity as an individual problem to the effects the context can determine in order to eliminate all obstacles, barriers and prejudices. Disability is therefore a relationship between a person's characteristics and the way in which society considers them. It therefore introduces a solution for tackling the issue of diversity based not so much on health care but rather on social inclusion policies.

[7] Article 6 of the UN Convention on the Rights of the Child and article 3 of the Universal Declaration of Human Rights.

[8] Concerning the activities undertaken with the working group, the theoretical and conceptual references can be found in the interim project report (referring to the mission carried out from 3-8 March 2013), drafted by Federica Zanetti and Elena Malaguti.

[9] The analysis refers to the unpublished document "The social competence of teachers", drafted by Luigi Guerra, as part of the project entitled "Support to the promotion and development of inclusive schools in El Salvador", promoted by the Faculty of Education, co-funded by the Ministry of Foreign Affairs – DGCS; in collaboration with MINED, Ministerio de Educación salvadoreño and the NGO EducAid, from 2009 to 2011.

[10] Cf. S. Cacciamani, L. Giannandrea, La classe come comunità di apprendimento, Carocci, Rome, 2004; S. C. Negri, Il lavoro di gruppo nella didattica, Carocci, Rome, 2005; R. Cerri (ed.), L'evento didattico. Dinamiche e processi, Carocci, Rome, 2007.

IMPLEMENTING AND EVALUATING TEACHERS TRAINING AND EDUCATION INTERVENTIONS IN THE GLOBAL SOUTH

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ABSTRACT[1]
The aim of the present paper is to illustrate a model for implementing cooperation and research actions, focusing on developing education interventions in contexts that exhibit multiple risk factors. It involves an articulated model, one that has been tested through years of study and interventions in the field, and which comprises: 1) an adequate identification of education needs in the cooperation context; 2) structuring and elaboration of interventions, instruments and methods that are appropriate for local specificities; 3) implementation of training-research actions with teachers and educators in the cooperation country; 4) pilot implementation of interventions in schools, with the support of NGOs and Italian university students (appropriately trained via workshops and stages in Italy); 5) implementation of systematic experimentation and results evaluation. Such a model has the advantage of encouraging the active involvement of all subjects, the progressive acquisition of a method on the part of local professionals and the construction of an international research group. Critical features for the most part concern willingness/possibility of involvement on the part of various subjects and the difficulty of sustaining education interventions that are additional relative to scholastic programmes and which require local resources that are not always available.

INTRODUCTION

Planning and implementing interventions in support of the rights to education for children who live in risk contexts is a complex challenge, which can be tackled effectively only by means of a significant commitment of research on the part of the University, with the active involvement of international cooperation organisms and the synergic commitment of a variety of actors. This makes it possible to create networks that facilitate relationships and the willingness to get involved on the part of the scholastic institutions that constitute the addressees of the training actions.

In this triangulation the role of universities consists mainly in elaborating innovative interventions, based on international literature, and in the implementation of controlled experimental verifications. In this way it is possible to construct a patrimony of reliable knowledge that can then be shared with the various partners involved in the cooperation, constituting transnational research groups. In this interaction the role of university students (or persons who have just acquired their degrees) can also be significant as a vector of innovation in countries in the Global South. Involvement in such projects is also extremely beneficial for university students who can thereby acquire research skills, flexible didactic strategies that are attentive to contexts, cooperation values and intercultural dialogue abilities.

A COOPERATION MODEL

The present paper illustrates a research and cooperation model, elaborated by a workgroup at the Department of Philosophy and Sciences of Education in the University of Turin, to implement cognitive and motivational reinforcement interventions in contexts involving deprivation or socio-environmental risks. Such interventions involve the activation of workshops to encourage literacy skills and the scholastic success of pupils experiencing learning difficulties in countries in South and Central America and Africa. These interventions aim not so much to recover scholastic knowledge, but to activate cognitive processes in children who are often significantly behind in their development and to stimulate learning motivation, something that is lacking in socio-cultural deprivation contexts. In those contexts, exhibiting serious risk factors (natural catastrophes, wars…) there is provision for a specific supplementary intervention on creativity, to reinforce children's resilience (i.e. the ability to successfully deal with and overcome traumas).

The intervention model, progressively developed through analysis and various experiences, involves collaboration between universities and NGOs, based in the territories under consideration, and those scholastic-education institutions involved in improving the quality of didactics and pupil success.

The cooperation and research plan is structured in various phases, considered essential in integrating the education

[1]C. Coggi complied par. 1, 2, 2.1., 2.2., 2.3 ; P. Ricchiardi complied par. 2.4., 2.5., 2.6., 2.7, 3.

proposals in the local culture, in order to increase their persistence and hence their "sustainability", and encourage the acquisition of skills and maturity in global citizenship behaviour in the various protagonists involved.

1. Identification of context requirements

The model, inspired by an action-research approach, involves an initial needs analysis phase performed in the context in which the intervention is required. The difficulties are first conceptualized, with exploration of the international literature, in order to identify their etiological factors and to focus possible interventions. The analysis of problems is also implemented using direct methods, including interviews with privileged witnesses and the adoption of in-field observation techniques (diagnostic tests, questionnaires and discussions with local teachers and managers…). University students are often involved in carrying out such observations in loco, in systematically gathering documentation and in transmitting it to the research group.

We set out below some significant elements taken from input diagnoses, executed in two contexts in which we carried out cooperation projects: Minas Gerais (Brazil) and Santa Marta (El Salvador).
In the first case (example 1) the observations were carried out by university students and by local teachers with the collaboration of an NGO.

Example 1 - Minas Gerais - Brazil – Identification of learning difficulties in children

The following is a summary table of the main problems observed in linguistic and mathematic contexts at Teofilo Otoni in infant and primary schools, obtained via the distribution of questionnaires to teachers.

Tab. 1 – Difficulties identified by teachers

Language difficulties	School level	Mathematics difficulties	School level
Colour recognition. Lateralization problems. Spatial perception problems.	4-5 years	Association of numbers and quantities.	Infant sch. (4-5 year olds) Primary sch. (all classes)
Oral comprehension of instructions. Distinction between lower and upper cases.	Primary sch. (2nd class)	Problems in graphically distinguishing one number from another.	Infant sch. (4-5 year olds) Primary sch. (all classes)
Letter recognition.	Primary sch. (2nd, 3rd classes)	Recognition of numbers up to 10.	Primary sch. (2nd, 3rd classes)
Syllable recognition. Autonomous writing of one's name.	Primary sch. (2nd, 3rd, 4th classes)	Recognition of numbers beyond 15.	Primary sch. (3rd, 4th, 5th classes)
Separation between various words. Autonomous writing of simple words.	All classes	Execution of simple additions and subtractions up to 15.	Primary sch. (3rd, 4th, 5th classes)

The survey carried out with teachers highlights the serious deficiencies of pupils in terms of readiness prerequisites and basic skills relative to reading and writing. To extend the analysis individual tests were also administered, relative to infant schools, together with structured language, mathematics and cognitive processes tests in the primary schools. The results were discussed with teachers to motivate them and involve them in recovery activities. Below we provide a graphic that sets out, in the form of a cognitive abilities profile, the results of a sample of children aged 5 at Teofilo Otoni. This profile was compared with that of Italian children in order to more clearly highlight the specific difficulties experienced by the Brazilian group. The same indicates systematic delayed development in the Teofilo Otoni children in disadvantaged communities in almost all cognitive abilities when compared with the standards for their Italian peers experiencing similar poverty and migration contexts (fig. 1).

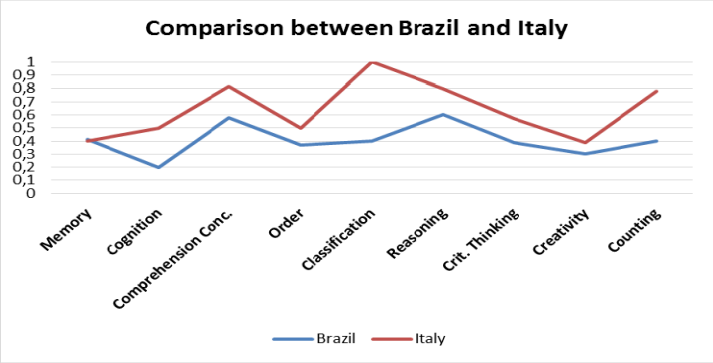

Fig. 1 – Comparison between Brazil and Italy

In the following example (e.g. 2) the observations, carried out at Santa Marta in El Salvador, were the work of NGO professionals (psychologists). The data has been further explored thanks to the systematic observations of an Italian university student.

Example 2 - Santa Marta – Observation carried out with the collaboration of an NGO (Psychologists)

We set out in descriptive form some results of an analysis similar to the previous one, carried out relative to children in primary school at Santa Marta in El Salvador. In this context, scholastic delay can be attributed mainly to the effects on the second generation of the civil war (1981-1992), which generated significant traumas in adults (teachers and parents) and indirectly in the children. Given the difficulties experienced by teachers in getting involved, the first analysis, which we report, was carried out directly on pupils in a primary school, via the administration of entrance tests regarding reading-writing skills, mathematics and cognitive processes. The sample comprises two 4th year classes, relative to which a realignment intervention was requested.

Among the main results, it can be seen that 20.97% of the children in the two classes were illiterate; 33.87% can read a few words, but do not know how to write. In mathematics, on average, the students answer less than a quarter of the test questions, which involve the solution of two simple problems and the performance of calculations, with four operations, for the most part with one or two figures. Success in logic questions is on average greater when the questions are cultural free: in this case, on average, pupils correctly answer 59% of the items. This indicates that difficulties are largely due to socio-cultural deprivation. In this regard it is significant that it is not possible to forecast the cognitive level of the pupils relative to their success in language ($r=0.19$), while there is a significant correlation between the results of questions regarding cognitive processes and results in mathematics ($r=0.57$ with $p<0.01$). The results in reading and writing therefore seem to underestimate the cognitive potentiality of the children, who exhibit serious difficulties in their cognitive processes in only 3% of cases, but considerable delays in their reading and writing processes.

2. Planning interventions relative to specific contexts

Based on the needs emerged in the initial analysis, education interventions were elaborated to reinforce deficient abilities and the motivational resources of pupils with more difficulty. The first interventions in this line were elaborated by us and introduced in Brazil, with the involvement of UNEB (University of Bahia). The first pilot experiments for the method were realised by a Brazilian psychologist-pedagogue, in a school constructed and supported by Italo-Brazilian cooperation. The project was named Phoenix, referring to the mythological bird that recreates itself from its own ashes, symbolizing the hope that all children can enjoy success in their lives. The logo for the project (fig. 2), which formed the basis of a collective identity, was designed and elaborated by a Brazilian UNEB Design student, born in a shantytown, and selected from among various competitors by the international research group. The symbol embodies the essence of the project and the type of cooperation involved, integrating the colours of the Italian flag with those of the Brazilian flag.

Fig. 2 – Phoenix Logo

The success of the method in Salvador de Bahia led to the extension and adaptation of the same to other Brazilian contexts (Minas Gerais and Pernambuco) and to disadvantaged Italian environments. Experimentation in Italy allowed the method to grow and develop further develop, given the opportunity for continually monitoring the experiment and the possibility of differentiating between infant, primary and first year secondary schools. Parallel to this developments in the project were carried forward in French, the appropriate language for contexts like Rwanda, Madagascar and Haiti, together with an experiment in Spanish, which was launched in El Salvador.

The programme, precisely because it was the fruit of the efforts of workers from various countries, stands as a transcultural didactic model, which is effective relative to common risk factors in very different contexts, with appropriate adaptations. Training in the various countries focuses on the main objectives of the project i.e. the stimulation of specific cognitive and motivational processes, and general theoretical references. The materials relative to which the action is applicable, and the privileged ludic forms are, on the other hand, the subject of re-elaboration in the various cultures, carried out by Italian researchers in partnership with local experts, teachers and educators. In each country, referents are identified who provide the required indications for rethinking the activities and the modalities for realising the project, in forms that are appropriate for the context. Relative to infant schools, where the approach is entirely ludic, the symbolic game is the one that requires the most transformations, since play objects, narrative traditions and the social roles that have to be learned as well as the known contexts are different in different countries. In addition, space and the importance attributed to symbolic play seem to be remarkably deficient in some cultures, with long-term effects on creativity and the capacity for abstraction in children. It is therefore necessary to regulate their introduction, in line with the features of each context.

In the same way, given the frequent experiential poverty of children in those contexts in which the project is implemented, interventions are usually planned such that they gradually integrate pupil knowledge and skills, in order to progressively satisfy the requirements of a globalized world and to stimulate those cognitive processes that appear to be most compromised. This approach also comprises the decision to use didactic software, especially in training aimed at the primary school. Interaction with computers, while introducing some difficulties in experimentation (e.g. problematic use of networks, hardware that is often obsolete…), is an important condition in reducing the *digital divide* and in opening up new possibilities for access to the international culture and communication.

In general, therefore, in re-adapting education interventions it is vital to take into account, on the one hand, features in the local didactic tradition (importance attached to writing rather than speaking, memorization rather than critical and creative activities), and on the other, the need for a more complete development and appropriate reading and writing levels. It is therefore not simply a question of translating the activities but of elaborating new materials relative to cultural contents, programmes and educational habits specific to the context, while at the same time encouraging the complete development of children.

3. Involvement and training of university students

Involving Italian university students in the cooperation interventions described above comprises, in addition to an adequate knowledge of the host country language (particularly important when it is necessary to take part in teaching interventions), participation in training. This consists in an articulated course, since it involves above all a workshop (20-30 hours), with a theoretical section, relative to risk factors and the scholastic problems of disadvantaged children in countries in the southern hemisphere. The academic activities therefore involve an analysis of the survey instruments to be used in carrying out the diagnoses and a presentation of the most effect interventions in order to encourage the cognitive and motivational reinforcement of the addressees. These are followed by simulation activities in the lecture hall to encourage the acquisition of didactic-operational skills.

The training ends with an apprenticeship phase in Italy, in which students are asked to implement the project in infant and primary schools, for at least 45 hours, to acquire familiarity with the method. University students are then involved in adapting the materials relative to the foreign country where the experimentation will be carried out.
Finally, the students are provided with the materials that have been elaborated together with innovative aids which can then be presented to the local teachers.

4. Teachers training in cooperating countries

To stabilize innovation abroad systematic training is also realised relative to teachers in the cooperating countries.

The training interventions focus on the theoretic outlines, didactic strategies and organisation and verification modalities as set out in the Phoenix Project. This is a training-research approach in which addressees progressively master those principles at the heart of the method and the criteria adopted to structure the intervention. The teachers are therefore involved in adapting the programme and in the production of new aids, in line with the said action-research approach. Teachers are subsequently called upon to re-elaborate the theoretical stimuli they have received; to observe an expert in the field who activates the innovative practices; to then introduce them in pilot form in their appropriate context; to collaborate in a subsequent collective revision and to evaluate the courses realised relative to their systematic introduction. One of the greatest priorities at the core of the training model for teaching personnel concerns the actual effects of the innovations and the updating of education practice. Involvement in the research has proved to be an effective response to this need. Indeed by activating research courses which are integrated with training, teachers are stimulated to appropriate what they have learned and to become more reflective and metacognitive, and hence to change their practices through intelligent innovation.

5. Implementation of interventions and experiments

Among the teachers trained in the cooperating countries, some referents are identified that are interested in implementing the innovative intervention. The same are involved in pilot experiments and in the documentation and verification of results, with monitoring by the Torino University research group.

The aim of the experiments is therefore to encourage progressive acquisition of the method by local psychological-pedagogical operators, with periodic meetings, if possible, and with the support of a local coordinator.

6. Involvement of local universities

Collaboration with university professors in the universities of the countries involved in the cooperation is useful in supporting the training seminars, to improve the actions involved and to **create a network able to provide continuity for the interventions**. Local universities can also involve their students (future teachers or educators) in the training, to enable them to use the method and to encourage a capillary introduction of new didactic strategies.

7. Evaluation

Evaluation at the start or during the project can pursue decision-making aims, focusing on the emergence of empirical criteria, which justify the choice of launching or sustaining the programme in a given context. In this regard the entity of the emerging requirements, the authenticity of the motivations for innovating the contexts in question, the stability of the education figures involved, the possibility of monitoring *in itinere*, the quality of NGO involvement and the possibility of registering the results obtained can all prove to be highly significant. Evaluation also seeks to encourage improvement, since it is focused on perfecting the actions and transferring them to other contexts.

A complex process is therefore initiated in this regard, one that includes the university but also operators in the countries involved. The following phases can be distinguished.

1) *A priori evaluation*: there is a priori verification of the level of effective knowledge of requirements on the part of the addressees and the coherence of any solutions designed with the latter.
2) *Initial evaluation:* a formal evaluation of the project is implemented, centring on the organisation, programming and materials. The adequacy of the interventions is evaluated (realistic, verifiable objectives…) together with timescale (correspondence between the scholastic calendar and the availability of volunteers…) and context resources (teacher skills, willingness to be involved, presence of adequate informatics instrumentation, Internet…).
3) *Evaluation in itinere:* this is aimed at monitoring the actions. It involves interactions of the research group with NGOs and local operators in gathering documentation *in itinere* on organisational aspects, actions effectively undertaken, difficulties encountered and solutions adopted… The feedback permits fine-tuning *in itinere* of the interventions: transmission of new materials, teacher-training actions. As regards these aspects university student availability proved to be extremely useful.
4) *Evaluation of results.* This focuses on the overall estimate of the efficacy of the project relative to the objectives which one seeks to achieve and the changes caused by the implemented actions.

Evaluation of the efficacy of Phoenix interventions realised in cooperating countries is carried out using a multiplicity of instruments and involves various actors in the project(the pupils, addressees of the method, local teachers who have received training and have taken part in the experimentation, university students, who have realised the didactic activities abroad, entities or actors in the territory in question, universities and NGOs).

A) Evaluation of pupil results

Experimental verification of the results of the Phoenix programme is carried out using an experiment plan with two

equivalent groups, one experimental and another as control, in order to compare the children's progress with traditional didactics and that of pupils who have been exposed to innovative didactics. The plan makes it possible, as is well known, to keep the maturation effect under control. The results of applying the method with children in the cooperating countries are measured by administering structured tests (translated and revised for the local context). We will report, by way of example, the presentation of some results obtained in Minas Gerais and in the state of Bahia, using standardized instruments, aimed at the pupils. The results are illustrated to teachers on a local level, and, when possible, discussed publically - including with citizens - and disseminated to an international scientific audience.

Example 1 – Results of 5 year old children (Minas Gerais)

At the end of the Phoenix experimentation realised at Teofilo Otoni with 5-year-old children in the infant school, the following results were obtained using a readiness test, administered before and after the intervention.
The actions focusing on cognitive and motivational reinforcement realised with the experimental group, by means of a sequence of targeted ludic proposals, made it possible to progressively harmonise the cognitive profile of the sample subjects, a profile which was initially significantly deficient (as indicated in fig. 3). The initial lowest levels concern the creation of relationships, verbal memory, knowledge and creativity. At the end of the course, progress is noted in almost all areas, with significant gains in sequencing and in critical development.

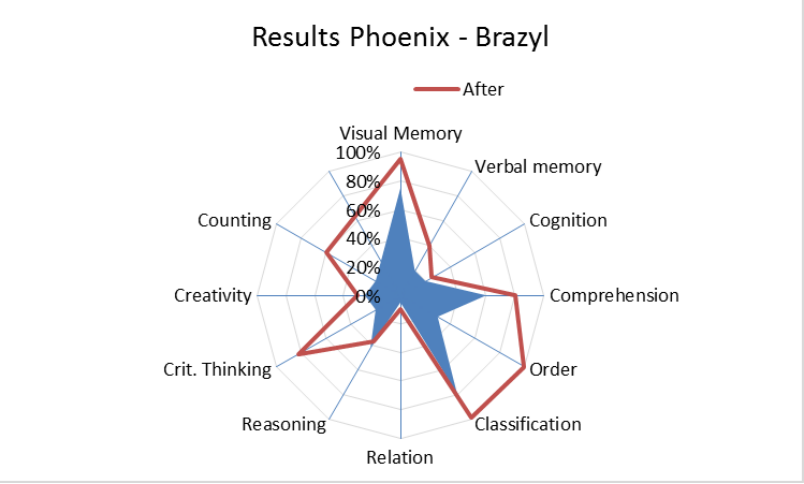

Fig. 3 – Comparison of test results before and after the Phoenix project (5 year olds) – Minas Gerais

Example 1 – Primary school children results in three years of project work (Bahia)

The following is an example of the results for the primary school. They constitute the results of three years of work in Salvador de Bahia and make it possible to appreciate the constant improvements achieved in the skills of experimental group subjects, through the administration of structured tests. In Brazil too, as in other contexts, mathematics is the disciplinary sector exhibiting the greatest gains, followed by cognitive development and language progress, in this case Portuguese (fig. 4). Linguistic skills therefore appear to be the most difficult to improve.

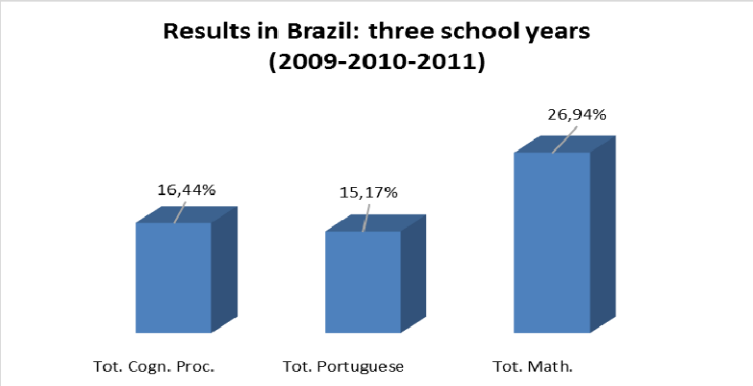

Fig. 4 – Results in Brazil

The results achieved by pupils are evaluated indirectly by noting the perceptions of teachers relative to the efficacy of the project.

Example – Teacher perceptions

We set out the *improvements* that teachers have noted in their pupils following participation in the Phoenix project.

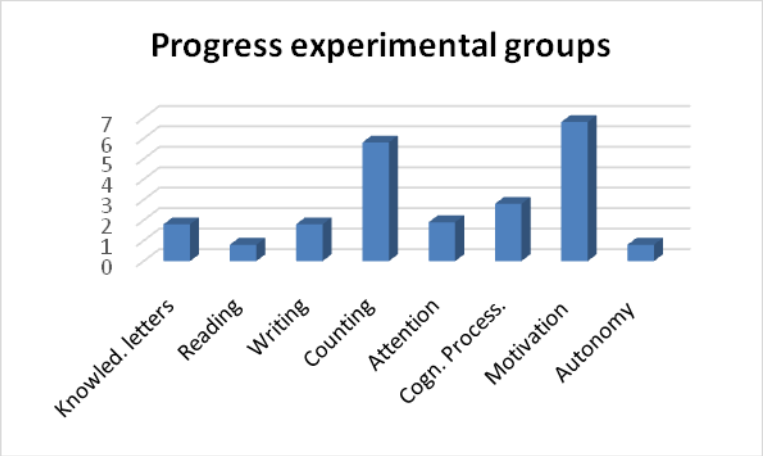

Fig. 5 – Improvements perceived by teachers

B) Method evaluation

The didactic quality of the proposed programmes is also evaluated indirectly through the perceptions of teachers regarding the adequacy of materials and the proposed intervention.

Example – Evaluation of the method by teachers

We set out below, in a schematic manner, the main advantages of the Phoenix methodology as emerging from the questionnaires handed out to teachers involved in training and experimentation at Teofilo Otoni:

- Attractive easy-to-use games
- Teaching that is flexible and adapted to a wide variety of needs
- Possibility of using computers to acquire basic familiarity with informatics
- Stimulation of curiosity and interest in knowledge
- Development of learning ability.

C) Evaluation of effects on teachers

Training interventions focusing on teachers are accompanied by monitoring aimed at evaluating the professional growth of the same. We set out, by way of example, the training results relative to 40 education professionals in Minas Gerais.

Example – Training results

a) Increase in knowledge, change of attitudes and acquisition of specific skills

Using semi-structured questionnaires (administered in input and in output of the training course), the following changes were noted. According to primary school teachers, the training has made it possible to **structure and share** in a group context **innovative didactic practices** (84.21%) and to plan interventions in various schools. The activities contributed to *reducing the **digital divide***, familiarising teachers with the use of technologies. Teachers also confirm that they have acquired **more in-depth knowledge of the difficulties** experienced by their pupils. Relative to an initially more superficial description of the said difficulties, at the end of the course one notes a greater analytic and diagnostic ability. At the end of the training we also noted that *teachers had learned to carefully document cases exhibiting articulated anamnesis and in-depth input diagnosis, with attention devoted to specific and deficient cognitive processes.*

As regards *infant school* teachers at the end of the course, the same confirm that they have learned to finalise ludic activities relative to the cognitive difficulties of children experiencing most difficulty. More specifically, teachers confirm that they have learned to work in a manner that counters the difficulties of children as regards concentration and attention levels, as well as those of reasoning, which are particularly common among their pupils.

b) Appreciation of the training proposal

Relative to levels of enjoyment regarding the training proposal, evaluated on a 4 level scale, one notes appreciation indices that are very close to maximum values (between 3.5 and 3.8). The highest level was achieved in meetings that involved workshop experimentations and the general presentation of the project, followed by illustration of software for primary school teachers and concrete games for those teaching in infant schools.

D) Evaluation of effects on university students

The involvement of university students in the cooperation projects was aimed - in addition to contributing to support for the rights of children and the development of research - at increasing their skills as future education professionals. Cooperation experience can also encourage greater awareness of global citizenship values and international solidarity.

Student empowerment therefore involves cognitive, affective and behavioural aspects. The *cognitive aspects* include creativity in the didactic sector, critical ability in selecting adequate materials, specificity and ability to identify with others in order to establish a deeper level of dialogue with another culture. The *affective aspects*, on the other hand, included the development of a realistic level of esteem for oneself, as a subject able to realise the values in which one believes; a good level of empathy, required in order to be able to perceive the feelings and difficulties experienced by others; a good level of control over emotions, both positive and negative. Some of the above results can be observed using self-evaluation instruments.

E) Evaluation of effects on the territory

The effects on the territory are evaluated through data relative to the diffusion of the experimentation. Specifically the following indicators are assessed: the number of teachers and children involved, the nature of the involvement of adults (production of materials, documentation, innovation…), the number of entities implicated and the activation modalities (inspector reports, manager videos, interviews with political figures and budgeting of local resources to support the project).

We also carried out an evaluation of the effects on current didactics: in some contexts, teachers state that they have moved from transmissible didactics to heuristic-inductive didactics, with a ludic learning approach that makes learning more motivating and meaningful.

CONCLUSIONS: ADVANTAGES AND CRITICAL FEATURES

The cooperation model adopted displays numerous advantages, as can be seen from the examples referred. At the same time, it requires a number of conditions if it is to achieve optimal implementation. Indeed, it assumes a stable presence in the cooperation territory of those NGOs that collaborate and the presence in the territory of a motivated and competent referent who maintains contact between the research group and the experimentation group. The model assumes also a willingness to get actively involved on the part of a variety of actors, local tenacity, including when project launch financing ends, and a willingness on the part of all actors to continue to commit personal time and energy to actions for the collective good. The latter aspect is complicated in those contexts where teachers often have “two job” commitments or are still taking part in university training.

As regards Italian university students, cooperation interventions of an educational-didactic character require good skills in terms of language ability and a willingness to commit oneself, respecting local needs and requirements. Such criteria are not always easy to satisfy.

THE PROJECT"FENIX" IN TEOFILO OTONI -BRAZIL-MINAS GERAIS. TRAINING TEACHERS ON COGNITIVE ENHANCEMENT FOR CHILDREN LIVING IN DILAPIDATED CONTAINERS

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ABSTRACT

I want to dedicate my speech to those, who are put their soul in this project to TeofiloOtoni, of which were not even talked about today. Those children that I have just met 20 years ago in TeofiloOtoni: children, who I met under the bridge, near the bus station, along the roads, recovered in police stations or hospitals: hungry children, wounded, alone, humiliated, abandoned...
Children who have learned about the subject to be poor, but certainly directly these children are rich of enthusiasm, joy and love of life, what they shout to the world. And just today we should think about these children. Now I take the chance to start the project Fenix from Cristina and Paola in another city, and that was not Salvador, so thanks to the decentralized cooperation project approved and funded by the Piedmont region, in September 2010, along with Alessia Rosa and Edicleide psychologist in Salvador de Bahia, we started our adventure in TeofiloOtoni.
My role was, along with the Edicleide, to start with an initial training teachers on the implementation of the project Fenix.

THE PEOPLE I'VE MET DURING THE DEVELOPMENT IN TEOFILO OTONI

The training started in November 2010 and there were more people involved from Italy than from Brazil:
Prof. Cristina Coggi and Prof. Paola Ricchiardi, University of Turin, who conceived the project, have studied and prepared aptitude tests for settings and finally, they placed instructional materials for nursery school and selected computer software for the realization of the project Fenix in primary school.
The teacher and educator **Bonasso Tiziana**, **Edicleide do Nascimento**, has dealt with training teachers to TeofiloOtoni and adaptation of games and software.
Dr. Alessia Rosa, who was responsible for the documentation of the course by creating a video.
Sonia Rodrigues Lemes, project manager Fenix in TeofiloOtoni, who was responsible for coordinating the activities in the schools who involved in the project.
In September 2010 for the training in TeofiloOtoni there were involved:

- 25 primary school teachers and 18 teachers of nursery schools;
- 6 psycho education experts of schools in the municipal network;
- 8 teachers and 6 students at the University Federal of TeofiloOtoni.

THE COURSE

- The course lasted a week and it was done in the municipality of Teofilo, at the Federal University of TeofiloOtoni. Coordinated by Prof. Tula Rocha and speaker of the University for the project FENIX.
- The whole course was held in the morning and in the afternoon for a total time of 45 hours and the involved teachers in the study related to the theoretical framework of the project Fenix.

THE DIDACTIC SUMMARY OF THE ACTIVITIES INCLUDED:

- Theoretical training of teaching models useful to counteract the difficulties of learning contexts at risk;
- Teachers have analyzed the characteristics of the entrance tests and final proposals to detect the levels of pupils;
- They learned to administer the tests, even with simulation activities and group work and to deepen the diagnosis in order to better personalize interventions.
- Then they examined the programs of the Fenix, educational software and games of concrete “case Fenix”.
- They finally made brief experiments with children with educational materials proposed.

The experiment was carried out in four schools, two municipal schools and two state schools and all four have involved children in nursery school and primary school.

State schools were involved:
SCHOOL FREI ANTELMO KOPMAN
SCHOOL IRMA ARCANGELA

State schools were involved:
ISTITUTE DORALICE ARRUDA
ISTITUTE TEODOLINDO PEREIRA

All four schools are in a very poor neighborhood of the city and the children who attend are not followed by families, are often left to themselves: the school was for them the unique learning environment

THE SEMINAR

After 9 months of testing, as required by the Memorandum of Understanding between the partner of the project, was organized a seminar in the city of TeofiloOtoni, open for all teachers of the schools who were involved in the project and teachers of other educational institutions interested in deepening methodology Fenix. During the seminar were presented data of the results of the experiments and space was given for the teachers who have experienced the project and who told the audience their experience.

EDUCATING TOGETHER THREE - A NEW OPPORTUNITY

In November of 2011, thanks of a new loan from the PIEDMONT REGION, there started a new one-week training in TeofiloOtoni for teachers of nursery school.
The teacher Bonasso Tiziana organizes a new course that involves new teachers from municipal and state schools, who had already experienced the methodology Fenix in the role of "tutor" to new teachers. At this course are also participating officials super stewardship of the City of TeofiloOtoni and joins on as a new partner “the university 'private Unipac” with 4 teachers and 8 students.

This new insertion allows school teachers to have a support in the classroom during the trial, that the students of Pedagogy in their syllabus will carry out the hours of their internship in support of the project Fenix in state schools.
In March of 2012 there started a new training for primary school teachers with the Brazilian pedagogy of Salvador de Bahia Edicleide.

Thanks of this intervention evaluating it gives the possibility of adding new schools for the experiment and review planning the FENIX project and activities in the laboratory to achieve with the software. The installation program installs new games in the Portuguese language in the computer labs and form teachers to use them.
Definitively in this period identify the referents of the new and old schools who are participating in the project, constitute a working group coordinated by Fenix and at the municipal level is responsible for brazil Sonia Rodrigues Lemes.

COGNITIVE ENHANCEMENT FOR CHILDREN IN DEVELOPING COUNTRIES. A TEACHER TRAINING EXPERIENCE IN A KIGALI PRIMARY SCHOOL.

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ABSTRACT

This contribution describes an intervention of teacher training about using didactic software and classroom strategies to enhance core capacities of children in primary schools. The intervention is part of the wider project named Phoenix (www.edurete.org/fenix) and took place in the days between 4 and 15 September 2012 at the school Saint Ignace de Kibagabaga (Kigali – Rwanda). The experience was divided into the following phases: 1) constitution of the training group, detection of expectations and prior knowledge of the participants; 2) informatics ability realignment; 3) exposition of basic concepts and feedback "participants to trainer" and "trainer to participants"; 4) recognition and collection of the problematic situations encountered by participants in their current experience; 5) isolation of paradigmatic problems and exposure of related theories and possible strategies of action; 6) planning and testing of cognitive enhancement strategies in the classroom, with feedback of the trainer; 7) final test in which the participants have to design a plan of intervention to improve several cognitive ability of their pupils. Final planning describes strategies that teachers have learned in the course and are going to use in the next months. The training was conducted by the author of this article. Experience has highlighted the typical problems encountered in the school situation under review. It was conducted with the strategy of *responsive training*, that is training which aims to respond specifically to the needs arising from the participants. This strategy aims to make participants aware of their needs and to aid them to construct field activities appropriate to their context and pupils. Protocols of the intervention are available at www.edurete.org.

INTRODUCTION

The term "cognition" can be defined as the ensemble of the processes that an organism uses to organize information. Cognitive enhancement may be defined as the amplification or extension of core capacities of the mind through improvement or augmentation of internal or external information processing systems [1]. The focus is not on specific knowledge or skills, but on the core capacities of the subject, that include processes devoted to the acquisition (*perception*), the selection (*attention*), the representation (*understanding*), and the retention (*memory*) of information, and the use of this to guide behavior (*reasoning* and *coordination of motor outputs*). Interventions to improve cognitive function may be directed at any one of these core faculties. The related expression "cognitive empowerment" indicates interventions that aim to help the subject in the acquisition of a personal sense of "power" in order to feel responsible for his/her learning, for example to know how to self-motivate after a failure, to develop self-monitoring and self-regulation strategies for comprehension, to develop appropriate beliefs and self-representations useful to recover quickly from personal failure (*resilience*). In this sense, cognition, metacognition and motivation of the subject constitute a "synergic alliance" for his/her scholastic achievement.

The progress in information technology has produced the most dramatic advances in our ability to process information. External hardware and software can support in many ways the human cognitive abilities. Computer help us not only by offloading mental tasks but also by proposing training exercises (and immediate feedback) that increase the ability to approach complex situations, to gain comprehension in order to suit specific needs and to derive appropriate solutions to various problems. The aim of computer-based training in cognitive enhancement is to promote a better and more rapid comprehension and problem solving, even with simple and complex problems. Increasing rapidity in comprehension of the problem and application of solving strategies can dramatically improve performance within a particular domain of knowledge.

The present article describes an experience of teacher training about using software and classroom strategies to enhance core capacities of children in primary schools. The intervention took place in the days between 4 and 15 September 2012 at the school Saint Ignace de Kibagabaga (Kigali – Rwanda). The intervention is part of the wider project named Phoenix (www.edurete.org/fenix) [2]. The aim of the Phoenix project is to promote the cognitive and motivational enhancement of subject at risk in order to foster scholastic achievement. The project is based on different strategies, with an important role of the use of educational software. It involves the structuring and testing of innovative educational setting, which mainly use the technology (software, online learning environments, video games) in order to: increase resilience, realign the cognitive disadvantages, develop the motivation to learn, consolidate concepts and

strategies relevant to the basics in mother tongue and in mathematics.

CONTEXT OF INTERVENTION AND PARTICIPANTS

Kibagabaga is the name of a hill and district in the east of the city of Kigali, Rwanda, in central Africa. On this hill, the Jesuits began in 2003 to develop a school project of a certain size. The school owes its name to Saint Ignatius of Loyola (École Primaire Saint Ignace, EPSI, see http://kibagabaga.com), founder of the Society of Jesuits, present in Rwanda since the early fifties. The overall plan includes the creation of an institution comprising grades of school primary, secondary and higher education. The first year of the primary school was 2008, and has seen 7 teachers working on 5 classes: two classes for the first year, two classes for second year and one class for the third year, for a total of 130 students. The progress of the project has led to a noticeable increase. In 2009 started 5 new classes, including also the fourth year, with a total of 15 teachers and 282 students. In 2010, with the opening of the fifth year, the school has come to count 13 classes, 19 teachers and 426 students. In 2011 was opened the sixth year, the last of primary education, for a total of 15 classes and 25 teachers. The intent was to follow the first group of students in their school career, gradually opening new years of course, and expanding consequently the number of classes. Kibagabaga is a populated area, recently urbanized, with its administration, places of worship and an hospital, all grown from just ten years. The Jesuit school project is one of the achievements of urban development that characterizes Kibagabaga today.

The EPSI is a private school, nationally recognized, and follows the curricular plans proposed by the government. It is managed by the Order Jesuit, and funded partly by a socio- cultural foundation, partly through the contribution of the families of the students. The costs borne by households are divided into installments on a quarterly basis and, in relation to the costs of others private schools subsidized, are of low/moderate entity. The parents are strong believers in education as element that can provide a better future for the new generations, and are willing to great sacrifices and hardships to ensure their children's attendance at a good school. The public schools has up to 60 students per class, while private schools involve costs too high for the vast majority of Rwandans families. The EPSI is a good compromise between these conflicting situations, and some children can afford to attend it only thanks to social assistance funding they receive. Other children are forced to live away from their parents to get the right of entry to the residence, in cases where the family lives in areas where there are only lower-level schools. The pedagogical foundations adopted refer to the Ignatian model, with particular attention to the training of communitarian sentiments, the development of individual attitudes, and respect for Christian values. In this vision, school is "a living cell of society", and Saint Ignatius school is a "living cell" of the whole school project of Jesuits in Rwanda. The educational aim is to encourage reflection on the knowledge and direct experimentation, in an environment in constant relationship with the external reality. The EPSI is especially open to collaborations with the local community, and in particular with the other schools.

The school activities includes activities carried out in the afternoon, defined *club*, managed by teachers, sometimes with the assistance of external experts. These activities aim to develop personal skills of each student, in terms of theater, dance, sports, environmental protection, journalism, religious reflection. In addition to these commitments, teachers are required to take the refresher courses for students in difficulty, or lags behind the average level of the class. These courses are recommended to families and require an extra fee. The opportunity to get some additional income is important for teachers: on average, their wages do not allow meeting the needs monthly, and it is common for teachers to need to carry out a second job.

Two key points concerning languages of teaching and computer equipment of the school. The EPSI has chosen for teaching an international language, French, with the aim of making it a tool for reflection and structuring of thought. The willingness to train multilingual citizens was realized by choosing to use favored the French in school, alternating with English as language of instruction in some courses, primarily in the scientific-mathematical areas, from the third class. The EPSI considers very important the use of new technologies. A new computer lab with 20 computers of the latest generation was set up in 2011, but it has had only a little impact on teaching because many teachers do not have sufficient computer knowledge to use computers in currently teaching. In addition, the high costs of Internet connection do not make it sustainable annual subscriptions. For these reasons, teachers need to add to their many tasks the training about language and computer, and this creates a serious extra work in a condition where life is not always easy. Comes to their aid the steely determination that characterizes the people of Rwanda, and the willingness to do whatever is in their power to promote the scholastic success of the children, who represent the future of the nation.

Participants at the course of computer-assisted cognitive enhancement was 15 teachers of Saint Ignace School (9 males e 6 females) and 3 educators of Fidesco (www.fidescousa.org), who work in assistance and prevention of school failure of the street children. To get better knowledge of the context, the trainer also held a workshop in the morning in which the pupils can try the games for cognitive enhancement.

TRAINING ACTIVITIES

The teacher training activities have started on September 4, 2012 and have ended on September, 14, 2013. Training

took place every afternoon from Monday to Friday from 2:30 p.m. to 5:30 p.m. The goals was to make teachers independents in the application of Phoenix protocols and to collect specific needs and problems from teachers, in order to give them appropriate techniques and instruments for work in classroom.

The first activity was the self-presentation of the participants where they introduced themselves and talked about their past experiences with cognitive enhancement software. This activity was followed by the statement of expectations that they placed in these training. In this presentation has emerged that many participants had insufficient computer skills to use any software for student's cognitive enhancement. The lack of informatics knowledge has necessitated the perform of a realignment activity, which consisted in the creation of couples in which one of the members had a good knowledge of the computers fundamentals (called "the expert") and the other was instead a beginner (called precisely "the beginner"). The couples were asked to choose a name (e.g. Tigers, Lions, etc.) to strengthen the identity of the group and then took part in a role-playing game, in which the expert of the couple had to drive the beginner to write a letter to a friend with a word processor. In this task, the expert could only talk about giving instructions to the beginner and did not have to touch the computer in any way. The beginner had to carry out the instructions of the expert. The expert was and would have been, at all stages of the course, the responsible of the beginner's learning. This activity has been supplemented by the use of software to enhance the ability to use the mouse and typing letters on the keyboard. It was explained that this same strategy could be used with the pupils in the activities performed in computer lab. Teachers had a lot of fun performing this activity and have especially appreciated the chance to carry this peer education strategy in their practice with students. The realignment activity lasted two days and led to ensure that everyone was able to: a) turn on the computer, b) locate the necessary software, c) start and use them, d) save files and retrieve saved files.

The next activity was a brainstorming about the conception that the participant had of terms "cognition", "metacognition", "motivation", "cognitive enhancement", "resilience". Subsequently, the trainer provided the fundamentals of cognitive enhancement theory, starting from the conceptions and misconceptions emerged in the previous brainstorming. The lessons have insisted on the concepts mentioned above and on the thinking of scholars J. P. Guilford, R. Feuerstein, L. W. Anderson & D. R. Krathwohl, J. Anderson, J. Hattie.

Theory lessons were followed by ongoing test to control understanding (see Figure 1). In this test, participants had to contextualize the above concepts in specific game situations experienced in their previous computer training (item 1, 2, 3). At the end of the test (item 4) was requested to formulate an *incident*, that is a case of a particularly problematic student present in their class, that they thought could be inherent to the concepts seen. The next task consisted in the discussion of the answers given by teachers and isolation of their "good answers". This feedback had the function of "knowledge alignment" of all in relation to the key-concepts treated in the intervention. Test questions and "good answers" are summarized in Figure 1.

Fig. 1 – Ongoing test and "good answers"

Item 1. Describe, in your opinion, the cognitive processes involved in this task […], in terms of:

- Acquiring information,
- Selecting information,
- Representing information,
- Retaining information and
- Using information

Good answers, *Acquiring* information:
«You see the new word coming and observe the letters that compose it»
«Seeing the words falling down»
Good answers, *Selecting* information:
«Choice the appropriate key (in the set of all keys) to type the word acquired»
«Reading the words falling down and choice one word to type»
Good answers, *Representing* information:
«You recognize the word that you are typing and you don't need to 'see and type' letter by letter, but type an entire word» (You have a mental representation of the word).
Good answers, *Retaining* information:
«I remember the letters that compose the word and I type them»
Good answers, *Using* information:
«I type the characters that I remember compose the word that I have perceived, recognized, chosen»

Item 2. Describe, in your opinion, the metacognitive processes involved in this task […] (it's easier if you reflect on how you did learn to do the task).
Good answers:
«I try to press Shift keys at the same time and I fail. I must pose a question to myself: 'What I am doing wrong?'. In relation to the answer that I give to question I must to change my behavior, until I reach the success».

Item 3. John is a pupil that have resilience. John has played once to this game […] and is little bit discouraged because

he doesn't know the color proposed. In your opinion, what will do John now?
Good answers:
«John doesn't lack motivation. He tries to click on ever block to find the right answer (the computer says when is right and when is wrong). Then he memorizes color and after a certain numbers of session, he will learn color names».

Item 4. Describe a typical problem that you have encountered in your class and for which you would like to have more knowledge and tools from the lessons of Phoenix training.

From the item 4 of the test, a rich set of specific instances was emerged, that have originated a sequence of training modules (with many software examples, see protocols at www.edurete.org/conv/difficulties080912.zip) that focus on possible solutions to the problems reported by participants:

P1) *Memorization Problems* («When I teach the kids something, another day when I ask those thing they forget it», «Problem of memorization of multiplication table»). To improve memory for concepts was showed to teachers how to: a) aid children to create associations between texts, images, sounds, actions; b) stimulate children to find personal images for the concepts that the teacher explain (also as strategy to improve creativity); c) choice an image from the images proposed from children and use systematically this image in association to the relevant concept. In particular, was explained to teachers how to use in proficient manner two types of memory cognitive functions [3]: *Recognizing* (find out an object among a set of objects) and *Recalling* (bring out from memory an information). The trainer showed to teachers how to construct little songs and doggerels in order to memorize sequences of mathematical operation and how to use them with the pupils. Last tip was the recommendation to use frequently sessions of formative assessment (with nominal or anonymous tests) to verify systematically remembering and understanding of the pupils. At the end of the module, a task was given to teachers. The request was to design an activity to improve memorization of concepts by the pupils, in relation to the contents they are currently teaching, to apply it into the classroom and to write down a short report (maximum 8 lines of text) describing the activity and the obtained effects.

P2) *Comprehension problems* («Students who appear to be attentive in class but can neither answer any questions about the lesson nor solve any exercise»). Comprehension difficulties are directly related to weaknesses in lexical, syntactic, conceptual, inferential and organizational language processes. Students with poor comprehension are poor at making inferences and integrating text information. Consequently, poor comprehenders do not strive for coherence and they tend to use less story content and use less sophisticated story structures. Poor comprehenders tend to read quiet superficially. They are less likely to engage in constructive processes when reading. It would appear that they are not deficient in general knowledge but fail to use gap filling inferences and are not sure when and how to apply their prior knowledge [4][5]. Hence, an important prerequisite for understanding is the ability to assign meaning to important words in the text. If the pupil has a poor vocabulary, it is very difficult for him/her to assign the right meaning to entire text. Interventions aimed at improving the vocabulary of the students are very important, and equally important is to know the purpose of the text and how it is possible to connect the concepts vehiculated by the text to the prior knowledge of the pupil. A possible strategy is the use of *advanced organizers* [6], provided before explanation to pupils, to facilitate pupil's understanding. In this training module, several examples were presented with refer to the seven cognitive processes related to understanding identified by Anderson & Krathwohl [3]: *Interpreting* (clarifying, paraphrasing, representing, translating information from a formalism to another), *Exemplifying* (illustrating, instantiating, given a concept find an example), *Classifying* (categorizing, subsuming, given an example find the related concept), *Summarizing* (abstracting, generalizing, find a concept that summarize a text), *Inferring* (concluding, extrapolating, interpolating, predicting, find a conclusion or extrapolate a rule from instances), *Comparing* (contrasting, mapping, matching, find similarities and differences between instances), *Explaining* (constructing models, find causal paths in a sequence of events). The task given at the end of the module has required to teachers to design an activity to improve the comprehension of concepts by the pupils, to apply it in classroom and to write down a short report (maximum 8 lines of text) describing the activity and the obtained effects.

P3) *Handwriting problems* («Students who have a problem to write well», «The pupils write slowly, they have no speed in writing», «The children have difficulty in taking notes»). The strategy proposed by trainer refer to the practice of handwriting, that can improve the coordination between visual, verbal and motor capacities. Computer driven practice, by means of animations that illustrate step by step how to draw letter, can improve handwriting.

P4) *Orthograpic problems* («Children that don't write the words properly: 'govenment', or 'govnment', or 'goverment' instead of 'government' »). The strategy proposed by trainer to improve writing abilities requires that the student *reads more*, to acquire models of words and text structures, *writes more* to practice these models, *reads back what he has written and search for errors*, to acquire metacognitive ability of self-correction. The feedback of someone (teacher, mates or computer) is important to help the pupil to find his/her errors and the feedback is more effective if it is immediate. For this reason the *visual* feedback obtainable from computer (e.g. by an orthographic corrector built in a

word processor) is very effective and also very effective is the *verbal* feedback obtainable by screen reader programs (in the training was presented the DSpeech free software). Developing of self-assessment and general evaluation capability is related to two cognitive processes [3]: *Checking* (check the internal coherence of a product or an object, coordinating, detecting, monitoring, testing) and *Critiquing* (give a judgment about a product or an object using a set of external criteria).

P5) *Dyslexia problems* («When I tell to a kid to write for example 25 he writes 52, or when I ask him to compare 10 < 20, he writes 10 > 20», «There are children who can't recopy words from the board as they are, e. g.: 'on' they write 'no', 'in' they write 'ni', 'an' they write 'na'»). Dyslexia is not disability, but only a different mode of functioning of the mind [7]. From Dyslexia is impossible to completely get out, but it is possible to get better with apposite training (that foresee progressive steps). Examples of computer training to deal with Dyslexia include: a) practice to recognize letters on the screen of the computer and on the keyboard; b) practice to associate sound and letter symbol (the computer program says a letter and the pupil have to click it on the screen); c) practice to recognize words (oral and written) and reproduce it on the keyboard (before without maximum time and then with); d) practice to find the missing letter (the program shows a picture and an incomplete name and the pupil have to complete); e) practice to associate symbols and real word objects; f) practice of orthography by means of corrector built in word processor; g) practice of orthography and association between oral and written words by means of screen reader programs. For each of these strategies were presented examples of software and free educational game. The task given at the end of the module has required to teachers to design an activity to improve the writing ability of the pupils, to apply it in classroom and to write down a short report (maximum 8 lines of text) describing the activity and the obtained effects.

P6) *Problems in mental calculation/Automaticity problems* («Some pupils don't know how to calculate mentally»). The strategies proposed by trainer refer to the importance of the practice finalized to improve the automaticity of cognitive operations. Novices take a significant amount of cognitive resources in interpreting and dealing with the problems, using conscious and explicit processing. With practice, accompanied by reflection on "what works" and "what does not work", the cognitive operations become more automatic and implicit. Strategies that not lead to tangible results are gradually forgotten, and the effective ones are progressively automated. This frees cognitive resources for new learning: it is not necessary to think about a thing to do it (e.g. riding a bike or driving a car). It is important to give pupils opportunities to repeat their problem solving in different circumstances, so that they can automate problem solving process. Computer games offer to the pupils the opportunity to "practice without judgment of the adult" and this fosters the process of "learning from own error": the pupil feel himself free to do errors and to take the time for reflect on them, with an aid that is not perceived as a judgment. Various computer games and educational software designed to develop automaticity in calculation was presented in this module (see protocols). Training emphasized the importance of progression. The decomposition of complex problems and instructional sequences in simpler sub-problems makes educational interventions more effective. In order to promote learning success, it is important to ensure that the pupil really masters concepts, principles and key strategies present in the current learning content before moving on to new content. The same principle is valid for ability: it is important to ensure that the student really masters an ability (e.g. doing sum with objects) before moving on to another more complex (e.g. doing sum with symbols).

P7) *Problems in the transfer of learning* («There are pupils who do well in class, are very talented, but do not get satisfactory result for the exams», «Slow learning»). Better performance in solving a problem does not automatically translate into better performance in solving a different problem (lack of learning transfer). Empirical evidence demonstrates the role of analogy [8]: the learning obtained in solving a problem would benefit over those obtained in another, if certain topics of this are similar (e.g. in content, logical structure, strategies for the interpretation and troubleshooting, etc.) to those already learned. To improve learning transfer in solving a new problem, it is possible to propose specific training to the pupils that requests to find what in the new problem is similar to what they already faced in the past and what is different. For what is similar it is possible to use known strategies, for what is different it is possible to search into the set of known strategies those have analogy with the structure of the problem. This means to do specific trainings to learn to *analyze* problems, in order to determine: problem typology and structure (recognizing what was already faced), what the problem requests (understanding what is necessary to do), unknowns (recognize what is missing and/or needed), available data (recognize what you have). Three cognitive processes are related to analysis [3]: *Differentiating* (discriminating, distinguishing, focusing, selecting, find and separate the main components of an object, split a whole into constituent parts), *Organizing* (rearrange main components in another structure, finding coherence, integrating, outlining, parsing, structuring, compose parts in a whole), *Attributing* (find the point of view of authors, deconstructing text). To improve analysis ability several strategies are available: a) propose session of self-evaluation before examinations (develop the ability to face new problems and to discover the logic that stands behind the problem); b) provide feedback on problem solving strategies used by the pupils (explain "what works" and why, and "what doesn't work" and why); c) simulate examinations in session of formative assessment (teach to face "anxiety related to examinations"). In addition to these strategies, various computer games were presented by the trainer to improve analysis processes. The task given at the end of the module has required to teachers to design an activity to improve the analysis ability of the pupils, to apply it in classroom and write down a short report (maximum 8 lines of text) describing the activity and the obtained effects.

P8) *Creativity problems* («Some pupils repeat only what have seen and heard from the teacher. They are not able to give personal contribution», «In the examinations, some pupils repeat only what the teacher said, they are not able to do autonomous study on books»). Three cognitive processes are related to creativity [3]: *Generating* (construct new ideas, hypothesizing), *Planning* (formulate a project to do something, designing), *Producing* (constructing something, implementing the project). Various strategies and computer activities were presented to improve these three processes (see protocols). The task given at the end of the module has required to teachers to design an activity to improve the creativity of the pupils, to apply it in classroom and write down a short report (maximum 8 lines of text) describing the activity and the obtained effects.

P9) *Attention problems and hyperactivity* («Some children are much distracted (only their bodies are present)», «Pupils who lack of observation, concentration, does not stand up», «Students lack of concentration», «The problem of a student who does not want to sit still, he will not write or take it what teachers say. He just wants to disturb, dance, make displacements in class. It loses its class materials (pencil, eraser), it tears the books. He wants to imitate what he saw on television»). The ADHD Syndrome was synthetically presented by trainer, as characterized by developmentally maladaptive and inconsistent levels of inattention, impulsivity, and hyperactivity. The trainer pointed out that ADHD is not a disorder that is possible to face only with cognitive strategies, but cognitive strategies may contribute to reduce effects in less serious cases. Proposed cognitive treatment refers to: a) find an activity (computer game, practical activity, etc.) that entertain and promote implication in the pupil with disorder; b) aid the pupil to remain on the activity until he/she reach the aim of the game/practical activity; c) individuate and correct impulsive behavior providing "good" models of behavior. Various games to increase attention were proposed (Put the ball into the hole, Launch the Penguin from airplane to the boat with parachute, Find the differences, Say if the word has been displayed on the screen, Copy the pattern, Create a symmetry, Play Force 4, checkers and chess against the computer).

P10) *Problems of motivation* («Some children do not have interest in new things», «Children who do not want to write», «Students who want to play and do not to study», «Students who do not want to take notes», «Students who do not revise contents at home», «Students that do not want to follow the lesson, student that want to play in the class», «Some pupils are lazy in multiplication or reading», «Pupils disturb others in the class and do not follow the lessons», «Pupils do not do that their homework»). The trainer pointed out that individuals choose whether to invest their cognitive resources in the study or other activities. The learner does not invest his cognitive resources in the study if he/she is not motivated or if he/she perceives that his efforts do not lead to visible progress. In this case, student can choose to invest their resources in other activities (games, sports, entertainment, social activities, etc.) that he perceive as more useful and source of minor frustration. Several strategies were presented to deal with demotivation: a) using active approaches to didactics (some pupils need to do practical activities in order to reach comprehension of something); b) using game based strategies (computer games, songs, recitation, cooperative learning with pair or workgroup and championship between groups) to improve intrinsic motivation; c) involve the parents in the homework activities, explain the importance of homework and the opportunities that offer the scholastic achievement for the life of their children; d) organize peer tutoring sessions (students of the secondary school that do tutorship for students of the primary school).
At the end of the training, a final test was given to participants. Teachers had to: 1) Describe a strategy to improve memorization ability of the children that they are going to use in the next months; 2) Describe a strategy to improve comprehension ability of the children that they are going to use in the next months; 3) Describe a strategy to improve analysis ability of the children that they are going to use in the next months; 4) Describe a strategy to improve creativity of the children that they are going to use in the next months. The last question of final test request to the participants if they have already used the games and the strategies of Phoenix project, and if they do, to shortly describe what they have done and the results that they have observed.
The final test has shown that teachers have learned many techniques of action and that, already during the training, have begun to use them with students. Answers to proposed questions were articulated and reflect a good level of understanding of basic concepts and principles illustrated in the training intervention. This is a good sign that hints that teachers have acquired the cognitive tools necessary to start working effectively with the class. In order to support the implementation of learned strategies in current activities with the class, course materials (slides with theories and examples of work) have been made available on the site www.edurete.org/conv/difficulties080912.zip. Presentation of the intervention and photographic documentation are available at the address www.edurete.org/conv/kigali2012.zip.

FINAL CONSIDERATIONS

Taking into account the difficulties described in paragraph 2, the participation and commitment of teachers in the course has been remarkable. Feedback from participants to trainer was highly positive, mainly because it was perceived that the course has been specially cut to their needs, without following a lineup of default arguments but with content that could change from time to time in relation to the specific needs that arose from the participants. This form of shared construction of the ladder of training, is typical of the training strategy defined *responsive training*, that is precisely training which aims to respond specifically to the needs arising from the participants. Generally, this task is not easy because the participants themselves are often not fully aware of what are their training needs. They should be helped to

make them emerge and to define them in a conceptually correct way.

As pointed out by Thomas [9], in order to effectively build responsive training systems, first it is essential to build effective feedback mechanisms between an organisation's real operational needs and their training systems design. To be effective, these feedback mechanisms must employ data collection and analysis techniques which: 1) identify weaknesses in normal operations which require the development of training interventions; and 2) identify the weaknesses in training which give rise to resident pathogens within normal operations. The training carried out have aimed to develop metacognitive reflexivity of the participants, in order to make them able to recognize what of their current actions in classroom are most effective and which are not, in relation to their own objectives. To promote cognitive empowerment for the pupils, the first cognitive enhancement should be referred to their teachers.

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NOMENCLATURE

EPSI	École Primaire Saint Ignace

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ICT AND CAPACITY BUILDING: THE CONTRIBUTION OF INTERUNIVERSITY COOPERATION TO THE TRAINING OF GLOBAL AND LOCAL ENTREPRENEURSHIP IN CULTURAL, ECONOMIC AND SOCIAL SECTORS

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The choice to once again dedicate some time to the theme of E-Learning as a possible strategic aspect in inter-university cooperation has root in the consideration of a nature generally relative to the theme of relations between North and South. It concerns the importance of the fact, "knowledge", as precondition of every project of development that could be supported and maintained. Acknowledging the fact of knowledge is strategic in every action of development. It means that every action of development must be concerned with "teaching to do". In this sense the strength of forms of transmission of knowledge must be taken advantage of, from more informal levels to auto or self-learning up to those levels that are more institutional and related to university education. It is typically the elevated level - the university education - that has been the object of reflection in the Panel under consideration. Through the four expositions, quite different in approaches and in the speakers' backgrounds, questions are raised on the actuality and the possibility that the development of the African continent could consider.

The exposition of SPREAFICO presents the networks of possible project of E-learning in Africa. It is a reflection developed from one internal department of the Catholic University of Milan (CREMIT) dedicated to the education in Media and Information Technologies. There are two areas of research and of intervention by the Centre. The first is the Media Education (education to the, with the and for the media, in school and outside-school, from contexts of formal education, to family, to informal education); while the second is Education Technology (with particular emphasis on the themes of integration of technologies in the didactics, to the design and evaluation of processes of formation in E-learning, to moderation of communication on line and to E-tutoring). CREMIT has among its goals that of maintaining an international opening. For instance the partnership with the Shalom College of Father Kizito in Nairobi; the collaboration with different Brazilian Universities; the participation on line MENTOR, etc.. Its hope is to be able to insert in international network research and funding interests. Despite various attempts, CREMIT has until now not succeeded in commencing effective experiences of inter-university cooperation in Africa, conserving still a sure hope to succeed one day. SPREAFICO's proposal seeks to present a possible realizable operative modality in an African context.

The exposition of INZOLI AND ZOUYA has instead sought to put to light the sense today and in the African university context the promotion of E-learning forms. It is clear that today the elaboration of knowledge and of its transmission is strictly connected with development of ICT (Information and Communication Technologies). The new instruments of information and communication have the power, on one hand, to reduce the threshold of accessing knowledge (operating in a direction of democratization of knowing) and, on the other, to accelerate enormously the possibility of exchanging (surpassing, at least virtually, a good series of borders). These two novelties can still have a strong impact on the world of African universities in which often times a vertical and hierarchical model in the pedagogic structuring of formation predominates. The fore lesson in this model is comparable to the logic more like that of a seminary where the corpus of knowledge acquired by a student is evaluated heavily on the grounds of a professor's lesson. The introduction of the ICT can put in question this model through a new pedagogy of learning based on a student's active role and on a professors' more orientative than directive role. In line with a slogan coming out of the discussion, the ICT cannot be reduced to a process of alphabetization of information. It asks for rethinking of the didactic methodology.

It is only in the exposition of ELLERANI AND MENDOZA that the prospective more operative on the E-learning has been brought to the fore. ELLERANI AND MENDOZA have added a voice to a complete experience that has involved the network of the Selasian University of Latin America. On practical objective the Edulife foundation has been able to put the proper platform of the E-learning at the disposition in order to stimulate comparison and debate among the universities which have otherwise collaborated less among themselves. A remarkable motivation of the teaching staff and the grip of knowledge of intellectual capital of notable calibre are among the results that can be realized.

The exposition of YASSIN AND SESANA poses a question on how Information and Technologies of Communication (ITC) can be factors in promoting political participation, particularly in unstructured contexts of large zones of instability and war that involve the contemporary Africa wars.

At the end of the panels two views came out quite strongly.

a) The first regards the importance of giving adequate attention to teachers and professors, who constitute the true strategic target for the operation of the entire African university population. In fact in the course of the discussion, the true and primary beneficiaries of all inter-university cooperation have alluded to. A real

modernization of the African university system and a concrete proposal of E-learning will be an illusion without direct and pivotal involvement of the teaching staff. Such involvement must however take into consideration the real danger that the professor statute has gradually suffered beginning from the 90s.

b) We are living in a transition that is profoundly modifying the operative modalities and the same sense of the E-learning, and today it is difficult tell which form it will take in future. Rivoltella reminds us that if it is true that we are confronted by normalization of the E-learning in the sense that no one questions it and puts it into discussion because of its integration in the processes of formation, it is important to speak of it in terms of its evolution. In fact *"one season has finished and it happens that another has began. Those who give information of this transition are already catching a glimpse and are closely tied not only to the social affirmation of the instruments of the Web 2.0, but also to the awareness (that begins to emerge) of the fact that typically these applications offer concrete possibility of application to the same processes that are interested today in the normal E-learning. By this way, we are thinking of the diffusion of the scholastic blogs, the adoption of wiki technology as substitute to the Intranet company in the small- media enterprises (by this way the software open source T-Wiki is becoming a true and proper case - cfr. in Internet, URL*: *http://twiki.org), but also in the adoption of Google Apps as platform of Web services on the part of many Italian universities among which are the University of Messina, Ferrara and Camerino, as it is already happening in the USA at the Arizona State University or in Europe at the University of Linkoping in Sweden"*[1].

To an Africa, extraordinarily receptive to the new ITC but structurally still weak to enjoy fully the positive impact on entire the organisation of society and economy, the E-learning has still more to give. The African condition would not afford to be isolated by such projects. Projects, like forms of technological assistance, should not cut off, but seen as an opportunity for new cultural sociality in which partners involved.

[1] Rivoltella P.C., *Dopo la formazione a distanza: tecnologie, educazione e formazione in Italia (1995-2008). Educ. Soc.* [online]. 2008, vol. 29, n°.104, pp. 851-864.

POSSIBLE AREAS AND CRITICAL ELEMENTS FOR BUILDING DEVELOPMENT COOPERATION INITIATIVES IN EDUCATION AND BLENDED LEARNING METHODOLOGIES

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ABSTRACT

Training sessions for teachers in the entire school system (primary, secondary, school and university) are the basis for a long lasting development in the emerging countries and it is of high interest both for Private and Public authorities that work in the (abovementioned) emerging countries.
There are different and many approaches to tackle this kind of topic. CREMIT wants to provide a contribution through the ELIA project in order to provide support to this fascinating and complex issue.
In this scenario CREMIT has developed since long time its own project called ELIA (E-Learning in Africa) that integrates many results of research in the field of innovative teaching methods and the use of social media.
The topic to be developed on this occasion is not so much a description of the contents of the project ELIA play as an analysis of the feasibility conditions and the difficulties encountered in the chain of logic design and implementation of projects of this nature. In other words, we intend to present a series of internal and external elements to the system of development cooperation on which you can act in our view for a positive evolution of the theme.
Finally, a note on methodology and culture of fundamental importance for the understanding of the project: those who work in the field of the development of ICTs and especially the new media and social networks have learned that you can only approach a "descriptive" and "not-normative" as the cultural and technological changes are rapid and fluctuating. Even our project ELIA is the son of this approach and its continuous progression and transformation we are concerned and passionate about.

KEY WORDS: *Digital literacy, education, digital divide, ICT for development, discovery learning, didactics, Blended Learning*

PREMISES

Training sessions for teachers in the entire school system (primary, secondary, school and university) are the basis for a long last development in the emerging countries and it is of high interest both for Private and Public authorities that work in the abovementioned countries.

There are different and many approaches to this kind of topic. CREMIT wants to provide a contribution through the ELIA project in order to provide support to this fascinating and complex issue. We decided to focus our attention on three main words to clarify the project and to introduce our operational proposal.

- ***E-Learning***
  We believe that the systems of training production (modules and paths) through the ICT have reached a good level of ripen (even if still growing). Through the e- Learning we mean both the existing technologies to transfer knowledge and the teaching itself (pedagogical knowledge transfer) that can create the learning environment (teaching). In particular, it is important to underline the tendency to use web 2.0 instruments both for formal and informal education activities and in general for knowledge transfer.[1]
- ***Emerging countries***
  In the present geopolitical frame, the target for countries considered emerging (steady development grades) is very flexible. For sure we can consider among them countries in the Middle East and North Africa as well as some Far East or Latin American countries (BRICS countries).
- ***Developing countries***
  Despite the indicators to measure the human development are under constant review and the Millenium objectives[2] are very far from being achieved (*primary needs satisfaction and defense of basic human rights*), it is

[1] http://elearninfo247.com/
[2] http://www.endpoverty2015.org/

possible to affirm that the number of developing countries where the use of information technology is high and that the awareness of the importance of investing in human capital is increasing year after year.

For each of the three words-concepts used it is interesting for us and useful to our goal to gather the data that link the increase of economics and social parameters and the ICT use. These data are constantly monitored by National and International Research Centers.

For each of the three words-concepts used it is clear the dynamic development that convince us about the real possibility to realize projects that can make use of different parties aimed to the education development. Western society are invaded by the cultural transformation caused by the explosion of internet and its applications, consequently the educational field is highly stimulated towards them. Emerging countries are also (as already explained) very much influenced by the new ICT ways of communication, which implies the fact that there are highly potential consumers – ICT and communication industry user. Within the above scenario our considerations developed into the production of some draft projects. We won't detail in this document the exact sources mentioned above nor we will define a pilot case to be used as potential standard to be replicated. Nevertheless, there are some interesting hints that can be analyzed thoroughly.

1. THE PRESENT STATUS OF ICT IN AFRICA AND THE POTENTIALITIES OF AN INNOVATIVE PROJECT

After a rough analysis of Distance learning training projects implemented for the International Development Cooperation, it is clear that some ongoing projects and some to be started are instable or not sufficient for the needs[3].

The most evident limits can be traced back to the following elements:

- Difficulty in the co-management of the projects where different international partners are involved.
- Working out of learning objects inadequate in matter of contents, of multicultural and transcultural values and ineffective communication ways[4].
- Difficulty in starting e-learning systems in pre-defined or not clarified educational paths.
- Lack of economic sustainability in the project in a middle-long term.

The above-mentioned remarks show us an interesting scenario to set an innovative and efficient project:

A. ***Clear purchaser***. To identify a partner at governmental level that can support the e-learning methodology experiment in one or more educational systems. This partner would be the first sponsor of the New project.
B. ***Project completeness***. To define a project that contains
    a. A concept defined among the main partner, the expert purchaser and a meaningful group of stakeholder
    b. A pilot phase
    c. A roll-out phase
    d. A performance phase
C. ***Competent*** and multidisciplinary group of work.
D. ***Flexibility*** in the technology use and maximized use of products which are the results of industrial research and commercial proposals.

2. THE CONCEPT

The ELIA Project started from CREMIT and from some experts of International Cooperation experience. It is based on three main elements:

- Vertical elements
- Horizontal elements
- Transversal feasibility elements

2.1. Vertical elements

Technologies

The choice of solutions and of instruments to use for this project is important for the impact the ICT themselves will

[3] http://www.avu.org/e ; http://www.auf.org.
[4] References: http://www.itu.int ; http://www.close-the-gap.org/discover-us/united-nations/un-gaid/ ; http://www.unctad.org/cstd.

have in the project itself. Our choice is to use light (that can be used also with not last generation hardware and software) and open solutions (free from costs of rigid contracts of private software). The reason for our choice is both for strategic reasons and economical aspects.

In fact, on one side our choice guarantees the independency from rigid and expensive licenses and from the limits that a hardware or software not of last generation may have. It is important for us to take always into consideration that the contests we work in may have deep lacks in infrastructures and resources.

On the other side, our strategy aims to have a positive impact in the future sustainability and feasibility of the project itself. Open solutions are rapidly growing also in the e-learning field in schools, universities, public offices and companies as valid alternatives to the commercial LMS and LCMS.

Nowadays there are valid alternative open solutions to create contents to be implemented in platform. The continuous improvement of new applications in this field may lead to a complete autonomy from proprietary solutions, in parallel with the open and free content.

In particular the following solutions will be used:

- LAMO solutions (Linux Apache MySQL PHP) server side.
- Moodle as LMS platform for contents implementation and trainee activity management.
- Open source application software for content realization to be implemented in platform.

Coordination

Coordination should be entrust to a group of work that depends on MOU (Memorandum Of Understanding) among three main parts:

- *School*. It can be both Private or Public (Education Ministry, Private Schools or Colleges).
- *Research Center*. It can be CREMIT itself or a cooperation pool created ad hoc together with another Research Center o Education Department or Local University.
- *A Financial board*. It can be a private sponsor or a Temporary Business Association (TBA) among a Private or Philanthropic Sponsor, a NGO and an International Financial Board (UE, WB, UNICEF, ADF).

Counterparts

The ELIA project can be conceived on different levels. For example, the targets of the projects can be the following:

- *Institutional Education*
  - ✓ Teachers' training for primary school and Teaching diploma certificate
  - ✓ Teachers' training for secondary school. General and specific training to make use of ICT
  - ✓ Trainers' training for Vocational Training Center. Basic level and high level training

- *Adult education and high education*
  - ✓ Basic training for training worker that operate in rural areas or in difficult situations (refugee camps)
  - ✓ Training in new methods of journalism (new media, social network, etc)
  - ✓ Training in the field of health care and highly specialized

Of course, the ELIA project can be conceived depending on the identified target and on available resources.

Training receivers

They can be adults that have an educational and training role. They are subjects who are getting trained in an adult phase.

2.2. Horizontal elements

The ELIA project has a direct effect (education) and an indirect one (ICT development). Single people involved in the project will have different and well defined roles. Team sessions will be ensured in order each person has the chance to share information, proposals, lessons learnt and possible correction actions to be undertaken. This horizontal element has to be considered as the cultural basis of the project and the key element of the long lasting success and sustainability.

The weakest parts in most of the international cooperation projects in a long last perspective are: fragmented competences and shared out communication. In order to fight against these mistakes learnt from other projects, it is possible to think of a blog, information campaign, radio or video broadcasts very specific and focused.

The horizontal approach fosters a common learning even within the coordination team that can learn from the experience itself, improve step by step and replicate the experience also in other contexts supported and reinforced by the ICTs.

2.3. Feasibility transversal elements

The vertical practical dimension crosses with the cultural horizontal dimension reinforcing some common elements that grant the efficiency:

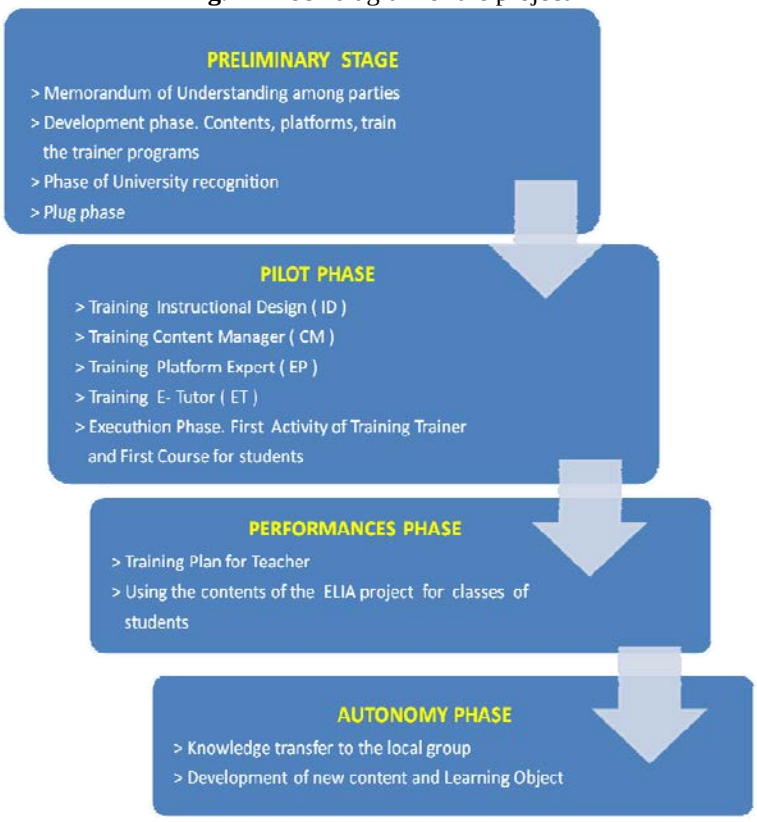
- Accurate survey of the place where the project will be started
- Setting up of an international technical staff (both sides)
- Setting up of an international Didactical-Pedagogical staff (both sides)
- Identification of a Project Manager in Staff to the TBA Direction (Temporary Business Association)
- Strong and easy to maintain technologies acquisition (also remote)
- Business plan with a solid Financial investment for all project phases

3. PROJECT PHASES DEVELOPMENT

In the next chapter the stages of development of the project are summarized.

- Memorandum of Understanding among parties
- Development phase. Contents, platforms, train the trainer programs
- Phase of University recognition
- Plug phase
- Pilot phase
- Execution phase (1 year)
- Performance phase (1 year)
- Autonomy phase (1 year)

Fig.1 - Block diagram of the project



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THE INTERCULTURAL PERSPECTIVE OF E-LEARNING PROGRAMS AND THE USE OF NEW TECHNOLOGIES IN AFRICA

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ABSTRACT

Based on the socio-anthropological approach, this article explores the intercultural implications of the development of North-South cooperation projects regarding E-Learning in the African countries. In Africa, E-Learning is widely spread in the Anglophone area and not well known in francophone counterpart. Various methods and strategies have been adopted by each group to develop E-Learning (which is not the focus of this article). The development of E-Learning points out a series of questions that we can define as "intercultural" and that touches the three main stakeholders of any cooperation project including Teachers, Students and Educational Institutions. Analyzing the first stakeholder raises the issue of the value and the management of the teaching practices of E-Learning which are fully different from the traditional pedagogy linked with the 'authority' and the 'book' leading to an erosion of the intellectual status in the society. On the other hand, students face new practices learned through E-learning from its compatibility with the professional environment capable to render them more flexible and productive compared to the face-to-face teaching. The approach of E-Learning becomes more complex in the African educational institutions that desire to pick up new intellectual resources coming from the North hemisphere but that still need to be more adapted, proactive and creative regarding the cultural and socio-economic differences. The introduction of new Information and communication technologies must therefore be seen as an opportunity to improve the African educational system and by the same time increase the socio-economic status of a continent that has been historically marginalized.

KEY WORDS: *E-Learning, University, ICT, interculturality, cooperation, development.*

The present contribution intends to emphasize and to analyze in much summarized terms development through cooperation: the promotion of E-Learning in Africa, and intends to do so using the socio-anthropology method of development backed by J.P. Olivier de Sardan, one of its main authors. This method requires the structural analysis of every social fact of cooperation. This complex analysis takes into consideration the concerns of various actors and institutions of the North and South in an interconnected and globalized world.

INTRODUCTION

The French author reminds us that "development" refers to a social phenomenon than can be defined *as "all social processes led by voluntary operations of transformation of a social milieu, enterprises through institutions or external actors to this milieu but fetching to mobilize this milieu, and relying on an attempt of grafting of resources and/or of techniques and/or of skills"* [1]. The transformation of the demographic, economic and social structures – relative in this case either to the structural aspects (industrialization, urbanization, professionalization, institutionalization...) or the qualitative ones (change of mindsets and behaviors...) - is analyzed through empirical and multidimensional studies that focus on the evolution of interactions among diverse social actors, their practices and their respective representations. Applying it especially to the study of the diffusion of E-Learning in Africa, we can affirm that it may represent one of these voluntary actions in a specific context – that at the end of the 90s - when African countries integrated the dynamics of a multi-polar globalization. This latter was characterized by an increased mobility of population, ideas and images that have their true enabler in the development and in the capillary diffusion of the new Information and Communication Technologies.

Speaking of E-Learning as a mean of cooperation also remind us that it has a concern either on the possibility of exchange of material goods or the construction of big infrastructures, but also on some immaterial goods like "knowledge" and pedagogic infrastructures for its production and diffusion. As far as E –learning is concerned as one of these pedagogic infrastructures, we use the definition given by Elliot Maise which means a modality of utilization of the technologies in network to protect, to distribute, to choose, to manage and to widen knowledge. This definition *"suggests to us four key notes: with the e-learning the way of thinking and protecting the formative contents changes; the way of organizing them and filing them changes; the modalities of benefiting and of choice on the part of the user*

change; the modality of allocation of contents and of management of the process changes" [2]. The E-Learning industry encompasses diverse operative modalities linked to different actors: it helps the capacity building of professionals in the sphere of a continuous formation, in diversifying or studying effectively the formative offer of a university. It involves the process of a specific knowledge that integrates technological and pedagogical competences.

We are developing these ideas in the light of a category called "interculturality" because - as the word etymologically indicates - every action of development is also a story of meeting/colliding among cultures that coexist and interact. By its nature, the concept of interculturality goes beyond a dynamic and proactive way: those of multiculturalism and pluralism. Still, we are not getting into the debate that the use of this notion deserves; the use of the concept of interculturality helps to put in light or how being cancelled from the Information and Communication Technologies may not constitute the cultural differences (that is the differences among the groups and persons that do not share the same universe of meanings and the same expressive forms of these meanings but only those gaps that in an unglobalized world constitute the inaccessible frontiers if lacking points of entry. Today these gaps are no longer a wall, but they become a bridge that renders possible their own overcoming towards a new culture that has the inevitable form of the "metissage" (bowling pot).

THE TWO VERSIONS OF E-LEARNING IN AFRICA

We do not possess a complete phenomenology of the experience of E-Learning in Africa; nevertheless we are in a position to identify two geographical and cultural trajectories, identifiable through the two major linguistic areas: the Anglophone zone (with real and more influence on international level) and the Francophone one (often not well known). In short, the way we went through was not dissimilar from the one of the E -learning in our country as we shall see at the end; we find ourselves today in a situation of rethinking the modalities and reviewing the priority objectives[1]. C. Depover and F. Orivel (2012) carried out a comparative analysis of E-Learning between the two parts (Anglophone and Francophone), emphasizing the diversity of strategic and methodological options that differentiate them [4]. We limit ourselves to a few hints.

- As far as the Francophone world is concerned, an interesting point of view is constructed by the action of the Francophone University Agency (AUF: Agence Universitaire Francophone) [5], taken from the beginning by its activity to promote the diffusion of E-Learning and to make it the "case of resonance" of good practices. The French distant formation (FOAD : Formation Ouverte à Distance) is defined by Depover and Orivel as "handmade" in opposition to the projects of Anglo-Saxon mega universities to which the term "industrial" well suits. According to the authors in the francophone world, the main purpose of FOAD concerns Masters Programs in which the follow up of the students is more individualized. From the beginning, the choice has been to link the FOAD to the didactic activities of the university and to anchor them to the internal of their organized structures and of the respective academic curriculum. We are not in front of a project of vast proportions from a work of deep study, rather of a proposal born from diverse experimental episodes[2].
- In the Anglo-Saxon world the tendency is more of the Massive Open Online Courses (MOOC) and of the virtual universities intended for a large audience of youth. They propose the idea to create some new channels, alternatives and self-regulating formation. From the francophone point of view, the judgment on this system is ambivalent. According to J. Wallet, the MOOC "*are the windows of a large warehouse, with big and*

[1] P.C. Rivoltella reassumes it in three stages or "generations": The first is constituted by the experience of Distant Formation (FAD) developed in the Italy of the period after the Second World War with the scope to provide the country with new technical competencies. In this period we find two experience of success: la Scuola Radio Eletrra di Torino (from 1951) that promotes t he courses by correspondence and the Telescuola of the RAI to which the program follows is Never too late aimed at supplying a television formation to adults who cannot read nor write. The second generation searches to go past the non personalized set up and strongly transmissive of the first. E-Learning came up between the years 1990 and 2000. It developed in two directions: first of all in the formation of the teaching and administrative staff of the public administration. In this context emerges the value of the figure of the Tutor, like a figure of reference and factors of personalization. Successfully the E-Learning was also developed by the universities that had the willing to extend the formation offer and to provide themselves with a new instrument. Academic structures come up and ad hoc delegate to the methodological, technological and didactic research depending both on new degree courses and on improving the didactic competency of the teachers less accustomed to the use of the new technologies. The true and proper telemetric universities also came up, regulated in 2003 and these today are over 120. In this period, some professional categories, like that of doctors, have adopted the instruments of distant formation like the instruments of on-going updating. The third generation is that called 2.0. It's a product of normalization of E-learning, in the sense of its assimilation on the part of a cultural context that has constituted a recognized instrument used at all levels and in many contexts. The future seems characterized by a second thought blended in the sense of TELE (Technology Enhanced Learning Environment), learning environments not necessarily supported, equipped and strengthened telemetrically by the technology in which the technologies developed from a distance become grouped technologies, instruments that favour the social dimension of learning [3].

[2] The AUF has been active from the end of 90s with the objective to support the network of the francophone universities in the world. As association it plays the role to promote union and network among universities on geographic base, themes and others, but never in concurrence with them. It collaborates with other European institutes dedicated to the distant formation (the CIFFAD of Quebec, the ACCT of Bordeaux that became the OIF in 1995). Among first projects there were those to install in the academic headquarters of countries of the South, the technological structures capable to facilitate the research works of the teachers and or the researches and students at the end of a cycle of studies. At the beginning all the strategy is based on the organisation of SYFED (Système Francophone d'Edition et de Diffusion), to put at the disposition of university world an actualized scientific documentation. From Sénégal the center extends to all the francophone countries in Africa.

prestigious signs for advertisement. Like in big commercial malls of Paris, these windows are immense, wonderful and many people come to admire them, especially during the Christmas period. But this does not mean that later they would buy it" [6]. We are in front of the commercial version of the instruction, not anymore among the objectives of a monopoly of the state, but rather inside the logic of marketing. D. Oillo, as Stanford mention that, Haward and other international universities can afford to don't have an interest of the zones in which the digital infrastructures are still weak, but confident on a mass of students that other universities do not have, they compensate a large number of leavers with significant success.

- A further difference of perspective can be found on the point of view of actors in favor of the E-Learning. While in the Francophone world, there are likely control by public institutions; in the Anglophone world we have the dominance of the private sector. And the public institutions, as J. Wallet mentions in the document already cited of AUF, have some modes of funding, functioning, and reasoning, and a know-how which are common to those of the face-to-face teaching and which will integrate with difficulty the distant teaching. The wish of the AUF engaging itself in distant learning in relation with cooperation North-South is to respond to the needs of formation but also to structure the offer, to avoid the creation of a bazaar of education in which the fake universities in Africa flourish and at the same time where pressure of globalization expose public institutes to competition with international offer without having the same facilities[3].

NUMEROUS ACTORS IN THE FIELD

We have chosen three different actors to analyze some problems linked to putting in place programs of E-Learning in African context:

- the institutional actors, the African universities in partnership with institutions of the North with more experience of E-Learning;
- The teachers called to run this innovation;
- The students always more attracted by more effective "market of formation".

The point of view of the institutional actors

To understand the value and the perception of E-Learning in Africa, it may be useful to put forward big lines of the evolution of the universities in Africa. From the colonial period and the following days of independence (60-80) and those of structural adjustment (90-2010), the relation between policy of exploitation / economic growth and the development of educational infrastructures (the creation of a scholar system and a university network) has always been direct and problematic. Today Africa has many scholar systems reflecting the colonial powers who occupied the countries: these have given form to a scholastic system composed of various levels (basic literacy, technical formation, university) to which management, at least at the beginning, has been always entrusted to the religious force that the colonial administrators were co-opting in their countries of origin[4]. Still the university formation has known only in the postcolonial period a real expansion. It appeared like the leading instrument for the training of the leaders of the new states. A decisive turning point was however in 90s, when following the plans to tie up national budget, universities found themselves downsized. The consequences of some plan to recover from national debt on the university systems have been diversified. The reduction of state finances for school has leaded to a quantitative and qualitative reduction of the structures of support to the research and teaching (university libraries and laboratories) and a decrease of teacher's salaries reflecting loss of motivation and social status.

Moreover the academic staff is obliged to search for part time jobs of including consultancy for the international NGOs or even migrating to educational institutions of the North. To go about those systemic failures, networks have been developed. The first are the networks of NGOs specialized in applied researches like the "Council for the Development of Social Science Research in Africa" (CODESIRA) of Dakar or the "International Institute for Insect physiology and Ecology" (ICIPE) in Nairobi. These organizations have been able to mitigate the crisis of the university sector putting forward necessary resources to the applied research for the sector of the Graduates and post graduates training. The second phenomenon, more importantly, is the rapid growth private colleges (in some countries, around the year 2000, they arrive at collecting more students than public institutions) distinguishable by their status (non lucrative and lucrative) by their identity (secular or religious), by their thematic options (Business school) and by the quality of

[3] Even here one moves from the proposition of distant teaching concerned with the teaching staff to the creation of a virtual university (the UNISAT) in 1992-23. In 1995 it was decided to create a model of E-Learning more participative and that permits to unite distant moments to face to face moments with the presences of the tutor. The proposal of a Virtual Francophone University that is placed side by side to the similar project of the World Bank of a Université Virtuelle Africaine (UVA) was launched, but without success. In 2000 the project (UFV) was abandoned and it was decided to move to the organization of Campus Numerique Francophone (CNF). A little later the centers SYFED became CNF and the first was activated in Yaounde in Cameroon. In twelve years 43 CNF in the world were prepared to which 23 were added in partnership. In 2012, 40 among courses of licentiate and masters were proposed in Burkina F., Cameroon, Egypt, Lebanon, Madagascar, Morocco, Sénégal, Tunisia and Vietnam.

[4] One chapter in part is represented by Islamic universities. A general figure even if very limited of the story of the African university is constructed on the text of P. Zeleza [8].

their structures.

In these final years the institutional actor (the African universities) seems confined to two difficult modular factors: the demand to adapt to a globalization strongly normative and the weakness of local governance. For the first factor it is necessary to mention that if the university in the postcolonial phase was having as objective to train the leaders and necessary workers to implement African national politics in a context of growing globalization. This factor has been also impacted by the new objective to prepare elite to the demands of the global market and the necessary requirements to update technologically and culturally the private training. The second factor requires that the adaptation of the demand must be realized in a milieu of immense weakness of the systems or of the local institutions among which are the universities. In Africa these are symbolized today by some structural errors that various actors have summarized like the absence of a qualified training, the absence of diversification, the problem of frequent strikes, the increase of university population, the difficult to access the scientific and technical information. The consideration of this double factor (global pressure and local weakness) – must not be under evaluated in the analysis of concrete experiences of E-Learning that by their nature are based on collaboration among institutions of the North and the South. – That to only have a "fair weight".

In this picture, the choice to propose different forms of E-Learning is dictated often by an opportunistic strategy tending to retrieve the maximum educational productivity but unfortunately difficult to find. This is still a factor that can hamper the positive outcome of the experience. To this proposal the testimony of the EBAD (Ecole des bibliothécaires, archivistes et documentalistes) of Dakar which has decided to switch to the E-Learning is interesting[5]. This international school that in the 90s was having half of its students who were coming from other African countries found itself running for 10 years to see this percent reduced to zero, after the drastic reduction of the state scholarships and of the unemployment in public office. From there, the necessity to think again about the school adopting the principle: "if the students do not come to us, we shall go to them". An observer of the EBAD project comments like this: "*We are underlining that the swerving of the project to the e-learning is carried out in full dot.com period when one believed that the Internet could have changed educational system and the fact to earn a lot of money. In the middle way between the opportunism and the strategic reflection, in a period during which the development of E-learning was still a dream*" [9]. In this case the opportunism is transformed into an innovative capacity throughout the long-sighted leadership of its director that from the immediate benefits it will succeed to catch a glimpse and realize a new model of teaching giving back a hope to a training that seemed a little waned.

The point of view of the teachers

In the proposals of E-Learning through the investment and the implication of institutions, the most crucial is still adequate teachers. From them – the main stakeholder of teaching – the opportunities linked to the use of the new technologies are often perceived as a problem. Problems that seem to prevent an implication of teacher's board are multifaceted. Before anything the difficulty to acquire the necessary competencies on the new technologies is a problem that is gradually simplified with the lowering of the costs of the new technologies. Second difficulty is to enter in a new didactic logic. The professors often live on the facility of the students to adopt the scientific computer instruments and to enter in the logic of digital information like a threatening to their authority. The facility to access to the digital scientific information seems to most teachers like a mortal body exhausted by the students' learning. What frightens is also the loss of authority linked to the end of the face-to-face way to do teaching in which the lesson of the teacher remains the principal form of scientific information at the disposition of the student. This difficulty sends us back to the character that still pyramidal and little participative in the university training in Africa. Lastly the difficulty linked to the effort to integrate new operative modalities that necessitate a gross personal investment in acquisition of instruments, in time to dedicate, in intellectual resource to use, the absence of recognition of the scientific comity and of a consequent economic compensation that makes it possible is to be mentioned.

In short from the point of view of the teachers two elements result essentially for an adequate realization of the projects of E-Learning: the economic realization and the restoration of the status of the tutor. To a proposal of retribution the comment of a director of school on this subject is effective: "*when they pay the teachers, this works*". And speaking of the investment in the E-Learning reminds that in every case exists a second motivation. Less material but more scientific order: "*to earn ourselves is also the quality and the structure of their courses. Still this second motivation though important in a teacher's career, it does not surpass the first" [10*]. The second factor of success is the social status of the tutor. This figure is linked from the beginning to the role that extends from the "technological facilitator" to the pedagogic mediator", it is by many indicated as a "bridge" between teachers and students, capable to help renewal of the method of teaching [11]. In the case in fact of distant teaching the figure of the Tutor constitutes a professional status distinct from that of the teacher and his competencies regarding whether the pedagogic mediation or those relative to the organization, to the social and motivational aspects up to those technique and administrative.

Still, it is not forgotten that the bigger problem regarding the world of teachers and the E-learning is that of helping them to seize the pedagogic potentialities of the new technologies related to the two classic elements of the figure of the teacher: the choice of the methods of the research and the proposal of contents. In the experience of E-learning, the

[5] The story about this center can be found at: www.ebad.ucad.sn/Archives/forciir.

interaction between the teachers and the students – basic in every formative relation – instead of being substituted or replaced by a student-computer relation it is pushed to intensify itself and the role of the professor in the learning of a method is evident. The same is valid for the same modalities of construction and digital diffusion of the contents of teaching: far from becoming secondary, the E -Learning asks for new modalities of organization and of presentation where positive relapses become an advantage of the entire sector.

The point of view of the students

Lastly we come to the students in their capacity of usability and clients of the proposals of E -Learning. On recent investigation on the profile of the candidates that enter the experience of distant teaching, women are only the 20% of the total of the young one in professional activity, and living in urban areas. This profile reveals already how many are highlighted above: the local elite that in the postcolonial season were seeing in public office a possibility of social ascension, they now apply to international institutions and organizations and to multinational and local businesses. We find them among these candidates of young students (in search of academic titles more marketable in a global context) and many state civil servants who, forced by the precariousness of their status, want to invest a new supplement training capable to upgrade them professionally.

For some observers the world of the young in the countries of the South shows a growth of individualism in the way to devise the training and the instruction: this is not seen as a possibility to construct competencies to be active in one's country, but like an individual investment on one's future. As far as this could be only partly true, it must not be forgotten that for many young ones the digital modernity appears to them like a virtual and real possibility to over cross boarders and to break the rigidity in which their societies seem degraded.

The point of view of the young in front of the potentiality linked to the proposal of the E -Learning have been well explained in an article of the magazine Liberation of 18/02/2006 dedicated to the Numeric Campus of Libreville in Gabon. The article presents the motivations for which the young are attracted to the forms of E-learning. It seems to offer them the access to a quality teaching in a time in which the direct access to the European training seems impossible due to financial and document motives. Besides the participative modalities that the access to distant formation seems to respond to a question of participation "tout court" (all short). One of them says: "*in Africa the word is not easily given to the young. But in the Numeric Campus (and in the programs of distant education) we take it without difficulty"*.

CONCLUSION

We have been interrogating ourselves on the promotion of the E-learning in Africa with an evident practical intent: that of learning from the analysis of the past the better practices and a vision more realistic of the difficulties and of the opportunities that it could bring. We summarize what has been said in a synthetic way.

- In view of the diversity of technical and methodological aspects that are suggested in different programs of E-learning in African Universities, it is necessary, above all, to acknowledge the existence of a double interpretation in connection to its usefulness : the E-learning as a different didactical way applied to university programs (the francophone vision) and the E-learning as being a new methodological approach compared to the traditional one known in the universities. The two visions respond to divergent political objectives bound to the role of the university in a globalized world and to its status (public or private).
- Still the choice to promote the modalities of distant teaching totally or partially are today strategic for a university that must elaborate the proper training offer in a context that has become always more competitive and marketable. Besides, these modalities – as far as they could be developed and renovated and as far as they could be experimented by a very small number of students – they still know to transmit the image of modernity capable to attract more youth.
- The E-Learning understood as realization in a local context of a specific pedagogic structure has in itself an ability of innovation that is still long from exhausting its potentialities in the African context [12]. The fact that it seems to have exhausted its magical fascination more than discouraging us must lead us to great realism. Such minor fascination however can be accused by the fact that in Africa, partly rare exceptions and despite the rapid improvements, it brought technical problems and intensive use of the opportunities of the network (frequent and extended suspensions of the distribution of the electric power, dislocation of internet shops only in more important urban areas, costs still too high than the supporting material).
- We have affirmed that, although pilot projects exist that we should define as "experience of success" in the environment of the E-Learning, they turn to become reproducers on a vast scale. Among the reasons we have highlighted like the point of view of the African academic authority, the E-Learning may not be actually a priority. Faced to a boundless growth of students and the toll of integrating them adequately, from the pedagogic point of view, the African universities fall into the risk of under evaluating such an opportunity.
- The E-Learning is an educational infrastructure that demands, in order to be realised, an articulated series of competences to new educational and social techniques. Above all it acts to promote the adoption and the

mastery of ICT. On this point of view the generations after the years 2000 seem to have an advantage to those who completed their academic formation before this period.

- Several observers and researchers have put to light the exceptional impact of ICT on the methodology of teaching. The new technologies of communication, far from rendering the role of a teacher unnecessary, demand a radical change in favour of greater communication creativity, a clear methodological rigidity and a stronger interaction with students. The role of tutoring is therefore strategic especially in launching projects and in accompanying the persons involved (professors and students) so as to render this stride functional.
- The capacity to create networks among universities, economic, social and religious subjects remain today a choice of strategic intelligence that asks to be reevaluated. In this sense the investment is essential in professional figures of "creators of networks", capable to transform the affinities and the cultural compatibilities into structured and shared resources for long term perspectives.
- The point of view of the teachers is fundamental because it is commonly accepted that the pedagogic innovation passes and remains with them. It is also known that a temporally and physiological space exists between experimentation of new technologies and organized integration in a system of instruction. What is important is to maintain permeability between research and pedagogic innovation then, E-learning as instrument can contribute to this.

The social anthropologist J. Tonda in his book “Le souverain moderne” speaks of the invasive and violent modernity and of its symbols, capable to impose its domination unconditionally, from there and over every consent, and to mold images, meanings and gestures. According to Tonda the Sovereign owes its effectiveness to the aggressive consent and to the paradoxical connivance of the bodies and of their capacity of imagination. Speaking of aggressive consent (in French «consentements révoltés») Tonda refers to the living and painful feeling – that accompanies the consent of the persons to the modernity and its logic – of the inequities and the injustices that structure the African social and economic space [13]. The modernity in fact is characterized for this capacity to produce classes less utopist (“internet for all!”) that conceals deep and structural disparities.

The dramatic perception of Tonda is perhaps well that it may accompany also us, today, while we interrogate ourselves on the capacity of the ICT to favor a less imbalanced development of Africa. The risk is in fact still strong once more to go beyond it rhetorically in an ingenuous optimism. The optimism is useful to the cooperation with Africa and they try also the fact that official documents might look for toning down excessively enthusiastic on this theme[6] . That which rescues – gives vigor to every enterprise – is always the lucidity of the analysis and the humility in action: they can do from foundation more solid to better hopes to which we wish to continue to entrust our confidence in life.

The challenge to deal with is in fact properly that of succeeding to do in a way the introduction of the new Information and Communication Technologies remains a historical opportunity – not to reduce the simple technological alphabetization – for redesigning the profile of the African society and of which also social or group actors historically more marginal will be able to take an advantage in the course of time.

NOMENCLATURE

AUF	Agence Universitaire Francophone
CNF	Campus Numérique Francophone
EBAD	Ecole des bibliothécaires, archivistes et documentalistes
FAD	Formazione a distanza
FOAD	Formation Ouverte à Distance
ICT	Information and Communication Technology
MOOC	Massive Open Online Courses
NGO	Non-Governmental Organisation
SYFED	Système Francophone d’Edition et de Diffusion
TELE	Technology Enhanced Learning Environment
UFV	Université Francophone Virtuelle
UVA	Université Virtuelle Africaine

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PARTICIPATORY PROCESSES AND TOOLS FOR IMPROVING TEACHERS' PROFESSIONALISM: THE IUS CASE[1]

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ABSTRACT

This paper presents the experience carried out by a confederation of Higher Education Institution (IUS) active in six Latin American countries.. To achieve the goal of a new teaching and learning model based on the “learning process” and shift the paradigm of learning to “centred teaching”, the Higher Education Institutions have defined a new profile for university teachers. This action expresses three features presented in this paper: the first refers to the profile as the "product" of a Community of Thought; the second refers to a "participated process", a working model that allowed the co-construction of the profile with the teachers, the administrative and the human resources staff of the universities; the third presents the tools and technologies used in an integrated way (Virtual Collaborative Learning Environment based on Web 2.0, Human Resource Management, video-research, e-portfolio).
The project - developed through action-research - has defined a shared idea of teaching quality, which is research-based and supported by tools enabling self-assessment of every single teacher, university quality monitoring , and the implementation of continuous improvement plans to build a community of learning.

KEYWORDS: *Higher Education Teacher profile, Teaching and Learning in Higher Education, Competencies evaluation, Tuning America-Latina, Web2.0, E-Portfolio.*

1. THEORETICAL FRAMEWORK

International research emphasizes that quality teaching is necessarily student-centred and that its aim is to provide effective learning opportunities for all students [Henard, Ringuet, 2008]. In addition, the changes in competencies requirements occurred with the establishment of the learning society deeply influence students' lifestyles [Benavides et al., 2010]. In order to achieve their full potential as adults, youths need to develop a range of competencies and knowledge able to help them master and implement concepts learnt outside school or academic contexts [NAP, 2012]. Development potential and potentially successful students - in both higher education and vocational careers - must be backed by mastery of at least four key areas: critical thinking and problem solving, communication, collaboration and creativity and innovation [Partnership for 21st Century Skills, 2010, p.2]. In higher education, each student must be seen as an individual able to learn continuously by applying critical thinking, performing team work, solving problems and making effective decisions [Tuning Project, 2008].

The demand for new competencies for young people consequently implies updated teacher profiles ready to deal with the new student profiles [Guasch, Alvarez, Espasa, 2010]. Teachers should hold classes and manage classrooms by implementing more effective and innovative teaching methods [Schleicher, 2012; Benavides et al, 2010], thus rapidly conveying the outcome of research on the learning process. Such higher education trends have increased quality awareness of the learning opportunities for students [Henard and Ringuet, 2008, p.10]. Furthermore, as observed by Zabalza [2003], it is necessary that professors alter their point of view, enabling the transition from teacher-centred teaching to a style aiming at quality learning. In effect, research proves how university teaching methods influence students’ involvement both in the classroom and when studying, [Altbach et al., 2009, p.11] and shows how deeply they are correlated with the teacher’s idea of teaching and of learning [Kember and Kwan, 2000]. Higher education teachers generally privilege a mainly content-centred educational approach, yet the learning-centred approach serves the purposes of effective teaching methods much better. The Talis-Ocse [2009] survey seems to back Kember and Kwan's research, as it has shown how teachers’ beliefs influence teaching styles and methods [Zhang, 2009]. It is deemed important that teachers move "off stage" and adopt teaching methods that allow students to play the lead role in their learning process [Tuning Project, 2008]. Doing so, students could be educated in a teaching context leading them to active, democratic and responsible citizenship. As stressed by Europa2020 [EU, 2010], the higher education experience should provide all young people with the tools needed for positive interaction with peers from different contexts,

[1] The paper is a summary of the volume, *Il ciclo del valore. Un modello partecipativo per il miglioramento continuo della professionalità docente*, by Piergiuseppe Ellerani (Franco Angeli Editore, forthcoming).

promoting intercultural competencies, democratic values and respect for fundamental rights and the environment, while fighting any form of discrimination.

2. TEACHER QUALITY

Latin American universities have taken the opportunity to address, in an innovative way, the challenges posed by areas of expansion and of internationalization in the knowledge society [UNESCO, 2009]. Higher education in Latin America is engaged in the process of improving compatibility, comparability and quality of the service it provides [Tuning Project, 2008], supported by a range of actions involving teachers and aimed at the enhancement of teaching and learning quality. As a matter of fact, higher teaching quality implies the opportunity to increase teachers competencies also self-evaluation wise, to enhance students' motivation and diligence [Butler, 2007], to organise and manage participatory and inclusion contexts able to develop lifelong competencies and creative thinking.

Teaching quality and the quality level of higher education organisations are bound to the awareness of personal and social responsibility and to the development of the participatory process in order to identify and represent the dimensions involved in institutional "quality vision". As pointed out by Rabinowitz [2013], it is important to bear in mind the term "participatory" - which does not only entail asking for advice but rather implies every single participant becomes an essential element in the planning process. You can describe a participatory approach as a method that takes everybody's point of view into account and allows everybody to participate in the planning process with some degree of decision-making power [Rabinowitz, 2013].

Specialised literature constantly describes how teachers learn to work with their colleagues within the Professional Learning Community, engaging in ongoing exchange and by reviewing their practices, analysing students' performances and developing and creating more effective education techniques [Darling-Hammond, 2009].

The positive effects of the professional communities - regardless of school type - are now widely documented by a remarkable number of studies. The relevant feature is that teacher communities are often part of networks in which members can discuss the practice focus or shared educational concerns [Darling-Hammond, 2009; Fullan, 1991].

Even though each professional learning community is unique, the main features lie in collaboration and peer-influenced decision-making, as well as in democratic behaviour and in the way each member participates in vision-building: beliefs, values and shared vision. Other features include: supporting and distributed leadership; adult cooperative learning; positive attitude: trust, peer support, shared practices; sustainable development; continuous self-evaluation process [Hord and Sommers, 2008; Zepeda, 2008; Fullan, 2005]. PLCs therefore evolve into special contexts - physical, social, emotional and cognitive space - where relationships and learning perform a "transformative" action influencing individual and social perspectives and habits of mind [Mezirow, 2003; Costa, 2008].

3. DIGITAL ENVIRONMENTS FOR CONTINUING EDUCATION

In today's world building and developing professional teacher communities, organizing and proposing continuing education, and enhancing Institution quality, implies coping with the extraordinary evolution process involving information and communication technology and, more in detail, web 2.0.

McManus [2005] asserts that web expansion and easy access to the same have radically modified its very nature. Interactive and dynamic elements have emerged in the use of web 2.0 [O'Reilly, 2006]. Participatory, collaborative and distributed practices are now simpler and enhanced, providing informal and non-formal learning opportunities in everyday life [Lankshear, Knobel, 2006].

Web 2.0 relational nature is boosted by the interactive comments and considerations posted by the participants. The overall concept seems to identify “knowledge" as a "collective agreement” and the groups as "speaker communities" - a concept able to combine facts with other dimensions of the human experience, like opinions, values and beliefs [Dede, 2008, p. 80].

Taken as a whole, web 2.0 interconnection, creative competence and interactive features support the so-called "participatory culture": clear from barriers, both in building stage and in knowledge update, and supported by civic engagement, it constitutes a great incentive and is highly supportive for creating and sharing personal digital productions and finding out what other people thing about them [Jenkins, 2006]. Thus higher education has to face interesting challenges and evolve towards a more than radical and fresh change in order to progress and educate new generations in a profoundly transformed world. Its role can contribute to educating students so that society, currently undergoing a significant crisis of values, may be able to overcome mere financial and functional considerations, achieving new, sustainable integration.

4. RESEARCH CONTEXT

This is the approach we have chosen for introducing the project selected for outlining the teachers’, administrative staff’s and executive staff’s profiles at IUS confederate Universities: considered as a whole, they are concurrently

human resources able to enhance academic life quality and, specifically, to create the conditions for student-centred learning.

The assumption is that teachers perform best by organising learning and student-centred activities. For this to happen, the same teachers must be given the opportunity to work according to the paradigms required by the competence-oriented and student-centred perspective. As a consequence, it is essential that the human resources in charge of university administration are in the position to create a profile able to integrate into the student-centred paradigm perspective. Nevertheless, human resources managers must update their profiles to be able to assess and organize adequate teacher and administrative staff improvement paths in order to maintain, or enhance, the level of quality of learning-centred education.

The building of the participatory profile was the last stage of a long-term improvement process involving higher education institutions.

The goal of the first stage of such process was to provide the universities involved in the project with the so-called *Marco de Referencia* [*Framework of reference*], a set of documents outlining the elements to characterize the Institution Identity and stating the essential conditions - defined Policies - for implementing such identity model.

The second stage was dedicated to the implementation of the *Marco de Referencia*, through the so-called "Mutual programs", whose goal was to secure common development bases. They consisted in action programs (average duration three years) for setting goals, methodologies and tools according to a process logic.

The first of these programs involved the drafting of the Carta di Navigazione [*Navigation Chart*] which provided a clear institutional project for each institution, the adoption of multi-year strategic plans and of annual operational plans, the implementation of a system and practice of auto-evaluation and hetero-evaluation, the pursuit of state accreditation in countries whose laws provided such status.

The second program was dedicated to the *Integrated Human Resources management* process introduced at the Conference held in Porto Alegre (Brazil) in June 2009, virtually an extension of the strategic plan outlined in the *Navigation Chart*. To keep up with the deep ongoing global change involving the education paradigm, it was essential - in order to enhance quality - to draft university teacher Competence Profiles as if they were the main "value generator" in an institution. In addition, other two correlated competence profiles had to be defined, namely those for the Executive and Administrative Staff.

Once profiles had been outlined, a Training course on human resources management named "Integrated Management for competencies" would have started. Course content sequence - grouped into eight main themes, developed April to November 2011 within a virtual environment built for cooperative learning - coincide with the human resources Value Cycle, which accompanies individuals throughout their professional career.

Human resources enhancement *generates value* for the institution and for the end users (the students), as well as for all the external stakeholders (value chain). The value generated by this chain has repercussions on the same human resources, involving them in the generated benefits, through professional development schemes, opportunities for competence consolidation and development, and further personal and team investment. The outcome is a virtuous circle widely involving the whole value cycle.

Table 1 - Value cycle.

	Step	Description	Framework questions
1	Purpose of the organization	Training students to "learn to learn", helping each student to outline personal, future-oriented, life projects.	What essential aim do the Institution's actions focus on?
2	Pragmatic view	Promoting competent relationship networks for creating a permanent learning system able to involve students and all individuals through their interests, schedule and location, based on a person-focused approach.	Which participants and processes are involved to achieve the essential purpose of the organization?
3	Value chain	The teachers act as value generators, outlining the competencies - identitary, systemic, professional – able to generate value, in order to be able to promote/accept/support each student.	Which competencies, peculiar to human resources, can generate value?
4	Value chain	The institutions, as an organisation, define the competencies that help teachers act as value generators.	Which competencies, peculiar to the institution/s can generate value?
5	Professional Learning Community	The institution is structured as a professional learning community for promoting continuous goal and competence improvement and evaluation through processes involving the core [self-peer evaluation] and the exterior [hetero-evaluation and	Which processes and products contribute to Institution continuous improvement?

		accountability].	
6	Competence profiles as the outcome of the work carried out by the learning community	Human resources profiles quality - representing the professional learning community - is continuously assessed and reported within the professional community in order to update and improve the level of quality of the profile competencies and of the institution.	Where are we heading? Is our work consistent with the purpose?
7	Continuous assessment and orientation of individual and group -focused education aimed at improvement	The human resources generating value within the institution constantly verify the purposes and new emerging visions redefine the value chain and enhance the level of quality of the learning-centred organization.	Is the purpose up-to-date?

Source: Antonello Vedovato, Fondazione Edulife, 2009.

5. RESEARCH METHODOLOGY, TOOLS AND VALUE CYCLE

The implemented research-action project was lead by two key elements: a) the "value cycle", which represents a methodology - integrated by processes and products - able to support the organizations in outlining competence profiles for continuous improvement; b) the web.2.0-based cooperative digital learning environment (AVAC) in which the value cycle developed. The teachers', administrative staff's and human resources' managerial profiles were finalised over the three years. The research-action was based on the legitimate peripheral [Engström, 1996] social-constructivist theoretical model [Vygotskji, 1967] of adult learning, as per Kolb's cycle [1984], adopted by learning communities [Hord, 1997; Wenger, 1998].

Videos were used in some of the project stages to provide content and methodology support. Further videos were produced by the universities involved in the project to review the processes implemented in profile-definition stage.

Participants are represented as follows (table2):

Table 2 - Parties involved in action-research

Participants	Stage	No.	University No.
Teachers	Participatory profile co-building	386	13
Teachers	Profile experimentation	371	14
Referee tutors	Experimentation support and focus group lead	66	14
Administrative staff	Participatory profile co-building	64	7
Administrative staff	Profile experimentation	184	7
Executive staff	Profile experimentation	126	7
Tutors	Experimentation support and focus group lead	30	7

Source: self-sourced.

Profile definition was broken down into four stages.

In the first stage, carried out face-to-face, a set of possible competencies, classified by area, were presented to the university deans, to the human resources management teams and to the teachers' representatives. The initial submission was based on some university teacher competence models, previously proposed by a few authors [Zabalza, 2003; Euridyce, 2007; Bozu y Canto Carrera, 2009]. The competence areas provided a basic structure which, through face-to-face introductory cooperative work, represented a starting-point for discussion and an opportunity for perspective sharing.

In the second stage the work teams adjusted within the purposely set web2.0 digital environment. In this stage, the inter-university teams used previously defined competence models and a further model based on dynamic and authentic assessment [Wiggins, McTighe, 1998] for defining the profile content (competence areas), the dimensions involved in the competent action, the explicitation criteria of what should be tackled while carrying out the competent action and the competence development indicators - broken up into four levels and providing feedback if the criterion is met. The process was carried out adopting web 2.0 technology, which simplifies and enhances participatory, collaborative and distributive practices (wiki) and proposes informal and non-formal learning opportunities during the activities. Opportunities for increasing interaction and social relations created by the narrative tools (forums and blogs) are boosted. Blogs take on the nature of narrative practices applied to experience, quality evaluation, space for learning different writing styles; wikis allow for the co-building of constantly updated content, significant to research, study and insight.

In the third stage each team thus integrated the process by making changes, if necessary. Wiki tool features (statistical data, accept and refuse changes, text integration) allowed for the achievement of the profile end product through co-built procedures [Vigotskij, 1967]. The profile content was validated and legitimated by the learning community through the co-building process [Engström, 1996]. It thus becomes a "value generator" for the whole learning community.

In the fourth stage, the profile was uploaded onto the Human Resource Management (HRM) tool and underwent the experimentation stage with teachers not involved in the shared building process.

The HRM tool is integrated into the cooperative digital environment (AVAC) developed on databases containing the final human resources profiles, visualized as text descriptors in the chosen competence dimensions, in the quality indicators and in the level ranges. The HRM makes different assessment levels possible: each single teacher can self-evaluate his/her own competence levels; each colleague can be deemed a "peer" able to provide feedback; each department manger can have access to the evaluations and obtain an analytical and global framework of the department competencies; external assessors (hetero-evaluation) can evaluate the competence levels of the single teachers and departments. HRM is based on the authentic assessment theoretical model, which considers assessment rubrics, quality indicators and quality or competence evidence evaluation tools.

Summarizing, the teachers' profile as end product of the professional community including the thirteen institutions – achieved through cooperative work carried out by the teachers and inspired by continuous assessment – was developed through:

- competence definition. The teachers selected the competence listed in the final profile through forum interaction, supported by theoretical contributions and research;
- creation of competence quality indicators and levels. Competencies were later transformed into wiki articles. Competencies were described in terms of descriptors, indicators and evidence. Wikis – cooperative writing and composition wise - were fed by the teachers who corrected, rewrote and co-built the final profile;
- metacognition. The teachers who participated in the experimentation used the blog for narrating their own experience, applying metacognitive synthesis to the implemented processes. The teachers involved in the research process increased their awareness level, transforming practice into "reflection" able to inspire the next step.

Throughout cooperative work the teachers integrated the experience as a recursive change process, carrying out effective actions for building up positive interdependence and trust among the community members:

- enhancing learning through action;
- taking on a leadership distribution model;
- allowing the individuals involved in the process to take responsibility for their own development.

The evaluation concept – whose aim is to appreciate what is important and meaningful – has become a trend for continuous improvement as it is correlated to the use of tools and processes that must be able to constantly appreciate what counts. The continuing learning paradigm, throughout life and its locations, outlines a new requirement, which is also connected to the essence of evaluation: it becomes – as a process – a learning opportunity [Wiggins, 1998; OECD, 2010] and provides a clue on what should be improved and in which way (table 3).

Table 3 - Interrelation involving teachers' and executive and administrative staff's profiles

IDENTITARY	SYSTEMIC	PROFESSIONAL
TEACHER PROFILE		
Knowing how to promote human and professional development	Being connected	Designing and developing contents
	Working in an organization as in a learning community	Designing and managing the learning environment
	Carrying out research	Assessing learning and competencies
ADMINISTRATIVE STAFF PROFILE		
Promoting institutional development	Being connected	Managing processes and resources
Having an active role in the community	Working in an organization as in a learning community	Promoting the development of human resources
		Developing a systemic mindset
EXECUTIVE STAFF PROFILE		
Promoting institutional development	Being connected	Managing processes and resources
Having an active role in the community	Working in an organization as in a learning community	Promoting the development of human resources

		Developing a systemic mindset

Source: self-sourced.

Each profile is broken up into competence areas, which are divided into competence fields including different groups. Each group is made up of several criteria, each of them is matched with a scale of indicators (four levels ranging from 1 to 4), of descriptive nature (evidence), indicating the level of competence mastery.

Mastery numerical rating outlines:

- the level of mastery of each single teacher/administration staff member/executive staff member compared to the expected rating of the single IUS;
- the level of sectoral mastery of teachers/administrative staff/executive staff;
- the overall level of the single IUSs compared to the expected rating.

The evidence constitutes a basis for comparison against the indicators and allows teachers to outline the development level of their own profile. Evidence is collected and selected by the teachers through the e-portfolio and represents a guide for both self and hetero-evaluation of the profile development level.

Profile dimensions created inextricable interdependence among the same, as all of the three profiles focus on the same competence areas, which are deemed strategic for a learning paradigm-oriented change and are aimed at achieving the learning to learn-centred education goal specifically pursued by Higher education institutions. In detail, we present the competence areas and the correlated evidence in teacher profile (table 4).

Table 4 - Final teacher profile and evidence per achieved quality levels.

HE Teacher Profile		
Areas	**Competencies**	**Quality Level [EQL] [E-Portfolio] evidence**
Professional	Designing and developing topics	Course program Designing topics, tools and learning material Teaching performances Learning evaluation tools
	Designing and leading learning environments	Designing learning activities focused on students' individual differences Using active learning and interaction with students and teachers Innovating and creating tools, tasks and resources according to the students' features
	Evaluate of and for learning	Documents and activities prepared for the course final examination Documents and activities prepared and available on-line
	Social relationships	Leading learning environments Team work with colleagues to design projects and activities Promoting and leading meeting sand work groups with internal and external staff and stakeholders Presenter at meetings, workshops and conferences inside/outside Presenter and/or University delegate at project presentation
Organization	Research development	Drafting papers and books[individually and/or in cooperation with] PHD or Degree Tutors Referee of research projects Reports for internal and external information on university research Leading classes as research based communities and reporting results
	Working in an Organization as in a Professional Learning Community	Performance of the daily activities of the organization and responding to requests. Participation and peer work. Working with external people/stakeholders Updating the e-portfolio and self-evaluation
Institutional Identity	Promoting students' human and professional development	Helping students to define study plans [curriculum studiorum and Cv] Helping students to define Professional Projects [with reflections on ethical principles] Coaching students and enhancing their specific competencies Being available to meet students outside the classroom with face to face meetings and communication within digital environments. Pedagogical attention with students, recognized by students and colleagues.

Source: self-sourced.

6. A NEW ORGANIZATIONAL MODEL AS A PROSPECT FOR CONTINUOUS IMPROVEMENT

Research-action confirmed the importance of identifying a competence-based teacher profile (Zabalza, 2009), also as an opportunity for carrying out continuous development and improvement plans (Unesco, 2009). The process proved web2.0 and HRM effectiveness in building up-to-date higher education teacher profiles. Furthermore, it was possible, through on-going assessment-based HRM, to evaluate the quality of teacher competencies. Such self-assessment actions carried out by the teachers are also subject to hetero-assessment that can potentially be carried out by tutors, colleagues, external experts or students. To make this possible, digital portfolios (e-porfolio) or personal learning environments (PLE) should be implemented, to create places where teachers can support their profiles and path, share their experiences and receive feedback which is significant to the continuous improvement process. Such tools trigger processes that reinforce the identity of the university institution, which should support the enhancement process involving its own teachers and its own quality level through the actions carried out by the executive and administrative staff. According to Sergiovanni (2000), this aspect generates intellectual capital or the ability of an organization, and of its staff, to learn, learn again, carry out research and improve the ability of identifying issues in order to improve teaching and learning: another remarkably significant element for identifying the level of quality of an organization.

Future research may focus on how Personal and Social Digital Learning Environments help teachers to effectively transform and enhance their practices. In addition, Personal and Social Digital Learning Environments are part of a social network that teachers can use for inviting – and for getting connected with - colleagues, external supervisors and external experts and assessors in order to evaluate their progress. Research could concentrate on how the social network contribution may become a peer-evaluation and feedback tool for improvement. It might be interesting to verify if the Personal and Social Digital Learning Environments are contexts in which metacognition processes able to influence teachers' beliefs and practices transformation are encouraged.

In this sense, the main focus is on the enhancement of teachers and of their history which - supported over time by their personal profile and path, narrating their own experiences and receiving feedback significant to continuous improvement - expresses the cultural and intellectual capital generated by university institutions.

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ALTERNATIVE MEDIA STRENGTHENING AND SUPPORT MECHANISMS IN AFRICAN PROTRACTED CRISES AND CONFLICT-AFFECTED TERRITORIES: CAN PARADIGM SHIFTS ASSIST AND RELIEF?

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ABSTRACT

Community Media as Alternative Media Strengthening and Support Mechanisms in African Protracted Crises and conflict-affected Territories is an imperative necessity for the African reality. In today's world and with special emphasis on Africa, there is enough knowledge but little courage to address chronic and complex challenges especially in the Media fronts. Therefore, Paradigm shifts from Elite Knowledge sharing to Community Knowledge and Experience Sharing at large, and furthermore, from State-monopolized Media to Community-managed Media become likely a basic need and necessity for the African numbed communities. The tyrannical regimes prevailing in the African Continent are erecting every possible constraining barriers and denying the access of media houses to that territories targeted by their discriminative, sophisticated modern local apartheid, scorched earth policies and at the same time practicing horrible numbing on its population. These regimes have the complete State-owned or para-statal Media monopoly and they absolutely do not allow any transmission of whatsoever informative news unless it undergo through rigorous control, often done through dedicated security apparatus. Logically, this gloomy situation necessitates rapid and concrete actions and interventions, in particular additional and alternative media to silence-break and inform a wider public about that inhuman circumstances. Therefore, *ad hoc* concrete, consistent, constructive and coordinated Media Strengthening and Supportive Mechanisms should be put in place to scale-up the existing fragmented and scattered local African traditional and innovative media agencies serving the local communities. New media supportive and strengthening services can be realized through web-based media tools such as web-radio, web-based TV, as well as Media Networking Smart Mechanisms. This is also possible and obtainable following innovative partnering modalities. Shared visionary projects and programs can be identified, implemented, maintained and sustained with minimum financial and economic costs and maximum social and cultural benefits for the potential partnering stakeholders. For these motivations a multi-player projects, programs can be suggested in a shifting and evolving vision of knowledge and experience-sharing. Thus, participated media support projects and programs should prioritise to be SMART, simple, miserable, actionable, result-based, and time-bounded. The principal requirements for the success and sustainability of relative and relevant proposals can be identified in hard and soft infrastructures frameworks in addition to the voluntary human resource and political will. The inter-university international cooperation and community solidarity for development, among other actors can play major and proactive role in the African continent transformational shifts and beyond.

KEYWORDS AND CONCEPTS: *Smart and Alternative Media, Community Web-based Media, Knowledge and Experience Sharing, Pro-Conflict-Affected Communities, Information Communication Technologies, Cultural Exposures and Capability expression, Inter-University Solidarity for Development Cooperation, Transformational and Paradigm shifts.*

INTRODUCTION

As already known, for decades and decades in the African continent and even till today people have been living in dire humanitarian situations. The armed conflicts and successive civil wars have reduced African communities to the limits. The combined marginalization and oppression witnessed are aggravating factors especially in situation of absent, silent or silenced media. Currently, many African territories are hardly accessible and completely isolated from the media world for diversity of reasons and constraints.

Even the humanitarian organizations are not allowed to denounce and voice out the deteriorating and dire situations in terms of food and nutrition insecurity, absence of reliable education structures and systems, complete lack of sanitary and health infrastructure, resource grabbing, money laundering, green-washing, social and environmental injustice and exclusion, poor governance mechanisms, not to talk about the tragic daily aerial bombardment causing massive displacements towards all the domestic and neighbouring countries, continental and intercontinental mass migration and

exodus.

Especially, in the marginalized and impoverished territories, in urban slums, rural dwells, peripheral rurban outskirts, refugees camps as well as reaching the populations under siege in the caves, wondering in the bush, forests, mountains and valleys. An impelling media hard and soft infrastructures are needed to be a base for just peace, social justice and cohesion, rule of law, respect of universal human rights, democratic transformation and smooth transition, and above all human dignity restitution. The innovative social digital media and ICT can assist in that prospective and would play a proactive role in the service of the African communities within the continent and around the globe. To address this challenging reality, there is a need to suggest and implement practical solutions to this problematic scenario, considering the context specificity.

Alternative media have historically been a central force in social change. However, they do not uniformly subvert the hierarchies of access that have always been fundamental to mainstream media. In fact, their journalistic norms and routines have always drawn on the professional standards of the mainstream. The perception of 'mainstream' and 'alternative' as a misconception arguing that they have always existed on the same continuum and continue to converge [1]. In conflict-borne realities, alternative activist and community-managed media can play the role of the mainstream conventional media.

Media is related to different communication typologies, for instance, in scientific communications, communicating to the public involve three main groups of actors (scientist, journalist and the public) [2]. Likewise, in isolated conflict-affected areas, the communication mainly involves politicians (militarized or civil), ITC professionals and the dynamic public (communities).

Fig. 1 - Map of Africa

Communities exposed to cultural transient and transformational environments can be included in enabling and empowering information technology and communication projects and programs, which will allow and enhance their capability expressions for full economical, social, political and cultural inclusion and participation in non deprivable developmental arena.

METHODOLOGY

The methodology followed to extend this article is threefold:

i) direct experience and observations of the Authors;
ii) Simple open ended *ad hoc* questionnaire;
iii) Semi-structured interviews with privileged informants.

Briefly:

1. Storytelling
2. Self-administered Questionnaire which are online web-based and with assisted respondents and
3. Web-based online Interview with privileged informants supplemented by photos and video from Journalist.

The direct experience is reported in a sort of story telling done by the others, being from and living in protracted crises and conflict-affected territory in Sudan and neighbouring countries. Worth to mention that the protracted crises and conflict-affected territories are characterized by the longevity and succession of crises, prevalence of aid flow and fragile economic and food and nutrition security status.

The questionnaire is composed of five core compulsory questions and 2 optional enquiries. The core questions asked are the following:

1. Do you agree that the Alternative Media is playing major roles than the conventional Media? If yes, please explain.
2. How can the Alternative Media be strengthened and supported?
3. How can the International Inter-university Cooperation and Solidarity assist in supporting the ICT and e-learning in protracted-crises and conflict-affected realities?
4. Do you agree that Knowledge and Experience sharing are effective in pushing towards major Mediatisation and Educational Scaling-up? If yes, please explain
5. Do you know any sort of innovative e-learning, social Media, capacity building, ITC instrument applicable in protracted-crises and conflict-affected realities?

While the optional enquiries were:

6. What sort of improvement and/or inquiry can be added to the abstract provided?
7. Do you have any additional inquiry to add? If yes, what is it?

The questionnaire was sent to about 50 stakeholders, and posted in the personal social media and web page of the principal author and blogs of the authors. Respondent to the questionnaire have had 2 weeks time to formulate their answers and sent it back. Their response were satisfactory enough, in particular those who are active in the Alternative and Activist Media. Alternative and Activist New Media [3] could be a suitable outlet in protracted crises and conflict affected African realities.

While the semi-structured interview was done via Skype (teleconference program) with expert journalists in the Diaspora and was not possible to carry it with another journalist in the war-affected areas due to security constraint.

The wider public in the social media (Facebook personal pages of the authors) reacted to the questions with likes, shares and comments.

The time has been major constraint to collect many answers and revert backs. However, the told stories, returned questionnaires, and conducted interviews were sufficient to address the themes put on the table for this e-consultation.

One of the oral respondents mentioned that the questionnaire formulated in English language is difficult for many potential respondents, and if possible to translate that in local languages, however, the author does not have sufficient time and means to carry that task.

Internet links to the event and author website has been reported in the questionnaire [4].

RESULTS

1. Story

My strongest experiences in the communication field have been in Kenya at the time of the post-electoral violence, (January-March 2008) and in Sudan, both before and after the independence of South Sudan (2011), particularly in the Nuba Mountains area.

When I started visiting the Nuba Mountains in 1995, the area was ravaged by civil war in a context of complete isolation. There was no communication by land, only by air, and if was very dangerous. The only information reaching the people from the outside was the government radio broadcasting. No telephone or any other communication apart from the extremely expensive satellite phone. The government propaganda was focusing in promoting religious and ethnic division. The liberation movement on its side insisted on the military aspect of the war, in the press releases coming out to the Nairobi office, that could not be seen and understood by the majority of the population. Therefore in an area as big as Northern Italy the only communication was oral. No printed or electronic communication whatsoever reached the people. No chances for the civilians to have their concerns and their problems heard and taken into consideration. From both sides the communication was basically top-down. Recently, while the civil war is still going on in a different political context, the modern means of communication are having a notable impact. On the rebels side there are two radio stations in the area, thought their range is very limited due to the mountainous nature of the area, and

there is a small but committed team of journalists armed with tape-recorders, cameras, video-recorders and with enough skills to edit and publish news related to the war, and on the government side there is a cellular telephone net-work, and a better organized communication and information collecting system, that sometime offer chances even to the opposition to make their opinions known. It is clear that the social and political awareness of the actors of this war has become more sophisticated and the participation of the civilian in the debated has become more important and there is the emergence of a public opinion. People are not ready any more to simply absorb pure propaganda, they are more and more responsible.

In the very different and much more sophisticated Kenyan context and the experience of almost three months of post-electoral violence in 2008 has proved to me that, in a society deeply divided along ethnic line like the Kenyan one, people are ready to believe the propaganda of their own side, in spite evidence to the contrary. In such situation the ability to collect, document, and disseminate accurate facts and to promote a healthy debate is absolutely essential to put people in control of their own life. In that context a few media owned by independent faith-based institution have played a key role to tone down the animosity and to promote the acceptance of the different political positions.

2. Questionnaire

Respondent A

1. Do you agree that the Alternative Media is playing major roles than the conventional Media? If yes, please explain.

"Yes, Alternative media has proven to challenge existing powers, to represent marginalized groups, and to foster horizontal linkages among communities of interest. Its dimensions in this case we talk of its content, aesthetic, modes of production, modes of distribution, and audience relations has given the reality on the ground unlike what we consume from the mainstream media. The convectional media has been playing to the gallery of its commercial interest or the government manipulation without key interest of championing for the human rights.

Communication scholar Robert W. McChesney [5], inspired in part by the work of Chomsky [6] and Herman [7], has linked the failures of the mainstream press primarily to corporate ownership, pro-corporate public policy, and the myth of "professional journalism." He has published extensively on the failures of the mainstream press, and advocates scholarship in the study of the political economy of the media, the growth of alternative media, and comprehensive media policy reforms."

2. How can the Alternative Media be strengthened and supported?

a) Empowering the community to learn the skill of story-telling to increase the content of the alternative media.
b) Replacing the current libertarian media model with one that operates democratically, rather than for profit
c) Strengthening public service broadcasting
d) Incorporating the use of alternative media into a larger discourse
e) Increasing the role of citizen journalism
f) Turning a passive audience into active participants
g) Using mass media to promote democratic ideals

3. How can the International Inter-university Cooperation and Solidarity assist in supporting the ICT and e-learning in protracted-crises and conflict-affected realities?

"Talking with governments, the leadership and the donor community, to put emphasis in training of ICT from the early stages of development of the child in the affected arrears. i.e. Making the subject mandatory in primary, secondary and college level. Setting the infrastructure for ICT in the areas to aid learning."

4. Do you agree that Knowledge and Experience sharing are effective in pushing towards major Mediatisation and Educational Scaling-up? If yes, please explain

"Yes, I agreed. It helps to inform and empower all members of society, and enhances democratic values. It is a liberal-democratic approach to our studies that advocates the reformation of the mass media with an emphasis on public service broadcasting and audience participation, through the use of citizen journalism and alternative media channels.

The internet and in particular Web 2.0, is seen as a powerful medium for facilitating the growth of a media democracy as it offers participants, a potential voice, a platform, and access to the means of production. Because the web allows each and every person to share information instantly with few barriers to entry across a common infrastructure, it is often held up as an example of the potential power of a media democracy."

5. Do you know any sort of innovative e-learning, social Media, capacity building, ITC instrument applicable in protracted-crises and conflict-affected realities?

"It is apparent that in the widespread protests in the Middle East and North Africa known as the Arab Spring were orchestrated by social media sites like Facebook, Twitter, and YouTube. The Citizens had the chance to quickly connect with one another, exchange information, and organize protests against their governments. While social media cannot solely be credited with the success of these protests, technologies played an important role in instilling change in Tunisia, Egypt, and Libya. These acts show a population can be informed through alternative media channels, and can

adjust its behaviour accordingly."

6. What sort of improvement can be added to the abstract provided?

"In countries with a high illiteracy rate, for example, it is difficult for average citizens to take part and fully engage with media, and adjust their behaviour accordingly in society. Instead of promoting democratic ideals, this would in turn fracture society into an upper-class that actively participates in creating the media, and a lower-class that only consumes it, leaving individuals open to the manipulation of information or media bias. It is therefore important to empower common citizens on the importance of media and involve them in all activities to make them be active participants."

Respondent B

1. Do you agree that the Alternative Media is playing major roles than the conventional Media? If yes, please explain.

"Alternative media are important because they can reach everybody and can be used by everybody with minimal training, and in certain difficult conditions they can gather and disseminate information that the institutional media cannot or do not want to access."

2. How can the Alternative Media be strengthened and supported?

"Training. Popular education. Formation of small clubs and information points with a minimal technical support that with a minimal cost can be sources of knowledge and information."

3. How can the International Inter-university Cooperation and Solidarity assist in supporting the ICT and e-learning in protracted-crises and conflict-affected realities?

"Teams able to intervene and adapt to the local situation and provide training and simple, essential equipment."

4. Do you agree that Knowledge and Experience sharing are effective in pushing towards major Mediatisation and Educational Scaling-up? If yes, please explain.

"I agree. We have seen the Nuba report Team do miracles with in spite of the low departure point, with journalists barely able to communicate in English but becoming able to provide extremely effective coverage."

5. Do you know any sort of innovative e-learning, social Media, capacity building, ITC instrument applicable in protracted-crises and conflict-affected realities?

"I believe the most effective social media during conflict in Africa is community radio and human rights monitoring with use of portable small video-cameras."

3. Interview with a journalist

The interview was conducted stemming from the main questionnaire in a free way of answering [8].

1. Do you agree that the Alternative Media is playing major roles than the conventional Media? If yes, please explain.

Actually, the alternative media has played great and influential role in transforming the society in North Africa and specially in contexts where there are oppressive regimes denying freedom of expression and basic and fundamental rights, access to media and gagging and harassing journalists. In realities such as Sudan, the number of Social Media users is very limited, but it is efficient and effective and used by activists inside and outside the country. Through the Social media and personal websites, the information become available even for users in very remote areas and villages, through the phones connected to satellite internet, digital remote webcams, and the world has become ever connected with that remote areas not like in the past. So any change or notable event become widely disseminated and diffused within no time and transmitted consequently.

In Egypt, Tunis, and other aggressive and oppressive regimes, the youth gained and took advantage of the available social media and achieved and developed great communication capacities and led the wide public through that innovative instruments of the social media, so the social media constituted alternative media counter opposing the regimes mainstream conventional media. Despite of the close surveillance and controls by that regimes, some external institutional arrangements assisted those youth and activists and through certain systems of codifications and creation of alternative nicknames and fantasy modalities, they managed to communicate effectively and timely.

So, substantially, the alternative media is becoming popular and playing a role of the mainstream conventional areas and continue to do so.

2. How can the Alternative Media be strengthened and supported?

The alternative media can be strengthened and supported through many options, to mention but a few:

- That can be done through direct donations
- Building websites

- Facilitate accessibility to the web
- Upload ready contributions
- Enhance and encourage data and information collection and correspondence
- Protect the activist by obscuring the physical locations
- Diffuse songs, short stories, novels, news, photos
- Train in the main journalistic capacities such as interviewing capacities, public opinion collection, news gathering, journalistic investigation
- Offering jobs in media houses and encourage popular journalism
- Build capacities in photo and video journalism, Event organisation coverage
- Research for original and historic cultural master pieces of song, poetry and heritage
- Provision of useful electronic links
- Moral support
- Constructive criticism

3. How can the International Inter-university Cooperation and Solidarity assist in supporting the ICT and e-learning in protracted-crises and conflict-affected realities?

That can be and cannot be. Essentially it depends on the financial availability and support and willingness to build the capacities of the needy. For example, in Sudan there are no means and instruments such as cameras, laboratories, training materials, to prepare capable medial professionals. and Recently the universities have lost their spirit of conducing genuine preparations of their students, and limited the freedom of research and journalistic investigation, and by that the universities become only universities in names without much substances, eluding the students and wasting precious time and resources of the students. In the past the students used to prepare concrete projects and participate in the public awareness and social enlightening, combat the socially destructive habits such as the FGM, conducing scientific and practical tours to the remote areas in Gedarif, Dungula, Nuba Mountains, and even to Europe, but the students are mobilized for ideological and religious governmental interests. Ad to that the teachers are increasing leaving the country and migrating to the Arab grabbing countries, and those who remain are not sufficiently dedicated and less qualified to carry their mission. Therefore, the International Inter University cooperation can play a supportive and assisting role, if it put in consideration that terrible reality and act consequently. And that need political will and money.

4. Do you agree that Knowledge and Experience sharing are effective in pushing towards major Mediatisation and Educational Scaling-up? If yes, please explain

Definitely yes, but before that, certain conditions should prevail. For example, if we consider the KSA. And, in particular, in Libya during the era of Gaddafi, people are living in certain degree of welfare, economically citizens were in excellent conditions, however they were culturally and socially deprived. For example, in the universities, there were no teaching of philosophy nor sociology, and there was no freedom of press, and the syllabus forbid teaching Ibn Khaldon because his philosophy considered against the modernity and against the bedews and accordingly for any rule, there are exceptions, good universities, ideal income, Mediatisation gagging and cultural oppression. So Knowledge sharing and education does not necessary travel hand in hand with the major Media Freedom.

5. Do you know any sort of innovative e-learning, social Media, capacity building, ITC instrument applicable in protracted-crises and conflict-affected realities?

Yes, that is achievable through training of trainers, in absence of pollicised governments, oppressive security and intelligence apparatus, examples:

- Film making by the suitable available and normal mobiles is one of the options accessible to many users
- Mobile digital Cinema, which is easy to erect in remote settings.
- Web-streamed courses and exams by e-correspondence

6. What sort of improvement can be added to the abstract provided? When can the Media be used as positive instrument and mean to upgrade the welfare and living conditions in conflict and crises areas?

The abstract is fine in this format. Always, the Media can be more instrumental in the coming transformational stance to play its core mission.

7. Do you have any additional inquiry to add? If yes, what is it?

- What are the requirements to create effective and efficient functional alternative media?
- What are the potentials of the alternative media?
- What type of professionalism is needed to create and support the alternative media?
- What are the major missions of the writing, web-broadcasting, photo and video journalist?
- Why are journalists frequently in marathon behind the authorities and reporting what they deem suitable, instead of adopting professionalism and non-biasness?

- What are the reasons behind the under and misreporting?
- Why do some journalists use their media power to shine or gloom rivals?
- How to isolate the useless Media operators, and place the suitable person in the right positions?
- Why does governments avail all the state Media apparatus only to the journalist expressing their mainstream lines?

The interview is concluded by a request to call for professional symposium which invites experts and stakeholders to come with papers and contributions that can support the spirit of this paper and documentary [9].

From this quick formulated paper emerged eight addressable challenges and Needs which can be enumerated as:

Need 1. SMART Alternative Media – Imperative Necessity
Need 2. Community Web-based Media – Up-and-out Scaling
Need 3. Knowledge and Experience Sharing – Media Capacity Gaps Reduction
Need 4. Pro-Conflict-Affected Communities – Solidarity for Sustainable Cooperation and Peace Building
Need 5. Information Communication Technologies – Innovative, Adaptable and Adoptable, and Resilient Tools
Need 6. Cultural Exposures and Capability Expression – Respect and Acceptance of Diversity
Need 7. Inter-University Cooperation in Solidarity for Development Cooperation – Understanding Complex and Enabling pathways.
Need 8. Participatory Workshops and Symposium, constitution of permanent and permeable panel of experts and stakeholders.

SUMMARY

From this brief participatory action research, emerged that the Alternative Media is becoming more popular in protracted crises and conflict-affected territories, such as the current South Sudan. There are plenty and blended strengthening and supporting mechanism, and the International Inter-university cooperation and solidarity can play a proactive role in boosting such enabling pathways. the participants recommend organization of workshops and symposium and constitution of panel of experts and stakeholders to deeply address that challenging and imperative domain.

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HEI COOPERATION FOR CAPACITY BUILDING IN BIODIVERSITY CONSERVATION, FOOD SECURITY AND SUSTAINABLE DEVELOPMENT

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The University of Torino plays an important role in coordinating higher education programs for development in Africa, Asia and South America. The themes of this panel span over various aspects of cooperation projects focused on biodiversity conservation, food security and sustainable development in developing countries, including educational activities, rural development, and technological transfer. One of the major shared points will be the analysis of the link between knowledge, technological transfer and empowerment within the processes of local and global development. This virtuous cycle plays a crucial role in shaping the processes of economic, social and political development, redefines needs and affects the perspectives and health of individuals and communities.

The discussion highlighted the methods and practices leading to success stories between University consortia, and between Universities and local NGOs or public entities. Furthermore, a key strategy to improve sustainability of cooperation actions was the identification of common goals that will be pursued after the end of the project, thanks to the establishment of a long term consortium agreement. Students' involvement in cooperation projects deeply increases the achievement of results foreseen by Dublin descriptors, such as the capacity to apply acquired knowledge, capability of communication, etc. A direct consequence is to open the door to improved capability to find a job both abroad and in Italy, when students finish their formal training.

We finally discuss how capacity building may help rationalising resource management and ensure innovative changes and how previous experiences may generate useful insights into a revision of our global agenda. Discussion started by the presentation of 3 "best lessons learned" during cooperation projects carried out by the University of Torino in Africa, Asia and South America. Prof. Giancarlo Bounous, together with Prof. Paola Bonfante, Prof. Silvia Perotto and Dr. Gabriele Beccaro summarized the activities run by many agreements of the University of Torino with South America Higher Education Institutions. Many different activities in the academic field, such as exchanging students, have been carried on during these last years in Brazil, Argentina, Bolivia, Uruguay, Chile and in many other South America Countries. The topics of the cooperation regard biodiversity exploitation and its active preservation, dissemination of rural innovation, especially oriented to the vocation to generate new incomes, use and valorisation of local agro-biodiversity, innovative agronomic techniques. Rural development and environmental and social sustainability, by providing staple food as well as promoting economic growth of the local communities, strictly linked with the tourism resources.

Carlo Semita discussed on behalf of Elena Ferrero, Gabriella Trucchi, Angela Calvo, Chantal Yvette Zoungrana Kaboré, Aboubacar Toguyeni, Balla Abdouramane, Alhassane Yenikoye, Yacoub Idriss Halawlaw and Issa Youssouf how CISAO will promote environmental care in a sustainable development perspective, improving life conditions of the population and reducing the gender gaps in employment access and in sharing knowledge by enhancing higher education systems through Master courses to give technical, scientific and methodological bases to the students, allowing them to manage natural resources and improve agriculture and food security.

Cristina Giacoma on behalf of all other co-authors (Marco Gamba, Valeria Torti, Daniela Antonacci, Maria Chiara Paire, Ahmed Ouledi, Kamaliddine Afraitane, Hantanirina Rasamimanana, Julien Randrianodiasana, Nicole Andriaholinirina, Eustache MIASA, Gabriele Beccaro and Giancarlo Bounous, stressed how multidisciplinarity played a fundamental role in the collaborative efforts with HEIs in Madagascar and Comoros Islands to conserve and protect biodiversity in this priority hotspot of the Indian Ocean. The actions involving the University of Torino and its partners aimed to: i) implement academic education curricula devoted to the study of biodiversity and sustainable development; ii) foster cooperative attitudes and cooperation activities of the HEIs; iii) support endogenous sustainable development processes for food security in the projects target countries; iv) build a field station in order to facilitate student and researchers mobility; v) promote community based sustainable development; vi) increase the diversity in the partnership involving international and local ONG, local and national associations, professional organizations. The participation of partners with different profiles was also a key point for making these collaborations a success story.

Marco Gamba on behalf of the other co-authors (Chia L. Tan, Yeqin Yang, Kefeng Niu, Lei Shi, Weiyong Zhang, Isidoro Riondato, Cristina Giacoma, Emilio Balletto and John A. Phillips) how important is to foster positive attitudes and behaviour toward wildlife in rural children. He discussed different modalities to run a creative education program for children and the role that researchers and Universities can play. He features the collaborative effort in China as a model which can be adopted in other geographic regions where species and habitat conservation must become a top priority. Universities can have an important role in critical assessment of previous experiences in order to enhance the effectiveness of cooperation with other development stakeholders (e.g. governmental and local authorities, civil society and NGOs, foundations and private companies, and local associations).

Finally, cooperation within each institution, among institutions and opening to as many stakeholders as possible when implementing educational programs, have been identified as key points to reach sustainable results.

COOPERATION EXPERIENCES WITH HEIS IN THE INDIAN OCEAN

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ABSTRACT

As underscored by the United Nations, which designated 2011-2020 as the UN Decade on Biodiversity, biological diversity is not only a very important heritage to transmit to future generations, but supplies vital ecological services to all local communities. Together with global changes, overexploitation is the main threat to the communities' sustainable development based on locally available natural resources. Acting in a collaborative effort with higher education Institutions in Madagascar and the Comoros Islands, the University of Torino has partnered to conserve and protect local biodiversity in this priority hotspot of the Indian Ocean, by carrying out and promoting research, training and capacity building activities. Actions involving the University of Torino and its partners aimed at: i) implementing academic education curricula devoted to the study of biodiversity and sustainable development; ii) fostering cooperative attitudes and the cooperation activities of both the HEIs North-South and South-South programmes; iii) supporting endogenous sustainable development processes for food security in the projects' target countries; iv) building a field station, in order to facilitate students' training and mobility; v) promoting community based sustainable development; vi) fostering the partnerships' level of representation, by involving international and local NGOs, local and national associations, professional organizations, as well as private companies. During the process of evaluating the effectiveness of UNITO actions we found that the academic curricula implemented are effective in capacity building of specialists in biodiversity and agricultural management, and that the HEI network is successful in attracting partners from various social categories. The newly built research field station and multipurpose centre in the forest proved very useful not only for the academic training of young researchers but also for local capacity building in both biodiversity and agricultural techniques. It also worked as a keystone for improving local governance.

RELEVANCE OF UNITO ACTIONS

Current biodiversity is the result of over 4 billion years of evolution resulting in a bewildering verity of forms, functions and processes. IUCN listed Madagascar and the Comoros among the Earth's major biodiversity hotspots [1]. These areas, however, suffer from extremely high levels of poverty, so that fostering a sustainable co-evolution between society and ecosystems is going to be crucial. In fact, due to the on-going loss of forest cover, biodiversity is dramatically declining in these countries. Since local economies are mainly based on the exploitation of natural resources, preserving forests and biodiversity is essential for a sustainable economic and human development of Madagascar and Comoros. Preserving natural resources is central for preventing soil-erosion and for protecting water supplies, two focal issues having strong positive impact on household food security. Maintaining a high degree of biodiversity is also crucial for ecotourism development and for other income-generating opportunities. Despite that the Malagasy and Comoran governments have implemented numerous environmental protection measures, such efforts have not yet been enough for achieving the goal of conserving biodiversity in these Countries. Low efficacy was mainly due to the limited knowledge of the islands biodiversity and distribution patterns, very limited number of local experts in conservation projects, poor involvement of local workforce, and low levels of awareness of the local communities as concerns conservation issues and inadequate management and governance abilities. The situation requires more research on biodiversity, more training and more effective cooperation actions.

Starting in 2002, the University of Turin (hereinafter UNITO) promoted research projects on biodiversity and capacity building in Madagascar and Comoros, at the individual, institutional and social levels (see http://www.mad.unito.it). UNITO activities of community capacity building at individual level started in Madagascar thanks to private funds of Zoological Parks (*Parco Natura Viva*: *Verona*) which supported cooperation with the most

important Zoological Park in Madagascar, the research centre of *Enseignement Supérieur et de la Recherche Scientifique*, Parc Botanique et Zoologique Tsimbazaza (PBZT).

Community capacity building started shortly afterwards at the institutional level with the Malagasy Universities for developing bidirectional North to South transfer of training abilities in the field of Sustainable Biodiversity Management and Conservation. The activity was supported by MIUR project *"Promozione di attività formative inerenti la "Conservazione della biodiversità" presso l'Università di Mahajanga (Madagascar)"* under *Programmi per l'incentivazione del processo di internazionalizzazione del sistema universitario (d.m. 8 maggio 2001 n. 115 art. 10) - collaborazioni interuniversitarie internazionali del Ministero dell'università e della ricerca*. The implementation of an international joint master (or "*laurea magistrale*") degree also supporting South to South cooperation between Malagasy and Comoran Universities was finalized by the project SCORE (Supporting Cooperation for Research and Education), financed and implemented in the framework of the EDULINK Program (9th European Development Fund, Reference: EuropeAid/126851/D/ACT/Multi).

A second EU project B.I.R.D. "BIODIVERSITY INTEGRATION AND RURAL DEVELOPMENT" (Reference: FED/2009/217077) further enhanced the professional training of the master degree students, but also promoted community capacity building at the societal level, by involving the local authorities of villages and Fokontany authorities near the Maromizaha forest. The project supported the implementation of local action plans and fostered the socioeconomic development of local communities. The key strategy was to start a research field station capable to act as a multipurpose centre, where researchers could be hosted, where training and dissemination events took place and organizational meetings with the local communities were held.

APPROACHES AND INSTRUMENTS STRENGTHENING THE EFFECTIVENESS OF PROGRAMS

Education and training have a significantly positive impact on health, social and political participation, equal opportunities, economic growth rates, income and productivity, as well as benefits distribution. To achieve these results UNITO cooperation activities fostered local capacity building by:

- following a bottom-up approach to formulate development policies, which, starting from individuals have to involve institutional and research bodies, as well as the civil society, i.e. in particular, universities, biodiversity and agricultural research associations, forest management institutions and local farmers' associations;
- establishing long-term cooperation agreements between UNITO and ACP partners. Partnerships is expected to contribute to the improvement of higher education quality levels in fields relevant for the partner countries and consistent with local poverty alleviation policies, thereby contributing to the achievement of the Millennium Development Goal of poverty alleviation and sustainable development;
- promoting higher education and interdisciplinary approached, to make available skilled local human resources in the field of Sustainable Biodiversity Management and Biodiversity Conservation;
- integrating biodiversity valorisation and rural development, in order to develop and disseminate innovative biodiversity conservation policies;
- relying on locally available materials and labour.

SUSTAINABILIY

Environmental sustainability is among the most suitable means to ensure the long term conservation of local biodiversity. The environmental sustainability of UNITO activities was assured in many ways: i) by choosing indigenous species for agricultural practices, ii) by using sustainable agro techniques, iii) by protecting the local fauna and vegetation, iv) by providing renewable energies equipments, v) by showing to local communities the forest and wildlife as a development and income opportunity.

Social sustainability is assured by strongly involving in the projects' activities the local villagers, who are living close to the forest, and by insuring the appropriate attention to gender issues. Concerning environmental education, we successfully involved the teachers of local schools in the permanent training and exchange of newly acquired information. Children were sensitized on appropriate nutrition and environmental benefits. Moreover, the adoption of a bottom up approach through the involvement of local partners facilitated their ownership of the project.

Finally, the long term sustainability of the projects has been assured by capacity building activity carried on with local partners and addressed to local populations and communities. The initial network was made up by HEIs (the lead partner DBIOS - Dept. of Life science and System Biology of University of Turin, DISAFA - Dept. of Colture arboree of University of Turin, GRENE - Gestion des Ressources Naturelles et de l'Environnement de l'Université de Toamasina, ESSA - Ecole Supérieure des Sciences Agronomiques, Dép. d'Agriculture de l'Université d'Antananarivo, and FST - Faculté des Sciences et Techniques de l'Université des Comores.

A key point in order to ensure sustainability of the actions is the enforcement of research and tourism services to promote the Maromizaha Forest and the Comoro islands as a competitive destination for researchers, thus assuring a

financial support. The involvement of as many stakeholders as possible is another crucial aspect. Among the focal objectives of the BIRD project was to foster the generation of a network of protected areas. To achieve this goal we promoted the involvement of local research associations such as GERP (Groupe d'Etude et de Recherche sur les Primates de Madagascar), of NGOs such as Ulanga and Fanamby, as well as private companies such as PNV and the Ambatovy Mining Enterprise. At institutional level we obtained to involve the Malagasy Ministry of Enseignement Supérieur et de la Recherche Scientifique, as well as the Ministry of the Environment.

INSTRUMENTS

The instrument that was determinant in assuring the effectiveness of UNITO projects was the establishment of two multipurpose centres, respectively in Madagascar (the Maromizaha Multipurpose Centre) and in the Comoros (the Karthala Multipurpose Centre). The centres function, among other things, as training centres for research and tourist guides. This proved a key issue for the projects' success consisted in the training of skilled naturalistic research guides, after an intense three-month training in Maromizaha. Specific field examinations were run in Madagascar to select the candidates. One of the aims of the project is to make those professional figures able to come abreast of international researchers, so it was fundamental to make themselves independent in data collecting. In that way research guides will assure continuous monitoring of the biodiversity of the Maromizaha forest, helping GERP in managing the site and promote conservation programs. Guides dedicated their attention to the reproductive biology of several species, including lemurs, on the social life of sympatric species, and on the vegetative cycle of plants living at different altitudes. During the evenings they also started a specific training on the use of computers and on database management, a crucial step to empower these professional in manage and share the data they collect. They were also taking care of the finalization of the information area at the multipurpose centre in Maromizaha. As a result, the number of effective researchers coming to the "Nouvelle Aire Protegé" (NAP) of Maromizaha started with 8 persons in 2009 and reached the highest peak in 2011, with 208 visitors coming to study the animal and botanical biodiversity of Maromizaha.

Centres work also as training centres for promoting local communities' awareness activities and dissemination of innovative and transferable cultivation models, identifying, applying and spreading the potential of both native and new species and varieties suited to generate new incomes, actively conserving the local genetic resources and contributing to the dissemination of the knowledge and sustainable use of the natural resources, to diversify and improve local food production. Around 15,500 m^2 of surface have been cultivated with vegetables and fruits and trusted to local farmers trained and provided with materials, equipment and technical support.

The centre promotes also the introduction and use of renewable energies at the community level, reducing forest exploitation. Implemented activities consisted in:

- training courses for 17 technicians in the building and maintenance of solar energy equipments (solar ovens, solar fruit-driers, solar panels);
- dissemination activities on renewable energies and equipments directed to local communities;
- setting and delivery of 130 solar oven;
- setting and delivery of 7 solar driers, one of which assigned to a cooperative for the processing of the fruit produced in the experimental parcels;
- setting and delivery of 10 higher efficiency stoves;
- we produced a guide for the construction of the ICARO edit and delivered it to ACAMECA enterprise as well as to 20 participants to the course;
- sensitisation of 200 local people on renewable energies use.

Moreover, centres are essential for promoting ecotourism by publicising and valorising natural resources, thereby generating new income for local communities. Both centres were quipped with facilities for teaching, biodiversity survey and biological research (power generators, reflex cameras, microphones, GPS, digital cameras, radio-transmitters, animal sound recorders; meteorological tools, entomological materials, notebooks and PCs); in Madagascar a solar energy system was installed to electrify the centre, thereby allowing autonomous lighting and powering of the scientific equipment (laptops, scientific instruments, field instruments, GPS).

TECHNOLOGY TRANSFER AND CO-CREATION

To come to technological transfer, UNITO cooperated with all the local partners to disseminate competence in scientific training both in the field of biodiversity and of agriculture, by:

- Training local technicians in agricultural models. We successfully applied the mixed-parcels model of vegetables and fruit trees. The mixed parcels already generated income during the first year, thereby supporting economically the project during the 3 years necessary to obtain crop. We now can rely on 30 peasant leaders able to spread the know-how to other villagers.

- Organising and implementing "energy training" and setting of renewable energy equipment. We especially designed ICARO solar dryers. ICAROs delivered last year gave important results and generated favourable impact. They were used to produce dry fruit which was sold on the market in small packages. The Centre also arranged a weekly delivery of dried fruit to local bakeries. Villagers showed a great interest in the ICARO drier and demonstrated to be able to exploit it at its best.
- Introduction of new cultivated species and cultivars by 1) spreading improved cultivars of traditionally cultivated vegetables, 2) introducing new temperate fruit-tree cultivars, 3) promoting the cultivation of under-utilized and indigenous fruit species. The Anevoka site, for its location on the border of a primary forest, was particularly suitable to experiment with endemic species. Since these originate in the forest, they would be in similar conditions to those of their habitat of origin. Among these Styger et al. (1999) have identified various species and determined the foremost ones. In addition to native species, some exotic species were adapted and distributed throughout the island. In most cases these species, such as Spanish tamarind (*Vangueria madagascariensis*, Rubiaceae), the Salehy (*Omphalea biglandulosa*, Euphorbiaceae), the Sefontsohy (*Colea fusca*, Bignoniaceae) were previously underutilized.

KNOWLEDGE SHARING

In a context where natural resources may potentially generate strong economic and rural development, most of the population of Madagascar and the Comoros does not have access to any suitable education, also because of the enormous difficulty of movement within the two countries, which hampers all innovation processes in rural areas. Projects in Madagascar and the Comoros has shown that an appropriate combination of measures in agricultural, forestry and renewable energy domains could contribute, if efficiently spread, to improve the livelihoods of small farmers. This was achieved by disseminating information necessary for planning the sustainable use of land and of natural resources. Focusing actions on a local scale by an interdisciplinary, bottom-up approach, we formulated developmental policies integrating biodiversity valorisation and rural development. By relying on locally available resources, long- term cooperation agreements, as well as by establishing research field stations acting as multipurpose centres, we promoted effective capacity building actions, at the individual, institutional and social levels.

Our next challenge will be in the development of information and communication technologies for development or ITC4D for increasing dissemination of knowledge, methods and instruments of successful cooperation interventions.

Fig. 1 - The Maromizaha Multipurpose Centre in Madagascar.

NOMENCLATURE

BIRD	Biodiversity Integration Rural Development (9th EDF, Reference: FED/2009/217077)
DiSAFA	Department of Scienze Agrarie, Forestali e Alimentari of the University of Turin, Italy
DBIOS	Department of Life science and System Biology of the University of Turin, Italy
ESSA	Ecole Supérieure des Sciences Agronomiques, Université d'Antananarivo, Madagascar
FST	Faculté des Sciences et Techniques de l'Université des Comores
GERP	Groupe d'Etude et de Recherche sur les Primates de Madagascar
HEI	Higher Education Institution
MIUR	Ministero dell'Università e della Ricerca
ITC4D	Information and communication technologies for development
IUCN	International Union for Conservation of Nature
NGO	Non Governmental Organization
PNV	Parco Natura Viva of Verona, Italy
SCORE	Supporting Cooperation for Research and Education (9th EDF; EuropeAid/126851/D/ACT/Multi)
UNITO	University of Turin, Italy

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FOSTERING "LITTLE GREEN GUARDS" THROUGH A COLLABORATIVE PARTNERSHIP TO CREATE AN EFFECTIVE CONSERVATION EDUCATION PROGRAM FOR RURAL CHILDREN IN GUIZHOU, CHINA

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ABSTRACT

San Diego Zoo Global (USA), Fanjingshan National Nature Reserve Administration (China), and the University of Torino (Italy) have partnered in a collaborative effort to promote environmental sustainability and biodiversity conservation in Guizhou, China. The objectives of the partnership are twofold: (i) train researchers and wildlife professionals using a multidisciplinary program that employs the latest methods and tools in order to deepen their understanding of wildlife and the environment, and (ii) foster positive attitudes and behaviour toward wildlife in rural children through a creative education program called the Little Green Guards. A recent development of the education program is the Little Green Guards Club for children whose houses border nature reserves. During club meetings, staff of the three cooperating institutions and volunteers participated in teaching English and natural history lessons. Club activities included animal themed art projects, games, movies, and field trips designed to cultivate empathy for animals and appreciation for nature in these children. Evaluations conducted before and after implementation of the education program showed a significant increase in children's knowledge of and affection for wildlife, and sometimes coincided with positive behavioural changes toward native species. Here we feature our collaborative effort in China as a model which can be adopted in other geographic regions where species and habitat conservation must become a top priority. We will discuss the role of Universities in critical assessment of previous experiences in order to enhance the effectiveness of cooperation with other development stakeholders (e.g. governmental and local authorities, civil society and NGOs, foundations and private companies, and local associations).

INTRODUCTION

China is most notable for being the world's most populous country with over 1.3 billion people [1]. As a result of recent economic expansion, China now leads the world in consumption of natural resources and their pollution by products [2,3]. While the country's thriving economy makes daily international headlines, little attention has been paid to China's rapidly disappearing wildlife species and the natural places where they occur. For much of the western world, wildlife conservation in China does not appear to be a critical issue as the international symbol of all Chinese wildlife, the giant panda (Ailuropoda *melanoleuca),* shows signs that its population number is either stable or, in the case of the captive population, on the rise. On the other hand, to most Chinese, wildlife conservation is a non-issue because wildlife and wild places, unless exploitable, possess no tangible benefits [4]. According to the latest IUCN Red List assessment, China ranks in the top ten countries having the most number of threatened species [5]. These diametric opinions highlight the large disconnect that exists between the lay and the scientific communities. How do we bridge this gap to ameliorate the current wildlife situation in China? This paper focuses on this key question, the question that provided the impetus for creating the *Little Green Guards* program.

THE BASIS FOR THE *LITTLE GREEN GUARDS* PROGRAM

Founded in 2011, the *Little Green Guards* is a conservation education and outreach program for children living in remote communities bordering Fanjingshan and Mayanghe nature reserves in Tongren City Prefecture, Guizhou Province, China. Fanjingshan and Mayanghe nature reserves each hosts a unique assemblage of flora and fauna, and are part of the United Nations Educational Scientific and Culture Organization's (UNESCO's) World Network of Biosphere Reserves of the Man and the Biosphere (MAB) Programme. Specifically, Fanjingshan is home to over 6,000 animal and plant species; many are rare and relict, the most prominent being the Guizhou snub-nosed monkey (Rhinopithecus *brelichi)* that only occurs here as a single global population of about 700 animals [6]. Mayanghe, dominated by

limestone hills, also harbors a rich diversity of over 2,000 animal and plant species. The main target species for protection in Mayanghe is the Francois' langur (Trachypithecus *françoisi),* estimated at about 730 individuals, or roughly 70% of the total global population [7]. Due to small population size and limited range, these two Endangered monkeys [8] are far more vulnerable to extinction than the giant panda (Figure 1).

Fig. 1 - Threatened primate species in Guizhou, China: Guizhou snub-nosed monkey *Rhinopithecus brelichi* (large, right photo), François' langur *Trachypithecus françoisi* (small top, left photo) and Tibetan macaque *Macaca thibetana* (small bottom, left photo). Credits: San Diego Zoo Global/Fanjingshan National Nature Reserve Administration.

RURAL COMMUNITIES AND EDUCATION IN GUIZHOU

The rural communities immediately adjacent to Fanjingshan and Mayanghe nature reserves are densely populated by ethnic minorities such as the Miao, Tujia and Dong groups. These communities are considered to be at or below the poverty level [9]. All families we surveyed here have multiple children, generally 3-4, but some have as many as 9. Moreover, in many households the children are largely under the care of illiterate grandparents or other adult relatives while their better educated, albeit absent parents, labour in large cities (C. Tan et al. unpubl. data). As with past generations, the current youth have extremely limited economic and educational opportunities. Due to financial hardships at home and the state of education system in these rural areas, most young people stop their schooling after the nine-year compulsory education (K. Niu et al. unpubl. data).

The state-run education system in China has a number of shortcomings, most notably those that can be attributed to an unequal distribution of funding and human resources, and a rigid national examination metric for admission to high schools and universities. These inequities create a vicious cycle whereby rural inhabitants continuously remain an underprivileged class because of a lack of social advancement primarily due to poor education. It has been our experience that the quality of education decreases the farther the school is located from an urban center. By virtue of their remoteness, rural schools are extremely under-funded and under-resourced. The poor standard of living in villages coupled with the lack of any financial incentives from the central government pose an insurmountable challenge for rural schools to recruit and retain quality educators.

The nationally set curriculum for the nine-year compulsory education is meant to prepare students for the highly competitive high school and university entrance examinations. At the primary school level, the subject emphasis is on reading, writing and arithmetic. In the case of Tongren rural schools, the curriculum is heavily weighted toward Chinese and Mathematics. For example, a weekly lesson plan for the second-grade at one of the local schools contains 30 class periods, of which 13 are devoted to Chinese and 7 to Mathematics. Subjects such as Physical Education, Moral Principles and Daily Conduct, and Local Course (with topics related to culture, history, and geography of this area) are scheduled during 6 other periods. Even though there may be a class period separately allocated to Music and Drawing, the school usually has no funding for purchasing equipment or supplies for the students, and in general, these class periods are taken up by additional Chinese or Mathematics lessons. As part of China's education reform [10], English is taught in urban primary schools starting at about the third grade. However, rural primary schools do not include a foreign language in their curriculum because they lack educators capable of teaching the subject.

Since biology is not part of the primary school curriculum, the concept of biodiversity conservation is unknown to

the rural children. The *Little Green Guards* program, therefore, is an endeavour aimed at enriching the standard curriculum. Benefits to local residents, especially the education of children, frequently accrue when conservation efforts attain international recognition. As such, the *Little Green Guards* program may help rural children gain upward mobility by offering them extracurricular learning opportunities and allow them to escape from poverty in the future.

THE BASIS FOR INTERNATIONAL PARTNERSHIPS

The growing complexity of global social and economic problems, especially in developing countries in Asia and Africa, has dramatically hindered biodiversity education efforts intending to fundamentally change traditional attitudes and behaviours toward over consumption of natural resources. This situation has created an urgent need for formal cooperation among private institutions, local governmental agencies and universities to work in synergy thus creating conservation programs that generate broader impacts. In the case of the *Little Green Guards* the synergy is dynamic. San Diego Zoo Global and LDVI International spearheaded the creation of educational materials and provided support for school activities, as well as recommending capable professionals and allocating financial aid. The governmental partners, Fanjingshan National Nature Reserve and Mayanghe National Nature Reserve, provided local knowledge and the human resources necessary to transform the program content into locally appropriate messages resulting in effective conveyance to the intended audience. University personnel, who have an expertise in providing capacity building and professional training, have further contributed to the effort by distilling complex biodiversity topics into an easily understood format.

Given the economic and educational deficiencies in rural Guizhou, we face many challenges when conducting our *Little Green Guards* program. The expertise of our international team helps us solve these problems at different levels. Specifically, San Diego Zoo Global and LVDI International work closely to create an overall education framework that includes tailored lessons in combination with thematically related activities aimed at increasing schoolchildren's knowledge of and affection toward local wildlife species. Fanjingshan National Nature Reserve Administration plays a pivotal role in coordinating in-country program activities and providing liaison support among local and international partners. To help build the capacity of reserve personnel, the University of Torino is a key partner for providing scientific input and training to ensure the program's sustainability. All partners actively fundraise to support program objectives and publicize our work through different channels.

IMPLEMENTATION

In 2011 the *Little Green Guards* program founders, Chia Tan and Kefeng Niu, worked with Lei Shi and two volunteers from Guiyang universities, Bing Yang and Tianyou Yang, in developing and implementing the inaugural activities. An emphasis was placed on raising awareness of endangered species at Fanjingshan and Mayanghe nature reserves, particularly the two flagship species: the Guizhou snub-nosed monkey and the François' langur. The program was implemented at two schools. Since the students (and teachers) had not been introduced to conservation education topics, it was important that they gained positive experiences from this first exposure. In the classroom, we used simple narratives and slides to describe the basic biology of charismatic local fauna and flora. We also incorporated animal-themed games, songs, and drawings to cultivate an interest in wildlife in these children. To begin connecting them with wildlife found in their "backyard", the older students (fifth and sixth graders) participated in guided field trips to see the local monkey species (Figure 2). Identical pre- and post-program questionnaires were used to evaluate the impact of this outreach and education effort. Students were asked whether or not they have heard about the local nature reserve. They were also asked whether or not there are any monkeys in the forest, and if so, describe what kind. Additionally, we used this opportunity to evaluate third- and sixth-graders' general knowledge of and attitudes toward a variety of animal species, both domesticated and wild. This information helped us design appropriate and effective conservation education modules for subsequent program activities. We deemed our first school event a success because all of the children were sad to see us leave when the four-day program ended.

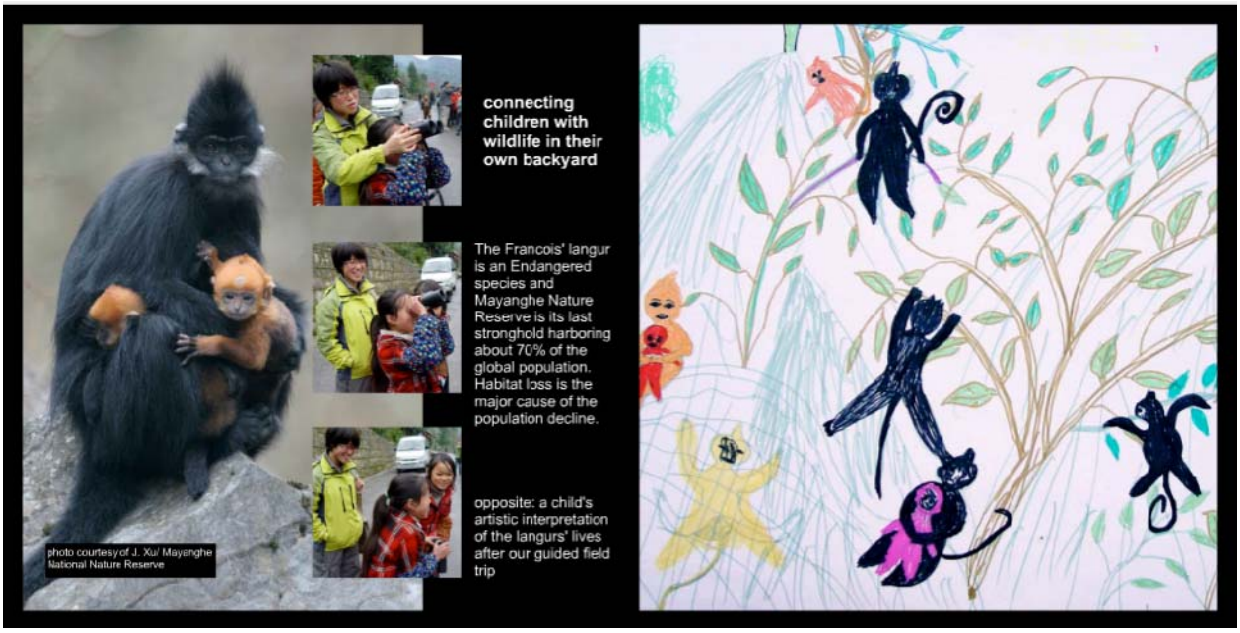

Fig. 2 - Connecting Guizhou rural schoolchildren with monkeys found in their "backyard" through guided field trips. Credits: San Diego Zoo Global/Fanjingshan National Nature Reserve Administration/ Mayanghe National Nature Reserve Administration.

We learned from our pilot program that knowledge of wildlife was lacking in these rural children. We also discovered major deficiencies in China's education system in these rural settings. When we returned to the local schools the following year, we had developed a complete module, called "My Habitat", to teach children the relationship between wildlife species and their required habitats (Figure 3). This module (3 versions based on grade levels) contained the lesson, associated exercises, and thematically related activities such as songs, art projects, and the student evaluation. At one of three local schools where we administered the program, we organized a schoolyard concert for the local community that was attended by over 400 residents and government officials. Students performed ethnic dances choreographed by their teachers, as well as singing a chorus pledging to conserve wildlife. We also showcased students' artwork produced during our program period to inform family members about the local wildlife species (Figure 4). Our efforts attracted the attention of local television stations, television documentary film production companies, and online media companies. Also, our volunteers, partners, and sponsors multiplied at this time, and we were able to enlist support from Chinese corporate sponsors to help defray program costs.

Fig. 3 - Fifth graders of Kaiwen Primary School learned about local wildlife species and their habitat in Fanjingshan. Credits: San Diego Zoo Global/Fanjingshan National Nature Reserve Administration.

Fig. 4 - *Look Grandma, I painted this monkey mask!* – A proud first grader presented her artwork to her grandmother before the schoolyard concert at Kaiwen Primary School. Credit: D. Cui, Beijing Zoo.

Fig. 5 - World-renowned entomologist, Professor Emilio Balletto shared his love for butterflies with Little Green Guards Club members in Niujiaodong Village. Credit: K. Niu, Fanjingshan National Nature Reserve Administration.

FUTURE PLANS

The *Little Green Guards* program has been proven successful in terms of effectiveness in the overall design and execution of its education and outreach components. Aimed to maximize the program's sustainability and lasting impact, we propose to:

1) develop set curriculum (six lesson modules) that concentrates on the biology and protection of native species and their habitats for eight target schools (approximately 1,100 students) near Fanjingshan and Mayanghe nature reserves. We will work with conservation educators to create biologically - sound, age – appropriate modules following the guidelines of Tongren Unified School District for Local Course (or "Di Fang Ke"). The main purposes of Local Course are to increase students' awareness and understanding of native wildlife, and to instill a sense of pride about their natural heritage and a responsibility for its stewardship. Similar to the module developed for "My Habitat", each new module will contain teacher's instructions, the topic lesson, related activities to enhance learning, and student evaluation.
2) conduct workshops to train educators (approximately 75 teachers) from the program target schools on how to implement modules and integrate them into existing Local Course. As conservation biology training for teachers in rural schools is nonexistent, the goal of the workshops is to introduce teachers basic conservation education techniques, discuss the module contents, and assist module implementation in class. Besides providing a "how-to" guide, the workshops will empower teachers to be role models and conservation advocates.
3) establish Biodiversity Conservation Learning Centers to further communicate the purpose and value of protecting local wildlife species to the community. We will select three schools closest to reserves' core protected areas and help each school transform a classroom into a Biodiversity Conservation Learning Center. The room will be furnished with audiovisual equipment, books, visual displays and students' artwork. Also at the school entrance, we will create a biodiversity mural and install an interpretative panel to disseminate information regarding the endangered wildlife species in the area. The mural and interpretive panel will educate not only the students and teachers but also community members and visitors.
4) recruit and train student volunteers from universities in Guizhou to conduct outreach events in rural and urban settings. To reach a wide audience and create locally relevant messages to promote pro-conservation attitudes and behaviours, we will recruit volunteers, especially students from Guizhou teacher's colleges. We will develop a volunteer program coordinated by nature reserve staff. We will speak at recruitment events and provide volunteers with the techniques and tools needed to be affective and effective wildlife conservation ambassadors. Trained volunteers will assist with outreach efforts at target schools and other venues. The experience may inspire some recruits to teach in rural schools where access to quality education is lacking.

The Little Green Guards is the first program in China to recognize that conservation education initiatives, in order to be successful, need to be uniquely tailored to citizenry of different socioeconomic levels, with the most need being in

the indigenous communities that rely heavily on the natural resources of protected areas. Through the proposed activities and continued cooperation among local and international partners, and the Tongren Unified School District educators, we can ensure that rural schools neighbouring nature reserves play a pivotal role in educating a new generation of responsible citizens who can become guardians of their native wildlife treasures. Additionally, through their children we can begin to transform the feelings, motivation and commitment of other family members toward native species and habitat conservation. Thus, we believe the Little Green Guards can be a model which can be adopted in other geographic regions where species and habitat conservation must become a top priority.

ACKOWLDEGMENTS

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A PROGRAM IN HIGHER EDUCATION FOR FOOD SECURITY AND ENVIRONMENTAL SUSTAINABILITY

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ABSTRACT

The CISAO, an Interdepartmental Centre of the University of Turin, in partnership with three Sahelian Institutions of the Higher Education, has submitted the project “Réseau des Universités Sahéliennes pour la Sécurité Alimentaire et la Durabilité Environnementale (RUSSADE)” to the EuropeAid-ACP-EU Cooperation Programme in higher education (EDULINK II).
The overall objective of the project is to mobilize knowledge and know-how to fight hunger and poverty and to increase environmental care in a sustainable development perspective, improving life conditions of the population and reducing the gender gaps in employment access and in sharing knowledge. The specific objective is to enhance higher education systems through Master courses to give technical, scientific and methodological bases to the students, allowing them to manage natural resources and to improve agriculture and food security.
Programs are multidisciplinary and treat both challenges and difficulties of the agricultural development in Sahel with the purpose to enhance abilities in different strategic fields: livestock productions, food security and safety, environmental protection, sustainable and fair development. For these reasons the high level Master is planned with innovative multidisciplinary integrations, structured in a common early training followed by specialized education courses chosen among three options (animal and vegetal productions and environmental protection), to give to young people work opportunities in key sectors of their countries.
To ensure mutual exchange and harmonization of expertise, it is necessary to establish an active network between the four involved universities, integrating theoretical, practical and experimental knowledge with special focus on local and regional issues.
The target groups are the students of the Master: graduates in agronomy, biology, veterinary medicine, geography, geology, environmental sciences (or equivalent degree), local teachers, researchers and professionals.

INTRODUCTION

The beneficiary (partner leader) of the project “Sahelian Universities Network for Food Security and Environmental Sustainability (RUSSADE)” is the University of Turin (Italy), supported by the Piedmont Region, International Affairs Section, and the Italian NGO Terre Solidali Onlus.

The involved African partners are CRESA of the University of Niamey (Niger), the Polytechnic University of Bobo Dioulasso (Burkina Faso), the University Institute of Science and Technology of Abéché (Chad).

The choice of these HEIs as project partners comes from a long cooperation in several scientific areas between the University of Turin and African institutions, such as Universities of Niger and Burkina Faso (Abdou Moumouni University of Niamey and Polytechnic University of Bobo Dioulasso). Moreover, the University of Turin recently established new relationships with the University Institute of Science and Technology of Abéché, in Chad.

The project was presented by CISAO, an organization that integrates multidisciplinary skills and knowledge, whose institutional task is to promote and coordinate scientific and educational exchanges with the countries of West Africa and particularly of Sahel [1].

The International Affairs Section of the Piedmont Region participates to the Project as a stakeholder and as a donor. Terre Solidali Onlus (an Italian non-profit organization of social utility) involves its experts in special activities and features (such as orientation activities, support in the field work, demonstrative practices and training sessions).

REASONS OF THE INTERVENTION

The strategy of the European Union has recently included financial support also in the educational field and strengthening the systems of higher education of African countries. Likewise, the guidelines for EDULINK II call for proposals indicate “energy facilities, agriculture and food security” as instruments to eradicate poverty. For these reasons, CISAO and its African HEIs partners are developing a project whose general objective is to use knowledge to fight hunger and poverty and to promote environmental protection in a sustainable development perspective [2].
To achieve this goal the following requirements are considered as crucial factors:

a) a stronger synergy between Sahelian HEIs and with the University of Turin will enhance capacity, excellence and regional integration and will allow the creation of a permanent network;
b) the quality of higher education in the field of agriculture and management of natural resources will improve food security and living conditions of Sahelian people [3].

In general terms, to improve the impact of education on the quality of life of local population means to think about the present situation and to act for a better future so that the target people could receive scientific and methodological instruments to manage natural resources with an eye on environmental sustainability and equity.

A holistic approach to improving agriculture and food security should not neglect the social-economic aspects related to these themes, including the gender gap reduction in terms of access to employment and knowledge sharing (1, 7, 8 Millennium development Goals) [4].

The attention of the project, concerted between all partners, was focused on several inter-related and inter-dependent critical issues such as environmental challenges, social-economic and structural difficulties to be overcome, measures to be consequently adopted, identification of target beneficiary groups, organization of actions implementation, mechanisms for monitoring, evaluation and control of the activities.

The **target groups** are identified among:

- graduates in agronomy, biology, veterinary medicine, geography, geology, environmental sciences or equivalent degree. Sometimes, the knowledge of these students is too theoretical or not properly orientated to the local challenges;
- the academic staff of the HEIs partners, in order to update and improve their teaching skills, thanks to a more integrated methodology. In fact, these teachers often experience cultural isolation, sometimes consequent to a landlocked location, and need to exchange opinions on teaching-learning processes, in order to become conscious of their teachers role and of the effect of their actions on their students (success rate, for example).

The **final beneficiaries** of the project will be:

a) academic institutions of the Sahelian region and their students;
b) public services, such as local or regional institutions, NGOs, agribusiness and agro-food enterprises: these institutions have often difficulties finding qualified employees, sufficiently trained in relation to their tasks;
c) the final medium/long term beneficiaries are the most vulnerable or disadvantaged sections of the population, such as rural populations, children and women. These groups are obviously in major risks of poverty and malnutrition, in addition to health fragility and social exclusion. The requirements of these groups will be obviously taken into account by the trainers as well as by the newly trained students. Moreover, these requirements should become pressing needs in future professional actions and should also receive the attention of civil society with a long-term perspective of equitable sharing of resources.

LOCAL ISSUES AND ENVIRONMENTAL CHALLENGES

Poverty rate in Sahel is very high, especially in the countries involved in the project (56,5% in Burkina Faso, 61,9% in Chad and 43,1% in Niger) [5] [6] [7] [8].

These high poverty rates are strongly linked to malnutrition, which is a challenge in maintaining social peace and stability and prevents the development of human resources.

Food insecurity, that is the result of a widespread and severe scarcity of productive resources, plagues most of these countries and primarily affects the most vulnerable part of the population. It is difficult to realize agricultural improvement because soils are overworked and depleted, as well as animal productions improvement that is hampered by low biological performances of animals, by scarce availability of food resources and by a poor livestock management. Furthermore, aridity, together with overpopulation, generates a process of environmental degradation of local and regional extension and consequently determines people migration to the humid tropics [9] [10] [11].

The fast urbanization in Sahel countries creates many problems: environmental degradation, instable public health, excessive energy consumption, in a context of lack of human resources qualified for solving these problems [12] [13].

To attain a collective and sustainable food security the local governments have adopted, over the last decade, some

Strategies for Poverty Reduction, which assign to the rural sector the role of principal motor of economic growth in these countries until 2015 [14] [15].

Since the droughts of the 70s and 80s, the Sahel is undergoing a continuous process of environment degradation (Fig. 1). The desertification process has a significant impact also on several river flows and river ecosystems, damaging human activities.

Fig. 1 – Intensive erosion effects on soil and rocks in Tillabéri region (Niger). (Photo E. Ferrero)

Environmental damage exacerbates inequality by exerting a negative impact on the already poor people and, in the meantime, the inequalities of human development also amplify the environmental damage [16] [17].

In this regard, the role of universities as engines of development is undeniable. However, African HEIs are facing enormous financial and social problems: a low schooling rate at all levels, outdated infrastructures, inadequate financial, political and logistical support by governments and enterprises [18]. A limited involvement of the private sector is still persistent due to inconsistent and occasional relationships between universities, industry, government, social and productive sectors of the economy.

At the same time, unstable political climate, restriction of freedom expression and culture of corruption are some reasons that contribute to the brain drain, to disrupt academic work and to provide constraints on the production of knowledge, hindering socio-economic development. In the field of information technology and communication (ICT) and in activities related to research and development, the gap between Africa and the industrialized countries continues to widen. The disparities are even greater in the case of the transfer of knowledge to industry and society. The link between science and development is not quite considered as a decisive strategy by policy makers of the Sahelian countries, consequently the research has a low impact on improving people life conditions.

Development strategies in Sahelian countries require the implementation of projects and programs that take into account the close relationship among **research** (emergence of new scientific knowledge), **training** (enhancing professional capacities and infrastructures in the field of science and technology) and **innovation**, (transfer of basic knowledge to the application), through the creation or the involvement of enterprises. This is the concept called **“Triangle of knowledge”**.

AIMS AND GOALS

This project aims to organize a specialized Master to prepare a skilled staff for strategic positions in the technical structures of ministries, training and research institutions, enterprises, NGOs, all working in the field of rural development.

Educational multidisciplinary programs should face challenges and difficulties of agricultural development in Sahel region with the purpose of enhancing capacities in various strategic fields: livestock productions, food security and safety, environmental protection, enhancing knowledge for sustainable and fair development.

A multidisciplinary and interdisciplinary approach should be used in planning curricula for technicians involved in development activities.

Focus of the master is the awareness of links between the different areas involved to cope and develop coordinated and tailored programs.

The courses and training activities will take place in an innovative way, offering an integrated and interdisciplinary handling of themes concerning sustainable rural development in cyclical vision and “supply chain” structure. The

diagram and the list of skills were previously discussed and shared by the partners (Fig. 2).

Thanks to the innovative procedures of this kind of training, the project recommends measures designed to strengthen the capacity and effectiveness of higher education, to promote basic and applied scientific research, to improve educational quality through updated teaching methodologies and to progress administrative management of the universities, which will involve a growing number of students.

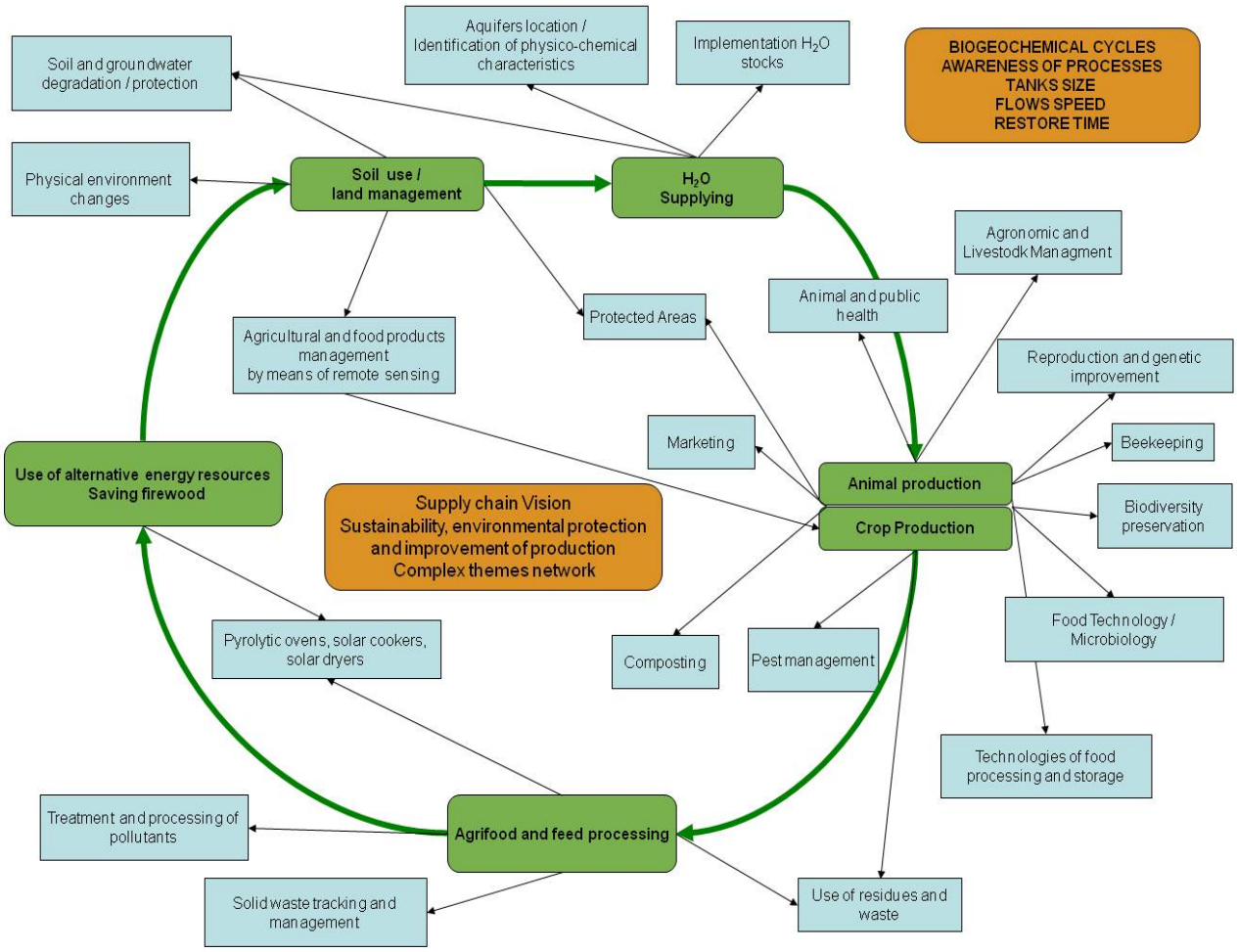

Fig. 2 – Supply chain and cyclical vision map, including and connecting the Master's topics (from [3], mod.).

An important aspect will be the strengthening of links between HEIs and a wider cooperation between them in the areas of training and research: this network, encouraging the exchange of academic staff and students, will create a more favourable environment for debate and innovative research, will promote a greater awareness of the complex connections between human choices and natural processes and will also accelerate the process of democratization.

STRUCTURE OF THE MASTER

The Master's structure includes different topics (land management, environmental restoration, agro-pastoral production chain, farmer organizations and strategies, local development). Disciplinary integrations will be offered by Niger, Burkina Faso, Chad teachers and CISAO members in an institutional framework for shared and collective vision. The integration fits into an innovative higher education vision and, at the same time, offers as opportunities for young people, allowing them to work in key sectors of the region.

The timetable for the three years project includes three main steps.

a) **First period**: consulting actions on the organization of the Master and the strengthening of relations between academic institutions and other stakeholders. Some workshops will be organized to facilitate these cultural exchanges, to discuss and select students' curricula and to facilitate their integration into the working world. Delegations from all the involved HEIs will participate in the planned workshops. These meetings will also provide a special session with the participation of local authorities, enterprises, NGOs, etc. During this period, collaborations will be activated with institutions that could host the Master's students for internships or for their employability.

b) **Second period**: realization of the Master teaching steps, according to the programme of training modules. The teaching material will be available on the project web site for teachers and students.
c) **Third period**: diffusion of results and impact on the region, production of educational materials also designed for primary and secondary school teachers, for a better dissemination of the integrated vision of development problems. This third period will also include the evaluation of the actions carried out during the project and a feed back on the structure of the Master with a consequent effect of improvement.

The Master provides theoretical courses taught by academic staff of different nationalities and seminars held by non-academic professionals (e.g. officials of the Piedmont Region or operators of the associated partner Terre Solidali Onlus) or by local officials of local associations or NGOs, etc., whose involvement has been considered relevant.
These actions will be integrated with practical activities (laboratory activities, field trips, etc) (Fig. 3).

Fig. 3 – The laboratory facilities at the Faculty of Agronomy of the Abdou Moumouni University of Niamey give the possibility to integrate practical work with lectures and field trips. (Photo C. Semita)

Distance education is also recommended to increase the impact of any action capacity building, even if the HEIs partners still need a technological improvement. Therefore, at the moment, only the establishment of a database can be forecasted, with the creation of a website and a newsletter (Fig. 4).

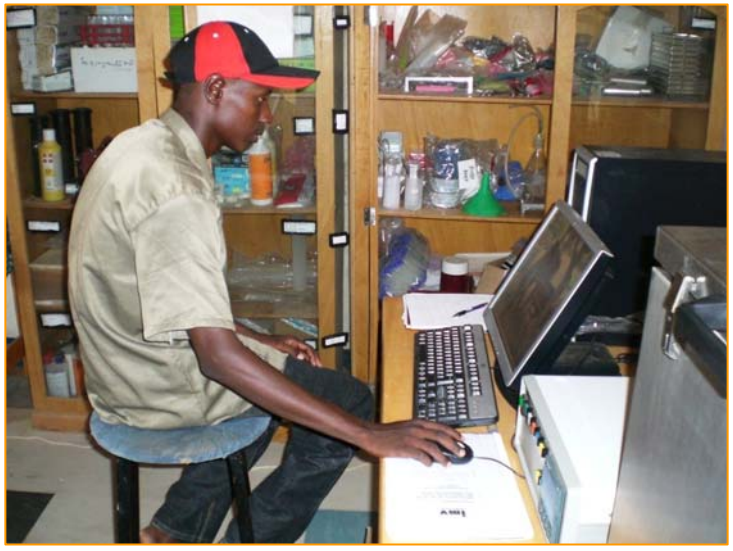

Fig. 4 – Enhancing structures and digital equipment of the Abdou Moumouni University of Niamey will support the integrated distance education and improve relations between the partners. (Photo C. Semita)

METHODOLOGICAL APPROACH

The approach is systemic and will involve multidisciplinary knowledge. The themes of improving livestock production, preservation of local animal and vegetal biodiversity and the use of biotechnology in animal reproduction and genetic improvement will be connected to the modernization of agriculture, the use of technologies for preservation and processing of animal and vegetal food products and the implementation of systems using solar energy (solar cookers and photovoltaic systems). Innovative teaching strategies will be prepared and proposed in order to connect these items to other key themes, like land management (transformation of the physical environment and degradation)

and land use, supply and protection of water resources, management of solid wastes and pollutants.

This list is not exhaustive: all these issues will be thoroughly discussed between the partners during the first phase of the project as well as the network between them and between the teachers' skills.

A main methodological concern will be the spreading of sustainable appropriate technologies, easy to be used by local not qualified staffs, with a low impact to the environment, applicable in the Sahelian context.

The goal is to bring more changes in the educational field to help teachers to be open-minded, prepared for the exchange of ideas, so that students can benefit of a more practical and multidisciplinary approach and acquire a greater awareness and understanding of these complex problems.

The main result of such training is the acquisition not only of technical skills, but also of a deep awareness of local issues, taking into account that a local intervention affects the entire region: what happens in a limited area can affect the entire country.

Teachers and researchers will be stimulated to master the latest scientific and methodological knowledge in their own fields and to the other side to create a positive interdependence with students, developing a sense of personal responsibility, encouraging the acquisition of cognitive and social skills and developing the motivation to learn and solve complex problems by promoting teamwork. Understanding the links between learning, theory, research and professional practice develops the capacity to face problems in a systemic way, in different contexts and to acquire professional skills to work respectfully on different environmental components.

EXPECTED RESULTS

For the success of the project as a whole, it is crucial that innovative actions do not remain only confined to the academic world; the key problem is to find strategies in order to spread them to a larger scale, starting from the trained technicians. To achieve this goal the policymakers of the Sahelian countries should be aware of the role of education in general and universities in particular as engines for development.

It is therefore necessary that universities get out of their circle of elites opening to the outside world, so that knowledge can be a real contribution to national and regional development policies. The qualified and trained professionals should also understand that the acquired skills are not only a personal asset, but also a resource to be spent for development actions.

In this context, the project's educational task is to strengthen individual motivations and to employ knowledge at service of socio-economic development and poverty reduction in the region.

To obtain a wider effect, it is necessary to disseminate and share the principles and results of the project with social and productive sectors of the economy and civil society (Fig. 5).

The three-year length of the project could be a period of time long enough to create a critical mass able to interact with policy-makers dealing with the serious problems of development. This will happen if some crucial topics, like the effects of climate change, the problem of environmental degradation at all levels (including the challenge of waste and recycling), the issue of modernization of the rural sector, are brought to the attention of a wide audience in an effective and compelling way.

An action of this nature may cause a change in mentality: for example, awareness of the links between development, environmental degradation and poverty should lead to changes in individual behaviour for the maintenance and respect of natural resources.

Fig. 5 – The participants in seminar at the University Abdou Moumouni of Niamey, Niger. (Photo G. Trucchi)

ACKNOWLEDGMENT

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The RUSSADE project was submitted and approved by the European Union in to the EuropeAid-ACP-EU Cooperation Programme in higher education (EDULINK II). The completion of the bureaucratic procedures prior to the signature of the grant agreement and the activation of the project are still in progress.

NOMENCLATURE

ACP	African, Caribbean and Pacific Group of States
CISAO	Interdepartmental Centre for Research and Technical-Scientific Cooperation with Sahelian and West African Countries.
CRESA	Regional Centre for Specialized Education in Agriculture
EU	European Union
HEIs	Higher Education Institutions
IUSTA	University Institute of Science and Technology of Abéché
LERNSE	Laboratory of Studies and Researches in Natural Resources and Environmental Sciences
NGO	Non-Governmental Organization
Onlus	Non-profit organization of social utility
RUSSADE	Network of the Sahelian Universities for Food Security and Environmental Sustainability
UPB	Polytechnic University of Bobo Dioulasso

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TEACHING ITALIAN AND ARABIC: AN INTERCHANGE BETWEEN ITALY AND LIBYA

Barbara Airò - Silvio Beretta - Antonio M. Morone
Pavia University - Centre for the Study of Extra-European Peoples/Department of Political and Social Sciences **May 2012 – June 2013**

"Teaching Italian and Arabic: an interchange between Italy and Libya" was an **Academic Project** intended to realize a specific and intensive training activity in both Italian/Arabic language and Italian/Arabic culture for a selected group of Italian and Libyan students and teachers.

The Project was jointly staffed by the **Pavia University Centre for the Study of Extra-European Peoples** and **Tripoli University's Department of Italian Language**. The Italian Ministry of Education, University and Research (MIUR) founded the Project within the framework of **Cooperlink** (international interuniversity cooperation).

The Project was composed in **two main stages**:

1) Students' selection in Tripoli and in Pavia by means of a standard placement test on language skills;

2) Performance of joint seminars in Pavia (September 2012) and Tripoli (June 2013) for 8 Italian and 8 Libyan students, plus the academic staff of both universities.

The teaching program coupled lectures in language and translation with other lectures in history, economics, and literature for a total of 20 hours each seminar.

The main **achieved results** during and beyond the time period of the Project were:

1) Deep and reliable improvement in language skills as well as in knowledge of their reciprocal cultures and histories for both groups of students;

2) Social and cultural interaction as well as reciprocal interplay among both students and teachers, who got the chance to experience a firsthand intercultural dialogue which favored also the consolidation of friendship and human understanding;

3) The opportunity for the academic staff to practice and improve their teaching skills by interacting with a mixed students' class;

4) The strengthening of inter-university cooperation between Pavia and Tripoli, setting the stage for further exchanges and joint research.

The main **objective** of the Project was to encourage, promote, and foster dialogue and exchange between two countries, Italy and Libya, bound by a painful and at the same time rich common history. To plan and realize the Project, the applicant (Pavia University) adopted the **methodology** of sheering cultural endeavor and included the partner in all the Project steps.

In **conclusion as spinoff of the Project** we are proud to report that Pavia staff collaborated in the (re)opening of the **Tripoli Department of Italian language** and to the formation of the teaching program for a four year designed academic course.

Italian and Libyan delegations in Tripoli

Tripoli University Graffiti

Guided tour at Markaz al-Jihad Centre

Tripoli Central Mosque

Libyan National Museum

Tripoli University graffiti

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«Insieme per Makamba»

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Abstract

The project "Together for Makamba" is involved in international cooperation projects designed and conducted by Enaip in the African territory. It became part of the second Uni.Coo of the University of Turin. The work of action-research was carried out within the "Centre des handicapés - St. Bernard" Makamba born in 1977 with the aim to improove the fuctioning of rehabilitation structure and re-education of subjects, with particular attention to children with physical disabilities. It cover a huge area and it being the only center for disabled people across the south of the country.

Resumé

Le projet "Ensemble pour Makamba" s'inscrit dans les projets de coopération internationale créés et menés par Enaip sur le territoire africain. Il est devenu une partie du deuxième appel Uni.Coo de l'Université de Turin. La recherche-action a été réalisée dans le "Centre des handicapés - St. Bernard" Makamba né en 1977 dans le but d'améliorer le fonctionnement de la structure pour la réhabilitation et la rééducation des sujets, avec une attention particulière aux enfants ayant un handicap physique. Il a une très grande zone desservie étant le seul centre pour les personnes handicapées dans le sud du pays.

Riassunto

Il progetto "Insieme per Makamba" si inserisce nei progetti di cooperazione internazionale ideati e condotti da Enaip nel territorio africano. Esso è entrato a far parte del II bando Uni.Coo dell'Università di Torino. Il lavoro di ricerca-azione si è realizzato all'interno del "Centre des handicapés – St. Bernard" di Makamba nato nel 1977 con l'intento di migliorare il funzionamento della struttura destinata alla riabilitazione e alla rieducazione di soggetti, con particolare attenzione ai bambini affetti da handicap fisici. Esso accoglie un bacino di utenza molto ampio essendo l'unico centro per disabili in tutto il sud del paese.

Achieved Results

La possibilità di tradurre concretamente gli apprendimenti, così come quella di partire dall'esperienza per apprendere, è stato un elemento indispensabile per generare vissuti di **efficacia personale** e **collettiva** sia per il personale del centro (circa 15 persone) sia per gli utenti del centro (circa 100 bambini e adolescenti), vissuti che si legano al raggiungimento di risultati quali:

- ✓ innovazione delle metodologie utilizzate con gli utenti per facilitare la **partecipazione**, con particolare riferimento all'uso del **gioco**;
- ✓ maggiori **competenze** del personale in tema di **confronto con la diversità**;
- ✓ migliore gestione degli **aspetti legati alla cura** e, in specifico, all'igiene.

Objectives

Il progetto era teso al **miglioramento del servizio** attraverso un intervento caratterizzato da una forte componente formativa al fine di ottimizzare l'organizzazione. In specifico, il progetto mirava a:

- ✓ promuovere lo sviluppo delle abilità manuali e porre le basi per la creazione di un gruppo produttivo capace di contribuire all'autofinanziamento del centro stesso, attraverso attività laboratoriali;
- ✓ formare e informare su temi quali igiene personale, degli spazi e alimentare attraverso attività educative, sia con il personale del centro sia con gli utenti;
- ✓ contribuire all'informatizzazione della gestione amministrativa del centro e formare il personale all'utilizzo delle prassi introdotte.

La partecipazione e il coinvolgimento in attività manuali hanno avuto come riscontro tangibile un **miglioramento dello spazio di lavoro e di vita** divenuto, grazie all'impegno di tutti i soggetti coinvolti, più adatto a ospitare momenti ludico-ricreativi, ma anche piacevolmente educativi.

GIOCARE CON LO SPAZIO
PER COSTRUIRE UNO SPAZIO DI GIOCO
E APPRENDERE INSIEME

Il centro al momento dell'arrivo della borsista

Il centro a seguito dei lavori svolti quali la creazione di un'area gioco e la decorazione dello spazio interno

Methodological approach

Le attività sono state guidate da **due approcci metodologici principali**:

- ✓ *l'action learning* (Marquardt & Ceriani, 2009) con cui si è favorito l'apprendimento individuale attraverso la realizzazione di attività di gruppo che hanno permesso una continua circolarità tra pensiero e azione;
- ✓ il *cooperative learning* (Comoglio, 2000; Johnson & Johnson, 2005) attraverso il quale sono stati creati dei veri e propri ambienti di apprendimento in cui i partecipanti, in un clima relazionale positivo, hanno lavorato all'interno di un processo di problem solving di gruppo.

Sono stati realizzati specifici cicli di incontri formativi (ciascuno di breve durata) relativi alle diverse aree prese in considerazione, alternando momenti a carattere prevalentemente teorico con attività pratiche.

Conclusion

A seguito di questa esperienza, è possibile ipotizzare sviluppi futuri realizzabili attraverso la progettazione e realizzazione di interventi formativi a carattere partecipativo. Ciò dovrebbe essere pensato attraverso il coinvolgimento del personale e dell'utenza presente in struttura partendo da un'attenta analisi dei bisogni, al fine di migliorare il servizio offerto agli utenti, promuovendo al contempo una crescente percezione di efficacia nel personale, nella direzione di un maggiore benessere.

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M.SC. TRACK IN INTEGRATED ENVIRONMENT AND LANDSCAPE DESIGN IN THE CONTEXT OF INTERNATIONAL COOPERATION

Field work internship as opportunity for engineering students to approach developing context

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UNESCO United Nations Educational, Scientific and Cultural Organization | uniTwin UNESCO Chair in Engineering for Human and Sustainable Development | UNIVERSITY OF TRENTO - Italy

abstract

Since 2006 the M.Sc. In Environmental Engineering at the University of Trento has developed an innovative Track in "***Integrated Environment and Landscape design in the context of international cooperation***", which has the general objective to contribute to the creation of a new generation of engineers, socially and culturally aware and responsible, able to work in interdisciplinary and intercultural contexts and to foresee and assess the overall impact of engineering project on the local communities and on the environment.
The Track is composed by an educational package that comprises 6 courses at M.Sc. level offering 6 ECTS each. The courses methodology integrates traditional lectures with active learning approaches including group activities (Role plays, joint project development), field visits, practical fieldwork (including design and data post-processing).

the innovative aspect

The innovative concept of the M.Sc. is the ***field work internship as a group work experience*** aiming to equip students with skills for making engineering choices appropriate to the local environmental and social context.

activities

Students are directly involved in field data analysis survey and in the proposal elaboration. All the activities are carried out in partnership with governmental institution and civil society organizations and variable focuses which can include river management, water supply and sanitation, watershed management, solid waste management, geo-morphological processes analysis, soil erosion. The results of these project stages are environmental engineering projects that are shared with the partners and often become part of their future development plans.

2006 – 2008 – 2010 Caia – MOZAMBIQUE

- **Analysis of water uses, water supply and of well contamination risk**
- **MADZI-ATHU Project: community based water management**
- In collaboration with *Consorzio Associazioni per il Mozambico* (Trento)

2007 Peja/Pec – KOSOVO

- **River Quality Analysis by means of different biological indicators.**
- In collaboration with *Tavolo Trentino per il Kosovo* (Trento) and the Pristina University.

2012 Koboko – UGANDA

- **Gully erosion analysis and mitigation project proposal**
- in collaboration with: NGO ACAV - Trento

ACAV

2011 Pemba – TANZANIA

- **Urban and rural solid waste management analysis**
- in collaboration with: Onlus *Fondazione Ivo de Carneri – Milano*

2009 Rudno – SERBIA

- **Rural solid waste management analysis**
- in collaboration with: *Tavolo Trentino per la Serbia* (Trento) and the University of Kraljevo.

2013 Vermosh – ALBANIA

VIS

- ***Hydro-geomorphological analysis of destructive debris-flows and flood events in Vermosh for risk-mitigation intervention.***
- In collaboration with: VIS and University of Tirana.

conclusion

1. The participants are provided with **a first practical experience** related to environmental issues in developing international contexts and their critical skills in the application of their engineering knowledge to apply sustainable solutions are enhanced.

2. The participants are equipped with **cross skills** (intercultural approach, gender issues, ...) that can be tested directly during the group work experience.

3. The participants can get in contact with the operative aspects of NGOs in international cooperation and have the opportunity to contribute in the developing of engineering projects.

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PREPARARE I BAMBINI ALL'ADOZIONE INTERNAZIONALE

ideazione di nuove prassi con gli operatori burkinabè

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Il contesto

Nel rispetto della Convenzione dell'Aja, firmata già nel 1994, i minori burkinabè che non trovano una famiglia nel loro Paese sono proposti in adozione all'estero. In accordo con la legge italiana sull'adozione, l'Ente proponente il presente progetto, l'ARAI – Regione Piemonte, collabora con l'Autorità Centrale burkinabè sia per offrire ai a questi bambini una famiglia, sia per svolgere progetti di cooperazione (fra i molti condotti, citiamo la costruzione dell'Hotel Maternel, una delle strutture coinvolte nel presente progetto).
Il lavoro è nato dalla necessità di creare una continuità tra pre- e post-adozione, nel rispetto delle origini dei bambini, evitando di creare spaccature nel senso di identità già minato dagli eventi. E' necessario preparare i bambini all'adozione e alla futura altra appartenenza culturale già nel Paese di origine: questo lavoro accompagna a comprendere il nuovo progetto di vita, limita lo shock derivante dal radicale cambiamento, getta le basi per la costruzione di un rapporto con i nuovi genitori e infine mantiene viva la speranza durante la lunga attesa.
Nonostante sia stata svolta su piccoli numeri, questa ricerca ha aperto il confronto con tutti gli attori dell'adozione, dal Ministero ai singoli bambini, aprendo interessanti prospettive.

Risultati ottenuti

In accordo con gli obiettivi del progetto, i risultati sono stati raggiunti su due piani differenti: il primo conoscitivo, l'altro applicativo.
Nel primo caso, l'indagine svolta ha permesso di comprendere meglio cosa pensano gli operatori dell'adozione (istituti di accoglienza ed enti autorizzati) a proposito della preparazione dei bambini (se e come vanno informati della loro adozione). Nel secondo caso, riferito al piano applicativo, le attività volte ad aiutare il bambino a comprendere il suo progetto di vita, hanno permesso di comprendere quali fra le possibili azioni potrebbero essere utili ed applicabili nel contesto specifico.

Obiettivi

Il progetto, basato sull'evidente necessità di sostenere ed accompagnare i bambini burkinabè in stato di adottabilità nella comprensione del loro nuovo progetto di vita, si proponeva di sperimentare un possibile protocollo di buone pratiche per la preparazione dei bambini all'adozione internazionale, tenendo in considerazione la cultura locale e attraverso una condivisione del processo di ricerca con gli operatori sociali.

Approccio metodologico

Il progetto si è composto di due metodi differenti: un'indagine ed un intervento. A monte, sono stati presi accordi con il Ministero ed i CAEDs, gli istituti di accoglienza dei minori. Ottenuti i consensi ed instaurate le collaborazioni, il primo approccio utilizzato è stato quello dell'**indagine**: agli operatori che si occupano di adozione (enti stranieri presenti in Burkina Faso e CAEDs che ospitano i minori in stato di abbandono), è stato trasmesso un questionario per indagare i limiti e le potenzialità della preparazione all'adozione e per comprendere meglio quali azioni venivano già messe in atto. Sono stati inviati n° 25 questionari, ma le risposte sono arrivate solo da 7 CAEDs e da 5 enti autorizzati all'adozione, dato che evidenzia il basso tasso di partecipazione, specie fra gli enti.

Parallelamente sono state sperimentate delle **attività psico-educative** in due differenti CAEDs della capitale, pensate e proposte in collaborazione con gli operatori delle strutture e rivolte ai bambini di età compresa fra i **3 e i 5 anni, già abbinati** ad una famiglia. Le attività sono state condotte attraverso laboratori di gruppo (narrazione di una storia che spiega l'adozione, attività di bricolage, ecc.) e incontri individuali (volti a presentare più nel dettaglio, ad ogni singolo bambino, la sua futura condizione di vita).

Conclusioni

Pur essendo stata condotta su un numero molto piccolo di soggetti, la ricerca ha permesso numerose riflessioni.
La preparazione dei bambini all'adozione internazionale è in alcuni contesti ancora un tabù, e questo specie fra gli enti che di adozione si occupano. Gli operatori degli istituti, al contrario, sembrano ben consapevoli dell'importanza di un accompagnamento in questa delicata fase di passaggio nella vita dei minori adottabili, ma spesso incontrano difficoltà logistiche dovute alla scarsità di risorse.
L'esperienza diretta con i bambini e gli operatori ha inoltre permesso una riflessione condivisa, sia attraverso le risposte al questionario, sia più direttamente con il personale che ha collaborato nella conduzione delle attività psico-educative.
In ultimo, questa esperienza sul campo ha permesso di acquisire una più profonda conoscenza delle condizioni di vita dei minori adottabili, permettendo un miglioramento della formazione che ARAI – Regione Piemonte rivolge alle coppie in attesa di adottare un minore burkinabè.

*Un grazie sincero e profondo all'ARAI Regione Piemonte, a tutti i bambini e gli operatori dell'**Hotel Maternel** e della **Pouponniere de Josheba** che hanno collaborato e reso possibile questo studio!*

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Capacity Building in ICT: the Experience of Maputo Living Lab's Summer Schools

Aaron Ciaghi, Pietro Molini, Adolfo Villafiorita
ICT4g Research Unit - Fondazione Bruno Kessler

Objectives

Build groups of motivated people that work on ICT4D projects at MLL addressing national issues.

Create agile developers teams, find potential for reverse innovation, stimulate EU-Moz coop.

A reference practical ICT course to quickly develop internationally competitive and recognized skills.

Approach

- Four weeks course (half day)
- Participation free of charge
- Instructors from Italy and Mozambique

- Learn-by-doing
- Scrum
- Self-assessment
- Guest lectures on creativity

Backbone Projects:
- 2011: Vaccination Reminder
- 2012: Agricultural Market Info
- 2013: Weather Advisory & Disaster Risk Assessment

Some Numbers

~ 100 students from
8 different universities
7 companies
3 public entities
1 NGO

10 instructors from
3 research centers
3 universities
1 private company
4 countries

Curricula at a Glance

Summer School of ICTs (2011-2013)
Agile Software Development
Practical Programming
Web Programming
Mobile (Android) Programming

Summer School of Ruby on Rails (2013)
A modern framework for Web Applications
Highly competitive skills
Agile on everything

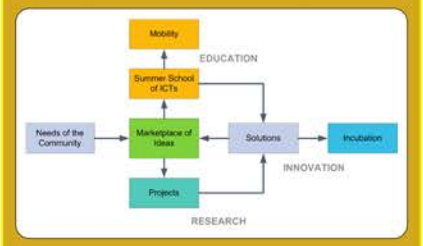
Lessons Learned

- **Learn-by-doing:** high participation, high motivation, development of actual skills
- Effectiveness of working on **real projects** and involving the **stakeholders**
- **Instructors:** two is better than one
- **Daily logs**
- **Problems:** low and uneven average skills (even graduates), connectivity issues

Follow Up

- **MLL:** SAMo and eUniPro projects
- **Mobility:** 6 months grant from the University of Trento for 5 students

Maputo Living Lab



Funded by Provincia Autonoma di Trento (2011-2014)

Goals:
- Build local capacity
- Address the needs of the local community
- Promote entrepreneurship
- Promote innovation
- Implement a replicable model

Staff
- 2 directors
- Mixed steering committee
- Geographically distributed teams

Projects
- SAMo: Social Accountability for Mozambique
- eUniPro: curriculum management system for UEM

FONDAZIONE BRUNO KESSLER ict 4g
maputo living lab

Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

1st level Master in "Oral Health in Disadvantaged Communities and Low Income Countries"

Vecchiati Giancarlo, Bassi Francesco, Di Caccamo Patrizia, Atkinson Jennifer, Cavallo Luca, Preti Giulio

Università degli Studi di Torino – Dipartimento di Scienze Chirurgiche; CIR Dental School; ECITOH – European Centre for Intercultural Training in Oral Health; COI – Cooperazione Odontoiatrica Internazionale

Abstract

The cooperation between the University of Turin and the Ngo COI – Cooperazione Odontoiatrica Internazionale started in 2000. In the same year they established the European Center for Intercultural Training in Oral Health (ECITOH), a training and research centre for oral care, oriented principally towards the needs of disadvantaged communities and low income countries. Courses are based on promoting intercultural values and exchange of knowledge and experiences in international cooperation.
In 2006 the COI and ECITOH headquarter was opened at Lingotto Building in the Dental School of Turin.
In 2006 COI, ECITOH and University of Turin started the 1st level University Master on: ***"Oral Health in Disadvantaged Communities and Low Income Countries"***, for professionals in health and dental field, who want to participate in work or volunteer activities in international cooperation and solidarity.

Achieved Results

The cooperation between the University of Turin and COI through ECITOH has allowed **the implementation of 4 Master editions.**

- **74 health professionals attended the Master**
- **57 students achieved the Master degree in four editions**

COI has developed oral health programmes in Bosnia Herzegovina, Burkina Faso, Ethiopia, Kenya and Lebanon involving Master participants.
Most of them, delivered their degree thesis in a COI programme.
Many participants are currently COI volunteers.

1° edition: Examination board at Thesis presentation

Objectives

The Master trains the health professionals to:

- acquire specific skills to understand and know the health and the oral health conditions in low income Countries and in the disadvantaged communities in Italy;
- get the needed expertise in the organization and management of health and oral health programmes, with a public health approach;
- achieve the skills necessary to develop inter disciplinary health programmes in network with several partners.

Methodological approach

The didactic approach is based on frontal lessons, but introduce new validated teaching techniques based on participatory methodology like focus groups, class exercises and role plays.
The **main topics** are:

- Health systems and oral health in high and low income countries.
- Basic principles of management of human, physical and financial resources.
- Health and oral health international guidelines.
- Strategic planning of health service.
- Primary Health Care (PHC) and Primary Oral Health Care (POHC).
- Techniques of prevention and cure in low income countries and disadvantaged communities.

1° edition: Participants at lesson

Conclusion

This Master, the only one in Europe in this field, connect COI practice and skills with academic knowledge in oral health to promote human development, following international validated guidelines.
The Turin Dental School has enlarged its didactic offer. Thanks to an international network of scientists and partners it has the opportunity to research and test on the field the Master theoretical assumptions and topics.

November 2013: start of the university Master in **"Oral Health in Disadvantaged Communities and Low Income Countries"** - **5th edition.**
Registration open until 30th September (h 12.00) on www.unito.it
Theoretical and practical lessons.
Duration: 1 year - 7 sessions on Friday and Saturday, between November 2013 and June 2014. ***Location:*** COI and ECITOH headquarter at Lingotto Building in the Dental School of Turin. ***Number of participants:*** 10 – 20. ***Language:*** Italian, English and French.
Information: 011 6708185 - coingo@cooperazioneodontoiatrica.eu - www.cooperazioneodontoiatrica.eu

POLITECNICO DI TORINO
UNIVERSITÀ DEGLI STUDI DI TORINO
CUCS TORINO 2013

Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

PROMUOVERE LA SALUTE ORALE IN COOPERAZIONE INTERNAZIONALE: UNA SFIDA DI SALUTE GLOBALE NELLE ESPERIENZE DI PROGETTI INTEGRATI IN LIBANO E IN ETIOPIA

A Rinaldi [1,6], P Di Caccamo [2], G Benedetti [3], B Giordani [4], C Resti [5,6]

1) *Sapienza Università di Roma – Dip. di Sanità Pubblica e Malattie Infettive,* 2) *COI Cooperazione Odontoiatrica Internazionale ong,* 3) *OISG Osservatorio Italiano sulla Salute Globale,* 4) *Laziosanità - Agenzia di Sanità Pubblica della Regione Lazio,* 5) *A.O. San Camillo Forlanini Roma,* 6) *RIISG Rete Italiana Insegnamento Salute Globale.*

Dedichiamo questo lavoro alla memoria di Erica Giuliani, una giovane dentista che ha dedicato la sua vita professionale alla odontoiatria pubblica e alla prevenzione per diminuire le sofferenze e le conseguenze delle malattie orali nei bambini.

ABSTRACT

L'analisi e la valutazione di numerose esperienze pregresse di aiuto allo sviluppo nel campo odontoiatrico hanno messo in evidenza che la mera replicazione del modello esclusivamente curativo, il più diffuso nei paesi ad alto reddito, non è efficace nel produrre miglioramenti stabili della salute orale dei beneficiari. Partendo da queste considerazioni, COI (Cooperazione Odontoiatrica Internazionale) ha scelto di intervenire seguendo un approccio di salute di comunità focalizzato soprattutto sulla prevenzione: l'unico, secondo The Lancet, che risulta sostenibile e realizzabile ovunque.
La collaborazione con centri di studio qualificati come le Università, dapprima con la *Dental School* dell'Università degli Studi di Torino e, recentemente, con il Dipartimento di Sanità Pubblica e Malattie Infettive della Sapienza di Roma, ha permesso di affrontare con un adeguato approccio scientifico i contenuti e le modalità di realizzazione di programmi di salute orale adatte ai diversi contesti.

La carie dentale e la malattia parodontale sono le patologie orali più diffuse al mondo: soltanto la carie colpisce dal **60 al 90% dei bambini** in età scolare e **quasi tutti gli adulti**. A fronte di questo enorme carico di malattia è impossibile e irrealistico pensare di poter raggiungere e assistere tutti gli individui. La carie dentale presenta una stretta correlazione con reddito ed istruzione ed è presente quasi sempre in contesti deprivati, va perciò posta la massima attenzione a non rafforzare le differenze sociali già esistenti attraverso interventi impropri. Infatti le cure comportano costi elevati ed è forte il rischio di generare meccanismi di accesso iniquo producendo disuguaglianze.
Punto di forza invece è il dato che le patologie orali sono largamente prevenibili agendo sui relativi fattori di rischio e i determinanti sociali di malattia, per altro comuni ad altre patologie croniche, attraverso strategie preventive di comunità che si sono dimostrate essere molto efficaci.
Si descrivono qui due esperienze recenti realizzate in Libano e in Etiopia e tutt'ora in corso. Entrambi gli interventi seguono l'approccio di *Primary Oral Health Care* e la filosofia *Health Promoting Schools* per intercettare la permuta dei denti ed iniziare il più precocemente possibile ad affrontare il problema in chiave preventiva.

INTRODUZIONE

In Libano, la prevalenza della carie dentale risulta tra le più elevate del mondo. Dati rilevati nel 2000 indicano una prevalenza dell'88% nei bambini di 6-8 anni e del 75% nei dodicenni. In Etiopia non si hanno dati ufficiali in merito, ma i livelli di povertà, strettamente associati alla presenza di carie dentale nella maggior parte delle aree rurali del Paese correlano bene con la presenza e la diffusione della carie nei bambini in età scolare e, nello specifico, le premesse per l'intervento in Etiopia nell'area di Wolisso, oggetto dell'intervento, si basano su un'indagine realizzata sulla popolazione scolastica della zona dall'Associazione Pediatri di Famiglia per i Bambini del Mondo - CCWW ONLUS.
Nel 2011 in **Libano** è stato avviato un programma di promozione della salute orale (*School-based Oral Health Programme*), cofinanziato da UNDP ART GOLD Lebanon e dalla Regione Lazio. Dal 2013 è in corso l'estensione del progetto pilota a livello nazionale, in partnership con il *Ministry of Education and Higher Education* (MEHE) e l'*Université Libanaise Faculté de médecine dentaire* .
Dal 2012 **in Etiopia** su progetto di COI, finanziato dalla Tavola Valdese con i fondi otto per mille, in appoggio all'ospedale Cattolico di St. Luke di Wolisso (supportato dalla ong Medici con l'Africa CUAMM), si stanno realizzando azioni di promozione della salute orale a livello scolastico (2 scuole elementari, una governativa e una privata) e di diagnosi e cura ospedaliera integrata nella *Head Clinic* nel tentativo di raccordare promozione, prevenzione e trattamento delle patologie orali in un sistema di riferimento valido nel distretto sanitario.

MATERIALI E METODI

In entrambi i paesi sono state effettuate diverse missioni formative realizzate con metodologia partecipativa e didattica interattiva, esperienziale ed autogestita con *focus group*, gruppi di lavoro, *role play*, che hanno coinvolto gli operatori sanitari e i **maestri delle scuole** elementari in Etiopia e **tutti i livelli del sistema scolastico in Libano**. In **Etiopia, il** Dipartimento di Sanità Pubblica e Malattie Infettive della Sapienza di Roma, ha partecipato alle missioni formative inviando i propri specializzandi esperti nelle metodologie didattiche più innovative.

RISULTATI

In **Libano**, il progetto pilota ha coinvolto **9 scuole primarie pubbliche** e previsto la formazione di team multidisciplinari che hanno contribuito alla produzione di **un manuale pratico per insegnanti** sull'educazione alla salute orale e all'igiene personale dei bambini. Il manuale, in arabo e in inglese (*Basic Oral Health Knowledge, A Practical Manual for Teachers*), è il risultato di un processo integrato fra municipalità, scuole e centri di salute di base e fornisce suggerimenti pratici e nozioni di insegnamento sulla prevenzione della carie dentale in ambiente scolastico.
In Etiopia, a Wolisso, il progetto è tutt'ora in corso, e sono stati formati finora **20 operatori sanitari, 90 studenti del corso infermieri**, e **80 insegnanti**. I bambini che hanno iniziato a beneficiare delle attività di educazione alla salute generale e orale sono **circa 1500**. Dall'analisi di gradimento è emersa sia dal personale sanitario sia dai maestri la necessità di aumentare le conoscenze negli ambiti proposti attraverso altre occasioni formative, inoltre è stato richiesto di arruolare un'altra scuola pubblica per il prossimo anno.

DISCUSSIONE E CONCLUSIONI

Al fine di accompagnare e sostenere forme contestualizzate di sviluppo locale, risulta preferibile un approccio integrato basato sulla prevenzione e l'attivazione delle risorse disponibili nella comunità per la promozione della salute. Ciò permetterebbe allo stesso tempo di non trascurare le fasce di popolazione più vulnerabili e il funzionamento corretto del sistema di riferimento delle patologie ai differenti livelli *della Primary Health Care*. Intersettorialità (collaborazione tra figure professionali della sanità e dell'istruzione), coinvolgimento di *leadership* locali (MEHE, *Ministry of Public Health*, *Université Libanaise Faculté de médecine dentaire*, municipi), integrazione di *health policy* nelle strategie locali e sviluppo comunitario sono i criteri alla base degli interventi realizzati in Libano e in Etiopia.
Infine, la collaborazione concreta tra ong e università ha permesso un ricco intreccio di saperi e di pratiche a inequivocabile mutuo beneficio: il COI ha compiuto un importante salto di qualità sia nella preparazione dei volontari sia nell'attenta pianificazione, realizzazione e monitoraggio dei progetti realizzati; l'ambito accademico ha avuto l'opportunità di testare in contesti diversi i modelli studiati e teorizzati.

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Immaginare culture della cooperazione:
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III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

ESTABLISHING A NEW MASTER DEGREE IN SUSTAINABLE CROP PROTECTION IN EGYPT: A PROJECT FUNDED BY EU TEMPUS PROGRAMME

Paola Colla[1], Davide Spadaro[1,2] and Maria Lodovica Gullino[1,2]

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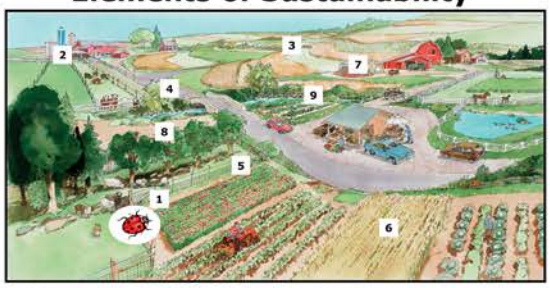
[1,2]*DISAFA, University of Torino, Via Leonardo da Vinci 44, 10095 Grugliasco (To), Italy.*

Education, training and life-long learning programmes have to face the **challenges** that **agriculture** is confronting today:

Securing healthy and safe **food** and feed **supply**

Ensuring economic and environmental **sustainability**

Elements of Sustainability



1 Integrated pest management
2 Management intensive grazing
3 Soil conservation
4 Water quality
5 Cover crops
6 Crop/landscape diversity
7 Nutrient management
8 Agroforestry
9 Marketing

The Project "**Establishing a Master degree in Sustainable Crop Protection**", funded by the EU TEMPUS Programme, supported the modernization of *curricula* in the field of **crop protection** in Egypt to respond to societal and job market demands with the goal of produce a **new generation of young professionals** able to analyze options, define strategies and manage solutions for securing healthy and safe food and feed supply

MAIN PROJECT ACTIVITIES

- Review of *curricula*
- Training of universities staff
- Development of teaching material
- Master accreditation
- Networking among teaching institutions and private sector
- **7 Master Degrees launched on 2012/2013**

A **network of Master's degree in Sustainable Crop Protection** was developed among seven Egyptian universities (Ain Shams, Assiut, Kafr El Sheick, Mansoura, South Valley, Suez Canal, Zagazig) with the support of four European institutions (University of Torino and National Research Council in Italy, University of Lleida in Spain and Mediterranean Agronomic Institute of Chania in Greece). Tempus MSCP Project was coordinated by Agroinnova, University of Torino, from January 2010 to July 2013.

AGROINNOVA

Work carried out within the EU Project "Establishing a New Master Degree in Sustainable Crop Protection" (Project 158748-TEMPUS-1-2009-1-IT-TEMPUS-JPCR).

European Commission TEMPUS

UNIVERSITY OF TORINO - ITALY

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Immaginare culture della cooperazione:
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III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

"Tutori di resilienza. Modello di formazione di insegnanti e social workers nell'ambito del programma MOSAIC del Ministero degli Affari Sociali Libanese con il supporto della cooperazione italiana"

Hurtubia V., Giordano F., Castelli C.,
Università Cattolica del Sacro Cuore, Milano - Dipartimento di Psicologia

Introduzione:

A fronte del grande esodo di profughi dalla Siria in territorio Libanese, il Ministero degli Affari Sociali Libanese (MoSA) e la cooperazione italiana hanno promosso il programma nazionale MOSAIC per la protezione dei minori siriani.
Le esperienze di guerra, violenza e migrazione forzata subite e la condizione di precarietà e marginalità in cui si trovano a vivere in territorio libanese hanno reso prioritaria l'attenzione ai bisogni psico-sociali.
La cooperazione italiana ha richiesto l'intervento dell'Unità di ricerca sulla resilienza dell'Università Cattolica del Sacro Cuore, con il modello di intervento "Tutori di resilienza", ideato e impiegato in contesti traumatici di guerra, violenza e catastrofi naturali in Italia, Gaza, Pakistan, Haiti, Sri Lanka, Cile e Mozambico.

Obiettivo:

Consentire alle figure educative deputate alla presa in carico di famiglie siriane vittime di guerra e spostamento forzato, nell'ambito del programma MOSAIC del Ministero degli Affari Sociali Libanese in partnership con la cooperazione italiana, di assumere il ruolo di tutori di resilienza nei confronti dei minori.

Risultati Attesi:

Trasmissione a insegnanti e social worker conoscenze teoriche e competenze pratiche su:
a. osservazione e comprensione di bisogni e problematiche dei minori
b. interazione e dialogo mediante linguaggi verbali e non verbali.
c. Rafforzamento delle risorse interne ed esterne dei minori.

Approccio Metodologico:

Training suddiviso in 2 fasi:
1. modulo social worker (4gg) => formazione teorica dei social worker ed esercitazioni.
2. modulo minori (6gg) => applicazione guidata degli strumenti con i minori siriani

Destinatari

20 insegnanti, social workers e altro personale volontario, reclutati dal Ministero degli Affari Sociali Libanesi per interventi con minori e famiglie profughe siriane.

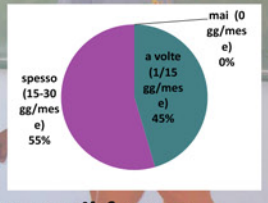
Strumenti

- Manuale di intervento: "Tutori di resilienza. Guida orientativa per interventi psico-educativi"
- Laboratorio narrativo: "Memory work Program"
- Laboratorio fotografico: "Vite d(')istanti"

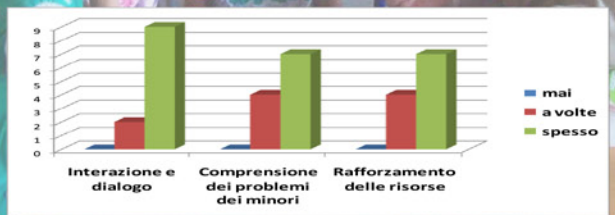
Conclusioni:

Scheda di valutazione somministrata 3 mesi dopo la formazione (N11; M 5 F; 7 libanesi e 4 siriani)

1. Perpetuamento del lavoro volontario con minori siriani



2. Perseguimento dei risultati attesi



Limiti e proposte per il futuro

1. Bisogno di monitoraggio costante => follow up a 6 – 12– 18 mesi di distanza
2. Necessario approfondimenti di alcune tematiche => formazioni successive su tematiche proposte dai volontari

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Imagining cultures of cooperation:
Universities networking to face the new development challenges

III CUCS Congress
Turin, 19-21 September 2013

University-NGOs partnership in formal education: the experience of CIVIC.A.S.

Francesco Mongera, Michela Bortoli: Training Centre for International Cooperation
Guido Zolezzi, Marco Bezzi: University of Trento - Department of Civil, Environmental and Mechanical Engineering

abstract

CIVIC.A.S. – Contesti Internazionali in eVoluzione e Cooperazione allo Sviluppo - is a 1 ECTS elective course jointly organized by the Unesco Chair at the University of Trento and the Training Centre for International Cooperation (TCIC). It represents a unique and innovative experience of collaboration between the academic and the NGO sector at national level. It aims at introducing the issues of international development in the first level of higher education, using the perspective of development cooperation. This is achieved through the integration of lectures on the social, economical and management dimensions of international development with pratical seminars held by NGO practitioners and academics who directly share their experience with the students.
CIVIC.A.S. is open to all undergraduate students of the University of Trento. After the 2010 pilot course, it has been offered once a year in two parallel tracks, separately offered by the Departments of Enginnering and Social Sciences, in order to reach the highest number of interested students and to have the opportunity to deal with issues of specific interest for different academic curricula. The course's design is yearly updated thanks to an adaptive process managed by a joint UNITN-TCIC working group.

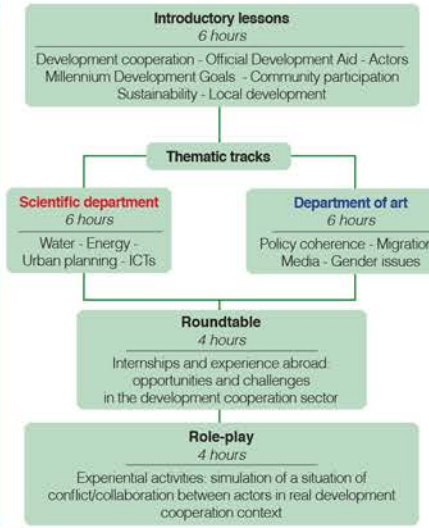
objectives

- To introduce development cooperation and promote a critical understanding of the interdependence which link North and South of the globe;
- To raise awareness among students on the connection between their personal and professional life and the development cooperation contexts.

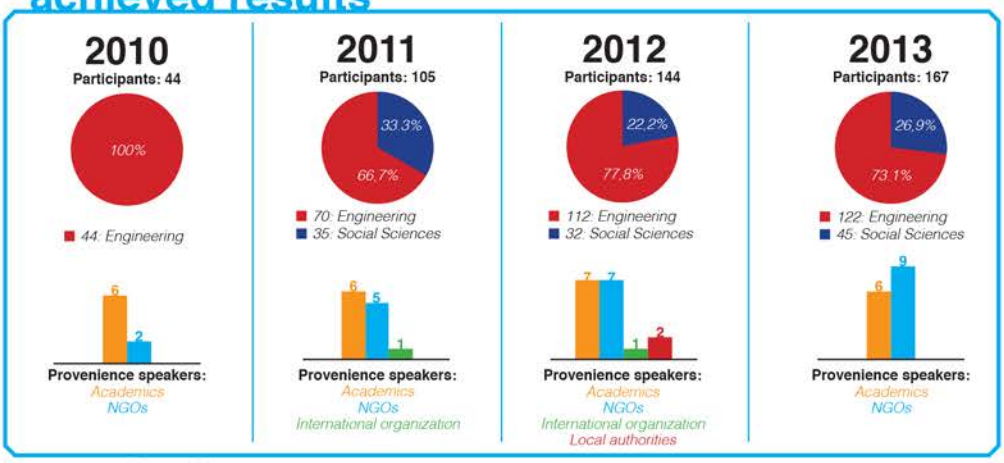
methodological approach

The presence of academics and practitioners allows an effective integration of theoretical contents with practical experience in development cooperation projects. The course integrates lectures with active learning methods, including classroom discussions, round tables and a role play:

- The role play is designed and implemented with a local NGO on the basis of a real project in the field
- The round table aims to inform students about requirements and opportunities to undertake practical experience in the development sector.



achieved results



conclusion

CIVIC.A.S. represents a pilot experience of NGO-University cooperation in the formal higher educational system in Italy. During its four consecutive editions it has been developed substantially. Its main outcomes so far are:

- Differences in learning styles and interests between students from technical and social curricula need to be taken into consideration for an effective course design;
- Active methods and field experiences presentations prove to be the most effective learning tools with students from technical studies;
- The academic committment to offer the course on an elective basis has actually opened the way to permanently establish a 1-ECTS opportunity in relation to topics such as sustainability, human development, discipline ethics;
- NGOs reach a not yet explored target in raising awareness and disseminating their practices in sustainable human development;
- A continuous joint work based on mutual interests between university and NGOs is a key requirement for the sustainability of this type of initiatives.

Training Centre for International Cooperation TCIC - Training Centre for International Cooperation - is an association whose mission is to enhance knowledge and skills of those involved in international development. Our main goal is to provide high quality training on international cooperation issues. Besides training, we are also engaged in research, information and awareness raising.

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www.tcic.eu

This project is financed by the European Union

Imagining cultures of cooperation:
Universities networking to face the new development challenges

III CUCS Congress
Turin, 19-21 September 2013

A wood in the San Salvario neighbourhood: A Photovoice Project

Valentina Noya
University of Turin; Department of Cultures, Politics and Society

This Photovoice project involved:

- telling a story through photos taken by each woman separately
- the photos being taken within the San Salvario neighbourhood
- each woman personally selecting 5 images
- collectively commenting on the chosen material (40 photos)
- holding an exhibition based on themes that emerged during the project

Abstract: The aim of this project is to present the evolving perceptions a group of female immigrants have of their neighbourhood, using Photovoice (PV) as a visual research tool. Madri di Quartiere ("Neighbourhood Mothers"), the first Italian project of its kind, involved **8 women from 7 countries** who live in Turin's San Salvario neighbourhood.

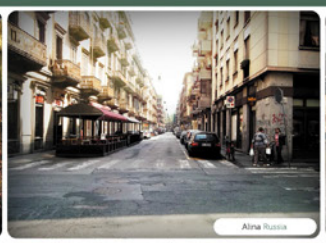
The neighbourhood is now facing the challenges of gentrification as a result of a transformation brought about by an urban renewal programme. The neighbourhood is a metaphor. Its spatial boundaries are open doors: the Valentino park, the river Po and Porta Nuova railway station.

San Salvario's residents – artists, young people and immigrants – are symbols of a change that continues undeterred in a country that is static. Immigrants and women are precious resources which remain untapped. They settle, put down roots and leave their mark on the areas in which they live. Whether they intend to be or not, they are active citizens and are often better at spotting potential than Italians.

Methodological approach The pre-PV phase involved participant observation, interviews, the collection of written autobiographies, mental maps of the San Salvario neighbourhood prepared by the 8 women taking part in the PV project and evaluation and monitoring of Madri di Quartiere project. PV is a visual research method which uses a participatory action strategy. What's different about it is that it offers a means to tell a personal and at the same time a collective story. I personally chose to give this PV project a strong narrative slant. The method makes use of the stillness and tangibility of an image to connect time and space, allowing careful observation through the links formed.

Achieved Results: The PV project showed that there is change going on in the San Salvario neighbourhood. The project expanded the women's sphere of participation and allowed an inner transformation, partly thanks to the knowledge the women gained as Neighbourhood Mothers - services, transport, community hubs. The photos show how the women have blended memories of their homelands into a life in Italy that is not always easy and yet is seen through the lens of hope and faith - places of worship, memories from Italy, the market, games, the childhood dimension, nature. The process of transformation is often depicted through images that show movement. The photos also show the importance of therapeutic landscapes like the welcoming, democratic and "natural" Valentino park.

Conclusion: The initial aim of my work with the women was simply to search together for something that existed "elsewhere" and to find meaningful links between the images they each chose independently. Individual deconstruction and collective reconstruction led to the creation of new meanings which emerged as a result of the innate maieutical approach to the methodological process I followed. One of the major achievements of this project has definitely been the strengthening of bonds between the women in the group. This acted as a catalyser and many of the women involved confirmed that our Photovoice project contributed greatly to the success of the Madri di Quartiere project.



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III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

UNIVERSITÀ DEGLI STUDI DI TRIESTE

Indo-Italian International School on "Use of e-infrastructures for advanced seismic hazard assessment in Indian Subcontinent"

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Abstract

Probabilistic methodologies for seismic hazard assessment, currently in use in several countries worldwide, turned out fatally inadequate for the most destructive recent events worldwide, like the earthquakes that struck Bhuj (Gujarat, India) in 2001 and, more recently, Bam (Iran, 2003), Boumerdes (Algeria, 2003), Wenchuan (China, 2008), Port-au-Prince (Haiti 2010) and Tohoku (Japan, 2011).

To address this problem, the International School on the "Use of e-infrastructures for advanced seismic hazard assessment in Indian subcontinent" has been organized at the Institute of Seismological Research (ISR) in Gujarat (India) in February 2013. The School aimed at training Indian geophysicist and engineers on the application of an innovative methodology that permits to evaluate the hazard from earthquakes and tsunami, based on the physical modeling of ground shaking from a wide set of possible earthquakes. This neo-deterministic approach to seismic hazard assessment (NDSHA) has been developed by the Seismology group at DMG - University of Trieste and by the ICTP - SAND Group, in the framework of a number of fruitful international collaborations, where visiting scientists actively contributed to develop and test this advanced methodology.

The School, attended by more than 40 participants and with an Indo-Italian faculty composed by experts in the fields of seismic hazard assessment and advanced computation, benefited from the financial support in the framework of the **Cooperation Agreement between the University of Trieste and ISR**, signed in 2011. The Agreement also provided the basis for an International **Cooperation Project, funded by the Friuli Venezia Giulia Region** (Italy), aimed at developing an integrated system, with high scientific and technological content, that will provide advanced information for seismic and tsunami risk mitigation in the Gujarat region.

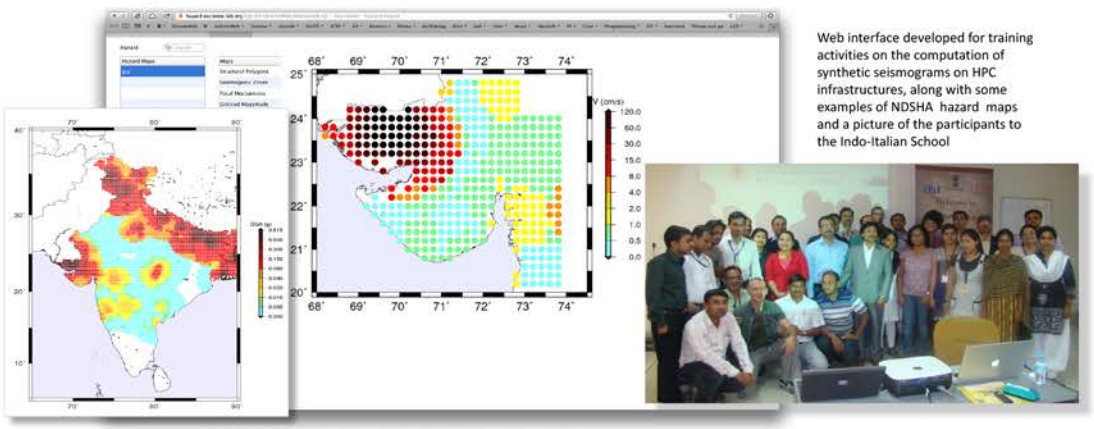
The International School represents a success story, where the University Cooperation Agreements provided the starting spark for a larger scale activity, eventually attracting external funds and allowing for the dissemination of researches developed at Trieste University.

The School

The School trained Indian geophysicists and engineers on the theoretical aspects of the neo-deterministic method for seismic hazard assessment, as well as on the web-based interface enabling participants the efficient computation of realistic synthetic seismograms, which may permit to deal with variety and complexity of the potential earthquake sources, and the implementation of parametric studies to characterize the related uncertainties. A brief review of the different seismological methodologies and of the e-infrastructures currently available to solve the seismological problems has been provided, discussing advantages and drawbacks for each of them. Besides theoretical lectures, the School had a major hands-on component, including computational exercises, Linux experience and training on the use of Grid and Cloud e-infrastructures for running the NDSHA codes, mainly developed at Trieste University.

Capacity building and societal relevance

The Cooperation Agreement between the University of Trieste and ISR, provided the basis for a wider indo-italian collaboration in seismic hazard assessment and significantly contributed to the international dissemination of the methodologies developed at DMG -Trieste University. The relevance of the cooperation, however, is not limited to the scientific community. Nowadays, in fact, it is well recognized by the engineering community that standard hazard indicator estimates (i.e. the peak seismic ground acceleration) alone are not sufficient for the adequate design, primarily for special infrastructures. NDSHA approach, on the other side, naturally supplies realistic time series of ground motion, which represent reliable estimates of seismic input readily applicable to seismic design. Thus, the overall goal of the collaboration activities is developing an integrated system, with high scientific and technological content, for a scenario based definition of ground shaking that will provide local authorities and engineers **advanced information for seismic risk mitigation, particularly effective for the protection of cultural heritage and the design of critical infrastructures**, also with the most advanced engineering tools, like seismic isolation.



Web interface developed for training activities on the computation of synthetic seismograms on HPC infrastructures, along with some examples of NDSHA hazard maps and a picture of the participants to the Indo-Italian School

Institute of Seismological Research ISR Gujarat, INDIA

CSIR Centre for Mathematical Modelling and Computer Simulation (C-MMACS)

The Abdus Salam International Centre for Theoretical Physics ICTP

DEMOCRITOS

REGIONE AUTONOMA FRIULI VENEZIA GIULIA

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L'osservazione: uno strumento di lavoro per gli educatori della prima infanzia.

Maria Nives Sala, Paola Molina
Università di Torino, Dipartimento di Psicologia

il progetto è stato realizzato grazie all'Agenzia Regionale per le Adozioni Internazionali
si ringrazia tutto il personale dell'Hôtel Maternel che ha collaborato per la realizzazione de progetto

Abstract

Nella città di Ouagadougou, in Burkina Faso, l'Hôtel Maternel accoglie bambini e giovani madri in situazioni di abbandono e di difficoltà; all'interno della struttura è organizzata una sezione per i bambini dalla nascita ai tre anni. In questa sezione le persone che si occupano dei bambini sono principalmente le assistantes maternelles che, organizzate su turni, trascorrono 24 ore su 24 con i bambini e l'educatore della sezione che trascorre alcune ore durante la giornata.

Si è ritenuto importante fornire all'equipe di lavoro della sezione degli strumenti di osservazione in grado di supportare la capacità di osservare lo sviluppo dei bambini nella prima infanzia. Infatti, tale capacità è ampiamente riconosciuta come una delle competenze di base della professionalità degli educatori, e rappresenta un primo passo nella costruzione di un progetto educativo che tenga conto delle differenze individuali di ogni bambino e che stimoli la comunicazione fra operatori rispetto al lavoro educativo con ogni singolo bambino.

Obiettivi

L'obiettivo del progetto è stato fornire un supporto all'attività dell'educatore ed alle assistantes maternelles le competenze osservative utili ad un'approfondita comprensione lo sviluppo cognitivo affettivo e sociale dei bambini di età compresa fra 0 e 3 anni presenti all'Hôtel Maternel.

Ciò è stato realizzato con l'intento di favorire lo sviluppo di progetti educativi individualizzati e la comunicazione fra operatori sia appartenenti alla stessa sezione sia di sezioni diverse, nonché la definizione di interventi di sostegno mirati nelle situazioni in cui si presenteranno indici di rischio.

L'obiettivo generale è stato raggiunto attraversi i seguenti obiettivi specifici:

•Acquisizione dello strumento QCSP per la comprensione dello sviluppo e per il monitoraggio del benessere emotivo del bambino.

•Adattamento dello strumento QCSP nel contesto culturale specifico, grazie alla collaborazione dell'equipe presente nella struttura.

•Sensibilizzazione degli operatori a riconoscere i primi segnali comunicativi dei bambini e a coglierne le evoluzioni durante lo sviluppo.

Approccio Metodologico

Il progetto si è svolto nelle seguenti fasi:

sono state condotte delle osservazioni nella sezione per conoscere le prassi e per raccogliere le proposte e le richieste delle assistantes maternelles ;

è stato proposto l'utilizzo di una griglia di supporto all'osservazione dello sviluppo nella prima infanzia, il QCSP, in quanto adatto al raggiungimento dell'obiettivo. Sono state valutate e discusse con le assistantes maternelles alcune parti della griglia da adattare al contesto di utilizzo;

l'equipe di lavoro ha condotto diverse osservazioni, una per ogni bambino della sezione;

i dati sono stati sintetizzati e restituiti all'equipe. In questa fase ha partecipato e contribuito anche un membro dell'equipe, che ha potuto così acquisire le competenze tecniche per poter continuare ad utilizzare la griglia osservativa

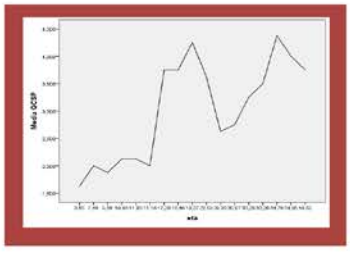
Il QCSP è stato pensato per rilevare le competenze comunicative che si sviluppano tipicamente nei bambini nella prima infanzia. Lo strumento rileva le principali modalità comunicative non verbali e l'emergere delle prime parole, proponendo una serie di comportamenti che il bambino può mettere in atto mentre interagisce con l'adulto, durante situazioni che il bambino vive quotidianamente.

Il QCSP valuta tre dimensioni cruciali della competenza comunicativa:

- **l'interazione sociale**: relativa a tutti quegli scambi interattivi in cui il focus di interesse non è tanto l'oggetto, quanto il fare qualcosa con un'altra persona (canzoncine, solletico, cucù, gioco di scambio, gioco simbolico, ecc.);
- **l'attenzione congiunta**, relativa a tutti gli scambi che hanno come scopo condividere un focus di attenzione su un evento o un oggetto con qualcun altro (indicare immagini, seguire lo sguardo dell'altro, ecc.);
- la **regolazione del comportamento**, relativa a tutti i comportamenti che hanno lo scopo di far fare qualcosa all'altro e ai comportamenti che il bambino mette in atto per rispondere alle richieste dell'adulto.

Inoltre, il QCSP permette di rilevare i diversi ruoli che il bambino ricopre nella comunicazione: il bambino può, infatti, **iniziare** una comunicazione ("usa un gesto per chiedere di far uscire un oggetto da una scatola"), **rispondere** alla comunicazione dell'adulto ("La guarda e fa segno di sì o di no con la testa se lei chiede se vuol continuare") o **mantenere** la comunicazione per più turni ("Se lei mostra col dito più immagini, guarda più immagini successivamente"). Infine, il QCSP valuta il **livello di complessità cognitiva**, da 1 a 5, che il bambino raggiunge nelle sue comunicazioni (Molina & Bulgarelli 2012).

Risultati



L'equipe è stata coinvolta nelle osservazioni e ha contribuito attivamente nella realizzazione del progetto talvolta avanzando proposte o curiosità personali. La scala QCSP è stata adattata al contesto specifico di riferimento. Successivamente sono stati compilati dall'equipe di lavoro 18 questionari, di cui 17 sono risultati validi che si riferiscono alla quasi totalità dei bambini ospitati nella sezione. L'età dei bambini osservati risulta compresa fra 4 e 50 mesi (media=21,38; ds=12,47) nel gruppo vi sono 10 maschi e 7 femmine.

I risultati presentati nel grafico e nella tabella, come previsto dallo strumento utilizzato, rivelano che con l'aumentare del'età, crescono i punteggi ottenuti.

età	Interazione Sociale M(ds)	Attenzione Congiunta M(ds)	Regolazione Comportamento M(ds)	Media M(ds)
1,00 n=7	2,47 (0,66)	1,71 (0,87)	2,64 (0,75)	2,21 (0,70)
2,00 n=4	3,83 (0,58)	3,00 (0,72)	4,00 (0,82)	3,56 (0,68)
3,00 n=6	4,06 (0,43)	2,93 (0,83)	3,80 (1,04)	3,57 (0,63)
Tot n=17	3,33 (0,91)	2,49 (1,01)	3,38 (1,01)	3,02 (0,93)

Conclusioni

Il progetto di ricerca ha permesso di costruire una buona alleanza di lavoro con l'equipe della sezione 0-3 dell'Hôtel Maternel. Il progetto, coinvolgendo in prima persona le nourrices ha permesso di valorizzare il loro lavoro. Durante la fase osservativa e nella compilazione delle griglie QCSP le assistantes maternelles si sono mostrate interessate e hanno mostrato interesse nel verificare quegli elementi della comunicazione con il bambino che venivano indicati nella griglia osservativa. Quest'ultimo elemento, insieme all'interesse dell'educatore che ha collaborato nello scoring e nella lettura dei risultati, rappresenta un incoraggiamento per il futuro utilizzo dello strumento come prassi valutativa della struttura.

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TRAINING ABROAD FOR RESIDENTS

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The Legislative Decree of 17 August 1999 no. 368 "Implementation of Directive 93/16/EEC relating to the free movement of doctors and mutual recognition of their diplomas, certificates and other documents and directives 97/50/EC, 98/21/EC, 98/63/EC and amending Directive 93/16/EEC, 99/46/CE" published in Official Gazette n. 250 of 23 October 1999 - Ordinary Supplement no. 187 Corrigendum OJ. 44 of 23 February 2000 at the article 46 comma 6 says that "As part of the collaboration between Italian universities and universities of foreign countries university teaching and integrated research and specialist training may also take place in health facilities of the aforementioned countries, in conformity to training program and medical staff on the recommendation of the school board, except as provided Article 12 of the Decree of the President of the Republic 10 March 1982 162"[1].

Clearly some schools are more suitable than others to training in least developed countries, namely those that do not require advanced technologies. Some experiences confirm that specialized training in international development is not only possible but fulfills the educational goals and favors professional growth coming from working in difficult conditions and with vulnerable patients.

Despite the presence of several projects proposed by health organizations and institutions working in low-income countries and responding to the requirements of specialized training abroad, students meet strong resistance by the school directors who should authorize the training. In the last few years the Board of Physicians of the province of Turin has agreed to promote this training activities both in the academic setting and in the development NGOs, because the period spent abroad is part of the educational course and does not interrupt its continuity.

CCM, Comitato Collaborazione Medica (Non Governmental Organization founded in 1968 by a group of doctors in order to promote the right to health) carries on development projects in Burundi, Ethiopia, Kenya, Mali, South Sudan and Somalia. All the projects include training of local professionals and of the community. CCM organizes information and awareness activities through courses of education in schools, campaigns focused on health topics, teaching courses for volunteers, aid workers and medical professionals. CCM underscores that the collaboration between NGOs and the University/Schools of Specialization has to be practical, use multiple competences, evaluate the feasibility of new projects and promote the cooperation of homologous subjects. The resident has the opportunity to know different realities, he may study a topic agreed upon by NGO and School of Specialization, teach the local staff specific subjects, perform medical activities related to his specialization and eventually communicate his experience to colleagues and teachers through his final dissertation.

CUAMM, the first health NGO recognized in Italy has conceived the Junior Project for residents. CUAMM works for the respect of the fundamental right to health and to make the access to health facilities available to all, including the populations living in isolated and far away areas. The agency offers the possibility of theoretical and practical trainings within a project of international development, where residents can increase their notions related to their specialization and may get ready to become involved and face the problems of international development and of global health in Italy. The project is open to residents in General Surgery, Obstetrics and Gynecology, Infectious Diseases, Internal Medicine, Pediatrics, Hygiene and Public Health.

COI (Cooperazione Odontoiatrica Internazionale) has been working for years to grant to right to oral health and to global health, and to reduce inequalities through interventions of sustainable international development. Presently it has projects in Africa, Asia and Europe and it has attained qualified experience to intervene in professional training and continuing education of local staff, prevention and education on general and oral health, creation of dental clinics and transfer of technologies suitable for humanitarian and conflict emergencies, restoration of health centers after conflicts or emergencies, provision of aid workers and volunteers for medical activities.

[1] *Article 12 - Establishment of graduate schools.* The establishment of graduate schools is arranged in the statutes of the university. Universities and Colleges may establish graduate schools responding to requirements of professional specificity, within the limits of availability of teaching and non-teaching staff, as well as adequate facilities and equipment, acquired partly as a result of agreements entered into with in university compliance order, necessary for the smooth conduct of the courses. The statutes of the university shall, in accordance with the provisions in article 3 above for each graduate school, the duration of the course of study, the list of compulsory subjects teaching, their distribution and the number of years in the introductory course, any indication of optional subjects, practical activities to be performed, the frequency mode of the at educational activities and practices, establishing as often as necessary to support the annual examinations and fine them, the determination of the degree required for admission, how to conduct examinations. For the purposes of the frequency and useful practical activities should be recognized on the basis of appropriate documentation, the activities carried out by the service facilities specializing in social and health-related specialization, or even abroad to the extent permitted by law February 9, 1979, n. 38, in cooperation with the countries of Italy in the developing world.

TRAINING ABROAD FOR RESIDENTS

Author: Giuseppe Costa, Direttore SCaDU Epidemiologia ASL TO3
Co-authors: Marilena Bertini (MD, president CCM Italia), Guido Giustetto (MD, vicepresident Board of Physicians and Dentists, Torino)

As part of the teaching and research integrated collaboration between Italian universities and Universities of foreign countries or of projects of international development, all the residents of the Faculty of Medicine are entitled to spend a maximum of 6 months in accredited or accreditable health facilities in least developed countries. Specialized training may also take place in health facilities of the aforementioned countries, without interrupting the educational program.

The resident has the opportunity to know different realities, perform medical activities related to his specialization, get ready to become involved and face the problems of international development and of global health in Italy, teach the local staff specific subjects, and eventually communicate his experience to colleagues and teachers through his final dissertation.

Usually these projects are born from the sensitivity and the initiative of single students or single schools of specialization. In Piedmont the institutions are trying to create a plan shared with the University and with agencies and associations dealing with international development and supervised by the Board of Physicians, that promotes all the medical activities in the field of international development through a Commission of Solidarity. The main hurdles are represented by the schools of specialization which often need the work of doctors in training and sometimes do not know how to recognize the minimal requirements of a development project to be accredited in the educational training of the school.

The lecture will illustrate the characteristics and the results of some such projects, will try to identify the critical elements for the success of the initiative and will discuss their meaning in the university policy.

MASTER IN TROPICAL SURGERY AND HUMANITARIAN EMERGENCY IN PARTNERSHIP WITH MSF: SURGICAL TRAINING IN LOW-INCOME COUNTRIES

Authors: E. Baggio, M. Lorenzini, A. Momoli, F. Mazzarella, M. Paini, T. Cappellari, A. Pea - Università degli Studi di Verona

The Master in tropical surgery and humanitarian emergency was activated in Verona in the academic year 2010/2011 in order to provide surgeons who want to work in developing countries or during humanitarian emergencies with the necessary theoretical and practical skills and organizational ability. Under the aforementioned circumstances a surgeon must be able to face a broad spectrum of emergencies, including not only general surgery but also obstetrical surgery, orthopedics, plastic surgery, pediatric surgery and urology.

The program of the Master has been developed by the coordinator of Doctors without Borders and its points are: safe surgery and safe anesthesia (WHO guidelines); basic radiologic and echographic diagnosis (ECHO fast-track); medical and surgical semeiotic elements; management of multiple traumas, open and closed chest and abdominal traumas, cranial traumas in the absence of imaging; management of obstetric and gynecologic emergencies with the indications to caesarean section, hysterectomy and related surgery; emergency catheterization and drainage; emergency orthopedics in children and adults; management of bone fractures (casts, traction, bone fixation nails, intramedullary); amputation; airways and tracheotomy; war surgery; blood transfusions and blood salvage; management of burns, plastic and reconstructive surgery; prophylaxis and treatment of sepsis and septic shock; antibiotics in tropical setting; nutrition before surgery; management of stress; informed consent; ethnic, cultural and religious aspects in the doctor-patient relationship; ALS (Advanced Life Support) e PALS (Pediatric Advanced Life Support) for the control and support of vital functions in adults and children in critical conditions.

The Master includes attendance of one of the three hospitals in Burundi for one month: the hospital of Mutoyi run by VISPE, Milano; the hospital of Kiremba, run by ASCOM, Legnago; the governmental hospital of Ngozi already hosting a nursery teaching program issued from the cooperation of the University of Verona with the small University of Ngozi.

Up to date we had 24 students in 3 years. Almost all already had a specialization. Of course most are general surgeons (16), then there are others specialized in obstetrics and gynecology (2), plastic surgery (2), urology (2), pediatric surgery (1), and neurosurgery (1).

The evaluating questionnaire distributed over the years allowed to modify some points of the program and to evaluate the degree of satisfaction which was good to excellent in 90% cases (insufficient - sufficient – average – good – excellent).

LOW-INCOME COUNTRIES DURING SURGICAL TRAINING: THE EXPERIENCE OF THE SCHOOLS OF SPECIALIZATION OF GENERAL SURGERY AND VASCULAR SURGERY OF VERONA

Authors: E. Baggio, G. Armatura, M. Moro, F. Panzeri, P. Criscenti, M. Tamburrino, C. Bassi - Università degli Studi di Verona

The schools of specialization in Italy, especially in surgical disciplines, have many problems: on one side the lack of educational standards required by European laws, on the other the poverty of experiences outside the school. Therefore often the idea of a "larger vision" is lost even if the law gives the possibility of an educational period of 18 months abroad. This possibility is understood by the Schools Councils as attendance of highly specialized structures in technologically advanced countries. Actually a part of the 18 months could be spent in low-income countries provided some requirements are met:

1. Safe environment
2. Presence of an expert surgeon tutoring the resident
3. Residency at third year or more

The experience of the School of specialization in General Surgery and Vascular Surgery of Verona began following a project of cooperation between the University of Verona and the one of Ngozi (Burundi) aimed at training nurses. The university of Ngozi was born from the will of the two ethnic groups after the civil war. Many professors from Verona contributed to the academic programs and later to practical training which was held in the regional public hospital and focused on surgery with the further scope to train the local surgeons. A network was created which included two more Italian hospitals: the hospital of Mutoyi run by VISPE, Milano, the hospital of Kiremba, run by ASCOM, Legnago. Unlike the hospital in Ngozi, in the other two hospitals the presence of a tutoring surgeon was granted. Most internships took place after 2008, when the country was safe and peace among the different groups had been reached.

To date the residents who took advantage of a stay in Burundi are 11: 7 women (63%) and 4 men (36%). Most were residents in their third year for both specializations. Results are twofold: first, the resident increases the spectrum of his/her expertise because surgery in low-income countries has a wider meaning and includes obstetrics, orthopedics, plastic surgery, pediatric surgery and urology; second, he/she experiences the value of solidarity and the reality of international development. In a globalized world the experience in a developing country helps the resident to become a different person and a different doctor.

HUMANITARIAN MEDICINE: A NOVEL EDUCATIONAL PROGRAM FOR HUMANITARIAN WORKERS IN ANESTHESIOLOGY AND INTENSIVE CARE

Author: Luca Ragazzoni, Education Manager, Program Disaster SISM

In the last few years the international attention for a more professional approach of humanitarian care has increased. Independently of specific competence, health professionals have to acquire a global understanding of the humanitarian sector. The involvement in international conventions in low-income countries is considered by the literature as a novel strategy to create projects in poor settings. Yet, in order to meet both the requirements of academic education and humanitarian needs, international internships have to be properly designed and integrated into the residency. The Centre of Research in Emergency and Disaster Medicine (CRIMEDIM) of Università del Piemonte Orientale wants to develop an educational program for residents in anesthesiology and intensive care focused on humanitarian and disaster situations. The program implies the collaboration with different Italian NGOs and the active participation of internationally recognized academic and non academic organizations. The program has the scope to create health professionals adequate to participate in humanitarian international programs requiring advanced skills in anesthesiology and intensive care and a basic knowledge of tropical medicine, mothers and children health, public health during emergencies and catastrophes.

The method is based on self-learning, distance learning, virtual simulation, internships, training and field education.

The program lasts 7 months subdivided into 9 weeks of distance learning, 2 weeks of internship in pediatric emergencies, 1 week residential workshop and 4 months of field training.

GLOBAL HEALTH GOVERNANCE, HEALTHY SYSTEMS AND DEVELOPMENT COOPERATION

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Universities, as key institutions aiming at social change and development, serve not only as centres of production, reproduction and implementation of scientific knowledge. They are also integral part of the society in which they work and with which they entertain, more or less explicitly, a 'social contract' governing their mutual relations [1].

In recent years, universities have taken on an increasingly important role in international development cooperation leading to the proliferation of different social actors who offer international assistance ostensibly towards a fairer world through a process of human and sustainable development. In the health field we have gone from a situation where only a few specialized organizations such as the World Health Organization, selected international NGOs and few other UN agencies were devoted to the task, to one in which many other institutions, including private foundations, “philanthro-capitalists”, corporations as well as social groups have begun to implement or support development cooperation programs and projects in various health and health-related fields in different countries. This has given rise to a great diversity in cooperative as well as divisive efforts, working methods, and also among the specific objectives of the various projects and programs. In this context, it is not surprising that contradictions and problems have arisen in the way development cooperation, in general and particularly in health, is understood and applied into practice.

University’s international cooperation for health development consists of all the activities of the university community that are aimed at social transformation particularly in the most disadvantaged countries, transformation in which institutional and academic growth has an important role. It is implemented through partnerships and agreements (teaching / research / capacity building-institutional strengthening) with academic or other institutions from countries in the developing / low and middle income countries. Global Health is an emerging area for interdisciplinary studies, research and practice that considers the effects of globalization on health, and the achievement of equity in health for all people worldwide, emphasizing transnational health issues, determinants and solutions, and their interactions with national and local systems [2]. Clearly the field of global health extends beyond development cooperation, understood as policies and programmes aiming at improving life conditions in poor resource settings and countries through international and transnational (i.e. involving actors beyond nation-states) collaboration. Global health is, indeed, totally embedded in the wider horizon of cooperation among all countries to further peace, full respect of human rights and quality of life on a planetary scale.

In this sense, international cooperation plays a fundamental role in the worldwide promotion of the right to health and to ensure an adequate control of social determinants of health. International cooperation is undoubtedly an essential factor for both global governance “of” and “for” health agenda. Whereby “for” health refers to the need of including health priorities and concerns in negotiations and policy-making in arenas traditionally outside the health sector and the domain of health authorities, such as trade or education. In addition, governance complexity has grown as a consequence of the emerging in the last decade of new trans-national actors, which have substantially modified the power balances and global decision-making processes related to health.

The complex scenario described above requires the education of a new class of professionals - not only of those with a background in health sciences - capable of measuring the consequences on health of their decisions and activity, and equipped with the appropriated multidisciplinary knowledge, skills and motivation to act “for” health. Undoubtedly preparing this kind of future professionals is a fundamental role of the University, and should be an absolute priority for medical schools. Instead, especially the latter, at least in Italy, seem rigidly blocked on the prevalence of traditional biomedical curricula [3][4].

Development in health, understood as action to improve health condition world wide, is strictly connected to the described global and interdisciplinary dimensions, including when prioritizing populations in highest need. Instead, too often global health tends to be used exclusively to mean technical assistance in the provision of health services in poorer areas of the world. Without a clear understanding of the links between health and social determinants, and their transnational dimensions, and without a thorough appreciation of how health systems work, those health services might not only prove inadequate and unsustainable, but also contribute to further fragment and disrupt already weak national

health systems.

Thus, development cooperation in health cannot be separated from the wider global health framework. A dimension that has been introduced in the guidelines published in 2009 by the Italian Ministry of Foreign Affairs, Directorate general for Development Cooperation. The document, titled "Global Health: Guiding Principles of Italian Development Cooperation", aimed at "guiding health programmes of the Italian Development Cooperation, toward the strengthening of complementarity and consistency of the Italian cooperation system and to promote the alignment of official development aid policies to the policies of partners countries, as well as their harmonization with those of other donors and specifically of the European Union" [5].

In that document two leading questions are of specific relevance for the University: "Partnerships and frameworks to enhance cooperation", and "The link between knowledge and power within the processes of local and global development" [5]. Papers in this section touch upon the role and experience of universities in deepening the understanding and the practical application of those guiding principles (the fight against poverty and inequalities, universal and equitable access to health services, strengthening national health systems, participation of the communities, international partnership in scientific research and education, aid effectiveness).

Italian universities may pursue this objective through research activities, appropriate interdisciplinary and intercultural training paths, and providing adequate know-how and technology, including interacting with competent public institutions and civil society organizations in support of targeted initiatives of education, information, prevention and control.

The shortage of health workforce in resource-poor countries is one of the critical challenges to access to care. Cooperation between the Universities in the rich North and those in the poor South of the planet can play an important role in improving the local response to training needs. However a balanced relationship among partnering institutions, careful consideration of cultural, social and economic factors, and prioritization of local needs are paramount for a successful collaboration. Approaches such as distant learning, courses leading to double degrees or international accreditation, and proper accountability measures, may prove additional co-factors of success [6].

Framing health as a universal human right and recognizing equity as a fundamental principle in global health, and therefore in development cooperation, implies reaffirming the "health for all" goal and the Alma Ata Declaration (1978) emphasizing Primary Health Care as the most appropriate strategy to reach that goal with universal access to essential drugs as one of the core objectives. Today, the increasing diffusion of counterfeits further challenges the provision of effective care to populations in need. Again, a possible answer may come from increased local capability. Defining the quantitative dimension of the problem and training health professionals to enable local health institutions to locally produce essential drugs according to their needs is another example of the role that University may play in development cooperation [7].

More and more development cooperation involve multiple stakeholders in various forms of networks and partnerships, and harmonization and coordination become vital elements for effectiveness. As part of the autonomy constitutionally granted to Italian Regions, most of them have adopted regional laws providing both for financing and management of their development cooperation activities. The Tuscany Region was the first in establishing also a Global Health Centre aiming at facilitating the partnership and coordination among regional stakeholders involved in international health cooperation projects supported by the Tuscany Region. University is an important component of that partnership [8].

Universities can also be on the receiving side of their relation with international health development cooperation. Cooperating with countries in the developing world provides a fundamental contribution to the process of growth of the university wishing to gain a global perspective. The exposure of staff and students to international health cooperation activities enables them to appreciate the diversity, resisting discrimination, and contribute to the efforts aiming at improving society as a whole. Universities must also be able not only to adequately prepare young people seeking to enter the world of health development cooperation as competent and sensible professionals but as well to provide students and faculty with the adequate analytical framework and methodological tools. The aim should be to reaffirm health as a fundamental human right and a resource of the community, to address the power relations between the medical profession and the community as a determinant of health and to engage in working practices for addressing them. Adopting in the process a self-reflective approach, universities genuinely committed to advancing the right to health may invest in developing innovative methods and opening participatory, horizontal academic workspaces where research and teaching are viewed as tools for social change and health promotion. The main problems that are likely to be encountered in this process may be related to the traditional, conservative attitude of medical faculties confronted with the need for change, the difficulty of health professionals to address the issue of power relations and the trouble experienced by physicians in accepting multi-methodological approaches and working in multi-disciplinary teams [1].

The participation of universities in international health development cooperation is based on the vision of it as a process of progress and social, economic, political, cultural, and technological change which, emerging from the collective will, requires the organization and the participatory, democratic use of power by members of a group. Popular education in general, and in particular higher education, is an essential component of the process of expanding opportunities for freedom for people and societies. As a result, strengthening the university system and promoting access the higher education are essential objectives of universities in international development cooperation.

Similarly, a goal of health development co-operation for the University is to work together to try and resolve the difficulties and contradictions related to the fight against poverty and development processes, through the promotion of research in fields related to these goals, i.e. the social and political determinants of health such as equity, environmental sustainability, peace, and quality of life, within a conceptual framework of human rights and social justice.

To avoid focussing exclusively on knowledge and technology transfer or on philanthropic “doing good” rhetoric, international development cooperation for health should translate into a meaningful strategy whereby universities commit themselves to a bold process of "deconstruction" of the many clichés and stereotypes which make up the current, conventional "underdevelopment" and "development aid" discourse. Universities have a clear and, obviously, "universal" mandate to bring the world, in all its cultural and physical diversity, to their students and other constituents. Educational programmes and research should provide an introduction to the complex global context. These activities, together with the possibility of international experiences, help to prepare students for active participation in the economy and global society.

From such a perspective, the role of international health development cooperation for the university cannot be regarded simply as one of the functions within a generic process of international co-operation between the University of the North and South of the world or a sort of exotic appendix mostly intended as flagship projects meant to embellish academic institutions. Universities adopting a development cooperation approach in its fullest meaning, especially in the global health field, should instead aim at enriching humanly and academically the people who participate in this effort and the structures that compose it. Cooperation and selfless commitment to solidarity, human rights and social justice should be their powerful hallmarks.

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THE ROLE OF THE UNIVERSITY IN THE GLOBAL HEALTH STRATEGIES OF THE ITALIAN DEVELOPMENT COOPERATION

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ABSTRACT

How is globalization affecting the determinants of health, health care systems and the ethos and practice of medicine? What are the effects of global governance "of" and "for" health and how do new international actors and transnational development cooperation impact on the balance of power and global decision-making? In particular, what role should Italian universities play to have some relevance on the new global context? Answering these crucial questions means raising the issue of the social responsibility of the University as an institution, and not just of the School of Medicine. The process of internationalization of Italian academic institutions provides the chance to (re)-discover from a global perspective the ethical and social motivations that are at the foundation of health professionals' education. It is also an opportunity to emphasize the importance of "global citizenship", promoting equity and the right to health, the central themes of the new paradigm of Global Health. The document of the Directorate General for Development Cooperation (DGCS), "Global Health: Guiding Principles for the Italian Cooperation (2009)", although not free from internal institutional contradictions, provides important insights into the University's mission to combine production and reproduction of knowledge with the moral duty to strengthen the ownership and capacities of vulnerable populations in identifying their health needs and assessing the quality of services, according to an approach that encourages the participation of communities in the protection their own health. In this sense, it is essential to support the crucial process of transformation of practices and everyday interactions between individuals, inside and outside the University.

INTRODUCTION

The idea of globalization evokes cross-border flows of people, goods, ideas, values, knowledge, technology and money leading to a highly interconnected and interdependent world. Globalization is a multidimensional process, with multiple and diverse effects (economic, social, cultural, political, technological and environmental) on individual countries and population groups, demanding responses requiring the engagement of multiple sectors, including health.

The term "Global Health" is rightfully part of the contemporary scientific discourse, extending beyond that of International Health, that merely refers to health issues in bilateral or multilateral relations among countries, focuses on health issues of, and interventions in countries other than one's own, especially those of low-income and middle-income, and embraces a few disciplines but with no attention to multi-disciplinarity. [1]

Global Health emphasizes the new transnational dimension of the several geopolitical factors that affect the determinants of health, as well as the strategies needed to cope with the new, emerging challenges. [2] National borders, in fact, do not constitute a significant barrier to the spread of diseases and their determinants, and they no longer represent the only spatial and cultural boundary for the development of health policies, [3] nor these can alone take into account the complex interaction of social, economical and environmental determinants of health. To understand the determinants of health and develop adequate responses requires full awareness of the global forces that impact on health and its distribution within and between countries, of how societies respond to health needs and of how different cultures more generally perceive and define health and disease.

WHY GLOBAL HEALTH IN HIGHER EDUCATION?

Thus, higher education aiming at preparing human resources capable of adequately responding to today's and future health needs must take responsibility for the mandate to create professionals with the human quality and a broad range of professional competences (knowledge, expertise and attitude) required to face the challenges of globalization, its impact on human health and on global, national and local health systems. Due to the multicultural nature of modern societies, the increase of economic refugees and victims of violence, the growing healthcare demand created by the

expanding international tourism, and the health consequences of demographic, environmental, technological and socio-economic changes, among others, health professionals are more and more confronted with different cultures and patients coming from other parts of the world, are involved in various forms of multi-centric research, are employed in companies, intergovernmental or international non-governmental organizations, international development programs or are expected to give expert inputs into disputes about global development issues. Similarly, experts from other disciplines increasingly contribute to decision-making in forums outside the health sector, which nevertheless have considerable impact on health, such as economic, social and environmental national and international institutions, and transnational private, public and hybrid networks. All these professionals do have the option, together with health professionals, to engage themselves for health.

Besides the need to update content and teaching methods, further concern is gradually emerging about the danger that health professionals might lose sight of their primary objectives and fundamental values. [4] The financial, legal and political issues introduced by the neo-liberal, pro-market health sector reforms are, in fact, likely to divert medical education from its original mission. Over a decade ago the American Association of Medical Colleges took note of the vital need to acknowledge and nurture the social contract that exists between medical schools and the community they are expected to serve. Central part of this agreement is to train students to become socially responsible professionals, i.e. people who, aware of their responsibility towards human society, are prepared to willingly take part in activities that contribute to the welfare, health and prosperity of a community and its members. [5] The ethical commitment cannot be limited to one category of professionals, though. More and more, as we highlighted above, many professionals outside a strictly defined health-sector are increasingly responsible for health-related issues locally, nationally and globally. Recent studies and empirical investigations have shown a robust association between inequities and unsatisfactory health trends, and the process of globalization led by neoliberal economic policies, beyond the mere consequences of health sector reforms. [6] Such a global scenario requires that students be engaged in a wide range of disciplines that reflect the values and the social mission orienting their professional future. Thus, global health teaching should also entail an ethical commitment to educate future professionals to social justice and to their active commitment in correcting the global processes at the root of human suffering and health inequities. [7]

From the dread of the HIV/AIDS pandemic to the dispute on the access to essential medicines and to basic health services provoked by the World Trade Organization, [8] in order to create this type of professional the traditional curriculum oriented to our domestic health problems is obviously not enough. It is instead essential to consider how socio-economic, cultural and environmental factors transnationally affect people's health and facilitate our understanding of how the global burden of disease differs from one country to another and within the same country. Moreover, the study of health policies and health systems at the international level is essential to build the conceptual framework needed to address the multiple and complex interconnections of the determinants of health. All this is what gives significance to the term "Global Health".

GLOBAL HEALTH AND THE INTERNATIONALIZATION OF THE UNIVERSITY

There is widespread interest for the internationalization of our universities. What does this mean and how does it relate to the process of globalization and the changing context described above? [9] For some, [10] the concept of internationalization refers to the response needed to cope with the profound changes brought about by globalization. This requires a better understanding of the diversity of social, cultural, ideological and political issues affecting today's globalized world.

According to Knight [11] the internationalization of an academic institution is "the process of integrating an international, intercultural or global dimension into the purpose, functions [research, teaching and services] or delivery of higher education at the institutional and national levels." The international approach of a University includes both cross-border and campus-based initiatives. The first type, "internationalization abroad", relates to academic staff mobility through exchanges, field works, sabbaticals, recruitment of international students, joint degree programmes, and international development agreements. The second type, "internal internationalization", is the introduction of an international and intercultural dimension into the teaching and research process "at home". To do this, we need reforms geared towards a curriculum that prepares students to develop international awareness and intercultural skills through appropriate educational programmes, innovative methods of learning, extra-curricular activities, activation of relationships with local ethnic and cultural groups, including the inclusion of foreign students and teachers in the internal life of the host University.

The idea of internationalization of higher education can also be an expression of different worldviews. On the one hand, internationalization can be understood as the institutional process by which the University can compete on a global level in the training market. Another way to see internationalization is as an example of global cooperation and international and intercultural sharing in an ideal "global village". A third model aims at social transformation through a critical analysis that rejects the supremacy of the market and recognizes the reality of marginalized groups produced by the neo-liberal globalization. In this model of internationalization, research and training, guided by the principles of reciprocity, mutual exchange and global partnerships, lead to increase awareness of the inequalities between and within nations. [12] Regardless of individual preferences, the very existence of these different models is an expression of the fact that universities are values-based organizations and, as such, can facilitate a transformation of the social order. On

the other hand, the choice of the model has evidently great importance and raises the question of the social responsibility of the University.

UNIVERSITIES AND SOCIAL RESPONSIBILITY

In fact, in the recent years an increasing number of universities around the world, and in particular their Medical Schools, have been developing a critical reflection on their "raison d'être", the relevance of their programmes and their impact on health systems and population health needs. In other words, they are becoming aware of their responsibilities towards society. [13] The World Health Organization (WHO) defines Corporate Social Responsibility of the Schools of Medicine as "the obligation to direct their education, research and service activities toward addressing the priority health concerns of the community, region and / or nation that have the mandate to serve." [14]

Internationalizing health professionals' education means putting in place strategies and institutional actions aimed at creating graduates able to effectively perform their profession in a society constantly changing, equipped with the right expertise in a wide range of general areas, including "global citizenship". [15] The College of Medicine, University of Saskatchewan, Canada, interprets internationalization as "a reciprocal process, where communities and institutions at local and international level tend to share ideas and knowledge and to learn from experiences, cultures and the search for the other." [16] The final product of such an educational orientation is the development of a "global perspective". In this sense, investing on the internationalization of the University can be a useful mechanism to make social motivation and humanitarian purposes (re)-emerge after a long, dormant period and, perhaps, undermine the inertia and resistance to change typical of the academia.

Moreover, the concept of internationalization *of*, and *for* health professionals' education has no doubt a political significance. Teachers in the health field bear additional responsibilities to address the harmful health effects of the growing socio-economic inequalities and unequal distribution of determinants of health, the relentless movement of masses of migrants, the commodification of health by free-market ideology, the new configuration of global health governance whereby undemocratic supranational institutions and questionable philanthropic capitalists erode the leadership of intergovernmental organizations, such as the WHO, the only formally mandated and most qualified agency to protect the health of the planet. The impact that these changes have on human health and health inequalities is documented by an extensive and authoritative scientific literature [17][18] and calls into question the social role of the entire University.

GLOBAL HEALTH AND DEVELOPMENT COOPERATION

An important component of training in Global Health is related to the appraisal and critical analysis of issues related to organizations, ways and means of international health development cooperation with countries and people in the most disadvantaged socio-economic conditions. As social justice is the foundation of public health, [19] the main reason for the inclusion of this subject in the educational process of future health-related professionals is their moral obligation to deal with unmet needs and health inequities including the health gap between the poor and rich countries.

"A child born in a Glasgow, Scotland suburb can expect a life 28 years shorter than another living only 13 km away. A girl in Lesotho is likely to live 42 years less than another in Japan. In Sweden, the risk of a woman dying during pregnancy and childbirth is 1 in 17.400; in Afghanistan, the odds are 1 in 8. Biology does not explain any of this. Instead, the differences between - and within - countries result from the social environment where people are born, live, grow, work and age." [20] The first step towards a solution of these problems is an increased awareness that comes from adequate information and training. A further reason for exposure and involvement in these issues lies in the competence and sensitivity for which the student is enhanced to appreciate the diversity and combat prejudice, analyse the change and the forces that shape society, and the increased capacity to operate in a varied range of circumstances. [21]

Increasingly universities include in their programmes stages and experiences of variable length with partner institutions in disadvantaged countries and limited resources settings. Benefits that students can enjoy at individual level by interacting with situations of poverty, exclusion and social injustice cannot be underestimated. In Canada, young people who have taken courses in global health are reported as having learned to think in an innovative way and acquired a greater enthusiasm for medical studies. [22] Training and experience in the field of international health, if properly framed in a more comprehensive understanding of Global Health, also promote knowledge and behaviours in support of the values of diversity and social justice, the importance of a cross-sectoral and interdisciplinary approach to health, the inter-relationship between health and human rights and the impact of socioeconomic inequalities on individual health and population: quite a powerful set of tools *for* health care providers in a multicultural and socially stratified society as the one we are living in.

Encouraging people to "field experiences" leads to another important advantage: doctors, nurses, and other professionals and academic staff who have practiced in poor countries and disadvantaged circumstances, or have made first hand experience with similar themes, are much more inclined to work in primary care, general and preventive medicine, and health promotion. Having appreciated what it means to assist people in extreme need leads in general to

also continue this type of activity once back in the country of origin. [23] However, in extending overseas experience in "Northern" training programmes, it will be important that such experience is not gained at the expense of already overstretched training programmes in low-income countries' partner institutions. Such posts will need to be properly resourced and should ideally be part of broader capacity strengthening relationships between partner institutions including, where appropriate, the possibility of reciprocal experience for overseas trainees. [24]

In a global health education perspective, however, the overseas experience needs to be part of a wider analysis and understanding of the macro-political and economic environment, including the global aid architecture and power relations among international and transnational actors, together with their influence in determining the priorities of global initiatives. It has been argued, for example, that international health cooperation with poor countries may also be a factor in strengthening national security in the global North countries by limiting both the prospect of conflicts [25] and the increasing migratory movement. [26] Not to mention the positive, though perhaps deceptive, effect on the prestige and stature of more magnanimous international donors. However, such considerations suffer of a rather mono-cultural (western) outlook and do not take into consideration the considerable changes of global (and specifically health-related) governance and the increasing complexity of relations brought about by the astounding mushrooming of new private actors, global initiatives and public-private partnerships, the growing role of emerging countries, and new approaches to international cooperation. This calls for an extra responsibility of the University in the fulfilment of its double mandate of education and research.

In this regard, focusing on our own domestic context, what is the role of the University in the Global Health strategies of the Italian development cooperation?

THE ROLE OF THE UNIVERSITY IN THE GLOBAL HEALTH STRATEGIES OF THE ITALIAN DEVELOPMENT COOPERATION

In 2009 the twenty year-old Italian Development Cooperation for Health (DCH) guiding principles [27] were reviewed and reformulated through a participatory process involving experts from a range of public and private institutions, including from five Italian universities (Università Bocconi, Università di Bologna, Università di Firenze, Università "La Sapienza" di Roma, Università "L'Orientale" di Napoli). [28]

The 1989 principles reflected both the Alma-Ata Declaration and the National Health Service (Servizio Sanitario Nazionale - SSN) approach to providing health for all, including equitable distribution and access to health resources, emphasis on prevention, community participation, technological appropriateness, inter-sectorality, promotion of local self-sufficiency, and support to the development of local health systems. [27]

In line with these principles and its integrated approach to health and development, the new guidelines titled "Global Health: Guiding Principles for the Italian Cooperation" (hereafter "the Guidelines") insisted on a holistic approach to health as part of wider poverty reduction strategies, strengthening health systems, universal and equitable access, and aid effectiveness for global health, including the need to align global health initiatives with national systems. [28] Although not free from internal institutional contradictions, the 2009 Guidelines provide important insights into the University's mission to combine production and reproduction of knowledge with the moral duty to strengthen the ownership and capacities of vulnerable populations in identifying their health needs and assessing the quality of services, according to an approach that encourages the participation of communities in the protection their own health.

From the preface, the document frames DCH in the wider context of "health as universal human right" and "an essential condition for poverty reduction and socio-economic development". It stresses the complexity of the health sector, which requires interaction with other sectors of development and indicates the primary responsibility of health systems in granting the quality of population's health and its level of equity and protection, deriving from their function of social institutions in the context of "the contract between the State and the citizen". Indeed, the system approach continues to orient the discourse of the Italian Cooperation in Health (and in other sectors), while contradictions arise when the Italian contribution to DCH in the multilateral system is identified with participation in Global Health Initiatives[1] characterized by their vertical mono- or pauci-thematic approach, contributing to fragmentation and contrasting the internationally shared call to ownership, alignment, and harmonization of development aid.

Box 1 - Guiding principles of the Italian Development Cooperation in Global Health

- Reference framework.
- Fight against poverty and socio-economic inequalities: social determinants of health.
- Universal and equitable access to health services.
- National health systems; Community participation.
- Scientific research, knowledge networks and cultural promotion.
- Natural and human made disasters.
- Development aid effectiveness for global health.

[1] Global Poliomielitis Eradication Initiative - GPEI; the Global Fund to fight against HIV/Aids, Tuberculosis and Malaria - GFATM; Global Alliance for Vaccines and Immunizations - GAVI; International Financing Facility fro Immunizations - IFFIm; Advanced Market Commitment - AMC.

The Guidelines are organized around a general framework and seven themes (Box 1), including “Scientific research, knowledge networks and cultural promotion” of particular relevance to the University's role. The guiding principle of this theme is the promotion of international partnership for research and training “among peer institutions and actors, or carriers of different knowledge” where ‘different’ is to be understood as ‘unconventional’. To that purpose the identified lines of activity are: a) operational research programs that should involve local community and health personnel participation; b) the strengthening of the partner countries' scientific research capacity, including through increasing the expenditure in research related to health problems affecting the poor; c) the research of new drugs and vaccines, identifying the priorities based on health needs and granting access of developed products to partner countries' populations; d) the assessment of health technologies and on health systems capable to promote effective policies and practices. It is striking to note that no activity line is dedicated to higher education and training in health, despite training being mentioned in the guiding principle. In this regard, it might be important to explore whether this conspicuous omission does simply denote a material error or instead it reflects a conscious underestimation of a real need.

In addition, it is interesting to note that the Italian Development Cooperation Law (n.49/87) [29] does not foresee the possibility to finance research projects, but only projects aimed at “the transferral of appropriate technologies” to developing countries. This represents a substantial difference with other donors (such as UK, Sweden or Spain) that do allow their aid agencies to finance development-related research conducted by their own research institutions. In that sense, it could be argued that research mentioned in c) should not be financed through official development aid regulated by Law n.49/87. Indeed, Italian participation in innovative financial mechanisms such as the AMC (Advance Market Commitment), specifically aimed at financing research mostly led by the private industry in technologically and economically most advanced countries, would seem extending beyond the limits allowed by Law n.49/87.

However, the role of the University necessarily extends beyond the promotion and support of research in developing countries. As the primary source of education of human resources that will feed the development cooperation system, as well as the privileged place for research, the University may play a fundamental role in linking its educational and scientific activities to increase, on the one hand, the capacity of the Italian development cooperation system to respond to the needs of global health and accomplish the principles it adopted to respond to those needs. On the other hand, it may contribute in linking that effort to collaborative activities with peer institutions in partner countries aiming at developing local capacity.

The role that the Guidelines attribute to social determinants, health systems and equity reflect the characteristics of the Italian approach to health (as a fundamental Constitutional right embodied in its universalistic National Health Service, etc.) in the wider context of international agreements, conventions and other documents mentioned in the general framework of the guidelines. Thus, one would imagine that those same principles are already integrated in the teaching program of Italian medical schools. Unfortunately this is not the case. Besides a few general concepts presented during the course of Hygiene and Public Health, Italian medical and other health sciences students are rarely exposed to these principles and approach during their undergraduate studies, and, unless they chose to follow postgraduate courses in Public Health or related disciplines, they may enter the profession without or with minimal knowledge of the principles on which the whole system is based.

Moreover, principles such as those listed under the sections “Fight against poverty and socio-economic inequalities” or “Community participation” are even more distant from the still prevailing bio-medical approach of Italian medical schools, where interdisciplinary exposure is totally missing. Providing future health professionals with the competences such as those necessary to adopt “integrated approaches that may act on education, nutrition, housing and working conditions, and on the environment”, or to correctly act for “a more equitable distribution of power, money and resources” with an inter-sectoral vision, or to empower communities through their “involvement in the evaluation, management, and communication of environmental and working risks”, or to operate in different cultural contexts “valuing traditional practices and interpretations of health problems”, requires a deep rethinking of today's programmes and pedagogic approach of medical schools, and in general of a University system which largely lacks flexibility and dynamism.

It should be added that the Guidelines refer to the need to strengthen the complementarity and the consistency of the Italian Development Cooperation “system”, which however does not fit into the legal and organizational framework set by the law 49/87 more than 25 years ago. At that time, in fact, Italian policymakers did not foresee the increasingly diverse and rather fragmented initiatives that public institutions and private organizations would have introduced in the field of international cooperation, and whose reform is long overdue.

CONCLUSIONS

The acceleration of the globalization process and the dominance of the neoliberal model have deeply influenced population's health and the way national health systems interact in the wider global health system. Traditional actors and approaches to development cooperation are confronted with deep changes in the aid architecture and in the balance of power in global decision-making, as well as with substantial transformations in the way actors operate and interact at the national and local level. More and more health professionals need to develop new competences involving knowledge derived from non-medical disciplines, while professionals with different disciplinary background need to

complement their skills with knowledge and expertise enabling them to act *for* health.

In this context the University needs to reflect on, and eventually redefine its social responsibility, and with it its ethical framework, methodological approach and content of the educational project. In essence, in globalized times the basic profile of health and *for* health professionals operating in a national health system does not substantially differ from that of their peers engaging in the global arena or specifically in development cooperation settings.

The Global Health Guidelines that Italy has adopted, and that ought to inspire the entire national development cooperation system, show some internal contradictions but may offer an inspiring contribution to the redefinition of the curriculum of medical schools and other University departments whose graduates, whatever their discipline, will predictably play a role in influencing health determinants. Indeed, although individual experts from a number of universities contributed to the formulation of the Guidelines, the Italian University, and specifically the Medical Schools, do not respond to the needs of human resources that those guidelines envisage. Thus, a process should be promoted aiming not only at increasing the offer of optional courses in Global Health to students in all faculties, but also at mainstreaming Global Health issues in the educational experience of future health professionals.

NOMENCLATURE

DCH	Development Cooperation in Health

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GLOBAL HEALTH EDUCATION AND THE GROWING NEED FOR POLICY-MAKING AND MANAGEMENT TRAINING OF FUTURE HEALTH-RELEVANT PROFESSIONALS

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ABSTRACT

Global health and *for* health governance have been increasingly recognized as key elements of sustainable development. At the same time, in the last two decades there has been a dramatic increase in the number of public and private actors involved international development cooperation and of the overall complexity of the global health scenario. Traditional competences have become insufficient and there is a growing demand for professionals who combine a thorough understanding of health-related challenges with multidisciplinary training in social sciences, economics, and management. This led, in the last few years, to the mushrooming of courses dedicated to global health and contributing to obtaining an academic degree.

We review our recent attempt to innovate the educational offer in global health policy and management, as part of a wider initiative involving a consortium of academic institutions in Italy, and analyse the recent trend in global health education, focusing mainly on interdisciplinary approaches to global health education as those proposed in non-medical schools and to students with no background in health disciplines.

We conclude that while global health and development is certainly an emerging area in the higher education systems of many countries, the international offer of graduate programs is highly dominated by programs taught in medical or public health schools, failing to combine health sciences with economic, social, and management sciences. We argue that the multidisciplinary nature of global health education programs should be improved.

INTRODUCTION

Health has been increasingly recognized as a key element of sustainable economic development, global security, effective governance, and human rights promotion [1]. Since the late 1990s, the role of health in global development policies became more relevant, as shown by the fact that three out of the eight Millennium Development Goals (MDGs) set forth in the year 2000 by United Nations Millennium Declaration are related to health targets (MDG 4: Reduce child mortality, MDG 5: Improve maternal health, MDG 6: Combat HIV/AIDS, Malaria and other diseases). This shift in attention to health also resulted in an unprecedented growth at a global level of financial resources destined for the development of the health sector [2], although this trend is now slowing due to the prolonged economic crisis. The media are increasingly referencing the idea of global health (GH), multilateral and bilateral donors are put increasing emphasis on it, and global health-related activities from the global philanthropy sector are increasing. A growing number of global initiatives and actors increased the complexity of the GH governance and management structure, posing new challenges to international institutions with the mandate of international coordination, the most important of which being the World Health Organization (WHO).

Driven by influential academic research, there has been a qualitative shift in GH priorities toward a better understanding of (and support for) social determinants of health [3] and best practices in health systems management and policy implementation.

Besides the obvious relation of GH with public health and transnational charitable activities, GH has also been described as investment (to maximize economic development) and as a strategic foreign policy imperative for both political and economic reasons [4].

As a consequence of these trends there is a growing demand for professionals who combine a thorough understanding of health-related challenges with multidisciplinary analytical, policy-making, economic, and management skills, as well as the capacity to interact with diverse stakeholders at all levels.

The global job market is in fact offering unprecedented opportunities for graduates with these skills in both the private and the public sector, as well as in the emerging area of public-private endeavours. International institutions, development cooperation agencies, pharmaceutical, biotech, and medical devices companies, central and local governments, public, private, non-profit, and commercial providers, insurance companies are the privileged targets for

the competences related to GH. The need for research in GH is also growing and is increasingly using innovative approaches that link health to political economy, social and management sciences, and international law.

The subject attracts new generations of students and scholars and the offer of courses in this new area is booming. However, there is still wide discrepancy in the content among GH courses offered around the world and some times the denomination GH is arguably used to refurbish pre-existing courses in "international health", "tropical medicine", and others in a mere response to marketing needs [5] and cosmetic re-labeling of old patterns, objects, and interests without real social innovation [6].

On one side the question arises "what should be taught when we teach global health?" [7], on the other "where and to whom should global health courses be offered?".

Due to the complex characteristics of the GH arena and the multidisciplinary nature of the field, post-graduate employment and continued research in the field inevitably necessitate a more comprehensive, interdisciplinary skill set which covers scientific, political, social, and economic disciplines. It is only with this interdisciplinary mindset that it is possible to effectively perform analyses, engage in policy-making, and manage activities both among the various sectors as well as between highly intertwined, yet separate, actors including the public sector, the private sector, and civil society. Similarly, the need to include multiple consolidated disciplines (sociology, political sciences, economics, anthropology, and others) allows understanding GH as more than simply the global dimension of public health [8]. Nevertheless, the international offer of graduate programs is highly dominated by programs taught in medical or public health schools. These programs, which often fail to combine health sciences with economic, social, and management sciences, also tend highly target medical and health sciences students.

We define "Global health as an emerging area for interdisciplinary studies, research and practice that considers the effects of globalization on health – understood as a complete state of physical, mental and social well-being – and the achievement of equity in health for all people worldwide, emphasizing transnational health issues, determinants and solutions, and their interactions with national and local systems." Thus, in our vision "Global Health Education" should aim at providing skills beyond "health" studies and supplementary to those acquired through training in specific disciplines, and its outcome should produce professionals who, whatever their specific field of training may be (e.g. medicine, economics, sociology, natural sciences, engineering, etc.), understand how their professional work on local levels can feed into or be linked with global actions [9] in a truly "g-local" approach.

The inclusion of equity in the definition also has methodological implications. GH studies should engage students in a thorough reflection on the values and social mission of future health and *for* health professionals. In other words, GH teaching should also imply an ethical commitment to educate future professionals in social justice and their non-neutral role in correcting global processes at the root of human suffering and inequities in health [7].

Between 2009 and 2012, the Global Health and Development Group of CERGAS at Università Bocconi coordinated a consortium of academic institutions including Università degli Studi del Piemonte Orientale and Università degli Studi di Milano-Bicocca, which spearheaded a project aimed at introducing or consolidating courses in GH in non-medical departments of the three institutions. The project was supported by a grant from the Fondazione Cariplo. The project aimed at addressing the lack of competences and skills in GH-related topics through increasing the existing offer with the creation of multidisciplinary courses and specific tracks on GH open to Italian and international students of different universities; developing research capacity and skills at postgraduate and PhD level and promoting research partnerships and international networking through the organization of conferences and workshops.

To contextualize the above mentioned experience, in the following section we analyze the recent international trend in GH education, focusing mainly on interdisciplinary approaches to GH education as those proposed in non-medical schools and to students with no background in health disciplines. To that purpose we make specific reference to recent trends of GH teaching activities in Italy, France, the UK, in the USA, and in the Latin American subcontinent. We then present our firsthand experience in introducing and consolidating GH education in non-medical schools in Italy, with specific reference to Università Bocconi and its school of management.

In the conclusive section we argue that the multidisciplinary nature of GH education programs should be improved.

TRENDS IN GLOBAL HEALTH EDUCATION

In Europe as in the Americas and in almost every continent there has been an astounding increase of courses related to, or including "global health" in their title. In a recent review Harmer [10] has shown that in the **UK** there are far fewer opportunities for undergraduate students than postgraduates to study either international or global health. Furthermore, amongst undergraduate students, medical students have more opportunity than non-medical students, also because of the availability of intercalated one-year degrees. While GH has been widely confined to medical schools there are some signs that "non-health" departments are beginning to offer GH courses – Edinburgh and Glasgow's Schools of Social and Political Science, for example – suggesting a slow recognition that educating about GH is not just the responsibility of health departments. In addition, UK based distance learning opportunities are making a GH education truly global, in terms of geographical location at least. Nevertheless, it has been observed that: "There continues to be confusion about exactly what GH teaching opportunities are available at universities in the UK" [11] and "a public database of global health teaching programs" has been recommended "to signpost prospective students" [11].

Curiously, as Gautier [12] highlights, in **France** and Francophone Universities (Universités de la Francophonie), the only courses mentioning global health in the title are courses offered to Masters students at Sciences Po (France) and open seminars at the Collège de France, which are both taught in institutes not primarily related with health and medicine. They also appear to be the only two definitively looking at GH in a more comprehensive way. Although not tailored to any specific background, all the other several courses addressing global or international health as the core curriculum identified in France at both graduate and postgraduate level, seem to have in common the orientation to health in developing or resource-scarce countries.

In the **United States of America** where a surprising increase in number and diversity of GH course offerings over the past five to ten years has also been observed, the idea and definition of GH is still in its early stages and has yet to fully form its identity as a subject matter. However, in her extensive review about GHE in the USA, Procacci [13] notes that while the number of graduate courses offered within US-based institutions and offered abroad is quite comparable, when comparing the number and type of undergraduate course offerings, the United States is significantly ahead of its European counterparts, indicating that the USA is making a significant investment in a younger crop of graduates in order to instil the importance of GH. The study also highlighted that there is still a heavy presence of public health and medical schools in the teaching of GH, particularly at the graduate level which gives a weighty slant toward the medical, public health, and scientific aspects of GH. Nevertheless, this perspective does seem to be changing, even within SPHs, and it will be interesting to observe the continued transformation of GH degrees in the United States during the next decade.

Based on the findings of a recent research at the end of 2012 in **Latinamerica** no more than 10 Latinamerican institutions were reporting activities broadly defined as GHE [14]. There programs appear to have a number of unique features that distinguish them from the GHE programs in English-speaking North America and other countries in Europe. First, in Latin America the subject matter of the courses tends to focus on the impact of the globalization phenomena on population health and health systems and policies in the individual country where the course is being offered, as well as in the Latin American region as a whole. For the most part, the courses aim at instilling critical thinking and analysis of the global institutional and power structures dominant in contemporary society. This type of analysis naturally encompasses a multidisciplinary approach requiring the participation of specialists from a variety of disciplines such as economics, political science, anthropology, diplomacy and political science, etc. In addition to the critical discourse prominent in Latin American GHE programs, courses expect students to propose actions or projects to counteract the negative effects of globalization in their countries or communities. It appears that, being mainly low- and middle-income societies with high levels of social inequities, Latin American GHE focuses on the analysis of economic globalization on the generation and preservation of health inequities, as well as the design and implementation of measures that may contribute to resolving this situation. Also in Latinamerica GH teaching remains confined to health institutions, however most programs have a clear public health orientation with little or no involvement from the biomedical and clinical disciplines. As in Europe, the majority of the courses are geared to graduate level students and/or to professionals seeking continuing education credits. As yet, there are fewer programs for undergraduate students at Latin American universities. Thus, introducing GHE in undergraduate health careers curricula is an important pending task also for the Latin American region. Finally, most GHE courses in Latin America use, at least partially, web-based distance teaching methods. Use of synchronous and asynchronous learning technology platforms are basic tools in teaching GH in the region [14].

Global health has been taught in **Italy** for over a decade and, interestingly enough, it was first introduced in non-health faculties. Still, today, the only compulsory GH course is the one introduced in 2001 as part of the program of a Masters of Science of the faculty of Sociology of the University of Milan-Bicocca [15][16]. Nevertheless, thanks in particular to the successful partnership among several institutions, NGOs, and medical students, organizations that gave rise to the Italian Network of Global Health Teaching (RIISG), elective courses in GH have been introduced in several medical and health sciences schools and are increasing in number and quality [17]. Unfortunately, the rigidity and segmentation of the Italian academic system on one side does not allow the introduction of new compulsory courses within medical schools, on the other it makes almost impossible the exposure of medical students to other disciplines in the course of their studies. Despite being constantly highlighted as a fundamental aspect in GH education, in Italy and elsewhere, the importance of GH for future professionals in non-health sectors is still widely underestimated and the extension of GH education in those domains, and a truly trans-disciplinary approach still represents the biggest challenge.

GLOBAL HEALTH EDUCATION IN A NON-MEDICAL SCHOOLS IN ITALY: THE CASE OF THE UNIVERSITÀ BOCCONI AND ITS SCHOOL OF MANAGEMENT

Global health and development at the undergraduate level

As described above, in Italy, GH education has been limited to courses and programs in medical schools and to a few experiences at the graduate or postgraduate level in non-medical faculties. Until Università Bocconi offered this course, no Italian University ever offered a course in GH at the undergraduate level outside a medical schools.

As part of the Global Health and Development Teaching Project, supported by Fondazione Cariplo, in the academic

year 2010/2011 the undergraduate school of Università Bocconi introduced, for the first time, an elective course titled "Global Health and Development, Policy-Making and Management". The 48-hour course (6 credits in the European Credit Transfer and Accumulation System; ECTS) was offered by the Department of Policy Analysis and Public Management to two student types: students in their third year of the undergraduate degrees offered at Università Bocconi[1] and undergraduate and postgraduate students visiting Università Bocconi from other foreign universities as part of international exchange programs.

Course objectives, structure, and approach

The course was designed to provide a comprehensive introduction to the fundamentals of GH and development, with a special emphasis on the linkages between global strategies and national health policies and systems. The specific objectives of the course were to allow students:

- to become familiar with a multidisciplinary approach to key issues in GH;
- to develop a systematic and critical view on GH in the wider context of global development;
- to examine policies, strategies, and managerial approaches of global actors;
- to identify the key issues in health policy formulation and implementation in developing countries; and
- to be able to adopt a systematic view on the main challenges related to health systems, policies, and management in developing countries.

The course was structured in two conceptual blocks. The first block introduced students to global health-related issues, analyzing the relevant connections between the process of globalization, development and health. It then analyzed GH governance and its impact on health systems and access to health services in the wider context of development policies and assistance. The second block, after an introduction to health systems and policies in developing countries, focused on:

- the relationship between development assistance and health systems development;
- health financing and incentive mechanisms to improve the quality of and access to healthcare; and
- delivering health services and the role of healthcare management in developing countries.

The course was entirely thought by faculty members and international experts. Attending students were assessed via a midterm, a written exercise (30%), a group project (20%), and an individual research work (50%). Non-attending students were assessed only through a written exam (100%).

Students and expectations

The course attracted the interest of more students than expected with 59 students enrolled in the first year and 42 in the second. Although unconventional for students of Università Bocconi, with those numbers of enrolment the course appeared rather attractive to students of the third year, particularly when compared with enrolments in other electives.

In both years around 64.5% of enrolled students were Italians, which is slightly higher than the overall average for optional courses taught in English at Università Bocconi. In the first year, 68.7% of students enrolled came from two Bachelors courses, CLEAM and CLES, while 31.3% came from the international exchange program. In the second year, the proportion of enrolled students belonging to the exchange program decreased to 26.3%, as did the percentage of students from CLES (15.8%), while the percentage of students registered from CLEAM increased to 57.9%. This change in the distribution of students across bachelor degrees is not easy to interpret. A possible explanation may be that while there is a latent interest for GH and development among students studying Economics and Social Sciences, the course was more suitable for students studying Business Administration and Management. In fact, at the beginning of the first year, students were asked about their expectations regarding the new course, and around 26% of students mentioned that they expected to learn about the link between health and economics. This topic was covered by the course, but only to a limited extent. Among other aspects students seemed to be more frequently interested in learning about health systems, problems of both developed and developing countries, and inequalities in health.

Course evaluation and perspective

The experience gained in the two academic years in which the course was delivered, offers some interesting lessons for the future development of courses in GH and development in non-medical schools. Students highly appreciated the unconventional topics (for economics and management students) examined during the course. In both years, students showed strong interest for the new topics and a surprising curiosity for issues beyond the traditional boundaries of

[1] Bachelors of Business Administration and Management (CLEAM); Bachelors of Economics and Finance (CLEF); Bachelors of Economics and Social Sciences (CLES); Bachelors of International Economics and Management (BIEM); Bachelors of Economics and Management in Arts, Culture and Communication (CLEACC).

economics and management courses thought at Università Bocconi. The interest for the topics taught in the course was also confirmed by the choice of 16 students (15.8%) to develop their final thesis on GH and development-related topics. This is a remarkable outcome as the final thesis of undergraduate students is rather important in directing future academic or professional careers.

Nevertheless, students' evaluations of the course, particularly those students participating in the inaugural year of the course, indicated a number of areas in which improvements could be made, mainly related to general aspects regarding the content of the course and the teaching approach. Many students felt that to take full advantage of the course, they would have needed more previous knowledge; a more structured teaching material would have helped them to better follow the lectures; and the exam procedure could have been better clarified in advance. These observations were all taken into account in planning the course in the second year. In particular, a full set of lecture notes, complete with copies of all the proposed reading, was prepared and distributed to students in advance. A better understanding of students needs and expectations also helped the instructors better sculpt the course, and the second year students' evaluation yielded better scores in all domains compared to the previous year.

Implementing a global health specialization in the Masters of International Healthcare Management, Economics, and Policies (MIHMEP)

Since 1999, SDA Bocconi, the Management School of Università Bocconi, has offered Masters International Health-care Management, Economics and Policies (MIHMEP) providing an interdisciplinary and international education program specifically focused on healthcare management and policy. This was possibly the first program to be launched in Europe offering such a comprehensive approach to health, beyond traditional "business administration" on one side and "public health" approaches on the other. From the beginning, the course was based on an itinerary comprising 9 months of classroom activities and a three-month field project. Thus participants develop both theoretical and practical skills in management, economic analysis, policy analysis and formulation, and epidemiology.

Over its first ten years of life, MIHMEP's electives expanded from 5 to 14, encompassing new themes and partnering with additional professionals and masters programs. In the academic year 2002-2003, the GH focus was introduced, with two, 24-hour elective courses: "Global Strategies for Health" and "Policy and Management in Developing Countries", both of which are still taught [18]. Since its introduction in 2002-2003 students always very positively evaluated the elective course in "Global Strategies for Health", giving constantly scores between 9/10 and 10/10 in response to questions such as "interest of topics" and "professional utility", and suggesting in their qualitative evaluation, to make the course a compulsory one and expanding it to cover more topics related to global health. In addition to content, "interaction", "firsthand examples", and "emphasis on improving critical skills" were other convincing observations that pushed the direction of MIHMEP to further expand the course into a specialization.

In the academic year 2010-2011, the 12th edition of MIHMEP, the structure of the masters course was reorganized and new emphasis was put on the global dimension. While maintaining its original acronym, the claim of the course became "Find the right way to global health management". Accordingly, a Global Health and Development (GH&D) specialization track was introduced together with the Healthcare Management (HCM) and Pharmaceuticals and Medical Technology (PMT) specializations. Students are expected to choose one among the three. Each specialization has a total number of 120 hours of specialization courses and seminars to be taken by every MIHMEP student, mainly during the third term. After the completion of MIHMEP, students are awarded the MIHMEP Diploma and a separate certificate reporting the specialization undertaken.

The structure of the GH&D Specialization

In the first term, all MIHMEP students follow basic courses in epidemiology, healthcare systems and policy, health economics, foundations of management, and quantitative methods. In the second term, three additional compulsory courses are taught: "Economic Evaluation of Healthcare Programs", "Issues in Public Health", and "Financial Accounting". The third term is dedicated to the specialization. To increase multidisciplinary interchange, the courses of the GH&D specialization are also open to students from the Masters in Public Management (MPM), also taught at SDA Bocconi.

Consistent with the GH definition adopted by the Global Health and Development Group at CERGAS-Bocconi, the GH&D specialization aims at analyzing GH issues as they emerge from the tighter connections between globalization, development, and health. Through examining structures, policies, strategies and managerial approaches of both public and private (profit and non-profit) global actors, the GH&D specialization prepares students to become active actors in the achievement of equity in health worldwide, emphasizing transnational health issues, determinants and solutions, and their interactions with national and local systems. The specialization provides students with an overview of challenges in the changing global scene in health-related policy-making and management at global level. The specialization also allows students to understand key issues of healthcare systems, policies, and management in developing countries. Additionally, students obtain training in program/project management in an international context and are provided with policy evaluation skills.

Students that chose the GH&D specialization are supported in the development of policy-making and management skills which are interdisciplinary, intercultural, multi-level (global, national, local), dynamic (managing change) and

analytical; they are also given the capacity to manage relations with different sectors and actors in society (public, private, civil society) in different socioeconomic and cultural contexts and manage interactions at all levels.

The GH&D specialization requires a total of five mandatory courses: “Global Health Strategies”, “Health Management and Policies in Developing Countries”, “Program Design, Management and Evaluation”, “Evidence-based Policy Evaluation”, and “Managing Challenges in Global Health”. In addition to the chosen specialization, to receive the MIHMEP Diploma students have to choose two subsequent courses (minimum 48 hours of coursework) from the other MIHMEP specializations. The choice of these additional courses can be based on the individual's interests and future career expectations, giving an added value to the topics addressed in the student’s specialization.

The “Global Strategies for Health” course is introductory to the GH&D specialization. It first aims at fostering understanding and critical approaches to concepts such as globalization, development, and health, and the linkages between issues and processes. Students are introduced to the GH system, its architecture, and the factors that determine its governance. The structure, policies, and strategies of both public and private (profit and non-profit) global actors are studied, as well as the overall influence of those actors in determining changes on domestic health systems and access to health services. Finally, the global mechanisms of development assistance in health and health financing are presented.

The course, “Program Design, Management, and Evaluation” introduces students to project cycle management, enabling them to prepare logical frameworks, to identify and formulate projects through a participatory approach, to define project documents and to assess their quality. The course, shared between MIHMEP’s GH&D specialization and the SDA Bocconi Masters in Public Management (MPM) concentration in Management of International Organizations and NGOs, has an intersectorial approach to development cooperation and proposes a critical analysis of development cooperation instruments.

In the course “Evidence-based Policy Evaluation” students are invited to apply policy evaluation tools in a number of cases, both in high and middle to low-income countries.

The course is divided into two parts: one methodological and one based on case studies. The first explores the logics of policy evaluation and a number of quantitative and qualitative methods (such as randomization, non-experimental data treatment/control, matching, regression discontinuity design, and instrumental variables). Practical case studies, however, represent the main part of the course.

In the course, “Health Management and Policies in Developing Countries”, students are invited to look more in detail to the described interactions in the context and from the perspective of low-income countries. Here, case studies are used and a more practical approach is adopted.

Finally, in a cycle of seminars on “Managing Challenges in Global Health”, students have the opportunity to debate with senior international professionals and discuss the on-the-job experience in managing the challenges posed by a wide range of specific GH issues and practices such as migration, mental health, ethics, pandemics, global food system and obesity, global communication, disasters and emergencies, and demographic changes.

As an integrating and practical activity of the GH&D specialization, an innovative Study Tour at the principal organizations of GH headquartered in Geneva, Switzerland, was undertaken.

Who chooses to specialize in global health?

Based on MIHMEP students’ specialization choices, interest in GH and development was comparable to that in the other two specializations, notwithstanding the perceived smaller chances of employment and career perspectives after completing the masters, especially if compared with specialization in pharmaceutical and medical technologies. 13 students out of 38 (34%) chose the specialization in the academic year 2010-2011 (MIHMEP 12), and 11 students out of 33 (33%) in the academic year 2011-2012 (MIHMEP 13).

Although two years of observation do not offer an adequate sample for significant conclusions, it appears that students with a background in health sciences (medicine, nursing, etc.), law, and humanities tend to choose the GH&D specialization.

In terms of geographical origin and diversity, 46% of the students choosing GH&D specialization, came from non-European Union (EU), low-income countries.5 This does not differ substantially from the percentage (42%) of students from non-EU, low-income countries comprising the overall MIHMEP student body during the two observed years. In other words, interest for GH&D seems not to be significantly influenced by the economic development of the country of origin. However, it must be noted that the number of students from low-income countries choosing GH&D may be biased by the fact that this choice was favoured through fee-waiver grants provided by the Cariplo Foundation to students from those countries. Over the period 2009-2012 (i.e. MIHMEP 11, 12 and 13) the Foundation provided 7 full fee-waiver and 8 half fee-waiver grants.

Responsiveness to student expectations

As is the case for all MIHMEP courses, courses within the GH&D specialization were individually evaluated by students who were asked to give scores (1-10) on aspects such as: course contents (balance between theory and practical examples, interest of topics covered, professional utility, degree of in-depth study), general aspects (quality of teaching, appropriate use of different teaching methods, quality of course material, balance of workload, evaluation

method/exam), course organization, and faculty. Comments were also allowed both on the overall quality of the course and on individual professors.

While most of the parameters are very specific to the course organization and how it is taught, observations regarding interest in the topics covered and professional utility may help to evaluate the perceived relevance of the proposed topics in relation to personal interests and future career pathways.

In 2011, the opinions expressed by students regarding the "Global Strategies for Health" course were very much in line with previous years and scoring over 9/10 for both interest and professional utility. Instead, in the following year (2012) both these aspects were scored slightly below 7/10, for the first time in its ten years of existence. Without having the possibility to compare results on a similar time scale, but only with the previous year, a similar drawback was recorded also for all other courses in the specialization, with the only exception being in "Evidence-based Policy Evaluation". The latter received a score slightly higher to that - already very positive - recorded in 2011 when it was introduced. It must be noted that there were no substantial changes from one year to the other, thus student's less favourable judgment of four out of five courses may be at least partially attributed to the composition of the class. However, the very practical and interactive nature of the "Evidence-based Policy Evaluation" course may also indicate that learning and applying tools to case studies is seen as the most useful approach in view of future professional challenges in the international arena.

Internships and job placement

The students who choose the GH&D specialization are expected to develop their careers in international institutions and NGOs, global public-private partnerships, bilateral development cooperation agencies, national health authorities in low-income countries, the transnational corporate sector, or as international consultants.

Regarding internships both for MIHMEP 12 and 13, GH&D specialization student internships were mostly spent at international institutions and NGOs (7 for MIHMEP 12; 3 for MIHMEP 13); the others were distributed among public healthcare entities (1 and 2, for respective years), consulting firms (1 and 2, respectively), private industry (2 and 2, respectively), and research centers (1 and 2, respectively). In 2010-11 one student was intern assigned to a bilateral development agency.

An analysis of available information (personal information and/or research on LinkedIn) on post-graduation, job placement status of all MIHMEP alumni, roughly one third of the alumni are placed in the Pharmaceutical and Medical Device Industry category, one third in healthcare and public health services (public and private), and another third widely distributed among a variety of sectors (half of which are in academia and research.

For MIHMEP 12 (2010-2011) separate data are available for the 13 students who chose the GH&D specialization: 6 (46%) are currently employed in universities and research centers, 6 (46%) are equally distributed among public healthcare, international organizations and consulting firms, and one student is currently employed by a bilateral development cooperation agency. Again, numbers are too limited to drive firm conclusions, but it seems that an association exists between the GH&D specialization and employment in research.

The Professional Study Tour

The "Study Tour" is an experienced-based curricular innovation [19] only recently introduced in GH courses with the aim of addressing this theory-practice gap. By giving students the opportunity to observe theory being applied in professional practice, study tours may provide students with an experience-based component often lacking in the classroom setting [20]. It has also been argued that a short-term study tour abroad could efficiently increase students' global awareness and lay the foundation for the development of a sophisticated global mindset in future managers [21].

Despite its popularity in business schools and traditional business programs, the Study Tour does not appear to be widely used in "Global Health Masters" programs at present. The majority of short-term study tours associated with GH programs are largely based on engaging students in a 1-2 weeks module in fieldwork in a low- or middle-income country. As shown in a recent extensive research on GH programmes only the Management Center in Innsbruck and the University of Leeds offered similar study tour programs to Geneva associated with their Masters programs, while the University of Wisconsin (USA) offered a five-day study tour to the United Nations (UN) in New York associated with their "Certificate in Global Health", an undergraduate program [22].

The study tour to Geneva, was introduced as part of MIHMEP GH&D in 2011 as a means to expose students to real-life management and policy debates and the professionals in the GH domain. It lasted 10 days in 2011 and 7 days in 2012, during which the students engaged in a series of meetings with those currently working in the GH arena. The large historic actors as well as the small, emergent players were visited, including multiple departments and hosted partnerships in the WHO, UNICEF, the GAVI Alliance, the Global Fund, the International Labour Organization (ILO), the International Organization of Migration (IOM), UNAIDS, the International Committee of the Red Cross (ICRC) and the International Federation of the Red Cross and Red Crescent Societies (IFRC), NGOs, the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) and other expressions of the corporate sector, the WTO, NGOs, the Missions to the UN and Bilateral Development Cooperation agencies.

Students were divided into groups of 4-5 people, each group meeting a different organization each day, with a full participants meeting in the afternoon to discuss the morning meetings. While each group did not visit the same

organizations, the goal was that each group had the possibility to meet with each type of GH organization. The afternoon meeting then provided the opportunity for each group to present a brief synthesis of what was observed during the visit and an opportunity for comparison. When possible, evening dinners were also included in the program in an effort to maximize networking opportunities for the students outside of the workplace environments.

In participant students' view most successful and effective meetings included those offering a honest discussion of the organization management structure, panel discussions with more than one presenter instead of a single individual giving a brief overview of the work. Opportunities to ask more in-depth questions about the actual inner workings of the organization, were highly appreciated as well as presentations which offered practical advice on how to enter the field and career guidance, job connections, and internship opportunities. This “daily wrap-up” gave the students an opportunity for further, more in-depth communication among themselves regarding the organizations visited and the functioning of the management structures observed [22].

From education to research in global health

Understanding mechanisms and processes influencing GH governance are fundamental fields of economical and managerial research that need specific training programs. Thus the fourth pillar of the Global Health and Development Program was aimed at building capacity to undertake research in GH policy-making and management among graduate students and junior researchers. The “education to research” program offered young researchers and students the possibility to work with senior researchers in GH and development.

Final theses in GH and development were promoted among undergraduate and graduate students with a significant number of them choosing to elaborate their final thesis in this field and in a number of cases, students linked the thesis work and data collection with an internship in organizations in developing countries.

With the aim of promoting capacity building in GH research the support to a specific PhD project was included in the GH education initiative developed at Università Bocconi, with the support of the Cariplo Foundation. The PhD project was devoted to filling the knowledge gap existing on funding priorities of global philanthropy, an issue relevant not only for GH policy-making, but for foundations themselves, which are under constantly increasing pressure to be both effective and legitimate actors in GH governance.

CONCLUSIONS, LESSONS LEARNED AND PERSPECTIVES

The introduction of GH electives at Università Bocconi undergarduate school, a pioneering experience in the international scenario of economic studies, elicited a good response among students. Proposing GH electives at MIHMEP represented a relatively early attempt, as compared with its international competitors, to introduce future executives to the new emerging health challenges of a globalizing world, nevertheless it was the start of a specific specialization track that allowed MIHMEP to introduce itself as a pathfinder to “global health management”. Combining “management, economics and policies” approach to health still constitutes MIHMEP's comparative advantage with respect to its international competitors, especially when compared with those that restrict the idea of GH to traditional public health or even biomedical approaches. Nevertheless, we believe that to better respond to today’s health and healthcare challenges, with national policies being heavily influenced by transnational social determinants, the offer of GH courses should be wider both at undergraduate and postgraduate level. The main limitation of elective courses in GH is its limited cultural impact, as only motivated students will expose themselves to the subject, thus the GH perspective should be mainstreamed throughout master courses, such as MIHMEP, that aim at providing future professionals in the GH arena with the information and intellectual tools for a critical contextualization of their action. The right balances between different theoretical and practical approaches need to be constantly sought. Indeed, experience shows that especially executive students tend to value more teaching based on case studies and the application of practical tools. Among these the Professional Study Tour was an effective tool for developing contacts, expanding classroom experience and creating the linkages between the theoretical and the practical aspects of GH.

With the acceleration of the globalization process, the interdependency among national health systems and the interconnectedness between health and the multifaceted aspects of development have dramatically increased. New challenges call for fundamental changes in higher education systems that must be understood within the larger context of the internationalization of higher education. Academic institutions must take into consideration the increasing mobility in the globalised world, and rethink the modalities of their programs in order to consider students that may be working anywhere in the world, and possibly in more than one country, frequently shifting between different socio-cultural and economic settings.

Health and the health sector are peculiar in many respects; from the economics of ill health and health systems, to services’ management and policy-making, these fields require specific competences. This explains the poor performance of professionals with a “generalist” background in dealing with health-related issues (whether within or outside the “health sector”); this problem ranges from economists working in Ministries of Finance to academics, to managers of healthcare organizations and GH initiatives or foundations to local, national, and global politicians. Higher education programs should, therefore, reflect these peculiarities, and try to capture early in their studies the interest of future professionals that may not work for their entire career in direct contact with health services.

Despite the overall growth, the international offer of undergraduate and graduate programs in GH is highly dominated by programs taught in medical or public health schools. These programs, often fail to combine health sciences with economic, social, and management sciences, and also tend to be highly targeted to medical and health sciences students with components related to global social, economic, political, and environmental determinants, global governance for health, and health policy and systems remaining still rather marginal. Global health education should, by definition, develop interdisciplinary competences and skills to operate in the health sector and health-related socioeconomic areas. Global health programs should provide students with advanced theoretical and practical knowledge in public health, economic development, management, international law, and other disciplines relevant to policies for health, as well as with quantitative and qualitative tools necessary to generate, analyze, and interpret information emerging from the rapidly changing GH and development fields. In addition, graduates should be challenged with main issues relevant to the development and implementation of health policies in countries at different developmental stages. Thus, overall, the multidisciplinary nature of GH education programs should be improved.

Almost by definition, the nature of GH requires combining teaching to research and practice in a continuum between innovation, validation, and application; instead probably due to the still rather archaic and rigid structure of academia in many countries GH is hardly included into the mainstream academic field.

Finally, if the idea is accepted that the concept of GH encompasses the overall goal of equity, GH education cannot exist independently from a wider ethical framework, this must be reflected in how GH is taught. Beyond knowledge transfer and the acquisition of technical skills ("how to do"), the GH learning process needs to include the "how to be" in a globalized world with health and equity as common goods and fundamental human rights.

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NOMENCLATURE

CERGAS	Center for Research on Health and Social Care Management of the Università Bocconi
GH	Global Health
GH&D	Global Health and Development (GH&D) specialization track
MIHMEP	Masters International Health-care Management, Economics and Policies

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THE CHALLENGE OF TRAINING HEALTH PERSONNEL IN RESOURCE-LIMITED SETTINGS

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ABSTRACT

The shortage of health care personnel in resource-poor countries is critical, leaving many areas of the developing world, mainly rural, without access to care. Limited quantitative and qualitative capability of local academic institutions to train health care professionals, migration of physicians, nurses and faculty staff and lack of motivation to work in the most poor and rural areas are among the key causing factors. Possible proposed solutions are increasing training capability, adaptation of curricula with exposure of medical trainees to community needs, implementing task shifting, training mid-level personnel, increasing social accountability and promoting links among the different interested social sectors, namely health and education sectors. Academic institutions from western countries may facilitate these actions, provided that (i) a balance relationship is established with southern institutions, (ii) cultural, social and economic factor and are carefully considered and (iii) local needs are prioritized. Apart from traditional partnering, also including long distance learning, innovative ways to assist in establishing research careers and in establishing quality control procedures and accreditation are possible ways of north-south academic collaboration.

BACKGROUND

The shortage of health care personnel in resource-limited countries is limiting the right to care of billions of people around the world. This is particularly true for the African continent, where the global burden of diseases is estimated to be as high as 27% of the world's total despite the fact that only 12% of the world population live in Africa. To face this critical situation, Africa only have 3,5% of the total healthcare workforce and 1.7% of the physicians in the world [1].

This shortage affects all health professionals, from physicians to nurses, from pharmacists to any other qualified health profession [2]. The gap with western countries is enormous. As an example, the number of physicians in the USA is 270 per 100.000 population, while the corresponding number is 2.3 in Tanzania and 1.1 in Malawi [3]. This shortage is critical, as recognized by the World Health Organization that has dedicated to this topic the WHO Report in 2006 requesting for urgent interventions. The shortage is even more critical if one considers that over 75% of medical doctors in Sub-Saharan Africa live and work in the urban setting, leaving the rural areas nearly devoid of care providers [4].

THE PROBLEMS AND THE NEEDS

The reasons for this shortage of health care professionals where they are more needed are various.

Firstly, the training capability of health professionals in resource-poor countries is quantitatively limited. According to the African Medical School Study, around 6.000 physicians graduate every year in Sub-Saharan Africa, a lower number than the corresponding figure for Italy alone [5]. This limited capability is due to scarce funding and poor infrastructure, as well as to the shortage of highly qualified teachers, who often search for more remunerative and attractive jobs abroad.

Secondly, a great proportion of doctors, nurse and other health personnel intends to migrate soon after graduation. According to the South African Medical School Survey carried out on 146 medical schools in the African continent, as many as 26% of the respondent graduates reported to have migrated abroad within 5 years after graduation [6]. In some study, as many as 53% of the medical students have indicated their aspiration to migrate after graduation [7]. The

motivations leading health personnel to migrate to more affluent countries are numerous, and probably diversified according to the source country. Among the most quoted reasons in the various available survey are, in decreasing order [4]:

- Better remuneration
- Safer environment
- Living conditions
- Lack of facilities
- No future
- Heavy workload
- Declining health services
- Economic decline
- Poor management
- Upgrade qualification

Understanding the reasons for migration is crucial to define and put into practice strategies to limit the brain drain. Among other factors, attention has been focused on the economic aspect as a key driver of the individual decision to migrate. The importance of the wage gap between source and destination countries have been investigated with contrasting results.

Some authors consider it the key reason for migration, deserving urgent interventions [8] while others estimate that other factors, including working and living conditions, social and political insecurity could play a more important role in the migration decision, leaving little space for interventions based on salary increase [9]. To those reasons it must be added the shortage of physicians, nurses and pharmacists in western countries, that attracts correspondent health personnel to move from their origin country. This is not without cost. It has been estimated that the cost to train a physician in a given African Country may vary from 21.000 US dollars (Uganda) to 58.700 US dollars (South Africa) and that the yearly global benefit obtained by the most desired destination Country is 2.7 billion dollars (UK) and 846 million dollars (the USA) [10]. To counteract this phenomenon, the World Health Organization has lunched the Global Code of Practice on the International Recruitment of Health Personnel [11] requesting all member States to take action to facilitate retention of health personnel in those areas of the world where they are most needed, including financial assistance and partnership to strengthen health education infrastructures. Quite sadly, a recent Cochrane review could only find a single paper assessing interventions to reduce emigration of health care workers complying with the established selection criteria [12].

Thirdly, the social and economic prestige of the health professions is better exploited by physicians and nurses, as well as other health care workers, in the urban setting leaving the most need urban areas with little potential to provide effective care in the poor health structure available. A recent questionnaire survey carried out among medical students in training in six different sub-Saharan countries (South Africa, RD Congo, Kenya, Nigeria, Tanzania, Uganda) showed that only 4.8% of them intended to practice in rural areas, a very worrying figure [13]. However, context-appropriate medical training may correct this tendency, as shown by specific experience in east-Africa showing that exposure of medical students to problem-based learning in the communities may influence their attitude and willingness to work in rural remote areas once graduated [14].

Apart from the quantitative aspect of health education (the number of graduates, physicians, nurses, etc.), the question of quality also applies as a consequence of the scarcity of adequate clinical training structures in developing countries, with particular respect to the African continent.

THE CHALLENGE OF HEALTH EDUCATION IN RESOURCE POOR COUNTRIES

The challenge of education in resource poor countries (and medical education is no exception) is huge and evolving with time. The responsibility of academic medicine in Africa has been affirmed strongly [15]. No single and flat solution probably exists to overcome the economic, structural, cultural and logistic problems in any single situation, as perspectives and experiences in medical education greatly varies among countries [16].

In fact, as rightly pointed out by Brown and co-workers for the Pacific area, many factors may influence learning and teaching in different areas and in different times, including (i) past regional experiences of health related training, (ii) the impact of culture on learning approaches and teaching styles, (iii) the impact of external (i.e. colonial) influences on curriculum and (iv) the logistic and access challenges of open and distance education [17].

To combat global health worker shortages, many strategies have been put forward, with conflicting results.

Task shifting has been advocated by many international Agencies and adopted by many developing Countries as a strategy to cope with the shortage of high level health care professionals such as physicians and surgeons [18]. Task shifting means the progressive inclusion of tasks, traditionally ascribed to the medical or surgical profession, among the job descriptions of lower level health care professionals. Example of this strategy is the administration of antiretroviral

therapy by nurses in rural areas or the performance of simple surgical procedures (hernias, cesarean section, etc.) by nurses in some specific contexts also as a mean to overcome the many limitations of surgical volunteerism [19].

Furthermore, some countries have explored the new strategy of creating new mid-level personnel with the aim to expand health coverage in the rural areas. This strategy, whose results are now being assessed [20], requires the definition of the role of this new actors and the design of specific training curricula, raising the problem of standardization. From one side, the tasks and the training of these specific intermediate category should be adapted to the local situation for which they have been created. However, from the other side, global standardization of curricula would be desirable to share expertise and compare training experiences [21].

Both task-shifting and the creation of med-level health professionals are not to be considered a makeshift solution in resource-poor settings. Indeed, the contribution of such approach to cope with huge public health problems may prove more rationale that more sophisticated approaches involving highly trained specialists. The most brilliant victories of public health in Africa (small-pox, onchocerchiasis, trypanosomiasis, etc.) have been conquered by few generals (the doctors) leading and coordinating a large middle (nurses) or even low level army.

It has also been suggested that retention of health professionals, especially in remote areas, could be improved by the provision of fringe benefits (car, housing, etc.), that might elevate their social and economic status as desired [22]. On the contrary, the widespread use of per diems for in-job training has wasted resources and has incentivized health professionals to actively search for continuous training remunerative activities leaving their clinical duties, an attitude referred to as "*perdiemitis*" [23]. We strongly argue that actions should also be considered to facilitate retention also of the senior faculty staff at the academic level that also suffer from a high rate of migration, depriving the country of the best teaching and management resources.

Reinforcing the perception of the social accountability and ethical commitment of medical trainees with respect to the underserved community is also an endeavor that should be strongly pursued to limit the attitude to migrate. It is comforting to know that attention is being paid to this topic at least in some leader African medical institutions [24].

Finally, the careful planning of training needs for health care professionals (both quantitatively and quantitatively) should involve different sectors at the governmental level, including Ministries of Education, of Health, of Finances and any other relevant official bodies in order to insure sustainability of scale-up, as suggested by the Health World Organization [25]. In particular, the poor planning harmonization between the education sector and the health sector in many developing countries is considered to be a major obstacle to successfully implement a positive and much needed transformation of the global physician education system in resource-poor countries [26]. The survey carried out by the African Medical School Study carefully reviewed the needs of medical education in Africa, also providing sound recommendations to address the issue [5].

WHAT WESTERN EDUCATION ISTITUTES MAY CONTRIBUTE?

Now, in our context, the question is: "how can academic institutions based in industrialized western countries effectively cooperate with academic partners in the southern countries to cope with the shortage of trained health care professionals in those countries most in need?"

Quite surprisingly (and disappointingly), most literature on the medical education needs of resource-poor countries has been published by scholars working in western institutions [16]. Only quite recently, the academic leaders of the southern countries have raised their voice to address the problems and propose solutions [27, 28].

When putting in place a training or research partnership between academic institutions of the North and the South, many possible mistakes may be encountered. Ten of them are tentatively listed below (the ten "sins"):

1. Curricula are designed with a shift towards the needs of industrialized countries
2. Use of sophisticated training material (i.e. skill simulators)
3. Little attention to multidisciplinary approach
4. Tendency to create specialists instead of public health doctors
5. Little involvement of the local public health system and economic authorities
6. Little incentives for local training staff
7. Prolonged period of time for students to be spent in affluent countries, favoring brain drain
8. Social and cultural contexts are not taken into account
9. Unbalance between teaching staff from the north and the south
10. Focus on specific subjects of research with little impact on the final training outcome

Even if partnering for medical education is the more common way to start collaborations, the risks listed above are real and are to be taken into account in order to ensure effectiveness and sustainability. Results of such collaborations are mostly local in size, with little general impact on the education capability of resource-limited settings as a whole. However some positive evidence of more wide networking leading to appreciable, even if preliminary, results do exist [29, 30]. To avoid long periods of stay abroad, the development of joint diplomas (sandwich diplomas) delivered by the partnering universities may provide a suitable solution. Academic hospital twinning initiatives may also contribute to fill the gap of qualitatively adequate training fields that represent a major obstacle for quality clinical training for

doctors, nurses and other health care professionals.

The following are – non exhaustively - among the additional proposed solutions where western academic universities have been considered to play a possible role in assisting academic institution in the south of the world to increase quality and quantity of medical education.

Long distance internet-based teaching resources. They are attractive and have the advantage to limit travels, vacancies and costs. Positive experiences from the technical standpoint have been reported for specific vertical topics, such as HIV [31]. However, such approach requires a very careful design of the curriculum to ensure adaptation to the recipients' settings in terms of social, cultural, legal, economic and, sometimes, religious context. Furthermore, internet-based training requires access to electronic facilities that may be limited in many resource-limited countries, as well as the internet competencies of the trainees [32, 33].

Assistance in quality control procedures, external evaluation and accreditation. The maintenance of high quality of education is a crucial to gain credibility at the national and international level. However, few academic institutions in resource-limited settings have started this process, that may be effectively facilitated by the help of academic institutions in affluent countries, more used to such procedures. Such experience, that may potentially lead to high academic impact, has already been reported recently with positive results [34].

Assisting in developing independent research activity in developing countries. Research capability is crucial to deliver high quality teaching and training. Unfortunately, research (both basic and clinical) is at its infant's stage in developing countries due to the lack of economic resources and skills. Joint research activities have taken place in the past decades between researchers from the North and the South, usually the partner from western partner playing the role of the leader. It is now time that research institutions from the north and the south play a more balanced role , thus favoring the creation of a true independent research career path for young physicians from resource-limited countries, as exemplified by a handle of positive examples [28].

Furthermore, as a general consideration, there is a growing consensus that western destination countries, who most benefit from health care professional migration even in economic terms, should cover a substantial part of the cost involved with these activities [22], a topic that deserves attention in the global political agenda. Finally, we would like to underline the fact that medical training has to consider a shift toward global health and the strengthening of health systems on a global scale, not limited to developing countries but also in the western industrialized nations [35].

CONCLUDING REMARKS

The critical shortage of health care professionals limits the access to care to millions of individuals in resource-limited settings, and particularly in remote rural areas where the need is higher. This is mainly caused by (i) poor training capabilities of academic institutions in developing countries, (ii) the migration attitude of health care personnel to migrate to more affluent western countries, that recruit the best trained personnel with important economic losses to the source country and (iii) the unwillingness of local doctors to work in rural areas that do not offer economic profit and social prestige. This situation requires urgent action, including a profound transformation of the present training approach, as nicely proposed by Celletti et al. [26], as to (i) adapting curricula to local needs, (ii) promoting strategies to retain key faculty staff, (iii) selection of trainees from areas needing doctors, (iv) expose trainees to community needs during training, (v) promote multisectoral approach to education reforms and (vi) strengthen links between the educational and health care delivery system. Western academic institution may help and facilitate this process provided that past mistakes, leading to the underestimation of social and cultural aspect of education and to the constant predominance of the western partner over the southern one, are avoided. Assistance in quality control procedures, in building up research career paths, and the planning of joint diplomas (sandwich diplomas) are among the possible assisting strategies, waiting that the internet technology is more widespread and reliable providing new scenarios for training activities in constant and balanced partnership as stated in Millennium Development Goal n. 8.

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A.P.P.A.® PROJECT: AN EXAMPLE OF INTERNATIONAL HEALTH COOPERATION

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ABSTRACT

The *A.P.P.A.*® Project is the main activity of *Aid Progress Pharmacist Agreement* no profit association; the Project, started in 2005, is the result of the cooperation between the Pharmacy Faculty (TO) and local Pharmacists. The Project is in agreement with the International Health Cooperation principles and it complies both with Italian and guest Countries laws.
Objectives:

- realizing galenic lab in hospitals located in developing Countries (DC) with the aim of preparing medicinal products which comply with adequate quality requirements, first of all to fight the widespread phenomenon of counterfeit in DC;
- customizing the dosages and pharmaceutical forms according to the actual needs of patients;
- employing local staff, teaching them a "new job" in order to open suitable school;
- minimizing the financial commitment necessary to prepare these medicines.

The Project is structured in six phases, through which it is possible to obtain an effective and functional lab: from a preliminary study of local needs up to a constantly and accurate control of the prepared galenics by analysis in the laboratories of University of Turin.
The pharmaceutical forms proposed are liquid, capsules, ointments and suppositories.
The most important results showed that several Projects are going on:

- *Centre Médico-Chirurgical Maternité la Bethanie*, Douala, Cameroon
- Hospital *Notre Dame des Apòtres*, Garoua, Cameroon
- Health Center *Le Bon Samaritain*, N'djamena, Tchad
- Hospital *Heintsoa*, Vohipeno, Madagascar
- Dispensario Diocesano, Ihosy, Madagascar
- Hospital *Nossa Senhora da Paz*, Cubal, Angola
- A.M.E.N. Onlus center, Funda, Angola
- Hospital *Saint Damien*, Tabarre, Haiti

Each lab so far has reached a different state of evolution. All of them are growing day by day, helped by the constant support of all team *A.P.P.A.*®, whose purpose is the one of making them independent from both knowledges in handling galenics and economy in order to buy new raw materials using the gain of medicines sale.

COUNTERFEITS

Nowadays one of the worst plagues of Developing Countries (DC) is represented by the phenomenon of counterfeits. Custom procedures are less stringent, authorities controls are less effective so counterfeit medicines could be easily distributed in the market of these Countries with a substantial loss of public confidence in the healthcare system.

The principal target of counterfeits are life-saving drugs and it increases the risk of resulting deaths, but not only because sometimes it can give rise to events of catastrophic proportions like in Niger in 1995 where about 60.000 people had been injected with a counterfeit meningitis vaccine, or in Haiti in 1996 where a diethylene glycol contamination of pediatric syrup killed more than 80 children [1, 2].

In all DCs anti-retroviral drugs, antimalarics and antibiotics are principally affected, sometimes with staggering percentages: for instance an international study published in 2004 has shown that more than 53% of artesunate tablets sold in south-east Asia did not contain any active ingredient at all, with imaginable consequences on the fight against malaria in those Countries [1, 3].

In order to verify and better understand we have investigated the extent of the phenomenon of pharmaceutical counterfeits in some DC including the Countries where *A.P.P.A.*® is working [4]. With our research we investigated the quality of medicines purchased *in loco* from pharmacies and from unofficial street-pharmacists (figure 1). Samples collected in the different DC were analysed in the laboratories of the Department of Scienza e Tecnologia del Farmaco, University of Turin (Italy).

Fig. 1 - Cameroun, street pharmacist.

Results and discussion

The study we conduced confirmed that counterfeits medicines are one of the most problematic issues in DC and we found that the absence of controls and the inadequate pharmacovigilance system causes difficulties both in revealing and monitoring the phenomenon and its effects among the population.

Based on our results it was possible to determinate that 50% of tested items were substandard drugs and 2% were counterfeits without the presence of declared API: they could be defined criminal false, a dosage form in which the active pharmaceutical ingredient is completely absent or present in an amount absolutely non effective.

The results also show that Indian drugs are often substandard: 30 out of 61 Indian samples (i.e. 41,7%) showed OOS (Out Of Specification) [5].

These outcomes we found are in accordance with international data retrievable in literature [6-9] and confirmed that the main target of counterfeiters is represented by expensive life-saving drugs (table 1) and this trend is likely to be maintained also in the future [10-14]; this research showed that it is rather common to find counterfeits in Developing Countries, even in astonishing percentages (figure 2).

Reported results and discussed topics point emphasize and increase the relevance of *A.P.P.A.*® Project in Developing Countries.

	No. (%) of samples	
Therapeutic classes	**available for analysis**	**counterfeit**
Antibiotics	76 (34.4)	30 (29.7)
Anti-inflammatories	44 (19.9)	22 (21.8)
Antipyretics	24 (10.9)	9 (8.9)
Antimalarics	17 (7.7)	6 (5.9)
Antimycotics	13 (5.9)	9 (8.9)
Antihypertensives	8 (3.6)	1 (1.0)
Antianemics	5 (2.3)	4 (4.0)
Spasmolytics	5 (2.3)	2 (2.0)
Diuretics	5 (2.3)	1 (1.0)
Antiacids	5 (2.3)	2 (2.0)
Bronchodilators	4 (1.8)	5 (5.0)
Others	15 (6.8)	10 (9.9)

Tab. 1 - Therapeutic classes of the total and counterfeit samples [5].

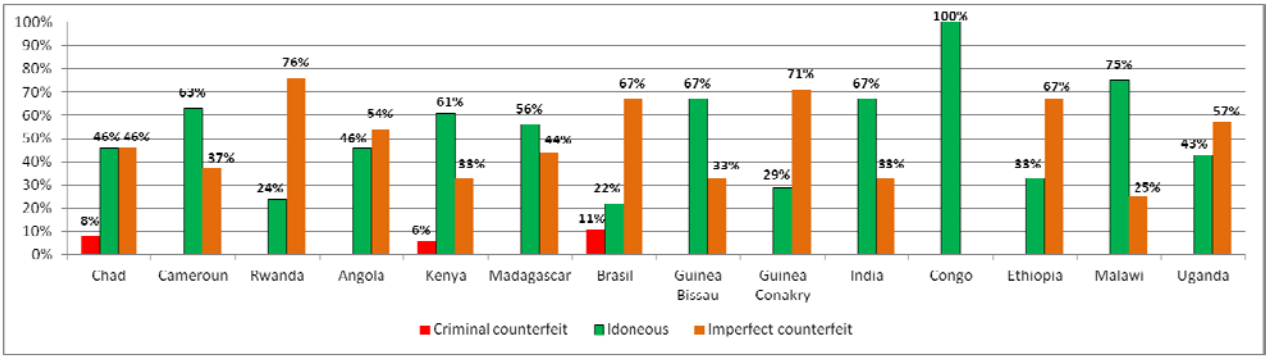

Fig 2 - Presence of counterfeit drugs by Country. Red bars – criminal counterfeit; green bars – idoneous; orange bars – imperfect counterfeit [5].

A.P.P.A.® PROJECT

A.P.P.A.® [4] is a no profit association based on voluntary work without any profit proposing; its main aim is *A.P.P.A.*® Project, which argues on the realization of galenic laboratories in Developing Countries around the globe in accordance with the guidelines of International Health Cooperation.

The creators of the Project teach through the Pharmacy's students to local staff how to prepare galenic medicines with a high level of quality and consequently security and efficacy. *A.P.P.A.*® Project is built on a close collaboration with the academic world, represented by University of Turin, Faculty of Pharmacy, and with Community Pharmacy.

The main objectives of the Project are:

- realizing galenic laboratories in Developing Countries with the aim of preparing medicinal products which comply with adequate quality requirements, first of all to fight the widespread phenomenon of counterfeit in DC;
- customizing the dosages and pharmaceutical forms according to the actual needs of patients;
- employing local staff, teaching them a new "job" in order to open suitable school;
- minimizing the financial commitment necessary to prepare these medicines.

Many are the main reasons to propose galenics: the first one is that the production system is low cost and the operative procedures are simple; the second one, most interesting and important in our opinion, is the possibility to prepare medicinal products with dosage and pharmaceutical forms according to the customer demand and, of course, to medical prescriptions, last but not least, this Project allows to reduce the use of counterfeit medicines in structures where the galenic lab is located.

When a new galenic laboratory is required we usually conduce a preliminary study that implies for an our staff member a trip on site to value the local situation and recipient areas [step 0 of *A.P.P.A.*® Project]. In this step a precise protocol is used to guarantee all preliminary needed information. Furthermore some medicines should be purchased in local pharmacies and sent to the laboratory of the University of Turin, which will provide for the qualitative and quantitative analyses; the results allow to value if these medicinal products, present on the local market, respect the declared characteristics or are counterfeit.

The Project complies both with Italian and guest Countries laws, always saving the quality of medicinal products. The pharmaceutical forms proposed are liquid preparations, capsules, ointments and suppositories.

This feasibility study is essential to evaluate the actual possibility of opening a new *A.P.P.A.*® lab. Only if we find the real need for the galenic laboratory required, as suggested by International Health Cooperation objectives, we can carry out with the following six phases of *A.P.P.A.*® Project:

1. The first one implies the choice of the place where the galenic lab could be realized. The medical doctor responsible of medical center will put in evidence local pathologies, then will be projected the correct pharmaceutical forms.
2. The second one implies a stage at galenic *A.P.P.A.*® laboratory at the University of Turin (Italy), for students of Pharmacy Faculty -during their experimental thesis-; the stage allows learning necessary to prepare the programmed medicinal products.
3. The third one provides staying in Italy of a person of local staff with the aim of learning the procedures of galenic preparations (about one month work) under Pharmacy's students supervision. During this period we send the material for galenic lab to the hospital (figure 3).

Fig. 3 - Italy, Romel Cajuste during his stage at *A.P.P.A.*® laboratory.

4. The fourth one concern in a training period (about sixty days) in the hospital, during which the technician, who has been in Italy to learn galenic methods and procedures, will be coordinate in his work by the Pharmacy's students on site (figure 4, 5).

Fig. 4 - Angola, Funda, A.M.E.N. Medical Center.

Fig. 5 - Cameroun, Garoua, «Notre Dame des Apòtres Hospital».

5. The fifth one concerns in quality control of medicinal products routinely prepared in new galenic lab; moreover some samples of these will be sent to University of Turin, where their quality will be tested.
6. The last one concerns in periodical stages (at least forty days) for students -during their experimental thesis-. These stages will be performed each year both to permit a continuous supervision of medicinal products prepared in the lab and to study new formulations according to the request of the medical doctor responsible of the medical center which might change by the time.

Often many points must be examined and modified considering the reality and requirements of demanding structure, but without losing quality of galenics.

The Project considers a budget which includes equipment but not furniture or raw materials that strictly depends on the therapeutic requirements of the different places. The funds necessary to the whole creation of a lab are raised through the collaboration of groups involved in International Cooperation. It is indispensable to guarantee a good activity of the galenic laboratory for the hospital to reinvest the earning obtained by dispensing of medicines prepared in the conduct of the laboratory. In this way the laboratory will be self-financed and there will be a continuous production. About the raw materials, the hospital can buy them in Italy or other Countries respecting quality and title of the raw materials to be used.

Results and discussion

Several Projects are going on, at different state of progress:

Cameroun - Hospital La Bethanie, Bonaberi-Douala; GinTeam ONLUS; St. Joseph Congregation Hospital, Kribi - Phase 6 of *A.P.P.A.*® *Pro*ject

Cameroun - Hospital "Notre Dame des Apòtres", Djamboutou-Garoua; Fondazione CUMSE Onlus - Phase 6 of *A.P.P.A.*® *Pro*ject
Chad - Health Center "Le Bon Samaritain", Walia-N'Djamena; association tchadienne «Communauté pour le Progrès» (ATCP) ONG; Acra ONG - Phase 6 of *A.P.P.A.*® *Pro*ject
Madagascar - Hospital "Henintsoa", Vohipeno; Anemon ONLUS - Phase 6 of *A.P.P.A.*® *Pro*ject
Madagascar - Health Center, Eglise Catholique Apostolique Romaine, Ihosy; Anemon ONLUS; Lions Club Torino San Carlo - Phase 6 of *A.P.P.A.*® *Pro*ject
Angola - Hospital "Nossa Senhora da Paz", Compañia de Santa Teresa de Jesus, Cubal; Dani Instruments S.p.A; Comunità di S. Egidio – ACAP (O.N.L.U.S.) - Phase 6 of *A.P.P.A.*® *Pro*ject
Angola - Health Center A.M.E.N. ONG, Bairro CowBoy, Funda; Dani Instruments S.p.A; AMEN onlus – Italia - Phase 5 of *A.P.P.A.*® *Pro*ject
Haiti - Pediatric Hospital N.P.H. Saint Damien, Tabarre; N.P.H. Italia Onlus, Francesca Rava Foundation - Phase 6 of *A.P.P.A.*® *Pro*ject
Sierra Leone – Hospital "Saint John of God", Mabesseneh, Lunsar; Saint Joseph Fathers Congregation, Rainbow for Africa, Engim ONG - Phase 1 of *A.P.P.A.*® *Pro*ject

Each lab has so far reached a different state of evolution. All of them are growing day by day, helped by the constant support of all team *A.P.P.A.*®, whose purpose is the one of making them independent from both knowledge in handling galenics and economy in order to buy new raw materials using the gain of medicines sale. Our experience has till now demonstrated that at least 5-6 years are necessary because the laboratory reach its independence if there are not changes of personnel.

GALENICS FOMULATIONS, QUALITY AND STABILITY CONTROL

Magistral and officinal formulations (commonly known as "galenics" in homage to Galen of Pergamum who is regarded as the first pharmacist engaged in the preparation of medications) are required to be prepared, labelled and stored using standard procedures and established methods in order to ensure the quality of finished product which is a mandatory prerequisite for its safety and efficacy [15, 16].

Since *A.P.P.A.*® Project is based on galenics, we had the necessity to perform a survey on the stability of various galenic dosage forms commonly prepared in pharmacy, in order to investigate the actual stability of these medicinal products [17, 18].

We endeavoured to gather information on stability of galenics at extreme environmental conditions (high temperatures and relative humidity) that might prove useful in those Countries (e.g., African ones) where the tropical climate is a serious threat for the quality of drugs.

Moreover, considering that one of the main aim of *A.P.P.A.*® Project is the fight against counterfeits and then the production of quality medicinal products, we settled up procedures to make quality control tests on galenics produced in our laboratories in order to verify and guarantee their quality.

Results and discussion

Storage conditions, chemical and physical nature of the API, containers, environmental conditions and the compatibility of API with excipients might affect considerably the final quality of galenic preparations.

All these factors, considered as a whole, define the use-by date of medicinal products that must be reported on the label. The current legislation has decided to define precautionary validity limits for galenics depending on the nature of their dosage form, leaving to the pharmacist the option to increase these limits relying on scientific data. [19].

Based on our results it was possible to determinate that in tropical Countries the tested dosage forms are stable for a period of 24 months in "Standard" conditions [17]. In "Accelerate" conditions [17], samples were stable for 3 month provided that they have been stored in glass containers, propylene is not suitable at high temperatures due to probable interactions of active substances with extractables and leachables materials from the container. Stability results of samples stored in "Accelerate" conditions also supplied precious information on the expected stability of galenics in tropical Countries where extreme environmental conditions are often a limiting factor for correct storage of drugs. The results do not imply that it is possible to increase the use-by date of all galenics, but it can be done for those dosage forms tested and prepared following standard general principles [16, 20].

To guarantee the quality of medicinal products made in *A.P.P.A.*® labs we constantly analyse some samples applying procedures in line with the tests of the European Pharmacopea. The results of the analysis must be within the limits imposed by the law in force, otherwise the medicinal products can not be used [16]. In any Country we operate we claim to meet the requirements of quality, safety and effectiveness required; the consequence was a good answer by local technicians and their proposal to better apply the standard procedures established and shared.

CONCLUSION

A.P.P.A.® Project started in 2005, till now we opened an amount of 8 galenic laboratories in 5 different Developing Countries between Africa and America. The laboratories are now working on and they are at various state of progress. In 8 years about 30 students of Pharmacy have been involved in this Project and about 30 local technicians are working in the opened laboratories.

Through the positive results obtained from the steady execution of quality control tests on galenics made in our labs we demonstrated that it is possible to produce good medicines even in Developing Countries where conditions are not always in favour. It proves that the procedures that we settled up during these years are reliable methods that guarantee the production of medicinal products of high quality.

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GHC-TUSCANY: NEW PARTNERSHIPS FOR THE GLOBAL HEALTH

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ABSTRACT

The Global Health Center is a multidisciplinary facility of the Tuscany Region. Its function is to highlight the connections established between globalization and health in terms of equity, human rights, sustainability, diplomacy, and international collaborations. The Center has a global outlook and allows university professors, university researchers, PhD, graduate students and students from various disciplines, doctors and other healthcare workers (biologists, obstetricians, nurses, medical assistants, etc.) as well as health sector representatives from volunteer organizations to join together, and study and experiment with approaches to both academic and operational global health issues.
The Center will activate transverse and connecting actions in four thematic priorities of interest among all Tuscan, national, and international stakeholders so as not to waste energy, resources, and the capacity for intervention: International health cooperation, Neglected tropical diseases, Health policies, Migrant health.
The Global Health Center is the result of an innovative alliance between healthcare organizations, the Region, the Universities and the organizations and associations, in fact, is based on a partnership that aims to involve, in one direction, all those who are involved in various capacities, in international health cooperation projects implemented by Tuscany Region. In particular, we would like to present three projects in different areas of the world where, thanks to a fruitful collaboration between the University of Florence, the Tuscany Region and the local health authorities, where the opportunity to experiment the added value of the dialogue between various entities and the involvement of the Academy had a significant impact both in the home country as well as in the local contest, We therefore present the results of the following projects aimed at supporting: i) the implementation of the Sistema Unico de Salud (Health National Service) of the Plurinational State of Bolivia: a pilot project in the Chaco Region; ii) the development of Paediatrics and Digestive Endoscopy Medical Center in Nanoro - Burkina Faso; iii) the design of a National Health Accounts and a Diagnostic Related Groups (DRG) Patient Classification Systems in Albania and Developing a Model Prospective Payment and Contract System for Hospitals.

During the last years, a new trend has emerged in the Tuscany Region: it has been consolidated the need to spread awareness of existing inequalities and the causes that have produced them, and the right and duty of citizenship to participate at the decisions regarding the health of all, the duty of the scientific community to systematically address the issues of equity, sustainable development, defence of the dignity and life, the need for deeper study, the independent assessments of a wide transmission information and knowledge, the need to implement international cooperation projects characterized by a system approach to health. This need has been expressed by healthcare professionals (doctors, researchers, academics and representatives of the voluntary sector). This is the main reason why it was born the idea of establishing a facility, whose main objective is the study of the effects of globalization on health. The Global Health Center of the Tuscany Region was established by Regional Council Resolution n. 909 of 15/10/2012. It is a multidisciplinary facility of the Tuscany Region whose objective is to highlight the connections established between globalization and health in terms of equality, human rights, sustainability, diplomacy, and international collaborations.

The Centre based its theoretical approach on the social determinants of health and on the principles of the Declaration of Alma Ata. It uses a multi-disciplinary and multi- methodological approach, with the contribution of both the social sciences and humanities both the natural and biomedical sciences, with a privileged relationship with medical anthropology. The Center has a global outlook and allows professors, university researchers, Ph.D. and university students in various disciplines, doctors and other healthcare workers (biologists, obstetricians, nurses, medical assistants, etc.), as well as health sector representatives from volunteer organizations to join together, and study and experiment with approaches to both academic and operational global health issues.

The Global Health Center promotes the development of 'country projects' - recovering the organizational schemes of International Organizations, in order to help determine favourable conditions for a better quality of interventions not only among the different local actors but also between all the actors that operate in the same area, making an essential contribution to improving relationships and interaction for the co-development. It recognizes the complexity of the health sector and the changing context of global health where growing inequalities helps to fuel the recursive relationship between poverty and health.

The fundamental objective is to enhance, disseminate, and apply knowledge to the four thematic priorities on which the Center is funded.

The Center will activate transverse and connecting actions in four thematic priorities of interest among all Tuscan, national, and international stakeholders so as not to waste energy, resources, and the capacity for intervention. The four thematic priorities are: international health cooperation, Neglected tropical diseases, Health policies, Migrant health.

It is a unique experience in the institutional landscape in Italy, and it has the ambition to be a pilot project. It confirms the principles that the Tuscany Region states both in the "Social and Health Integrated Plan" and in the "Plan of International Activities", developing a shared and integrated planning, addressing the social aspects health too, trying to innovate a careful but often one-dimensional health vision. In particular, these are the general objectives of the Centre: i) the growth of health workers knowledge (to know), attitude and ability (skills), both during the period of academic training that along their career path, in order to integrate their job profile with essential skills about emerging health needs; ii) the dissemination of knowledge about the social, cultural and environmental determinants that influence health and disease, nationally and internationally, and the ability of medicine and public health to influence them; iii) the recognition and respect of the existence of the plurality of visions of health and disease, as elements that characterize the individual and cultural identity.

The Global Health Center of the Tuscany Region is based in Florence at the Meyer Children Hospital.

The International Health Cooperation activities and the care of children from all over the world is a tradition and a part of the history of Meyer Hospital. This tradition was acknowledged by a legislative act of Tuscan Government on March 26, 2001, which designed the structure of the International Health Cooperation network of the Region.

Since then, the Meyer Hospital has been managing the activities of international health cooperation on behalf of Toscany Region, coordinating the network of International Health Cooperation trough focal person dislocated in each hospital and local health service with the mission of improving global health. International health cooperation is a key-point of the program of the Government of the Region of Tuscany, and it plays an important role in addressing the challenge of cooperation as a contribution to the development of the most disadvantaged countries in the world. In this moment the Tuscany Region is financing approximately twenty international health cooperation projects, implemented in various areas of the world, especially Sub-Saharan Africa, Latin America, the Mediterranean and the Balkans Beyond the vertical approach by pathology or population, the regional health cooperation strategy aims to strengthen approaches that are cross-cutting, so as to address the structural challenges which put pressure on health systems and thus promote universal access to safe, effective and affordable quality treatment. The priorities of the strategy are:

- the promotion of the health of women and children;
- The fight of communicable diseases;
- The strengthening of health systems and the improvement of access to treatment through the training of human resources and the promotion of both models of sustainable financing for health and efficient health information system in order to guarantee equality of access to care.

Education and training are the common ground for the cooperation between University and Regional Institution. This is not surprising: there has always been a strong emphasis on training in our regional cooperation and in the current international context of increasing globalisation, the conditions of knowledge production, scientific and technological capacity and the volume of information flows, are factors that can determine the economic and social development of countries. Besides the concept of training means a "donation" of technical elements, best practices and working methods, but also provides a return, a sharing of values and knowledge, the enhancement of human potential. In fact, the international health cooperation facility in Tuscany is based on a participatory approach, involving all the Regional Health Service. The specificity of the on-site training also involves to "take home" experiences and contributions that will give added value to our workers and our health services

For all the above reasons, universities cannot be absent from discussion of development issues; in fact, they are becoming fundamental actors in development co-operation. Even though exchange has always been a part of the University essence, we are now witnessing an important movement towards internationalization, which cannot be indissoluble from the phenomenon of the globalization of culture and exchanges. In the international health field, universities, either in the South or North, have traditionally played an important role which is ever expanding, due to the broadening of the concept of international health. Tuscany was not immune from this process.

In recent years, universities in Tuscany have incorporated international relations and international co-operation as integral parts of their missions and functions. In this way, the university has assumed the responsibility of "co-operating" with other institutions, of working together with others for the same ends. In the Global Health Center all the three Regional Universities are represented trough a unique representative.

The support from the Universities in the implementation of some projects has given interesting results. The starting point is that a doctor in training needs some notions and expertise that can rarely be learned in the standard training of the University. It is therefore important to disseminate the awareness that the health system is changing, globally but also locally. For this reason, the Global Health Center of the Tuscany Region organizes regular training activities in the field of global health at the three Tuscan Universities - Florence, Pisa and Siena - and also at a national level. These training courses are related to the four thematic areas of the Centre, with the idea of a virtuous circle of knowledge that establishes the basis of a comprehensive concept of health. One of the possibilities that are offered to doctors in training

(and not only) is to participate in projects of international health cooperation; in particular three projects in different areas of the world have been designed and based on the involvement of the Academy: i) Support and technical assistance to the implementation of the *Sistema Unico de Salud* (National Health Service) of the Plurinational State of Bolivia: a pilot project in the Chaco Region; ii) Support for the development of Paediatrics and Digestive Endoscopy Medical Center in Nanoro - Burkina Faso; iii) Designing a National Health Accounts and a Diagnostic Related Groups (DRG) Patient Classification Systems in Albania and Developing a Model Prospective Payment and Contract System for Hospitals .

1. PROJECT "SUPPORT AND TECHNICAL ASSISTANCE TO THE IMPLEMENTATION OF THE *SISTEMA UNICO DE SALUD* (NATIONAL HEALTH SERVICE) OF THE PLURINATIONAL STATE OF BOLIVIA: A PILOT PROJECT IN THE CHACO REGION"

The project is part of a number of previous initiatives carried out by the University of Florence, through the Division of Infectious Diseases, starting in 1986 and formalized in 1987 through the signing of an agreement with the Bolivian Ministry of Health, which is still in force. In particular, the main activities were: scientific research and supporting the training of local health workers to promote and support the improvement of public health services of the Chaco Region, especially in the rural areas, where the main population is part of the Guarani ethnic group. In these twenty-six years of constant work, all the activities were carried out according to protocols agreed between the parties. The results of the main research activities have been published in international scientific journals and initially reported in a publication by the Ministry of Health of Bolivia in 1997 (Revista Boliviana de Epidemiologìa).

In 2011 it was realized the publication of a book entitled "25 años de Investigación en el Chaco Boliviano en el marco de Convenio entre Cátedra Enfermedades Infecciosas de la Universidad de Florencia, Italy, y Ministerio de Salud y Deportes de Bolivia" containing all the 47 articles translated into Castilian on the scientific work carried out in the Bolivian Chaco. The publication was produced on-site with the help of PAHO / WHO, and is currently spreading in print and online. After many years of experience and scientific clinical trials conducted in Latin America, some doctors working in the Division of Infectious Diseases / SOD Infectious and Tropical Diseases in Careggi Hospital, Florence, have developed a specific expertise in tropical diseases, useful for the correct approach to the diagnosis and the treatment of imported pathologies. The project is very articulate, and it provides the following activities: the epidemiological study of infectious diseases in animals and humans, the containment of the spread of bacterial resistance to antibiotics in the area by monitoring the phenomenon in commensal bacteria and pathogens and promoting the prevention of infections in a hospital setting (from the implementation of programs for hand hygiene), strengthening of laboratory services for clinical and microbiological analysis through ad hoc surveys, training of technical personnel and implementation of new methods, control of epilepsy in rural areas and support the epidemiology on promoting independent community organization. Another area of action is the emergency / urgency, in all its aspects: organizational, training and capacity effective and timely response. This last point is a significant element of an universalistic health system.

The priority of the project is now the opportunity to continue working with the Ministry of Health of the Plurinational State of Bolivia, to consolidate this data and especially to implement, together with the local medical team, protocols that can prevent and manage these serious public health problems, and to understand how to integrate these important results in the reform under way in the National Health System. The Health system currently in force is in fact deeply fragmented and it causes unequal access to services. For this reason, the current government is trying to move towards a *Sistema Unico de Salud*, a single system of health, already mentioned in the new Constitution, that aims to provide the access to health services to the entire population, especially the most marginalized. For this reason, it is very important to verify how the Bolivian Ministry of Health is influenced by the Tuscan activities in Bolivia and by the analysis and systematization of the results of studies conducted by the University of Florence. A positive signal is that the Bolivian Ministry of Health has required the Tuscan support, in this phase of restructuring and redefinition of the national health system,. The idea is to try to share the sustainable best practices and the difficulties faced by the Italian health system, and in particular the Tuscan one. For this reason, exchanges and analysis between the two territories will be favoured. On this basis, the Bolivian Ministry of Health has initiated a process aimed at the implementation of the *Sistema Unico de Salud*- SUS, an universalistic health service. This project aims primarily to offer support to the implementation of the Unique Health System, as a pilot project in the area of the Bolivian Chaco.

2. PROJECT "SUPPORT FOR THE DEVELOPMENT OF PAEDIATRICS AND DIGESTIVE ENDOSCOPY MEDICAL CENTER IN NANORO - BURKINA FASO"

This project aims to contribute to the creation of a facility that could ensure an adequate classification and treatment of diseases of childhood, reducing the infant mortality rate in the district of Nanoro. The general objective is to reduce the infant mortality rate in the district hospital through better taking care of paediatric patients. The project started in April 2008 with the creation of a small department of paediatrics and the activation of an agreement between the University of Florence and the Camillian Community. The agreement provides the continued presence of Italian doctors

of the School of Paediatrics in Florence in order to assure the efficient coordination of the activities with local nurses. Before the start of the project, Medical Center of Nanoro was equipped with a department of general medicine with a total of 18 beds including 6 for inpatient paediatric and a recovery center for education nutrition for children suffering from malnutrition. The patient care was not delivered by a specialized in paediatrics nursing team, and co-ordinated by the presence of an internist adult. The first measure taken was to create a paediatric department separate from the adult one. In June 2009, the construction of a new paediatric ward was complete, which currently has 36 beds, 6 inpatient rooms and a room reserved for the most critical patients as equipped to supply a continuous flow of oxygen. At the same time 5 new local nurses dedicated to Paediatrics were hired. From 1 April 2008 to the present, it have been guaranteed the continuous presence of at least one physician specializing in paediatrics, trained in the management of paediatric and tropical diseases, supervised by periodical mission of a specialist tutor.

The task of tutors and trainees, in addition to clinical activities, was to organize training courses for nurses and health personnel that must provide health and hygiene education for the mothers of sick children. Applying the WHO guidelines, the group developed protocols on the most common paediatric diseases (malnutrition , malaria, diarrhoea, pneumonia, meningitis, blood transfusions). The application of these protocols improved the management of patients with a better optimization of resources. The hospitalization times have been abbreviated, especially for some diseases, such as diarrhoea, and the number of readmissions for the same diagnosis is reduced. The project plans to continue and improve ongoing activities: continuous presence of expatriate medical staff, training of nurses and mothers, writing diagnostic-therapeutic protocols, provision of medical supplies, medicines and medical equipment. To improve the assumption and management of malnourished patients, since 2010 has been applied the new outpatient approach, in witch was originally planned the use of “Ready to Use Therapeutic Food” (i.e. Plumpy nut), a peanut and milk -based paste that does not require cooking and is storable for months. This approach was reserved for uncomplicated cases (moderate and severe malnutrition without co morbidities) followed with periodic outpatient visits, and it had the advantage of reducing hospitalizations and therefore costs. The critical factor, however, is that the Plumpy nut is not produced in Burkina Faso, but imported. So, if it was able to treat well the malnourished in the first period, it has not deeply affected on the prevention of malnutrition. For these reasons, the project is now proposed to improve the nutritional taking care of children with moderate malnutrition, through the production of enriched flour produced starting from local ingredients that can be easily found by the mothers, and the identification of patterns of diet reproducible at home. One of the new objective of the Nanoro project is to take care of the new-borns. The majority of infant mortality, as confirmed by data from the literature, it is currently focused in this age of life, after the improvement of paediatric care in later life. The main reasons of the high neonatal mortality are: the lack of adequate training of the staff, the very low access of women to the prenatal visits during the pregnancy, the non-attendance of equipment essential for proper management of childbirth and deliver. Most of the neonatal deaths are caused by largely preventable factors, like hypoglycemia, hypothermia and chernittero. Therefore, the project proposes the creation of a specific training course of obstetrical and nursing personnel, through the drafting of specific protocols and the purchase of essential equipment.

Given the high prevalence of gastrointestinal and liver diseases both in adults and children, the project activities has been concentrated on the establishment of a service of digestive endoscopy. There were several missions by expatriate doctors and nurses that permitted the training of three Burkinabe nurses who are now able to perform diagnostic endoscopy and to guarantee disinfection and maintenance of the instruments. It is now necessary to continue the training and supervision to implement the service of diagnostics and to guarantee operational tests too. Finally, the evidence of the high prevalence of cardiac diseases in young adults and also in children and in the elderly, has indicated the need to start a training program for nursing and medical staff.

3. PROJECT “DESIGNING A NATIONAL HEALTH ACCOUNTS AND A DIAGNOSTIC RELATED GROUPS (DRG) PATIENT CLASSIFICATION SYSTEMS IN ALBANIA AND DEVELOPING A MODEL PROSPECTIVE PAYMENT AND CONTRACT SYSTEM FOR HOSPITALS ”

The health sector is defined as the priority sector in the Albanian Strategy for the social and economic development. The Albanian Health sector is in the continuing transformation in the function of the realization of the proper standards. To realize the reform in this sector and to help the decision makers in their decision is necessary to have the right information on the source of the financing of health sector, on the destination of the expenditure in this sector and their control. Preparing a national health account in accordance with the international standards in this field, should make it possible the comparability of the performance of the indicators of health sector with them of other countries, so that the Albanian authorities and International Organization which support the development of this sector in Albania, have proper tools in order to define the way and the funds necessary to develop this sector in Albania

The wider objective of the project is to contribute to preserve and improve the health of the Albanian population by increasing efficiency, maximizing productivity in service production and rationalizing the use of resources within public health services.

The project aims to do this by supporting the MoH in the implementation of the strategic priorities aimed at reforming Secondary and Tertiary level of Public Health Care Providers (STC) organizational, managerial and financial

mechanism thus contributing to the Albanian Government efforts to establish a health care system that would meet the needs of the population in a more efficient and cost-effective manner within the available resources

Specific objectives of the project are:

1. increasing the capacity to manage STC services in a more efficient way by standardizing administrative guidelines and procedures for managing facilities and by training and continuous education in order to improve the managerial skills and competences of decision makers and to strengthen capacities among the staff in key positions of the health care system and within the STC.
2. Improving the health care system financing, including minimizing informal money flows. In particular the project will seek the reduction of informal money flow within the system by monitoring the mechanism of service deliveries through the introduction of: the Health Information System, the Diagnostic Related Groups (DRG) classification systems.

Partners of the project re the Albanian Ministry of Health, Tuscany Region and two Universities the one of Florence and the Catholic University "Our Lady of Good Counsel" in Tirana. The project has started in 2010 and is still ongoing.

The project includes two main components:

I. Technical Assistance for Policy Design and Implementation. This component would develop the training instruments required to achieve the objectives set forth in Ministry's strategy in the areas of regulation, financing, institutional development and health service provision in terms of human resources skills and capacities. The component has already started and has provided technical assistance and training in the methodology and tools (auditing, budgeting and accounting) of financial accountability.
   - In particular training through workshops an on the job training to the Ministry of Health and National Hospitals personnel on accounting and internal controls and DRG system has been carried out. The target groups of these activities were, first of all, the policy planners in Health Ministry and Agencies dealing with health financial resource allocation and health governance as well as health insurance fund staff, medical institution managers and medical personnel. At least 260 people benefit from this technical training.

II. The second component is intended to develop the medium term and action plan for the introduction of the DRG system in collaboration with all stakeholders and submit the plan to be adopted by the Government and identify and develop planning and management courses to be attended by selected staff working on accountability and DRG issues. At this point an assessment study concerning the usefulness and reliability of the existing administrative rules, operating procedures and data base and software in selected pilot hospitals with regards the financial accountability has been carried out and specific recommendations on the national procedures and standards as well as on the system concerning accountability has been submitted to the Ministry of Health.

POLITECNICO DI TORINO
UNIVERSITÀ DEGLI STUDI DI TORINO
CUCS TORINO 2013

Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

ARACNE

Tessere reti per il diritto alla salute dei migranti

Progetto realizzato da CCM – Comitato Collaborazione Medica

Comitato Collaborazione Medica

una rete per la salute

Presentazione

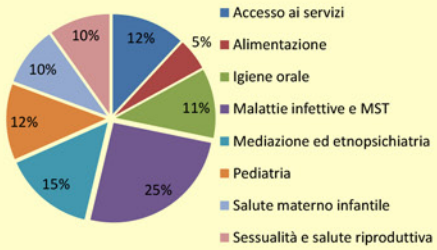
Il "Progetto Aracne – Tessere reti per il diritto alla salute dei migranti" è nato dalla collaborazione tra il CCM, il centro Mamre e la cooperativa Tavola di Babele. È stato finanziato dall'Unione Europea e dal Ministero dell'Interno attraverso il **Fondo Europeo per l'Integrazione dei Cittadini di Paesi Terzi** ed è stato coordinato dal CCM.

Le attività del "Progetto ARACNE – Tessere reti per il diritto alla salute dei migranti" sono iniziate ufficialmente nel mese di settembre 2011 e sono terminate il 30 giugno 2012.

Attività e Risultati

Il progetto ha articolato tra loro attività diverse con l'obiettivo comune di coinvolgere le comunità migranti e le risorse territoriali in iniziative di promozione del diritto alla salute:

- Apertura e gestione di uno **Spazio d'Accoglienza** per i migranti presso la Casa del Quartiere di San Salvario.
- Realizzazione e pubblicazione di una **Ricerca sugli Itinerari Terapeutici** dei migranti.
- Organizzazione di 5 **Eventi di Animazione** e sensibilizzazione nel quartiere.
- Organizzazione di 16 **Incontri di Formazione** con le associazioni di migranti.
- Organizzazione di 3 **Percorsi di Sensibilizzazione** con i giovani (Scuola Manzoni, ASAI, Crescere Insieme) del quartiere.
- Organizzazione di un **Convegno Finale**.
- Produzione di un **Video Documentario** sulle attività del progetto.



Formazione con le Associazioni di Migranti

Temi Trattati	n° Formazioni	n° Partecipanti	M	F
Accesso ai servizi	4	35	13	19
Alimentazione	1	15	0	15
Igiene orale	2	33	10	23
Malattie infettive e MST	2	75	60	15
Mediazione ed etnopsichiatria	4	43	8	35
Pediatria	3	36	0	36
Salute materno infantile	2	28	0	28
Sessualità e salute riproduttiva	2	29	16	13

Obiettivi

L'**obiettivo generale** del progetto era quello di promuovere la salute come diritto inalienabile di ogni essere umano, lavorando nello specifico con la popolazione migrante della città di Torino. L'**obiettivo specifico** del progetto era quello di favorire e migliorare l'accesso ai servizi sanitari e la fruizione degli stessi da parte dei migranti attraverso un'iniziativa pilota nel territorio circoscritto del quartiere San Salvario di Torino, interessato da una forte presenza di immigrati, ma anche da numerose espressioni della società civile.

Metodologia

La metodologia del progetto ha previsto un lavoro continuo di mappatura e di presa di contatto con le diverse risorse presenti nel quartiere di San Salvario, al fine di rafforzare la rete dei soggetti interessati al tema "salute e migrazione" e creare spazi di confronto, dialogo e progettazione condivisa. Il coinvolgimento attivo dei mediatori, non solo nelle attività di mediazione vera e propria ma anche in attività di formazione, progettazione, valutazione, sensibilizzazione ed animazione, è stata un punto di forza del progetto, così come la scelta di articolare il più possibile tra loro le diverse attività, con l'obiettivo di creare collegamenti tra iniziative diverse e promuovere nuove sinergie territoriali.

Conclusioni

Il Progetto Aracne ha sviluppato una rete efficace che ha permesso di identificare diverse problematiche sommerse e di rispondere a bisogni di informazione e sensibilizzazione specifici. L'incontro con le associazioni e le realtà pubbliche e private del territorio ha permesso di intraprendere azioni di progettazione e ha sviluppato azioni di collaborazione che hanno permesso una maggiore replicabilità dei risultati di progetto e una efficacia delle attività proposte.

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"PROMOZIONE DELLA SALUTE IN UNA SOCIETÀ MULTIETNICA"

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ABSTRACT

Interventi di Promozione della Salute (PdS) richiedono una interrelazione tra:

- ospedale /medico - paziente/utente
- ospedale /medico - risorse sanitarie comunitarie
- paziente /utente - risorse sanitarie comunitarie

Il framework entro cui muoversi può essere quello delineato dalla figura, in cui i tre cerchi, raffiguranti le differenti tipologie di relazione, presentano un'area di contatto comune che simbolicamente non solo identifica la sede di partenza dell'intervento, ma anche la misura della sua efficacia [1 2].

La presente iniziativa diretta a migranti fa riferimento a quanto sopra sinteticamente esposto. L'obiettivo è quello di implementare e valutare interventi di PdS basati sull'evidenza, utilizzando mediatori culturali opportunamente preparati. Il loro ruolo è quello di informare l'utente su come mantenersi in salute, e di indicargli la sede dove effettuare l'intervento di prevenzione previsto.

Le azioni progettuali, ispirate e realizzate sulla base delle raccomandazioni contenute nelle Linee Guida USPSTF [3], hanno come elemento chiave la verifica dell'efficacia e dell'efficienza della Rete sanitaria di Riferimento e di Supporto (RsRS) cui l'utente è inviato dal mediatore che l'ha preso in carico.

Il Progetto si svolge presso l' AO Ordine Mauriziano di Torino, è iniziato nel marzo 2013 ed ha la durata di un anno.

A quattro mesi dall'inizio del Progetto, le azioni realizzate sono: 1. attivazione di Info point su PdS, presso lo sportello delle Associazioni di Volontariato dell' AO Ordine Mauriziano; 2. formazione dei mediatori con una prima valutazione dell'apprendimento; 3. produzione in quattro differenti lingue di materiale informativo sulla salute; 4. iniziale utilizzo delle risorse comunitarie (RsRS), con il limite che è ancora in via di definizione la modalità per verificarne efficacia ed efficienza.

OBIETTIVI

Obiettivo principale. Nell'ambito della Promozione della Salute diretta a migranti, ottimizzare l'accesso alla rete sanitaria per interventi di riconosciuta efficacia, attraverso la valorizzazione del ruolo di mediatori culturali "competenti".

Obiettivi secondari /risultati attesi:

1. Operatori Sanitari Volontari (OSV) e Mediatori Culturali (MC) "competenti", provenienti da 4 differenti aree geografiche (Romania, Cina, Paesi Arabi e dell'Area Sub Sahariana), informano / sensibilizzano utenti / pazienti su interventi di Promozione della Salute e ne indicano il percorso all'interno della RsRS per l'effettiva realizzazione.
2. Formazione dei Mediatori Culturali (MC), associata a verifica delle conoscenze acquisite.
3. Preparazione e diffusione di materiale IEC (Informazione, Educazione, Comunicazione) in quattro differenti lingue, allo scopo di facilitare la comprensione di messaggi di PdS.
4. Identificazione ed utilizzo della Rete sanitaria di Riferimento e di Supporto (RsRS) per il completamento di interventi raccomandati.

METODOLOGIA

Durata del Progetto. 1 anno.

Sede. Sportello Associazioni Volontariato, AO Ordine Mauriziano di Torino.

Promozione della Salute. Gli interventi raccomandati sono dedotti dalle Linee Guida USPSTF 20123 [3] su cui è costruita tutta l'attività progettuale. In particolare, *medici volontari ASPIC* sono impegnati in traduzione inglese - italiano di Linee Guida e materiale informativo per il paziente; *mediatori culturali*, appartenenti alle 4 differenti aree, studiano e traducono nella propria lingua il materiale informativo assegnato e utilizzano le conoscenze acquisite in occasione di interventi presso lo sportello informativo e/o le UUOO.

Formazione dei MC. E' realizzata attraverso lo studio dei contenuti delle Linee Guida e relativa trasformazione e traduzione in materiale informativo per l'utente dello stesso Paese di origine.

Preparazione materiale IEC. Percorso: ricerca tramite Internet di materiale informativo "di base" sui temi affrontati dalle Linee Guida; traduzione inglese - italiano, focalizzando i contenuti sulle raccomandazioni di grado A e B; adattamento del materiale alla popolazione target; traduzione dello stesso in quattro differenti lingue.

Revisione periodica delle conoscenze acquisite dai MC. Programmata ogni 4 mesi e realizzata con la somministrazione di questionario sui contenuti delle Linee Guida, composto da circa 60 domande.

Monitoraggio. Le azioni sopra elencate sono annotate in registri e, successivamente, trasferite su file Excel. A scadenza coincidente con la stesura del Report di Progetto (ogni 4 mesi a partire dalla data di inizio progetto), è effettuata analisi dei dati raccolti.

Valutazione. E' realizzata attraverso confronto tra primo e secondo semestre; si intende utilizzare indicatori di tipo qualitativo e quantitativo nell'ambito delle seguenti aree: a) accesso all'info point su Promozione della Salute da parte delle differenti etnie; b) utilizzo dell'info point da parte delle UUOO dell'ospedale; c) per i casi in cui sono stati identificati gap nell'ambito delle tre differenti interrelazioni (ospedale - paziente, ospedale - comunità, paziente - comunità) descrizione da parte del mediatore culturale dello scenario (caso studio) con evidenziazione dei fattori che incidono negativamente e dei possibili rimedi; d) utilizzo della RsRS per interventi di PdS; e)efficacia della RsRS nel fornire interventi di PdS, valutata con questionario somministrato all'utente.

RISULTATI RAGGIUNTI

Ad oggi sono realizzate o in fase di implementazione le seguenti azioni.

1. E' stato attivato *l'info point su Promozione della Salute*, presso lo sportello delle Associazioni di volontariato dell' AO Mauriziano. Ciascun mediatore garantisce la propria presenza per 3 h/settimana e, se richiesto, effettua interventi presso le UUOO. Le caratteristiche degli interventi effettuati nei primi 40 giorni di attività possono essere così riassunte:
   - *Popolazione raggiunta* suddivisa per genere e per area di provenienza maggiormente rappresentata: donne, 93% e, rispettivamente, Paesi Arabi, 64%
   - *UO Ospedaliere richiedenti i MC:* ostetricia, 78%; altre UUOO (PS, Dialisi, Day Surgery), 22%
   - *Contenuti dell'attività IEC svolta:* informazioni su patologia di base, 32%; percorso clinico - diagnostico post dimissione, 29%; allattamento al seno, 21%; dieta, 11 %; altro, 7%
2. Nel mese di luglio è stato condotto il primo *test di verifica dell' apprendimento dei MC* sul materiale di studio consegnato all'inizio del Progetto. Tutti hanno risposto positivamente, ma con punteggio non elevato.
3. *Il materiale IEC in quattro lingue* sino ad ora prodotto riguarda i seguenti temi: "Star bene dipende da te", brochure contenente interventi di prevenzione raccomandati in base a genere e a fascia di età; Contraccezione: i differenti metodi; Pianificazione di una sana gravidanza; Screening dei tumori femminili; Note informative su "Trasmissione di agenti Infettivi in Ospedale"
4. *Identificazione e utilizzo della Rete sanitaria di Riferimento e di Supporto (RsRS)* al fine di completare l'intervento di Prevenzione / Promozione della salute. Nel definire i percorsi si è tenuto conto del contesto caratterizzante i tre elementi che condizionano la realizzazione dell'intervento: paziente, strutture sanitarie e risorse comunitarie. Ciò che è emerso sin dall'inizio è che sia la Struttura Sanitaria nel suo insieme (Ospedale e territorio) che risorse comunitarie sono impegnate a gestire la patologia, ma non la PdS.
   Nonostante le raccomandazioni di tutte le Società Scientifiche, la prevenzione resta confinata in un ruolo del tutto secondario.

CONCLUSIONI

Gli interventi programmati si stanno realizzando secondo il Piano; è stato attivato l'info point su PdS, comincia ad essere prodotto materiale informativo, sono iniziati gli interventi sul campo. Risultati degni di valutazione più approfondita saranno possibili solo a fine Progetto, quando si potrà disporre di una casistica più ampia.

In itinere sono emerse almeno due problematiche per le quali si ritiene necessario il supporto dell'Università.

La prima riguarda la messa a punto di materiale IEC "di base" nelle quattro differenti lingue. L'aspetto tecnico è difficilmente criticabile, essendo le Linee Guida di riconosciuta valenza scientifica, ma, ci si è chiesto, l'aspetto culturale è stato adeguatamente preso in considerazione? Il messaggio potrà essere recepito dall'utente straniero? Per contro, nell'ottica di una comunicazione che deve porre il paziente in grado di decidere in modo autonomo e consapevole, l'operatore sanitario italiano si è posto il problema che scelte per la salute potrebbero essere non condivise, e quindi disattese, per motivi legati alla cultura del Paese d'origine?

Il secondo punto fa riferimento alla valutazione qualitativa della Rete sanitaria di Riferimento e di Supporto. Se si eccettuano alcuni screening per la prevenzione dei tumori (cancro del seno, della cervice uterina e del colon retto), ben poco tempo è dedicato ad interventi fortemente raccomandati per prevenire patologie che già oggi incidono pesantemente sul Sistema Sanitario Nazionale. Disinformazione e scarse conoscenze sono spesso presenti nella popolazione italiana: e in quella straniera? Al di là di quanto fatto attraverso media, marketing sociale etc, esiste una via strettamente sanitaria per fornire informazioni scientificamente controllate? Lo sportello informativo a livello ospedaliero o sul territorio (medico di base o strutture del privato sociale) può essere un' opzione valida? La presente esperienza cerca di approfondire questo aspetto, ma il futuro, scarsamente delineato dal punto di vista strutturale e dei contenuti, è cosparso di incertezze.

Si ringraziano i seguenti Enti, Organizzazioni che supportano il Progetto: AO Ordine Mauriziano di Torino, ASL To 2, Centro Servizi Volontariato VSSP, SERMIG, Fondazione CRT.

Il progetto è ideato e realizzato da ASPIC onlus, associazione impegnata in interventi di Promozione della salute diretti a migranti e di lotta alla malnutrizione infantile nei Paesi a basso reddito.

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IMPACT OF PREGNANCY AND LABOUR COMPLICATIONS ON NEONATAL OUTCOMES: A RETROSPECTIVE COHORT STUDY IN A RURAL HOSPITAL OF ETHIOPIA

Elisa Bobba (University of Torino – Medicine and Surgery)
in collaboration with Comitato Collaborazione Medica

Figure 1 Bale zone (Oromiya Region), Ethiopia.

Background

Despite significant efforts towards the achievement of MDG, Ethiopia is still very far from the MDG 4 target for 2015 (Table 1). However, data regarding MNCH (Maternal Newborn and Child Health) are scanty and limited. In Ethiopia, all main indicators (neonatal, infant and under 5 mortality rate) are below the Sub-Saharan Africa average and Oromiya is one of the worse performing Regions in the country.

	GLOBAL	SUB-SAHARIAN AFRICA	ETHIOPIA	OROMIYA REGION	Ethiopia MDG 4 TARGET
NEONATAL MORTALITY Number of deaths per 1,000 live births within the first month of life	22	34	37	40	16
INFANT MORTALITY Number of deaths per 1,000 live births within the first year of life	37	69	59	73	32
UNDER-5 MORTALITY Number of deaths per 1,000 live births within the first 5 years of life	51	109	88	112	56

Table 1 Trend in Early Childhood Mortality, EDHS 2000, 2005, and 2011

Achieved Results

Although the main evidence emerging from the results is **the inconsistency of data available**, their collection and standardization reflect a significant effort to represent the real status of health care in a referral hospital of the zone. The limited **number of ANC** (Ante Natal Care) visits is the first risk factor influencing both the pregnancy and labour complications and the neonatal outcomes, followed by **hypertensive disorders** and **severe anaemia**. (Table 2)

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Objectives

The overall objective of the study is to explore the main risk factors affecting neonatal health during pregnancy and delivery in Goba Hospital, referral centre of Bale Zone, in Oromiya Region. (Figure 1)

The final goal of the research is to support the development of **more effective interventions** to enhance MNCH in the zone.

		r	CI 95%	p
Number on ANC visits	Stillbirth	-0.126**	(-0.164 - -0.089)	0.000
	Apgar score 1st min	0.167**	(0.119 – 0.211)	0.000
	Apgar score 5th min	0.135**	(0.091 – 0.174)	0.000
	Post term	0.203**	(0.117 – 0.289)	0.000
	Preterm	-0.097*	(-0.158 – -0.029)	0.010
	Hypertensive disorders	-0.186**	(-0.248 - -0.110)	0.000
	Anaemia	-0.200*	(-0.376 - -0.014)	0.44
	Type of delivery (C/S)	-0.110**	(-0.159 - -0.066)	0.000
	Obstructed labour	-0.133**	(-0.177 - -0.086)	0.000
BOH – previous abortion	Low birth weight	0.076*	(-0. 021 – 0.173)	0.015
BOH – previous SB	Low birth weight	0.069*	(-0.011 – 0.163)	0.028
	Macrosomia	0.097**	(0.002 – 0.213)	0.002
Multiple pregnancy	Low birth weight	0.253**	(0.160 – 0.343)	0.000
Hypertensive disorders	Low birth weight	0.194**	(0.082 – 0.302)	0.000
	Stillbirth	0.109**	(0.023 – 0.197)	0.004
	Apgar score 1st min	-0.170**	(-0.252 – -0.082)	0.000
	Apgar score 5th min	-0.124**	(-0.216 – -0.036)	0.001
	Preterm	0.192**	(0.087 – 0.303)	0.000
Hypotension	Stillbirth	0.138**	(0.022 – 0.259)	0.000
	Apgar score 1st min	-0.110**	(-0.207 – -0.016)	0.004
	Apgar score 5th min	-0.123**	(-0.234 – -0.005)	0.002
Severe anaemia	Stillbirth	0.251	(-0.041 – 0.515)	0.096
	Apgar score 1st min	-0.286	(-0.558 – 0.006)	0.057
	Apgar score 5th min	-0.229	(-0.506 – 0.063)	0.134
	Preterm	0.304	(-0.036 – 0.639)	0.075
Ante partum Haemorrhage	Low birth weight	0.100**	(0.009 - 0.198)	0.000
	Stillbirth	0.140**	(0.052 - 0.229)	0.000
	Apgar score 1st min	-0.133**	(-0.201 - -0.052)	0.000
	Apgar score 5th min	-0.145**	(-0.233 - -0.053)	0.000
	Preterm	0.098**	(-0.011 - 0.191)	0.009
Premature Rupture of Membrane	Low birth weight	0.095**	(0.026 - 0.169)	0.002
Obstructed labour	Macrosomia	0.114**	(0.041 – 0.189)	0.000
	Apgar score 1st min	-0.095**	(-0.151 - -0.045)	0.001

** Correlation is significant at the 0.01 level (2-tailed)

Table 2 Details of the correlations between risk factors and neonatal outcomes considered.

Methodological approach

The research is a **retrospective cohort study** based on data retrieved from **1,283 medical records** of women who delivered at Goba Hospital in 2004 EFY (Ethiopian Fiscal Year: Sept 2011-Sept 2012). (Figure 2) Qualitative data were collected from **face to face discussions with the HW** (Health Workers) employed in the hospital maternity department.

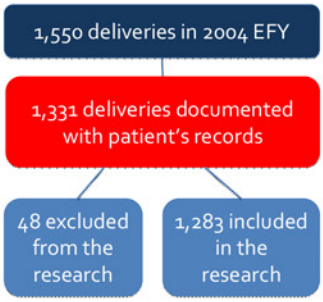

Figure 2 Sample size of the study.

Conclusion

Scaling up the coverage and the efficiency of ANC services seems to be the most pressing priority to enhance MNCH. **Strengthening the quality data management through simple ICT** (Information and Communication Technology) **strategies** is crucial to ensure continuous monitoring and evaluation of hospital services provided. *Telemedicine* and *m-health* can provide opportunities for continuous medical education to HW in remote areas, and eventually contribute to the improvement of care provided to patients. Crucial is a close **collaboration between hospital staff, local authorities and stakeholders** supporting MNCH services to ensure the supply of all needs in terms of equipment, health staff requirement and training.

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POSITIVE AND NEGATIVE EFFECTS OF FINANCIAL AND NON-FINANCIAL INCENTIVE MECHANISMS FOR HEALTH WORKERS IN RURAL AND REMOTE AREAS OF ETHIOPIA. FOCUS ON OROMIYA, SOMALI AND TIGRAY REGIONS

Maria Alessandra Brocardo (University of Torino – Political Sciences)
in collaboration with Comitato Collaborazione Medica

Figure 1 Ethiopia.

Background

The poor quality and effectiveness of Health System in Developing Countries is often linked to a deficiency in terms of local human resources, key to ensure quality and effective health services. The crisis of Human Resources for Health (HRH) stems from the limited number and/or inadequate capacities of health staff in delivering quality care, as well as from the low retention rates in remote and rural areas. Most African Governments and the international community are exploring different strategies to tackle this challenge. The provision of financial and non-financial incentives to health professionals is one of the most commonly adopted strategies to facilitate the delivery of basic care to remote communities.

	OROMIYA		SOMALI REGION		TIGRAY		ALL ETHIOPIA	
	N. of staff	Density (1,000 people)	N. of staff	Density (1,000 people)	N. of staff	Density (1,000 people)	N. of staff	Density (1,000 people)
Medical Doctor (Specialist)	194	0.734	56	0.473	37	1.176	2,152	0.844
Medical Doctor (Generic)	184		15		64		1,001	
Health officers	448		12		188		1,606	
Nurses (all types)	5,040		314		2,332		20,109	
Midwives	287		45		185		1,379	

Table 1 Health Staff number and density per population in different Regions of Ethiopia (Source: Africa Health Workforce Observatory, 2009)

Objectives

Te research aimed at identifying potential positive and negative effects of specific financial and non-financial incentive mechanisms for HRH, comparing different strategies adopted by Non Governmental Organizations (NGOs) and International Agencies (IA) engaged in the promotion of access to health for all. Ethiopia has been selected as case-study.

Achieved Results

The research has compared existing incentive mechanisms for HRH in 3 Ethiopian Regions (Oromiya, Somali and Tigray) to analyze stakeholders' approaches and review the perceptions of local and international sector staff on their effects. Incentive mechanisms are applied by most service providers and recognized as key factor in HRH policies. Anyhow, no agreement is reached on a univocal definition of 'incentive', neither a shared strategy on their utilization has been developed. Incentive mechanisms have been found impacting both positively and negatively on HRH retention capacities, but are not the only effective tool to strengthen health service delivery in remote areas of Ethiopia.

Methodological approach

A desk research was conducted, reviewing the topical literature at global and Ethiopian level. Semi-structured interviews were conducted with key informants from international NGOs, IAs, local authorities and health staff working in rural areas of the 3 selected Regions. Interviews were analyzed through a simple coding system grouping the retrieved information onto a number of key topics, mainly referring to the strategies and effects of the incentive systems and to other possible measures to address the HRH crisis.

TIPOLOGY OF INCENTIVES	
Financial incentives	**Non-financial incentives**
• Terms and conditions of employment (salary, wage, pension, insurances, allowances)	• Positive work environment (sufficient resources, recognition, supportive management, equal opportunity policies etc...)
• Performance payments (achievement of performance targets, length of service, location or type of work)	• Flexibility in employment arrangements
• Other financial support (fellowships, loans)	• Support for career and professional development
	• Access to some services (health, transport, housing, recreational facilities, child care and school)
	• Intrinsic rewards (job satisfaction, personal achievement, commitment on job, etc...)

Table 2 Definition of Financial and Non financial Incentives (Source: WHO)

Conclusion

Financial and non financial incentive mechanisms in Ethiopia are considered instrumental to motivate HRH to work in remote areas and reduce turn-over rates. Therefore, their main positive effect is directly linked to the possibility of ensuring basic care across the whole Country. Anyhow, financial incentives may negatively impact on the international aid dependency of the Ethiopian Health System as well as exacerbate the risk of biasing Government staffs' salary expectations and/or causing discrepancies/inequalities in employment conditions. On the contrary, non-financial incentives – in particular a conducive working environment and training opportunities for health staffs – are highly appreciated and can ease HRH retention.

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Professionalization of future humanitarian health workers: an innovative hybrid training course for residents in anesthesia and critical care medicine in collaboration with an Italian NGO.

Ingrassia PL, Foletti M, Ragazzoni L, Ripoll A, Della Corte F.

CRIMEDIM - Centro di Ricerca Interdipartimentale in Medicina di Emergenza e dei Disastri ed Informatica applicata alla didattica e alla pratica Medica

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A call for professionalizing humanitarian health care assistance has been launched by the international humanitarian community. At the same time, the interest showed by residents in taking part in international humanitarian apprenticeship has seen a growing trend. In October 2011 a new partnership between the Research Centre in Emergency and Disaster Medicine (CRIMEDIM) at the Università degli Studi del Piemonte Orientale and the NGO Rainbow for Africa was signed. The foregoing convention allow residents enrolled in the anesthesia and critical care residency program to participate in humanitarian apprenticeships in developing countries.

The main framework of the partnership consist on completing a prior blended learning training program and, subsequently, participating in an international apprenticeship taking place in an underserved country. The purpose of such a partnership lies in developing the following aspects: improving medical skills of the residents, providing education for the local staff and setting up innovative research projects aiming to support the development of resource-constrained health systems.

According to the current literature, the following subjects were developed to be included in the training course: safety and security in the field; sanitation, vaccinations and tropical medicine; knowledge of the operational context, anesthesia in poor resource settings; foreign languages and psychology applied to humanitarian aid. To date, a total of 8 residents have completed the course as prior preparation to an international humanitarian apprenticeship in Senegal, Sierra Leone and Burkina Faso. All of them affirmed that this preparation has improved their general understanding of the host country context. Further assessments are required to better define the extent to which our program has enabled them to work more efficiently in such challenging environments.

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Humanitarian Medic: an innovative training program for the professionalization of humanitarian health workers in anesthesia and critical care medicine during residency programs.

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Over the last few years, international concern has been risen regarding the need for a professionalization in humanitarian assistance. Regardless of the skills related to their respective specialties, humanitarian health workers are required to gain a global understanding of the humanitarian sector. Moreover, engaging in international conventions among developed health centers and host low-income countries has been defined by the international literature as an innovative strategy to set up new research projects in underserved settings.

However, in order to comply with both university training curriculum and humanitarian requirements, international apprenticeships in the field need to be properly designed and integrated in residency programs.

The Research Center in Emergency and Disaster Medicine (CRIMEDIM) at the Università degli Studi del Piemonte Orientale wishes to develop a training program to promote the professionalization of Italian residents in anesthesia and critical care medicine in the field of humanitarian health, in collaboration with different national NGOs and with the active participation of other academic and non-academic organizations recognized at national and international level.

This training program will aim at creating professional health workers able to proficiently take part to international humanitarian aid programs which require high competence in anesthesia and critical care medicine, alongside with a common background encompassing tropical medicine, public health during emergencies, and disaster medicine. Distance learning, high-fidelity and virtual reality simulations, internship and apprenticeship, thus training in the field, will be the most relevant didactic tools used in this training program. It will last 7 months, divided in 10-week distance learning, 2-week internship in pediatric emergencies, 1-week residential workshop and 4-month apprenticeship in the field.

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Selezione e uso di idonei alimenti locali per la prevenzione della malnutrizione infantile

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1- Dipartimento di Scienze della Sanità Pubblica e Pediatriche, Università di Torino/OIRM, 2 - ASPIC onlus

Abstract

L'età compresa tra la nascita e i 24 mesi è critica per lo stimolo di una crescita ottimale e di sviluppo corretto a lungo termine. In questa fase critica il fabbisogno di nutrimenti (micronutrienti e densità energetica degli alimenti) è fondamentale per il corretto sviluppo staturo-ponderale e intellettivo. La prevenzione della malnutrizione infantile deve essere progettata specificatamente per questo periodo, unendo l'educazione sulle corrette pratiche alimentari (incluso l'allattamento al seno esclusivo nei primi 6 mesi) a una produzione e diffusione di alimenti complementari nutrizionalmente adeguati, prodotti localmente e a costo accessibile. In questo lavoro sono esposti alcuni criteri e raccomandazioni per una corretta strategia preventiva della malnutrizione infantile.

Obiettivi

In tema di Salute Globale, le malattie croniche rappresentano oggi la causa prevalente di morbilità e mortalità nell'adulto e la loro prevenzione richiede importanti investimenti economici. Nei Paesi a basso reddito **la malnutrizione materno-infantile** e le malattie trasmissibili associate determinano nei bambini di età ≤ 5 anni un tasso di mortalità ancora troppo elevato rispetto a quanto indicato negli Obiettivi di Sviluppo del Millennio dell'ONU (2000).
La Convenzione delle Nazioni Unite sui Diritti del Bambino (1989) riconosce il diritto al più alto standard raggiungibile di salute e ad una nutrizione ottimale. Dal punto di vista dietetico, **un' adeguata alimentazione complementare** all'allattamento al seno (esclusivo sino al sesto mese e possibilmente prolungato) dovrebbe essere la risposta più naturale per la prevenzione della malnutrizione. La realizzazione di questo obiettivo non è così banale nella realtà dei Paesi a basso reddito.

In tutti i protocolli di trattamento per il recupero nutrizionale è previsto l'uso dei **prodotti ipercalorici pronti all'uso** che, nonostante siano stati messi a punto per le situazioni di emergenza, hanno in gran parte sostituito **l'utilizzo delle farine arricchite.**

Queste farine invece, prodotte e rese disponibili localmente presso i servizi ambulatoriali di salute pubblica potrebbero divenire la base dell'alimentazione complementare.

I punti di partenza

Intervento tra 6-24 mesi, periodo nel quale si manifesta lo *stunting* e nel quale viene introdotto altro cibo rispetto al latte materno.
Identificazione del **momento ideale** in questa finestra temporale.

Contributo del latte materno e cibo complementare al fabbisogno energetico

Age group (mo)	Total energy requirements		Milk energy intake	Energy required from complementary foods	
	WHO/ UNICEF 1998	US longitudinal data		WHO/ UNICEF 1998	US longitudinal data
	kcal/day				
6–8	682	615	413	269	202
9–11	830	686	379	451	307
12–23	1,092	894	346	746	548
	MJ/day				
6–8	2.85	2.57	1.73	1.12	0.84
9–11	3.47	2.87	1.59	1.88	1.28
12–23	4.57	3.74	1.45	3.12	2.29

Densità calorica minima per soddisfare il fabbisogno calorico

Meals/day	6–8 mo		9–11 mo		12–23 mo	
	WHO/ UNICEF 1998	US longitudinal data	WHO/ UNICEF 1998	US longitudinal data	WHO/ UNICEF 1998	US longitudinal data
2	0.88	0.71	1.16	0.84	1.48	1.12
3	0.59	0.48	0.77	0.56	0.98	0.75
4	0.44	0.36	0.58	0.42	0.74	0.56
5	0.35	0.29	0.46	0.34	0.59	0.45

Food and Nutrtion Bullettin 24 (1), UNU 2003

Esempio di farina arrichita

- **FARINA DI MIGLIO 45%**
- **FARINA DI SOIA 20%**
- **LATTE IN POLVERE 15%**
- **ARACHIDI 10%**
- **ZUCCHERO 10%**

Per 100 g:
- **18.6 g di proteine (17,2 %)**
- **55 g di glucidi (51.1%)**
- **15.2 g di lipidi (31.7%)**
- **431 Kcal**

1 Kg /sett per ogni bambino, garantisce un apporto giornaliero di 140 g:
- **26 g di proteine (17,0 %)**
- **77 g di glucidi (50,5%)**
- **22 g di lipidi (32,5%)**
- **610 Kcal**

R. Piemonte, progetti DIAMA

L'alimentazione familiare deve essere adeguata alle necessità nutrizionali e digestive di questa età:
- gli alimenti sono spesso carenti di Fe, Zn, Ca, vit.A ecc (bassa concentrazione, presenza di antinutrienti e ridotta biodisponibilità)
- gli alimenti necessitano di corretta conservazione e preparazione
- pochi gli alimenti di origine animale (costo, reperibilità, credenze)

Strategie

PER ESSERE ADEGUATO IL CIBO COMPLEMENTARE DEVE ESSERE:
- **Pulito e sicuro**
- **Facile da preparare a partire dai cibi della famiglia**
- **Disponibile localmente e conveniente dal punto di vista economico**
- **Facile da mangiare**
- **Gradito dal bambino**
- **Ricco di apporto calorico e di nutrienti**
- **Ricco di micronutrienti specifici biodisponibili**

Quanti micronutrienti fornire con i pasti complementari?

fabbisogno secondo l'**età**

meno

concentrazione nel latte materno

moltiplicato

volume di latte materno assunto

Come scegliere gli alimenti?

Per capire quale alimento scegliere per garantire un adeguato apporto di un micronutriente, occorre definirne la densità nei vari alimenti

Densità

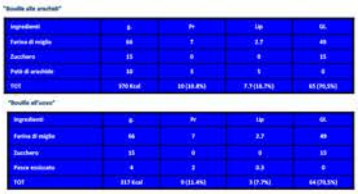
=

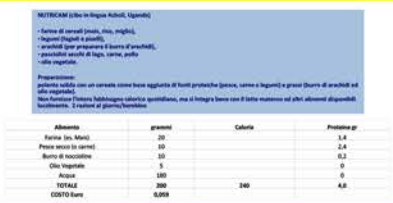
quantità di micronutriente necessaria

diviso

calorie fornite dallo stesso alimento X 100

Esempi





Soluzioni? **Nei Paesi più poveri è fondamentale prevenire la malnutrizione infantile con strategie sostenibili che rendano accessibile quanto necessario per un'alimentazione familiare adeguata. La promozione del microcredito è una possibile importante soluzione per incentivare una produzione alimentare finalizzata a migliorare la qualità del cibo complementare con adeguato apporto di «proteine nobili» e buona concentrazione dei micronutrienti a rischio: esempi sono la produzione di *Spirulina spp*, l'allevamento ittico e la coltivazione della *Moringa oleifera* (Progetto DIAMA 4, Regione Piemonte: Ricominciamo dai villaggi 2011/2012).**

POLITECNICO DI TORINO
UNIVERSITÀ DEGLI STUDI DI TORINO
CUCS TORINO 2013

Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

BIBLIOGRAPHIC REPOSITORY
Comitato di Collaborazione Medica (CCM)

Zara GP, Rasetti S, Locatelli F, Palmucci L, Rigazzi C, Passatore M, Levis A, Bertini M, Fascendini M, Bobba E

Comitato Collaborazione Medica

Background

Health information is crucial in support of the decisions in health care. Also in developing countries is essential to access the published scientific papers to improve the quality of care and the health workers in the field. Almost all the scientific journal are published in electronic format and it is possible to browse the journal or search bibliographic databases like Medline, Embase, SciFinder. In developing countries it is difficult to get to internet and spend hours on line to get the scientific papers needed in a particular situation.

Achieved Results

We prepared group of medical experts in different fields of medicine. A Web storage repository was implemented for upload and download scientific papers. Monthly we search the bibliographic databases to select important scientific papers to be uploaded in the repository database. We prepare a monthly newsletter to be distributed to CCM personnel. Each individual can select the papers needed and download when the digital connection is available.

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Objectives

The overall objective of the project is to develop a bibliographic database with selected papers related to the main health projects of the CCM. We publish a monthly newsletter sent to all the persons working for CCM. The newsletter incorporate textual hyperlink to download the interested full text paper. The person can also log in the database for individual search (Fig.2).

Methodological approach

A panel of experts in different health fields (Figure 1) search monthly Medline, Embase SciFinder to find new interesting published papers. Each expert upload the .pdf paper in the repository. Each month a new letter is prepared and sent to all persons working in projects of CCM. For each paper the expert write the bibliographic data, a short summary, the size of the file and an hypertext link to allow the fast download of the file.

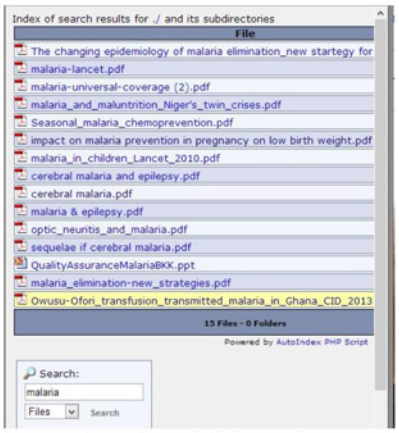

Fig. 2. Web access of the Search interface

Index of . /

File	Size	Modified
books	323.1 MB	2013-Aug-11
cardiology	0.0 B	2013-May-18
degenerative_disease	4.7 MB	2013-May-03
emergency_care	107.2 KB	2013-May-03
epidemiology	0.0 B	2013-May-18
Infectious_Diseases	6.7 MB	2013-Aug-26
internal_medicine	951.7 KB	2013-Sep-05
maternal_child_health	77.4 MB	2013-Aug-26
nephrology_diabetes	3.1 MB	2013-Jul-09
neurology_disability	31.4 MB	2013-Aug-27
oncology	22.1 MB	2013-Jul-26
orthopedy_traumatology	552.7 KB	2013-Jun-26
pathology	0.0 B	2013-May-18
pharmacology-drugs	14.0 MB	2013-Jul-13
physiology	0.0 B	2013-May-18
primary_health_care_global_health	87.3 MB	2013-Jul-20
psichiatry_antropology	6.5 MB	2013-Sep-04
surgery	32.8 MB	2013-Jul-16
teaching-education	142.8 MB	2013-Jul-31
transfusion_medicine	2.4 MB	2013-Jul-26
master-5-9-13.pdf	1.0 MB	2013-Sep-06
WHO_HTM_NTD_2009.1_eng.pdf	1.7 MB	2013-Sep-02
2 Files - 20 Folders	Total size: 758.6 MB	

Figure 1 List of the scientific fields of the bibliographic repository.

Conclusion

The work in developing countries needs a scientific and bibliographic support to improve the quality of health care. The update of scientific information is essential to assist the projects of CCM. We have developed a simple, non expensive, flexible system to support the health workers in the field. We can also support specific bibliographic request on demand and provide the person with full text papers.

FOREWARD TO THE ORAL SESSION "GEOMATICS FOR EMERGENCY MANAGEMENT"

Piero Boccardo*

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Disasters can be defined as "a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources" (UNISDR 2009). Disasters can be classified according to the main causes, i.e. natural, technological or manmade disasters.

The effects of natural disasters on the environment and on the population can be understood by analyzing the relevant statistics over the past years, in terms of both economic and human losses. The information collected by the Centre for Research on the Epidemiology of Disasters (CRED) at the School of Public Health of the Université Catholique de Louvain located in Brussels, Belgium, and more specifically the data stored in the EM-DAT database (EM-DAT is a global database on natural and technological disasters that contains essential core data on the occurrence and effects of

more than 17,000 disasters in the world from 1900 to present) highlights (Guha-Sapir 2011) that in 2010 a total of 385 natural disasters were registered, with more than 297,000 casualties [Guha-Sapir et al., 2012]. Over 217 million people were affected worldwide and $123.9 billion of economic damages were estimated. Similar to the average over the last decade, hydrological disasters (events caused by deviations in the normal water cycle and/or overflow of bodies of water caused by wind setup, i.e. Flood and Mass Movement events) were by far the most numerous disasters in 2010, representing 56.1% of the total disaster occurrence in that year, and together with meteorological disasters - the second most frequent calamitous event – accounted for 79% of total occurrence.

Economic damages from natural disasters in 2010 were over 2.5 times higher than in 2009 ($47.6 billion), and increased by 25.3% compared to the annual average for the period 2000-2009 ($98.9 billion). From a geographical point of view, some 89% of all people affected by disasters in 2010 lived in Asia. Nevertheless, the European continent faced the biggest increase in disaster occurrence, whereas Asia had the largest decrease, counting fewer disasters, victims and damages compared to the last decade's annual averages.

Disaster Risk Reduction (DRR) activities are aimed to limit the impact of a disaster when it occurs, mainly by strengthening the community's capabilities to cope with a disaster, or to reduce the possibility of a disaster occurring. As clearly highlightedby the Disaster Risk Management (DRM) cycle, a general strategy commonly adopted to fulfill the aforementioned goal is based on an iterative cycle comprising the following phases:

Risk assessment, Mitigation and Prevention, Preparedness, Prediction and Warning, Response, and Recovery. Geomatics definitively plays a crucial role in the DRM cycle. Spatial Data Infrastructures (SDI) makes available global reference geospatial data and services that are transversally exploited in all the aforementioned DRM phases. Furthermore, the growing use of interoperable data formats based on international standards (e.g. Open Geospatial Consortium standards) make easier the integration of local geospatial datasets.

Early warning systems often rely on satellite remote sensing data to feed forecasting or nowcasting systems aimed "to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss" (United Nations 2009). Undoubtedly, data acquired by ground measuring stations are also involved in the process, but again the accurate georeferencing of such information is a crucial feature.

Adnan et Al. paper represents a good example of global early warning systems based on open source data such as Tropical Rainfall Measuring Mission (TRMM) Multi-satellite Precipitation Analysis (TMPA), the most commonly used data for detecting critical rainfall events.

This contribution presents the evaluation of TRMM monthly rainfall data (3B43) for Pakistan, using 15 years data from 1998 to 2012 in comparison to the ground rainfall data for the same period.

For calibration, regression analysis was performed for each month on the data of rain gauge stations and their corresponding pixel values from the satellite datasets. Regression equations were used to develop the calibrated seasonal and annual rainfall maps, as well as the monthly rainfall maps on district level.

From an operational point of view, recent major disasters (i.e. 2013 Philippines Typhoon, 2011 Italy earthquake, 2010 Haiti earthquake, 2010 Pakistan Flood and 2011 Japan tsunami) clearly demonstrated the potential role of geomatics in supporting emergency response and recovery. Remote sensing based analyses are nowadays frequently adopted to support both decision makers and responders in the field during disaster management activities, as recently clearly pointed out by the United Nations in the 2011 humanitarian appeal: "[…] Remote sensing in the hours and days after the Haiti earthquake yielded estimates of numbers of severely affected people that stood the test of time and allowed an unusually rapid flash appeal. [...] Similarly, in Pakistan, the plans in the revised flash appeal were mostly

able to encompass the still expanding scale of needs thanks to information management using remote sensing and other resources necessary for a situation of limited ground access.” (United Nations 2011. Section “Major natural disasters in 2010 and lesson learned”).

Domeneghetti et Al. clearly highlights in his contribution the role of geomatics in an International cooperation framework as far as flood risk mitigation is concerned.

Based on the lesson learned after 2004 flood event in Haiti and Dominican Republic, the General Direction for Development and Cooperation of the Italian Department of Foreign Affairs funded through the Istituto Italo-Latino Americano (IILA, www.iila.org) an international cooperation initiative (ICI), coordinated and directed by the University of Bologna.

The initiative involved Haitian and Dominican institutions and consisted in two main components: (a) institutional capacity building on flood-risk management and mitigation measures and policies; (b) hydrological and hydraulic analysis of the May 2004 flood event aimed at formulating a suitable and affordable flood-risk mitigation plan. The second component of the cooperation is the main focus of this paper and in particular, starting from some logistical and technical constrains, a topographic survey based on GNSS technology that enabled us, in a short time, to survey river cross sections and construct Digital Elevation Models for two areas where to conduct numerical hydraulic modelling and to pre-design hypothetic flood-risk mitigation measures. The paper reports and discusses the main phases of the project.

From a technical point of view, different type of remote sensing considered, including terrestrial, satellite and aerial remote sensing. The choice is mainly based on the type of disaster and the approximate extent of the affected areas. Generally, the main source of data for response activities is satellite remote sensing, since it allows monitoring areas with accessibility issues with a wide footprint on the ground. Furthermore, modern agile satellites can be triggered in a very short time (first images showing the impact of the earthquake that struck Haiti were acquired the morning after the quake). As far as the temporal resolution is concerned, the recent availability of constellation drastically increase the satellite revisiting time, allowing to monitor in near real-time fast dynamic phenomena. Very high resolution (VHR) imagery (with a ground sample distance up to 0.5 m) are characterized by a very high level of detail that can be exploited not only from a geometric point of view (for map updating and creation purposes) but especially in terms of semantic content, crucial feature when assessing the impact of a disaster. On the contrary, high resolution imagery are characterized by a smaller footprint and a limited spectral resolution, characteristics that may limit the effectiveness of automatic classification algorithms as well as the use of this type of data when monitoring country-wide disasters.

Radar data are generally exploited when the persistency of cloud cover make optical data unusable or to extract very accurate information on ground displacements by means of phase data processing.

Particularly impressive seems to be the potentialities of UAV (Unmanned Aerial Vehicle) potentialities as described in Aicardi et al. In this paper the research group of Geomatics of the Politecnico di Torino has developed a set of interchangeable pods that can be mounted on a mini-UAV (a Hexacopter by Mikrokopter) devoted to emergency management in case of environmental disasters. This instrument is a low-cost mini-UAV equipped with photogrammetric sensors and capable of autonomous navigation (real time GNSS/IMU) and automatic digital image acquisition (characterized by a suitable geometric and radiometric quality). The platform is easily transportable on normal aircrafts and usable on the field, autonomously, by a couple of operators. The main innovation is to permits a real direct photogrammetric surveys in remote and disaster-affected areas in a short-range operative zone where it is not possible to carry out traditional photogrammetric flights. The acquisition technique allows the update of existing maps. Nevertheless, some test flights and practical applications have been performed in order to assess the autonomous flight performances and the suitability for photogrammetric flights.

As far as the damage assessment is concerned, up-to-date remotely sensed data are processed in order to extract the value added information required for that specific disaster type, i.e. flooded areas in case of flood events, collapsed buildings or temporary shelters in case of earthquakes, lava flows of ash fall contours in case of volcanic eruptions, ground displacements in case of mass movements, active fires or burned areas in case of forest fires. Depending on the type of input data available (optical or radar, panchromatic or multispectral, high or low spatial resolution, multi-temporal or just postevent acquisition) both semi automated and supervised classification algorithm, pixel based or object-oriented data can be exploited in order to derive the aforementioned information.

Unsupervised change detection algorithms are generally adopted when suitable pre event data are also available. Radar amplitude images can be processed in order to easily identify water bodies on the ground or to capture damaged areas by means of multi temporal SAR data processing, computing correlation coefficients or carrying out amplitude coherence analysis.

The availability of phase information allows adopting SAR interferometric analyses (InSAR) to provide information on the relative ground displacement after natural disasters.

It is important to stress the limits of remote sensing in assessing the impact of disasters, especially in urban environments, mainly due to intrinsic limits of vertical images. Georeferenced data acquired in the field are therefore crucial to correctly integrate and to validate the outcomes of the aforementioned analyses. Easy to- use GPS-based devices as well as crowdsourcing can be adopted to cope with the need of ground data and information.

The licensing policy of the data providers is another crucial feature that has to be carefully considered. International initiatives exist with the aim to supply remotely sensed data and/or related analyses when major disasters occur, such as

the International Charter "Space and Major disasters," Sentinel Asia, Google Crisis Response and, in the framework of the European Programme Copernicus (formerly GMES - Global Monitoring for Environment and Security), GIO-EMS.

Remote sensing based analysis supports emergency management activities by providing the necessary georeferenced information to users in different formats and modalities. The response phase outputs are normally in shape of cartographic products where the value-added information (i.e. flooded areas) is integrated with cartographic reference datasets. As far as the warning phase is concerned, the common output is the approximate location of a disaster (i.e. earthquake epicenter, flood affected region), or, in case of alert based on forecasting models, the estimated location of the affected areas (i.e. coastal areas hit by a tsunami or a predicted storm path).

Dissemination process has the same importance as that of the analysis and map production phases. Final products should reach decision makers at the right moment and in the right place, taking into consideration environmental factors and potential network connectivity issues. Normal ways of dissemination includes email attachments sent to predefined mailing. Another dissemination option is the delivery to specific portals, focused on emergency management, that aim to gather the relevant and reliable information and analysis related to the latest emergencies (i.e. ReliefWeb). With the increasing dependence on geographical information, the demand for raw vector datasets that perform analysis better tailored to the end user needs is also increasing. Also, customized WebGIS applications are being largely implemented (and deployed immediately after specific disaster events) in order to distribute vector data that conform to OGC standards.

EVALUATION OF TRMM SATELLITE DATA FOR MAPPING MONTHLY PRECIPITATION IN PAKISTAN BY COMPARISON WITH LOCALLY AVAILABLE DATA

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ABSTRACT

Increase in global average temperatures, widespread snowmelt and rising sea levels are important evidences of climate change, causing severe changes in the spatial and temporal rainfall patterns and increasing the frequency of related natural disasters like floods and droughts. This scenario increases the importance of satellite data for effective monitoring and forecasting of such disasters. Such data become more valuable in case of less developed countries where there is limited availability of local data. The open source and most commonly used data for detecting critical rainfall events are taken from Tropical Rainfall Measuring Mission (TRMM) Multi-satellite Precipitation Analysis (TMPA). This paper presents the evaluation of TRMM monthly rainfall data (3B43) for Pakistan, using 15 years data from 1998 to 2012 in comparison to the ground rainfall data for the same period. For calibration, regression analysis was performed for each month on the data of rain gauge stations and their corresponding pixel values from the satellite datasets. Regression equations were used to develop the calibrated seasonal and annual rainfall maps, as well as the monthly rainfall maps on district level. The calibrated monthly datasets were validated by calculating Nash-Sutcliffe Efficiency of TRMM estimates before and after calibration. The original TRMM 3B43 data was found quite reliable for its direct use with NSE values ranging from 0.73 to 0.92 for different months, while the calibration further improved the NSE by about 5% on average. However, the NSE values were decreased after calibration for the months of July, August and September, indicating that high accuracy and care is required along with much dense rain gauge network to perform calibration in hilly areas having local gradients and heavy orographic rainfalls during these rainy months. For dry months of winter, i.e. October to December, TRMM rainfall estimates were found relatively less accurate, but NSE values were improved by 10-15% after calibration in these months.

INTRODUCTION

Climate change impacts in terms of increased global temperatures and high spatio-temporal variability in rainfall patterns are being witnessed worldwide. These primary impacts are providing base for several inter-related issues and emerging challenges for water resources, agriculture, energy and other socioeconomic sectors. Increased frequency and severity of natural disasters like floods and droughts are also an important aspect of the adverse climate changes. Rainfall is an important factor of the hydrologic cycle and has key role in different phenomena like surface runoff generation and hydropower potential, occurrence of floods or droughts, and sustainable agriculture and food security. Therefore, the need for reliable and high resolution rainfall data, both spatial and temporal, is crucial for sound hydrologic studies and for timely detection and management of natural disasters like floods and droughts.

Rain gauges have been, and are still being considered a reliable source for providing reasonably accurate point rainfall measurements. However, point rainfall measurements do not provide true estimation of areal rainfall [1, 2], particularly when there exist local rainfall gradients as in case of Himalayas [3, 4, 5]. The areal rainfall estimation is mandatory at proper spatial and temporal scale for conducting studies at basin level [6].This scenario raises the importance of satellite data for effective monitoring of rainfall for conducting catchment level water studies and combating disasters. Use of such data becomes more important in case of developing countries where there is limited availability of local data in terms of sparse rain gauge network, which cannot detect rainfall variations caused by topography and orographic effects, and thus, results in erroneous estimates of areal rainfall [7].

Satellite-based precipitation products have become an important alternative source of information [8], under the need for more accurate spatially distributed rainfall estimates [9]. Some important remotely measuring precipitation instruments are active Precipitation Radar (PR), passive Microwave Radiometer (MWR) such as Tropical Rainfall Measuring Mission (TRMM) Microwave Imager (TMI) and Infrared Radiometer (IR)sensors [10, 11]. The active PR

sensor records the three dimensional structure of the rainfall distribution [12]; IR observations provide indirect measurements at the top of clouds [10]; while the TMI detects the radiation emitted by the water fraction in the vertical profile of the atmosphere [13].

The TRMM Multi-satellite Precipitation Analysis (TMPA) provides very high temporal (3 hourly) and spatial (0.25^o x 0.25^o) resolution products using combination of sensing instruments. However, the indirect nature of precipitation measurement by the sensors shows some uncertainties too [14, 15], associated with lack of rainfall detection, false detection and bias [16]. Franchito et al. (2009) [17] have reported both temporal (8% to 12%) and sampling (30%) errors in satellite rainfall estimates.These biases and random errors may be due to sampling frequency, diurnal cycle of rainfall, non-uniform field of view of sensors, and the uncertainties in the rain retrieval algorithms [18, 19, 20, 21, 22, 23]. Therefore, satellite rainfall estimates are needed to be evaluated to reduce such errors, especially on regional basis instead of using global approximations [24, 25].

Many scientists have made efforts at global and regional scales for the evaluation of satellite products by comparing them with the field rainfall measurements, which showed varying accuracies in different regions and for different methods. Adeyewa and Nakamura (2003) [26] used Global Precipitation Climatology Center global-precipitation-analyses rain gauge data for comparison with TRMM Precipitation Radar (PR) data, the threshold-matched precipitation index and the TRMM-and-other-sources ‘‘best-estimate’’ data product (3B43) for 36 months over the major climatic regions in Africa. They found close agreement of 3B43 product with the rain gauge data, and even used it as a substitute of rain gauge data over the South Atlantic Ocean for the validation of other satellite products. Ji and Stocker (2003) [27], and Chokngamwong et al. (2005) [28] observed correlations of 0.56 and 0.86 between the satellite and rain gauge measurements, respectively. Dinku et al. (2007) [29] estimated Nash–Sutcliffe efficiency of 0.81 and root mean square error of 25%between the satellite and rain gauge data averaged over 2.5^o grid boxes. The accuracy for a single 25 km×25 km pixel containing 23 rain gauges in Oklahoma was tested by Villarini and Krajewski (2007) [30] and a correlation of 0.55 was found between the satellite and rain gauges values. Cheema and Bastiaanssen (2012) [31] performed calibration of TRMM 3B43 data product for the year of 2007 over Indus basin using regression analysis and geographical differential analysis techniques. They reported decrease from pre-calibration to post-calibration deviation between TRMM data and rain gauge data to be 10.9% to 6.1% for annual time periods, and 34.9% to 15.4% for monthly periods.

This paper presents the evaluation of TRMM monthly data (3B43) over 15 years from 1998 to 2012 for Pakistan to investigate its scope for detection and management of natural disasters like droughts and floods. Monthly rainfall products at high spatial resolution are very useful for conducting drought studies, but daily or even 3-hourly datasets (TRMM 3B42) are considered better to conduct sound rainfall-runoff studies and managing floods. However, it is worth mentioning that the TRMM research datasets also incorporate the monthly rain gauge data for automated calibration [9]. For this purpose, the available 3-hourly estimates are summed over the calendar month to create a monthly multi-satellite (MS) product, which is then combined to monthly gauge data using inverse-error variance weighting, as reported by Huffman (1997) [24, 32], to create a post-real-time monthly satellite-gauge combination (SG) product, known as TRMM 3B43 product. Then for each grid box, monthly SG/MS or 3B43/MS ratio is computed and applied to each 3-hourly field in the month, producing the final 3B42 product. Thus, it is believed that the evaluation of monthly product (3B43) for an area might also help in providing guidelines for the use of daily and hourly products.

MATERIALS AND METHODS

Description of Study Area

Pakistan is one of the developing countries, covering an area of 79.6 Mha and represents a region which is highly prone to climate change. Ranging from coastal areas along the Arabian Sea in south to the glaciated mountains in north (Figure 1), Pakistan possesses a landscape having high diversity in terms of plains, deserts, plateaus, hills and glaciers. Geographically and from water resources point of view, Pakistan can be divided into three major parts: the northern highlands and north-eastern Himalayan mountains contributing by snowmelt and rainfall to the mighty Indus Riverand its tributaries; the Indus River plain which covers major area of Pakistan including KP, Punjab and Sind provinces; and the Balochistan province which lies in the south-west and is mostly under drought conditions due to arid climate. Major part of Pakistan is under arid to semi-arid climate with relatively higher rainfalls in the northern areas and lower towards the middle and south. Two important sources of rainfall are monsoon causing heavy rainfalls and frequent flooding from June to September, and the western disturbances contributing in terms of rain and snowfall over hilly areas during winter. However, there is high variability in seasonal rainfalls with monsoon season contributing alone to about 70% of annual rainfall, and dry months of October and November with almost no rain. In addition to seasonal differences, annual rainfall also varies greatly from year to year and occurrences of alternate flooding and drought are common.

Data Availability

The satellite rainfall data used in this study were obtained from TRMM Multi-satellite Precipitation Analysis (TMPA), which makes use of the microwave and infrared precipitation estimates by the TRMM's onboard instruments as well as integration of the monthly rain gauge data for the post-real-time research products. The instruments onboard TRMM include Precipitation Radar (PR), Microwave Imager (TMI), Visible and Infrared Scanner (VIRS), Clouds and the Earth's Radiant Energy System (CERES), and the Lightning Imaging Sensor (LIS). Different types of TRMM products are available on NASA's website; monthly rainfall product (TRMM 3B43) was downloaded and processed for 15 years from 1998 to 2012 using ftp protocol and Python code for automated conversion of data into Geo-TIFF format for their use in ArcMap.

For calibration purposes monthly ground rainfall data over the same period of 15 years for 35 rain gauge stations were obtained from Pakistan Meteorological Department (PMD); the location of stations is shown in Figure 1. Although the rain gauge network is sparse compared to the vastness of area [31], this was the only reliable source of ground rainfall data. Rain gauges may also have some errors, but are normally considered correct and true representative of point rainfall [31, 33] in a basin for validation of other datasets. Moreover, use of 15 years data to have average annual and monthly rainfall values, both for satellite and rain gauge data, may be considered helpful in neutralizing any biases in both datasets.

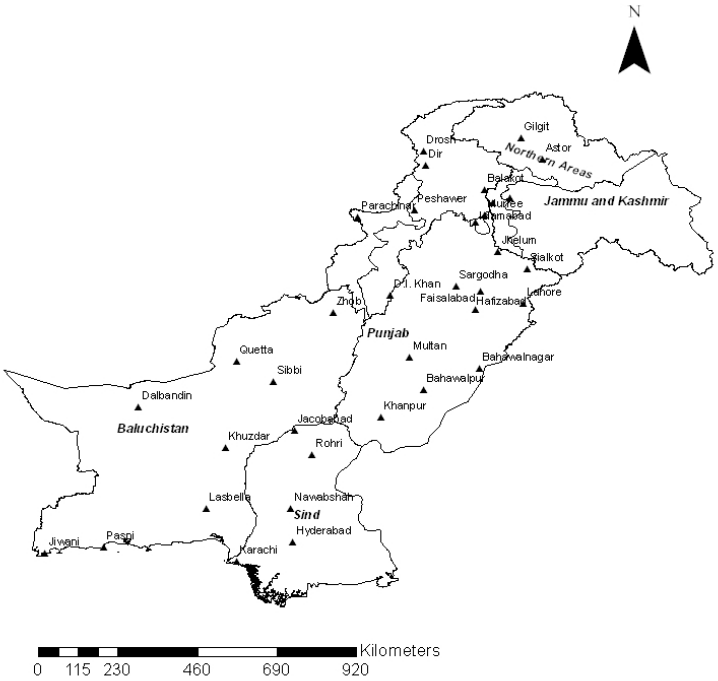


Fig. 1 - Map of Pakistan with provincial boundaries and location of rain gauge stations used in this study.

Calibration using Regression Analysis

There have been found a relationship between the TRMM rainfall estimates and rain gauge observations by many scientists [26, 8, 31]. The empirical relations were developed for each month using regression analysis on data from 29 rain gauge stations and the corresponding pixels in TRMM grid data which were identified using spatial join overlay technique in ArcMap. Data for remaining six rain gauge stations were used for validation purposes only, following the calibration and validation stations ratio adopted by Cheema and Bastiaanssen (2012) [31]. To have best relationships and address the non-linearity in both datasets, second order polynomial equations were developed with zero intercept, which can be described as:

$$R_{cal} = R_{gauge} = a\,(R_{TRMM})^2 + b\,(R_{TRMM}) \quad (1)$$

Where R_{cal} is the resulting calibrated TRMM rainfall, R_{TRMM} is the TRMM rainfall from original 3B43 product, and 'a' and 'b' are the regression coefficients for the calibration of 3B43 product for Pakistan.

Development of Calibrated Rainfall Maps

By the use of developed calibration equations for each month, new monthly rainfall raster, and in turn, the seasonal (six monthly) and annual raster datasets were developed using map algebra tool. The year was divided into two six monthly parts keeping in view the two prevailing cropping seasons in Pakistan, i.e. Rabi (from November to April) representing the relatively dry winter and a bit hot spring with rainfall currents due to western disturbances, and Kharif

(from May to October) representing the hot summer and rainy season having heavy monsoon rains, but also a part of the post- monsoon season in October with almost no or very less precipitation. To have district level monthly satellite rainfall maps for Pakistan, the calibrated raster datasets were converted to polygon or vector files which were combined with the vector file of local administrative/district boundaries. Union of the two layers with defining proper statistical parameters resulted in estimating average monthly rainfall for each administrative division.

Validation

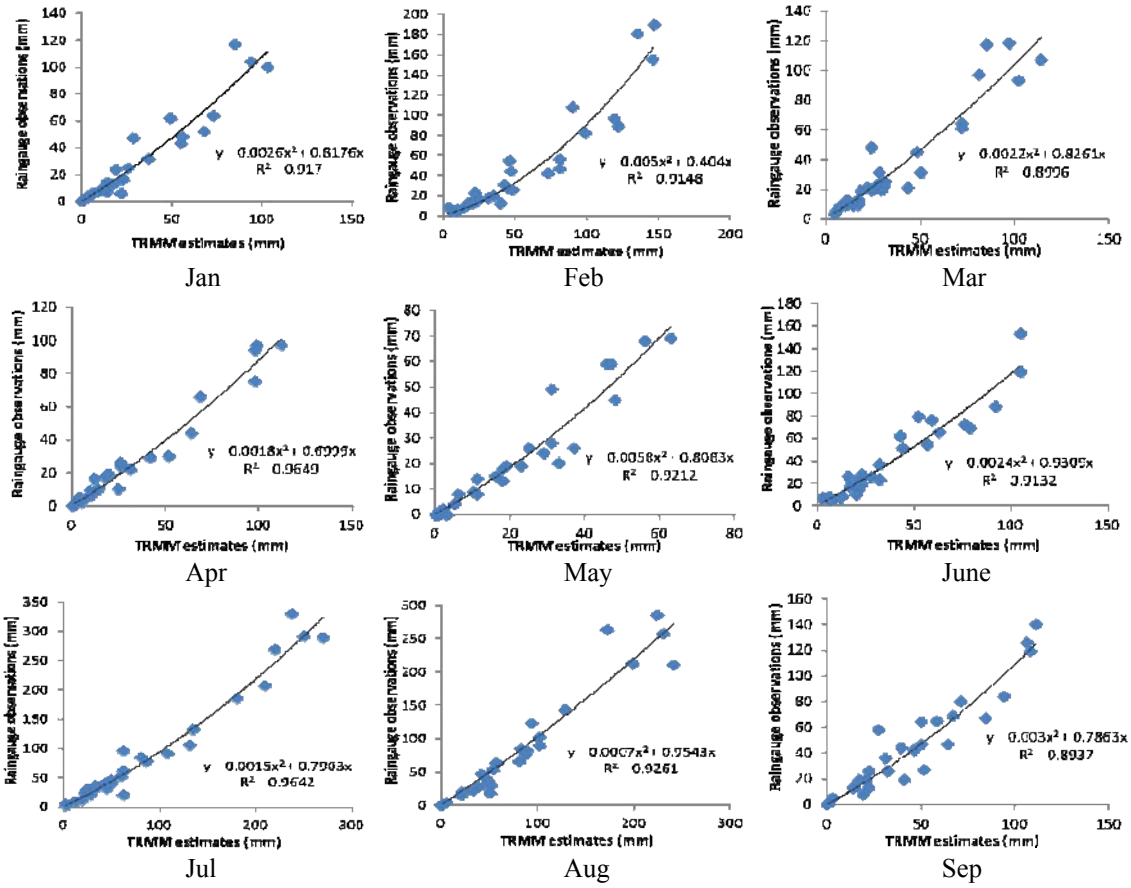
For performance evaluation and validation of the original TRMM data and the calibrated rainfall maps, six remaining rain gauges' measurements and their respective pixel values were used to estimate Nash-Sutcliffe Efficiency (NSE) for each month. NSE determines the relative magnitude of noise in estimated data compared to the measured data [34], using following relation:

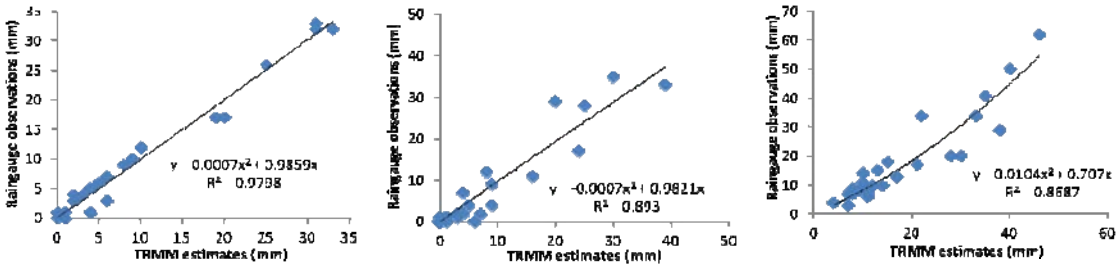
$$NSE = 1 - \frac{\sum_{i=1}^{n}(R_{rgs} - R_{trmm})^2}{\sum_{i=1}^{n}(R_{rgs} - \langle R_{rgs} \rangle)^2} \quad (2)$$

Where R_{rgs} is the measured/observed rainfall for a specific rain gauge, R_{trmm} is the satellite rainfall value for the respective pixel, $\langle R_{rgs} \rangle$ is the mean observed rainfall, and n is the total number of observations or rain gauge stations used for the validation purpose. Value of NSE ranges from -∞ to 1; values between 0.0 and 1.0 are generally considered as acceptable, while the values less than 0.0 indicate that the observed mean is more accurate than the estimated value, which is unacceptable. NSE was calculated for each month as well as for the whole year to evaluate the accuracy of TRMM 3B43 product and the performance of calibration work using the pre-calibration and post-calibration satellite rainfall maps, respectively.

RESULTS AND DISCUSSION

Figure 2 shows the comparison of satellite rainfall with rain gauge measurements for all the months, along with the resulting second order polynomial equations and respective R^2 values.





Oct Nov Dec

Fig. 2 - Regression analysis for 15 years' mean precipitation values of 29 rain gauges vs TRMM 3B43.

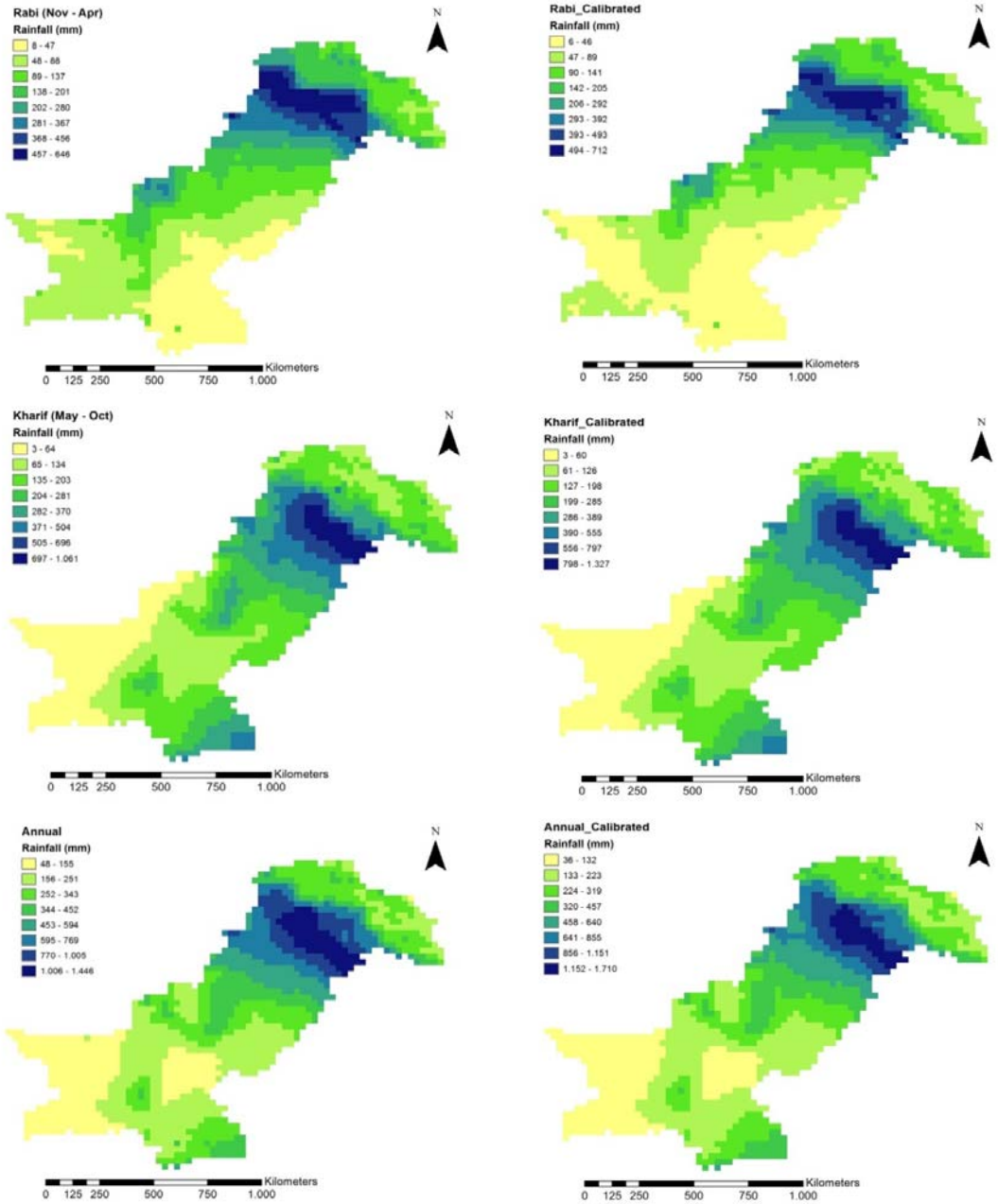


Fig. 3 - Seasonal and annual maps of satellite rainfall before and after calibration.

For most of the months, resulting curves were of the parabolic form with their convection towards horizontal axis, indicating that the overall TRMM satellite estimates are on higher side a little, but leading to the underestimation at higher rainfall values; similar trends were experienced by other scientists [28, 35, 31]. However, almost linear behavior was seen for the months of October and November, as the total rainfall in these months was very low, i.e. up to 40 mm month^{-1}. Therefore, it can be seen that actually these lines represented just the lower one-third part approximately of the curves for other months, and thus, showed almost a linear behavior with little overestimation by the satellite. High

correlation was found between two datasets for all months with R^2 values ranging from 0.87 for December to 0.98 for October.

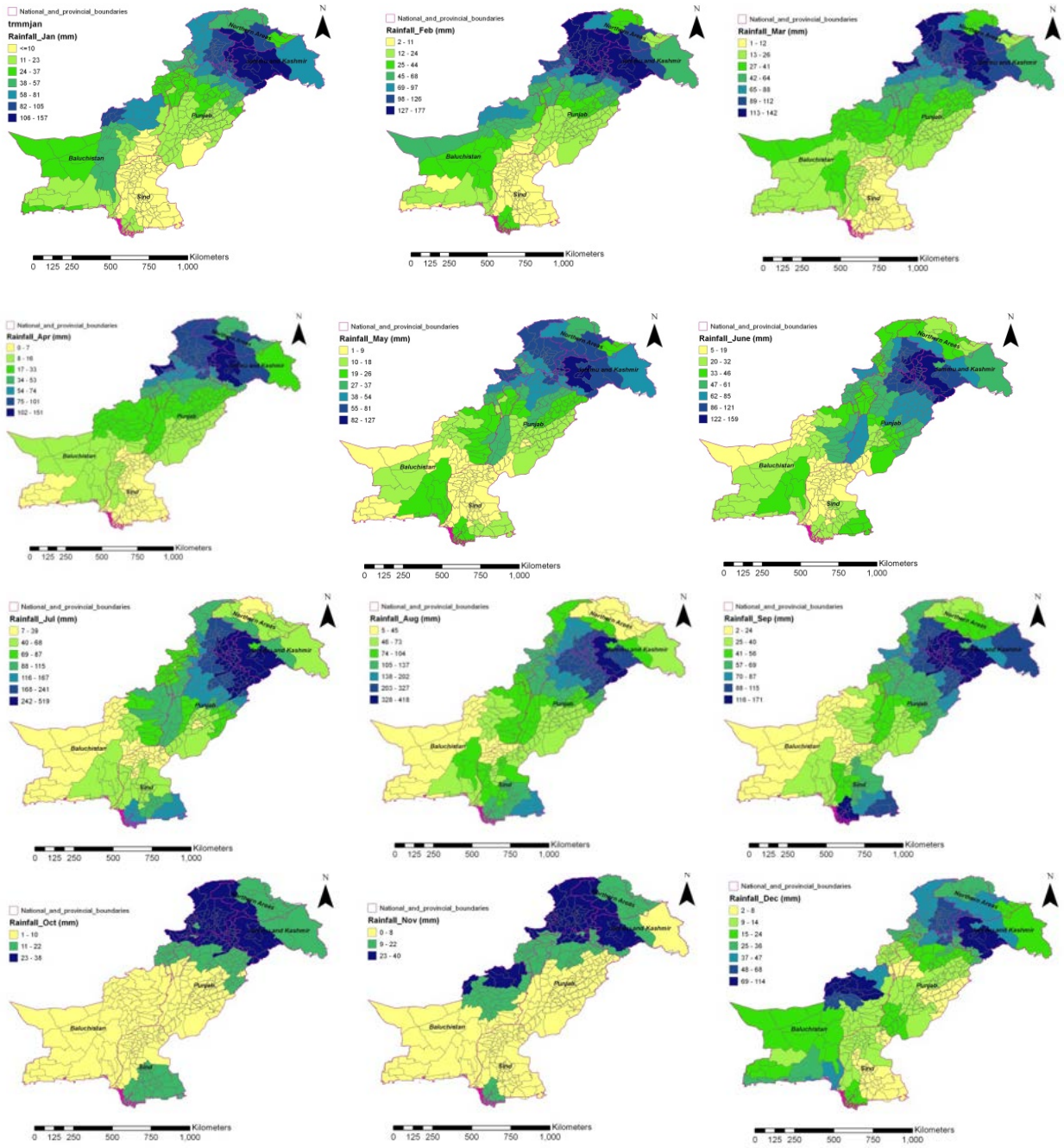


Fig. 4 - District level monthly satellite rainfall maps.

The seasonal and annual raster maps before and after the calibration of satellite data have been shown in Figure 3. From Figure 3, it can be seen that in Rabi season, representing the low rainfall winter and spring season, calibration work improved the satellite data and there was found a shift of south-western areas (Balochistan province) from rainfall class of 45-90 mm to that of below 45 mm. Similar little variations were found in the distribution of other classes before and after calibration. For Kharif season, representing the summer and monsoon rainfall season, the distribution of rainfall classes was found almost similar before and after calibration; and similar was the case for the whole year mapping. The upper Punjab province areas, which are at the foot hills of Himalayan Mountains, were found under heavy rainfall in Kharif season due to monsoon winds and orographic effects. The annual maps show that the upper Punjab foot hills areas and upper KP province are under severe climate change impacts in terms of heavy rainfall, which mostly result in flooding in the downstream areas of KP, Punjab and Sind provinces. South-western areas in Balochistan province and some desert areas in the north-eastern Sind province were found under the severe drought risks with arid climate having average annual rainfall in the range of 35-135 mm. Areas in the southern Punjab and the

belt along the mutual boundary of Sind and Balochistan provinces were also found under arid to semi-arid climate with average annual rainfall in the range of 135-225 mm, thus having threat for agriculture in terms of temporary crop water stresses. For further understanding of spatio-temporal rainfall variations, monthly rainfall maps on district level were also developed (Figure 4), which can be highly helpful for having idea of monthly average rainfall for each district and planning strategies for pre-event management of flooding and/or water shortage periods.

For validation purposes, monthly and annual values of Nash-Sutcliffe Efficiency (NSE) for pre and post calibration TRMM rainfall estimates are presented in Table 1, and their variations within the year from month to month are further elaborated in Figure 5. Table 1 show that TRMM rainfall estimates even without calibration were found as a useful source of rainfall grid data in comparison to sparse rain gauge network, having NSE values in the range of 0.73 to 0.92. The calibration work performed in this study further improved the NSE values for the satellite rainfall estimates, but this improvement was only about 5% on the average. It is important to mention that the NSE values were found high (0.85-0.95) in the summer and monsoon months, i.e. from April to September due to relatively heavy rainfalls during these months, but the calibration approach even decreased the NSE values for the rainy months of July, August and September. Reasons for this extraordinary result were investigated and major deviations between rain gauge and pixel values causing low NSE values during these months were found for the hilly rain gauge stations, which are under high wind and orographic effects during the monsoon period. In these areas during monsoon season, there may be high variations in rainfall from pixel to pixel and even within a pixel covering an area of about 25 x 25 km^2, thus any comparison or calibration in these areas using sparse rain gauge network may further increase the biases [31]. Table 1 and Figure 5 show that the lowest NSE values were recorded for the months of October, November and December; but the accuracy was greatly improved here by the calibration work resulting in an increase of 10-15% in the NSE values. This finding also matches with the results of other scientists [5, 31], who stated that TRMM overestimates the low rainfall, but very low rainfall rates are difficult to measure by the precipitation radar (PR) of TRMM due to detection limitation. Thus the accuracy of satellite rainfall estimates was found a little lower in these months, but greatly improved by the calibration work because high wind speeds and orographic effects were almost absent in these months.

Tab. 1 - Pre and post calibration NSE values for TRMM rainfall estimates

Month	Pre-calibrated NSE	Post-calibrated NSE
January	0.81	0.83
February	0.85	0.89
March	0.81	0.83
April	0.89	0.91
May	0.92	0.94
June	0.92	0.95
July	0.92	0.89
August	0.91	0.89
September	0.84	0.81
October	0.75	0.84
November	0.77	0.85
December	0.73	0.83
Overall Value	0.89	0.91

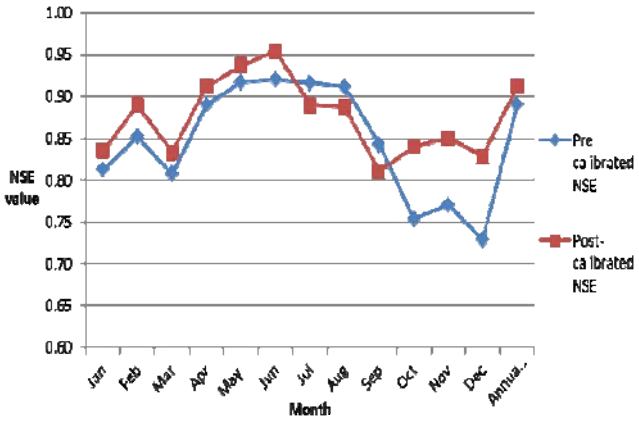


Fig. 5 - Variations in pre and post calibration NSE values from month to month.

SUMMARY AND CONCLUSIONS

TRMM rainfall products have become an important source of high spatio-temporal resolution grid data for their use in climate change and water resources studies. Many scientists have conducted studies for the evaluation of TRMM data in different parts of the world, as well as in Indus Basin covering the major area of Pakistan. This study was novel in this sense that 15 years data from the initiation of TRMM program, i.e. 1998 to 2012 was utilized, with the assumption that averaging of both the satellite and rain-gauge datasets over the period of 15 years will help neutralizing the errors and biases in both datasets. The study concluded that TRMM data are quite reliable for their direct and real time use for conducting any rainfall-based studies. For conducting high accuracy studies, these can be further calibrated by adopting suitable calibration techniques. However, for high mountainous areas with heavy orographic rainfalls, regional calibration should be performed very carefully and for limited areal extents using as much dense and uniformly distributed rain gauge network as possible.

ACKNOWLEDGEMENTS

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FLOOD-RISK MITIGATION IN THE SOLIETTE RIVER BASIN: AN INTERNATIONAL COOPERATION INITIATIVE (HAITI, DOMINICAN REP., ITALY)

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ABSTRACT

Isla Hispaniola (Haiti and the Dominican Republic), one of the poorest regions of the planet, has repeatedly been hit by catastrophic natural disasters that caused incalculable economic losses and killed thousands of people. One striking example is the disastrous flood-event that occurred in the transnational basin of River Soliette on May 24th, 2004. The event was produced by a severe tropical storm originated over the Caribbean Sea from an intense low-pressure system, and killed over 1000 Haitian and Dominican people, wiping out a number of rural villages. The General Direction for Development and Cooperation of the Italian Department of Foreign Affairs funded through the Istituto Italo-Latino Americano (IILA, www.iila.org) an international cooperation initiative (ICI), coordinated and directed by the University of Bologna. The initiative involved Haitian and Dominican institutions and consisted in two main components: (a) institutional capacity building on flood-risk management and mitigation measures and policies; (b) hydrological and hydraulic analysis of the May 2004 flood event aimed at formulating a suitable and affordable flood-risk mitigation plan. The second component of the cooperation is the main focus of this paper and in particular, starting from some logistical and technical constrains, a topographic survey based on GNSS technology that enabled us, in a short time, to survey river cross sections and construct Digital Elevation Models for two areas where to conduct numerical hydraulic modelling and to pre-design hypothetic flood-risk mitigation measures. The paper reports and discusses the main phases of the project.

KEY WORDS: *FLOOD RISK MITIGATION PLAN, TRANS-BOUNDARY CATCHMENT, GNSS, DEM*

INTRODUCTION

Over the last decades the island shared by Haiti and the Dominican Republic, known as Isla Hispaniola (see Figure 1), has been affected by a number of severe hydrological events that causes thousand fatalities and incalculable damages to structures and environment. One of the most devastating and striking example is represented by the catastrophic flood occurred on May 24th, 2004, where a tropical depression in the Caribbean Sea caused a flash-flooding in the transnational basin of River Soliette, causing floods and landslides. According to the estimation provided by the US Angency for International Development [1], the event hit the larger urban settlements of the catchment, destroying a large part of Jimanì (on the Dominican part of the catchment; see Figure 1) and Fond Verrettes (on the Haitian side of the river basin; see Figure 1), killing over 1000 Haitian people and more than 400 people in the Dominican Republic wiping away several rural villages.

The extremely high hydro-geological risk of the Isla Hispaniola seems to be the result of a combination of different factors, such as the meteorological exposition of the area (i.e. the high frequency with which the island is hit by extreme events) and the high vulnerability of the territory. In particular, this latter aspect has been significantly accentuated by an uncontrolled development of human activities (e.g. the intense process of deforestation) and unplanned urban expansions which interest the whole river catchment.

In this context, developed countries should assist emerging countries in the field of flood-risk mitigation and flood protection planning, providing local technicians with the required instruments and knowledge necessary for the identification and implementation of structural and non-structural measures aimed at the reduction of the hydraulic risk.

It was in this perspective that the General Direction for Development and Cooperation of the Italian Department of Foreign Affairs funded through the Istituto Italo-Latino Americano (IILA, www.iila.org) an international cooperation initiative (ICI), coordinated and directed by the University of Bologna (UniBo). The ICI involved local experts, public bodies and institutions (i.e., Secretaria de Estado de Medio Ambiente, SEMAR, and Instituto Nacional de Recursos Hidráulicos, INDRHI - http://www.indrhi.gob.do - in Dominican Republic, Ministère de l'Agricolture, des Ressources Naturelles et du Développment Rural, MARNDR - http://www.agriculture.gouv.ht - in Haiti), pursuing three main objectives: *(a)* institutional capacity building in the context of flood-hazard assessment and flood-risk management for Haitian and Dominican experts working on local public institutions; *(b)* investigation of the hydrological and hydraulic behaviour of the River Soliette (i.e. reconstruction and numerical simulation of the May 2004 event); *(c)* relative to the

prototypical case study of Soliette trans-boundary river-basin, identification of guidelines for the development of flood-risk mitigation plans and for the selection and pre-design of the most suitable structural ad non-structural mitigation and adaptation measures.

Referring to this experience the paper summarizes the ensemble of activities implemented in the different context of the ICI. In particular, it reports a general overview for what concern the institutional capacity building and the hydrological reconstruction of the May 2004 event (objectives *(a)* and *(b);* deeply investigated and described by Brandimarte et al. [2]), while it mainly focuses on the topographical and hydraulic analysis carried out for the evaluation of flood-risk mitigation measures for the upper part of the catchment (objective *(c)*). In relation to the latter point, even if the manuscript does not present new instruments or methodological applications it reports a valuable way to reconcile topographic and geometric data required for the application of hydraulic numerical models with the necessity to operate in remote areas, where unfavourable operational (i.e. limited economic resources) and environmental conditions are combined together, avoiding the possibility to use up-to-date instrumentation and survey procedures (i.e. LiDAR or photogrammetric survey).

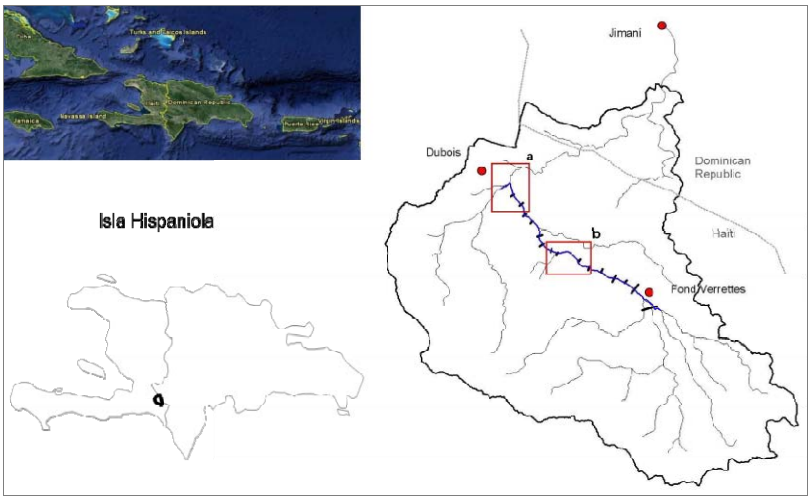

Fig. 1 - Trans-boundary catchment of the River Soliette: principal hydrograph network (black tin line), modeled reach (blue tick line) and river cross-sections (black segments); red boxes identify the areas of interest for detailed topographic surveys.

INSTITUTIONAL CAPACITY BUILDING

The institutional capacity building involved 12 junior local engineers (6 from Dominican Republican and 6 from Haiti) working for local public bodies or institutions (i.e. INDRHI, SEMAR and MARNDR) who attended a series of master classes for an overall period of 9 months. These classes, organized and coordinated by a pool of Italian researchers of the UniBo, focused on the fields of integrated water resources management and flood-risk mitigation, deepening in particular the following issues: hydrology and fluvial hydraulics analysis, hydrologic statistics, geographical information systems (GISs), topographical and geological analysis of the Isla Hispaniola, water distribution systems, structural and non-structural measures for flood-risk mitigation.

Since the final aim of the initiative was to enable 12 junior engineers to elaborate a possible flood-mitigation plan for the trans-boundary catchment, the master classes were also supported by practical activities through several computational experiments and field trips (see Figure 2).

These field trips were not only useful for participants' awareness about the damages of the May 2004 flood event, but they also provided the opportunity to better understand people habits, water education and awareness about the flood risk associated to the river Soliette. Furthermore, some of those field activities also focussed on the implementation of a detailed topographical survey of the upper part of the basin, providing a valid example on how to reconcile topographic data requirements for numerical hydraulic models in the context of flood-risk assessment in remote areas.

HYDROLOGICAL ANALYSIS AND FLOOD-RISK MITIGATION PLAN

Study area and numerical reconstruction of the May 2004 event

The study area is represented by the trans-boundary catchment of River Soliette (Figure 1), situated in the southern part of the Isla Hispaniola. The overall extension of the drainage area is c.a. 135 km^2, of which about 20% (lower basin) belongs to the Dominican Republic, while the remaining part (upper basin) belongs to Haiti. Stream-channel slopes

range from 17% (upper basin) to 2% (lower basin) and it is often characterized by zero-flow period during most years. The two main urbanized areas in the basin are Fond Verrettes, in Haiti, and Jimaní, in the Dominican Republic (red dots in the Figure 1). Fond Verrettes lies on a wide plain area in the Haitian mountain side of the River Soliette, surrounded by steep slopes. During years preceding the 2004 flood event Fond Verrettes and Jimaní extended, getting in proximity to the main channel (Fond Verrettes), or occupying rather large portions of the alluvial bed of the River Soliette (Jimaní). Evidently, the unplanned and uncontrolled expansion of Fond Verrettes and Jimaní increased significantly the vulnerability of the area to flooding.

Fig. 2 - Institutional capacity building through theoretical and field trips activities (left and central panels) and a statement of Environmental Educational activities for the population living in the flood prone area (right panel).

In addition, since the extreme poverty conditions of this particular area, the wood represents the main source of energy for the population of the island, with the result that the Haitian territory is affected by an intense deforestation process along the steep slopes of the river basin (see Figure 3). Especially in the upper and central part of the catchment (Figure 1), due to steep slopes (around 17% on the upper basin) and deforestation process that increase the soil erodibility, flash-floods can move large volumes of sediments and represent a big risk for urban areas situated along the reach or in the lower part of the catchment (i.e. Jimaní). As a consequence of this condition, the May 2004 event, characterized by extreme rainfall intensity, was also characterized by an intensive sediment transport, in some cases with boulder of about 2-3 m that were responsible for most of the damages (Figure 3).

Fig. 3 - Pictures taken from the basin of the River Soliette: example of the extensive deforestation process in the upper part of the basin (pictures on the left side) and pictures taken after the May 2004 event highlighting the erosion process and the dimension of transported boulders (pictures on the right side).

Concerning the study area, since the absence of a systematic measurement network in the river basin, the available hydraulic information was very sparse and referred only to low-flow conditions [3]. In this conditions in which historical information on flood events are particularly limited it is not possible to implement a traditional flood frequency analysis for the estimation of hydrological events associated with a specific return period. Starting from these considerations, in order to evaluate the hydraulic behavior of the River Soliette during severe hydraulic conditions, the study refers to the May 2004 event. Even if two previous studies provided an estimation of the peak flow at Jimanì [4][5], Brandimarte et al. [2] provided a first comprehensive hydrological analysis of the May 2004 event. Taking advantage of the collaboration between Haitian and Dominican institutions, triggered by means of the ICI, Brandimarte et al. [2] acquired rainfall data for the upper portion of the catchment, enabling the implementation of a quasi-distributed hydrological model (see e.g. [3]) for the comprehensive trans-boundary basin. Referring to topographic and morphological information provided by local authorities (e.g. land-use, soil-type variability and a coarse DEM for the whole river basin) the catchment was divided into 10 sub-catchments. Demanding to Brandimarte et al. [2] for more details on the reconstruction of the May 2004 flood event, Figure 4 summarizes the results of the hydrological analysis, providing the flow hydrographs at the catchment outlet (Jimanì) and at the confluences of the main tributaries of the River Soliette.

Flood mitigation plan for the River Soliette catchment

Referring to the extreme event of the 2004, Brandimarte et al. [2] proposed a rather complex compound of structural and non-structural measures that should be implemented at the catchment scale for the mitigation of the flood-risk. Since the heterogeneous hydrological and morphological characteristics of the upper and lower part of the basin, a comprehensive flood mitigation plan has to rely on several mitigation measures that must be implemented in a context of a wide and complete cooperation between Haiti and Dominican Republic. In fact, while fluvial erosion and impulsive sediment transport are the main issues affecting the mountainous part of the basin (the high river slope and wide deforestation favor soil erodibility), the lower part is characterized by gentler slopes that facilitate sediment deposition, generating alluvial deposits which may result on extended flooding. Concerning the lower portion of the basin, Brandimarte et al. [2] proposed a set of different measures, such as: masonry lengthwise embankments for flood restraint in proximity of urban areas of Jimanì and a series of non-structural measures which pursued flood-risk mitigation addressing the vulnerability of people and the adaptive capacity of the society (e.g. identification and delimitation of flood prone areas for controlling urban expansion, environmental education campaign for people leaving on floodable area and the implementation of a flood warning system).

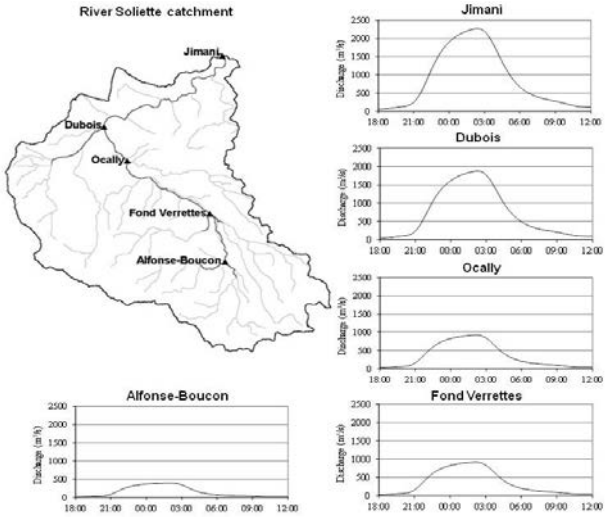

Fig. 4 - Sections of interest of the Soliette catchment with relative flow hydrographs reconstructed for the May 2004 event by means of a quasi-distributed hydrological model (see [2] for more details).

Concerning the lower portion of the basin, Brandimarte et al. [2] proposed a set of different measures, such as: masonry lengthwise embankments for flood restraint in proximity of urban areas of Jimanì and a series of non-structural measures which pursued flood-risk mitigation addressing the vulnerability of people and the adaptive capacity of the society (e.g. identification and delimitation of flood prone areas for controlling urban expansion, environmental education campaign for people leaving on floodable area and the implementation of a flood warning system). In relation with these measures, Figure 5 highlights the importance of institution and people awareness of hydraulic risk, showing how a large part of damages and fatalities occurred in 2004 could have been avoided in case of considering the flood hazard in the urban expansion plan.

Considering the upper Soliette basin, flood mitigation measures rely on a system of structural and non-structural measures, such as the strengthening of the pluvio-hydrometric gauging network (actually almost absent), the promotion of an environmental education campaign for the population living in the flood prone areas, the delineation of flood prone areas for controlling urban expansion and the promotion of a reforestation program in order to reduce the intense soil erosion and sediment transport observed during the 2004 flood event. In relation to this last problem, the most significant efforts planned in terms of structural flood-risk mitigation measures should be dedicated to sediment retain, ensuring the reduction of solid deposition in the lower part of the catchment. Starting from these outcomes, the present work took advantage of more extensive topographical surveys carried out on the upper part of the catchment, that were not available during previous studies, in order to further investigate flood mitigation measures along the River Soliette, evaluating in particular the opportunity and the benefits related to the implementation of a system of three “filtering” dams for retaining solid material.

HYDRAULIC-MODELING REQUIREMENTS AND OPERATIVE CONSTRAINTS

Next sections of the manuscript focus on the conflicting elements that characterized the evaluation of the feasibility of a system of three “slit” check dams in the upper part of the catchment: from one side the adverse operational condition in which we operated (limited economic and human resources and remoteness of the study area), and from the

other side, the need to provide high resolution and accuracy topographic data for the implementation of a numerical hydraulic model along the upper part of the River Soliette.

Since the river appears single-channeled in the upper part of the basin we refer to a Preissmann Scheme one-dimensional (1-D) hydrodynamic model (see e.g. [6]) for which the topographic representation of the riverbed consists of a series of geo-referenced river cross-sections.

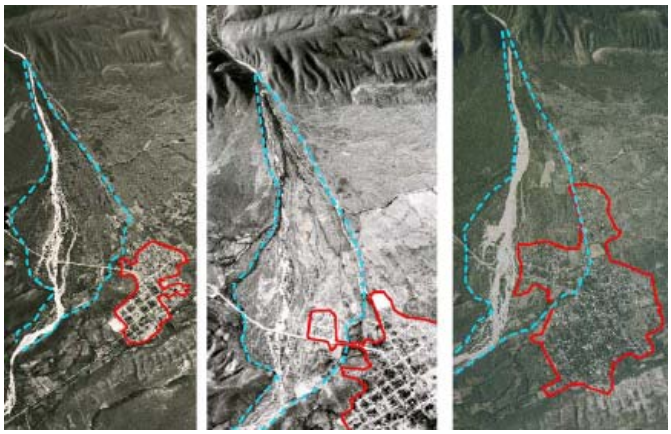

Fig. 5 - Urban extensions of Jimanì (Dominican Republic) in 1967, 1984, 2000 (areas delimited by red line from left to right) and May 2004 flood extent (dashed line).

The study river reach (of a length of ~7 km) was surveyed extracting several cross-sections with a relative distance of about 400 m, defining the cross-section width to ensure the survey of later banks 10 m above the river thalweg (see e.g. [7] and Figure 1). Furthermore, due to the necessity to design the system of check-dams, the hydraulic model required high resolution Digital Elevation Models (DEMs) for two different areas, pre-emptively identified during field trips as suitable for the construction of the filter dams (see red boxes in Figure 1). Concerning this last point, it is worth to highlight here that no geodetic infrastructure, mobile phone connection nor connections to the Geodetic Nationals Network were available in the study area. Instrumentation and surveying methods adopted in this case are discussed in the reminder of the manuscript.

TOPOGRAPHIC SURVEY

Technical constrains and limited founds available for the present study prevented from the use of sophisticated instrumentation (i.e. Airborne or Terrestrial Laser Scanning), while the best choice for this kind of survey was indentified in the GNSS (Global Navigation Satellites Systems) technique, whose receivers allow both the framing of the survey in an absolute geodetic and cartographic System and the detailed survey of sections and of digital elevation model (DEM) in selected areas. Since no vertices of a local geodetic frame were available in the area we defined the receiver position in an International Geodetic System (e.g. ITRS) by means of the Precise Point Positioning (PPP) approach which ensure high accurate absolute positioning using carrier phase observations acquired by geodetic GNSS receivers (see i.e. [8]). During the last years the improving of the satellite ephemeris precision, clock models, geophysical models, etc., have permitted a significant improvement of the PPP and nowadays, in case of at least 24 hours windows time observation, the overall accuracy appears comparable to others approaches based on double difference carrier phase data processing (see e.g. [9] and [10]). The final position in PPP is typically given in the same geodetic reference frame of the satellites orbits (IGS) and the transformation to the International Terrestrial Reference Frame (ITRF) is possible applying a daily seven-parameter transformation defined on the bases of orbits and clocks. The parameters of this transformation have been evaluated on a worldwide network (FLINN network) where, for each station, official coordinate in ITRF are well known, by means of the GISPY-OASIS II package, developed and maintained by JPL-NASA.

For what concern the detailed survey we adopted the Real Time Kinematic (RTK) technique both for the river sections surveys and DEM realization. In fact, this technique permits to estimate static or kinematic position of a receiver (Rover) in real time with respect a fixed reference station (Master), with an accuracy of few centimeters [9]-[11]. In our application the PPP survey provides precise coordinates in absolute ITRF2000 frame both for the Master and the Rovers positions. Usually the connection between master and rover receivers can be performed using or mobile or radio link. For this survey, since no mobile phone connections were available, we were forced to refer to VHF radio connection, which permits the possibility to send RTK corrections to many rover receivers simultaneously reducing significantly the time for survey.

In these constrained conditions the RTK technique provides some useful advantages. First of all, the surveyor can check on the screen, and in real time, the position of the receiver respect the coordinates of the reference station, with a centimeter level accuracy, and then navigate considering the requirement of the survey. Secondly, the connection with

the master station permits a continuously data quality check that guarantee the final quality of the positioning also if a post processing is required. Concerning the precision of the RTK survey, many experiments are provided in the literature (see e.g. [12]-[14]), while others have been performed also by the authors ([15]), finding a precision in terms of planimetric and height components of few centimeters. In the light of all these considerations, the combination of PPP and RTK techniques constitutes the best approach in remote area, ensuring precision and accuracy which appear more than adequate for the type of survey that must be performed.

The survey was carried out using two different master stations along the valley, one located in the upper part the study area (see Figure 1), in the proximity of Fond Verrettes, and the second one located close to the bottom part, in the proximity of one of the two areas where the high detailed survey had to be performed (see boxes in Figure 1). The fixed coordinates of the two master stations were obtained by means of 20 minutes observation of code single point positioning, with an expected absolute accuracy of a meter. Adopting a sampling time of 1 second each GNSS receiver was set up both for a Real Time positioning and raw data (carrier phase and code) recording. Thanks to the precious logistical and training support offered by Haitian and Dominican Institutions the field survey was completed only in 3 working days, using in total 5 GNSS receiver available for the study.

Figure 6 reports some results of the topographic survey: raw data have been converted from a geodetic system into a cartographic projection (UTM, zone 18), while the points heights have been transformed from ellipsoidal to orthometric ones by using EGM96 geoid model and assuming the geoidal undulation as a constant for all the area. Detailed digital elevation models with a resolution of 1 meter required for the areas highlighted in Figure 1 (boxes) have been realized using kriging geostatistical interpolator, starting from the surveyed profile obtained as before described.

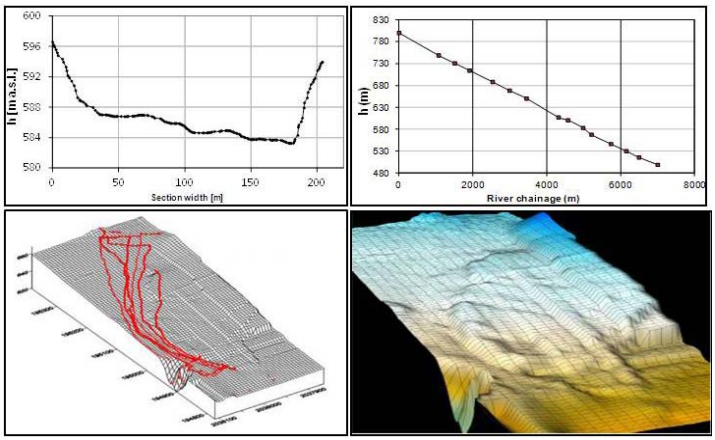

Fig. 6 - Results of the topographical survey: example of a river cross-section (up-left; see also traces on Figure 1), longitudinal profile of the upper part of the River Soliette (up-right), post-processed analysis with survey tracks and digital elevation representation of surveyed area (bottom panels).

HYDRAULIC ANALYSIS

Hydraulic modeling

Given the absence of a reliable data series relative to historical floods occurred over the study area (see also [2]) and considered the extreme intensity of the May 2004 event, we referred to it and, in particular, to the results of the hydrological analysis reproduced by Brandimarte et al. [2] (see also previous section) for the evaluation of flood-risk mitigation strategies along the River Soliette.

We referred to the collected set of topographical information for the implementation of a one-dimensional hydraulic model (1-D model) of the upper reach of River Soliette in order to deepen flood-risk mitigation strategies in the area of interest. In particular, Figure 1 shows the position of 15 cross-sections surveyed along the river, specifically along the stretch that goes from the urban area of Fond Verrettes to the confluence of River Ravine Dubois (left tributary relative to Dubois sub-basin). The 1-D model was built referring to the UNET code [16] that numerically solves the Saint Venant equations, through an algorithm that uses a classical implicit four-point finite difference scheme ([17]). The 1-D hydraulic model, once implemented and calibrated, represents a useful tool which ensure the possibility to investigate several fluvial geometric configurations, testing the efficiency and validity of different hydraulic structures in terms of flood-risk mitigation (see e.g. [18]-[20] for some example on the use of one-dimensional model).

The river geometry were reproduced referring to surveyed cross-sections which cover the overall study area (around 7 km reach of the River Soliette), while boxes on Figure 1 highlight the areas identified as suitable sites for the construction of hydraulic structures finalized to reduce the solid transport and for which two detailed DEMs were retrieved (see Figure 6). Thanks to the presence of detailed topographic models (DEMs), both the areas of interest were reproduced more precisely in the 1-D model by adding several additional river cross-sections extracted by means of

Geographic Information System tools. Due to the lack of observed hydrometric data for the model calibration, roughness coefficients adopted in the model were defined referring to typical values reported in the literature for river beds of similar characteristics (i.e. coarse sediments, pebbles and big boulders; [21]).

Flood-risk mitigation measures for the upper part of the River Soliette catchment

In order to reduce the flood hazard and flood exposure at the catchment scale it is necessary to envisage a comprehensive flood-risk mitigation plan composed of a series of different measures. Considering the upper part of the River Soliette, Brandimarte et al. [2] suggested the implementation of a series of non-structural measures, like for example the strengthening of the pluvio-hydrometric gauging network (actually almost totally absent), the delineation of flood prone areas for controlling urban expansion, the promotion of a reforestation program and the promotion of an environmental education campaign for the population living in the flood prone areas.

Among these, the problem related to the wild deforestation sounds particularly important in the light of significant problems related to sediment transport as observed during last major floods occurred in the area. In relation to this evidence, the most important efforts planned in terms of hydraulic infrastructures (structural measures) should be dedicated to the sediment retain, ensuring the reduction of solid deposition in the lower part of the catchment (i.e. alluvial fan near Jimaní, Dominican Republic) and avoiding the risk of flow levels rising that could originate floods on the urban area. In this context, the present work investigates the opportunity to implement a series of structural measures finalized to sediment retain in the upper part of the catchment. Referring to boxes reported in the Figure 1, the hydraulic analysis investigated the suitability of a system of three “filtering” dams (otherwise identified as “ selective” or “slit” check dams). Figures 7 (upper panels) reports a detailed view of the areas identified as suitable for the dams, reporting also the traces of projected filter dams and additional cross-sections (yellow traces) extracted from detailed DEMs. The panel on the bottom left on Figure 7 reports the frontal view of one of the designed slit dams, while the panel on the bottom right highlights the results of the hydraulic simulation carried out over the study area.

This kind of dam is usually characterized by one or more narrow, vertical openings, going from the dam base up to the weir. The adoption of this structures appears the best solution for this case study because the sediment retain is obtained through the backwater effect induced by the structure, that makes possible the deposition of the sediments upstream the dam. Due to the nature of this structure and to the way it interacts with floods and sediments, its behavior appears customized to individual rivers and streams and their specific modalities of sediment transport. Final dimensions of projected dams and their interaction on flood propagation dynamics were investigated by means of the implemented 1-D model (see Figure 7).

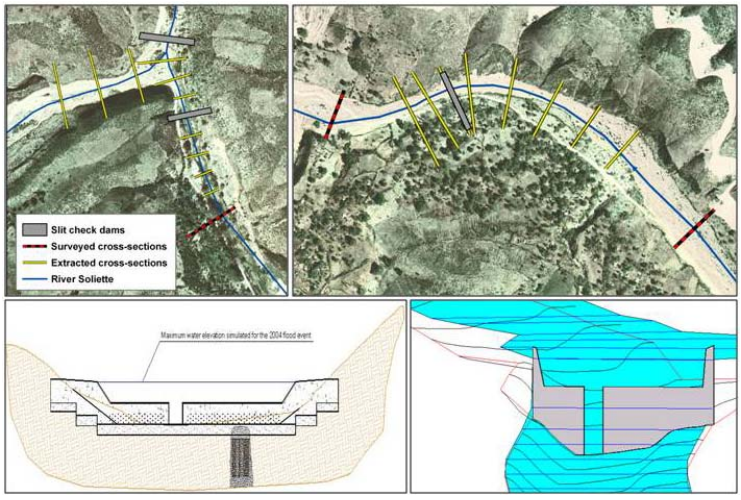

Fig. 7 - Position of designed check-dams for boxes a (upper left panel) and b (upper right panel) of Figure 1; bottom left: frontal view of a slit dam characterized by the vertical opening of about 5 m width; bottom right: three-dimensional view of the River Soliette as implemented in the 1-D hydraulic model.

FINAL CONSIDERATIONS AND REMARKS

The present paper summarizes the results obtained within the international cooperation initiative (ICI) for the development of a flood-risk mitigation plan for the River Soliette, a transboundary river that flows trough Haiti and Dominican Republic. Coordinated by the University of Bologna, the objectives of the ICI can be grouped as: a) institutional capacity building on flood-risk mitigation for local experts; b) hydrological and hydraulic analysis of the transnational River Soliette finalized to flood-risk mitigation. Triggered by the catastrophic consequences of the May 2004 flood event, the ICI promoted the collaboration between Haiti and Dominican Republic, enabling the cooperation of several technicians of the two countries in the field of flood-risk mitigation planning. The present paper briefly

summarizes all the activities carried out during the cooperation which enable an enhanced characterization of the hydrological and hydraulic behavior of the trans-boundary river Soliette (see also [2]). In particular, the present paper mainly focuses on the topographic surveys and data analysis processes implemented on the upper-central stream of the river (Haitian part of the catchment). Referring to river cross-sections and detailed DEMs surveyed during several field trips we implemented a one-dimensional (1-D) hydraulic model for a ~7-km reach of the river. With reference to the May 2004 flood event occurred on the study area and reproduced by Brandimarte et al. [2], we used the 1-D model for the formulation of a suitable trans-boundary flood-risk mitigation plan, analyzing the effect of structural measures. The analysis highlighted how a flood-risk mitigation plan should be considered as a rather complex compound of structural and non-structural measures due to the hydrological and morphological heterogeneous characteristics of the study area.

Concerning the design of structural measures on the upper part of the river catchment, the numerical analysis mainly focuses on the efficiency of a system of three filtering dams adopted as measures for controlling the impulsive sediment-transport phenomena that occur during large flood events, among the main issues affecting the upper and central part of the catchment.

Furthermore, the ICI highlights the importance of an appropriate land-use planning and development as a fundamental step for flood-risk mitigation in this area, whose importance is enhanced by extreme poverty conditions which hamper the possibility of implement costly structural flood mitigation measure. Also, the generalized lack of hydrological and topographical data makes the design and implementation of reliable structural measures for flood-risk mitigations difficult: the absence of hydrological data prevents from a reliable estimation of expected flood event, while the absence of appropriate topographical data results on unreliable hydraulic analysis.

In these contexts, the opportunity to implement fast and reliable survey techniques such as those presented above appears of utmost importance, especially in the cases where global topographical datasets (i.e. Shuttle Radar Topography Mission-DEM; DEM-STRM) do not ensure the resolution and the accuracy required for reliable hydraulic investigations.

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UNMANNED AERIAL SYSTEMS FOR DATA ACQUISITIONS IN DISASTER MANAGEMENT APPLICATIONS

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ABSTRACT

The potentiality of the Unmanned Aerial Vehicle (UAV) has already been proved by the military community, which has employed aircrafts without men on-board for reconnaissance missions and attack operations in the enemy field. The technological progress in the electronic and aerospace engineering fields allowed the development of low-cost UAVs characterized by a small size (mini-UAVs) and low weight, that can carry on-board imaging or non-imaging sensors. These advantageous features led the civil community to have an increasing interest in mini-UAVs. The excellent flight performances, the suitability for various types of missions, the inexpensiveness, and the capability to carry on-board different sensors, allow mini-UAVs to be employed in various missions. Nowadays, these systems allow to carry out missions in the following fields: land monitoring, remote sensing, agriculture and public security. Also the photogrammetric community has taken part to the research issues concerning the use of UAVs for map production.
The research group of Geomatics of the Politecnico di Torino has developed a set of interchangeable pods that can be mounted on a mini-UAV (a Hexacopter by Mikrokopter) devoted to emergency management in case of environmental disasters. This instrument is a low-cost mini-UAV equipped with photogrammetric sensors and capable of autonomous navigation (real time GNSS/IMU) and automatic digital image acquisition (characterized by a suitable geometric and radiometric quality). The platform is easily transportable on normal aircrafts and usable on the field, autonomously, by a couple of operators. The main innovation is to permits a real direct photogrammetric surveys in remote and disaster-affected areas in a short-range operative zone where it is not possible to carry out traditional photogrammetric flights. The acquisition technique allows the update of existing maps. Nevertheless, some test flights and practical applications have been performed in order to assess the autonomous flight performances and the suitability for photogrammetric flights.

INTRODUCTION

World disaster report - 2012 [1] suggests just how many lives have been and will be impacted by reported disasters in the decade 2002-2011 where “disaster” refers to all the events with a natural and/or technological trigger only, and do not include wars, conflict-related famines, diseases or epidemics:

- 7000 disasters in almost 10 years, including about 4000 natural disasters;
- 2684 million of people reported affected, 1.234 million of people reported killed, about the 93% for natural disasters;
- the estimated damage exceeds 1,450 billion euro of which more than 97% of natural disasters;
- the mortality rate increases and peaks after 48 h after the event are unlikely to survive beyond few weeks in the hospital.

The disaster management in emergency applications is always a race against time to move as fast as possible to reach all potential surveyors and yet move slowly enough to avoid creating additional collapse, damage or risk to rescuers and victims. The primary motivation is to save lives. Robots can assist in meeting this goal either by interacting directly with victims or structures or automatic support activities [2].

Advances in control engineering and material science made it possible to develop a particular type of robots: a mini or micro unmanned aerial vehicles (UAVs) equipped with cameras and sensors. The technology has a derivation from military applications; recently, however, products have also been of offered for the commercial market and have gained much attention, especially in some cheap products (e.g. Mikrokopter kit or similar). Having access to an aerial view over large areas is helpful in many applications, e.g., in disaster and law enforcement situations, where often only incomplete and inconsistent information is available to the rescue or police team. In such situations, airborne cameras and sensors are useful sources of informations which can help us to build an overview of the environment and to assess the current situation [3].

A conventional UAV can be regarded as an autonomous system that flies in the air, perceives the environment, and

communicates with the ground station. It is typically controlled by a human operator using a remote control. More recent technology ([4]) is equipped with navigation sensors as Global Navigation Satellite System (GNSS) and Inertial Measurement Unit (IMU) to guide navigation using sophisticated on-board electronics that lead to a good stability in the air.

UAVs are valuable sources of information in many application domains such as environmental monitoring, surveillance and law enforcement, and disaster management [5]. Obviously, these application domains have different requirements and constraints regarding available resources, timing, etc. One important task for which UAVs are used is to provide a bird's eye view and thus allow to assess the current situation. Analysing different views, the image quality can be improved and even depth information can be computed, leading to a three-dimensional model of the environment.

The environmental monitoring requires the acquisition of high resolution and multispectral images and geometrical information of the environment, in different epochs. These data are then analysed to completely define the radiometric and 3D geometric characteristics of the interested area and the time evolution of described phenomenon. Accurate and high-resolution images taken from UAVs flying at low altitudes gives much more precise evidence compared to the pictures taken from helicopters or airplanes, thanks to the lower height of the flight. However, it is not necessary to automatically analyse the data and in real time. The Fly Planning of the drones and its optimizations can be prepared off-line. Data analysis is performed off-line after all the data have been acquired, using sophisticated and possibly time-consuming algorithms. The main motivation for using the UAVs is to cover the interested area by using less resources (time, energy, ...) and they are less intrusive compared to helicopters or airplanes.

Some specific examples may include forests monitoring, agriculture fields or snow terrains. Forests monitoring allows to observe the population of trees and their state as well as to estimate potential damages. In agriculture, UAVs can fly to observe crop growing or to document the damages after a thunderstorm. Analysis of the pictures acquired by the UAVs while flying over snow terrains can be used to estimate avalanche risks.

In disaster management, e.g., earthquake, flooding, wildfire [6], it is important to get a quick and correct overview of the situation since it is not possible to rely on available maps or imagery. Hence, similar to environmental monitoring, a first step is to employ a fleet of drones to map the affected area and thus provide a basis for planning further rescue activities. Additionally, sophisticated image analysis algorithms can be used on the UAVs to detect humans or certain objects and classify them.

The requirements in this application domain are much more stringent. First of all, one cannot rely on fixed infrastructure such as communication infrastructure, powerful central servers and power supply. Planning the mission off-line beforehand is not feasible. So mission planning has to be done on-line and the drones have to fly the calculated routes autonomously. The whole processing of aerial mapping has tight timing constraints; it is not possible to take the images and then employ sophisticated time-consuming algorithms for off-line image stitching. Detecting and classifying objects has to be done by the UAVs and thus requires considerable processing capabilities for real-time image analysis on-board the drones.

In this paper, the authors describe an example of UAV data acquisition and processing for a simulate emergency application. The test area where the simulation was carried out has been described and a detailed description of acquisition phase has been included. Data processing as well as the first results obtained by an automatic data processing that permitted the generation of an accurate digital terrain model (DTM) and an high resolution orthophoto useful to generate a Solid (True) OrthoPhoto (STOP) has been described. Finally some first conclusion are reported.

TEST SITE

In our study, the technology above described has been used over a stone quarry in Luserna S. Giovanni (Piedmont) (Fig. 1), which is a zone characterized by an important quarrying activity, several stone quarries and with important environmental impacts on the land.

Fig. 1 - The position of the stone quarry.

The quarry was recently closed by the administration because it was declared dangerous for instability and insecurity problems for which it was impossible to continue the extraction work.

The dismissed area has at one hand the landfill site for the material resulting of the extraction activity: this is an incongruent not-accessible hill that we can compare to a landslide to correctly simulate an emergency application. Moreover it was quite difficult to reach many areas of the site, and the reference points were barely recognizable from an ashore point of view, so that the possibility to realize a photogrammetric flight using UAV was extremely useful. In fact, the objective of the work was a survey to obtain a traditional representation such as an orthophoto and a 3D model of the area in order to verify the use of this techniques for the disaster management.

DATA ACQUISITION

The data acquisition methodology used in this case is similar to the traditional technique used in photogrammetry, using a small drone that allows to acquire aerial images of the site [7]. The aforementioned methodology was accompanied by a topographic survey employed for the determination of the coordinate of several 3D points of the quarry. The flight was previously planned using an existing map and a little scale satellite image, in order to establish the average elevation of the fly, the direction and the number of stripes.

All the acquisition operations have been completed in a few hours without a large number of operators (2 hours and 4 operators). This detail is very important as in emergency situations, which may be the instability of a quarry, it is essential to collect all the necessary data in the shortest possible time and subsequently to process them in the laboratory in order to clear the area as soon as possible.

According to the characteristics of the available data and the site, a map with scale 1: 100 has been chosen to conduct the analysis.

The topographic survey

Once on field, it was necessary to realize a topographic network in order to use the surveyed point as Ground Control Points (GCPs) or CPs (Control Points) in order to obtain the orientation of the photogrammetric block which could be realize using the UAV data.

In the test site (Figure 2a), 27 points (wooden markers) has been collocated in the area. They have been obviously positioned only on easily accessible sites: in this case, as could be the case of a landslide, not all the area was reachable, but it's sufficient to have some well distributed reference points, eventually integrated with natural ground points, to post-process the photograms Some targets were placed both on the ground, in order to be visible during the images acquisition step using the drone, and on the vertical wall behind the stone quarry.

Moreover two vertex as reference points (201 and 202) were used; these vertexes were measured with a GNSS instrumentation in static modality, in order to georeferencing this site. The markers' positions (Figure 2b) were measured from reference points using a total station (TS06 produced by Leica Geosystems).

(a) *(b)*

Fig. 2 - The GNSS vertices (red) and the surveyed points (green).

The total station measurements concerning the markers (the total station is an instrument that measures the horizontal angles (L_{sp}), the vertical angles (φ) and the slope distances (d_i)), were processed with the software GEOSW, that give back an .asc file and a .dxf file with the correct coordinates of the markers (Fig. 2-right).

At first, to immediately get a 3D model of the site, the coordinates of the markers were calculated using a local reference system and assigning the coordinates to the point of the total station (coordinates X_s=100,Y_s=100,Z_s=100).

However, a new georeferencing from the local reference system to global one (e.g. UTM-ETRS89 geodetic system) using the data obtained from the GNSS receiver is allowed and required.

The UAV image acquisitions

The aerial photogrammetry acquisition was carried out with a customized Hexakopter by Mikrokopter (Figure 3a), equipped with a digital camera, SONY-NEX 5 [8].

The flight plan elevation of the Hexacopter was set to about 50 meters and, for each flight, two adjacent stripes were acquired in order to obtain overlapped photogrammetric images of the whole stone quarry [9].

In order to maintain the control of the trajectories and the positions, the UAV was connected to a remote computer through an antenna (Figure 3b) (telemetry) and it can communicate with the software that send information about its position, orientation, height and speed. This telemetry allows the measurement and the recording of information between two remote devices in real time using a wireless communication (XBee).

In our case, the planned parameters of the UAV flight has been setting using Mikrokopter Tools: 2D waypoints positions in geographical coordinates, relative altitude with respect the height where UAV taking off the first time, speed for each path and compass direction during the flight (Figure 4). The UAV receives the flight instructions using telemetry and stores them on board to perform an autonomous flight. Anyway these parameter can be manually correct, during the flight, through a remote control, helping it to perform the flight in a correct way.

(a) *(b)*

Fig. 3 - The UAV (a) and the antenna used for the telemetry.

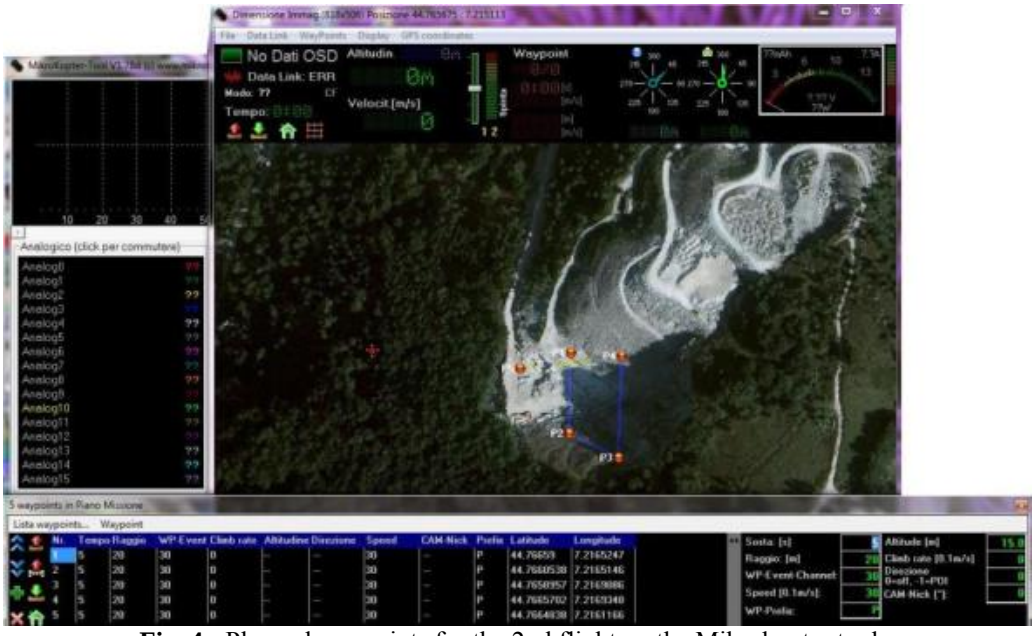

Fig. 4 - Planned waypoints for the 2nd flight on the Mikrokopter tools.

Two different flights has been realized, using in both cases four waypoints (Figure 5). One more flight was achieved with a different camera axis: normally it is oriented along nadir direction; in this flight the camera axis has been oriented in horizontal direction, in order to take photos of the rock face behind the stone quarry. This method is

quite interesting because it can be used to take photos from heights that are difficult to reach in other ways.

During the survey, 1900 images were approximately captured in about 25 minutes of flight.

Fig. 5 – Trajectories of the two realized flights, as memorized by the incorporated GPS antenna of the UAV.

DATA PROCESSING

Once collected the material on the field, a post-processing on site using a notebook could be realized. In this case we simulated this phase in laboratory.

First of all, a small number of images has been chosen for each strip, to ensure a total coverage of the area and an overlap between images of about 60%. For data processing the software LPS (Leica Photogrammetric Suite) of ERDAS suite was employed. As usual the data processing steps are represented by two successive phases: internal orientation and external orientation [10].

The result of the photogrammetric process could be considered as a 3D model, eventually georeferenced in a suitable reference system, which can be used for the digital representation or to extract terrain models, orthophotos, or simply to make measurements.

According to the abovementioned steps, internal orientation was performed by considering the camera parameters: in this case a Sony Nex camera was used, whose calibration parameters were known and represent the input value of the software ERDAS to initialize a new project. In our case they are:

- pixel size: 5,21x 5,21µm;
- focal length: 15,5829 mm;
- principal point position: x_0= -0,0216 mm, y_0 =0,0364 mm.

After that, the external orientation was performed, by collimating corresponding points (GCPs) on each image and associating them with corresponding coordinates previously calculated in the local system [11].

The software allows to directly import the ASCII file of the coordinates and display them in the work screen, as it is shown in the red box in Fig. 6, so you can collimate the corresponding point on the images.

Point #	Point ID	>	Description	Type	Usage	Active	X Reference	Y Reference	Z Reference
1	1		1	Full	Control	✔	16.300	18.090	10.027
2	2		2	Full	Control	✔	17.119	14.971	10.370
3	3		3	Full	Control	✔	17.672	12.867	10.513
4	4	▶	4	Full	Control	✔	17.181	12.013	10.932
5	5		5	Full	Control	✔	14.124	11.202	10.648
6	7		7	Full	Control	✔	16.364	17.848	11.921
7	8		8	Full	Control	✔	17.159	14.814	12.493
8	9		9	Full	Control	✔	18.091	12.254	12.682

Fig. 6 - The points used for the external orientation with the reference coordinate in the local system.

In order to obtain the exterior orientation with sufficient redundancy, in each photo, should appear at least of 4

GCPs, although this number can change from each photogram.

When markers are not sufficient, supplementary points called Tie Points (TPs) are added, using natural references to have a better matching between the images. This is necessary in particular to involve inaccessible areas (present in the photos but, obviously, without markers) in the triangulation process. It is important that GCPs are well distributed, so that all the photograms participate in the triangulation (Figure 7).

It is possible to set some points (that exceed the minimum of 4 GCP for each photogram) as Control Points (CPs) which do not directly contribute to the triangulation process, but they are used to control the quality of the results. Moreover, it is possible to add other Tie Points (eventually automatically recognized by the software) with the aim of improving the quality of results and limit the deformations to have a better matching between the photograms.

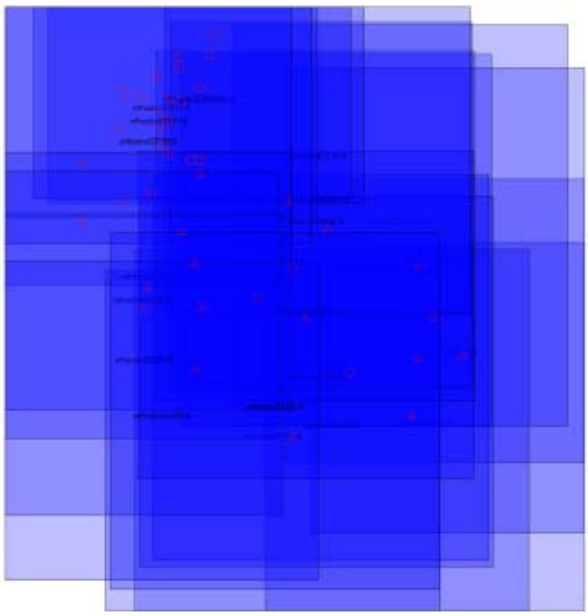

Fig. 7 - Triangulation of the frames used: the triangles are the control points and rectangles are the tie points.

If the first results of the Bundle Block Adjustment are not good, it is possible to delete or deactivate the points that have a big error and restart the triangulation process. For our purpose, according to the objective of the project we decide to consider only points that give an error lower than 20 centimetres in order to fit the admissible error relating with the scale of the final product.

In this way we can achieve a quite good product in a few time: the residual errors are restrained, very inferior to the admissible error (about 5 cm), and the processing time has been about 70 seconds for automatic photos matching and alignment (with an automatic research of control points), 2.5 minutes for constructing the DTM and 40 seconds for generate the textured solid model. So you can quickly have a useful base for researches and studies. With a bit more time you can also introduce known coordinates, in order to georeference the product.

RESULTS AND ANALYSIS

The software LPS can automatically process the DTM (Digital Terrain Model) of the specify area (Figure 8). It is an array of dimension values on the surface of the ground excluding the buildings, trees and other objects in the area. A 3D model is realized considering a discretization step equal to 20 cm [12].

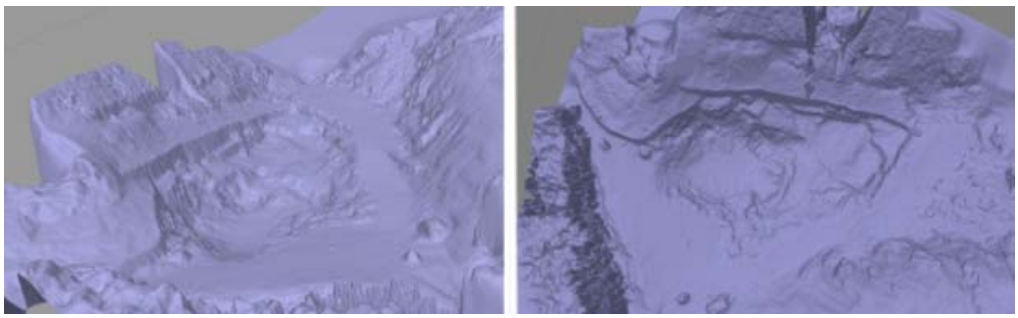

Fig. 8 - The DTM of the stone quarry.

The final step is to generate an orthophoto of the quarry.

The orthophoto is a cartographic representation in the form of digital georeferenced image: this corresponds to an orthogonal projection of the territory in the plan maps.

By using the ERDAS software, individual orthophotos were automatically realized after the BBA, which finally were merged in order to create the final mosaic. In the test site, PCI Geomatica were employed for the mosaic realization (Figure 9).

Fig. 8 - The orthophotos mosaic obtained after the triangulation.

Moreover using the achieved data it's possible to create a Solid (True) OrthoPhoto (Figure 10a, [13]), that is an image made by the fusion between a DTM, that contain the information about the height, and a orthophoto, that described the bidimensional representation. So, using appropriate software ("STOPviewer"), the 3D information could be read in an apparently bidimensional image (Figure 10b).

(a) *(b)*

Fig. 10 - The Solid OrthoPhoto generated (a) and an example of STOP viewer (b).

A specific software tool developed by the authors in Intel Visual Fortran language ("STOPGENerator") allows to make this product: you can first generate a single DTM of the whole area and then, using it, automatically generate single orthophotos associated with the DTM.

This processing has required 2 hours in order to generate the model and automatically extract the DTM and produce the orthophotos mosaic. For this processing a Lenovo S430 Laptop has been used (equipped with Windows8 professional, 64bit), employing an i7 IntelCore processor (speed 2,9GH) and a DDR3 8 GB Ram.

CONCLUSIONS

As it is reported in the paper, it is possible to say that the applied methodology is suitable for emergency situations such as the instability of a quarry, as it allows to acquire in a short time all the necessary data and obtain, with simple post processing, 2D and 3D measurable and georeferenced products that allow to study phenomena and plan the activities of recovery or restoration without the need to travel too much on the ground.

Therefore the use of the UAV can be considered adequate in all those situations in which the areas to be detected are hardly accessible or unstable, and there is the need to provide precise data in a short time.

Moreover, flying with an horizontal axis of the camera, we can easily reach different heights without physically move the operator. This can be very useful when emergency situations require it, both in natural and in anthropic context.

ACKNOWLEDGMENT

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NOMENCLATURE

CP	Control Points
DTM	Digital Terrain Model
EO	External Orientation
GCP	Ground Control Point
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
IO	Internal Orientation
IMU	Inertial Measurement Unit
LPS	Leica Photogrammetric Suite
TS	Total Station
TP	Tie Points
UAV	Unmanned Aerial Vehicle
E, N, Q	East, North, Geodetic Height
X_S, Y_S, Z_S	Coordinate of the point of the total station
h_S	Total station height
h_P	Prism height
d_I	Slope distance
φ	Zenith angle

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EvK2CNR

International Cooperation Project of Friuli Venezia Giulia

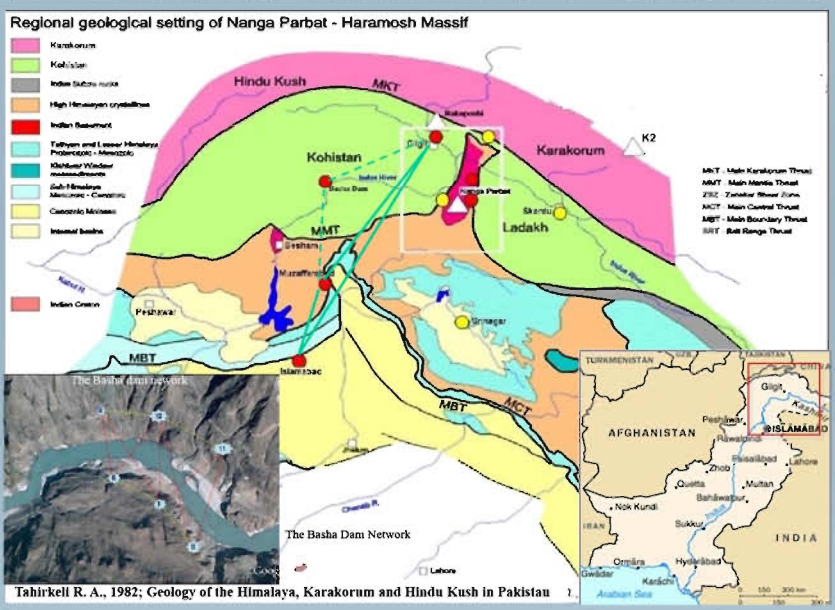
Realisation of a Geomatics Laboratory for the Management of Hydrogeologic and Seismic Risks

Giorgio Poretti, Chiara Calligaris, Michele Fernetti

Conference participants in front of the memorial for the 2005 earthquake

The day of the tragedy

On the 5th of October 2005, the Pakistani region of Kashmir suffered a devastating earthquake which caused more than 70,000 deaths and left 4.5 million people homeless by destroying the economic and social fabric of a region on the slopes of the Karakorum, which was enjoying a slow but significant growth in agriculture and craftsmanship.
This disaster involved also the University of Azad Jammu and Kashmir (AJKU) located in **Muzaffarabad,** near the epicenter of the quake, with a loss of 112 students and 10 teachers and an unknown number of wounded. A large part of the casualties was due to the poor antiseismic building techniques and to the landslides produced by the tectonic movement.



Tahirkeli R. A., 1982; Geology of the Himalaya, Karakorum and Hindu Kush in Pakistan

Remembering that it had suffered a similar experience in 1976 the Friuli Venezia Giulia Region approved a programme of support for the realisation of a Geomatics Lab at the AJK University. This was performed through the University of Trieste that transferred the expertise acquired by the FVG Region during the period of reconstruction.
Particular interest was focused on the study of landslides.

GPS training at the University of Trieste

The cooperation project **was based on a three-year programme** that brought to Trieste every year four researchers from Kashmir and provided courses on GIS and seismic risk awareness. Their presence was an opportunity for providing the geologists with the necessary information for the norms to be followed in building at different distances from the epicenter and in the construction of a dam in an earthquake area. They visited the Vajont dam.

Within this project a new GNSS permanent station was started at the AJKU and inserted into the GPS network of the Karakorum, carried out within a project of the Ministry of Foreign Affairs in 2010.
In August 2013 the first measurements were made calculating the distances between:
Islamabad – Muzaffarabad
Muzaffarabad – Gilgit
Islamabad – Gilgit
The measurement of the GPS baselines to **the Basha Dam network will be performed in Spring 2014.**

The GPS antenna in front of the Geomatics Centre at AJKU

Geomatics Centre Equipment:
Within the framework of this project the AJK University was provided with:
- 6 desktop computers,
- 6 portable computers,
- 2 printers,
- 1 A3 scanner
- 1 plotter
- 1 Permanent GNSS station
- 1 Spider programme license
- 1Leica LGO licence

INFORMEST

The permanent GPS station at the Baluria University

Visit to the Vajont dam

SUSTAINABILITY OF APPROPRIATE ENVIRONMENTAL TECHNOLOGIES IN DEVELOPING COUNTRIES

CeTAmb, Research Centre on Appropriate Technologies for Environmental Management in Developing Countries, University of Brescia, Italy, cetamb@ing.unibs.it

INTRODUCTION

The implementation of technologies in Developing Countries (DCs) often has to face some critical factors, such as: rapid population growth and changing lifestyle; lack of sensitivity and citizen participation; weakness of the regulatory framework and its application; fragmented and inefficient organizations; insufficient and inappropriate material and infrastructural resources; limited financial resources or inefficient management of tariffs; limited human resources (staff size, skills, ability and motivation); lack of environmental monitoring, etc.. These factors are often among the main causes of the failure of international cooperation projects that promote the use of such technologies. Their introduction and dissemination needs a rigorous multidisciplinary methodological approach, which allows a process of selection and implementation of appropriate technologies able to consider the peculiarities of the context and to integrate with the local traditional uses and capabilities of the beneficiary population.

The topic of the panel was discussed through examples of the application of appropriate technologies in the field of water and wastewater, solid waste management and access to energy. The aim was to collect, through extensive discussion with the participants, suggestions useful in identifying criteria for a proper implementation of appropriate environmental technologies in international cooperation projects.

CeTAmb ACTIVITY

The issues of international development cooperation are often seen as far away from everyday reality in which young people live. The richness of practical experiences in the sector, often available at different scale at local level, gives the opportunity to make young people closer to these issues. Their involvement can be really important, both from an educational point of view for themselves, both as a practical help and motivation to raise awareness and participation in interventions to find appropriate solutions to the real problems of developing countries.

CeTAmb (Research Centre on Appropriate Technologies for Environmental Management in Developing Countries), a research centre based at the Department of Civil Engineering, Architecture, Land, Environment and Mathematics (DICATAM) of the University of Brescia since April 2000, deals with international cooperation with regard to the technical-environmental aspects, trying to work as a meeting point among the academic world, the international cooperation sector and the young people, in particular PhD, university and high school students.

CeTAmb's main objective is the implementation of projects and research activities to improve the quality of the environment and the promotion of the concept of sustainable development in developing countries (DCs) through the application of appropriate technologies. These technologies are designed, planned, implemented, managed according to criteria of simplicity, economy and sustainability, while respecting the peculiarities of the context of intervention. CeTAmb's main intervention sectors are: drinking water supply and treatment, wastewater treatment and reuse, solid waste management and improved energy access from solid fuels.

The activity is carried out through direct participation in international cooperation projects and through the education programs. This allows to achieve the general objectives of the centre:

1. to contribute to the international cooperation sector through the direct participation in projects that are useful and sustainable over time,
2. to apply scientific and rigorous methods, investigating and valuing research and innovation in the field of appropriate technologies for environmental management in DCs,
3. to educate and train young people to the issues of international cooperation.

In order to adopt a multidisciplinary approach in the implementation of these activities, in the years CeTAmb has created a network of contacts, including research centres (Italian and international), Italian and local Non-Governmental Organizations (NGOs) and involving actively high-school and undergraduate students and professionals. Since its born, CeTAmb availed an active collaboration with several local high schools. This synergy allowed not only the participation of a number of classes of young students to training sessions (seminars and conferences organized ad hoc), but also their collaboration in practical projects of experimental research in both laboratory scale and on the field in DCs.Moreover, since 2008, in collaboration with the Faculty of Medicine of Brescia, a PhD course in "Appropriate Methodologies and Techniques for International Development Cooperation" has been activated, aiming to strengthen research in the environmental and health sector.

CONTENT OF THE PANEL

The panel program touched the different research sectors of CeTAmb activity, with contributions of researchers also from other Departments and Universities. The presentations followed the central theme of the practical implementation of appropriate technologies for the environmental management, discussing their sustainability and providing the audience with an overview on the methodological approach adopted and the outcomes of the field case studies presented. The titles of the presentations are listed below.

- Sustainability of appropriate environmental technologies in Developing Countries, Prof. Carlo Collivignarelli, CeTAmb, DICATAM, University of Brescia
- Sustainability of water supply projects: considerations from two case studies, Eng. Sabrina Sorlini, Eng. Luca Rondi, CeTAmb, DICATAM, University of Brescia
- Healthcare sustainable design in the global south. A tale of two stories, Prof. Marco Morandotti, STEP, University of Pavia
- Valorisation and sustainability of crude earth as building material in Chad and Cameroon, Eng. Angelo Mazzù, DIMI, University of Brescia
- Study and design of a low environmental and social impact landfilling in Togo, Prof, Alessandra Bonoli, Code3, DICAM, University of Bologna
- Appropriate technologies for household cooking with solid fuels in Developing Countries, eng. Francesco Vitali, CeTAmb, DICATAM, University of Brescia

The participation to the panel was high with an audience of more than 30 people from different backgrounds (Universities, ONGs and voluntary associations),that resulted in a lively and interesting final discussion with a lot of questions for the speakers and a wide share of ideas and points of view on the panel topic.

SUSTAINABILITY OF APPROPRIATE ENVIRONMENTAL TECHNOLOGIES IN DEVELOPING COUNTRIES: GENERAL FRAMEWORK

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ABSTRACT

The implementation of technologies in Developing Countries often has to face some critical factors, such as: rapid population growth and changing lifestyle; lack of sensitivity and citizen participation; weakness of the regulatory framework and its application; fragmented and inefficient organizations; insufficient and inappropriate material and infrastructural resources; limited financial resources or inefficient management of tariffs; limited human resources (staff size, skills, ability and motivation); lack of environmental monitoring, etc.. These factors are often among the main causes of the failure of international cooperation projects that promote the use of such technologies. Their introduction and dissemination needs a rigorous multidisciplinary methodological approach, which allows a process of selection and implementation of appropriate technologies able to consider the peculiarities of the context and to integrate with the local traditional uses and capabilities of the beneficiary population.

INTRODUCTION

The application of appropriate technologies in specific contexts is the basis of a correct approach to the concept of sustainable development, i.e. a development that ensure the satisfaction of human needs and a balanced use of natural resources and of the environment in general, without compromising the quality of life of future generations. This concept is deep rooted in the research conducted within the activities of CeTAmb (established at the Faculty of Engineering, University of Brescia since April 2000) on specific issues of environmental engineering: drinking water treatment, wastewater and municipal solid waste management, access to household energy from solid fuels.

Water supply is a very current issue, since water is a limited resource and increasingly polluted. The consumption of contaminated water is a major cause of human diseases (not only in developing countries). Moreover other problems are related to the availability of a proper water source (with an adequate quantity and at an adequate distance from the house).

Another issue of interest is the management of waste water, which in many situations is carried out without any treatment or via uncontrolled disposal in the environment. This creates significant risks for human health and hygiene and for the environment, due to the high concentration of pathogens in human and animal excreta. Their proper management is required in order to prevent both pollution of natural water bodies and the spread of infectious diseases. It is therefore important to study, design and implement adequate systems for the evacuation of black and grey water , for their treatment and, possibly, for their re-use.

Solid waste management is another serious environmental issue common for both the industrialized and the developing Countries. Although the responsible administrations increasingly acknowledge the importance of adequate wastes collection and disposal, the increasing amount of wastes generated by the rapid urbanization usually is not properly managed, particularly in the developing Countries. The absence of appropriate systems for the collection, treatment and disposal of municipal solid waste (MSW) is often due to lack of awareness and participation of the local community as well as the lack of financial resources and technical facilities.

The use of traditional solid fuels leads to a number of dramatic impacts not only on the users but also for the environment. In order to gather the fuel required for their daily energy needs, householders have to cover every day longer distances carrying heavy loads or invest a significant share of their budget to purchase it in the local market. Besides wasting a resource (for which a lot of drudgery or money were spent), the use of solid fuels on open fires or inefficient stoves results in a range of health-damaging pollutant emission, often under conditions of poor household ventilation. Women and young children, who usually spend many hours close to the smoky source, are the most exposed. Such emissions have also significant global warming effects, due to incomplete combustion of fuel carbon. Moreover, the unsustainable overexploitation of natural resources leads to their faster depletion. Thus, especially for the weakest income classes, energy poverty seems to be a no-way-out situation: by the one side they do not have any financial mean to step up their own energy condition, accessing the use of more convenient, cleaner and modern fuels. By the other side, the limited energy level provides them with no emancipation means, both to improve their quality of life and to eventually start a small income generating activity.

THE ROLE OF APPROPRIATE TECHNOLOGIES

With the definition of the “Millennium Development Goals” countries of the world have pledged to reduce by half the people without access to basic services. In particular, analysing the major environmental issues, it can be noted that an improvement in the management of drinking water, wastewater and solid waste management plays a critical role in achieving the eight Millennium Development Goals Millennium Development Goals (MDGs). As a result, international cooperation between countries of the North and South of the world may play an important role as a possible tool for moving towards sustainable development at a global level, to open a dialogue between cultures, and to facilitate the development of environmental, economic and social sustainable technologies.

This involves the adoption of a new model of development, which requires the use of non-conventional technologies, the so-called “appropriate technologies”, which are the tool to solve environmental issues but also to allow a more balanced and sustainable relationship between the countries of North and South of the world, with the aim of improving the living conditions of local populations ensuring sustainable utilization of local resources, in full respect and appreciation of local culture.

Indian ideological leader Mahatma Gandhi is often cited as the “mother” of the appropriate technology movement. Though the concept had not been given a name, Gandhi, during his struggle for Indian independence (1915–1945), advocated for small, local and predominantly village-based technology to help India's villages become self-reliant. He disagreed with the idea of technology that benefited a minority of people at the expense of the majority or that put people out of work to increase profit. Dr. Ernst Friedrich Schumacher is credited as the founder of the appropriate technology movement. In 1962, he first articulated the idea of “intermediate technology” as a technology belonging between the capital-intensive advanced technologies of the “West”, driven by large scale production and profit, and the traditional subsistence technologies of developing countries. He promoted technologies that are small scale, labor intensive, energy efficient, environmentally sound and locally controlled to improve a community's standard of living. Appropriate technology is the means to promote technical changes that are effective in enabling people with few resources to work their own way out of poverty. Appropriate technology is intended to build upon the existing skills, knowledge and cultural norms of women and men in developing countries, while increasing the efficiency and productivity of their enterprises or domestic activities. By and large it also seeks to sustain the local environment. Intermediate technology is a technical solution to production needs that has costs higher than those too low of the typical solutions adopted in Developing Countries but lower than the costs too high of the advanced technologies applied in Developed Countries.

“Appropriate technologies” are characterized by some basic requirements. They should:

- solve real problems and needs;
- have a low cost of installation and operation;
- have a rational use of natural resources;
- be simple (in the production/construction phase, in the operation and in the maintenance);
- be affordable for the majority of the local population;
- reduce the environmental impact.

The approach to be taken should aim to identify “technology solutions and practical achievements” adapted to the local culture and available resources, so that the intervention does not result imposed, but, on the contrary, is an expression of a real local need, involving directly the population in the process and making them actors of their own development.

AN APPROPRIATE METHODOLOGY FOR THE IMPLEMENTATION OF APPROPRIATE TECHNOLOGIES

The concepts discussed above stand in the basis of researches conducted within the CeTAmb’s activities. The final goal of our projects is to develop appropriate and sustainable technologies, aimed at solving specific environmental problems in developing countries. In order to achieve this goal, it is essential (though not sufficient) that the activity is supported by a proper and scientific methodology, from the initial setup to the final validation of the project. The preliminary steps (from the identification to the design of the project) are essential to know and understand the context of intervention and to allow to frame the problem and to define the objectives to be achieved. The implementation of the project must aim to identify, plan and realize the most appropriate technical solutions to the context analysed. Finally, the validation of the project is an important step to ensure its effective sustainability (under a social, cultural, economic and technological point of view).

Setting the project

The projects developed by CeTAmb come from specific requests from international or local NGOs, associations and local authorities. The first step is to know the reality in which the project will be implemented. This first work

requires a 360-degree approach, in order to gather information and data about the area, the population, the social and cultural contexts (social organization, employment, common practices and habits, presence of groups and organizations active in the environmental field or associations/entrepreneurs involved in the management of environmental services, etc.). The second phase focuses on the specific environmental issue under study. General knowledge of the reality and of the specific environmental issues are developed through on-site surveys, collecting data available with the help of local partners or gathering information directly from local stakeholders (interviews with relevant stakeholders, focus group discussions, social analysis). These surveys are also intended to identify the presence of existing projects already in place and to assess the level of awareness on environmental issues to obtain a frame of the territorial and environmental situation. Information/training on environmental issues may be an useful tool to increase the awareness of local population towards a certain topic. The awareness / knowledge of the problems is a prerequisite to try to find a solution and to stimulate the active participation of the beneficiaries of the project. The research for a sustainable technical solution, given the complexity of the social, cultural, economic and technological contexts, must be the result of a close collaboration between the academic staff and who knows and daily lives the local reality (volunteers on site, local governments, technical universities, project beneficiaries). Finally, the last step in the setup phase of the project is the clear definition of the objectives to be achieved.

Project development

The development of the project involves the study, research, design and implementation of the most appropriate technology to context. The technical solution must be identified with the following basic requirements of sustainability:

- environmental: environmental sustainability means a conscious use of natural resources, reducing material consumption and resulting in a reduction of waste from the activities;
- economic: economic sustainability is essential to achieve a stable and durable development (that lasts also after the end of the cooperation action), to increase the employment rate, the generation of income etc.;
- social: social sustainability is a key element for sustainable development , in order to ensure a fair distribution of resources between individuals, the integration of local habits and culture, within the more general framework of the respect for human and civil rights.

Identification of certain "appropriate technology"

The first step consists in a research of both environmental regulations present in the context studied and of technical solutions already proposed and/or implemented, with the aim of:

- identifying a range of solutions “simplified” and at the same time efficient and respectful of the human health and of the environment (e.g., in the case of water for drinking purposes, must be complied with the limits imposed by the WHO);
- highlighting the advantages, disadvantages and problems encountered in previous experiences under social/cultural and technical aspects.

This phase can be developed through the consultation of bibliographic material, or through a direct or indirect collection of information on site. The identification of a number of appropriate technology, however, must consider the socio/economic environment in which they are going to be implemented. Then their compatibility with the local reality will need to be assessed. For instance, it should be considered the impact of technology on the daily habits of the beneficiaries, on the employment situation , etc..

Testing the technology

In many cases may be useful to develop a preliminary experimental phase to be conducted at laboratory or at pilot scale (on-site or in Italy), with the aim of identifying the most appropriate technology. Lab tests are designed to verify the literature data collected and to study the feasibility of technical and economic sides. The best option is to set up this phase directly in the local context where the technology is supposed to be implemented, thereby allowing a field assessment of the technology, by-passing problems due to different climatic conditions, to the adequacy of local available resources and skills/knowledge, etc..

Design and implementation of the most appropriate technology

Given a preliminary evaluation of the technical/economic sustainability of the implementation of the technology through the pilot testing, the consequent phase of design and construction must involve all stakeholders according to respective roles and responsibilities. For example, with regard to the construction phase, it is possible to involve local workshops and laboratories; further contributions to experimentation can come from international and local NGOs, students and researchers from local universities, local authorities and non-state actors.

VALIDATION OF THE PROJECT

The final stage is the validation of the technology applied at real scale in order to assess the proper functioning in the long-term of the project. This point is crucial, as it allows, by one hand, to make a critical assessment of the project implemented and by the other to appreciate the usefulness of the project. To verify the proper functioning of the technology, the following conditions must be complied:

- a correct operation from the point of view of the process, ensuring the health and environmental yields;
- a proper management of technology , in terms of adequate technical maintenance and proper disposal of residues, i.e. allowing an environmentally compatible management of the technology.

In the evaluation of the technology not only the environmental and technical aspects should be considered but also its social and economic utility, in terms of creation of new jobs, of guarantee of safe job conditions, and of self-sustainability of the activities implemented by means of the technology proposed and promoted by the project.

The second step of the validation regards the assessment of the utility of the project. For this purpose it is useful to respond to a number of questions that allow to estimate the short- or long-term consequences. The following list reports some example questions:

- Has the environmental issue been solved, even partially?
- Are there social positive effects (e.g. creation of job, improvement of living conditions , ...)?
- Was an income-generating activity created? Do the products eventually obtained from the activities promoted by the project (e.g. the re-sale of recovered materials from solid waste) have a market ?
- Are there positive effects on local people's health ?
- Has the awareness work been successful? Do local institutions and association involved continue with the campaign?
- Is the cooperation of local actors active and independent?

Which can be the tools to verify the outcome of a project in a medium- and long-term?

- The first answer comes from the people’s feedback! In addition to the impressions that may be collected on-site talking with people, it can be useful to do an *ad hoc* evaluation (even on specific aspects of the project) through the distribution of questionnaires to the stakeholders involved in order to assess the degree of appreciation of the technology.
- The environmental benefit of the technology implemented can also be evaluated through a qualitative environmental monitoring directly on the field, in order to measure and quantify the real impact of the action done.
- The impact on people's health can be evaluated through the analysis of data sanitation available at clinics.
- Finally, the evaluation of the effectiveness of the project on the general development can be assessed by long-term (at least a few years after the end of the project) through the distribution of questionnaires designed to detect and monitor social and economic development indicators (literacy, sanitation, jobs, ... before and after the project).

CONCLUSIONS

The points in this paper are inevitably partial, being the result of some reflections on the experience gained from CeTAmb made during these years in a particular sector and in certain contexts. The papers presented in this session present case studies of the application of appropriate technologies in the field of water and wastewater, solid waste management and access to energy. The aim is to collect, through extensive discussion with the participants, suggestions useful in identifying criteria for a proper implementation of appropriate environmental technologies in international cooperation projects and to assess the main features to guarantee their sustainability in the long term.

SUSTAINABILITY OF WATER SUPPLY PROJECTS: CONSIDERATIONS FROM TWO CASE STUDIES

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ABSTRACT

In developing countries, drinking water supply is still an open issue: in sub-Saharan Africa, coverage of improved water supply gains only the 63%. Some regions are affected by geogenic contaminants (e.g. fluorides and arsenic) and the lack of access to sanitation facilities and hygiene practices causes a high microbiological contamination of water in the supply chain.
The responses to these problems are the several projects on drinking water supply that aim to improve the water availability and quality all over the world. But, how cooperation projects on water supply can be really sustainable? Can implemented technologies still work after the end of the projects? These are questions that every NGO/Association should answer during project elaboration and implementation.
The main factors that can be a source of failure for water supply projects are: complexity or costs of technologies (even if implemented at domestic scale), technical management, level of acceptance by the beneficiary community (that, if does not clearly recognize the technology benefits, can make hardly sustainable the entire project) and level of support by the local and/or national Institutions.
In order to gain the project sustainability, the activities should be clearly focused after a rigorous assessment in the study area regarding the local availability of human and material resources for the technology implementation, the awareness level of the community in terms of technology need and acceptance, etc.
CeTAmb research center (University of Brescia) has surveyed two projects on drinking water management in Senegal and Burkina Faso, which have confirmed the importance of these aspects. The sustainability level was evaluated after the project implementation: in the first case study, several deficiencies were arisen in terms of material availability and costs, whereas the second case study highlighted successful results in regard to water management system sustainability.

INTRODUCTION

According to the last update of the WHO/UNICEF Joint Monitoring Programme (JMP) for the water supply and sanitation progress towards the MDGs achievement, drinking-water coverage in 2011 still remained at 89% (even if 1% above the MDG drinking-water target). Thus, 768 million people relied on unimproved drinking-water sources [1]. Moreover, it has to be considered an uncountable amount of people that, while disposing of an improved source, consumes drinking-water of poor quality (above all concerning the microbiological quality) due to the lack of proper handling and hygiene during the transport and storage steps.

Meanwhile, sanitation coverage (in 2011) was 64%, off track to meet the MDG sanitation target of 75%. If current trends continue, it is set to miss the target by more than half a billion people. By the end of 2011, there were 2.5 billion people who still did not use an improved sanitation facility. The number of people practising open defecation decreased to a little over 1 billion, but this still represents 15% of the global population [1].

The worst situation is highlighted to be in the sub-Saharan Africa, where the coverage of improved water supply gains only the 63% and the coverage of sanitation facilities reaches the 48% (improved and shared facilities) [1].

Despite several decades of development aid and thousands of international cooperation projects implemented all over the world, the worldwide situation remains critical, as stated above. More efforts have to be put in place in order to overcome these conditions. But every NGO/Association that has worked or is working or will work in this direction should carefully reflect if development aids or cooperation projects are really sustainable according to the local context. Indeed, it is only through a coherent focus on sustainability that international cooperation projects can reach the objectives stated by the MDGs, at least in relation to water supply and sanitation. But what does sustainability mean in development projects? According to the World Commission on Environment and Development, the most widely accepted concept of sustainability is development that meets the needs of the present without compromising the ability of future generations to meet their own needs [2]. In 1993, in *Agenda 21* (document that provides a general framework for investigating sustainability in water and sanitation), UN declared that sustainability is the integration of environmental and development concerns for the fulfilment of basic needs and improved living standards for all [3].

From a water supply perspective, sustainability can be defined as the utilization of water sources while ensuring that the ability of future generations to use the same sources are not affected [4] or as the ability of an ecosystem to maintain ecological processes, functions, biodiversity and productivity water resources into the future [5]. Whereas a sustainable sanitation can be defined as sanitation technically manageable, socio-politically appropriate, systematically reliable and economically affordable that utilizes minimal amount of energy and resources with the least negative impacts, recovery of useable matters [5].

Regardless of the definitions, in order to evaluate and sustain water and sanitation supplies in developing countries, the international literature offers some proposals as: create a "sustainability chain", consisting of motivation, maintenance, cost recovery and continuing support [6], divide water and sanitation projects in sequential steps as needs assessment, conceptual design, design and action planning, implementation, operation and maintenance [7], or base the project sustainability on three components: effective community demand, local financing and cost recovery, dynamic operation and maintenance [8].

CeTAmb research centre (Research Centre on Appropriate Technologies for Environmental Management in Developing Countries) of the University of Brescia (Italy), which collaborates with NGOs, Universities and other research centres in the elaboration and implementation of cooperation projects in developing countries since 2000, has always sought to put into practice five sustainability elements of the solutions implemented to solve environmental problems: (1) technical sustainability, in terms of use of local material and human resources and in terms of adopt appropriate technologies with an affordable and simple operation and maintenance need, (2) economical sustainability, which means the adoption of technologies or facilities with low costs of investment and operation, trying to create local trade/business opportunities that can guarantee a self-reliance, (3) organizational and institutional sustainability, in terms of acceptance by the local Institutions (from the lowest to the highest) and in terms of create a strong partnership between the local stakeholders (with a key-role of a local NGO/Association) that can guarantee the continuance of the project after its "official" end, (4) social and cultural sustainability, which means develop projects and implement technologies really felt by the local people and that can rapidly show an improvement in the everyday life and/or in the health status, and (5) environmental (and health) sustainability, in terms of minimise the use of natural resources by acting on the reuse or recovery of waste or other resources and in terms of avoid any kind of environmental impact (possibly improving, or at least not worsening, the local people health). Moreover, the concept of sustainability clearly requires a long-term view of the infrastructure/facility/technology implemented or of the behaviour change in the lifestyle generated by the project.

On the base of the elements above mentioned, and suggested also in the scientific literature [4, 5, 9, 10, 11, 12], CeTAmb has surveyed two projects on drinking water management: one in Senegal and the other one in Burkina Faso. The sustainability level was evaluated at the end of the project implementation: in the first case study, several deficiencies were arisen regarding material availability and costs, whereas the second case study highlighted successful results in the drinking-water management system.

THE STUDY AREAS

The evaluation of the sustainability was made on two water supply projects: the first one implemented in Senegal, in collaboration with the Italian NGO G. Tovini Foundation, and the other one in Burkina Faso, in collaboration with the Italian NGO Medicus Mundi Italy (MMI). As follow described, despite the projects implemented were essentially alike, the two contexts were clearly different both for the stakeholders involved into the projects and for the drinking-water sources available and for the kind of water pollution.

Case study 1: Senegal

In 2008, the G. Tovini Foundation, together with CeTAmb of the University of Brescia, started a cooperation project in order to improve drinking-water quality in the Rural Community of Patar (RCP), in the Diourbel Region (Senegal). The project was developed and implemented in collaboration with the University of Dakar and the Diourbel Hygiene Authority. After a preliminary survey, three different drinking-water sources used by the local people were identified: (1) open dug-wells, (2) protected wells network that extracts water from a shallow aquifer and serves, through a small distribution system, public taps and (3) groundwater distribution system that pumps water to public and household taps. This latter type of source is the most used by the population for water supply but during the preliminary survey, it was also found that concentrations of fluoride exceeded the 1.5 mg/L Guide Value suggested by WHO. As a response, a bone-char-based filtration for fluoride removal was studied, experimented and implemented at household level as this was initially considered as an appropriate solution for fluoride removal due to its simplicity of construction and operation, low cost and good efficiency of fluoride removal.

In addition to the chemical contamination, whichever was the drinking-water source, a microbial growth was detected in both the transport and storage tanks, due to a lack of hygiene in handling the containers. For this reason, disinfection with chlorine was suggested at household level and awareness campaigns for improving hygiene were organised.

In 2011, the same partners decided to elaborate and develop a new project in order to verify and carry on the

activities started previously and to implement a Water Safety Plan (WSP), a plan that aims to ensure the drinking-water quality from the catchment to the point of consumption.

Case study 2: Burkina Faso

In 2011, Medicus Mundi Italy, together with CeTAmb of the University of Brescia, began a cooperation project in order to improve drinking-water quality and health conditions of the population of Fingla and Diarra rural villages, in the Béguédo municipality, Centre-East Region (Burkina Faso). This first project in this context was developed and implemented in collaboration with the Burkinabé NGO Dakupa, which works locally since 1997. After a preliminary survey, two main drinking-water sources used by the local people were identified: (1) open dug-wells, and (2) tube wells with hand-pump that are the most used by the people for drinking-water collection. Despite the water quality was acceptable at the source level, a microbial growth in the transport and storage tanks was detected revealing a lack of proper handling and hygiene. On the other hand, chemical contamination was absent.

Due to the microbiological contamination, awareness campaigns to improve hygiene and drinking-water management were led. These represented also the supporting program of the WSP implementation, which was one of the main objectives of the project in order to improve water quality along the supply chain.

METHODOLOGY OF SUSTAINABILITY'S EVALUATION

The sustainability's evaluation of both projects was carried out by means of (1) surveys on the field, where the concentrations of the main microbiological and chemical parameters were measured along the supply chain, the level of risk of contamination at the sources was measured through sanitary surveys and direct interviews with local communities and stakeholders were carried out, and above all on the base of (2) a series of questions directly related to the five sustainability elements above mentioned.

Tab. 1 - List of the sustainability elements and their respective questions.

Sustainability element	**Question**
Technical	Are there locally knowledge and technical expertise necessary for the elaboration and development of a WSP? Are there locally knowledge and technical expertise necessary for the management and update of a WSP? Are there locally knowledge and technical expertise necessary for the design and construction of a technology for drinking-water treatment? Are there locally knowledge and technical expertise necessary for the operation and maintenance of a technology for drinking-water treatment? Is there locally the availability of people and material resources for the WSP implementation? Is there locally the availability of people and material resources for the construction and management of the technology used for drinking-water treatment? Is the WSP performing as it was designed to perform? Is the technology used for drinking-water treatment performing as it was designed to perform?
Economical	Is there locally economic availability necessary for the elaboration and development of a WSP? Is there locally economic availability necessary for the management and update of a WSP? Is there locally economic availability necessary for the design and construction of a technology for drinking water treatment? Is there locally economic availability necessary for the operation and maintenance of a technology for drinking water treatment?
Organizational and Institutional	Has the WSP team been adequately trained for the implementation and management of the WSP? Have the managers and operators been adequately trained for the construction, operation and maintenance of the technology used for drinking-water treatment? Are the WSP managers supported by the local community? Are the adopted technology managers supported by the local community? Are the WSP managers supported by the local Institutions (political and technical Institutions)? Are the adopted technology managers supported by the local Institutions (political and technical Institutions)?
Social and Cultural	Has the community been informed about the WSP implementation and its benefits? Has the community been informed about the technology used for drinking-water treatment and its benefits?

	Is the community favourable to the WSP implementation? Is the community favourable to the use of a technology for drinking-water treatment? Does the community contribute and encourage the WSP elaboration and implementation? Does the community contribute and encourage the use of the technology for drinking-water treatment?
Environmental and Health	Has the WSP implementation improved local people health? Has the WSP implementation permitted to guarantee the drinking-water quality according to the WHO standards? Are the adopted technology managers well equipped to assure well-being and health? Have adequate measures been adopted in order to safety dispose of any residues produced by the technology for drinking-water treatment? Has the WSP implementation prevented the arising of any negative impact on the environment?

As reported in Table 1, each sustainability element was characterised by a series of questions that can be answered with: “absolutely yes” (level of sustainability: 1), “rather yes” (level of sustainability: 0.75), “rather no” (level of sustainability: 0.25), “absolutely no” (level of sustainability: 0) and “not applicable to the project” (in order to elaborate a questionnaire as general as possible and usable also by other researchers, some questions cannot be pertinent for all the projects). This methodology was proposed by Zurbrügg *et al.* [9] but applied for the sustainability’s evaluation of waste management projects. For this reason the questions were elaborated and adapted to water supply projects, in particular projects concerning WSP implementation and drinking-water treatment. This questionnaire was addressed, at the end of each project, to all the people involved in the implementation in order to collect information about the possible reasons of success or failure.

Case study 1: Senegal

Regarding this case study, the sustainability’s evaluation was carried out during the second project implementation. The first activities were to assess the level of utilisation of the bone-char-based filtration distributed during the first project, to determine the concentration of the main physico-chemical and microbiological parameters, and to interview some local families in order to understand the main practises in terms of drinking-water management, sanitation and hygiene. With this data it has been possible to make a comparison with the previous situation and, thus, to determine the level of sustainability of the first project. On the other hand, the evaluation of the sustainability elements through the use of the questionnaire reported in Table 1 was carried out at the end of the second project, after the implementation of the WSP. The questions were addressed to the 2 volunteers of the G. Tovini Foundation who worked directly on the field, to 4 representatives of the local partners (University of Dakar and Diourbel Hygiene Authority), to the WSP team (formed by 4 managers of the different water sources, by 3 people of the local Institutions and by 5 representatives of the community) and to the most important people of the Rural Community of Patar involved into the projects (the President of the RCP, the President of the women association and the President of the young people association).

Case study 2: Burkina Faso

In this case, all the sustainability’s evaluation was carried out at the end of the project. A comparison between the situation at the beginning and at the end of the project was done in terms of microbial concentration in all the supply chain, application of the control measures provided by the WSP, and level of drinking-water management, sanitation and hygiene among the community. As for the other case study, the questionnaire for the evaluation of the sustainability elements was addressed to the main people involved into the project: the 2 volunteers of Medicus Mundi Italy, who were working on the field for almost the entire period of the project implementation, the 3 people of the local NGO Dakupa responsible for the project and the team of 7 hygienists of Fingla and Diarra villages that has actively worked on the elaboration and implementation of the WSP.

RESULTS AND DISCUSSION

The results obtained from the sustainability’s evaluation are provided separately for each case study, in order to clearer present the reasons of success or the elements of failure.

Case study 1: Senegal

The sustainability’s evaluation of the Senegal case study started from the assessment of the local situation after the implementation of the first project. One of the first activities carried out on the field was the visit of the household bone-char-based filtration systems. It rapidly appeared that none of the 22 filters distributed was in-operation, owning to

the unavailability of bone-char. The further meetings with the people responsible of the drinking-water treatment, the local Institutions and the local partners highlighted the problem of bones supply from the slaughterhouse situated in Dakar (approximately 150 km far from CRP), and which the agreement was taken with. Due to the lack of raw material, the filtration systems and all the equipment for the production of the bone-char were abandoned and subjected to degradation. Probably the absence of a leader local partner (as an NGO can be) caused the interruption in the bones supply and the end of the water treatment. To strengthen this idea was the intervention of the G. Tovini Foundation's volunteers, who restarted the business relation with the slaughterhouse and were able to furnish again the beneficiaries of the bones necessary for the filtration system. The enthusiasm of the owners of the filtration system and the still present ability of the technicians to prepare the bone-char were even more strengthening the idea of a lack of efforts by the local partners.

Regarding the water quality along the supply chain, it was clearly evident from the first analysis how the chemical parameters' concentration was unvaried. On the other hand, results from microbiological analyses provided interesting causes for reflection. High concentrations of *E. coli*, faecal coliforms and faecal streptococci were found in the transport and storage tanks of the families that had not followed the meetings to raise awareness of good hygiene practices, proper methods of drinking water management and attitudes to prevent diseases due to polluted water consumption. Indeed, the lack of hygiene in handling the water was the primary reason of contamination. Conversely, families that had received the bone-char-based filtration system or that had actively participated to the awareness campaigns during the first project showed concentrations of microbes in the different containers lower than the other families. Even the awareness campaigns on the consequences that the consumption of water reached in fluorides can determine to the health were successfully. This assumption was confirmed by the change of water source on the part of the beneficiaries of the filtration system when the bones supply was interrupted. Most of them, in fact, preferred to go farther at the public taps of the protected wells network rather than consume the household tap water from groundwater distribution system.

All these considerations lead to the conclusion that the training part of the population carried out during the first project implementation was extremely useful and sustainable.

Concerning the WSP implementation (WSP that was elaborated for all the three water sources, for the transportation system and for the storage/treatment/consumption step), the sustainability's evaluation was carried out after the end of the second project. In particular, four months later, a survey was conducted in order to assess if the most important control measures adopted for preventing water contamination were put in place. Results showed that nothing was done, above all because local partners (responsible for the WSP implementation and monitoring) did not support the WSP team and the other volunteers, who were motivated to put in place the measures envisaged by the WSP, in order to look for funds (private and/or public) and to mobilize economic and material resources inside the RCP. As for the bones supply, the lack of a leader local partner was probably the cause of this failure.

The last evaluation was carried out by means of the questions related to the five sustainability elements. Figure 1 shows the results obtained for the five elements in function of the different respondent groups. As reported in the previous chapter, at each answer a sustainability value between 1 and 0 was assigned in order to compare the results of the different respondents.

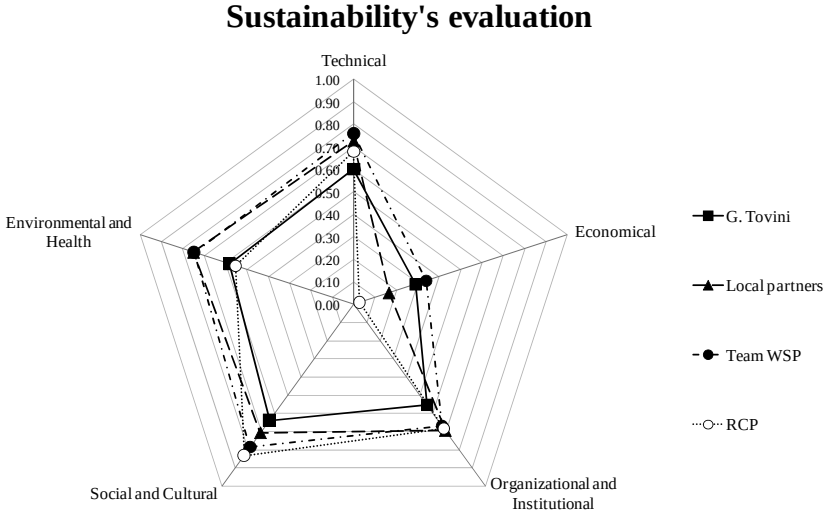

Fig. 1 - Results of the questionnaire for the sustainability's evaluation.

As shown by the graph, the highest average values of sustainability were obtained from the technical and the social-cultural elements, whereas the lowest values were provided by the economical ones. This latter result is mostly due to the absence of funds directly available and suggests the need to find contacts/partnerships that are greatly

important for the self-reliance of the activities/technologies after the end of the project, in order to put in place all the WSP measures. The cost of the bone-char-based filtration system, in fact, was not high so that beneficiaries were also willing to pay in return for a continuous supply of bones. Regarding the higher values assigned by the different groups of respondents to the social and cultural sustainability, it is possible to highlight the correspondence with the behaviour change of the local people in the drinking-water management after the awareness campaigns of the first project. This can be a proof that the population has deeply understood the cooperation project, has accepted it and is supporting it. About the technical sustainability, answers were pretty positive as technical skills for the WSP and the filtration system implementation and management are locally available. The organizational and institutional sustainability was not so high, revealing the absence of a strong support of the activities carried out with the project by local political and technical Institutions. Concerning the environmental and health elements, results were not that high owning to the lack into respect the drinking-water standards. At the point of consumption none of the analysed samples permitted to respect the international standards in terms of microbes and only the beneficiaries of the filtration system can consume drinking-water with fluoride concentration under the limit value.

Despite all the efforts that a lot of people have put in these two projects, many elements of failure have been provided. Probably the main reason was the absence of a strong leader as local partner that could help to mobilize human and material resources and try to find funds for the self-reliance of the project. The activities, in fact, were carried on only during the projects implementation, when an external support in terms of funds and human resources was provided. As also cited in the scientific literature [12], a project that solves a problem but forever links the beneficiary to an external support is a failed project because it does not create real development but rather further dependency. The aim of the international cooperation projects is to increase sustainability, meaning the autonomy of the project and its efficiency.

Case study 2: Burkina Faso

The sustainability's evaluation of the Burkina Faso case study was assessed at the end of the project implementation. One of the main activities carried out on the two rural villages of Fingla and Diarra was the WSP elaboration, which has been used during its implementation as a tool to heighten public awareness of good practices in water management. For this reason the project's evaluation was mainly focused on the behaviour change in drinking-water management that potentially happened thanks to the WSP implementation. In particular, the microbial concentration of *E. coli* in the different steps of the supply chain was analysed before and after the project implementation (in other words the WSP implementation). Figure 2 shows the results obtained from these analyses. The increasing trend of contamination in the supply chain is clear both before and after the WSP implementation, but the average values obtained at all levels at the end of the project are much lower than the ones obtained at the beginning.

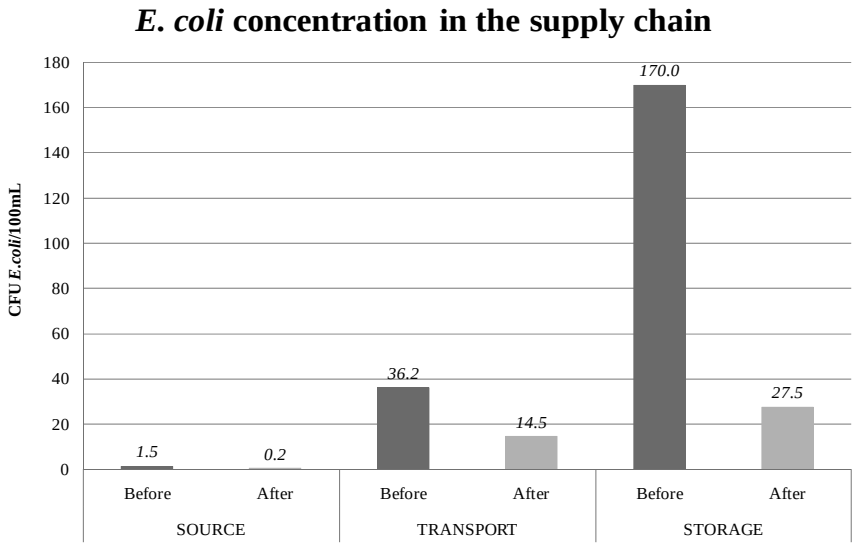

Fig. 2 - Average *E. coli* concentration in the supply chain before and after the WSP implementation.

An on field survey was also carried out during the last month of the project implementation, aimed to evaluate the behaviour change of the communities in the drinking-water management. It rapidly appeared how the families that had actively participated at the WSP implementation and at the awareness campaigns on the good hygiene and sanitation practices improved their drinking-water management habits. The results of the interviews to 200 families demonstrated that there has been a significant improvement of the good practices in the drinking-water management (p-value: 10-25) and of the level of knowledge on the methods of diseases transmission and prevention, with particular emphasis on diarrhoeal diseases, (p-value: 10-79) before and after the project implementation. Many efforts have still to be made in

order to apply all the control measures established with the WSP for avoiding the water contamination, but important changes on the everyday life were already put in practice (as demonstrated by the microbiological analyses along the supply chain). The use of the WSP as a tool to raise awareness, the campaigns on good hygiene and sanitation practices and the strong support of the local NGO Dakupa in the project implementation are probably the three most important factors of the project's sustainability.

Even in this case study the sustainability's evaluation was assessed by means of the questions related to the five sustainability elements. Figure 3 shows the results obtained for each element in function of the different respondent groups. As for the previous case study, a score between 0 (not sustainable) and 1 (sustainable) was assigned at each question. The highest values were obtained from the social-cultural and economical elements, in despite of low values provided by environmental-health and organizational-institutional elements. Regarding the economical sustainability, it is possible to highlight that the amount of funds necessary for the WSP elaboration and implementation and for the drinking-water treatment (chlorination) is quite low. This is the reason of the pretty high average result obtained for this sustainability element. As for the Senegal case study, the groups of respondents assigned high values to the social and cultural sustainability; actually, it is possible to notice the correspondence with the behaviour change highlighted by the microbiological analyses and the final survey on the part of the communities, who demonstrated to have deeply understood and accepted the project. Concerning the organizational and institutional sustainability, pretty low values were obtained from the questionnaire, owing to the low support of the local Institutions during the WSP elaboration and implementation. This is due to two reasons: the first one is that the technical local Institution (drinking-water Authority) was not operative during the project implementation (the person in charge changed job before the beginning of the project and a new manager was assigned after the WSP implementation), and the second one was that the political local Institution (the municipality) was under election during the WSP elaboration and implementation (and in that period, opposite political parties were also fighting each other). Concerning the environmental and health elements, results were not that high owning to the lack into respect the drinking-water standards. At the point of consumption none of the analysed samples permitted to respect the international standards in terms of microbiological quality. One of the control measures provided by the WSP was the chlorination treatment at the storage level, but the habits and taste of the water induced great part of the community to not carry out the treatment. The time and the support of the local partner will probably permit to reach this objective in the feature. The technical sustainability highlighted a good average value.

Indeed, from one hand there is locally an availability of expertise on the management of both the WSP and the drinking-water treatment, but on the other hand there is a lack of expertise in the WSP elaboration and implementation, due to the use of the WSP development as a tool for raising awareness into the communities on good practices in drinking-water management and to the absence of trained local managers of water supply.

The final assessment of the project has permitted to positively evaluate its sustainability. A lot of efforts were put in place by the local NGO for the success of the project, and this first evaluation has clearly highlighted it.

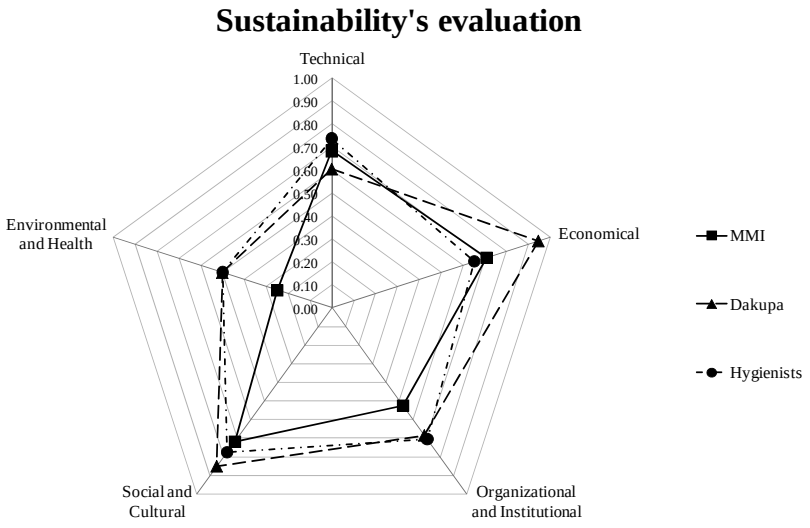

Fig. 3 - Results of the questionnaire for the sustainability's evaluation.

CONCLUSIONS

CeTAmb has surveyed two different projects on drinking water management. The sustainability level was evaluated at the end of each project implementation, using different methodologies. The main considerations arisen from these two case studies are:

- ✓ In these projects, the sustainability evaluation was carried out at the end of the project activities, but a long-term assessment (after 1, 5 or 10 years) should also be provided in order to really understand the projects effectiveness.

- ✓ The two main tools proposed for the sustainability evaluation are an on field survey and a series of questions directly related to five sustainability elements, but the method of inquiry and data collection might differ from case to case: observations, document analysis, informal interviews to key selected individuals or stakeholders are also other methods to take into account.

- ✓ The questionnaire for the evaluation of the sustainability elements was elaborated and conducted at the end of the project implementation, but if revised can be useful for the evaluation before and during the project activities. Moreover, it is necessary to highlight how the questionnaire was realized in order to be used for the evaluation of projects concerning a WSP implementation and a drinking-water treatment.

- ✓ This questionnaire alone cannot be the only method to investigate the sustainability of a project, but it can provide a general overview of the project from the standpoint of the different stakeholders. Indeed, as shown by the results of the two case studies, the application of the questionnaire alone would not have allowed the understanding of important aspects; on the other hand, it has provided interesting and useful information to confirm what has been provided during the final survey.

- ✓ The presence of a strong local partner (as an NGO) can be a reason of success, as highlighted in these two case studies. The partnership with the NGO Dakupa in Burkina Faso has permitted to easily implement the different activities of the project, and probably to gain the reliance of the local communities into the project, assuring its sustainability.

- ✓ The five sustainability elements proposed in this research are, according to the authors, of extreme importance in order to guarantee the sustainability of an international cooperation project. The lack of one of these elements can be a reason of failure, as the Senegal case study has highlighted owing to the absence of a strong local leader.

ACKNOWLEDGMENTS

Luca Rondi was conducting these researches as PhD student on “Appropriate Methods and Technologies for International Development Cooperation”, supported by Alberto Archetti Found. The authors wish to thank the NGOs Medicus Mundi Italy and G. Tovini Foundation for technical, economical and organisational support, the NGO Dakupa for the collaboration in the research, the Rotary Club Milano Sempione, the Brescia municipality and FCB Foundation for the economic support. Authors wish also to thank Dr Marianna Bettinzoli, Eng. Chiara A.M. Clemente and Eng. Daniela Palazzini for the collaboration in the research projects. Sabrina Sorlini supervised the paper drafting and the research activities; Luca Rondi was responsible for the paper drafting, and did data collection and analysis.

NOMENCLATURE

JMP	Joint Monitoring Programme
MDG	Millennium Development Goal
MMI	Medicus Mundi Italy
NGO	Non-Governmental Organization
RCP	Rural Community of Patar
UN	United Nations
UNICEF	United Nations Children’s Fund
WHO	World Health Organization
WSP	Water Safety Plan

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HEALTHCARE SUSTAINABLE DESIGN IN THE GLOBAL SOUTH. A TALE OF TWO STORIES.

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ABSTRACT

The paper presents the results of a didactic experience and of a research developed at the Faculty of Engineering of the University of Pavia in the field of the cooperation, focused on the sustainable design approach in the global south.
All the different experiences are based upon a multidisciplinary and holistic design concept as a possible strategy to control both the technical feasibility and the environmental and social sustainability of the intervention. The paper is focused on two different experiences both regarding the health planning sustainable design in Kenya, Africa.
The first one is the results of an International Winter School *BSuR-Building Sustainable (Re)Construction. Innovative design approach for developing countries*, developed on February 2012. The school had been attended by engineers, architects and PhD students of different universities, such as Pavia, Milan, Turin. The project activities consist in frontal and multidisciplinary lectures and in workshop focused on different design topics held by professors and designers with direct experience in collaboration with NGOs and international organizations. Students had to work on real needs, regarding the formulation of workable solutions for the Maternity Unit at the Malindi General Hospital, dealing with realistic data of context, materials and costs.
The second case study concerns the design of a medical dispensary in Chakama, near Tzavo Park. The need to design a first medical support health was expressed by the local diocese and the Hospital San Matteo of Pavia and it's developing under the technical support of the Laboratory STEP, University of Pavia. The main idea is to design and implement a modular, sustainable and expandable unit that could be used as a prototype to be implemented in different territorial contexts, as a possible answer to the needs of the community, settled in an area without care facilities and characterized by an extremely critical of the socio-general health.

INTRODUCTION

The paper aims to describe two different design activities developed in the last year at the STEP Laboratory within Civil Engineering and Architecture Department of the University of Pavia.

The research team is composed by Prof. Marco Morandotti, who initiated and coordinated the activities, by Prof. Daniela Besana and Eng. Elisa Salvaneschi. This paper contains the results of the joint work of the authors. In particular, the first and second paragraphs are due to Prof. Marco Morandotti, while the third paragraph is written by Prof. Daniela Besana. The common theme of these experiences is the design of two different health care facilities in Central Africa and more specifically in Kenya. In both cases, over to the same geographical location of the projects, the project aims to improve previous conditions of significant distress, by means of a common approach.

This approach is the product of teaching, research and experimental experience gained in recent years in terms of design in the global south; it is based upon three different pillars: "knowledge", "sustainability" and "feasibility".

"Knowledge" understood as "global", in terms of theoretical debate and international examples of design actually realized, and "local" in the context of a single intervention, in terms of anthropological, cultural, environmental and climatic study. It is evident that at these two basic levels of knowledge, a specific one must be added, relative to the understanding of the requirements related to the design function, especially, if particularly complex, as in the case healthcare construction.

"Sustainability" of the intervention must be considered in its three basic dimensions. The strictly environmental one, declined in this context as a possible developing use of renewable and low-impact energy sources, but also for example the possibility of using recycled materials, or, where it is possible, traditional building techniques and materials locally available. The economic sustainability, understood not only as the ability to acquire the resources necessary to carry out the work, but more generally, with a view life-cycle oriented, such as long-term economic sustainability. It means not only to verify the feasibility of the work, but its maintainability in use and its right management over time. The third dimension of sustainability - the so-called "social" - is also central, because it takes into account, both the coherence and consistency of the project with the typological and spatial patterns specific to the local context and, on

the other hand, involves the local community in the design process, and certainly in the management phase of the intervention. Only one project that is perceived by the local community not only as a satisfaction of a specific need, but also as an expression of a system of relations compatible with the existing social structures, can be perceived as being part of the community.

The "feasibility" of the work is finally the third key element of our approach. This is an essential component of any design activity and a specificity of the scientific-disciplinary research team. This implies not only economic feasibility, closely linked to the economic dimension of sustainability of the project, but also the technical feasibility of the work itself. It means to verify the design project ideas to the feasibility of the technological solutions, regarding both techniques and materials. Specifically, in developing countries, this technological dimension of the project plays a relevant role to ensure the design feasibility starting from technical and local possible solutions. Not so simply to verify the general feasibility of a design idea, but that it is in the specific context without generating technological dependencies, through the use of "alien" materials and technologies and therefore difficult to control during the construction and especially the management of the work (Fig. 1).

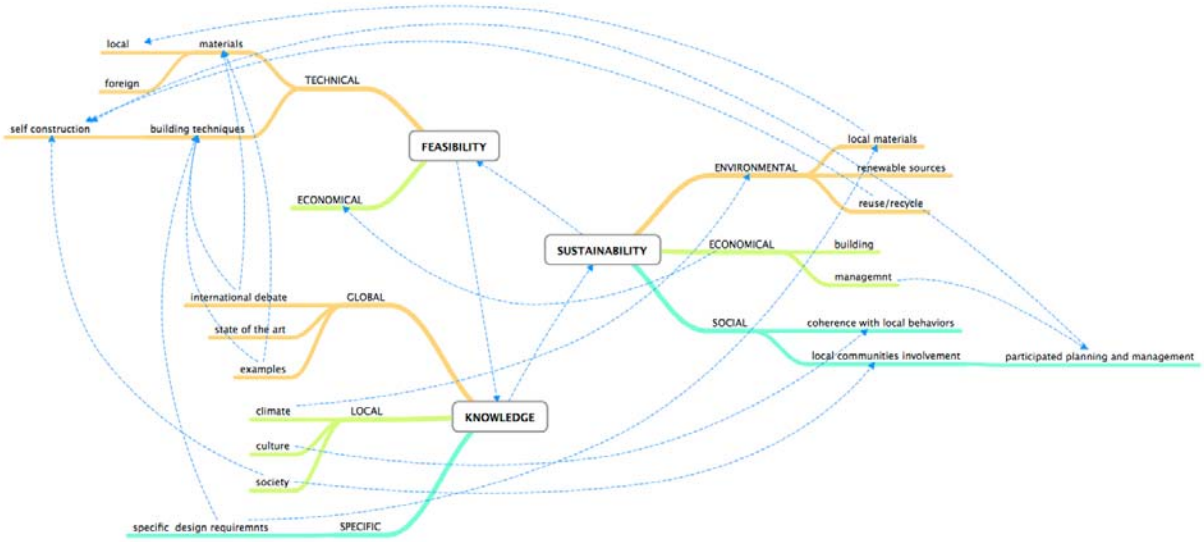

Fig. 1- Theoretical approach to the project design.

Hospital design between didactic activities and applied research. A case study in Malindi, Kenya.

In February 2012, the first edition of the winter school "Building Sustainable (Re)construction – B.Su.r" has been held, thanks to a grant of the University of Pavia (Director Marco Morandotti; Scientific Coordinator Daniela Besana; Organizing secretariat Elisa Salvaneschi; Tutor Elisa Salvaneschi, Paolo Baldini).

The objective of the school, through the projects developed and in the hope of a second phase of work, is to identify and concretely to experience an operating scientific and cultural path will lead to greater awareness of the objectives of sharing, coherence, consistency and quality in the project design.

The two weeks long full time school has been attended by 22 students from five Italian universities, aimed to apply a coherent design approach in developing countries. The didactic approach was oriented to mix theoretical lectures from teachers and experts with experimental design activities focused on the topic of health design. Participants have been divided into five mixed groups and every one developed a different design proposal.

Since the beginning it was established that the school would have stressed a real case study, not only an academic simulation. Therefore participants have been asked to develop design ideas dealing with a real physical context, moving from real users' requirements and in the perspective of building's feasibility.

Prof. Giovan Battista Parigi, coordinator of the Centre for the International Cooperation of San Matteo Hospital in Pavia, helped us in establishing a contact with the Malindi District Hospital (MDH) management office. Due to MDH involvement in an international cooperation project by San Matteo Hospital since few years the new action has been integrated into a consolidated relationship framework. The cooperation between our technical unit and local doctors and managers clarified the general local scenario in terms of functional needs and human available resources to be involved in the new structure.

Hospital design in developing countries shall consider economic and financial sustainability as well as climate adequacy and technological feasibility.

The hospital is located in south Malindi and is articulated in several pavilions built almost casually along the time in a wide area. Many of them are connected by a covered path slightly elevated respect other public open spaces. Existing pavilions are pretty simple as regards morphological and technological aspects. One of them has been recently upgraded as a new High Dependency Unit, as like as both existing emergency unit and the building hosting two surgery theatres has been renovated.

The existing Maternity Unit is one of the most stressed concerning its carrying capacity and probably one of the most under-dimensioned structures. The set of functional requirements for an effective Maternity Unit in relation to actual and expected trends have been stated as following:

- 20 Antenatal beds
- 15 Postnatal beds
- 10/15 cradles
- 10 labour beds
- 8 delivery rooms
- service rooms (staff's dressing room, storages, waiting room, services, sluices...)

The existing unit offers just two delivery rooms and four labour beds; has poor typological, functional and typological quality and is affected by several conservation issues. Moreover its location makes it impossible to plan any kind of dimensional growth of the existing structure. Therefore it seemed necessary to plan a completely new Maternity Unit, designed according to updated health criteria, in a more comfortable area of the hospital, suitable to become in the near future another entrance to the complex.

Before the opening of the school a booklet concerning local history and culture as well most relevant climate parameters has been prepared by the scientific staff of the school and distributed to participants.

A relatively wet belt extends along the entire Indian Ocean coast of Africa. The main rains come between late March and early June with the rainfall decreasing from August. Some rain occurs between October and November but from December, rainfall decreases rapidly once again to a minimum during January and February. Annual total rainfall ranges from 508 mm in the drier, northern hinterland to over 1,016 mm in the wetter areas south of Malindi. Relative humidity is comparatively high all the year round, reaching its peak during the wet months of April to July. However, there is a marked diurnal change particularly in Mombasa where it is around 60-70% during the afternoon, rising to 92-94% during the night and in the early morning. The windiest time of the year at the Kenya Coast is during the Southeast Monsoon from May to September, while the calmest months are March and November when the winds are also more variable in direction. Wind records show a consistent daily pattern whereby wind strength (in knots) drops during the night. The strongest winds are likely to be experienced in August.

Information concerning materials and techniques available in Malindi region has been shared among the participants, in order to base any design idea on a reliable technological background. The local prevalent construction material in the so called "coral block" which is a limestone coming from ancient coral reef material, nowadays available through superficial outcrops that can be quarried. It is quite easily shaped in square blocks of different dimensions and mostly used both as continuous structures element both as non structural block in most relevant buildings provided with concrete frame. Roof structure are mostly built by means of sheet steel but traditional constructive techniques are mostly based upon typical wooden structures, such as Makuti. It is an handcraft procedure mostly based upon craftsmanship experience without any formal design. Many of these wooden structures may become really relevant in dimensions, and are kind of trusses with external finishing in fastened leaves. This allows relevant roof slope and considerable maximum height. This kind of technological solution is really adequate to local climate due to the fact that allows a natural ascendant movement of warm air under the roof itself. Unfortunately it needs continuous maintenance and is highly vulnerable to fire. In recent years the realization of this type of coverage is for touristic building (Fig. 2).

The requirements defined by the management of the Hospital have been verified by means of a preliminary design idea, developed by Paolo Baldini as degree thesis, which become a kind of functional and dimensional benchmark solution for the participants of the school. Due to its early preliminary stage it was not impossible to define a kind of contractual construction budget, but it was necessary test a sort of general compatibility assessment between requirements, available area end sustainable economic funding. The idea was to develop a quite simple building according to a "T" shape, by means of three modular elements each assuming a well defined function: pre-natal, natal and post natal.

During the two weeks training five different ideas have been developed. Each of them answered to the general requirements, but according to pretty different typological and morphological solutions. Some design solutions focused on a "comb" shape either with one or two connection paths along the perpendicular elements. The second solution allows a clearer separation between the internal fluxes of users but it necessary requires wider internal surfaces and also a higher number of nurses. Someone else provided a central court, according to a somehow common morphological solution, in order to define a semi-public sheltered space dedicated to inpatients and sometimes to relatives. Someone finally imagined a plate typology, maybe more rigidly defined by pure volumes, maybe more dynamically shaped by means of a number of internal patios.

Many students focused their own design strategies on local climate, by means both of the orientation of the building and of its specific dimensions in order to favour natural cross ventilation phenomena. Specific structures, like wind towers, have been provided in order to enhance this natural climate behaviour also underlying a relevant morphological role. Other students tried to enhance the performances of traditional technologies, introducing a kind of steel reinforced masonry moving from local and available materials. Such idea needs a scientific experimental support that cannot be provided during a two weeks long initiative. However it introduces an experimental dimension that could be deepened in future (Fig. 3).

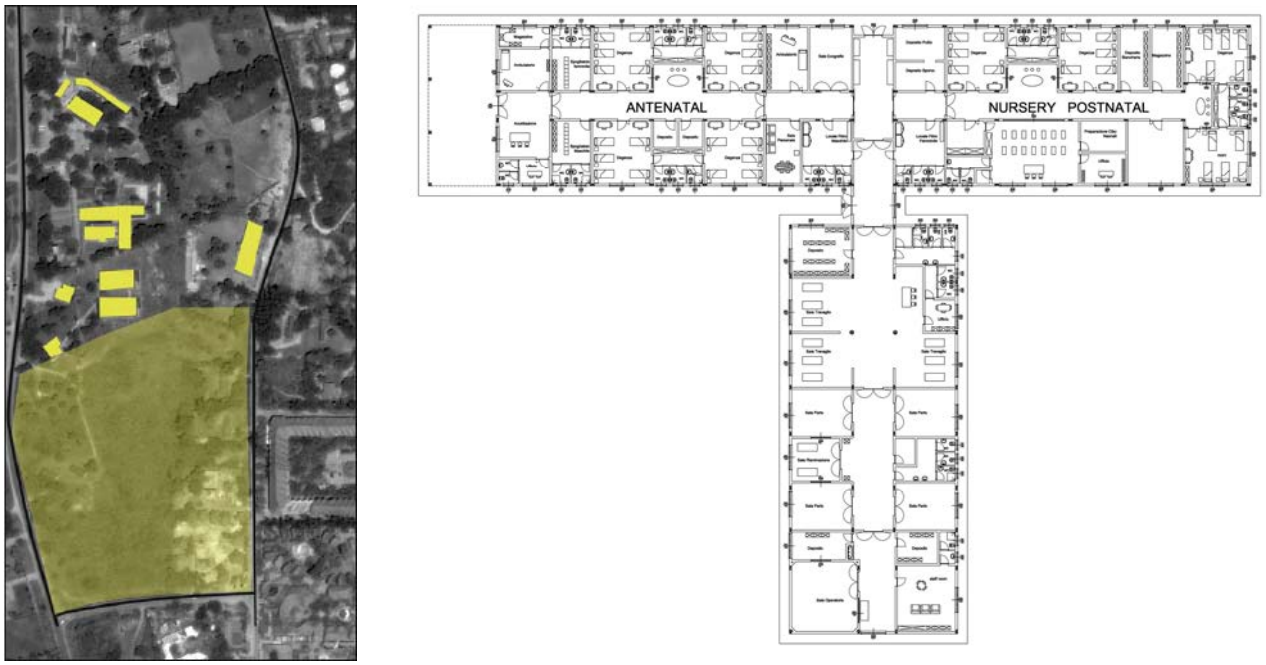

Fig.2 - Masterplan of Malindi General Hospital and preliminary design idea developed by P. Baldini.

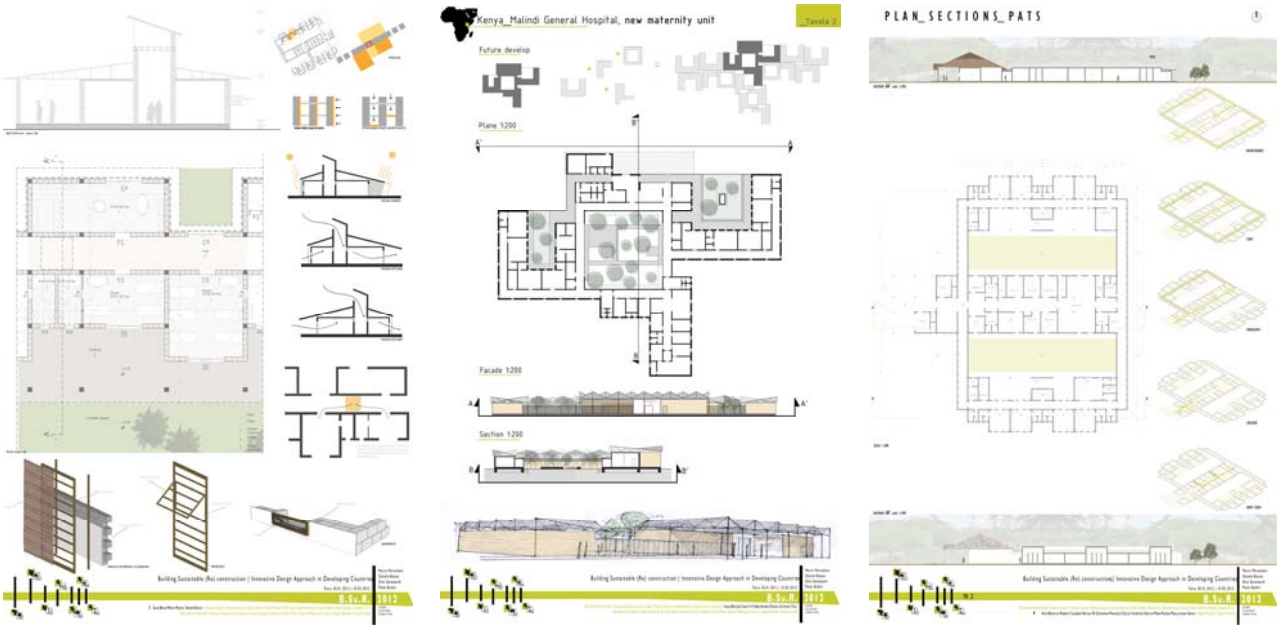

Fig. 3 - Some of the design ideas for the maternity unit in Malindi.

All the developed designs have been analysed by means of a specific multilevel tool aimed to evaluate the internal coherence level of each solution in the following topics:

- building/environment adequacy
- morphological adequacy
- functional adequacy
- technological coherence
- health requirements fulfilment
- building coherence with local communities expectations

Design solutions have been illustrated to the local authorities and to the hospital management in March 2012. A joint discussion about the different ideas proposed was useful not only in order to verify the satisfaction for the efforts produced, but mainly to focus on some functional and technological issues in the perspective of a truly participated design approach.

Modular and repeatable health units in extreme environments

The second experience concerns the design of a medical dispensary in Kenya, about 70 km west of Malindi, in the direction of the Tzavo park. The project, still under development, started on a proposal from the Policlinico San Matteo of Pavia and the support of the Diocese of Pavia as a result of a specific request by the local diocese.

The project aims to give a response to the needs of Chakama community, living in a village consisting of about 2500 people. The isolation of this village from other settlements made as primary emergency the opportunity to start the construction of a small residential care to become a first aid and health care medical unit. The University of Pavia, through the Laboratory STEP (project team: Marco Morandotti, Daniela Besana, Francesco Maccarone), provided the technical support project for the construction of the dispensary. The main aim of the intervention was therefore to provide small rural dispensaries for local assistance and to address the most serious cases to neighbouring largest hospitals such as the Malindi General Hospital in Malindi.

The village of Chakama is located in a rural area about 70 km west from Malindi, without existing transportation infrastructure and the obvious difficulties of moving during the rainy season, when unpaved paths become impassable. Therefore, for Chakama and other nearby villages, the hospital in Malindi represents the nearest health service. ,For the geographical and climatic conditions mentioned above, it often becomes impossible to be reached, especially by sick people, because of the almost total absence of private transport and adequate infrastructure.

The health and welfare is certainly a major gap in the Kenyan socio-cultural context also due to the fact that in the last years urbanization is increasing in Kenya at a rapid peace. According to the Government of Kenya statistics, urban centres have increased from 15.1% (1979) to 34.8% of the total population in 2000. More than 70% of the urban population live in slums with limited access to water and sanitation, housing and social services and secure tenure (UN Habitat 2007). For example Kibera is the largest slum in Nairobi, with approximately 800,000 residents. It is clear that within these areas there is no control over living quality standards and also health care facilities.

This aspect is even more dangerous compared with the climatic situation of the Kenyan context and, in particular of neighbouring Malindi. There is a general decline of rainfall in the main rainfall season of March-May. Drought in the long rains season is more frequent and prolonged. On the other hand, there is a general positive trend (more rains) during September to February. This suggests that the "short rains" (October-December) season is extending into what is normally hot and dry period of January and February. This aspect caused another phenomenon that is the problem of desertification. Only 17% is arable while 83% consists of arid and semi-arid lands (ASAL). Due to climate change and other human factors, desertification, the extent of arid and semi-arid land, is increasing. It is clear that this aspect as the main cause it impossible to obtain food from the earth and, in general, all the agricultural products needed to sustain the population. It has been observed that the number of indigenous and important species has dwindled tremendously. The Kenyan coastline is characterized by 4600 hectares of land will be submerged area with a sea level rise of only 0.3 meters.

The water resources are unevenly distributed in both time and space. Climate change will worsen this already precarious situation as it affects the main hydrological components. Finally, serious droughts have occurred in the last four consecutive years. Major rivers show severe reduced volumes during droughts, and many seasonal ones completely dry up. Malaria, cholera, Ebola, Lyme disease, plague, tuberculosis, sleeping sickness, yellow fever, and rift valley fever are some of the diseases that are expected to spread as temperatures rise and precipitation patterns change.

As a result of knowledge of the social and climate context of the project, our first idea was primarily directed to respond to a primary need, the care as a human right. The starting point was therefore a structure that primarily responds to functional needs for the community but, at the same time, could be easily recognized by local communities and repeatable in the African land for a future network of health care in the area. It was therefore attempted to emphasize the sustainable approach, understood in its environmental, economic, social components and real technical and economic feasibility (Fig. 4).

Fig. 4 - General views of the dispensary and, in particular, the red vertical technical wall.

A vertical wall that becomes functionally the implant and technological plug of the entire structure characterizes the morphological layout of the dispensary. It allows dividing the space into two areas: one, more public, just covered by a roof, and the other, more private, reserved for health services. This functional distribution is simple and clear and easily recognizable.

The public space is paved, open but covered by a roof with sunscreen function. Functionally, this space allows the family members of patients to rest in a separate space from the health area and also acts as a waiting place for any patients who require treatment that, through a single entrance at the wall, can enter in the strictly medical area.

The dispensary medical wing consists of modular spaces dedicated to the care and is compatible with different building technologies, according to the final budget.

Once you have crossed the access from the front, there is a clinic for early medical evaluation and triage. Adjacent to it you can go directly to a medication room and first responders. The triage room also leads to a doctor's office and a room for the conservation and storage of medicines. The dispensary is finally equipped with a room and toilets for both doctors and for patients. Typologically the volumes containing the medical functions are standardized by a single over-wooden cover equipped with extruded eaves to limit overheating of the surfaces from solar radiation.

The dividing wall between the two spaces is therefore the plant technological element that lets the building make self-sufficient in the use and management. Into the wall thickness are thus content, as well as stores and warehouses, technical spaces such as tank for collecting rainwater, filter for water purification, the generator and the battery for the domestic hot water and the alternator and batteries for photovoltaic systems (Fig. 5).

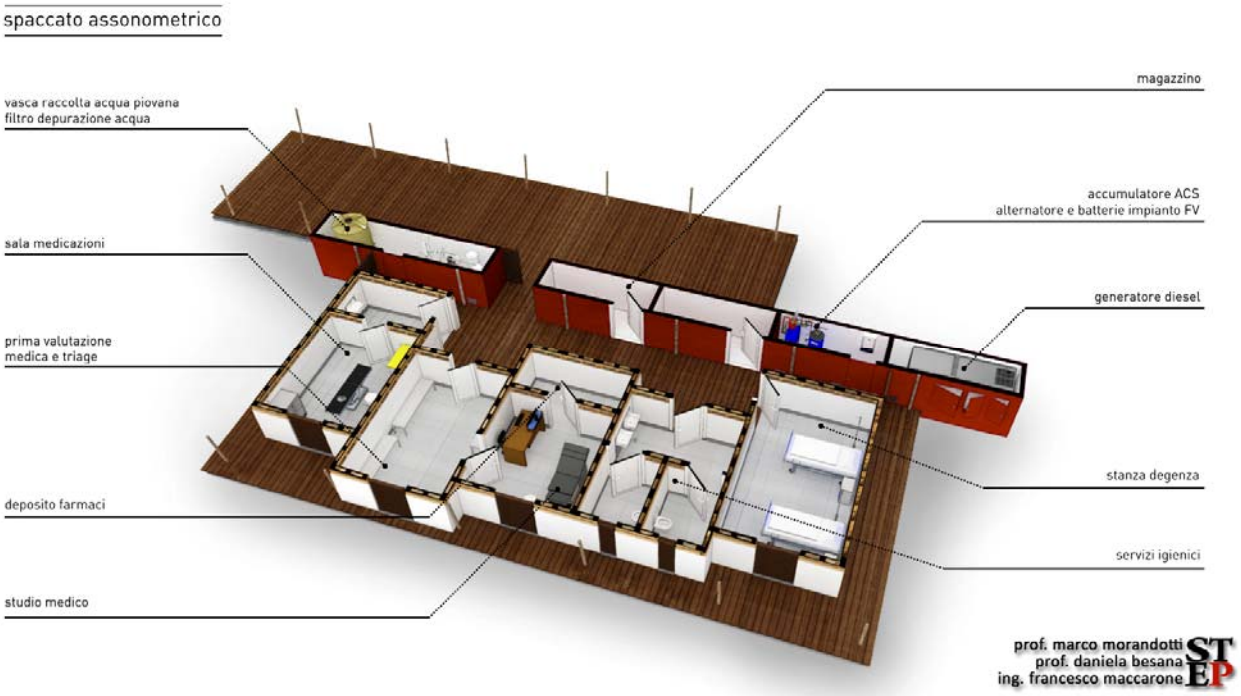

Fig. 5 - Functional layout of the dispensary unit.

Designing the dispensary we tried to work on the theme of sustainability both for construction technology used and for the choice of materials.

The ability to use a simple technology without penalizing quality allows the project to be built with local resources and unskilled labour. If the project is conceived as easily accomplished even by the local community, immediately the choice is winner both for a future repeatability of the model realizing a health network spread in the territory and for the ability to provide the community with tools for building independence.

This principle is therefore based on the concept of self-construction in which users are involved in the project. The theme of self-construction presents a number of advantages: it promotes education in the local community and contributes to the work group identity, in which the sharing of effort and, at the same time, the enjoyment of the results obtained is a strong social cohesion. Also the fact of contributing to the building achievement through their own effort, facilitate the acceptance by the population of the final result, and therefore the actual use of the building. Last, but not least, the community acquires techniques and expertise in the work and can used them in the event of further construction needs.

Analogously this occurs also for building materials. Working with materials specific to the location means getting both easy availability and therefore minimum costs and also knowledge regarding using by labour. In fact using sophisticated technologies or imported materials would be senseless because they will increase the cost of construction and especially not make independent the population during the management and use of the building. The materials that are not known by the workers inevitably cause difficulty to the maintenance of the building and dependency of the community by skilled workers.

The project was conceived as a prototype of spatial and functional quality both if it is made with local materials and traditional building technologies but also with recycled materials, commonly discarded materials readily available without costs. The project was therefore designed both with modular proportions of the rooms to avoid getting waste

materials and increasing costs and flexible for the choice of the functions and of construction technology.

Before choosing materials and technology, a research on materials commonly used and found in the territory of Malindi was carried out, as previously discussed.

In general, a concrete framework makes the most common structure typology while the vertical walls are realized with bricks made of coral blocks. Roofs are typically realized with the so-called “makuti” technique. This traditional technique presents a lot of problems linked with safety and maintenance: it must be renovate every five years; it is highly inflammable and in case of fire the temperature can exceed 800°.

Regarding the materials, in Kenya, concrete is the most common material used for construction. It is currently produced in three major factories for both the local and export market. Domestic prices have steadily increased over time. The current price is approximately 450 shillings (about 6 US$). The high cost of cement coupled with occasional shortages, high transport costs and its unavailability in some remote parts of the country has adversely affected the cost of many cement based building materials like concrete blocks, mass and reinforced concrete, slabs. It is also possible to find concrete blocks either factory or manually produced. They depend on cement and are therefore expensive. They are however the most commonly used walling material for residential properties within Nairobi. A study carried out in 1983 revealed that they were the most expensive input in construction contributing about 26% of the overall materials cost. Natural stone is a cheaper walling material as compared to concrete blocks. It is also commonly used especially in the outskirts of the city or main towns. Finally, the most common roofing materials are tiles and galvanized corrugated iron sheets. Tiles are either clay or concrete.

After this research, we tried to explore the use of recycled material, such as the traditional pallets used for commercial packaging as a building material. It has good properties regarding its behaviour in use and also some geometric characteristics of the joists and their distances very similar to frame structures such as balloon and platform frame. The birth of the pallet is of U.S. origin due to World War II, when Americans discovered that placing the goods on wooden platforms these were more easily transported and handled and they guaranteed protection from wet surfaces. In the 50’s in Europe a gradual standardization of wooden pallets EPAL and EUR (800x120mm) begun. In America, the most common is the pallet 40x48 inches (1000x1200mm). As a result of increasing industrial development in the 60s the pallet was stated as an instrument of international exchange of goods between industries in several states. In order to approve its international circulation, the European Community has introduced a legislation (Directive 2000/29 of 5 May 2000), which establishes protection treatments that must be applied during manufacturing, since the wood is a potential vehicle for harmful organisms to plants world. It has been made compulsory a preventive treatment, defined as "fumigation", through the use of chemical products based on methyl bromide, or alternatively HT treatment, consisting in a heat treatment in which the wood is treated in special cells called dryers, the two systems are equivalent, and both recognized as valid for the purposes of Directive ISPM 15 FAO in order to eliminate the parasites that can lead to severe damage to forests (Fig. 6).

Thus, the use of pallet would respond positively to a number of requirements searches in the dispensary project such as the concept of self-construction. Working with light elements and small dimensions means using a simple technology easily learnable by the local community and finally an easy construction phase. Contextually the realization of a structure dry assembled using only mechanical joints and riveted or bolted connections is very important in a context so devoid of water. It also responds positively to the requirements of components manoeuvrability thereby allowing the its handling by a single person and, therefore, making simplified the assembly operations. The requirement of construction durability is satisfied by the material itself because it is a prefabricated element that have already been subjected to treatments that guarantee an acceptable life cycle and controls to be placed on the market. The wooden material is so healthy because it does not emit harmful substances during the operating phase, does not constitute a danger to the health of users. Pallets are exported all over the world because they move with goods, therefore, substantially materials have no cost (if you need to buy them, they have an average price of 6/8 euro each).

After the knowledge of pallets characteristics, a search to find suitable references of architectures or installations produced with the pallet was carried out. A critical analysis showed that in all cases, the pallet has been used vertically as a curtain wall while the structural component was entrusted to a wooden frame due to the balloon frame. The structural function of the pallet was delegated only to its positioning in the horizontal. Aim of the research, endorsed also by other research such as a degree thesis developed by V. Marconcini, was to exploit the versatility of the pallet, but trying to use it in an upright position, verifying its bearing capacity.

In conclusion, the performance characteristics that have accompanied the design choices, still in the initial feasibility study, were mainly anchored to these themes:

- modularity of the structure and its components;
- future expandability in dimension;
- environmental, social and technical sustainable design;
- economic and constructive feasibility;
- architectural and linguistic identity;
- self-sufficient for its use and management;
- self-construction.

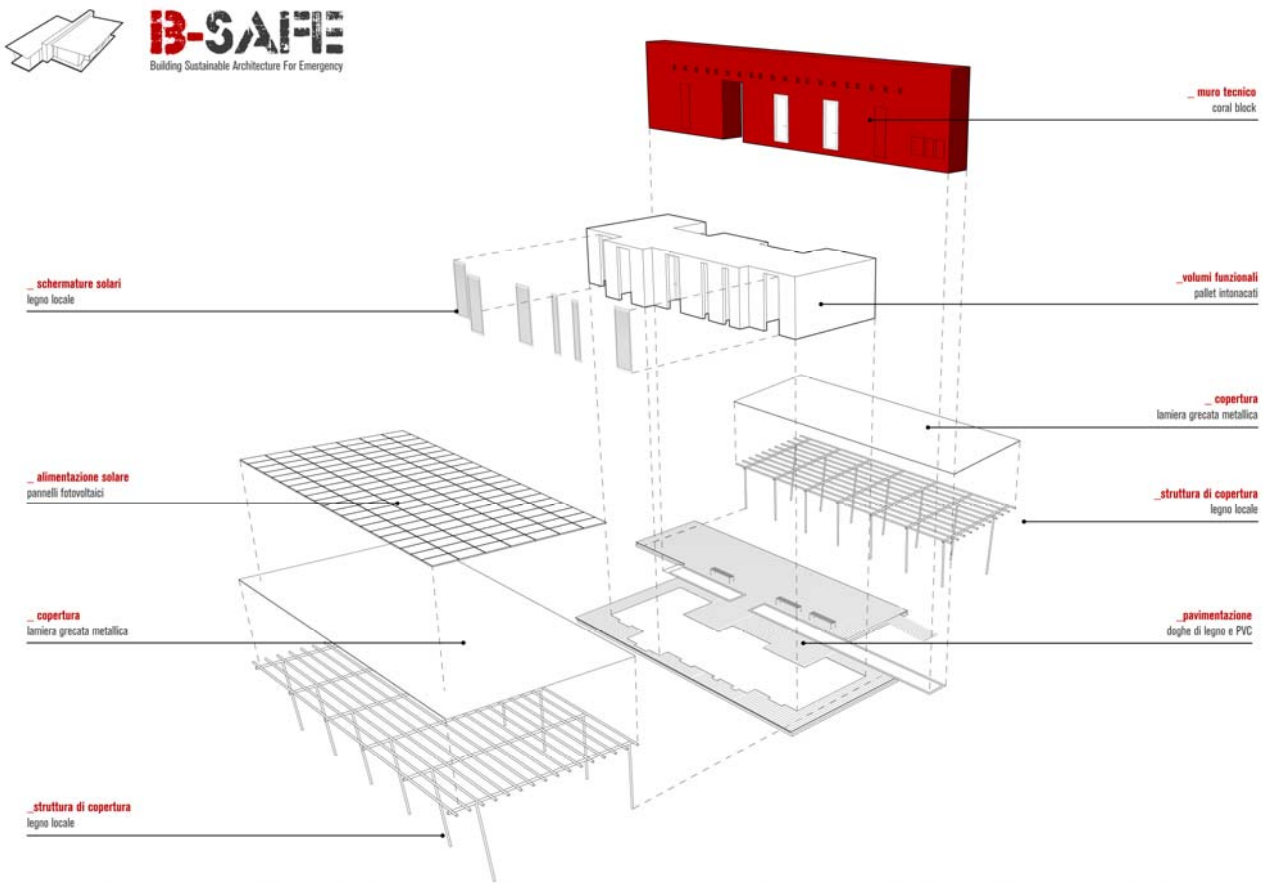

Fig. 6 - Structural schemes showing use of dry construction assembled by pallets.

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INTERNATIONAL UNIVERSITY COOPERATION FOR VALORIZING CRUDE EARTH AS BUILDING MATERIAL IN CHAD AND CAMEROON

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ABSTRACT

Deforestation is one of the most dramatic threats to environmental equilibrium and food safety in many regions of the world, and particularly in sub-Saharan Africa. It is enhanced by many kinds of human activities, among which is the earth brick firing process, that needs large amounts of wood for attaining and maintaining temperatures required during this process. Crude earthen bricks can be used as an alternative for buildings, with environmental benefits; however, the economical and social sustainability of this building technique is linked to the improvement of the brick production technology, based on a deeper knowledge of the local resources. For this reason, a partnership was developed between an Italian University and a Cameroonian one for valorizing crude earth as building material in the Logone valley, located at the border between Chad and Cameroon: this way, the knowledge of the local context owned by the Cameroonian university was an added value to the technical skills of both universities, driving the choices made during the project. The Cameroonian university carried out mainly morphological and geotechnical analyses on soils, in order to choose the best site for brick production in the region; the Italian university designed and followed the realization of a machine for improving brick production. As a result, a pilot plant for crude earth brick production was installed.

INTRODUCTION

Forests are a crucial factor in preserving the environment vitality and human life: they are the main mean of carbon storing and climate change protection, and preserve biodiversity; furthermore, in many regions forests are designated for soil and water conservation, avalanche control, sand dune stabilization, rain regularization, desertification control and coastal protection [1,2].

Although in the last decade the global deforestation rate has shown signs of decrease, in some regions, such as South America, Africa and Oceania, a net forestry loss was registered, with increasing rate with respect to the previous decade: this is also source of economical and social harms, such as lack of food and wood for domestic use as a consequence of soil deterioration and rain irregularity [1, 3-5].

In particular, since 1990 to 2010 the forest surface has decreased by about 12% in Chad and 18% in Cameroon, mainly due to wood exploitation as fuel, both for domestic and handicraft uses [1]: among these, the use as fuel for earth brick firing is an increasingly important part of the total wood exploitation [6,7]. Different techniques are used in African countries for fired brick production at handicraft level; however, in general they are very inefficient and fuel consuming [7].

Fired earth bricks are replacing the traditional crude earth as building material all over Africa; this trend is due to the fact that fired bricks are more resistant to deterioration by atmospheric agents (mainly rain), but also because crude earth is perceived as “poor” material, in contraposition to the modernity associated to fired earth [8]. However, there are many reasons for valorising the crude earth technology, among which the main is energy saving: producing 1 m³ of concrete consumes 1.0-1.8 MJ, whereas the same volume of raw earth for building uses only 1% of this quantity of energy [9]. Other benefits of the crude earth technology are: absence of carbon emissions, reduction of environmental impact related to building waste, low cost, raw material availability, richness and variety of the traditional knowledge about this construction technique. However, in order to obtain competitiveness of crude earth as building material, some innovations are necessary for obtaining a good product in terms of durability and reliability, aesthetics and cost.

In this context, a partnership between European and African researchers was established, within the ambit of the VALRENA[1] European project. This project had the aim of promoting the sustainable exploitation of natural resources in the Logone valley, along the frontier between Chad and Cameroon; among the different activities planned in the project, there was the promotion of crude earth as building material, to be achieved by introducing an innovative production technology and setting up a pilot plant.

[1] « Applied research for natural resources valorization and transformation in a process of fight against poverty in Chad and Cameroon »; subvention: FED/2009/217079; project website: www.valrena.org.

In particular, as the activity on earthen bricks was concerned, the collaborating partners were the following:

- the Italian NGO ACRA, an organization for rural cooperation in Africa and Latin America;
- the University of Ngaoundéré (Cameroun), in particular the Department of Earth Sciences;
- the University of Brescia (Italy), in particular the Research Centre on Appropriate Technologies for Environmental Management in Developing Countries (CeTAmb), and the Department of Mechanical and Industrial Engineering.

Each partner had a specific role, according to his competence: ACRA was in charge of the local and international coordination and logistics; the University of Ngaoundéré was in charge of the soils analysis and choice of the pilot plant site; the University of Brescia was in charge of the environmental analysis and machinery design. In this paper the main phases of the project implementation and the obtained results are described, with a particular emphasis on the role of each partner. First, a survey on housing and building techniques in use in the Logone valley was carried out, in order to identify features, problems and possibility of improvement in the field of the handicraft earth brick production. Subsequently, an analysis of the morphological and geotechnical characteristics of the local soils was carried out, finalized to evaluate their suitability to brick production and identify the best locations for earth extraction. Then, a new extrusion press for improving crude earth brick production was designed and tested, taking into account the local market features emerged from the survey; the extruded bricks were tested and compared to the local traditional ones. Finally, the new machine was reproduced in a workshop in Cameroon and loaned to a local brick producer, verifying the economical and environmental sustainability.

SURVEY ON HOUSING AND BUILDING TECHNIQUES IN THE LOGONE VALLEY

The Logone valley (Figure 1) is located across the border between Chad and Cameroon, and is characterized by tropical climate, with seasonal rains and savannah – grassland landscape. The main cities in the region are the capital N'Djamena, Bongor and Mondou on the Chadian side; Yagoua, Maroua, Garoua and Ngaoundéré on the Cameroonian side. In March 2011 and subsequently in March 2012 two surveys were carried out in the region in order to obtain data about local needs related to house building. The surveys were carried out by students and researchers of the Brescia University, in strict coordination with the local staff of ACRA. Several crude and fired brick production sites were found in the region, both at household and handicraft level. Crude bricks are used especially for building houses in rural villages (Figure 2). The production is conditioned by the rainy season, when many crude earth houses are damaged because of a twofold action: the walls are eroded by the impacting drops, and the bottom part of the walls is weakened by the water absorbed from the ground because of flooding. Each year, at the end of the rains, new bricks are purchased at city markets for substituting the damaged ones; somebody makes bricks manually for his own necessity, especially in case of lack of funds.

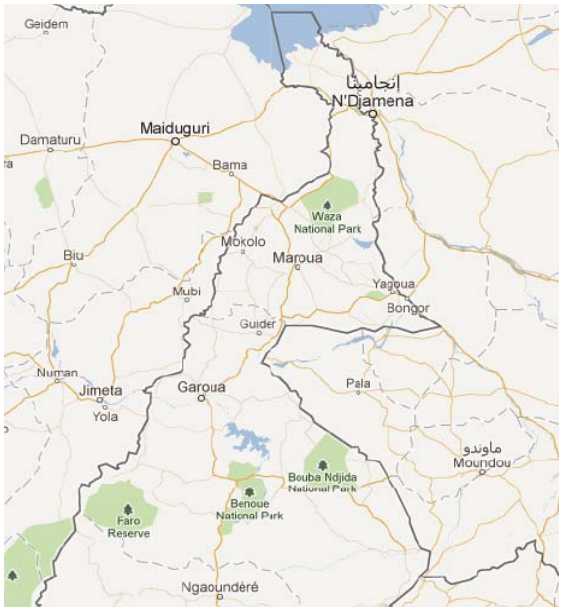

Fig. 1 - The Logone valley region.

Fig. 2 - House in crude earthen bricks in the Logone valley.

Fig. 3 - Manual brick forming.

Fig. 4 - Typical scove brick kiln.

Several manufacturers of fired and crude bricks were visited during the missions, in the regions of N'Djamena, Bongor, Maroua and Yagoua. A single enterprise was also contacted in Maroua producing non fired bricks in sand with about 5-10% cement. Some information about the practice of brick making in the region was collected by means of interviews to local producers, with the aim of depicting the state-of-the-art and understanding the context where the project had to be developed.

In general, the first phase of earth bricks production process does not differ for fired and crude ones: a dough of clay, sand and water, with the addition of vegetable fibres and/or animal dejections is prepared. The percentages of the different components vary according to local soil characteristics, materials availability, manufacturer experience and financial resources. The components are usually mixed on the ground by a shovel, adding water gradually, until sufficient homogeneity is reached; subsequently, the dough is covered by a waterproof plastic film and left for a couple of days, in order to allow uniform water penetration. After that, the dough is formed through wooden moulds giving the typical brick shape, and exposed to sun drying for 3 days (Figure 3). The brick dimension is also a varying parameter, with thickness ranging from 7.5 to 10 cm, width from 15 to 20 cm, length from 30 to 40 cm. After drying, they are ready to use as crude bricks; in case of firing, they are stacked in a typical scove kiln structure (Figure 4), with channels in the bottom region to be filled by solid fuel; other fuel is also put in the gaps between the bricks in the interior stack part, whilst in the exterior part the gaps are filled by dough in order to reduce heat dispersion. The solid fuel is also wetted by liquid fuel (petrol or gasoline) in order to facilitate ignition. Once the fuel is fired up, the combustion is kept for 3 days, with periodical fuel refilling. The production rate varies from 160 to 250 bricks per day, with 3-4 employees.

As production cost and selling price are concerned, different data were found according to the location and brick typology: the selling price of crude bricks ranged from 25 XAF [2] (0,04 EUR) per item in Maroua (CM) to 40 XAF (0,06 EUR) per item in N'Djamena (TD); the fired brick price ranged from 60 XAF (0,09 EUR) per item in Bongor (TD) to 150 XAF (0,23 EUR) in Yagoua (CM); the sand-cement brick price was 175 XAF (0,27 EUR) per item in Maroua. The fuel cost in the production process varied from about 2 XAF (0,003 EUR) per item in the Cameroonian cities up to 17 XAF (0,025 EUR) per item in the Chad capital N'Djamena: this is also due to the fact that in Chad the charcoal production and commerce is forbidden since 2009, and consequently the price of other fuels rose up. In all cases of fired bricks production, the wood cost is most of the total fuel cost (50-80%); other fuels used to integrate the combustion are local tree nuts, animal dejections, petrol and (only in Cameroun) charcoal. The wood consumption of the stove kiln was estimated; the details of the estimation procedure are given in [10]: the result was that the environmental cost of a mean 4 rooms house of 65 m^2 is about 11 m^3 of round-wood forest per house.

These data showed that the crude bricks market should have many chances of expansion, both for economical and environmental reasons, provided that the problems of aesthetics and structural stability are solved. A way for improving the crude brick quality is mechanizing the production process, as the machines can give adequate compaction and regular shape to the bricks; furthermore, binding agents (typically cement or lime) can be added to the dough in order to improve their resistance to water.

An inquiry was also carried out about previous projects aimed at promoting mechanized crude brick production, based on manual presses for brick forming and compacting, with dough containing cement in percentage ranging from 6% to 12%. These projects resulted not economically sustainable, because the production and the number of employees were similar to the case of the traditional procedure, but with higher costs due to the use of cement and to the initial investment for machine purchasing, not adequately compensated by brick quality increment.

ANALYSIS OF THE LOGONE VALLEY SOILS

The activity of soil analysis in the Logone valley was leaded by the University of Ngaoundéré, involving students and researchers that extracted 32 soil samples from different clay deposits located on both sides of the Logone valley.

[2] Central Africa CFA Franc; 1 EUR = 655.96 XAF.

They used a Highway auger of 500 mm diameter, up to 6 meters in depth for extracting samples, that were used for morphological and geotechnical characterization of the soils.

Morphological characterization

In general, the tested clay materials were gathered into four main groups [11,12], based on their appearance:

1. clay materials from vertisols: these soils are located at stream edges in small alluvial ridges depressions (Grand Tougoudé), in the north of the Bongor plain near major flows of flood waters of the Logone, and in the south of Yagoua (Datchéka).They have a depth range of about 3 to 6 m above the water table and are characterized by dark colour, clayey texture, massive structure, deep open superficial desiccation cracks and micro-reliefs (gilgaï);
2. clay materials from gley with vertisolic character: this group of soils has been divided into two subgroups: soils with superficial gley characters and typical gley. Soils with superficial gley characters constitute a term of transition between vertisols and typical gley. They are mosaics of soil settling ponds, channels and distributaries in sandy clay materials. They were observed in the north of Pouss, in Guirvidig, in Miogoye Bla, in Tikem, in Kalfou and Lokoro etc.. Typical gley covers an extensive surface area of the Logone valley, notably the lowest part of the floodplain. They are formed from alluvial clays settled in place by the floods of the Logone River and its tributaries. They were observed in Maga, Vélé, Dourang, Binga, Kim etc.;
3. clay materials from pseudogley and gley: they occupy the upper part of the floodplain, and are formed by alluvial clay or sandy clayey materials. They were observed in Bongor and Nahaïna;
4. clay materials from pseudogley: they are present in the upper part of the sequence of clay materials in the valley, and vary from sandy clayey to clay loam deposits. They were observed in Manga, Bongor and Gounou-Gaya.

Globally, the soils of Logone valley are characterized by three main horizons of clay materials: top surface horizons, which are dark grey to brown-grey, sandy clayey to clayey, prismatic and plastic when wet; subsurface horizons, which are grey to yellow-brown, clayey to sandy clayey, plastic, prismatic with presence of slickenside; and deep yellow-brown horizons, sandy clay, massive, somewhat plastic. Samples of soils were collected in different horizons of each representative soil profile for laboratory analyses.

Geotechnical characterization

Geotechnical analyses were performed in the laboratory of the Local Materials Promotion Authority (MIPROMALO) in Garoua (Cameroon), in order to determine the behaviour of clay materials. These analyses included in particular the measurement of Atterberg plastic and liquid limits W_p and W_l, i.e. the water content W determining the transition respectively from semi-solid to plastic behaviour, and from plastic to liquid behaviour. These limits were determined respectively by the roller method and the Casagrande liquid limit device; subsequently, the plastic index I_p was obtained as difference between liquid and plastic limit ($I_p = W_l - W_p$). The testing method complied the ASTM standard for this kind of analyses [13].

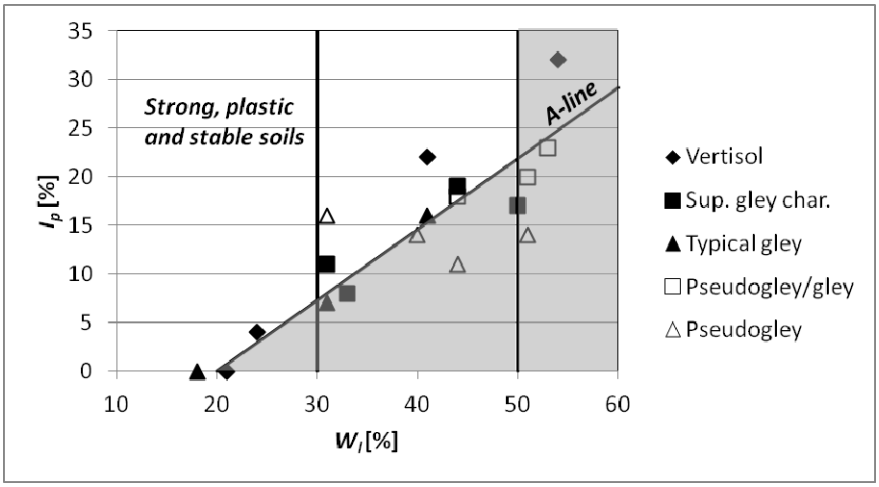

Fig. 5 - Casagrande chart of the soils of the Logone valley.

In [10] the detailed results are given; here the Casagrande chart [14], which summarizes the results by characterizing the different soils depending on W and I_p is shown (Figure 5): the area standing above the inclined line (identified as "A-line") and with $W_l < 50\%$ identifies the best soils for brick making, because of high strength at dry

state, high plasticity and low dilatancy at wet state. Vertisols and soils with superficial gley characters result in general the best within the analyzed soils: therefore, the region between Yagoua (Cameroon) and Bongor (Chad), where these soils are prevalent, seemed the most appropriate for setting a plant of brick production.

STUDY OF AN APPROPRIATE TECHNOLOGY FOR BRICKS PRODUCTION

A new press for earthen dough extrusion was designed and prototyped at the University of Brescia [10]. Brick production by extrusion is a continuous process, allowing simultaneous dough feeding, brick compaction and brick removal, without the stops required by block pressing machines; this allows a more efficient and speedy production process, with the same number of employees. The dough has to be inserted manually into the machine; subsequently it is extruded by a piston mechanism, and the extruded matter is cut and removed manually. The piston mechanism is studied in such a way to facilitate dough insertion and brick removal. The machine design was conceived in such a way that the fabrication of most components does not require machining tools with numeric control, so that they can be produced in handicraft workshops of developing countries.

A prototype of the machine was first realized at the University of Brescia, producing bricks of 5 cm in thickness and 10 cm in width, running at about 15 piston cycles per minute, a sustainable speed for feeding and brick removing. The prototype was equipped by electronic instrumentation (inverter, load cell, computer control) in order to measure some running parameters, such as the instantaneous piston velocity, the compression force on the dough, and the consumed energy. Preliminary tests were carried out with non stabilized dough and with the addition of cement as stabilizer, with extrusion pressure ranging from 2 to 8.7 bars, i.e. up to more than 4 times the declared maximum pressure of manual presses: the measured electrical energy consumption for one m^3 of bricks ranged from 80 to 250 kJ/m^3, and a production of 2-3 bricks per minute was obtained.

The quality of the bricks in terms of structural strength and resistance to water action was tested (see [10] for details).

The structural strength was evaluated by means of compression tests, carried out directly on the extruded bricks. Different specimens were tested: extruded non stabilized bricks, obtained with different pressures on the wet dough, after two weeks drying; stabilized bricks extruded at 8.7 bar, after 28 days drying; fired bricks coming from N'Djamena (Chad).

The following main indications can be obtained by these data:

- the compression strength is higher than the minimum recommended value of 1.7 N/mm^2 [15] for all extruded bricks at pressure exceeding 4 bar; bricks extruded at 2 bar are very close to the minimum required;
- fired bricks in general have lower strength than extruded ones, and do not always satisfy the minimum requirement;
- the effect of the extrusion pressure is determinant up to 4 N/mm^2; further pressure increments have a limited effect on the brick strength;
- the effect of cement is not determinant.

As the water effect is concerned, two different aspects were considered: the erosion due to raindrops impacting on the walls, and the water absorption from the ground in event of flooding. Erosion was evaluated by means of two kinds of tests, aimed at simulate both beating and moderate rain. The water absorption from the ground was evaluated by means of immersion.

The indications useful for the practice obtained by these results were that extruded non stabilized bricks have good compression strength, as well as an acceptable resistance to rain erosion; on the contrary, their real weakness is the low resistance to water absorption. Therefore, stabilized bricks can be used for building the house parts more exposed to water absorption from the soil, i.e. the floor and the bottom part of walls; non stabilized bricks are suitable for the top part of the walls, which usually is partially protected by the roof.

Implementation in Cameroon

After the prototype experimentation, the machine was replicated in Cameroon, by the technical and industrial school "Centre Technique de Maroua" (CTM), where workshops equipped by carpentry and machining tools, without numerical control, are present. The construction of the machine was carried out under the supervision of a student of the University of Brescia, who had followed the machine conception. Some changes in the design were introduced: the extruder section was increased up to 10x15 cm, in order to meet the local consuetude, and consequently also the piston diameter was increased; further minor modifications were necessary for fitting materials, components and semis available in situ. All the machine components were manufactured at the CTM, except the electric motor, the gearbox and the control cabinet that were imported from Italy, mainly for logistic and timing requirements rather than for unavailability on site. The final appearance of the machine is shown in Figure 6. Preliminary machine running and brick quality tests were carried out, obtaining results comparable to the ones of the laboratory tests made in Italy.

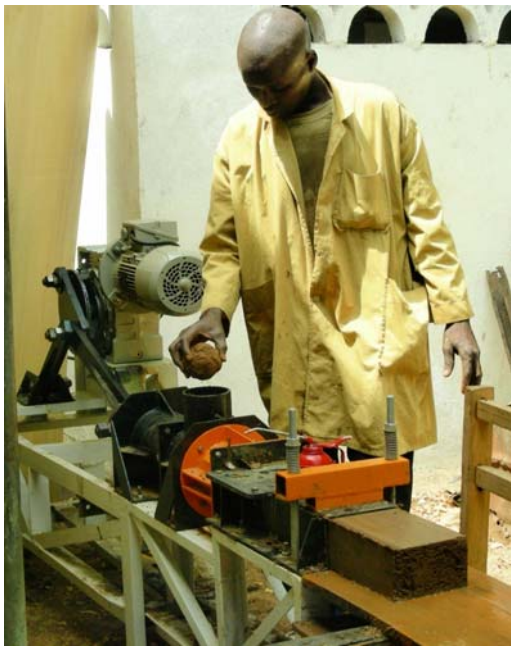

Fig. 6 - Earthen brick machine constructed in Cameroon.

The machine was loaned to a local producer in the city of Yagoua (Cameroon), chosen because of his experience in fired brick production, for which he had already invested in technical and logistic facilities. He also provided information about transport, manpower and energy cost; his annual production is presently of 12.500 bricks, but this datum is constantly increasing since many years. He quantified in 150 XAF (0,23 EUR) per item the price of his fired bricks.

An approximated simulation of the management of this pilot plant, after conversion from fired to crude bricks production, was carried out (see [10] for details). The initial investment, energy, manpower and transport costs were taken into account; two different scenarios were considered, i.e. production of stabilized and non-stabilized bricks, with adequate contribution margins (30% of the unit cost for stabilized bricks, 15% for non-stabilized bricks). Figure 7 shows the cash flow in the two scenarios, supposing that all the produced bricks are sold: a payback period between 3.5 and 7 years is predicted, depending on the scenario.

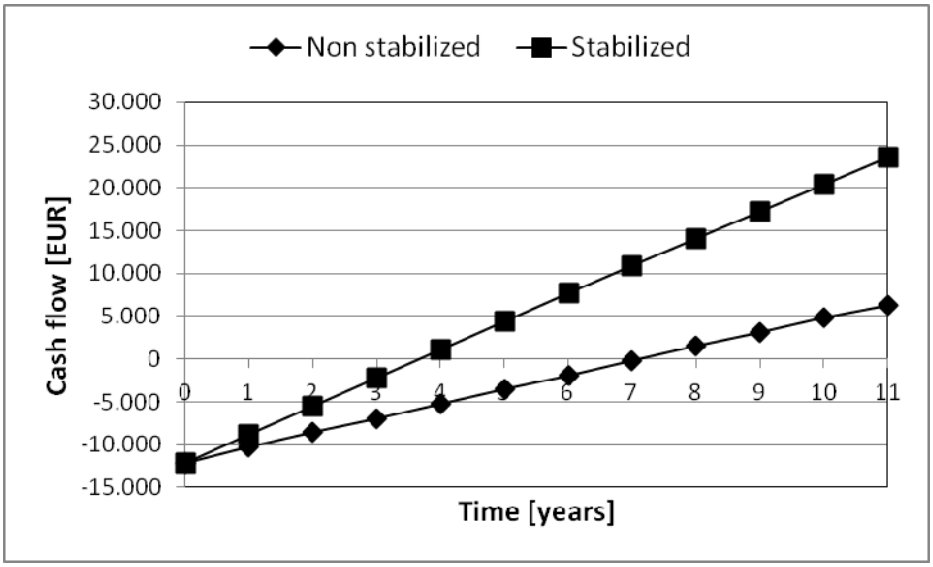

Fig. 7 - Cash flow in the simulation of stabilized and non-stabilized earthen bricks.

An evaluation of the Greenhouse Gas (GHG) emission and energy saving due to conversion of fired to crude bricks production was also carried out. As fired bricks are concerned, GHG emissions and energy consumption are due only to brick firing; as crude bricks are concerned, thermal energy consumption and GHG emissions are connected with the production of electric energy and, in case of stabilized bricks, of cement.

Table 1 compares the annual energy consumption and GHG emission related to crude bricks production (both stabilized and non-stabilized) with the same parameters if the same quantity of fired bricks were produced: for both

parameters, a saving higher than 99% is obtained with non-stabilized bricks production, and higher than 90% with stabilized bricks.

Tab. 1 - Energy consumption and GHG emission in fired and crude brick production.

Scenario	**Annual production [metric tons]**	**Thermal energy consumption [MJ]**	**GHG emission [kg CO_2]**
Non-stabilized crude	1356.5	15565.6	1255.2
Stabilized crude	1356.5	369796.7	33390.0
Fired	1356.5	3737102.4	363401.0

CONCLUSIONS

A partnership between Italian and Cameroonian entities was built for facing the problem of excessive wood consumption for earthen brick firing in the Loagone valley, in Chad and Cameroon. In particular, actions aimed at promoting crude earthen bricks production were made, with different roles of the partners according to their competence.

A survey of the handicraft fired brick production technology diffused in the Logone valley was carried out by the Brescia University, with the support of local staff of the NGO ACRA; the survey was particularly focused on the environmental impact in terms of greenhouse gas emissions and wood-fuel consumption.

The University of Ngaoundéré carried out a morphological and geotechnical characterization of local soils in order to evaluate their suitability to brick production and individuate the best earth fields.

Subsequently, a new machine for brick extrusion was designed and realized in a workshop in Cameroon under the supervision of the Brescia University, optimizing its conception to the technological resources available in situ. Laboratory tests on bricks made by the new machine were carried out, showing that extruded crude bricks have good properties in relation to fired bricks in use in the Logone valley.

Economical and environmental impact analyses allowed predicting a good performance of the machine within ten years, in terms of pay-back period, energy and greenhouse gas emission saving.

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NOMENCLATURE

ACP	African, Caribbean and Pacific group of states
ACRA	Cooperazione Rurale in Africa e America Latina
ASTM	American Society for Testing and Materials
CeTAmb	Centro di documentazione e ricerca sulle tecnologie appropriate per la gestione dell'ambiente nei Paesi in via di sviluppo
CTM	Centre Technique de Maroua
EUR	European currency
GHG	Greenhouse Gas
MIPROMALO	Local Materials Promotion Authority
NGO	Non governmental organization
XAF	Currency of the Central Africa Franc
VALRENA	Valorisation et transformation des ressources naturelles

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ENHANCING ENERGY ACCESS FOR THE POOR: THE ROLE OF APPROPRIATE TECHNOLOGIES IN THE USE OF TRADITIONAL SOLID FUELS

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ABSTRACT

The use of traditional solid fuels leads to a number of dramatic impacts not only on the users but also for the environment. Often national household energy policies do not have the capacity to effectively target an adequate diffused energy access, chasing the hope to switch to more modern and clean fuels, like LPG, and missing meeting the financial capacities and the needs of the population. Thus, especially for the weakest income classes, energy poverty seems to be a no-way-out situation. Appropriate technologies play a key role in breaking this vicious circle, providing with the intermediate solutions to escape from this limiting condition. Actually there are many technology options to use traditional fuels more efficiently. The suitability of the existing improved technologies depends on factors such as availability, applicability, acceptability and affordability, including access to finance to cover initial investments. The adoption of improved technologies, which allow using even poor fuels, but in a convenient, cleaner and more efficient manner, appears to be a viable way to walk to reach the goal of minimum energy access for the poor.

The approach adopted in this work is strongly influenced by the above considerations. A specific context, the Logone Valley at the border between Chad and Cameroun, was the one were field observations and activities were implemented. The introduction of improved stove models were studied in order to provide the local population with alternative fuel stove to cover their daily energy needs. Not only technical aspects such as the material availability or the local artisan skills were considered, but also aspects such as the adaptability to local cooking practices, the sustainability and the acceptance by users were addressed.

INTRODUCTION

Energy is one of the basic requirements of human societies. It is vital for human life and for technological advancement. In general energy can contribute to widening opportunities and empowering people to exercise choices. Energy poverty is related to the absence of sufficient choice in accessing adequate, affordable, high-quality, safe and environmentally benign energy services to support economic and human development [1]. Without access to efficient and affordable energy sources, people living in poor conditions have very limited opportunities for economic and social advancement. The International Energy Agency (IEA) [2] estimates that 1.3 billion people – over 19% of the global population – lack access to electricity and about 2.7 billion people – some 40% of the global population – rely on the traditional use of solid biomass for cooking. This number is higher than previously estimated in 2008 by IEA due to population growth, rising liquid fuel costs and the global economic recession, which have driven a number of people back to using traditional solid biomass.

The use of traditional solid fuels leads to a number of dramatic impacts not only on the users but also for the environment. In order to gather the fuel required for their daily energy needs, householders have to cover every day longer distances (carrying heavy loads) or invest a significant share of their budget to purchase it in the local market. Besides wasting a resource (for which a lot of drudgery or money were spent), the use of solid fuels on open fires or inefficient stoves results in a range of health-damaging pollutant emissions, often under conditions of poor household ventilation [3]. Women and young children, who usually spend many hours close to the smoky source, are the most exposed. Such emissions have also significant global warming effects, due to incomplete combustion of fuel carbon. Moreover, the unsustainable overexploitation of natural resources leads to their faster depletion. Often (where existing) national household energy policies and strategies do not have the capacity to effectively target an adequate diffused energy access, chasing the hope to switch to more modern and clean fuels, like LPG, and missing meeting the financial capacities and the needs of the population. Thus, especially for the weakest income classes, energy poverty seems to be a no-way-out situation: by the one side they have no financial means to step up their own energy condition, accessing the use of more convenient, cleaner and modern fuels; by the other side, the limited energy level provides them with no emancipation means, both to improve their quality of life and to eventually start a small income generating activity.

Appropriate technologies play a key role in breaking this vicious circle, providing with the intermediate solutions to escape from this limiting condition. Actually there are many technology options to use traditional fuels more

efficiently. The suitability of the existing improved technologies depends on factors such as availability, applicability, acceptability and affordability, including access to finance to cover initial investments. The decreasing availability of existing sources of fuel makes switching to modern alternatives a necessity in some places. In some others, the inconsistence of a market not supported by realistic political energy strategies makes unaffordable for most of the people gaining access to more appropriate fuels, getting back to traditional cheaper fuels. According to these aspects, and to the estimated increasing number of people relying on biomass for cooking purposes in the next future, the adoption of improved technologies, which allow to use even poor fuels, but in a convenient, cleaner and more efficient manner, appears to be a viable way to walk to reach the goal of minimum energy access for the poor.

The implementation of appropriate cooking technologies in contexts with limited resources is strictly required in order to give a practical and sustainable response for this issue. In particular this work focuses on a specific region, the Logone Valley at the border between Chad and Cameroun. The research was carried out within the activities of an international development cooperation project (ENV/2006/114-747) implemented by the Italian NGO ACRA and funded by the European Community. Given the local background and the relative constraints, the challenge was to find the appropriate solutions, under a technical point of view, for the reduction of wood consumption. The main part of the project focused on the protection of natural resources, in particular through the creation of community-based committees for the protection of the local forests. Among the project activities, one addressed the decrease of the consumption of the main household fuel, charcoal, which was produced locally from very low efficient carbonization processes. The research, subject of this work, was developed in parallel with the project activities in order to identify a pool of appropriate energy technologies to target the objective of fuel use reduction at household level. The challenging research question that drove this work is: “Which cooking technology is appropriate for household energy access in the Logone Valley?” This work looked by the one side to the most recent findings and interests of the international research community, trying to the other side to conjugate them in the most appropriate way with the local constraints given by the peculiarity of the implementation context. Both technology and impact related aspects were taken into account in order to give an overall assessment of the cooking technologies studied.

STUDY AREA

A specific context, the Logone Valley at the border between Chad and Cameroun, was the one where field observations and activities were implemented. The research leans on the activities of an international development cooperation project (ENV/2006/114-747) implemented by the Italian NGO ACRA and funded by the EU. At the beginning of the project (2008), in the intervention region charcoal and wood were the traditional fuels for household energy supply. Only in urban areas some high income families used to cook with LPG gas. Charcoal production and sale have been forbidden by the Chadian national government since 2009. This had a shocking effect on local wood prices that more than doubled, from 15 CFA francs /kg in 2008 to 35 CFA francs /kg in 2010. The project aimed at the reduction of wood consumption at household level. The dissemination of low-technology but high-efficiency models was implemented according to the socio-economic conditions of the local people (minimal investment capacity due to the very low level of income) and of the skills and the tools available for small local workshops (in particular the lack of electricity impacting in basic manufacturing capabilities).

MATERIALS AND METHODS

A number of activities on the field were implemented to gain knowledge about the cooking energy issue in the local context. Among the social research qualitative methods in this research the followings were applied:

- observation of the target groups, villages and project interventions through local field staff was used in order to gain a first impression of energy patterns. Even though not as accurate and representative as structured surveys, observations can be especially useful for preparing further scientific research (e.g. questionnaires) by providing site-specific knowledge [4].
- Focus Group Discussions allowing interviewers to study people in a more natural setting than in a one-to-one interview [4]. This method was used during the workshops organized for local artisans in the production of some models of improved stove to assess their opinions by talking to various people at once in a less forced environment.

Quantitative approaches are concerned to quantify social phenomena by collecting and analysing numerical data in a statistical reliable and valid manner.

- Semi-structured interviews were used in quantitative surveys to obtain comparable information representative for the total target group. Standard questionnaires (IEA, WHO) were adapted to fit objectives of surveys implemented on relevant assessment fields. Random samples were chosen among the population living in the intervention area. Questions were structured in order to avoid bias due to undesired effects on the respondents

such as social-desirability (people tend to answer not according to their own opinion but according to social norms or what the respondent thinks would be the desired answer for the interviewer) and revised after some pilot tests.

Besides information that need to be gathered from interviews or observations, data on particular indicators were provided from local databases, statistics and registers.

Stove testing

Over the last thirty years there have been many attempts to develop improved stoves, but often they failed due to lacks in quality and performance control. The technical performance of stoves is tested according to internationally agreed test procedures related to energy efficiency, emission control and safe use. Historically the main focus of the performance of an energy system is given to its efficiency, an indicator that expresses the ratio of energy useful to achieve a specific task on the total energy consumed. Thus, such a parameter is too narrow to describe the effectiveness of a stove, as a number of factors beyond the stove design takes influence in similar conditions, like the quality and characteristics of the fuel, the handling of the fuel, the handling of the stove, the management of the cooking process, the environment of cooking.

With focus on relative performances of stoves, the assessment of stove efficiency is circumstantial. A clay stove is perceived as an efficient stove in households with open fire places and as an inefficient stove in households that are using an advanced improved stove. International standards on stove quality have been discussed for many years. While they are desirable to enable a global comparison of stove performances, there is a danger that cheap solutions for the very poor households are abandoned due to their low performance in relation to the global standards, when in fact they could still be a relevant improvement in comparison to the baseline situation of the poorest of the poor. That's why a stratification of quality standards has been developed in the "Lima consensus" reached during the 2011 Forum of the Partnership for Clean Indoor Air. The consensus reached among major stakeholders in standards and testing resolved to adopt a temporary rating system of stove technologies in tiers of performance in the areas of fuel efficiency, indoor air quality, emissions of PM and CO, and safety. Each area has to be ranked separately, reflecting a sequence of evolution from Tier 0 for 'typical unimproved' to Tier 3 'to achieve significant, measurable high goals'. The new protocol should also evaluate particulate composition including black carbon, address batch-feeding stoves that are not well captured by the current protocols.

Water Boiling Test (WBT)

This laboratory-based test is designed to explore the most basic aspects of stove performance in a controlled environment [5]. A prescribed amount of water is brought to the boil and kept simmering for a given period of time, while the fuel consumption (and recently also the emissions) is measured. As it is a short test, and the results are not highly variable, relatively few tests can give informative and quick feedback. The WBT is a useful tool in the process of stove development or when comparing very different stoves. It allows to accurately spotting the effect of small changes in stove design, fuel quality or other physical variables. It can also be used in field tests to determine whether stoves have been built to match their design criteria on cooking time, fuel use and emissions. It does not reflect field performance because the way typical local dishes are prepared can be very different from just boiling water. Currently revisions of the test protocols are being discussed, but no new protocol has yet been accepted [6].

Controlled Cooking Test (CCT)

Like the Water Boiling Test, the Controlled Cooking Test measures the fuel consumption of a stove for a specific standardized cooking task typical for a certain region [7]. The CCT can be done either in a laboratory-environment or in the kitchen of a real user while the regular user operates the stove and the tester observes and records all the influencing parameters. The duration of the CCT is determined by the chosen typical cooking task. As well as being closer to day-to-day life, it allows the stove properties to be measured in a reproducible way by minimizing the influence of other factors.

Kitchen performance test (KPT)

The Kitchen Performance Test is an entirely field-based procedure that evaluates the effect of stove interventions in real-world conditions: the KPT is carried out over several days in the users' households[8]. Fewer parameters are controllable as the tester is not present all the time during the test. It includes quantitative surveys of fuel consumption of the participating household and qualitative surveys of stove performance and acceptability. The KPT is more time-consuming, thus more expensive; however, it is the best way to monitor the stove's real impact on fuel use and cooking behaviour in the participating households. The KPT is increasingly important for projects that want to register for the voluntary carbon market to prove the actual fuel savings realized by the users in their day-to-day cooking [9].

Monitoring of impacts and assessment of the appropriateness

For a "proper" impact assessment it is recommended the use of a shared list of indicators, the conduction of baseline studies before project intervention and impact studies after households got access to a form of modern energy, the use of a theory based approach by applying the result chain for developing the study design, the use of a mixed methods approach. The inclusion of control groups if possible (households which do not have access to modern energy) into the baseline and impact study In particular the use of mixed methods allows looking at things from multiple points of view (Mikkelsen 2005) capturing different effects of one intervention, assessing in multiple ways the complexity of a system, strengthening the results if these converge, limiting the bias. Quantitative impact evaluation done in experimental or quasi-experimental way is preferable to qualitative assessment.

Impact assessment in different phases of an intervention allows to monitor and to compare the results of the activities with the baseline. These include: income generation from stove production, women engaged in new activities, time and expenses saved, perceived reductions in the levels of indoor air pollution and reduction in the number of accidents. To collect empirical data on the impacts of energy projects, a wide range of methods and approaches is available. These may differ significantly in terms of time, money and expertise needed for implementation (Baker 2000).

Results Based Monitoring (RBM) is an international monitoring standard designed to monitor development results applied regularly to GIZ programmes. Results are defined as development changes that follow directly from an intervention; they can be outputs, outcomes or impacts resulting from a development intervention. RBM is a method to examine the result hypotheses in an empirical and systematic way. The two key results are usually considered to be stoves sales and correct stoves use, since all further outcomes and impacts depend on stoves on the market and their correct use. The stove effects strongly depend on the capacity of the user to achieve maximum reduction of fuel use and emissions. An interesting case is the Participatory Impact Assessment applied by ProBEC (Programme for Biomass Energy Conservation) in selected Sub-Saharan African countries, where local stove artisans conducted impact assessment interviews. This approach to impact assessment requires high involvement by the producers and creates business awareness. The results of an assessment by the manufacturers inevitably cannot be considered neutral.

The data from impact assessment can provide the starting point for an economic evaluation of the project, including a Cost-Benefit-Analysis (CBA) and a Cost-Effectiveness Analysis (CEA). Analyzing both the economic efficiency of the investments and the benefits deriving from energy efficient stoves on a macro and micro level can be helpful for further lobbying, public relations and keeping control of the project. Financial and technical criteria have generally prevailed, while the possibility of using a conceptual framework that encompasses sustainable energy development has often been neglected. In this perspective a multi-criteria approach to decision making appears to be the most appropriate tool to understand all the different perspectives involved (Kahraman and Kaya 2010).

RESULTS

A number of tests were conducted on site to evaluate which stove model, in combination with proper fuel, would be suitable for the dissemination among the local population. Stove models were chosen among traditional and improved stoves already available in the region and tested following international recognized standard protocols (Water Boiling Test and Controlled Cooking Tests). The two models chosen for the dissemination (through the training of local artisan) were the Ceramic and the Centrafrican effective improved cookstoves [10]. Both of them were selected not only for their good (but not "best" compared to advanced improved cookstove) performances, but mainly for the appropriateness to the local contest in terms of acceptability by the users and suitability to the local technical manufacturing skills. Result based impact assessment was done by means of a number of surveys both quantitative (Kitchen Performance Test, Indoor Air Pollution monitoring, CO_2 avoided emissions estimations) and qualitative (interviews, observations). Increasing adoption rates (more than 3,500 units sold at March 2011) and appreciation by the users indicate the appropriateness of the stove model proposed by the project to the local context. Fuel consumption reduction (-55% for the Centrafrican ICS in comparison with the traditional three stone fire) and adaptability to the local cooking practices are the main features that the users indicates as strengthens of the technology. These aspects have been fundamental for the successful scaling-up of the Centrafrican stove [11].

A parallel activity done was the experimentation of a new stove design. The input was given by the local availability of a waste biomass, rice husk, which was thought to be recoverable as an alternative fuel to wood for household energy supply. In full collaboration with DIMI a proper stove was designed and tested to recover such a biomass [12]. The crude-earth brick stove is equipped with a chimney and an internal bi-cylindrical metal-net reactor to contain the fuel. Such a lay-out allows a mix of combustion/gasification of the biomass occurring in a completely burning fire, appropriate for cooking tasks. A rigorous Research & Development pathway was implemented in order to investigate in detail the operation of the stove, resulting in a final configuration with very good and reliable performances (average efficiency 18%, low indoor and environmental emission of pollutants). The stove has not been disseminated on site yet. Nevertheless, the design of the prototype was always driven by local inputs. Not only technical aspects such as the material availability or the local artisan skills were considered, but aspects such as the adaptability to local cooking practices, the sustainability and the acceptance by users were addressed. According to the outputs of a

simple economic model elaborated ad hoc, the introduction of the mlc rice husk stove in the cooking energy system of a household resulted economically sustainable. All the scenarios elaborated show how the rice husk stove adoption would reduce significantly the household fuel expenditure, within the limits of the local availability of such a biomass [13]. The use of the technology proposed in combination with improved woodstove would provide householders with an appropriate and convenient cooking technology pool, increasing the opportunities of choice of the preferred energy system for the user. That results even more important considering the increasing wood fuel price observed on site that may affect negatively the advantages related to the use of the only improved wood stoves.

A final multi-criteria analysis assesses the appropriateness of the technologies studied providing with a global overview of the results obtained in different activities [14]. The analysis structure was built in order to point out the best cooking technology for the local context according to the different impacts that such a system is supposed to have on the user. Thus, four main clusters have been investigated, structuring quantifiable indicators for financial, environmental, social and health related impacts of the use of a certain energy technology. The weight systems adopted were chosen in order to consider the features of each technology according primarily to their relevance to the local needs. A sensitiveness analysis taking into account a weight system based on priorities listed by a group of energy experts marked some differences between the point of view on people working in the sector and that one of people supposed to adopt and use daily the technology. A shared and appropriate set of priorities should be achieved by one side through awareness and education of local population on environmental and health protection, so that also negative impacts related to these clusters could be effectively perceived by the direct users. By the other side friendly usage, adaptability to local cooking practices and reliability of fuel and technologies are aspects that should not be neglected but they should drive the design of a new cooking system.

CONCLUSIONS

The analysis done in this work allows drafting some general final considerations. The traditional “energy ladder”, like any such general model, is likely to provide only a limited view of reality in actual households (Masera et al 2000). Due to the failures of the linear energy ladder to describe adequately the fuel use dynamics in several cases, a “multiple fuel” model appears more appropriate. The wide range of new cooking technologies available has a great potential to make use of a variety of biomass residues that are difficult to burn cleanly in conventional stoves. In many places in the developing world wood is still the most preferred fuel, due to traditional habits and social rooted practices, even if the physical drudgery and time losses related to the collection activity or the financial impact on household budget is very high, and often increasing day by day. At the same time in the same areas where charcoal and firewood are becoming a scarce and/or an expensive resource, innovative systems, like micro-gasifiers or alternative fuel stoves will be of growing relevance as an option to cleanly burn biomass fuels. Making available these new technologies, promoting the research and finding the more appropriate and local tailored scaling-up strategies could help practically people living in energy poverty to escape from their miserable condition, gaining access to a wider energy technology portfolio. The adoption of a variety of combinations of affordable, reliable, convenient and clean cooking systems based on a multiple-fuel supply, could further protect low income population who are the most exposed to fuel price shocks. That would define a new comprehensive and “higher” first step in the classical view of the energy ladder, defining a new “flatter” energy ladder (Figure 1). Indeed new technologies available may reduce significantly the gap in adequate access to cooking energy between low- and high-income classes and achieve an efficient (not only effective) use of biomass at the level of the more modern fuels.

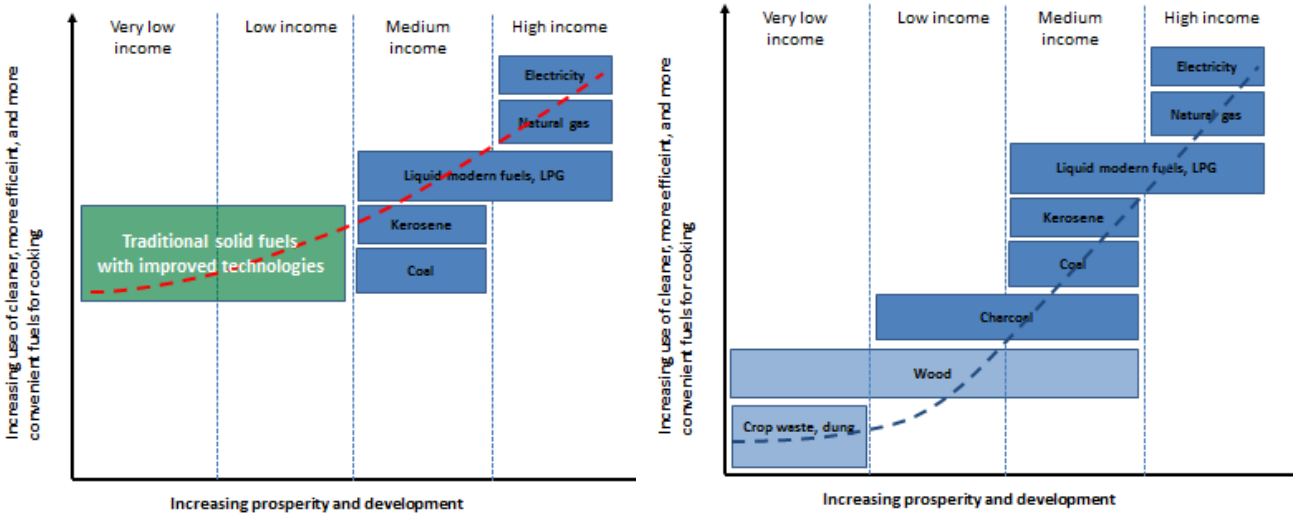

Fig. 1 - Definition of a “new” energy ladder. Comparison between the conventional one (on the left) and the one proposed by this work (on the right).

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NOMENCLATURE

CCT	Controlled Cooking Test
KPT	Kitchen Performance Test
IAP	Indoor Air Pollution
ICS	Improved Cook Stove
IEA	International Energy Agency
LPG	Liquefied Petroleum Gas
RBM	Results Based Monitoring
WBT	Water Boiling Test

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STUDY AND DESIGN OF A LOW ENVIRONMENTAL AND SOCIAL IMPACT LANDFILLING IN TOGO, ASSAHOUN VILLAGE

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ABSTRACT

Waste disposal in landfilling, in association with a separate collection of organic and non-organic waste, seems to be the easiest and cheapest urban waste management method, compared to others, for a developing country, as Togo, poor in economic and technological resources. Obviously, a landfill construction requires an accurate environment and economic assessment in order to minimize the impact on the local population. It means to consider local population conditions and behaviors, municipal solid waste fluxes and their characteristics in terms of quality and quantity, climatic conditions, geotechnical and hydrological characteristics of the site and many other environmental and social factors in order to perform an optimal design. But first of all it must be considered the evaluation of economic and technological resources available and the level of information to the population about environmental impacts and health risks related to waste landfilling. The landfill in the village of Assahoun, Togo, conceived by Soutien Planète and developed by CODE3 has been designed in such a way to reduce the negative environmental impacts using appropriate technologies approach with simple solutions by the point of view of construction, management and cooperation between inhabitants and stakeholders. The project has been thought and designed to make waste management and disposal as compatible as possible with environmental and local population requirements, to ensure that it is not just a project, but to make actually possible to its construction. It would be also necessary a recycling perspective of some fractions as paper and cardboard, glass and plastic, organic waste but for the moment it is not possible for the local population to start up a separate collection and an appropriate managing of these materials: that needs a few more years of strong awareness by not only the environmental and humanitarian associations, but also, and especially, by government.

INTRODUCTION

Togo accuses a real delay in waste management, as almost all the other African states. The current system of waste collection is provided only in the big cities and, in any case, it seems totally inadequate since it based on the payment of a substantial fee that families are always not able to afford.

The consequence is that the poorest households (the biggest slice of the population) and the inhabitants of all villages discharge their waste in illegal way, in dumps, in the sides of roads, in the fields or burn their waste open air (figure 1), creating a polluted and unsanitary atmosphere that can develop diseases, respiratory (pneumonitis is the first cause of infant death) and carcinogenic, encouraging also the proliferation of insects and rodents, which cause severe epidemics (malaria, plague, cholera , etc.). Another important effect of an uncontrolled discharge is represented by the production of leachate inside the landfill, that contaminates soil, subsoil and groundwater with the risk of a whole food chain contamination.

Fig. 1 - Examples of illegal waste burning and dumping [1], [2].

The situation is really critical, but in Togo, there are a multitude of local groups involved in environmental protection who are fighting to improve health and social development of their people.

In collaboration with an African NGO (Soutien Planète) [3], a better waste management disposal for the village of Assahoun (Togo) has been designed. The project for the construction of the landfill takes into account many environmental and social factors in order to guarantee a low environmental impact and a health protection: the minimization and the proper collection and treatment of biogas, produced by anaerobic degradation, and of leachate, produced in the landfill by percolation, in relation with the presence of untreated organic waste.

SOCIAL AND ENVIRONMENTAL CONTEXT AND ISSUES

The landfill has been designed in collaboration with the Association "Soutien Planète", that develops project for social, health, education and environmental growth in Assahoun Village, Togo, and for several other villages in the same Region. Assahoun, which is located at about 55 km, in the north-west direction (Figure 2), from the Capital of Togo, Lomè, is a rural village of about 10.000 inhabitants. Its economy is principally based on agriculture, that satisfies the local needs and also guarantees an interesting exportation activity. About the 43% of the region surface is dedicated to agriculture.

Another natural resource is represented by forests, that occupy about 16% of the national area. However forests up to now show a strong degradation due to the irrational exploitation of the recent past, with an impoverishment of the finest woods and a consequent lowering of their economic value.

Therefore, preserve and restore the ecosystem balance appears a crucial challenge for that area, not only for health and environment, but also by economic point of view.

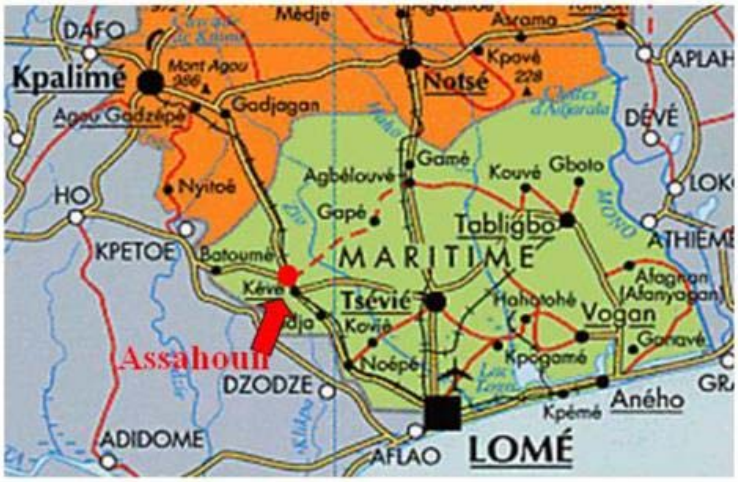

Fig. 2 - Geographical location of Assahoun (Lomé Region, Togo) [3].

Up to now, no funds have been allocated for municipal solid waste management and for a landfill construction. Due the absence of a public integrated waste management, of course an uncontrolled disposal occurs: people burns waste at home or discharges waste directly on village streets, during the days of the public market, as it can be shown in figure 3.

The consequence is a very high level of pollution for the whole environmental system: air, soil, surface water and groundwater. In particular, water pollution represents a very alarming issue because of the contamination also in many domestic wells, compromising the quality of drinking water and water for agriculture, with a high risk for human health and food supply. During our study the level of pollution has been tested through water chemical analysis. The results confirm the presence of pathogens and of heavy metals in 4 wells located at different distances from the uncontrolled discharging site.

THE LANDFILL DESIGN

The main parameters that have to be considered for a correct design are: climate conditions, waste composition, waste quality and quantity, pre-selection possibility, site selection, landfill configuration and sizing, surface water management systems, background water and leachate drainage and treatment system, daily covering, final covering and dump closure. In the following each parameter considered [2].

Fig. 3 - The uncontrolled waste discharging on the Assahoun streets.

Climate Conditions and Hydrologic Balance

In figure 4, meteoric precipitations in Togo are shown, in a period of ten years (2000 – 2009), while table 1 reports mean value of meteoric precipitations and of the temperature per year. Of course these meteoric data are necessary for the hydrological balance calculation.

Climat - Togo

Tableau 1 : Nombre de jours de pluie par an et hauteurs de pluie annuelles

TOGO		Unités	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Les cinq principales stations :												
Lomé	Nombre de jours de pluie par an	jour	57	81	77	77,00	82,00	86,00	90,00	98,00	97,00	76,00
	Hauteur de pluie annuelle	mm	423,9	699,6	839,7	876,4	1008,2	784,4	931,3	1026,6	1075,3	886,3
Kouma - Konda	Nombre de jours de pluie par an	jour	163	132	149	139	128	119	129	125	147	144
	Hauteur de pluie annuelle	mm	1731,9	1103,5	1531,4	1587,6	1290,7	1052,4	1468,8	1657,1	1579,22	1757,9
Sokodé	Nombre de jours de pluie par an	jour	117	98	107	121	112	116	111	103	114	108
	Hauteur de pluie annuelle	mm	1176,9	983	1335,9	1536,1	1282,7	1646,2	1059,4	1125,6	1031	1419,1
Kara	Nombre de jours de pluie par an	jour	118	99	105	129	125	109	114	115	105	124
	Hauteur de pluie annuelle	mm	1203,7	1238,5	1194,5	1771,1	1231,3	1003,7	1142,022	1093,6	1308	1488,3
Mango	Nombre de jours de pluie par an	jour	83	72	76	78	92	86	77	93	90	101
	Hauteur de pluie annuelle	mm	919	747,4	931,4	999,5	1166,5	905,7	874,3	1270,7	1109,4	1148

Source : Direction de la Météorologie Nationale

Fig. 4 - Rainfall and rainwater levels (period 2000-2009). [source: Direction de la Météorologie Nationale, Togo].

Tab. 1 - Average Precipitations and Temperature (By Direction de la Météorologie Nationale, 2010).

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Precipitations (mm)	8	25	50	90	146	243	90	32	86	86	60	60
Average Temperature	27	30	30	30	29	27	27	27	27	28	30	29

Referring to these data and using a simple equation, the hydrological balance can be calculated in order to define the total amount of leachate that can be drained from landfill. Where:

L = total leachate amount
P = precipitations
R= runoff
E = Evaporation
T = Transpiration

In that way we are able to calculate the hydrological balance for each year. The total volume of leachate has been calculated considering a green covering on the landfill surface. In table 2 it can be defined the amount of leachate per month, naming as P* the value P* = P – (R+E+T) and considering a landfill surface area of 1200 m2.

Tab. 2 - Water amount per month inner landfill.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
P* (mm)	5.4	16.0	35.7	72.5	120.0	225.0	84.8	30.1	78.1	65.4	43.2	40.8
Leachate (m^3/month)	6.5	19.2	42.8	87.0	144.0	270.0	101.7	36.2	93.7	78.4	51.8	49.0

Urban Waste characteristics

Specific data of the Assahoun village about urban waste production were unavailable and very difficult to find. Therefore data of the near city of Kora have been used. The biggest amount of waste percentage is constituted by organic waste (about 25%) and sand (40%). The other fractions: plastics (5%), paper (2%), other inert materials and glass (16%).

The presence of fine and extra fine sand represents a peculiarity in this urban waste production related with the presence of unpaved roads. In fact, roads cleaning activity produces a lot of powder that is collected together with the other waste.

Through a pre-selection treatment it's possible to separate organic and sand from the other fractions, by screening, with the following several advantages:

- reduction of the total amount of municipal solid waste destined to landfilling;
- minimization of biogas and leachate production;
- local reduction of subsidence and settlement.

By an economic point of view, it is preferable to adopt a separate collection for the best selection of wet organic waste and undifferentiated dry fraction, while screening may be useful for the separation from solid waste going to landfill of the particles having a very small size, fine and extra-fine sand.

Site Selection

Thanks to the excellent relationship established among the members of the association and the leaders of the village of Assahoun it has been possible to carry out a screening of potential sites that could be used for landfill construction.

The main parameters required for the screening were:

- distance from town and houses;
- absence of surface waters (river, streams and lakes);
- absence of seismic activities;
- presence of a basic layer characterized by very small values of permeability (hypotheses to be tested through geotechnical investigations);
- presence of groundwater at a high depth.

Landfill design

The project of the landfill has been characterized by the following options (see Figures 5 and 6).

Shape and surface: an appropriate site for the landfill will occupy an area of about 2.400 m2, having a regular rectangular shape.

Slope: the excavation will be done with a maximum slope of 12% in the width direction of the ground, having a minimum depth of about 5 m (from the bottom in correspondence with the lowest point).

Embankments and side wall: the perimeter walls will be supported by retaining walls filled with concrete bricks around the perimeter of the excavation. The concrete masonry allows for easy installation and it is preferable because of the lower cost of the used materials. By an environmental point of view it would be better a reinforced soil slopes construction, but it represents a too expensive option.

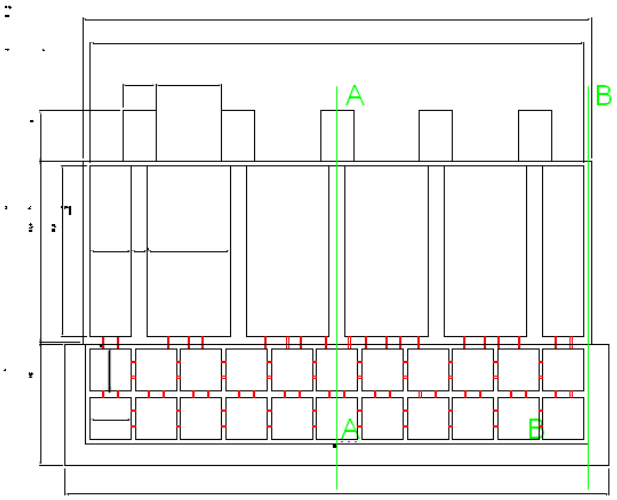

Fig. 5 - Landfill plan.

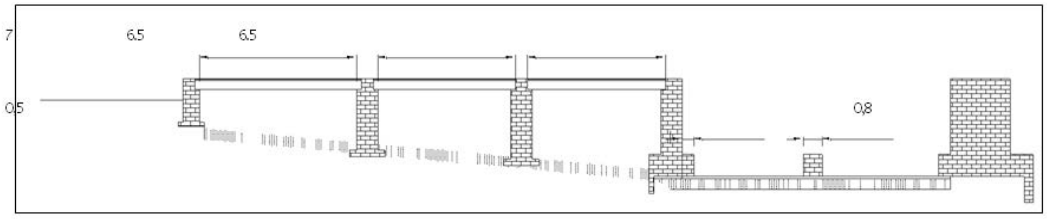

Fig. 6 - Section A-A.

Access ramps and steps for filling and maintenance: the access ramps are designed plan to use bricks filled with concrete. Decks, designed for the passage of vehicles and personnel for maintenance and daily waste discharge, will be constructed using teak wood, which is present near the area. Teak wood can be reused when the landfill will close. In that way it's possible to reduce the impact derived from deforestation and in this issue the same Association organizes every year some days of labor camps for the reforestation of wetlands. At the landfill perimeter lateral drain channels will implement for rain water runoff to prevent any infiltration.

Impermeabilization: the internal surfaces and the bottom of the basin will be impermeabilized through additives (sikalite) to prevent infiltration of rainwater and leachate.

Volume waste storage and life of the landfill: given the lack of data relating to the information on the type of waste the following assumptions have been done (referring to statistical data of the State of Nigeria):

- Municipal Solid Waste Total volume = 460 m3/year
- Landfill life time = 4.63 years ≈ 5 years

Daily cover: it must be provided in order to avoid the dispersion of waste because of the wind action and to protect the area from the presence of insects and animals. In the design it was therefore chosen to perform the daily covering using the same compost produced by organic waste treatment. It seems to be the best solution not only by an economic point of view but also by a sustainable and appropriate approach.

Final Cover: In figure 7 the final Section A-A showing cover and waste layers draft in closed landfill configuration. Final cover has a strong importance for recovery and requalification of the site. It's also useful to prevent rainwater filtration and to encourage a vegetation growth. For these reasons, it has been designed a traditional barrier, as it's shown in Figure 8, composed by:

a) a surface vegetation cover: it allows to minimize wind erosion, to maximize evapotranspiration and to protect underlying sectors from thermal excursion.
b) A protection layer (30 cm): it creates a physical separation between waste and plant roots protecting at the same time underlying levels by wetting/drying phenomena. Compost has been recommended.
c) A drainage layer (thickness 20 cm): it's fundamental for the removal of rainwater, with a consequent reduction of leachate production.
d) A waterproof barrier: the use of a geo membrane (thickness 12 mm) has been recommended in order to avoid stability issues: it's not subject to heavy loads and rupture risk is negligible. In addition, its flexibility allows to adapt to waste movements and it's easily repairable.
e) Foundation (20 cm): this is the leveled base layer for the correct other upper strata laying.

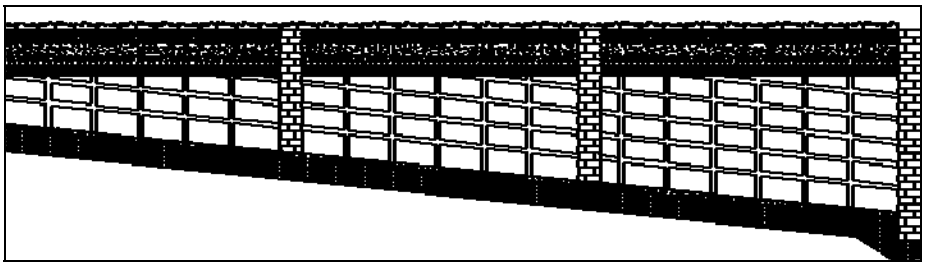

Fig. 7 - Final cover and waste layers draft for the closed landfill configuration (Section A-A).

a) Surface vegetation
b) Protection layer
c) Drainage layer
d) Waterproof barrier
e) Foundation

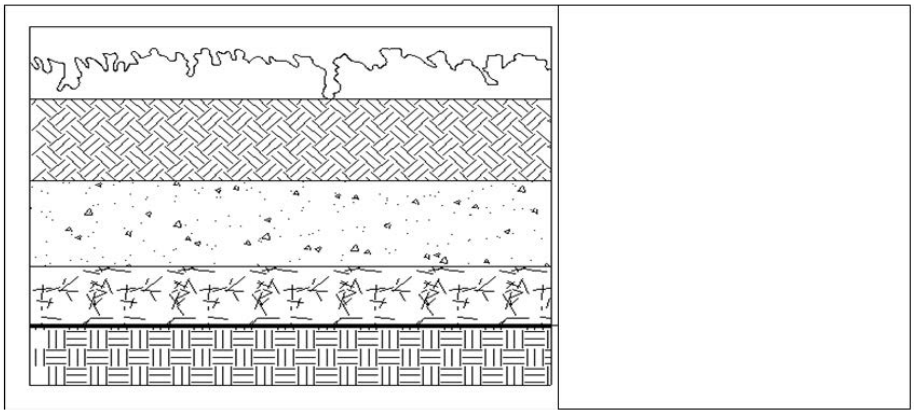

Fig. 8 – Final Cover design.

CONCLUSIONS

As almost of the other African states, also Togo accuses a real delay in waste management.

Waste disposal in landfilling, in association with a separate collection of organic and non-organic waste, seems to be the easiest and cheapest urban waste management method, compared to others, and the best appropriate technology for a country, as Togo, poor in economic and technological resources.

First of all it must be considered the evaluation of economic and technological resources available in the site and the level of information to the population about environmental impacts and health risks related to waste landfilling.

The landfill in the village of Assahoun, Togo, conceived by Soutien Planète and developed by CODE3 has been designed to reduce negative environmental impacts and using an appropriate technologies approach with simple solutions by the point of view of construction, management and cooperation. The project has been thought and designed to make waste management and disposal as more compatible as possible with environmental and local population requirements, to ensure that it is not just a project, but to make actually possible its construction.

The project seems to be a good answer to the actual needs of Assahoun population both by environment and social point of view in the relation with the available human and economic local resources.

Assahoun landfill, together with the related correct municipal solid waste management, is actually only at a planning stage, but the hope is that it will be really constructed in a near future. That will be possible of course only if a strong awareness of local population needs in terms of environmental and health saving issues will be arisen not only by humanitarian associations, but also, and especially, by the Togo government.

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EMERGENCY vs DEVELOPMENT.
THE ARCHITECTURAL PROJECT WITHIN DEVELOPMENT COOPERATION

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ABSTRACT

The aim of Panel was to take stock of the role that architecture holds in international cooperation. It is an environment in which construction keeps a central position, investing, every year all over the world, enormous economical resources and intensively increasing the amount of buildings; but to date it seems to not notice the difference existing between the action of building and the one of doing architecture, completely ignoring a research over the issues of sustainability, comfort and shape quality.
The panel drives to pinpoint different possible ways to overcome the categories that have always characterized the cooperation interventions: emergency, transition and development, in order to identify transversal paths in which architectural quality would established the direction to follow. To succeed in this intent, three reflection spheres were proposed to identify fragilities and opportunities that should be the starting point to renew the role of architecture within the international cooperation.

EMERGENCY VS DEVELOPMENT

The steady reduction of the economic resources invested in international cooperation during the last years had gradually faced the shift of efforts exclusively towards “emergency” contexts, neglecting an approach linked to the “development” of the interested areas.

Is it possible to reach a convergence between those two spheres?
How to do “development” with the “emergency” intervention timing?

The paper of Camillo Magni (Politecnico di Milano and Architetti Senza Frontiere, Italy) focuses on the issue of “quality” in architecture, specifically in the Humanitarian Aid field, where quality seems to be considered not essential, but rather a “surplus” if compared with more urgent needs. Most of the cooperation's projects take place in emergency situation, nevertheless in extremely poor conditions. The paper is meant to reflect on aspects influencing quality in architecture in a development cooperation scenario and on how a different design approach may affect the final result.

The paper of Elisa Salvaneschi and Marco Morandotti (University of Pavia, Italy), titled “Sustainability of post-disaster reconstruction processes: a proposal of methodology for the assessment”, presents the results of a PhD research carried out in the University of Pavia Civil Engineering and Architecture Department.

The research starts from the assumption that although both literature and the humanitarian field recognize two dimensions - emergency response and development processes – in aid interventions in the Global South, this distinction is appropriate for the first phase of post-disaster emergency, but not for the processes of reconstruction.

In the Authors' viewpoint the processes of reconstruction are the connection point between the processes of emergence and the development within the cooperation.

The paper introduces a method that could allow to evaluate the actual appropriateness, sustainability and development of the emergency response and development processes, through a comparison between indicators linked to the pre-disaster housing stock and to the reconstruction. The cross between the parameters of the housing system and those relating to the environmental, social and economic systems, makes it possible to include the interactions between external factors and the project into the process.

THE ARCHITECTURAL PROJECT IN COOPERATION, FUNDING PROSEDURES

Procedures linked to architectural projects’ funding often follow unexpected practices.

Either they are financed before the fulfilment of the design phase, without knowing what is actually going to be built, or the design phase is not considered as a propaedeutic and necessary moment for the realization, acknowledging as payable only the Project Manager, who should then start building without having in hand an Executive Project.

This Panel aims to tackle and to improve the procedures heading for the acknowledgement of the *project* value as

an essential moment also in emergency contexts.

Humanitarian emergency is an area where design does not seem to play a role. The aim of the paper presented by Riccardo Vannucci (FAREstudio, Italy) is to analyse if and under which circumstances such a condition can be reversed, in the perspective of affirming appropriate shelter as a human right, and consequently design as one of the tool that can contribute to such appropriateness. The Author's viewpoint, after several experiences in the international cooperation for development, is the conviction that discipline and profession require a thorough, responsible consideration about principles and practices that counteract the current trend to reduce design, and architecture in a peculiar way, to a commodity.

The proposed strategy is therefore to get involved with radical environments such as refugee camps and to actively experience conditions and strategies for a responsible presence. The result is inevitably contradictory and stresses once again the relevance of external factors, mainly procurement strategies, over technical ones, whereas the most important contribution by the profession, and discipline, is an appropriate balance between typological and technological innovation.

APPROACHES TO THE ARCHITECTURAL PROJECT

With a great simplification effort there could be defined two main approaches to the architectural project in the international cooperation sphere:

- vernacular which aims to the recover and development of local materials and techniques with a low technological content;
- prefabricated which aims to a quick solution of the issue, delivering on the site elements already-made elsewhere.

This Panel aims to highlight the points of strength and of weakness of both those approaches through excellence practices.

The paper of Roberto Pennacchio, Roberta Nicchia et alt. (Archintorno, Italy) describes the strengths and weaknesses of the "vernacular" vs. "prefabricated" approach through the analysis of the three experiences carried out by Archintorno in Mexico in a developing cooperation framework.

Archintorno is a no-profit organization promoting development cooperation projects with indigenous communities in the Mexican State of Oaxaca since 2005. These initiatives involve academia, local authorities, CBOs and professionals (in and outside Italy) and are based on the Design-Build Studio format, that foresees the direct involvement of university students in the design and building process.

The paper argues about the impact of a building project on the local community in terms of economic, socio-cultural aspects, as well as its effects on the environment and promotes a "vernacular-oriented" approach which is, in the Authors' opinion, more consistent with the local context.

ARCHITECTURE QUALITY OF COOPERATION PROJECTS

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ABSTRACT

Most of the cooperation's projects happen in emergency situation and extremely poor conditions, both aspects that influence characteristics of quality in architecture. Many think that quality is an expendable "surplus" compare to more immediate needs. This theoretical contribution is meant to be a reflection about aspects that influence quality characters of an architectural project in a scenario of cooperation and about how (subject) influence the final result.

ARE QUALITY ASPECTS NECESSARY FOR INTERNATIONAL COOPERATION PROJECTS?

This question puts the attention on the subject of the quality as a supplementary aspect. As if to say: quality is an important characteristic but not equally essential, and cooperation projects in emergency environment need to focus on the needful and developing essentials. It is obvious that the quality moves to the background.

This common thought is spread and supported by many. I would like to discuss some theories to show the misjudgment of the position and support that quality is an innate and necessary aspect of every process.

Emergency and quality can coexist together. There are many examples in which it is possible to find this process. As architects we can easily refer to the origin of the Modern Movement (Modernist architecture) that choose the theme of the public housing as the most fertile field to experiment new expressive languages, constructive processes and distribution to reinvent the house. Thus it offered appropriate answers to the lack of dwellings that afflicted Europe during the industrial development. The need of houses became the perfect occasion to experiment new housing codes and new quality forms. This also happened during the post-war reconstruction era and in many other emergency occasions.

If we agree on this prerequisite, the issue puts two others questions: who produces quality and how can we reach it? Giancarlo de Carlo, in a short paper published on Domus in 2004 [1], claimed that there are three main actors involved in a construction process: the architect, the builders and the client. None of those three is the only subject in charge of taking care of the quality aspects. On the other hand it is possible to reach the quality when a thin tension, meant to realize a correct, appropriate and real building, is established among the three actors. Quality is a far aim to converge on and it can be reached only through the effort of whoever involved. The architect by himself is not able to do it as well as the builders or the client by their own would fail. This assumption of De Carlo is, in my opinion, right and correct and it clarify which are the subject called to realize high quality project.

It has left to point out the most relevant aspect: how to reach the quality in a project. (Unfortunately) architecture is not a gastronomic dish that can define a recipe, identify ingredients and a sequence of actions in order to achieve a good result. Recipes in architecture are not possible because we do not operate in terms of deterministic processes where a sequence of actions defines the achievement of an aim. Nevertheless it is possible to identify conditions in which it is easier to operate in a *status of quality*.

The first one is that quality is the common goal recognized by all the subjects involved where it is necessary to overtake that short-sighted vision that considers emergency as an alien environment from quality reflections. This is the most significant aspect: to put the architectonic quality as a main target into cooperation projects. If this prerequisite, namely this common and shared effort, does not exist, it would be very difficult to achieve the status of quality. This is the most significant aspect, the others are consequences.

Gino Strada, talking about politics in the NGO Emergency, talks about "*the right to beauty*". Beauty and esthetic quality of spaces have to be a right for everybody and they have have to be offered as expression of democracy and equality. As beauty is offered to western countries citizens, it is necessary to offer it also to those citizens who live in contexts where we operate, even though this means emergency and poverty conditions. When respecting this configuration, we can say that we are operating in an egalitarian condition.

Therefore architecture quality becomes a tool to show a different approach to cooperation.

French president Francois Mitterand, in the occasion of the opening of big public building, claimed that architecture is the society image. Bruno Zevi as well reported it on the third edition of "*Storia dell'architettura italiana*" (Italian architecture history [2]) to denounce the parallelism between strong quality limits and the cultural fall of the whole Country. As an analogy we could say that an architectural project represents in physical form the quality of the cooperation project itself as well as the quality of the subjects involved, the payees and the development processes

stimulated. Quality resides in this relation: a well done architectural form corresponds to a positive process of local development.

A last note: among all the tools that are able to stimulate this approach, I want you to pay attention on economic aspects too. The actors that control the budgets in development cooperation initiatives have more strength (and responsibility) on the projects' result. For this reason national, regional and European calls for funding for cooperation projects should have specific evaluation parameters of quality about architectural aspects, asking to include professional figures as architects (if there is a intervention of construction). If the funding authorities, both public and private, include in the result of the call also the quality evaluation of the architectural projects, operators would be relentlessly obliged to dedicate more efforts to those aspects. As if to say it would be preferred to see again what already happened in between 1990 and 2000 when the new sensitiveness on environmental sustainability has been mainstreamed throughout all institutions. For these reasons it is necessary to interact with the funding authorities in order to spread a greater sensitiveness addressing architectonic quality.

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A METHODOLOGICAL PROPOSAL FOR THE ASSESSMENT OF THE SUSTAINABILITY OF POST-DISASTER RECONSTRUCTION PROCESSES

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ABSTRACT

Literature and several cooperation experiences are used to divide the interventions in the Global South context into two categories: emergency response and development processes. If this division is appropriate for the first phase of post-disaster emergency, it is not so evident for the processes of reconstruction. In recent years we have observed an increase in disasters: they are considered natural but they actually reveal anthropic causes. These phenomena have shown how this clear division is not recognizable: when does the emergency phase end? When does the situation of temporary nature end, one which necessarily follows an event that involves “a serious rupture of the normal functions of a community or society, which causes an impact and loss of life, material and economic spread, to which the affected communities’ capabilities with their own resources are unable to manage”(UNSDRR)? The answer is not obvious and leads back to the dimension of reconstruction, i.e. the moment when a new process of development starts. We can therefore conclude that the processes of reconstruction are the connection point between the processes of emergence and the development within the cooperation.
Starting from these considerations, the PhD research presented here focuses on the study of a proposal for a methodology that would allow to evaluate the actual appropriateness, sustainability and development of these processes, thanks to a comparison between the indicators linked to the pre-disaster housing stock and those linked to the reconstruction ones. This comparison analyses in detail the dimensions of the home, from the physical and spatial to the social perception, allowing the assessment of the effective delta positive or negative in housing conditions. The cross between the parameters of the housing system and those relating to the environmental, social and economic systems, makes it possible to include into the process the interactions between external factors and the element of the project, which are inevitably affected.

RECONSTRUCTION: BETWEEN EMERGENCY AND DEVELOPMENT

This paper presents the results of PhD research carried out at the University of Pavia, in the Civil Engineering and Architecture Department. This work tried to investigate systematically the post emergency dwelling in developing countries in order to identify a possible methodology of intervention. Not only can this methodology regard technical and building features but it also defines the quality of life and dwelling.

This field of research – reconstruction dwelling in post-natural disaster in developing countries - was chosen on the basis of some reflections.

First of all the anthropic components in the occurrence of the disaster, called “natural”: “it’s appropriate to consider disaster not as natural but as a function of development. A disaster is recognisable as consequence of there being insufficient development of a means to avoiding a human crisis, or as an aspect of development itself having been the cause of crisis.” [1] Collins' words are among the most meaningful in terms of disaster: there are no natural disasters: there are potentially dangerous natural events (called hazards) and if they occur in a context that presents anthropic vulnerable features, they become disasters. Therefore if we consider natural disasters a result of anthropic vulnerability, we can understand the importance of reducing the degree of exposure to the risk of housing. Also, if we consider that many natural hazards repeat themselves over time in a cyclic way, [2] the importance of the reconstruction processes appears obvious.

Secondly, the increase in the number of natural disasters and the number of victims, in particular in developing countries: several studies show that the number and frequency of natural disasters have increased in the last decade; this is caused by factors such as the increase of global population and the exploitation of resources. It’s also possible to underline that most natural disasters occur in developing countries. The reason is once again due to these communities' higher vulnerability to phenomena such as earthquakes, tsunamis or floods: this is a result of an inadequate knowledge of these phenomena, a lack of sustainable planning by governments and a lack of quality control of the construction. It is to be noted that in these contexts almost all houses are self-made with traditional techniques that, although in several cases respond very well in terms of comfort, are not suitable to resist in cases of exceptional phenomena.

Thirdly, in the process management and participation, the problem of reconstruction is due to two issues: on the

one hand the quantitative dimension and logistics, on the other hand the qualitative dimension which implies the need to rebuild not only a series of building objects, but also a human and social dimension of the space. It is therefore necessary to lead an evaluation in three areas: context analysis to establish the opportunities and risks of the place taking into consideration the impact of the disaster, pre-existing socio-economic conflict, political situation and the actors involved, in order to effectively coordinate the actions and to determine the potential and limitations related to housing, both in terms of materials and construction techniques and in terms of the social and cultural patterns. The approach of reconstruction is a fundamental issue for the success or failure of the process: this statement is even more poignant if we take into account the construction methods used in the Global South, where 80% of houses are self-constructed in formal market (but mostly informal). It is understandable that a process of reconstruction involving external actors may be difficult to understand and accept by part of the communities. Shilderman's considerations [4] are remarkable in that he defines the approaches to reconstruction between donor, organizations and beneficiaries as gradual transition from actions completely fixed (donors decide and donors provide) and interventions managed from below (users decide and users provide). The changing in the construction model is linked with another critical issue connected to housing. In contexts where the house has a symbolic and very strong cultural tradition linked to the social community, the model in which the same construction is carried out by the inhabitants in a process of self-construction changes in the reconstruction phase. This situation may generate a new vulnerability: on the one hand it reduces the environmental vulnerability of the building, on the other hand it creates a social disadvantage that can lead in extreme cases to the abandonment of the rebuilt housing units.

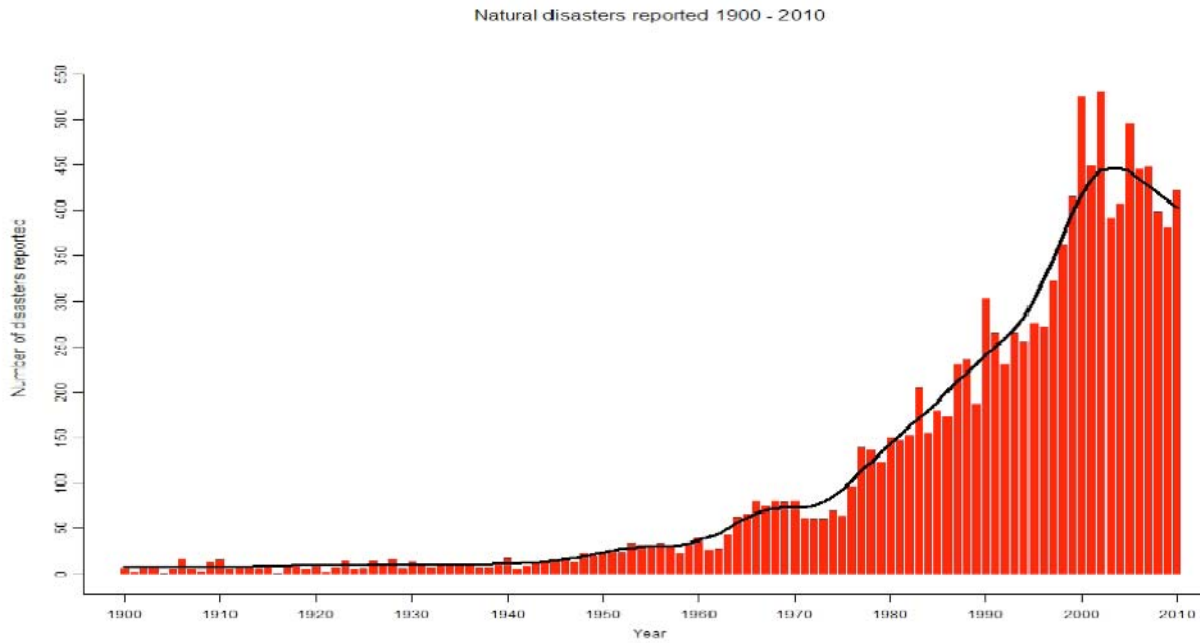

Fig. 1 - Graphic of disaster and development link [3].

Fourth, on emergency versus development: when a natural disaster happens it is usual to divide the following period into 3 phases[1] - emergency, transitional and reconstruction - each one characterized by very different needs. This diversity together with the frequent dilation over time, sometimes even years, increases the complexity of the process of reconstruction. It is evident that if the affected communities live in emergency shelters for years, without regular economic activities, suppressed by the presence of the delivery of humanitarian aid, the return to a non-emergency dwelling can be very difficult. The statement "reconstruction is an opportunity to plan for the future and preserve the past"[5] expresses the need to conceive of the overlap between the different phases in order to immediately pursue a plan for long-term reconstruction.

Finally, in terms of sense of belonging and vulnerability reduction, the disaster highlights the vulnerability of a community to an environmental risk. The reconstruction process should not therefore recreate the same conditions of risk. While in theory it seems easily to make effective choices, in practice it is extremely complicated, particularly in those cases when the reduction of vulnerability means to alter the social mechanisms or cultural relations between the

[1] The division was established in three phases during the International Conference on Disaster Area Housing held in Istanbul in 1977. With reference to the definitions given in that occasion it is considered:

- emergency - immediate impact with the effects of the disaster and its housing problems in terms of shelter and refuge;
- transitional - rehabilitation between emergency and permanent reconstruction identified in a period ranging from a few months to years during which every effort is addressed to provide a minimum of environmental conditions for human activities and to build temporary housing needed until the end of permanent buildings;
- reconstruction - complex of legislative, economic, financial, production and constructive processes aimed to prepare the conditions for performing the operations to return to normal life.

settlement and the territory. In fact, the communities develop a strong sense of belonging to the place where they are settled. This space, defined by SM Low spatializing culture [6] - the link between man-place [7]- is destroyed by disaster and it isn't possible to rebuild it through a process exclusively focused on the reduction of physical vulnerability.

For these reasons it is crucial to supply a methodology for the design of post-emergency housing that could support the various organizations belonging to the sector.

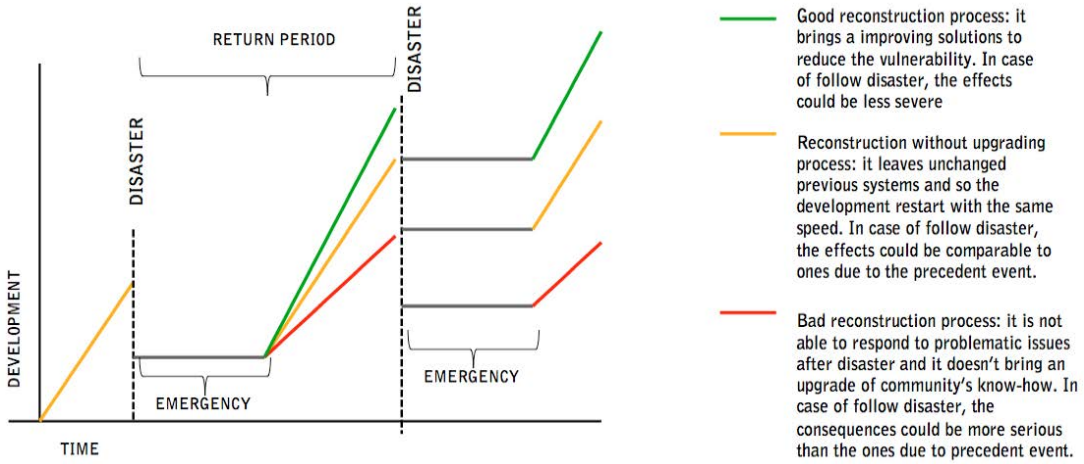

Fig. 2 - Qualitative graphic of possible scenarios post disasters.

RESEARCH AIM

The result gained through the evaluation is an assessment of the quality of the reconstruction of houses. The judgment is not absolute but compared with the pre-existing condition. This result is achieved through a comparative evaluation between the pre-existing housing system and the system established in the reconstruction process, by filling in tables of indicators to which a weight and a score comparable have been assigned. The score is determined by overcoming or less of a defined threshold, or by a satisfaction of a minimum level or by direct comparison with the value attributed to an indicator in the pre-disaster system. Furthermore, the evaluation of parameters related to the context, through a matrix of interaction, allows to establish that the different indicators suffer from the environmental ones. The research result is an assessment tool called ReHAsTool where, by inserting values for the different indicators, users obtain an assessment of the reconstruction project.

ReHAsTool frame

The Tool is divided into charts that are progressively filled in by the user and it automatically gives the scores back for each parameter, according to formulas set in the development of the methodology.

It's possible to identify 5 phases that correspond to 5 charts.

Phase 0| Description: in this phase we collect general information about the case to be evaluated, in order to contextualize the intervention and to have useful data in the hypothetical formation of a database.

Input: location, disaster information, number of people involved and extent of damage to housing structures, description of the intervention program, the organizations involved, timing of delivery and costs.

Output: insertion of case studies into the database using an identification code; if a disaster or location already exist in the designed database, there is a recovery of data relating to Environment.

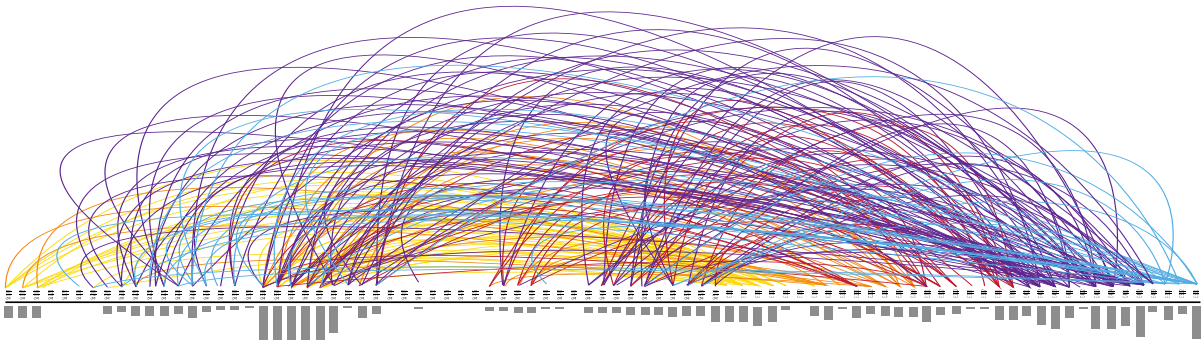

Fig. 3 - Graphic connections and weights of indicators in ReHAsTool method. *Source:* Authors.

Phase 1| Environment: in this phase data are collected relating to the environmental parameters that will be used to cross the data relating to the housing system. The parameters characterize indicators divided into five categories included in clusters (Vulnerability, Environment, Resources, Development, Society) that describe the context of the intervention in the environmental, social, and economic areas.
Input: enter the requested data in the chart; if a context already exists in the database, there is a recovery of data on the environmental, social and economic areas.
Output: a score is assigned to each parameter, ranging from zero to one; in case of data recovery, user checks the correctness of the information.
Phase 2| Pre-disaster housing features: at this stage data are collected relating to the parameters identified in the pre-existing housing system. At this stage the main features of traditional local dwelling are outlined, from the point of view of technology, materials, settlements and culture. They will be used in comparison with the reconstruction system.
Input: enter the requested data in the chart; if context already exists in the database, there is a recovery of data on housing.
Output: a score (variable between zero and one) is assigned to each parameter; in the case of recovery in data, the user controls the accuracy of information; the scores obtained are crossed in the matrix to the scores assigned to the parameters of the environment in order to determine the positive or negative influence of the environmental conditions on the parameters of the pre-existing system.
Phase 3| Post-disaster housing system: in this phase data relating to identified parameters of housing system are collected. In this phase the characters and factors describing the housing reconstruction project emerge.
Input: enter the requested data in the chart;
Output: a score (variable between zero and one) is assigned to each parameter and the scores thus obtained are crossed in the matrix to the scores assigned to the parameters of the environment in order to determine the positive or negative influence of the environmental conditions on the parameters of the system.

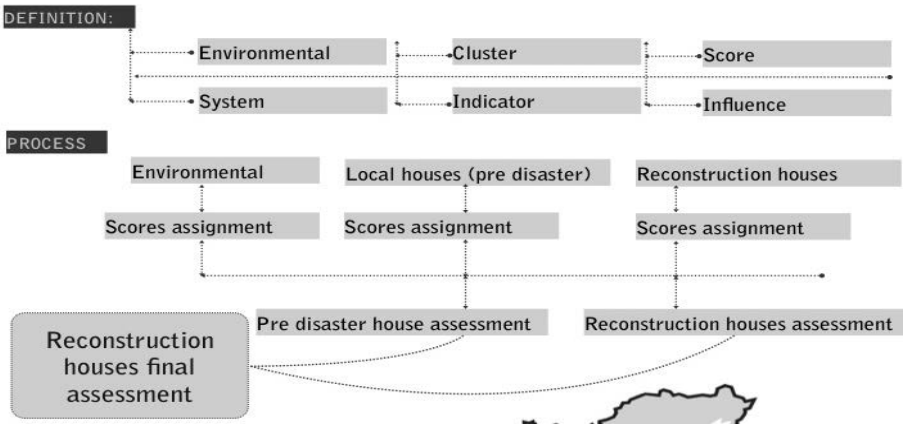

Fig. 4 - Conceptual scheme of assessment process.

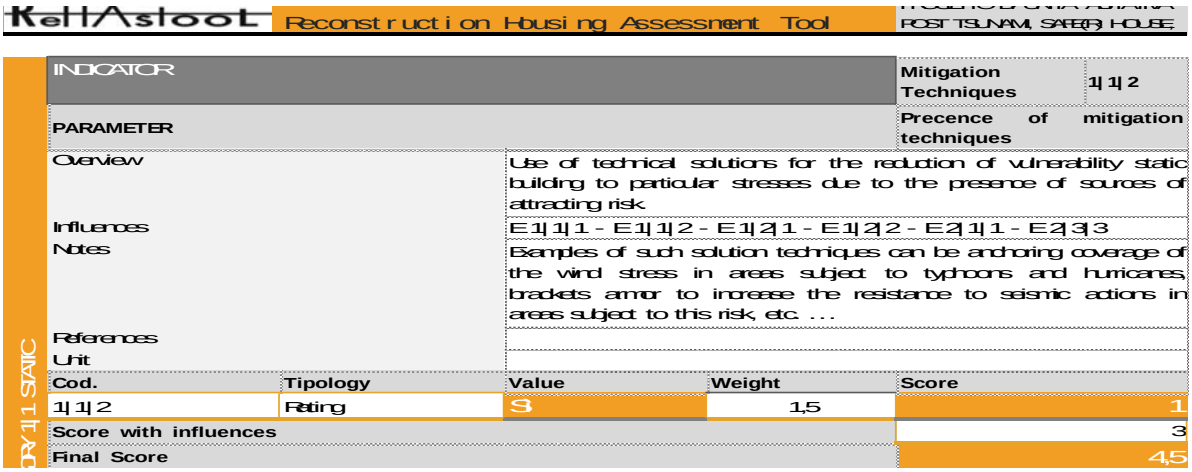

Fig. 5 - Extract of ReHAsTool.

Phase 4| Assessment: the final stage of the procedure focuses on the comparison between scores on the traditional housing system and the reconstruction one, through a matrix of intersection. The scores awarded in zero or one allow for a direct comparison-and-objective assessment: if the score obtained from the reconstruction parameter is higher than the score in the traditional system, the assessment is positive, and the program returns "+ +" as result; if the scores of the parameter are equal in both the pre- and post-disaster housing condition, the program returns "+"as result, if the

score relating to the pre-existing condition is higher than that concerning the reconstruction, the program returns "-".
Input: automatic insertion of the final scores of pre- and post-disaster.
Output: overall assessment is obtained by counting positive and negative scores; the process is judged positive if the number of positive scores is higher than the negative ones; a partial assessment is possible if the user analyses the parameters judged negative.

INDICATORS FEATURES

The methodology is based on the evaluation of a set of indicators divided into clusters - vulnerability, environment, and settlement, building, quality space, development - and categories. Each cluster refers to a specific area in order to have a comprehensive and detailed overview of all the aspects that are considered significant. In the definition of individual indicators the following selection criteria were considered (Bell, Morse, 1999)[8]:

- relevance: relevance to the scope of the system to be described and consistency with the environment to which the indicator refer;
- representativeness: ability to represent clearly and effectively the problems that affect the system to which the indicator refers;
- availability: availability of data for the calculation of simple indicators must be understood in an objective and unique way;
- comparability: indicators should be compared with those related to the same field;
- objectivity must be able to be evaluated with agreed criteria and objective.

Case studies[2]

To test the validity of the tool and its real applicability, we applied the method of assessment to two different cases of housing reconstruction in Sri Lanka. The case of Sri Lanka can be considered exemplary and suitable for the purposes of this study because it occurred a sufficient amount of time ago so that we can assess the a-posteriori processes of reconstruction, on projects that have already been made and therefore can also show all the difficulties encountered in the construction process. Moreover, the 2004 tsunami can be considered one of the most significant media event in recent years: the magnitude of the effects of the wave, the vastness of the areas involved and the possibility to have news and real-time footage involved the public and opened a reflection on the power of the media to direct information; that exposure acted as a second-order effect, although a wider dissemination of information about rebuilding provided an easier retrieval of data (both environmental and economic) at the level of reconstruction projects.

Within the same context, two different reconstruction housing units are considered, made by two different stakeholders in the same geographical area, in order to compare not only the single housing project with the traditional pre-existing model, but also two different design solutions for the reconstruction, thus highlighting the different approaches and their criticality.

Both projects for post-tsunami housing units were built, the first in the district of Kalutara and the second in the district of Galle. The two districts are part of the south western region of Sri Lanka that has similar characteristics, both in terms of geography and of social and economic aspects; this aspect allowed for the comparison between the evaluations of the two reconstruction projects, carried out under similar conditions.

The data used for the evaluation of the projects were taken from publications and reports by the Department of Statistics of the Government of Sri Lanka; some data were then calculated on the basis of information obtained from these sources, because it wasn't possible to collect direct experimental data.

OUTCOME OF THE ASSESSMENT

The outcome of the assessment was positive in both cases: this result was certainly influenced by the positive scores of environmental parameters. In recent years Sri Lanka has pursued a development policy that have earned a positive trend for a reduction in poverty, unemployment and illiteracy, and special attention was given to environmental protection; in addition to this a promotion of use of renewable and sustainable resources has been improved, as well as a system for the mitigation of environmental risks.

These data confirmed the weight and importance of the environment, in all its complexity, in the processes of reconstruction.

[2] It is to be noted that the data used for the evaluation are taken from indirect sources, because we didn't have the possibility to go on site to direct the collection of information. We think, however, that the data are reliable and that in order to test the operation of the instrument there is a significant loss of value in the results obtained.

Specific analysis of the results of the assessments of the two projects

House, Kalutara district

The housing unit made for the reconstruction is better than the traditional buildings for what concerns the vulnerability of static construction. Compared to traditional houses, the project saw an increase in population density and does not propose the same typological model of traditional houses; the morphology of the patio home, in addition to socio-cultural aspects, shows advantages in terms of thermal comfort, allowing ventilation and cooling of the rooms of the house. These aspects, in the type designed for the reconstruction, have not been considered. In fact the settlement model and the choice of materials used reduce the internal comfort, especially for what concerns ventilation and cooling, which is especially important in hot humid areas as Sri Lanka. Furthermore, the typological solution does not allow for a growth of starting unit and the outside space cannot act as a pivot of domestic activities as happens in the solution to central patio of traditional housing. The project was penalized by the use of non-local materials, data that also influence the scores for the indicators related to industries and local materials. The reconstruction project resulted in a significant improvement due to the involvement and training of the local community in the construction phase; it should be noted, however, that the high cost of the housing unit, compared to an indicative value of the possible cost of a traditional house, turns out to be eight times more.

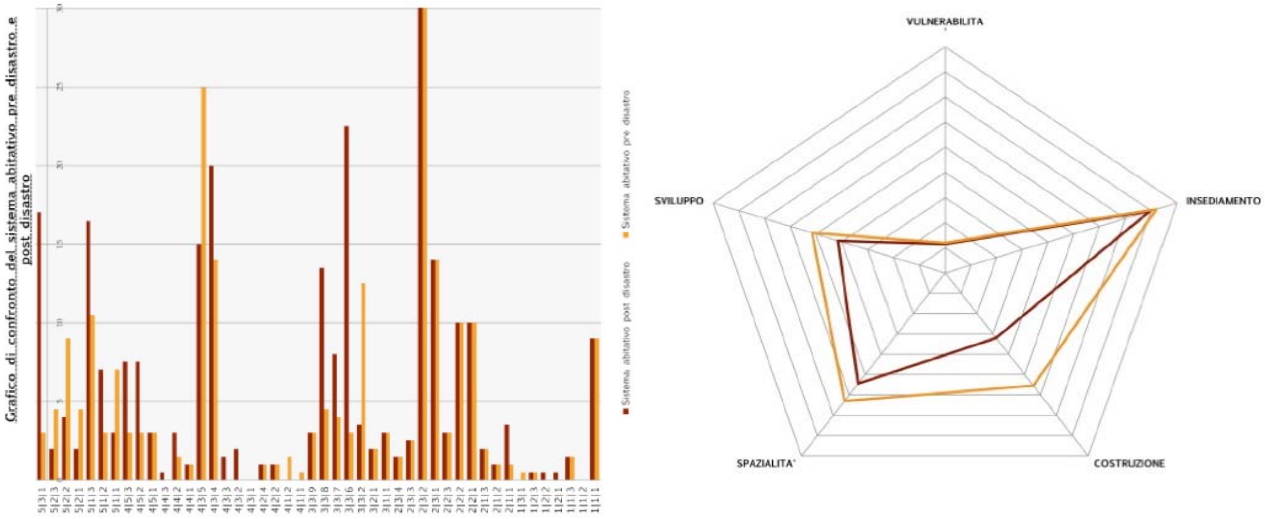

Fig. 6, 7 - Bar and radar graphics result by assessment of I case study.

House, Galle district

Architectural barriers, due to the presence of access steps; the solution of having a floor up from the ground, however, due to the choice to reduce the effects of environmental risks, facilitates the drainage in the case of floods. The field of the settlement is certainly the most affected by environmental parameters, as already mentioned, these parameters result broadly positive. Besides, the assessment of the construction cluster is positive, resulting in an improvement over traditional solutions as regards the presence of foundations. The housing unit built in the reconstruction has a very positive assessment, both as regards the aspects of comfort and those of internal space; this allows to establish that in this case the reconstruction process should significantly improve the qualitative standard of dwelling. It is highlighted that the lack of use of local materials is worsening compared to traditional buildings, it should be noted that the choice of this design rose from the desire to create a structure that could increase its resistance in the event of flooding.

Comparison of the two projects

Carrying out two assessments of the projects reported, we wanted to compare the results obtained in both cases. Whereas the data of environmental indicators were similar in terms of geographical location, environmental, social, political and economic factors, the two projects are equal for most of the indicators scores, even if it can be seen that the project carried out in the district of Galle looks better in the aspects of:

- mitigation: the project in Galle was designed in order to build a housing unit that would make it less vulnerable to major environmental hazards in the area; for this purpose a structure of four bearing blocks was studied, which in case of flooding would not constitute an obstacle to the flow of water. In addition the house is built on a raised platform, solution that promotes drainage of the ground.
- Recognisability to morphological character: the solution implemented in the district of Galle is the closest to

the typological traditional plant, in which the central area is the hub for domestic activities; in the reconstruction project this space is covered unlike to what happens in traditional housing, but it is permeable to air and light thanks to curtain walls in panels made of intertwined vegetable fibres; more private rooms are arranged in the structural cores, so that they also have a spatial distribution function in addition to their static and mitigation one.

- Interior comfort: the walls in vegetable fibres in the district of Galle allow for increased ventilation and cooling compared to a closer solution designed in a project in the Kitaluwa district. In addition, the first solution also has positive implications regarding the indicators relating to the use of local and recyclable materials that in the second case study turn out to be negative.

Finally, the analysis of the results of the two cases shows that at the same environmental conditions, the design solutions could reach the quality objectives housing to a different extent.

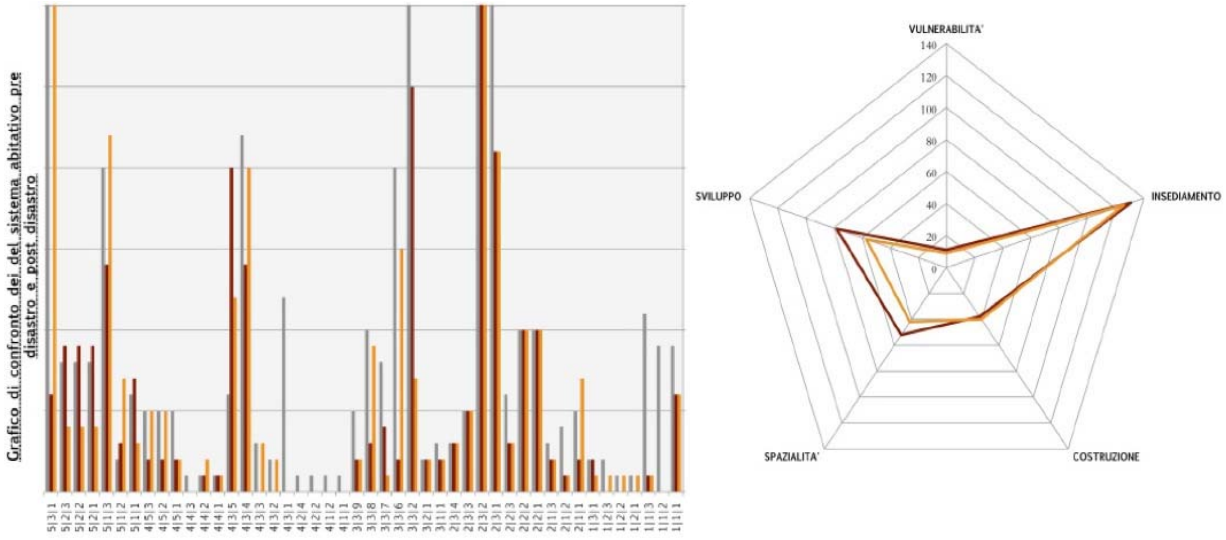

Fig. 8, 9 - Bar and radar graphics result by assessment of II case study.

CONCLUSIONS

The research focused on the development of a proposed assessment strategy of the home in the process of reconstruction, which could take into consideration the complexity of this field. In this sense, the methodology is structured on the comparison of a significant set of indicators, whose values are reported both in parameters of housing conditions before disaster, and post-disaster reconstruction project.

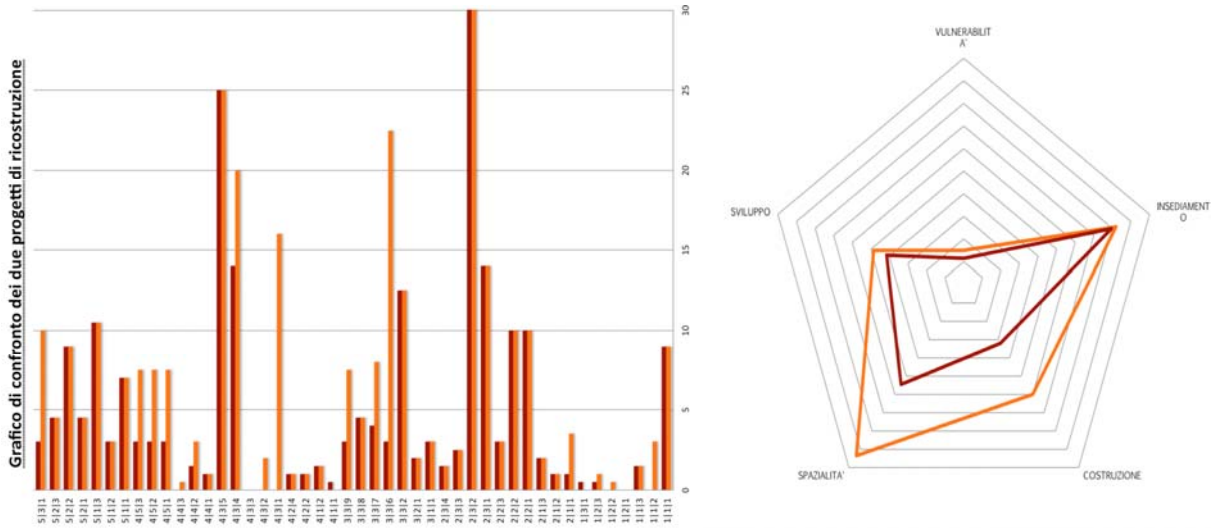

Fig. 10, 11 - Bar and radar graphics result by comparison of two case study.

During the design of the ReHAsTool methodology, we tried to establish a set of relevant and effective indicators and judging criteria as objective as possible; it is clear that in this process it is easy to find the risk of attributing a

subjective character both to the choice of the indicators and to that of the criteria. In this sense, that a comparison and interaction with other subjects from different disciplines would be appropriate and useful, in order to enhance the accuracy of indicators and decrease the subjective interference within the design of the instrument.

The results obtained at the end of the PhD research were:

- critical and theoretical basis on the several topic linked with the reconstruction processes;
- the design of an assessment tool, ReHAsTool, tested with two case studies related to housing reconstruction projects in Sri Lanka.

The critical aspects of the work are:

- subjectivity in the choice of indicators and evaluation criteria;
- the application of the assessment to case studies involving a single context;
- lack of access to direct experimental data for evaluation.

A possible development can be identified in:

- evaluation of further case studies;
- use by stakeholders of the tool in the design of post-disaster housing units in order to test the validity and usefulness in the case of application with experimental data;
- implementation of the indicators through questionnaires proposed to the communities affected by the post-disaster reconstruction processes in order to check and change indicators also according to the perception of the beneficiaries;
- extrapolation of statistical data and general principles on the processes of post disaster housing;
- development of an open source, upgrading database of projects and assessments.

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DEVELOPING EMERGENCY

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ABSTRACT

After several experiences in the international cooperation for development, FAREstudio is carrying on an attempt to extend its action to humanitarian emergency, an area where design does not seem to play a role. The aim is to verify if and under which circumstances such a condition can be reversed, in the perspective to affirm appropriate shelter as a human right, and consequently design as one of the tool that can contribute to such appropriateness. Our interest stems from the conviction that discipline and profession require a thorough, responsible consideration about principles and practices that counteract the current trend to reduce design, and architecture in a peculiar way, to a commodity. The strategy is therefore to get involved with radical environments such as refugee camps and to actively experience conditions and strategies for a responsible presence. The result is inevitably contradictory and stresses once again the relevance of external factors, mainly procurement strategies, over technical ones, whereas the most important contribution by the profession, and discipline, is an appropriate balance between typological and technological innovation.

DEVELOPMENT, EMERGENCY AND CONSTRUCTION

In the last years FAREstudio, architectural design firm based in Rome, has been involved in various projects, mainly located in Africa, related to the domain of international (cooperation for) development. The concept of development is quite controversial but hereafter it will be intended as generically as possible. Nevertheless, or because of that, the substance is that under the name of 'development aid' there is a flow of material and immaterial resources from western, affluent economies (countries) toward poor economies (countries). Construction (production of buildings) is often part of this flow, whereas, depending on circumstances, it represents the main outcome of cooperation itself or the by-product of it, an inevitable step in order to supply other services and/or goods. Despite noteworthy exceptions, the contribution of architects, designers and other building industry professionals to development is still unclear or simply unknown, in general considered not relevant and/or superfluous.

This is not equivalent to say that designers and the like are not hired or employed by UN Agencies, international institutions, NGOs: in general terms, however, the impression is that construction is regarded as a sort of annoying and uncomfortable obligation the donors tolerate in order to carry on their 'main' activity, either reduce poverty, or carry on communities empowerment, fight gender discrimination, etc. Basically more a cost than an investment. A sensation confirmed by the discrepancy between involved resources and discussion about results, an issue to be included within the overall debate concerning aid effectiveness.

Whereas the initial action of FAREstudio in the realm of development has occurred nearly by accident, recently the attention has widened to include humanitarian emergency, an even less documented field of action as far as architects, designers etc. are concerned. Humanitarian aid, that takes place in the case of emergencies due to natural or man-made disasters, is conventionally distinguished from development aid.

WHY

The reasons why the office is working in the development and emergency, the two extremes of international cooperation, include:

- there is a tendency to marginalize architects, to reduce their social, cultural, economic relevance: how to resist and react to exclusion? Various are the symptoms, and the reasons, of such phenomenon: fragmentation and/or lack of competences, self-referentialism, virtualization, narcissism, dependence;
- architects control a very limited portion of built environment, and this portion is possibly decreasing: to operate (or do not) in condition of (relative) scarcity and for (apparently) social objectives can be regarded as a strategy to restate a position that after post-modern has become nearly redundant and unnecessary;
- in other words, to observe the world from regions where apparently architecture has no place constitutes an effective way to reflect on the sense and future of the discipline (or the lack/inadequacy of it);
- in fact, particularly humanitarian emergencies and poverty, quite often combined, constitute a condition where essential issues related to social, economic, political, cultural responsibilities of those in charge of

construction, shape and management of built and natural environments, are exposed in their full range of interpretations and implications.

In very simple terms, it is important, literally vital, to investigate how a function for architects (values, sense, recognition) can be defined and possibly fostered. If the ability to play a significant role has to be expanded rather than reduced those domains where architects normally are not present must be explored, and in case 'colonized': the circumstance that most human settlements reflects prevailing conditions against demand – that is, availability of land, materials and other resources - rather than deliberate choices should be regarded as the prevalent condition of human beings, and as such this form an immense, potential field of action. This is what can be defined systematic scarcity, not related to circumstantial conditions, but substantial and endemic. Needless to say, it is a political category.

The framework in which FAREstudio operates does not refer to neutral humanitarian activism, does not stem from the worn out mythology of the architectural hero: the action is oriented, and responds to a set of ethical assumptions but its main aim is very practical, to neutralize the tendency to reduce design to a commodity, for which there is demand, but which is supplied without qualitative differentiation. In this context, independency (that has nothing to do with individualism and solipsism) might be outlined as the main ambition to be pursued. Above all, we are part of a system with its own rules and strategies, interests and finalities.

FROM CURIOSITY TO PRACTICE: CBF AND BEYOND

The involvement with international cooperation started from an opportunity FAREstudio had a few years ago, when we designed and realized a small complex in the outskirts of Ouagadougou, capital city of Burkina Faso (fig.1). The building – The 'Centre pour le bien-être des femmes' (CBF) - has been quite successful and inevitably oriented the office in the search of new opportunities so to investigate the topic in a more systematic way. Soon after the completion of the building, however, we had very clear a fact: the CBF, developed by the Italian NGO AIDOS, as part of its campaign to fight Female Genital Mutilation practices, had been produced under very peculiar, and possibly unrepeatable, circumstances.

Fig. 1 - Centre pour le bien-être des femmes (CBF), Ouagadougou, Burkina Faso (*source:* FAREstudio_2008).

Donors were very discreet, AIDOS is a very dynamic, a-bureaucratic, self-determining entity, connections with local partners very well managed, Burkina Faso is a very safe country: a scenario quite unique, as we would have learnt soon.

That experience offered the opportunity to look into international cooperation for development as an economic realm, an expanding sector that undeniably has the connotation of a market. This fact is inherent to the nearly unanimous attitude of those institutions and organizations that define the policy of procurement: to act in fair, transparent, accountable way but assuming the market as the only possible reference, to the point to presuppose the free, competitive market itself as a goal to be achieved. What is true for the production applies to the services as well, including design. And therefore the access to the market of professional services is regulated by conventional criteria

such as past record, experience, available resources, etc. (with the exception of volunteerism, depending on circumstances more or less skilled). One of the ambiguities of the political economy of generosity (or political stability) that recalls the traditional vagueness of architects as social actors, compressed between building industry and power.

International cooperation for development as part of the broader socially engaged design is getting more and more fashionable, with its own niche-stars, dedicated channel of information and promotion (images more than real facts and figures, and a certain degree of inevitable rhetoric) but regardless of growing exposure and attention, it is quite evident that the few examples of buildings that achieve remarkable architectural quality (recognized as such via their presence in the media) originates in very specific conditions (small scale projects, direct involvement of the architect with the promoter, particular relationship between the architect and a community). Big names of cooperation, those who actually handle the mass of production, are not represented in the atlas of best practices. Possibly this has to do with the reluctance to identify design as a priority, itself a by-product of a general tendency to *realpolitik*: good design is often critical of the existing, and this conflicts with the attitude, understandable, to limit the occasion of clash in areas not deemed essential or even potentially dangerous in terms of cultural confrontation (quite a risk, for construction).

A STRATEGY

A strategy of investigation, based on three major aspects, has therefore been set up in order to lead FAREstudio's action: 1) Design in poor contexts/countries (low-cost design): low-cost design constitutes a valid proposition under all economic circumstances, not necessarily those defining 'poor' countries. But the need for cost-effective and comparatively result-rich strategies is magnified in poor countries. In terms of design theory and practice there are at least three design perspectives worth investigating: a) a perspective centred on 'process'; b) a perspective informed by 'typological innovation'; and c) a perspective defined by 'technological robustness'; 2) Design with international organizations: international organizations form their own market, impose their own priorities and define a specific work environment for design consultants and professionals. The definition of an effective design strategy under the circumstances created by supranational funding bodies and sponsors could benefit from the analysis of the parameters and protocols imposed on designers, the evaluation of their correspondence to broader official policies and missions, and the assessment of the building experiences produced under the various programs. Overall, there is an interest in addressing the specific role of design in cooperation, which remains, in spite or because of its largely humanitarian bent, ambiguous and largely unexplored, particularly now that architectural culture has come to encompass some of its efforts; 3) Design for capacity building: particularly related to the context of developing economies (but possibly worth discussing and applicable to the building sectors of advanced economies), the ability of design to act as a trigger for building local technical capacity in the area of intervention can be a crucial tool for industrial development. Researching and practicing in this context requires touching on several issues that do not often occupy centre stage in architectural design education: 1) the integration of design and manufacture through supply chain analysis, and consideration of their implications on design as practice; 2) the ability of the building industry to support and disseminate design decisions made on specific projects; 3) the elaboration of specific media and codes for knowledge-transfer and sharing; 4) the standardization of technologies, components and assemblies.

Quite an ambitious program for a small scale architectural office, that brought with it two major practical actions: on one side to test the reality of UN Agencies and on the other to experience the most extreme of operational environment, humanitarian emergency.

CENTRAL AFRICAN REPUBLIC: THE FIGHT FOR BUILDING

Among the post-CBF projects, the most interesting is located in Central African Republic, where FAREstudio has been hired by a UN Agency to design a training centre for former child soldiers (fig. 2), part of a program aimed at facilitating sedentarization of people in rural areas. In comparison with what has been done in similar projects already realized (usually a series of isolated buildings scattered here and there in the bush) we decided to go for a single building based on the repetition of the same spatial/constructive module. The aim is to stress the sense of community, despite all the resistance from the paramilitary corps supposed to run the place. The same module is also used for the sanitation block, a separate volume where all function related to water, sanitation, hygiene (WASH) are concentrated.

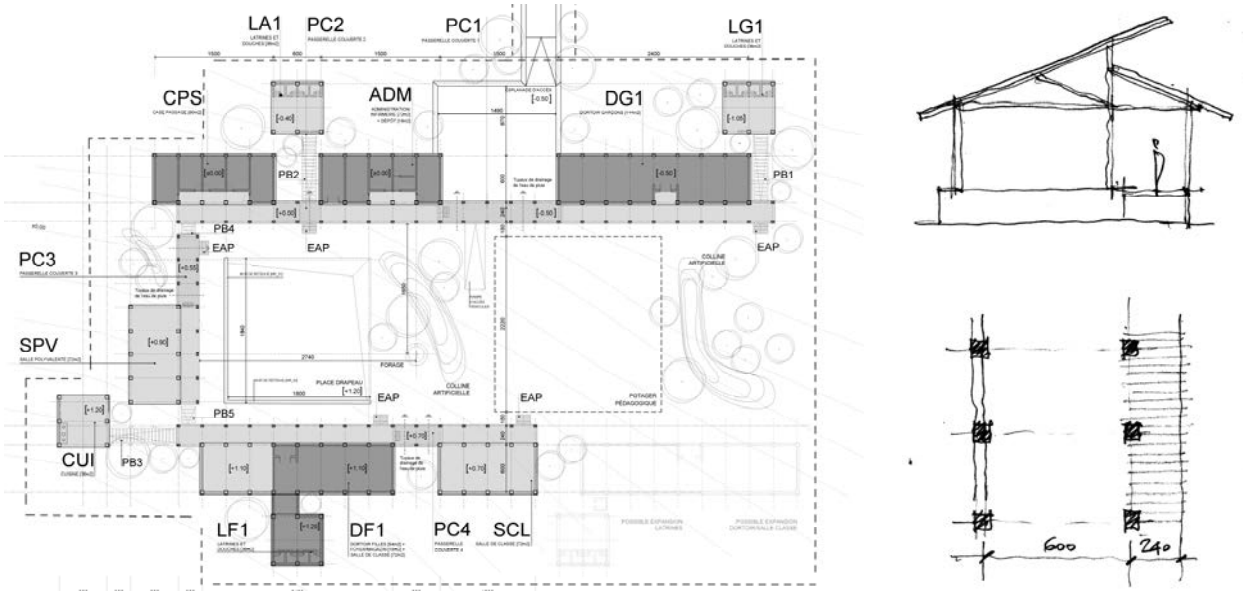

Fig. 2 - Training Centre, Sassara, Central African Republic.

The story of the project is a collection of many of the occurrences that negatively affect international cooperation, at least in our direct knowledge, a culmination of similar conditions already experienced elsewhere. The process of project definition has been long and complex, with systematic difficulty in getting proper feedback from local stakeholders, due to objective complexity of communication. Program was very undefined, data concerning available materials very incomplete and controversial, and formality of procurement procedure very rigid. Unpredictability of economic aspects of the project is an additional issue of its own, largely referable to the perverse combination of underdeveloped market and influence on that market of the international cooperation itself. The explicit adoption of an innovative approach has not always been welcome by the system, in particular locally: building industry, usually quite conservative and rigid, in these circumstances is coupled by the resistance opposed by those in charge for decisions, by definition aligned on unadventurous attitudes. Despite all that, and with the decisive support of the few more open to experiment, the design has finally been completed and the construction has started in a very remote area toward the Chad's border.

Unfortunately, when the political and military situation of the country started to collapse at the beginning of 2013 due to rebels advance toward the capital, the construction site has been abandoned (fig. 3) and till now there are no news of what happened. The area is not reachable and the international organizations are still in a sort of cautious stand-by, after a drastic reduction in staff.

Fig. 3 - Training Centre, Sassara, Central African Republic (*source:* FAREstudio_2012).

THAT IS NO COUNTRY FOR ARCHITECTS

As anticipated, in the meanwhile the office decided to go radical and get involved also in emergency. By doing that a sort of taboo has been broken (the two domains, development and emergency, are regarded as very different, matters for specialists). In this case FAREstudio's position has been different from what occurred in the past: in fact FAREstudio has been appointed by a UN's Implementing Partner, and therefore committed to the concrete realization of something designed by others, in theory, at least.

The first experience has turned out as the most frustrating. Eight months have been spent in some refugee camps in South Sudan; the office, formally engaged as 'urban expert', should have been in charge of technical support for sanitation, planning implementation, sheltering. However the reality has been dramatically affected by overall unbearable conditions and practically just a minimal part of what planned has been achieved. The availability, and affordability of nearly everything was problematic, and logistic did simply result not possible. The scale and magnitude of disaster was out of control, and not always those in charge are fit and/or ready for the task. In addition, the logic of market does not operate just on goods: it applies to implementation as a service as well, and therefore organizations compete one each other in order to get programs awarded, often underestimating real implications of the situation or taking excessive risks. As a consequence, even if coordination and integration of various subjects is among the priorities of camp management, there is evidence that Implementing Partners with different profiles, diverse ability, dissimilar power, experience a form of Darwinism that is not exactly in line with the ethical considerations that should direct the harmonized action in a refugee camp.

Fig. 4 - Latrine Construction, Nyeel Refugee Camp, South Sudan (*source:* FAREstudio_2013).

FROM TENT TO BOX, AND BACK: BRINGING SHADE ONCE AGAIN

In Jordan, we have been involved with a program of summarization: at the Al Zaatri camp some 25,000 prefabricated shelters have been supplied by various countries of the Gulf. Supplied means donated, but fabrication has been carried on locally. Despite that Jordan industrial system is reasonably developed, production has occurred too rapidly to be properly handled. As a consequence the shelter are in general very poor in terms of quality. The real problem, however, has not to do just with the low quality of the manufacture but with the use of it: the prefabricated shelter is normally adopted for very temporary settlement of particular categories of people (mainly workers) and it is supposed to be provided with A/C and power.

In Al Zaatri environmental conditions are very harsh. The area is arid, hot in summer and cool in winter, with heavy precipitations. The shelter has no A/C equipment and in any case there would not be power to run it. So, as a consequence it should be equipped for summer (summarization), and winter (winterization). A situation quite common for tents, that implies, if not correctly dealt with, unbearable conditions for the refugees, but, even when faced, rarely is effective, and often results in a waste of money. In the case of the summarization, the initial request/suggestion to the Implementing Partners by UN experts responsible for management was for a roofing system. The NGOs were supposed to come out with a proposal (with the idea that the most suitable scheme, if feasible, would have been put in place by the 'winning' NGO with all the related 'commercial' implications) and here is where FARE studio entered the scene. It must be stressed that the process initiated at the beginning of May, with no clear perception of the available budget (and

a similarly patent underestimation of the scale of the operation), the only reference being a winterization project carried on six months earlier, with doubtful effects, by a 'competitor' NGO.

While the roofing option was under scrutiny, the office was more and more unconvinced that roofing would have been the best choice; in FARE studio's perception a veranda would have been much more effective. The main problem of the prefabricated shelter, apart from the mentioned technological limits, is the absolute inconsistency with the reality of a Muslim society: there is no consideration at all of the privacy as unquestionable factor of cultural identity, not only from outside but also within the family itself. Furthermore, camp planning is very rigid, following standard procedures, and because of that, the prevailing layout arrangement is bizarrely resembling a suburban model where the shelter sits in the middle of a 8.00x10.00 meter plot, forming a low density undistinguished fabric. Unfortunately this pattern, combined with the spatial poverty of the shelter, produces an environment that is absolutely alienating, and dramatically distant from the setting the refugees come from (often of rural, traditional background). Therefore there is a constant reconfiguration of the shelter, by widespread use of recycled building materials (for those who can afford them) or also misuse of plastic tents (or leftover of, that strangely are not returned to camp management when the family is assigned a shelter. Another strategy of adaptation is the officially not allowed relocation of the shelter by using gas bottles as wheels so to form clusters, to recreate a more human space.

The veranda would have gone in the same direction, with one third of the cost of the roof. The creation of an outdoor space is essential for the family. The geometry and assortment of the proposed kit would have produced several different configurations, facilitating those operations that the refugees are already carrying autonomously. In any case the two options would have been installed by the refugees themselves, while the NGO would have provided the raw materials and assistance. The main challenge of the project rested on its feasibility. In order to handle the logistic of the project, the selection of materials has been based on availability on local market and ease of assembly; for this reason agricultural fabric, water pipes, exhausted tires, ropes and metal hooks have been used, while a workshop would have been installed at the camp [employing refugees on the base of the cash-for-work principle] so to carry on storing, preliminary manufacture, instruction and distribution of the components.

Both the proposals have been tested through prototypes (fig.5 and 6), and the experience fully documented so to get a comparative picture of used resources and time of installation.

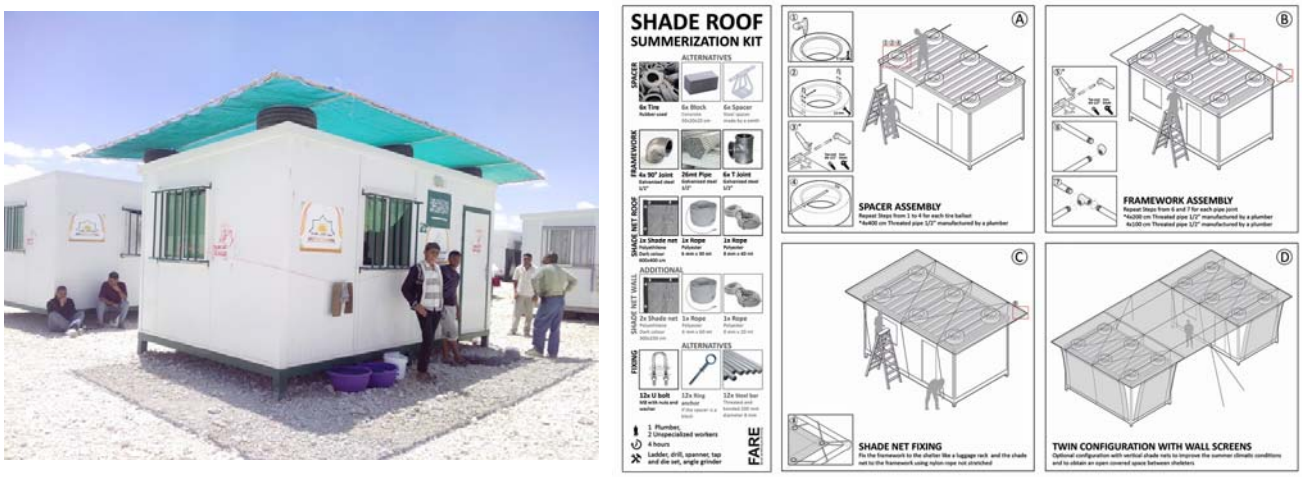

Fig. 5 - Zaatari Refugee Camp, Jordan, Roofing option (*source:* FAREstudio_2013).

Fig. 6 - Zaatari Refugee Camp, Jordan, Veranda option (*source:* FAREstudio_2013).

For a long period of time the proposal has been discussed with UN Agencies Representative, various experts, other NGOs in the attempt to set a feasible scenario: several NGOs have been asked to join to form a team, where each NGO would have been involved in relation to its peculiar ability (distribution, procurement, presence in the camp). As part of the process, focus groups with refugees have been carried on in order to collect their opinions about the summarization (and they quite clearly preferred the veranda for the same reasons that outlined above).

Unfortunately, at the end both the proposals have been shelved due to lack of time (all started too late in the season) and cost.

The only practical, unsatisfactory result is that the veranda has been utilized by UNICEF to shade external areas in some of the schools of the camp.

MAURITANIA: CASTLE OF SAND?

In Mauritania FAREstudio has been required to implement a 66 classroom program for the MBerra refugee camp. In this case the model, a simple hangar with a steel and timber structural frame mounted on a concrete slab, completed by a corrugated iron roof and PVC as enclosure, had already been defined by Mauritanian authorities, and basically accepted by UNICEF and UNHCR. There were no drawings but simply a very schematic Bill of Quantities for a total estimated cost of 3,300 USD.

The reference was a combination of the typical UNICEF prime intervention tent and the traditional Mauritanian tent (fig.7), both with major limitations: the UNICEF tent performs very badly in windy conditions (absolutely usual in the area), the traditional tent is not intended for didactic purposes.

Moreover, the proposed materials (corrugated iron roof and PVC) quite obviously would have produced a 'building' absolutely not durable and above all unbearable for the users, kids and teachers. In addition, the model would have had a pole in the middle of the space and the incidence of transportation cost (the camp is in a very remote location) is huge: enough arguments to suggest the opportunity for a different approach.

Fig. 7 - MBerra Refugee Camp (*source:* FAREstudio_2013).

The office decided then, in accordance with the UN Implementing Partner it was working with, to propose an alternative based on a very straightforward assumption: since transport is so expensive and sand so available, it has been proposed to use sandbag technique, a definitely labour intensive solution that permits again the application of the cash-for-work principle).

The use of bag filled with sand as masonry, plastered on chicken wire armature, is widely used in varies areas of the world, and it can be regarded as a consolidated technique nowadays, and has been introduced locally as a response to a specific need. The wall is combined with a double layer roof, where the corrugated iron is replaced by pvc truck cover installed on a series of metal trusses based on a typology used in the area (fig. 8).

A tender has been prepared on the base of the proposal, with the clause to produce a prototype in order to optimize production and familiarize the workers with the system. Cost of the building, after tender, turned out as 2,400 USD, an issue that will prove controversial.

Fig. 8 - Classroom, MBerra Refugee Camp (*source:* FAREstudio_2013).

The prototype has been discussed with all those involved, from UN Agencies (UNHCR and UNICEF) to refugee leaders. After initial suspect and some stoppages, the result has been positively considered and officially adopted (fig.9). It is remarkable that the host community and the refugee leaders, once experienced the thermal performance of the prototype, have been enquiring about the possibility to adapt the technique to other building types.

Regarding the cost, pricing is not exactly an easy exercise in such environment, but the real issue raised once the contractor realized that his profit (largely based on transported materials) was dramatically reducing in comparison with the 'conventional' model. At that point a confrontation has started and after some form of resistance not to say sabotage, the contractor has been substantially sided by FAREstudio [it means by the UN Agency Implementing Partner] in a sort of unusual, hybrid Construction Management formula.

The program is currently under construction and by the end of November a first series of 66 hangars should be ready.

Fig. 9 - Classroom, MBerra Refugee Camp (*source:* FAREstudio_2013).

CONCLUSIONS

Generally speaking, and not only in poor countries, current production of built environment based on conventional building industry is very rigid and conservative; in the case of international cooperation major institutions, despite relevant expenditure, regard the respect of local practice as part of an overall strategy of controlled impact on beneficiary communities. In addition, particularly as far as emergency is concerned, there is a vast technical literature, easily available, but its application seems to be difficult, as if something in the passage from theory to practice goes lost. All this defines a very stiff environment, apparently quite reluctant to experiment and innovation. Nevertheless, despite failures and disappointments, FAREstudio has experienced the possibility to force the conventional limits of professional position from the person responsible for implementation to promotion of alternatives based on design, to the point of collecting a few findings that could be interesting to assume as starting points for a further discussion:

- innovation should be pursued as a primary aim, particularly taking into account that building in international cooperation refers often to public buildings or public use of buildings; innovation it is not a simple pursue of newness, it is aimed at relating a project to its context so to ameliorate it;
- innovation, however, must realistically consider the very context in which the project is located (socially, economically, geographically) so to be feasible: under this point of view, typology seems usually more promising than technology as area where locate innovation, and both can find inspiration in traditional production, at least at level of principles rather than forms;
- as a combination of the previous points, the production of prototypes to be easily replicated must be favored, so to maximize investment in design (and quality control); this does not refer to universal solutions, but models with a broad range of applications, that realistically recognizes the issue of inadequacy/scarcity of that specific intellectual and practical resource that we commonly call (quality) design.

Finally the association between research and production is totally useless if not supported by effective communication, so to activate sharing and dissemination. Cultural mediation is an expression of effective communication, a specific contribution architects should bring to the process of shaping a built environment that responds appropriately to needs and aspirations of those who inhabit it.

Obviously FAREstudio's work in the international cooperation is hardly understandable as architecture, and might produce embarrassment and/or scepticism to use it to support ideological considerations; however it is precisely the work for international cooperation that can be used to draw some general indications: it offers [imposes] the chance to reintegrate a process [design and building] that otherwise seems oriented to disintegration. It is a good opportunity for architects to restore their [traditional?] multi-disciplinary approach, an essential attitude in order to achieve real and comprehensive sustainability. In addition it is a unique opportunity for practical action, with exceptional potential for social relevance; last but not least, it is a formidable exercise in realness and concreteness, the opposite to current abstraction and insignificance that affects wide regions of the profession.

VERNACULAR APPROACH TO ARCHITECTURAL DESIGN IN A DEVELOPMENT COOPERATION EXPERIENCE WITH MEXICAN INDIGENOUS COMMUNITIES

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ABSTRACT

Archintorno is a non-profit organization of young architects based in Naples, that has been promoting initiatives of development cooperation with indigenous communities in the Mexican State of Oaxaca since 2005. These initiatives involve universities, associations, local governments, and professionals in and outside Italy and rely on a didactic format, internationally known as Design-Build Studio, that includes the direct involvement of students from the Schools of Architecture and Engineering in designing and creating buildings in the developing contexts.
Our projects aim at using local materials and resources through low-cost, repeatable technologies, that are also consistent with local climate, social, and cultural context. Decisions on how to realize the projects are the result of a careful, shared analysis of lifestyles, housing culture, and local construction techniques. The cultural exchange between students and local populations is another relevant factor playing a major role in these projects. Therefore, in the context of the current debate about different approaches to architectural design in international cooperation, the experience of Archintorno is in close continuity with the local vernacular culture.
This article describes the strengths and weaknesses of the proposed approach through the analysis of the three cooperation experiences of Archintorno in Mexico. The topics discussed cover forms of participation and capacity building, project impact on the local community in terms of economic, socio-cultural, as well as environmental and landscape aspects, in addition to the transposal of technological and architectural innovations and may represent a starting point for discussion within the context of the community operating in this field.

INTRODUCTION

Although the use of prefabricated elements in architectural design in developing contexts of international cooperation is relatively common, differences between a design approach based on the principles of vernacular architecture and another approach based on prefabrication appear to be quite significant. Rudofsky uses the words “anonymous, spontaneous, indigenous, rural” [1] to describe the term “vernacular”. According to P. Oliver vernacular architectures are “related to their environments contexts and available resources, they are customarily-owner or community built, utilizing traditional technologies. All forms of vernacular architecture are built to meet specific needs, accommodating the values, economies and ways of life of the cultures that produces them.” [2]

Thus, a vernacular design approach relies on: i) the use of local materials and resources; ii) the development of technologies related to the local building tradition, where the technological rate must be consistent with and can be supported and reproduced by the culture and society representing the target of the cooperation project; iii) the participation of local beneficiaries into the process. Despite the figure of the architect denies one of the fundamental conditions of vernacular architecture: “the architecture of the people, and by the people, but not for the people” [3], this approach leads to the development of principles of the vernacular architecture, and tends to establish a direct comparison and a constant collaboration between the professional designer and the recipients, based on the principles of local building culture. Technologies developed in this context by relying on local resources, allow to invest a main part of the financial resources of the cooperation project in the territory and in the development of the local community, but they are also the result of time invested in partnership.

Although not excluding to start from the context analysis and its needs, a design approach based on prefabrication focuses on industrial materials prefabricated elsewhere and transported to the project site, on a fast and easy assembly, on modularity and the serial nature of the elements production and of assembly operations. Serial production allows to reduce manufacturing costs through industrial processes, while increasing those of materials transport; the speed of assembly allows to reduce the time of construction by lowering labor costs and that of the staff in field mission, but limits also significantly investment in the area and participation of local people in the process. In the absence of local producers of the resources used and without an external intervention, the use of materials not locally available makes

difficult to replicate used technologies locally, so that this approach seems to be more suitable to an emergency context than to development processes in marginal contexts.

Based on a strong credo that an approach to design linked to the development of vernacular technologies through the use of local resources may be the right way to ensure sustainability, both in economic and cultural terms [2], the association Archintorno has worked to the implementation of cooperation projects with rural indigenous communities of the Mexican State of Oaxaca from 2005. Indigenous communities of Oaxaca are deeply surrounded by nature and often marginalized due to difficult access for the mountain nature. Due to this isolation from urban contexts, they maintained a traditional socio-political organization of the community, and mainly saved traditional forms of life-style and of settlement. [4]

Despite these indigenous roots still being very strong, the community suffered a deep and quick transformation over the years. Communities are excluded from production processes of urban areas, country policies, and from the processes of society renewal and the processes of cultural and socio-economic contamination, associated to the migration phenomena directed towards the main cities of the same Country and to the United States, are now evident. [5]

These processes supported the diffusion of new lifestyles and aspirations of “modernity” among the people, that are now also evident from the building environment; industrial prefabricated materials and related construction techniques gradually complimented local natural materials and vernacular forms of settlement as an emancipation signs in most of the wealthy families (fig 1).

Archintorno’s projects focus on a didactic model called Design – Build Studio where students are responsible for implementing architectural projects from design to construction, [6], by recovering principles of local vernacular architectural tradition, that is revisited through a contemporary approach appropriate to the climate, and by using available resources [7], so that the local community exerts a central role in the whole process. With the support of the local non-governmental organization (NGO) CAMPO a.c., we developed three projects in Mexico, through processes strongly linked to the local vernacular tradition: a community center in Santacruz Tepetotutla in 2006 [4] (fig. 2), a community center San Pedro Tlatepusco in 2010 (fig. 3), and Micro-Regional Centre of Technological Innovation in the Liberal Pensamiento 2012 [7] (fig. 4). This allowed us to analyze different aspects of architectural design related to this type of approach and their implications on the whole cooperation project, and at the same time left questions open about the forms of participation, the socio-economic impacts on the community and the transposal of technologies proposed in a territorial development perspective.

A DESIGN BUILD STUDIO METHODOLOGY

Although based on Design-Build Studio model, the methodology developed by the Archintorno, was gradually enhanced by including additional phases and revised according to the considerations produced by the direct experiences themselves. This methodology consists of five main activities:

- a preliminary, on-field investigation;
- design workshops;
- construction workshops;
- a household survey aimed at understanding local lifestyles and housing cultures;
- exhibitions, publications and video-documentary about the project.

Particularly in the second step, Faculties of Architecture and Engineering providing the participating students have been involved in the development of the didactic process through the years: the TU of Berlin, who’s “Mexiko Proyekt” was our inspiring model and the Faculty of Architecture of “Federico II” University of Naples in 2006 and 2010, the CRD-PVS of Polytechnic of Turin and the taller Max Cetto of UNAM of Mexico City in 2012. The whole process relies on inclusive and shared strategies allowing a continuous debate among the actors involved in the same project at different levels. The process starts up with a preliminary survey, aimed at collecting all the useful elements for the development of the project and at promoting a very primary exchange of expectations, ideas and arrangements with the community. Since our work mainly focuses on community building, all the inhabitants of the village, or at least part of them, are involved in the project.

The following visit to the village allows us to introduce Archintorno to the local community and to establish cooperative agreements among the actors involved in the project, thus each partner may be able to give its contribution according to its own skills and resources, and to share and define the architectural program with the community too. Beside this aspect, the survey focuses on local materials and resources, construction technologies, building types, habitat and lifestyle, geographic, climatic and socio-economic information in the village.

During the design workshop, students starts their work analyzing the data collected: they study all aspects of vernacular architecture, and examine issues detected in construction techniques in order to find adequate technological solutions. Students work on several project proposals and submit them to the community that chooses the most appropriate one. The chosen project is discussed in assembly with the community and it can be integrated with its suggestions and proposals. Once architectural design is revisited, workshop focuses on structural details of the project

and on quantifying construction materials and costs. Once executive planning is completed, we are ready to begin construction.

Fig. 1 - Vernacular and industrial materials.

Fig. 2 - The Community Center in Santacruz.

Fig. 3 - The Community Center in S. Pedro in Pensamiento Liberal settlement.

The Community hosts students for the period of works (2-3 months). We share work and everyday life in that months and it is an important experience that allow us to empower our relation with the communities [4].

On building site, we contract a local mason and carpenter with the didactic role to guide the students in all construction process. They have the key role to share their knowledge on local vernacular construction techniques with students, and at the same time they have the opportunity to get closer to the new techniques proposed in design. The result is a learning by doing process where every labors, students and inhabitants can share their work experience, learning by the others at the same time.

For our last project in Pensamiento Liberal Mexicano, we decided to complement the preliminary investigation with a household survey, to deeply understand the habitat transformation dynamics. A semi-structured interview with the households was made to better determine the people lifestyle and the relation with the use of spaces in the house. The choice of the research themes reflects the holistic hypothesis, according to which all the different aspects of the life of the individuals influence the architecture of the housing compound and of the territory [3], [7].

Students interview the local inhabitants with a set of pre-defined questions, open questions and make a graphic and photographic documentation of the housing compound. These activities allow us an intimate contact with people, and constitutes an important data base to document their culture and for following projects of the association in that area.
As the very last step, together with the students, we provide a set of documentation tools (videos, publishing, exhibitions) to promote the whole experience. These tools are also a further chance to think back to all the projects activities, to detect the weak aspects of the common work and to reflect upon possible improvements.

VERNACULAR DESIGN APPROACH ASPECTS IN ARCHINTORNO EXPERIENCE

Habitat, and life style analysis

Human beings is the product of a cultural process that took place over the time and in different places; communities (from the small village to the great countries) through its institutions, are guarantors of this historical continuity that allows to preserve a system of values and a collective identity; this give rise to habits, lifestyles, and generally all human activities leading to social structures and its relationship with the physical environment. For this reason intervening in marginalized communities to lay the foundations for new forms of self-development, is an extremely delicate operation that may often create deep fractures in the social cohesion of the community. This task requires a holistic approach in the cooperation project which provides continuity with the economic and social processes of the place. Our local partner, the NGO CAMPO that works for over 30 years for the self-determination of indigenous communities in the region of Oaxaca is our primary guarantor of this. However, the role of Archintorno cannot be solved in the simple execution of a request of the community filtered through the work of the NGO involved. At each step of the process, from the preparation of the project until the implementation stage there is the attempt to understand the socio-cultural implications of each action. The vernacular approach, compared to the prefabricated one, allows to have the flexibility to adapt to the contributions that result from an ever deeper knowledge of the place and its dynamics, throughout the process.

Since the beginning, during the investigation, our approach is based on two basic assumptions: the communion of intent with the community and the knowledge of the socio-cultural and climatic dynamics of the place. Both elements play a fundamental role in the design of the building, helping to define the factors to guide students in the project proposals and the executive planning. Agreements made with the community through the confrontation with local institutions has in fact the dual aim of engaging, through a choice collectively shared, the entire community in the process, and, at the same time, understanding the real resources available to the community to ponder design choices

and technology solutions. In these terms, for example, in San Pedro Tlatepusco, wood was not only a local resource to be used but also the impervious way to reach the chapensis pine cutting area, the local people strain of loading wood on their shoulders to carry them downstream and finally the work to convert it in construction elements with a rudimentary equipment. Accordingly, the technological choices must achieve a balance between the pieces size and quantity to be used, always trying to understand and imagine how each action will be put into practice in that context. Knowing the context, thus, becomes an important factor to start the design process.

The investigation is based on two related factors: observation and listening; observation of the physical and architectonical characteristics of environment and the understanding of the social and cultural dynamics of the community through people's tales: in a design logic strongly linked to the territory, to detect the various technological changes in local architectures without knowing the related manufacturing processes and their implications in the economy of the community, is not enough.

In the same way to measure the composition and shape of the spaces without understanding the different socio-economic and environmental factors involved (fig. 5) is not enough. For example, the dislocation of different function of the house in the open-aired compound detected by the observation of the place, in the case of the project in Santa Cruz, led naively to the idea of connecting the two floors trough an external path.

Following a specific request of the community we modified the project adding an internal staircase offering the users a covered connection to the second floor. In that case greater attention was paid to socio-economic factors of the observed articulation of spaces, partially underestimating climatic aspects. Participation of community, made possible to find appropriate design and technological solution that could satisfy both aspects.

Technical and knowledge interchange through the participation process

One of the principles on which all three projects were developed lies in the aim of creating a common path between the actors involved in each stage of the process. So the value of the construction phase does not reside only in the construction of a physical space, but also in the creation of a exchanging processes which foster this dialogue through the networking of experiences and skills: the construction phase has an educational value not only for the participating students, but also for the community members involved. The whole process is the result of expertise exchange among architects, local workers and students during the period of construction, through the involvement of some members of the community as actors of the construction process; this interaction is significantly facilitated by the use of local resources and the development of techniques arising from the local culture, previously studied. This allows us to confront each other on the basis of a common vocabulary that establishes a form of communication among the actors involved. So the heritage of this operation becomes, a linguistic enrichment that can produce new forms of local architectural expression, new skills and the awareness of their resources' potential.

An example that clarifies this approach is related to the process by which the wooden structure (present in all three projects) was designed, considering the related implications in the later step of the construction. Starting confronting with the community, we defined the basic size of wooden pieces to compose the whole structure, according to the material local production processes; these elements are then assembled in the final design in order to enhance both structural and environmental performances, considering at the same time, construction processes that local workforce could manage.

Fig. 4 - Micro-Regional Innovation Center in compound in Pensamiento.

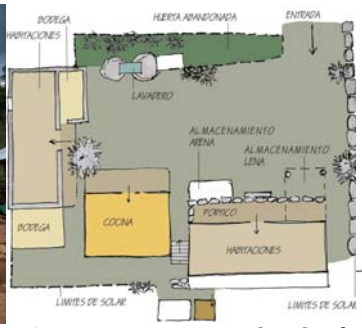

Fig. 5 - Investigation sketch of a Santacruz Tepetotutla project.

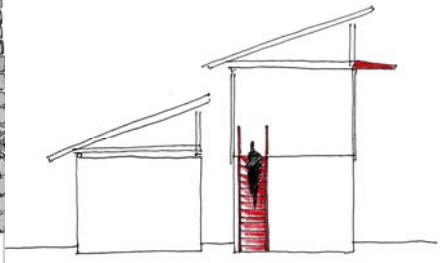

Fig. 6 - Sketches of implementation made in Pensamiento Liberal Mexicano.

In this way, during the construction step there is the concrete possibility to perform a knowledge exchange: the local labor force, able to interact immediately in the building process, can pass down to the students their technical knowledge about the manufacturing of elements and the basic assembly operations; at the same time it is easy to introduce and discuss with them new technological solutions, leading to an enrichment of local know-how. A community resource, in primitive forms becomes the easiest vehicle of communication.

This form of collaboration also takes place through the community involvement in design choices: in fact the development of the project proposal always goes through a comparison with the community that in many cases led to substantial changes in the project. It is the case of the addition of the aforementioned internal staircase as well as the implementation of the roof overhang in order to better protect the rear façade in the project for SantaCruz (fig. 6), or the

spatial changes which took place in the project for Pensamiento Liberal. In this second case, after a meeting with representatives of the cooperative, the need to protect one side of the building particularly exposed to rain and wind, led to the displacement of the external staircase and the redefinition of the interior spaces and of the access paths of the original proposal.

This process of mutual exchange, is particularly useful also in the construction phase in order to design a dynamic process able of dealing with unexpected accidents that we often encountered in marginalized contexts such as those of the villages: many detailed solutions are in fact the result of economic technological and logistics constraints often overcome thanks to the local actor knowledge or arising out of the interpretation of habits and local techniques experienced in everyday life (fig. 7). That is why we could recover archaic technologies deemed by the locals, initially not taken into account; developed within a different technological system, they can be part of the collective knowledge asset again.

Technological Improvement: construction costs, modularity, reproducibility, maintainability

The design approach followed by Archintorno, which starts from the reinterpretation of vernacular techniques through the use of local materials and resources, allows to work on technologies reproducible by local people, trying to get good performance of climatic comfort, reducing at the same time construction costs particularly related to the transport of materials and energy costs related to construction. This kind of approach also aims to the not negligible goal, to develop compatible low-cost technologies and in continuity with the tradition and expertise of local people, so as to tend to a self-development model, enabling the community the complete process management, maintainability and repeatability of the technologies used, once exhausted our presence on site, and allows us to invest large part of the project resources within the community.

In our experience, it was not always possible to carry out such a linear process, often the circumstances have led to trade-offs in an effort to better use the available resources in a climate of full participation with the community. The trend of rural communities to prefer the use of industrial materials, often seen as synonymous of advanced technology and progress, also has in some cases affected our choices. For the project of the Community Center in Santacruz Tepetotutla for example, the village asked for a an entirely concrete structure, also to take advantage of the foundation and vertical structures already carried out in the previous years and of the materials already purchased, despite the aim of the association was an architecture in full harmony with the local environment, making the most of local materials. We came to a compromise and obtained the upper floor to be made entirely of wood, taking advantage of local knowledge in manufacturing the material, so we proposed a wood structure revisiting local vernacular constructive principles, but offering greater rigidity and a better control of heat transmission from the roof.

Construction costs – Still in Santacruz, wood of community property, was made available to the project for free, and the expedient was repeated in the other two projects, the attempt to promote the use of such an important local resource, has enabled us also to invest in the local labor to cut wood and technological solutions for the improvement of thermal comfort of the building. Despite this, the rather consistent use of industrial materials affected the costs related to the transport of materials, although coming from the nearby city of Oaxaca, resulting in a significant portion of the total budget of the project. In our last experience in Pensamiento Liberal, instead, it was possible to use almost entirely local materials such as wood, stone, earth, reducing the use of cement and other industrial materials to the minimum. Materials used for construction, were extracted directly from the village territory, minimizing transport distances, and then transferred in the yard area using community property means, greatly reducing costs and also allowing us to distribute most of the funds inside the community itself.

Modularity - In this approach, modularity recognizable both in the individual designed building elements size, as in the size of the structures, meets the need to make the most of available resources. So the wooden structures are always designed with elements according with the cuts to be performed and transportable by the community and with the resources available on site, the size and frequency of the structures are designed according to the size of the available elements that will be used to complete it, as triplay, wood boards, etc. (fig. 8, fig. 9). The load-bearing earth wall structure size of Micro-Regional Centre of Technological Innovation of Pensamiento Liberal was modulated on those of the formwork provided by the supporting local NGO. So the project becomes a non-stop adaptation process, in which choices are revised several times until all resources are used to the best.

Reproducibility - Although the reproducibility of proposed technologies is one of the strengths of the vernacular approach to design in developing contexts, it could be a not so trivial target to be achieved; the involvement of local residents and craftsmen in the construction process, the use of local materials and technologies developed on vernacular architecture principles, is enough to determine the reproducibility of the building? Actually construction methods and processes, as the economic component play a key role in this case. For the earthen load-bearing walls in the Pensamiento Liberal project we choose to use the technique of mechanized Pisé (fig. 10) , using a compressor and pneumatic pistons (fig. 11) to speed up compaction and taking advantage of the abundant workforce of students for the preparation of earth. But as far as the large number of students employed in the construction can be replaced by the villagers themselves, the use of mechanical means, out of the reach of communities and the impact of fuel costs for their functioning, make the process quite hard to replicate. The structures of the wooden roof, proposed in all the three projects, as far as offering innovative technological solutions than those normally used in the local context, employ a quantity of timber that remain sustainable in cooperation project context with the whole community, but that it becomes

economically hardly accessible for individual locals who want to propose them for their homes.

Maintainability - Despite the many questions raised on the actual reproducibility of the process, the attention paid in the design phase to the use of local materials associated with the sporadic use of elements prefabricated in the surroundings, as well as the involvement of local labor in the construction process, offers the community the ability to manage the maintenance of the property, ensuring its survival over time.

Time of construction: social impact and resources management

Obviously this kind of design approach requires to spend a relatively long time on field in the construction phase, comparing it with a design approach relying on prefabrication. This is partly because of its educational nature, in part because the production chain of the materials used for construction is fully dealt with in place, in part, for the long and difficult management processes of local resources by the authorities of the community and its marginality degree. Before they are put in place, materials are extracted, cut on the territory belonging to the village and then manufactured on the building site through processes often not mechanized, by students and local inhabitants who develop a relationship apprentice - teacher in both phases. This process not only creates a natural daily slowdown in site work, but can cause not negligible unexpected situations. In San Pedro Tlatepusco, because of the particular marginality of the village, the wood needed for the construction was cut at high altitude, left to dry there and gradually brought to the site by the locals on their shoulders, through paths made impervious by the weather. This situation has strongly influenced the development of the construction site and more than once we risked to have to stop it, due to lack of material. A long execution time, can have a significant impact on the territory and a high cost of management for the host community mainly because of the persistence of a large group of students on site. But at the same time allow a stimulant meeting of cultures, as previously described. During the 2-3 months of construction, the community is sometimes forced to change in part at their own daily life and work pace and is called to a considerable financial effort to provide for the maintenance of the guests. The choice of the ways in which these processes shall take place affect as much on the quality of integration between students and local residents, as the possibility for the community to continue to carry out part of their daily activities during the period of construction.

In San Pedro Tlatepusco, families turned hosting small groups of students for daily meals, so as not to impact too much on their family life rhythm; this solution however allows less control on the quality of food and wasn't replicated in the other two projects, also for communities choice. In Pensamiento Liberal, the women of the cooperative have turned in a single common kitchen providing meals to all students for the entire duration of the project, spending almost their entire day in this task. The attention with which these issues are examined at the moment to arrange with the community, as well as the manner and timing of the management of local resources through the authorities of the village are crucial for the success of the project.

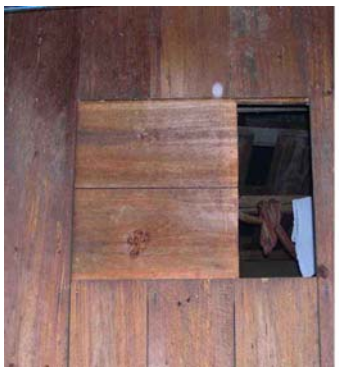

Fig. 7 - Detailed solution of windows in Santacruz Tepetotutla project.

Fig. 8 - The modular wooden structure in Pensamiento.

Fig. 9 - Wooden roof structure module based on Tejamanil dimension.

Fig. 10 - Mechanized process of compaction of rammed earth walls in Pensamiento Liberal.

Fig. 11 - Compaction with pneumatic piston.

It's a complex but necessary task of cooperation, discussed at the moment to make arrangements with the community, which helps address the design foreseeing times and tools for implementation of the different phases of construction. In the case of Pensamiento Liberal, the cooperative had several difficulties in obtaining permits for cutting wood needed for the project by the competent Community authorities, so that the wood hadn't time enough to dry out completely and his manufacturing was very difficult. This generated a delay that led us to ask the community one more week to finish the work; the proposal was accepted with great difficulty since sowing time was approaching and the locals needed to work the field to obtain food for the following months.

CONCLUSIONS

In most indigenous villages of Mexico, vernacular settlement patterns and architectures evolved over centuries and still represent the majority of the built environment. Nevertheless they are disappearing fast, since housing typologies inspired by Western models and industrial materials started to be introduced within the communities. This phenomenon happens not only because of the spontaneous action of the socio-economic "elites", that even in these small communities do exist (generally local traders), for whom concrete prefabricated houses are more "modern", "safe" and represent their aspiration to an "urban" lifestyle. The adoption of "industrial" pre-packaged housing typologies is also often promoted by the Mexican government and international NGOs operating in these villages, without taking care of the relation of the proposed constructions to the characteristics of the place and of the community that lives it, with the result of producing a growing homologation of the living environments. Therefore, it is possible to observe a growing trend of substitution of vernacular settlement patterns with "modern" and "industrial" housing typologies, inspired by Western cultural models, with the risk of providing settlement solutions that are inadequate to local contexts and to loose vernacular traditions, which are a precious world heritage of urban diversity, material cultures and skills.

The above presented analysis of the Design-Build Studios carried on by Archintorno, in collaboration with Italian and Mexican universities and local NGOs, in three indigenous villages of the Mexican state of Oaxaca, allows us to propose some conclusions in relation to appropriate approach to be adopted when dealing with architectural design and construction within development cooperation programs.

In spite of the previously analyzed weaknesses of the proposed approach, the valorization of the vernacular housing and building traditions represents for us, as international architects invited by local communities to contribute to give shape to their built environment, the best way to interact with local material cultures and to avoid the risk of proposing housing models originally developed for Western, industrialized countries and passively inferred to southern, tropical, rural contexts.

It is not excluded that a design approach based on prefabricated materials, in these contexts, can pay attention to local indigenous dwelling types and patterns and in some cases, not only in other regions of the southern hemisphere, this kind of technology has been shown to meet local thermal comfort needs. But the use of prefabricated materials produced in Western countries, through these technologies, generates costs, including environmental, associated with the transport of materials unsustainable both globally and for the communities. Furthermore, technologies used are impossible to reproduce and maintain over time for the communities themselves.

On the contrary, vernacular settlements are regional and cultural. Furthermore, the widespread use of local, natural building materials (earth, wood, straw, stones etc.) and building technologies is affordable even by local subsistence economies and enhances cultural heritage and traditional abilities of local manpower. Moreover natural material demonstrated to be very appropriate from an environmental point of view and in relation to their "lifecycle assessment", but also in relation to their performances in terms of climate control and to the provision of indoor comfort in tropical countries.

Enhancing vernacular tradition offers the opportunity to experiment with housing typologies, building technologies and construction processes that are more appropriate to local housing culture and endogenous resources. But also in the forms of design inspired by vernacular architecture, the use of prefabricated materials, even if reduced, today it is often rather widespread. So what's the line? it is possible to think in a hybrid approach that, while starting from the vernacular architecture principles, paying attention to local housing needs and climatic conditions, and making extensive use of local natural materials, can also take advantage of prefabricated elements, on condition that they are produced or producible in the region? May be possible in this way, to ensure reproducibility, maintainability of the building and, at the same time, create the basis for a real participation of the community in the productive processes and development of the society, without recourse to materials, technologies and models designed and coming from the so-called first world countries?

The suggestion that comes out from our experience is to find inspiration in the vernacular tradition in order to avoid the indiscriminate proposition of Western housing and construction models. The proposed strategy is to reinterpret the vernacular tradition by culturally appropriate means, focusing on the introduction of culturally and economically compatible changes. This strategy can only be possible if it is based on the full involvement of the local communities at each step of the decision-making process.

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NOMENCLATURE

NGO	Non-Governmental Organization
CAMPO a.c.	Centro de Apoyo al Movimiento Popular Oaxaqueño, asociacion civil
TU Berlin	Technische Universität Berlin
UNAM	Universidad Nacional Autonoma de México
CRD-PVS	Centro di Ricerca e Documentazione Paesi in Via di Sviluppo

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COMMUNITY DEVELOPMENT AND PSYCHO-SOCIAL INTERVENTION

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International and university cooperation is based, among others, on developing a psycho-social intervention referred to some methodological and epistemological approaches and to some ethical principles driving the community development.

The themes here proposed, therefore, are related to cooperation projects aimed at community development.

We are interested to present a reflection moving from cooperation projects aimed to the improvement of mental health, to the stimulation of citizens' participation aimed at improving the quality of life, defending human rights and strengthening the resilience at an individual, group and community level.

Experiences carried out will be here documented with the purpose to develop reflections on theoretical approaches and methodologies that guide the cooperation in this field, as well as on the ways each project has established the relationship between universities from different countries and between universities and governments, institutions, public and private organizations, NGOs, communities, local and international networks. Particular attention has been paid to the study of the forms of participatory action research, implemented within the framework of cooperation initiatives aimed at enhancing the role of local cultures and knowledge. The focus of the communications here presented is to highlight the impact of these forms of cooperation both on contexts of the global South and on developed countries affected by the consequences of economic crisis.

According to the picture that emerged it is possible to highlight both the different approaches between the cooperation projects in the field of psycho-social intervention and to show the presence of many common aspects; specifically, these experiences emphasize the importance of these forms of cooperation and the amplitude of the effects they may have both on the contexts in which they are carried out, as well on scientific research.

INTERNATIONAL COOPERATION IN THE FIELD OF HIGHER EDUCATION: THE TEMPUS PROGRAMME

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ABSTRACT

Tempus is the European Union's programme that supports the modernisation of universities in the partner countries and contributes to the creation of an area of cooperation in the field of higher education between the EU and Partner Countries neighbouring the EU. This programme promotes voluntary convergence towards European policy developments in higher education, as it has been outlined by the Lisbon agenda and the Bologna Process. Main specific objectives of Tempus are: – to overcome inter-country fragmentation in the area of higher education and inter-institutional fragmentation in the countries themselves; – to enhance interdisciplinarity and transdisciplinarity; – to enhance the employability of university graduates; – to make the European Higher Education Area more visible and attractive to the world; – to enhance mutual understanding between peoples and cultures of the EU and the Partner Countries. Those aims are reported in the documents of Conference of Rectors of Italian Universities, which promotes the involvement of universities in the National Tempus program. This paper deals with one of our direct experience in Tempus program. In this work we propose some considerations on the cultural transformation that undergoes a scientific theory when it is transferred and applied in non-Western socio-cultural contexts. If the scientific disciplines have, among others, the function of promoting the wellbeing of community, there must be also an exchange and encounter between cultures, which would enable to overcome a Western-centric perspective. In this way the scientific disciplines can arise according to an emic approach. That does not mean to call into question decades of theories that are milestones of scientific knowledge, but foreshadows an adaptation of the theoretical models to the specific social, cultural and ethical background. In this way, even a university cooperation project – as is the Tempus programme – takes the form of a community development project.

The community development is both a process and a product, both a practice of intervention and an ethical guiding principle from which derives this practice of intervention; it refers to a programme of approaches, methods and techniques that combine external assistance with locally organized self-determination. It involves citizens as individuals and as groups, institutions and political leaders. The community development focuses on people's participation and initiative of the community as the primary tool for change [1].

The benefits of community development come through local people changing attitudes, mobilising existing skills, improving networks, thinking differently about problems, and using community assets in new ways. The community development process is rooted within the context of the physical and social environment of the community [2]. The peculiar feature of this approach is the active involvement of groups and individuals targeted by the intervention. These subjects are supported by professionals, but the role of the experts is, in some respects, marginal, as it is important that individuals/groups themselves determine their own transformative process. External facilitators and people resource work *with* community people, rather than working *for* them. They have a responsibility to challenge and suggest, without making or influencing common decision-making. According to this approach, therefore, participation and sharing are both guiding principles and goals to achieve [3]. The marginal role of the expert has also the function to avoid a sort of scientific-cultural hegemony: the power of the expert is reduced in favour of the power of the community [4]. Based on these characteristics, community development is located in the middle of two actions: social planning and social action. Social planning is an action controlled by professionals, according to a top-down approach; social action, in contrast, is based on self organization of the community according to a bottom-up process. Community development often requires the creation of networks, built through the work and support of the experts, who believe that direct involvement of the people to whom the intervention is targeted to is essential in planning, in improving empowerment and in bringing about significant changes in the community. The advantage of using this approach is that it is easier to meet the real needs of the community, since it is listened to when decisions are made and, at the same time, do not get lost in the vagueness of a superficial and undirected work. The key for community development is facilitating a community in applying the principles to guide a flexible series of actions that are appropriate for the situation of that specific community. The community development approach considers limiting the pre-packages interventions and argues how the community has in itself the opportunity and the capacity to propose innovative and effective solutions.

According to this approach, therefore, the expert is a connector resource and he/she is also the one who leads the

people or the community towards change. As we learn from one of the fathers of social psychology, Kurt Lewin, the process of change involves three steps: *unfreezing, changing, freezing*. The first stage involves the *unfreezing* of the status quo and, as many people will naturally resist any change, the goal during the unfreezing stage is to create an awareness of how the status quo is not convenient. The *changing* step is marked by the implementation of the change. It's the time that most people struggle with the new reality. It is a time marked by uncertainty and fear, making it the hardest step to overcome. During the changing step people begin to learn the new behaviours, processes and ways of thinking. Finally, the *freezing* stage is marked by the stabilization of the new state after the change. This step is especially important to ensure that people do not revert back to their old ways of thinking or doing prior to the implementation of the change. Efforts must be made to guarantee that the change is not rejected. An expert, having an external point of view, may help in addressing these steps, because he/she may help those involved in them to be aware of the limitations of the current situation and may promote the foreshadowing of alternative strategies. However, without the cooperation of the people directly involved in this process, the change would not be possible. These are the key elements of community development. Furthermore, the community development, as it has been defined, it is also based on an *emic* approach rather than of an *etic* one. Emic and etic refer to different method used by human scientists in attempting to understand human behaviours in societal context. As pointed out by Morris and colleagues [5], these two perspectives have equally long pedigrees in social sciences. The emic perspective follows in the tradition of psychological studies of folk believes, whose origins date to Wundt [6], and in cultural anthropologists' striving to understand culture from "the native's" point of view, as proposed by Malinowski [7]. The etic or outside perspective follows in the tradition of behaviourist psychology, see Skinner [8], and anthropological approaches that link cultural practices to external, antecedent factors, such as economic or ecological conditions, that may not be salient to cultural insiders, see Harris [9]. Specifically, the emic approach deals with the study of culture from an "internal" point of view, trying to overcome the dualism of nature/culture, positing a close interdependence between biological and cultural level. This approach requires to adopt the social actor's point of view, their beliefs and their values. Furthermore, since each culture has its own characteristics and constitutes a totality, the emic approach attempts to identify culture-specific aspects of concepts and behaviour, which cannot be comparable across all cultures. In contrast, etic approach provides an external point of view to the study of culture, and refers to a kind of universalistic vision that implicitly assumes the existence of the dichotomy nature/culture. The etic approach attempts to identify universal aspects of human behaviour and seeks to find universal processes that transcend cultural differences or to produce new theories that can be utilized across cultures [10], in other words, an etic account attempts to be culturally neutral.

Even though emic and etic present two different perspectives and the separation between these two approaches persists, currently a perspective that considers them to be complementary and attempts to integrate these two methods is arising [11]. This occurs in particular in the field of research dealing with the characteristics of human nature, as well as the form and the function of the social systems.

THE TEMPUS PROGRAM: A PARTICULAR CASE OF COMMUNITY DEVELOPMENT

The theme of community development in its various aspects, as well as the question of culture, plays a key role even in the frame of international cooperation. International cooperation is effective only if the experts involved take the role of facilitators who are able to activate resources and skills existing in the context. Otherwise, the risk is to transform a cooperation project in a colonization process.

Based on these premises, we propose to think at the issues highlighted as essential even in the case of international cooperation in the field of higher education. We refer to the TEMPUS programme. TEMPUS is the European Union's program that supports the modernisation of higher education and creates an area of co-operation in countries surrounding the EU. This programme promotes voluntary convergence towards European policy developments in higher education, as it has been outlined by the Lisbon agenda and the Bologna Process. Since 1990, the Tempus Programme has played a major role in supporting the development of higher education in the EU's neighbouring countries in North Africa and the Middle East, in Central and Eastern Europe, the Western Balkans and Central Asia with a total of 29 Partner Countries participating in the programme. Nowadays it has a key role to play in helping the modernisation of education institutions and systems and in creating an open space for enhanced cooperation with the EU. It is also instrumental in promoting not only bilateral cooperation between individual countries but also co-operation at regional level (see Education, Audiovisual & Culture Executive Agency's – EACE – documents). Tempus funds two types of actions: *Joint Projects* and *Structural Measures*. The *Joint Projects* are partnership projects between higher education institutions in the EU and partner countries. They can develop, modernise and disseminate new curricula, teaching methods or materials, as well as boosting quality assurance and management of higher education institutions. Aim of *Structural Measures* is to develop and reform higher education institutions and systems in partner countries; to enhance their quality and relevance, and to increase convergence with EU developments.

Specifically, our experience refers to the project *Tempus LMPSM – Licence Master Psychologie Sociale Migrants*. The general objectives of this project are to promote the social psychology for providing support and integration for migrants; to provide professional orientation of educational programmes in psychological colleges/universities in order to develop quantitative and qualitative help to migrants. These aims are defined by the absence of social psychologists able to help migrant groups at breakneck speed to make up the need in human resources, conditioned by the new social

policy of each of the four regions liable to strong migration (Kazakhstan, Ukraine, Siberia and The Far East of Russia).

Starting from the basic elements of the TEMPUS programme, there are some questions on which, in our opinion, it is worth pondering. What does it mean to finance the modernisation of the university? How to create an area of co-operation in higher education? How to achieve this cooperation? What skills should be transferred?

Perhaps, it may be easier to answer these questions when referring to technical-scientific training, rather than when it refers to scientific-humanistic one. Whereas the international scientific community has already defined how to better operate, in the case of university scientific-humanistic courses there are some questions that remain still open. In addition to ethical issues, which we referred above, there is an epistemological question: As the humanities express the universal laws and how the theories of reference of the humanities are culturally situated? This question specifically involves some disciplines, such as sociology and psychology, because, as stated Mazzara [12], the relationship between cultural dynamics and the psychological processes constitutes one of the fundamental themes of the humanities, and specifically one of the areas most qualifying which provides a disciplinary definition of social psychology. Specifically, we agree that for social psychology the cultural approach should not be considered as a possible theoretical option or one of the possible fields of application, but as a constitutive aspect of this discipline. As the aim of social psychology is to study the intersection between the psychological and the social needs, conceptualizing the mind as a socio-cultural product is probably the most effective way to overcome the antinomy between the individual and society.

Consistently we need to ask how to act within a project of international cooperation in the field of education. An aspect that should be taken into account is that it is a partnership of equals with theoretical knowledge to be transferred between colleagues. However, those colleagues live and work in different social and cultural contexts (countries of Western Europe *vs.* Former Soviet countries, *vs*. Maghreb countries, and so on) and cultural and social dimensions are crucial elements always to be taken into consideration, in order to the collaboration being effective. This kind of cooperation can be effective and useful only if those who have the task of disseminating specific skills and knowledge offer their expertise and make it available to those who are recipients of the intervention. This means that an ecological approach is needed to "export" theoretical knowledge and practical skills. This is especially important when social workers must be trained or when the Bachelor's degree programmes and/or Master's degree programmes must be created, as these social workers and these graduates will carry out interventions in *their* social contexts. This does not mean denying the objectives that the Tempus programme wants to achieve (to enhance the interdisciplinarity and trans-disciplinarity), but rather thinking in terms of community development as it has been defined above, trying to integrate the aims and working methods of the international scientific community with the aims, needs and the specific working methods of the local communities. In this way, the local communities would take the role of real partners.

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AFRICAN CINEMA AS INSTRUMENT AND OPPORTUNITY IN INTER-ACADEMIC COOPERATION: A PROJECT IN NGOZI (BURUNDI)

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ABSTRACT

Since 2001, the University of Verona has been involved in an agreement with the University of Ngozi, North Burundi, foreseeing the participation of thirty-forty Verona University professors in teaching activities in the Nursing course - Institute Universitaire des Sciences de la Santé (IUSS). In addition to this, in 2008 the Italian partnership financed the building of a didactic center composed of classrooms, library, informatics rooms and laboratories. In 2012, the spatial availability of this didactic center and the socio-cultural needs expressed by the students, led to the idea of organizing an African cinema festival. The most relevant objectives of this event are to promote awareness of the rich African film production in a context where there are no cinemas or, where present, are very expensive and to start a multipurpose use of the center not only for the students but also for the whole territory. To reach these aims a network among Burundian filmmakers, the organizers of the Festival de Film et du Audiovisual du Burundi (FESTICAB), the students and the Rector of the University of Ngozi, the director of the IUSS, the organizers of the Festival del Cinema Africano of Verona and Belgian cinema experts, African students and professors of the University of Verona has been developed. The set of participants collaborates in verifying and sharing the available knowledge and the whole interaction process triggers changes in all members of the network and in their specific context. The open and shared methodological approach presents a particular value in the involvement of the Burundian students from the early stages of the films selection. This creates an important opportunity for dialogue among them on issues still difficult to deal with, because of the recent ethnic war and its consequences on communities and territory.

CONTEXT OF ACTION

This paper deals with a new project stemming from a long-term established cooperation program between the Universities of Verona (Italy) and Ngozi (Burundi). For its peculiarity and aims, the project presented here is independent of the already existing cooperation program and may be considered as a co-managed attempt to start a cultural process that could benefit both society and territory[1]. The general purpose consists in promoting the use of the didactic center in Ngozi as a resource for the local community through a festival of the African cinema[2].

Ngozi (population: 21,506 [1]) is the capital city of the homonymous province located in the North of Burundi, 140 km far from the capital Bujumbura. The province population in 2008 reached 661,310 inhabitants [1], 8.2% of the total Burundian population of 8,038,618 inhabitants [1][3]. The region of Ngozi is 5.6% of the total country area (25,950 km²). The territory is a tableland with mean altitude of 1,700 meters above sea level. The economy is based on agriculture, particularly extensive cultivation of both coffee and tea.

Ngozi and Burundi are in conditions of poverty and poor quality of life, partly due to a long-lasting strong political instability. After gaining the independence in 1962, the country experienced recurring ethnical conflicts. The recent history is marked by a military coup d'état (1993) leading to another ethnic war that ended in 2005 with the elections of a new President, later re-elected in 2010[4].

The country is in 178th place (out of 186) on the Human Development Index (HDI), meaning a very low human development rank [2]. It suffers particularly in the fields of health and education. The primary education is compulsory and free since 2008 and has made advances in the recent years [3].

The University of Ngozi was opened in 1999. It is composed of six Faculties (Agronomy, Economy and Law, Engineering, Informatics, Literature and Human Sciences, Medicine) and the Institute Universitaire des Sciences de la Santé (IUSS). Several courses started, although the problem was and still is the lack of professors. They usually are

[1] A detailed picture on these themes is provided by E. Bignante, E. Dansero and C. Scarpocchi, *Geografia e Cooperazione allo Sviluppo. Temi e prospettive per un approccio territoriale*, FrancoAngeli, Milano, 2008.

[2] The author of the present paper was involved from the beginning in the development of the project to pay attention to African territory and its cultural production – such as cinema - and to the relationship between space and local community, in a geographical perspective.

[3] The most recent estimate (July 2013) of total Burundian population is 10,888,321 (www.cia.gov/library/publications/the-world-factbook/geos/by.html).

[4] For an analysis of the interaction between Burundian institutions and ethnic conflict see: L. Ndikumana, Institutional Failure and Ethnic Conflicts in Burundi, *African Studies Review*, vol. 41, pp. 29-47, 1998.

non-Burundian and move among different universities to give their lessons, rendering the costs almost unbearable.

Moreover some courses remain without teachers and the quality of the whole didactic system is negatively affected. In 2001, the Rector of the University of Ngozi approached some European Medical Schools for a partnership in the realization of the Nursing course. The Verona Medical School answered positively and in 2003, following verification of the local conditions, an agreement was signed between the Universities of Ngozi and Verona. According to this agreement, each academic year, at scheduled time frames, approximately thirty to forty Verona professors visit the IUSS to give their courses and verify competences.

In 2008 a didactic center (Centre d'Etudes Medicales) was built, thanks to contributions of the Zanotto and Cariverona Foundations (Verona) in collaboration with the Italian partner. This didactic structure, provided with all necessary for attending lessons and learning, hosts the IUSS, which is entirely managed by Burundian people under the responsibility of the IUSS director. In the beginning, this center was not much frequented by the students except for the lessons. In the last two years their presence has increased a lot in the library and in the informatics room (the number of computers increased from 20 in 2009 to 70 in 2013) and now, students remain at the center until late in the evening (closing time is at 8 pm) and also during the weekends[5]. Meanwhile, they developed a need to use the center also for other purposes, not only for the study.

A context analysis led to the elaboration of a proposal on African cinema. There is an established practice, started in Fall 2011, to show a film every Friday, after the end of lessons, from 6 pm to 8 pm. A guy who collaborates in helping students in the informatics room organizes the “IUSS Friday cinema”. The film selection is based on which DVD could be recovered at the moment, often very commercial ones. This event is also open to the town people and the audience is composed of both students and inhabitants. The need for a cinema is real for the following reasons: the only cinema in the country, the Ciné Caméo, is placed in the capital Bujumbura, in the Asiatic quarter, and screens all the latest blockbusters for 2,000 FBu (1 euro = 1,400 FBu)[6]. The film projections organized monthly by the Centre Culturel Français are proposed only in Bujumbura, too.

The situation of the cinema in Burundi (well known to be problematic in the whole Continent) is worse than that of other East African Community countries. For example Ruanda, which also faced an ethnic war, now has some cinemas both in the capital Kigali and in other towns like Butare and Gitarama. Moreover in Kigali a 3D multiplex cinema in a commercial center (Kigali City Tower) has been recently opened. Nevertheless, the ticket prices remain very high and unaffordable for the great part of the population.

The awareness of how cinema could be a cultural means, as well as much more, began to spread among Burundian society and institutions[7]. Cinema itself is a cultural wealth that should be endorsed by each country. However, in the rare cinemas of the African towns one could find mostly Western broadcastings and no local productions.

It can be noted that African cinema is often unavailable to Africans. African cinema production is very interesting as witnessed by several African cinema festivals occurring all over the world [4].

From 2009 Burundi as well has a cinematographic festival called Festival International du Cinema et de l'Audiovisuel du Burundi, FESTICAB, which is held in Bujumbura and headed by the film director Léonce Ngabo. The audience increased from 2,000 to approximately 20,000 spectators from the first to the last edition, respectively. During the FESTICAB, projections took place in centers such as the Centre Jeunes Kamenge, Institut Français du Burundi, Université du Burundi, Hotel Club du Lac Tanganyika, Cinema des Anges-Ruyigi, Alliance Française-Gitega and the Université de Ngozi. Here, five short and two full-length films were presented. The admittance was free of charge and the participation of the Ngozi population this year was very high (E. Gamberoni, personal communication), thus underlying the need felt by the whole citizenship for such initiatives. Among the activities related to the FESTICAB there is also the *cinéma mobile* that takes place in the surroundings of Bujumbura. However, the rest of the country lacks any of such initiatives.

A movie may contain several meanings and potentialities. It is a “life story [… *and a*] narration of an intense richness and cultural force” of the African continent [5]. In addition, the films are investigation fields from different points of view. A productive line of research addresses the relation between cinema and territory [6]. Movies were reported to be geographic documents, geographic agents and geographic narrations [7]. Being set in a territory, a film represents that place and highlights the relations between people and environment.

Finally, the meaning of territory is wider than that of landscape or setting, and finds its essence with the presence of the characters that exploit it, lived in it, use it and are continuously in contact/conflict with it [5-7]. The interesting topic of the geographic narration is that it does not only increase the knowledge of a territory, but helps in asking questions on the originality and uniqueness of the human presence, relations and actions in that geographic context [7].

Moreover, it is known that the use of films in education and training is now highly widespread [8-10] and it could promote therapeutic goals in psychotherapeutic treatments [11].

[5] In the academic year 2012/2013 the Ngozi University students are almost 2,000 and 12% of them attend courses at the IUSS.
[6] It is very expensive considering that a local worker daily salary is about 1,700 FBu.
[7] See: http://africalia.be/coprodac/pays.

AIMS AND METHODOLOGICAL APPROACH

Considering the reasons given above, cinema could be involved as a positive force in the Burundian society that needs places and occasions for dialogue and exchange of opinions.

In this sense, the idea of organizing a festival of African cinema by the IUSS developed with the following specific aims: i) to increase the knowledge on the production of African cinema with relevance also on local Burundian activity, ii) to widen the functions of the didactic center not only as a place related to learning/studying/teaching but also as a socio-cultural place, iii) to give the students an opportunity to exchanging ideas and discussing themes considered still difficult to deal with in the current Burundian society, iv) to offer an opportunity of participating in a film festival to people not living in Bujumbura, thus rendering "central" what is peripheral.

The method used is participant-based and foresees the creation of a coordination network and the proposal of a films list (step 1), the selection of movies (step 2), the occurrence of the festival (step 3) and the results evaluation (step 4).

The films selection is one of the characterizing aspects of this project. In fact, the students identify a little group of them (the committee) with the task of assisting to all films listed, performing the choice and proposing the order of the movies to be presented at the festival. The discussion is centered on the following points: structure (figures of speech, use of the language), intrigue of the plot with questions/issues targeted, meaningful sequences, most interesting scene/character, significant messages and reasons for conveying them to all students.

Furthermore, this approach gives the special opportunity to the students of facing themes that are still awkward for the majority of the Burundian society. Peace and reconciliation are in fact compelling needs for the country, as underlined by the theme of the 5th edition (2013) of FESTICAB: *The Cinema at the Service of Peace and Development.*

There will also be a chance for some appointed students to guide the discussion during the festival and learn how to face a debate with a wide and heterogeneous audience having different ideas.

WHAT HAPPENED: STEPS 1 AND 2

The project has already started at the beginning of the academic year 2012/2013. The first steps of the pathway - developed until now - are here presented.

Step 1: creation of a coordination network and of a films list (September-December 2012)

At first, an interconnected network among various actors was created. It is composed by the *délégués*[8] of the students of Ngozi and some professors of Verona, the Rector of the University of Ngozi and the director of the IUSS, the African students of the School of Medicine that study in Verona, the Burundian and Belgian organizers of the FESTICAB and some Burundian film directors, in particular Léonce Ngabo, and the organizers of the Festival del Cinema Africano of Verona (fig. 1).

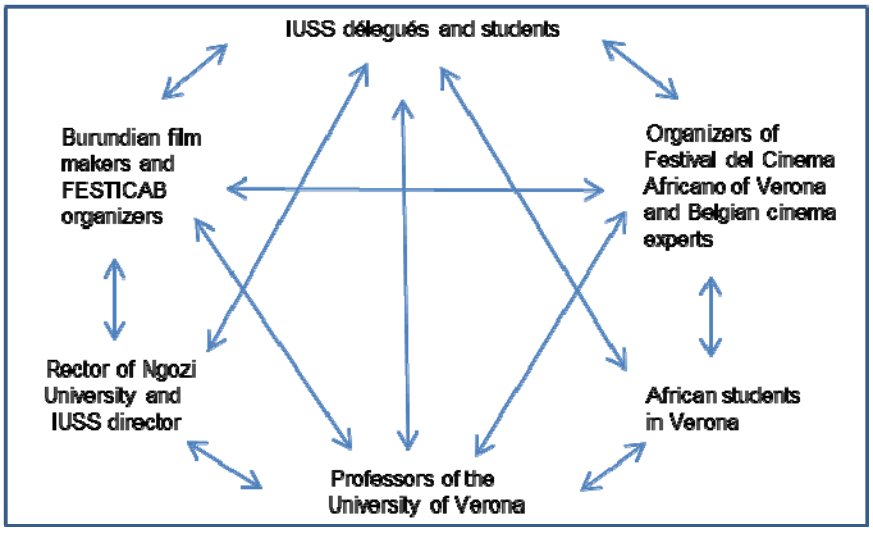

Fig. 1 - Network of the project's actors.

The peculiarity of this network is the strict interrelation and cooperation among the involved partners in each decision. Initially, a selection of possible films was discussed. Given the high production and the good quality of the

[8] The spokesmen for each class.

Sub-Saharan African cinema, the network decided to address the festival to it. However, one limitation was the language. Since English is still not known widely, the assortment was limited to those films that either speak French or, at least, carry subtitles in French. Eleven titles were thus identified, based on the following features to ensure variety: different genres, availability of retrieval, works known as outstanding in the Sub-Saharan francophone filmography, various issues of the most important African directors. Then, cards were prepared to document the richness and uniqueness of each film. It was particularly important and most welcome that Léonce Ngabo assured to present his masterpiece *La Mère et l'Ange* (2008) on the first woman who admitted to be HIV-positive in Burundi.

The network decided about the general organization of the festival: an opening ceremony with the Rector and Léonce Ngabo, dance and drum students groups, two weeks for showing six different films in total, a show every other day, in the afternoon in the lecture room of the didactic center. Some experts of African cinema will present the films and their consequences on society and territory; the students committee members will introduce and explain the reasons for the selection of the movies. On Sunday, in the big lecture room of the University, the event will be open for the entire town population.

Step 2: selection of movies (February 2013)

The Verona professors that came to Ngozi in February 2013 to give their courses, jump-started the cinema project.

The students selected the committee for choosing and scheduling five titles among the eleven proposed.[9]

They analyzed the films in the afternoon each day after the lessons for approximately two weeks. After each movie, they discussed its theme, style and significance. The last was the most important topic from a territorial, social and psychological point of view, because it gave them the opportunity to talk about their lives, their families and their country, still difficult themes to deal with in the Burundian society, particularly among young generations.

At the end, there was a final meeting to discuss the five films selected and decide the order of presentation. The titles chosen and the sequence proposed were: Le Ballon d'Or (C. Doukouré, 1994), Daratt (M. S. Haroun, 2006), Delwende (S. P. Yameogo, 2005), Bamako (A. Sissako, 2006), Africa Paradis (S. Amoussou, 2006).

The motivations expressed by the students committee were very interesting, reflecting the needs of young generations of the local society, as already mentioned.

This is the final declaration of the students committee: "Le Ballon d'Or is a movie of hope and social redemption, it tells how dreams could come true. So it is a good choice to start the festival. Moreover it is cheerful, joyful and involves the game of football so loved by many young Burundians. The second choice is Daratt. It is a hard one and offers the opportunity to talk about revenge, hate, forgiveness and reconciliation. This film is very important for our growth and gives us the possibility to express our ideas after the dark years of ethnic war. If we do not start to talk about these issues and to forgive, we can't afford to take on the destinies of our country with peacefulness and responsibility. The third selected film is Delwende that deals with witchcraft from two points of view: the role of the woman and the related prejudices on one hand, and the ignorance due to lack of knowledge on the other hand. Then we choose Bamako that develops the interesting question on the role and responsibility of the international organizations in Africa. To conclude the film festival we propose Africa Paradis, an imaginary reversal of Africa and Europe relationship, an interesting challenge either for Africans or for their attitude towards Europeans. Its message is positive regarding the possibilities for Burundian young people to build a better country".

CONCLUSIONS AND PERSPECTIVES

The project is still in progress and the festival is scheduled for February 2014 (steps 3 and 4).

Up to now, some important results have been obtained: i) all Burundian partners have become first players in the project; ii) the response and participation of the students, especially those taking part in the committee, was high. Notably, the moment of the selection of the films for the festival turned out to be one of the original aspects of the project: open discussions on movies, on the plot and on the relapse on their own life, on their family and on the town, allowed students to talk and take position, to express opinions on issues considered taboo in Burundian society. The choice of a film may be seen as the first act of responsibility that overcomes ethnic and ideological barriers and could be considered as a sort of "training" in the growth of an individual belonging to a community. In addition, this activity enhances the African cinema for Africans by Africans; iii) the didactic center, built to host educational and didactic activities, will widen its areas of action to become a place for multipurpose use that serves the community of Ngozi in addition to being a resource for the exclusive use of the students. The cultural new side of the didactic center could be the starting point for other activities together with local associations for the benefit of the population[10]. This project in fact represents an opportunity for establishing new connections between places and groups (the latter distinguished by

[9] The committee is composed by eight students belonging to different classes, two of the first year, four of the second year, one of the third year and one of the fourth year. Some of them are the already assessed *délégués*.

[10] For example an interest was shown by a women association acting for the development of the conditions of youth and women, whose president is the director of the IUSS, Anne-Marie Boyayo.

age, gender, ethnic background etc.), in a society strongly marked by past conflicts. It may develop in the future beyond its core by opening interactions with other groups in Ngozi: associations, theatre companies, non-governmental organizations, structures bound to the missionary world or organizations acting in health and primary education fields.

The cooperation between Italian and Burundian Universities in this project is an undeniable chance to open and support the interaction among all the network students carrying multiple thoughts, feelings, needs and stories, mediated by their own background and by their possible migration experience. These aspects, regarding the main actors involved (i.e. the students), are also referred to all partners: the project is "the place" where ideas, stimuli and different opinions are shared. Thus, one of its peculiarities is the possibility of triggering changes in all members of the network and in their context.

NOMENCLATURE

3D	Three-dimensional
FBu	Franc burundais
FESTICAB	Festival International du Cinéma et de l'Audiovisuel du Burundi
HDI	Human Development Index
IUSS	Institute Universitaire des Sciences de la Santé

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APPRECIATIVE INQUIRY IN SAINT MARTIN: EXPLORING THE POTENTIAL FOR CHANGE

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ABSTRACT

The paper presents a participatory action-research carried out in Saint Martin CSA, a grass-root organization that operates around Nyahururu, Kenya in the field of social development. The research-method adopted is Appreciative Inquiry, a strength-based collaborative approach to organizational and societal change, which is used to explore the extent to which a participatory approach can promote empowerment in the community. Saint Martin is a grass-root organization that has embraced in full the participatory approach, as it clearly emerges from its motto "Only through community", which points to the fact that any decision taken by Saint Martin is to be agreed upon within the community since it is the community who will take care of its implementation. In fact, community-based development is about giving the ownership of a project to people in the community, and that can only be possible if the community has taken part to the decision-making process. Too often that is not the case due to a development discourse that leaves the local people at the margins of the development process on the assumption that there is nothing they can contribute to. Appreciative Inquiry steps in the debate by promoting a radical paradigm shift, whereby the focus of the analysis is on strengths, rather than weaknesses, and the idea is that by investigating the moments when an organization or a community has achieved its best and work on those moments of excellence to build a positive image for the future better results can be achieved. Such approach is considered necessary in development practice since it appears to be a good strategy to involve local communities, having them contributing with their knowledge and expertise in the decision-making process, this way accelerating the process of change that ultimately leads to empowerment in the community and the promotion of sustainable development.

RESEARCH QUESTION

The research explores the potential for change of participatory approaches to development and investigates the extent to which they succeed in being means of emancipation and contribute effectively to empower people in the community. The generative question guiding the inquiry during the field research in Saint Martin was the following: *how can a group of people get the best out of communities by inviting people to flourish, take care of others and contribute to the promotion of a society where talents are appreciated and empowered?* It is evident the link between the research question and the vision of Saint Martin, which is part of the reason why it has been chosen to be the case-study of the research. This question seeks to contribute to the debate about participation in development, by finding out when and how participatory approaches are successful in empowering people in the community.

The paper suggests to identify the potential for change of participatory approaches to development through the analysis of a case-study, Saint Martin, and the contribution that appreciative inquiry can offer to accelerate change. It first presents Saint Martin, exploring the extent to which the organization is able to truly involve people in the community in its decision-making process and activate the talents and resources on the ground in order to build together strategies of action for change. Then it looks at Appreciative Inquiry as a possible strategy to accelerate the process of change in Saint Martin and favor the kind of attitude that is deemed necessary for a truly participatory approach to unfold in order to empower the community and deliver sustainable development.

SAINT MARTIN CSA

Saint Martin is a religious grass-root organization that engages people in the community in the elaboration of strategies of action to support vulnerable groups in the society. The organization is located in Nyahururu, a town two hundred kilometers north of Nairobi, while the majority of its activities takes place in the local communities in the surroundings. Saint Martin's target area, in fact, covers a vast territory spread over three Counties, namely Nyandarua, Laikipia and Baringo, that despite neighboring each other have different profiles in terms of social, economic, cultural, traditional and demographic realities. The population of the three Counties settled in the area in the 1960's from other parts of the country, thus being very heterogeneous, and diversity has largely been a source of conflict rather than of strength. At the moment Saint Martin is present on these territories with more than 1,300 volunteers at the community

level and about 100 volunteers at the management level; staff members are 85. Numbers give an immediate sense of the importance of volunteers in the organization, who are the ones who take the lead in initiating and implementing activities in the communities, and contribute through the decision-making process to bring the voice of the marginalized within the organization.

Over the years, Saint Martin has developed five community programs to address the major challenges emerging from vulnerable groups in the society. What is interesting to know about these programs is the approach developed by Saint Martin in order to carry out its activities in the community, which is radically different from the one of mainstream development agencies, and represents a peculiar characteristic of the organization. The programs deal with some of the basic needs of the area and are the following: Community Program for People with Disabilities, Community Program for Street and Needy Children, Community Program of Active Non Violence and Human Rights, Community Program of HIV/AIDS, Alcohol and Drug Abuse, Community Program for Savings and Microcredit. The programs of the organization are not something that emerged all at one time, but are the result of the encounters between people in Saint Martin and the community.

Another important characteristic of Saint Martin is the departments, which are there to support the programs in carrying out their activities. There is, for instance, a Training and Facilitation Department that is in charge of all trainings within the organization, ensuring that the approach is well understood by staff members and supporting them as they go out in the community and meet people to elaborate strategies of action for change. The number of volunteers has grown over time, as the approach of the organization got diffused throughout the target area, and now counts on a vast network of people who are to be considered the backbone of Saint Martin. The organization as well developed gradually, and its structure is constantly rethought and rearranged in order to better fit with the mission of the organization, that is about ensuring integral human development for all through community's full involvement and care for vulnerable groups of people. Saint Martin's approach is perhaps the most interesting and innovative aspect of the organization, which opens to possibilities for change and offers many insights as to how to proceed in the search for better strategies of action. It seems interesting to present a story and start from there to explore the characteristics of its approach.

"John, Kuria and Kamau are three orphans whose mother died of AIDS. They were left behind in a one-roomed grass-thatched house, built by the grandparents, which was in a sorry state. Kuria, who had just joined secondary school when his mother died, dropped out soon after for lack of school fees. Every day became a struggle to make sure there was something to eat. Wambui, a Saint Martin volunteer from the area, learned about the perils of the family and took up the case. She asked the local administration to convene a community meeting to discuss the plight of the orphans. With the help of Saint Martin social worker, she talked in this meeting about the need for solidarity and she moved the community into action. As a result, a fund-raising was organized and different resources were donated in the form of food, clothes, building material and money. A decent house was built for the orphans and Kuria's fees balance in school was cleared. The community also provided a piece of land and labor, which was supplemented with seed and fertilizer through Saint Martin and this ensured that the orphans would not go without food. Finally, the volunteer approached the school administration asking them to consider Kuria for school bursaries and to give him manual jobs during school holidays to supplement his school fees. The orphans have now become the responsibility of the community and are well provided and cared for. They are no longer in a desperate condition, because they know they have neighbors who care" [1].

This story points out some characteristics of Saint Martin's approach, which is particularly interesting for the attitude it proposes towards change: it is a rather slow process, that is centered on the active participation of the community which is seen as the real agent of change, the one to sit and find the way out of the pressing issues on the ground. Saint Martin is there to accompany the community in this process, facilitating the active involvement and mobilization of people; it works on existing talents and resources to build capacity and develop the potential for change that is there but often times finds no expression.

ONLY THROUGH COMMUNITY

According to Saint Martin's approach, it is the members of the community the ones who take the lead in strategies of action for change. This represents the practical realization of the motto of the organization, *only through community*. Whatever the issue on the ground is, the way in which Saint Martin addresses it starts from an active engagement of the community; more on that, it is people in the community, most of the times community volunteers, that engage Saint Martin in issues and activities that are deemed necessary from their point of view. The identification of what is the pressing issue and what are the strategies to be put in place to address it comes from people in the community, with Saint Martin simply facilitating the process and nurturing the active engagement of people.

If it is the case of orphans of HIV/AIDS infected people, as in the case of the story briefly presented, first of all the very identification of the case comes from the community: there is already a degree of activation in bringing the issue to light and start evaluating the possible strategies of action. In situation like the one described Saint Martin stresses the need to address it as much as possible at the local level by involving everyone. The orphans are not the real focus of action for Saint Martin, which addresses primarily the other members of the community and works on them in order to

promote change by activating the resources on the ground. Solutions are always looked for in the community, and this represents a big difference from the mainstream understanding of development and social change.

The focus on the people in the community as the agents of change, directly engaged in the formulation of strategies of action, is premised on a strong belief that animates Saint Martin and puts it in close relationship with action research: it is the belief in the potentiality of people. Without a radical and profound conception of life grounded in the belief that people have the potential for change in themselves, which leads to question how to activate and unleash such potential, there can be no true and effective empowerment. Talents and resources are to be found first and foremost within the community: for people in Saint Martin this is a founding principle which entails the mobilization of local resources through the active engagement of all stakeholders to foster a slow, endogenous, thus sustainable process of change.

The story previously told is once again illuminating in pointing out how solutions must be looked for and can be found within the community: neighbors had the capacity to mobilize the necessary resources to give a future to those orphans who seemed to have little hope of survival. Building relationships of neighborhood, then, is something that no external donor can contribute for; as a matter of fact, what happens is that most of the time, by eradicating the problem and removing it from the community, outsiders are responsible of eroding those relationships of neighborhood. However, in this case it seems that an important aspect for the growth and development of these children is the very fact of having neighbors around who care and consider them part of the community, rather than apart from the community. The integral human development goes also through non-material aspects that an approach like Saint Martin's greatly considers, as opposed to others.

Another peculiar characteristic of Saint Martin's approach is well synthesized in the expression capacity-building, which represents the real essence of the organization and captures more than any other its mission. Saint Martin takes part to the process of change within local communities by identifying the potential strengths, talents and abilities on the ground and contributing to the development and growth of those strengths through trainings aimed at capacity-build people in the community. Trainings are implemented following the principles of adult education.

First of all, they are learner-centered: the starting point is the strengths, abilities and expertise of the learners, who are given full expression and become the point of departure to develop specific trainings based on the real needs of the group. Centering the activity on the personal experience of participants and begin by working on that has proved to be a much more effective strategy of learning. While traditional trainings are content-centered, having a one-direction information flow, participatory trainings emphasize a process of self-discovery, whereby the learner explores his/her own capacities matured through experience and develops abilities and skills to solve the issues that he/she is confronted with. The capacity-building process is completely centered on the learner, given the fact that in the end what really counts for a successful training is the learner's own motivation.

Saint Martin has adopted in full the participatory training method, realizing the potential for change that such approach gives compared to more traditional didactic methods. Its adoption represents a logical consequence derived from the assumption that people have within themselves the abilities, talents and resources to bring about change and it is working on those abilities that genuine processes of transformation can be put in place. These participatory trainings serve also as a way to establish a relationship with a group of people which can become the basis for didactic trainings, when they are needed. The point is that didactic and technical trainings cannot be the only way in which people are engaged, otherwise in the long-run they produce a gradual disempowerment of the community, which becomes more and more dependent on external assistance. What Saint Martin suggests is an attitude change concerning the kind of relationship to establish with people in the community. It is not denied the necessity to develop professional and technical skills, but these need to be located within a broader context where the central role is played by local communities. One way of doing it is by recognizing and appreciating the resources, expertise, abilities and talents that are present on the ground, and participatory trainings are an effective method to do so.

Furthermore Saint Martin's organizational structure is very interesting and innovative as well, demonstrating how participation is not only words on paper, but represents a concrete working practice. A real bottom-up approach needs to give the means and spaces for people to express and voice their concerns and desires, and take an active part within the decision-making process. Volunteers are in Saint Martin the backbone of the organization, the ones who take the lead in initiatives in the community, and therefore deserve to play an important role in the organization.

The decision-making process in Saint Martin sees a flow which moves from the community to the administration in a way that guarantees the active participation of people in the community. One communicative level is the one taking place between members of the community, community volunteers and staff from Saint Martin: these are the people who interact the most and know what are the challenges and pressing issues on the ground. It is among these people that the right attitude is necessary in order to make sure that the potentiality from the community emerges and is developed over time. Staff members have the important task of facilitating this process of self-discovery and growth, together with accompanying and nurturing transformation in the community.

Once such attitude is there, then it becomes easy to see how staff can act as the medium between the community and the organization to favor the information flow by which people come to collaborate to the decision-making process of Saint Martin. It seems necessary to highlight the fact that organizational modifications need always to be accompanied by an attitudinal predisposition, which guarantees that procedures effectively achieve results, so to avoid that become mere bureaucratic steps with no substance. This aspect is fully acknowledged by people working in Saint Martin, who know well the importance of continuous critical self-reflection as a way to keep track of where they are and how close they are to people in the community.

HOW TO ACCELERATE CHANGE DYNAMICS?

It is interesting to see how new strategies can be developed to promote the kind of attitude previously mentioned and accelerate the process of change in order to be more effective and deliver better results. In this light appreciative inquiry is presented as a possible strategy to adopt in Saint Martin in order to find new and better ways of engaging the community. Saint Martin is valuable in its attempt to work on attitude change and the development of self-critical reflection as a way to promote change within people, starting from the staff members and moving out to the community: that is the way to take seriously the call to address people in the community as the real agents of change and organize the whole action plan around this powerful premise. To this extent appreciative inquiry is proposed as an innovative evolution in the field of participatory approaches to development for the beneficial effects it can produce in an organization like Saint Martin.

Appreciative inquiry could accelerate change dynamics by acting on the positive core of the organization and develop from there better strategies of action for change that engage more deeply people in the community. Appreciative inquiry is, in fact, first and foremost an approach that aims at stimulating change within communities and organizations by working on the way people come to understand and act upon reality. It is not so much about collecting information, but it is rather a form of inquiry mainly focused on stimulating people to see things in a different perspective: it could be argued that the real goal of appreciative inquiry is attitude change, through which people are invited to realize the potential they have and use it proactively to build strategies of action for change. It is therefore evident the beneficial effect that appreciative inquiry might generate in an organization like Saint Martin, since it seems to have the tools to act on it and bring about the kind of change that is needed in so to contribute to realize in full the vision and mission of the organization.

One of the major reasons why appreciative inquiry seems to be an effective strategy for Saint Martin and community development is to be found in the answer it gives to the challenges presented by mainstream development practices. It is well known the fact that the development discourse is still embedded in the belief that external agents and professionals are the ones entitled to investigate reality, identify the needs and formulate action plans to meet those needs. External donors are the ones who finance the process, which is set up in a totally deficit-based approach: that is to say, the action plan starts from the identification of what the problems are in a given community and moves to the formulation of the strategies to put in place to tackle those problems.

The long-term effects of this approach to development appear to be far less positive than expected. Focusing on what is missing and perpetrating the idea that solutions come from abroad are two of the major reasons that led the development project as a whole to fail. It did produce some results, and the most evident seems to be the disempowerment of people and communities, which have been left in a state of dependency and lack of confidence in their own capabilities. The development discourse has been seen by critical authors such as post-colonial thinkers as the continuation of the colonial project through different means [2]. Colonial or not, the development project has surely diminished the capacity of local people to activate and address autonomously the issues they were confronted with, mainly as a consequence of the dependency syndrome generated through the extensive use of external assistance. It is in order to answer such an approach to development and social change that appreciative inquiry steps in suggesting a radical paradigm shift and a viable alternative strategy of action.

APPRECIATIVE INQUIRY: TAKING A POSITIVE STANCE TO RESEARCH

Appreciative inquiry is one approach within the family of action research and is here analyzed for its capacity to foster processes of change. It is grounded in an innovative understanding of change dynamics, and the way of engaging people in processes of transformation is also worth been analyzed for its promising results. The peculiar characteristic of appreciative inquiry in its strategy for change management is the constant exploration of what gives life to human systems when they function at their best. The underlying assumption guiding appreciative inquiry is that by revealing and bringing to light that positive core of strengths which people tend to keep hidden, underutilized, then the potential for change is unleashed and positive energy is released for both personal and organizational transformation. When the positive core is set in motion, then people are empowered to create ascending spirals of co-operative action [3].

Appreciative inquiry is first of all a peculiar form of inquiry: its original message is ‘an invitation to re-awaken a “spirit of inquiry” - a sense of wonder, curiosity and surprise - in our pursuits of knowledge creation about the social world’ [4]. The entire cycle of knowledge production and more broadly change management is to be guided by a sincere curiosity and sense of wonder about the possibilities for change that are present in any group of people. The positive stance taken by appreciative inquiry is then implemented by working on these strengths as a way to foster change. Within the field of action research, appreciative inquiry is an approach that explores alternative possibilities for our shared and organized existence, and it does so by instilling in participants the desire to see things anew, from a different perspective, in ways that inspire thought and action in the world. It is an asset-based approach, grounded in the belief that people have within themselves the strengths to achieve empowering ways of being in the world, and the kind of process suggested is one that investigates and develops the best of what is in organizations in order to promote social change.

Appreciative inquiry is primarily an answer to the deficit-based approach and it is grounded on a very different conception of social change according to which "organizations move toward what they study" [5]. If a group of people starts focusing on all the lacks and deficiencies that impede concrete change to take place, it is very likely that those analyses of what lacks will severely influence the possibilities for change, and compromise the ability of the people involved to achieve any kind of improvement. When the focus is put on the positive core and on what gives strength to an organization, then the strategies for change will emerge much more easily and produce positive effects on the people involved.

Organizational and societal change is looked at by appreciative inquiry in a radical different way from dominant development discourse. Instead of having problems as the focus of analysis, people first discover what is working particularly well in their organization or community; instead of analyzing possible causes of problems, they envision what it might be like if "the best of what is" occurred more frequently [6]. The desired future is something to be co-constructed by participants on the base of what already exists. Appreciative inquiry challenges the common assumption of problem-solving approaches that organizations improve when identify and remove their problems, and argues in favor of an approach where improvement is the result of a focus on strengths, capacities and abilities. As Banaga put it, 'appreciative inquiry does not turn a blind eye on negative situations or deficit-oriented realities in organizations; it does not substitute a rosy and romantic picture for an objective and realistic one. It accepts these realities for what they are […] and intentionally shifts the focus of the inquiry and intervention to those realities that are sources of vitality' [7].

Appreciative inquiry represents within the broad spectrum of action research practices an attempt at "discovering, understanding and fostering innovations in social-organizational arrangements and processes" [8]. It is in line with social constructivism, and can be seen as a possible answer to Gergen's daring invitation [9] to bring back to life the "generative capacity" of social science research, which regards the ability to challenge the status quo and open up new possibilities for thought and action. Generative theorizing, according to Gergen, opens to the possibility for social transformation, by 'telling it as it might become' rather than 'telling it like it is' [10]. Appreciative inquiry shares with action research the combination of research and action, inquiry and intervention, whereby knowledge is generated and immediately tested for its transformative potential. What it adds to this notion of action and reflection is the creative element, according to which knowledge can empower those to strive for change by generating a theory that is closer to a vision of the desired future than a representation of the existing; and this with the ultimate goal of overcoming reality and nurturing social change. Appreciative inquiry is then defined for its transformative and emancipatory intent, in the constant search for ways to activate people and unleash the potential for change.

The core principles and assumptions of appreciative inquiry have been clearly influenced by social constructivism. Based on that theory, and research studies from other fields, Cooperrider and others developed the following five core principles for the practice of appreciative inquiry [11]:

- *Constructivist Principle*. Related to the notion that multiple realities exist based on perceptions and shared understandings, this principle suggests that what is known about an organization and the organization's actual destiny are interwoven.
- *Principle of Simultaneity*. Because reality is an evolving social construction, it is possible through inquiry to influence the reality an organization creates for itself. Inquiry and change are simultaneous and "inquiry is intervention". Thus, the nature of the inquiry itself is critically important where the very first questions we ask set the stage for what people discover and learn and the way they co-construct their future.
- *Poetic Principle*. Because reality is a human construction, an organization is like an open book in which its story is being coauthored continually by its members and those who interact with them. Consequently, members are free to choose which part of the story to study or inquire about its problems and needs, or its moments of creativity and joy, or both.
- *Anticipatory Principle*. This principle postulates that the image an organization has of its future guides the organization's current behavior. Thus, an organization's positive images of its future will anticipate, or lead to, positive actions.
- *Positive Principle*. This principle arose from extensive experience with Appreciative Inquiry. Early Appreciative Inquiry practitioners found that the more positive the questions they asked were, the more engaged and excited participants were and the more successful and longer lasting the change effort was. This is in large part because human beings and organizations want to turn toward positive images that give them energy and nourish happiness.

Based on these principles, eight assumptions form the foundation for appreciative inquiry's processes and methods [12]:

- In every society, organization, or group, something works.
- What we focus on becomes our reality.
- Reality is created in the moment, and there are multiple realities.
- The act of asking questions to an organization or group influences the group in some way.

- People have more confidence and comfort to journey to the future (the unknown) when they carry forward parts of the past (the known).
- If we carry parts of the past forward, they should be what is best about the past.
- It is important to value differences.
- The language we use creates our reality.

These principles and assumptions underlie both the philosophy of appreciative inquiry and the ways in which it is conducted. At this point it is interesting to conclude the journey into appreciative inquiry by looking at how it is conducted in practice, and the most common model for doing it is the 4-D cycle, which refers to the four steps to go through: 1) discovery of the best of what is, 2) dream to imagine what could be, 3) design what will be, and 4) destiny, to enact change learning to become what we most hope for.

The discovery phase seeks to find and highlight the life-generative moments of an organization, when people felt most engaged and motivated, 'the best of what is' at any given situation. Those moments are analyzed in order to promote learning within the organization by sharing stories about times when and how people were able to give their best, what were the contributing factors that made that possible. It is during this phase that the sense of wonder and curiosity comes forth, and it is essential to instill in people an attitude to look at their own situation anew, and to develop a sort of positive thinking related to the past experiences that can guide for future actions.

The second phase entails the dream about what could be. The identification of the most positive past experiences inevitably leads to think about the future in a renewed way, and imagine new possibilities for the way ahead. One important element of appreciative inquiry is that in this phase the dream is rooted in the past experience, from which it takes the lead, and is not just wishful thinking about how people would like to see their future. The dream phase serves to practice that invitation to generative theorizing whereby a group of people imagines a desired future that tells how things could and should be.

The third phase is to design the future, and make the abstract formulation of the dream phase closer to the ground, by exemplifying the strategy to follow in order to achieve the goals set in the previous phase. In fact, once the desires and hopes have been articulated, it is necessary to find out what are the social and organizational adjustments that can help bringing the dream to life. It is a future built on dialogue among the parties, where the common mobilization to achieve the goals set in the dream phase are the premise for a future action plan.

The fourth and final phase, destiny, represents the way in which the action plan takes form in practice. It needs to be understood in the most innovative and creative way possible, where the only important element to keep in mind is the active engagement of people that struggle to move closer to the ideal: how to do it is not prescribed in any manual. The confidence in achieving the goals is given by the fact that they are grounded in past experience and moments of excellence. It is this important element of appreciative inquiry, which matches a visionary aspect with a very concrete basis that makes it a compelling and innovative strategy to bring about transformation by challenging the status quo and grounding change in viable strategies of action.

CONCLUSION: IMPACT, SUSTAINABILITY AND THE POTENTIAL FOR CHANGE

In the concluding remarks Saint Martin and appreciative inquiry are brought back together in order to address the extent to which appreciative inquiry can contribute to promote the kind of attitude that is deemed necessary to achieve sustainable development and social change. The contribution of appreciative inquiry to Saint Martin, and to participatory approaches to development, is to be seen primarily as a radical answer to what Elliott defines "the culture of cynicism" [13]. It is a different way of referring to the problem-oriented attitude towards reality that is so much overwhelming in the development discourse. Saint Martin is to a certain extent affected by this problem-oriented attitude, which impedes the unfolding of that alternative approach put forward in the vision and mission of the organization.

One could find many arguments to support the idea that every situation is surrounded by limits of any kind; when the context is that of a village in the periphery of an African country, and the people are affected by a disability or HIV infection, then it is also easier to put forward the limits and give reasons for hopelessness and despair. On a different ground, there is plenty of elements to show how structures of power are there to limit the potential for change at any given moment, by infringing in people's freedom to voice concerns and formulate plans for the future. If one asks to raise the positive in such a context, most of the times he or she is confronted with a reality that abound of problems and power constraints of any kind.

It is exactly there that appreciative inquiry steps in, suggesting an unconditional focus on the positive as the only possible way to promote social change and achieve sustainable development. It does so by challenging the prevailing culture of cynicism primarily because it brings about a destructive attitude that becomes self-feeding and self-justifying. Reporting the existence of structures of power that impede the expression and activation of marginalized groups as the reason why it is not possible to envision a process of change is a self-realizing prophecy: challenges and structures of power are not justified by their very existence and it is the purpose of appreciative inquiry, and whichever attempts at bringing about change, to challenge such ideas. If one stops at the existing as everything that is possible and denies the possibility for alternative ways of being in the world, then it is evident that realizing change is nothing more than

wishful thinking. Appreciative inquiry embraces in full the call of social constructivism for generative theory and the need to move beyond the existing for new and better ways of being in the world.

Similarly, the questions of impact and sustainability are convincingly addressed by the participatory approaches to development presented in this paper. It can be argued, in fact, that when people are effectively engaged in the construction of strategies of action for change, then the question of sustainability is immediately addressed by the very simple fact that people participate. Participation, in fact, can be seen as the answer to the question of sustainability, insofar as it is a true and effective form of participation. Saint Martin is to this extent an outstanding example of how an organization can engage a community in an endogenous process of change, by working on the resources and talents on the ground to bring about change and promote sustainable development. The question of impact can as well be addressed within the framework of a truly participatory approach: in fact, when people are the real agents of change, driving the process, then the question of impact becomes to a certain extent less relevant. If it is people that have decided over their own future, then the impact of their actions is everything that the community could have achieved, and if it is a lot or a little, that is all that could have been done at that given moment.

In conclusion, it is my strong belief that as long as organizations like Saint Martin will continue in the ongoing search for new and better strategies of being in the world, and accompany communities in this process by making use of practices such as action research and appreciative inquiry, then there is a lot to expect from participatory approaches to development as to the potential for change they can offer for empowerment and emancipation.

NOMENCLATURE

Saint Martin CSA	Saint Martin Catholic Social Apostolate

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IDENTIDAD, MEMORIA Y DESARROLLO DE COMUNIDAD

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ABSTRACT

The paper addresses the problem of cooperation in the field of community psychology, focusing especially on the intervention in communities affected by the consequences of traumatic events. It starts from some reflections on the meaning of community intervention, focusing on critical approaches and in particular on Latin American contributions, which emphasize the need for an active role of the community in a process of participated action research. It is then introduced the theme of trauma and the paper highlights the differences between possible approaches to work on it: especially those that depend on the choice of relying on the idea of "resilience" rather than on that of "vulnerability" or the choice to intervene only on the individual trauma rather than face even their collective effects. Eventually the role of memory is taken into consideration; its reconstruction, through a narrative approach, is seen as a fundamental process for maintaining the identity and reconstructing the meaning of the personal as well as collective tragic experiences. Finally, some considerations are made on the conditions that make possible a work of this kind as part of a cooperation program involving external researchers, along with key members of the community.

INTRODUCCIÓN

Esta ponencia deriva de una experiencia de intervención en psicología comunitaria que estamos llevando a cabo desde hace algunos años con la Asociación "Psicologi nel Mondo - Torino" (Psicólogos en el Mundo), a través de un programa de colaboración entre la Universidad Politécnica de Turín y la Universidad Luterana Salvadoreña, en una comunidad rural de El Salvador, Santa Marta, especialmente afectada por las consecuencias de la guerra civil de 1980-1992. Este artículo, sin embargo, no se refiere directamente ala intervención que se está desarrollando en ese contexto específico, sino sugiere algunas consideraciones de carácter más general, que también tengan en cuenta otras experiencias y reflexiones teóricas sobre el significado del trabajo del trauma de la guerra en los programas de cooperación, y sobre todo losque consideran la elaboración de la memoria y de los recuerdos – a nivel individual y colectivo – como una parte esencial de un proyecto de investigación y acción enfocado en el desarrollo comunitario.

Por lo tanto, el artículo comienza con un análisis de las posibles concepciones del trabajo psicológico de comunidad en el marco de la cooperación, con el fin de concentrarse luego en el tema del trauma y de sus consecuencias a nivel individual y colectivo. La intervención sobre el trauma implica la necesidad de abordar la reconstrucción de la memoria colectiva y sus vínculos con los recuerdos que reflejan las vivencias de cada persona. Esto se explica en la parte final del artículo, que también lleva a una reflexión sobre las condiciones en las que este trabajo se puede lograr, y destaca la necesidad de una atención constante a los procesos de transferencia y contratransferencia.

DESARROLLO DE COMUNIDAD Y PSICOLOGÍA

Como es bien conocido, la psicología comunitaria es un campo de estudio de origen relativamente reciente [1]; no obstante, es posible identificar diferentes direcciones, que se distinguen no sólo por la interpretación ofrecida por algunos conceptos de base, sino también por la función atribuida a la intervención psicológica. En este artículo vamos a poner especial atención a las interpretaciones críticas de la psicología comunitaria, y en especial a las que están más presentes en el ámbito de América Latina.

En los programas de investigación y las acciones que se inspiran en estas interpretaciones está destacado notablemente el hecho de que la comunidad no puede ser concebida como un mero lugar donde se lleva a cabo una serie de actividades sobre temas psicológicoso psicosociales, o como un área de influencia donde se puede localizar a los "beneficiarios" de una intervención. Por tanto, la comunidad no es sólo un marco genérico, o el objeto de un proyecto, sino es ante todo un verdadero sujeto de la intervención misma. “Esto supone una característica, la primera y primordial, la esencial de la psicología comunitaria: lo comunitario incluye el *rolactivo de la comunidad, su participación*. Y no sólo como invitada, o como espectadora aceptada o receptora de beneficios, sino como agente activo con voz, voto y veto” [2]. Esto no eclipsa el rol de los psicólogos, ni la distinción de su papeldel de otros sujetos,

ni tampocola importancia de la metodología y las técnicas de intervención que son típicas de la disciplina psicológica. La tarea de los expertos, sin embargo, es básicamente la de un catalizador de procesos, y se debe actuarmediante la estimulación de los recursos y la misma energía que la comunidad y a tiene y, cuando sea necesario, favoreciendo la adquisición de nuevos recursos y el desarrollo de nuevas habilidades, a través de un proceso que parte de la comunidad y cuyos efectos recaen sobre ella [3].

En el último cuarto del siglo pasado, en América Latinase han desarrollado tres diferentes escuelas de pensamiento en el contexto de la psicología social. Ellas sugieren visiones distinta sa cerca de qué hacer, cómo hacerlo y cómo pensaren el contexto de la psicología, a partir de los desafíos que enfrenta el continente en ese período de la historia y tratando de responder a los problemasque se refieren acada país. Según Montero [2], estas son la Psicología Social Comunitaria, la Psicología Social Crítica y la Psicología Socialde la Liberación. La principal fuente de inspiración de este último, Martín Baró, el jesuita español asesinado en 1989 por escuadrones de la muerte durante la guerra civil en El Salvador, sostiene que la psicología siempre hasidoclara acerca de la liberación personal, es decir, la necesidad de que las personas adquieran control sobre sus vidas y sean capaces de orientar su propia vida hacia los objetivos que se propongan como importantes, sin mecanismos inconscientes o experiencias conscientes que les impidan alcanzar sus metas existenciales y felicidad personal. Por el contrario, hasta ahora se ha expresado de una manera mucho menos clara, en “la intima relación entre desalienación personal y desalienación social, entre control individual y poder colectivo, entre liberación de cada persona y la liberación de su todo un pueblo. Más aún, con frecuencia la Psicología ha contribuido a oscurecer la relación entre enajenación personal y opresión social, como si la patología de las personas fuera algo ajeno a la historia y a la sociedad y como si el sentido de los trastornos comportamentales se agotara en el plan individual” [4] (p. 26). Entonces, la psicología de la liberación debe adoptar una nueva perspectiva y una nueva práctica. Desde la nueva perspectiva es necesario ponerse en el lugar de las personas con problemas más graves, por lo que no debe hacerse una psicología "para", sino una psicología "con" y "desde el punto de vista de" estas personas y de los grupos sociales a los cuales pertenecen. Obviamente, esto no significa necesariamente alejarse de las teorías y paradigmas anteriores, sino relativizarlos y revisarlos críticamente.

En nuestra opinión, estas referencias conceptuales pueden tener un papel fundamental en el trabajo comunitario en el marco de la cooperación universitaria, aunque, por supuesto, deben ser reinterpretadas cada vezteniendo encuenta las necesidades del contexto espacio-temporal y cultural en lo que se está trabajando. La cooperación universitaria, en particular, implica al mismo tiempo de comprometerse en la investigación y la acción, pero ni la una ni la otra pueden dar resultados positivos para el desarrollo de una comunidad si esta no está disponible para participar activamente en el proceso, favoreciendo no solo la movilización de su propia capacidad de obrar, sino también delos conocimientos que posee. Por otro lado, sino sucede esta hibridación entre el conocimiento a disposición de todas las partescooperantes, apenas la realización de un proyecto podrá contribuir de manera importante en eldesarrollo de la ciencia misma, por lo menos en un ámbito como la psicología de comunidad, en el cualla investigación no puede limitarse a la consideración de los contextos en los que se ejerce como campo de aplicación de teorías generales, sino que debe ser capaz de entender los en suespecificidad y contribuir a su transformación.

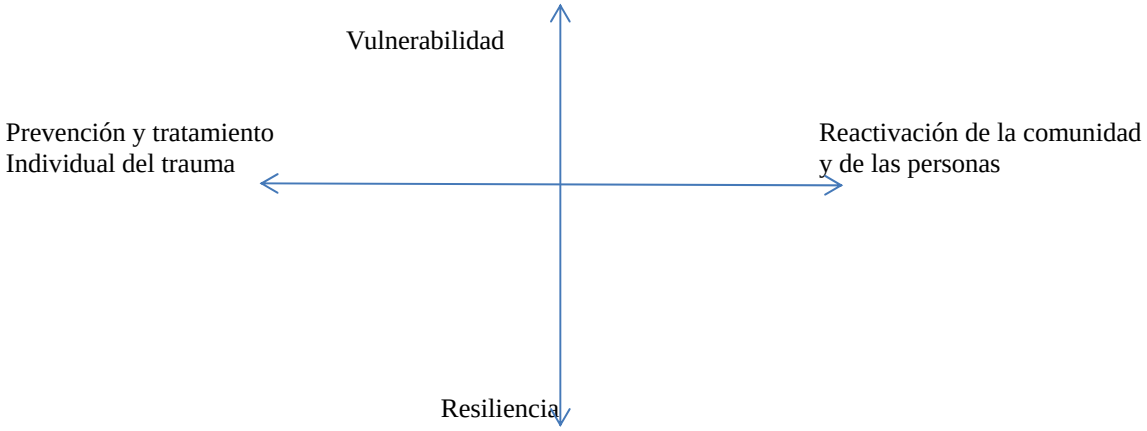
TRAUMA Y RESILIENCIA

En muchos aspectos, las consideraciones anteriores se hacen a ún más importantes cuando la cooperació involucra un área afectada pora contecimientos traumáticos que pueden tener consecuencias durante un largo período sobre el individuo y la comunidad misma, tales como desastres naturales, conflictos sociales, guerras, dictaduras violentas. Después de los eventos de esta naturaleza a menudo se activan, en contextos que han sido afectados, proyectos de cooperación internacional que, en muchos casos ,también incluyen la dimensión psico-social. Estos proyectos pueden ser activados en la fase de emergencia (por ejemplo, en campos de refugiados, de acuerdo con la lógica de las líneas definidas por el Comité Permanente entre Organismos IASC), o en una etapa posterior, a menudo en dirección a personas o grupos especialmente afectados por los acontecimientos. Más raramente operan después de mucho tiempo, es decir, en una etapa en la que el legado de los hechos (y el mismo trauma) puede ser transmitido a través de las generaciones, entrelazándose con varios factores que influyen en el desarrollo de la comunidad sin tener ninguna relación con aquellos eventos negativos.

Los proyectos en cuestión se distinguen, - así como en relación con la distancia temporal de los acontecimientos y por supuesto la naturaleza de éstos, el contexto socio-político, el contexto espacial y cultural en el quese llevaron a cabo - también por el enfoque que siguen. A este respecto, por razones de síntesis que imponen una fuerte esquematización de un marco de posibilidad es mucho más articulado, podríamos proponer una clasificación de los enfoques basada en un doble eje. El primer eje se refiere a la finalidad de la intervención y distingue las dirigidas únicamente a los sujetos individuales - cuya lógica esencial es la prevención en una etapa temprana o el posterior tratamiento del trauma - de las destinadas a la reactivación de las comunidades afectadas y, en su interior, de los sujetos más expuestos a un trauma. Un segundo eje se refiere a los enfoques conceptuales de la intervención y distingue los que ponen al centro la idea de "vulnerabilidad" de los que se basan en la de "resiliencia". En el primer caso, el proyecto sirve para cubrir el déficit de la comunidad, trabajando sólo hacia las personas más vulnerables; en el segundo caso, se supone que la comunidad cuenta con recursos para hacer frente a sus propios problemas: por lo tanto, es necesaria la identificación de estos recursos para fortalecerlos y activarlos.

En la intersección de los dos ejes se forman cuatro cuadrantes, que corresponden a diferentes modelos ideales de la intervención, es decir diferentes modos de referencia a la psicología de comunidad y de relación entre la cooperación y la comunidad afectada (ver fig. 1).

Fig. 1 – Modelos ideales de intervención en comunidades afectadas por eventos traumáticos.



El cuadrante en la parte superior izquierda se refiere a enfoques centrados únicamente en la determinación de los sujetos que se consideran particularmente vulnerables y en la aplicación a los mismos de los modelos de intervención para prevenir o tratar los síntomas relacionados con los efectos de un trauma (TEPT), tales como los incluidos en las clasificaciones recientemente reformuladas en el DSM V. En este enfoque, la dimensión comunitaria está ausente, mientras que la relación entre cooperantes y "beneficiarios" se inspira en la que prevalece en el campo bio-médico y no requiere otro que la aceptación de una terapia (por ejemplo, el método EMDR o los de inspiración conductista).

Enel cuadrante inferior izquierdoentra en juegola idea dela resiliencia,pero sólo en ladimensión individual. Laspersonasobjeto de la intervención, eneste caso, son vistos comosujetos activos, concaracterísticas que promueven latransformaciónadaptativa. Necesita basarseen estas características, para fortalecerlasy romperlosfactores de bloqueoque impidenque se expresen. También en estemodelo de intervención la relación entre la cooperacióny las partes interesadasse basa en la que se pone entre elmédico y el paciente; sin embargo centrar la atención enla identificación defactores de resiliencia, como la autoestima, la capacidad de adaptación, el sentido de la pertenencia, valores y creencias, no permite de separar claramente la dimensión individual de las relacional, comunitaria y socio-cultural.

En el cuadrante superior derecho la dimensión comunitaria se considera de manera explícita, pero la intervención sigue interesada principalmente en los sujetos (individuales o colectivos) con vulnerabilidad más fuerte-como las mujeres víctimas de violaciones sistemáticas, los huérfanos, los niños soldados, los discapacitados, los grupos minoritarios víctimas de violencia - y tiene el propósito de proporcionarles una poyo que mitigue el déficit. En cualquier caso, en este enfoque es imposible no tener en cuenta las reacciones activas del entorno social en el respeto de dichos sujetos o grupos (por ejemplo, la voluntad de superar las razones de estigmatización en contra de tipos particulares de víctimas) y, por lo tanto, la cooperación no puede hacer menos de relacionarse con la comunidad misma.

Por último, en el cuadrante inferior derecho el trabajo sobre las consecuencias de los acontecimientos potencialmente traumáticos está diseñado como una actividad de investigación y acción que se realizará en el marco de una relación conjuntaentre la comunidad y los voluntarios; pero esta condición no impide - sino que implica – una diferenciaciónen los papelesde las dos partes, así como la presencia de distintas funciones dentro dela misma comunidad. El objetivo es la elaboración del traumaa través del fortalecimiento de la capacidad de resiliencia y empoderamiento (individual, de grupo, colectivo), como parte de un proyecto global de desarrollo comunitario que, por otra parte, no excluye la posibilidad de centrarse más específicamente en los sujetos más desfavorecidos, fomentando su activación e inclusión en una red de relaciones comunitarias. También se excluye cualquier posible distinción entre "cooperantes" y "beneficiarios" por lo que se refiere a los resuldados del proyecto: estos se consideran de interés común, tanto en términos de crecimiento del conocimiento, como en la experimentación de líneas de acción.

MEMORIA COLECTIVA Y TRAUMA

En las páginas siguientes, vamos a discutir algunas cuestiones más específicas desde la perspectiva del último cuadrante. Esto es, de hecho, el enfoque que estamos tratando de seguir en la intervención de la psicología comunitaria que estamos haciendo en SantaMarta. Cabe señalar, sin embargo, que este enfoque requiere condiciones de arranque que no se puedeen contrar en cualquier contexto: necesita que exista un acuerdo con la comunidad - o por lo menos con algunos miembros importantes – para que el trabajo sobre el trauma pueda ser hecho de forma participativa. Sino se dan estas condiciones, independientemente de las opciones culturales de los cooperantes es posible que sea útil trabajar sobre el trauma de acuerdo a otras perspectivas.

En cualquier caso,cuando se actúa con una comunidad que sufre los efectos de un trauma, un aspecto esenciales el detrabajo sobre la memoria, tanto individual como colectiva. La memoria colectiva es un objeto de estudio interdisciplinario que involucra muchos campos de las ciencias sociales: en particular, la sociología, la psicología, los estudios culturalese históricos. Para proporcionar una definición concisa, se podría decir que se trata de un conocimiento compartido ampliamente - dentro de un grupo, una comunidad o una sociedad nacional entera - de sucesos pasados que no se han experimentado solo de manera individual, sino que también han sido reconstruido sa través de funciones de comunicación social [5]. Este procesamiento, así como el almacenamiento o el reprocesamiento posterior, se lleva a cabo a través de múltiples canales que pueden tener diferentes grados de institucionalización y formalización.

El desarrollo de una memoria colectiva ampliamente compartida y reflejada en los relatos de diferentes tipos (de los de la reconstrucción histórica hasta aquellos que se expresan en la vida cotidiana y en presentaciones fuera de la comunidad) tiene un papel esencial en el mantenimiento de una identidad comunitaria, así como para la elaboración de las memorias individuales de los trágicos acontecimientos que experimentaron los individuos o sus familias. En este sentido juega un papel importante para la salud mental de los individuos y de la comunidad en su conjunto. Sin embargo, la creación de una memoria colectiva implica una selección de los eventos que necesita recordar o también olvidar [6], así como su organización en una secuencia que les confiere unsentido[7].

Este proceso no está exento de elementos de tensión y conflicto, ni al interior de la comunidad misma, ni tampo coen relación con el contexto más amplio en quela comunidad está incluida. Esto depende del hecho de quela memoria colectiva no sólo da importancia y estructura al pasado, sino que también lo conecta a los problemas actuales; por lo tanto, además de un valor de identidad tiene inevitablemente también un valor social y político porque favorece la reproducción o, al contrario, la transformación de jerarquías y relaciones de poder entre los individuos o los grupos sociales.

Esto es particularmente cierto cuando se trata de la memoria de la guerra o la opresión de la dictadura, en todos los casos en que sea posible - a pesar de todas las complejidades y ambigüedades que siempre acompañan a cada evento como estos - establecer una distinción entre víctimasy responsables de los eventos. Por parte de las víctimas, la memoria y el reconocimiento del sufrimiento implica la capacidad de expresar la propia experiencia, cuya negaciónes una negación de la identidad personal y colectiva. Por parte de los autores de la violencia, el olvido (a menudo presentado como un requisito de la pacificación) es esencial con el fin de ocultar sus responsabilidades y mantener una posición de poder.

Pero incluso para las víctimas puede ser difícil de participar en la construcción de la memoria colectiva y, sobre todo, construir un puente, en la narración, entre su propia experiencia y la colectiva. De hecho, la experiencia traumática produce efectos de "sideración", de desestructuración psíquica y devastación de los puntos de referencia del sujeto, que implican la incapacidad para salir de la percepción de la imposibilidad de comunicarlo que se ha sufrido y dar un sentido a esos hechos de manera que puedan conectarse a la vida presente, y también la dificultad para salir de una memoria basada únicamente en la repetición obsesiva y retraumatizante de esos eventos. Y estos efectos se reflejan a nivel comunitario en la ruptura de los lazos relacionales entre sujetos y en la dificultad en el diseñar un posible futuro juntos. Además, tienden a convertir la experiencia en un doloroso secreto que hace difíciles las relaciones familiares y prolonga los efectos del trauma también hacia la próxima generación. A partir de las ideas de Freud, en el psicoanálisis han sido especialmente las investigaciones de Abraham y Toroksobre el duelo, la "cripta" y el "fantasma" [8] que han llamado la atención sobre la transmisión del trauma en la familia, especialmente en la relación entre padres e hijos. Las situaciones de la vida que no han podido ser procesadas siguen siendo una fuente de sufrimiento mental: en lugar de ser incorporadas por el mecanismo de la introyección y armoniosamente integradas en la personalidad, se enquistan en "criptas" psíquicas, que mantienen su propria existencia condenada a un secreto que también afecta la esfera de las relaciones afectivas más estrechas.

Por estarazón, en muchas experiencias de trabajo en contextos afectados por guerras y conflictos violentos se ha hecho un trabajo de apoyo psicosocial [9] [10], que muchas veces se enfoca enla reconstrucción de la memoria colectiva a través de la narración de las vivencias del sufrimiento. Como veremos, hay diferentes métodos para realizar esta tarea; en especial en las intervenciones destinadas a la reconstrucción de las relaciones comunitarias este trabajo se lleva a cabo en pequeños grupos, acompañados de uno o más psicólogos que faciliten la actividad de narración y ayuden a las personas a expresarse en formas que no dan lugara una reaparición del trauma.

EL PAPEL DE LA COOPERACIÓN

¿Bajo qué condiciones y conqué límites puede ser eficaz, en estas situaciones, un trabajo sobre la memoria desde la perspectiva de una intervención de la psicología comunitaria, llevado a cabo en un marco que moviliza a expertos de otros países? Una respuesta generala esta pregunta es difícil porque - a pesar de las similitudes - cada situación tiene una fuerte especificidad y también porque, en loque concierne a nosotros, nuestra experiencia se enfoca de manera directa sobre un solo contexto.

Sin embargo, se puede desarrollar aquí algunas reflexiones basadas en esta experiencia que, como se ha mencionado, se refiere a un apoyo para la elaboración de un trauma de la guerra civil, como parte de un trabajo comunitario que

también involucra a muchas otras áreas de intervención (por ejemplo, sobre las relaciones mamás-bebés, la condición de los niños con necesidades especiales, la inclusión en el ámbito escolar, la prevención de la violencia juvenil).

Un primer aspecto se refiere precisamente a esta pluralidad de áreas de trabajo: nos parece importante que la demanda de apoyo en los temas del trauma de la guerra se haya manifiestado en el contexto de una relación de cooperación con objetivos diferentes y complementarios, que pueden resumirse en la idea de undesarrollo de la comunidad, que incluya la dimensión del bienestar psicológico y de la salud mental. Una relaciónque ya ha creado lazos de confianza, la reflexión y la acción conjunta, sobre todo con algunos de los líderes de la comunidad y con los trabajadores más cercano sa los problemas de salud mental.

Nos parece significativo que por parte de estos líderes y trabajadores ha surgido por la primera vez la idea de realizarun trabajode grupo, basado en la narración y la escuchade sus vivencias durante la guerra; entonces con ellos empezamos los grupos haciendo uso de un método definido sobre la base de la literatura relevante, pero adaptado a las condiciones concretas del contexto. Ahora esta actividad se ha desarrollado con otros grupos y también incluye la participación activa de dos estudiantes salvadoreños de pregrado en psicología y una colaboración con el IDHUCA (Instituto de Derechos Humanos de la Universidad Centroamericana José Simeón Cañas de San Salvador), que participan en la recolección de pruebas de crímenes de guerra, en vista de la reunión de un Tribunal de Justicia Restaurativa.

Una segunda cuestión se refiere a la necesidad de realizar un trabajo como este con una atención constante a la dinámica de la transferencia y, lo más importante, de la contratransferencia, es decir, las reacciones de los investigadores / cooperantes frente a la comunidad y las personas que forman parte de esta. De hecho, la dinámica de la contratransferencia no concierne sólo la relación entre analista y paciente, sino-como fue demostrado por Devereux [11] - abarcatodo el campo de las ciencias sociales. En el caso de la investigación – acción sobre los temas del trauma de guerra esta dinámica implica diferentes aspectos de las reacciones de los cooperantes frente a la comunidad, a saber: 1) los que dependen de la identidad de cada investigador singular y están vinculados a su personalidad y su historia, 2) los que se refierena la identidad colectiva de los investigadores, a los sistemas de referencia cultural y social de la cooperación, y 3) los que están relacionados con la teoríae ideología [12].

Cada uno de estos aspectos mereceser objeto de una reflexión constante por parte de los investigadores. En parte, esto se puede hacer a través de la misma discusión en el grupo de trabajo y de la relación con algunas de las figuras clave de la comunidad; en parte, también deber equerir la intervención de expertos que desempeñan un papel de supervisión, a ún mejor siestos expertos no sólo provienen del entorno cultural de los investigadores, sino también de las universidades más cercanas a la propia comunidad. El carácter de la cooperación interuniversitaria puede facilitar este tipo de relación.

Una tercera cuestión concierne el propósito y la metodología de los grupos de narración. En las experiencias llevadas a cabo a nivel internacional existen varios métodos: la elección de uno de ellos depende de las condiciones en que el trabajo de la narración se desarrolla, las opciones culturales de los investigadores y de los mismos modelos ideales de intervención que se ha discutido anteriormente. Por ejemplo, uno de los métodos que se utilizan con mayor frecuencia en los casos en quela intervención se centra únicamente en los sujetos individuales y propone para reducir rápidamente la presencia de los síntomas de estrés post-traumático, la "terapia de exposición narrativa" [13], u otros métodos que recaen en el contexto de los enfoques conductual-cognitivos. Otros trabajos se acercan al método de la terapia narrativa de M. White y D. Epston, de inspiración constructivista, que tiene como objetivo la restructuración de las construcciones de las personas sobre su experiencia para facilitarle otras más útiles [14]. También existen métodos de psicoterapia de grupo de orientación psicoanalítica. Esta metodología consiste en trabajar con grupos de personas con experiencias similares, lo que les permite reelaborar sus experiencias traumáticas, a partir no sólo de sus propias interpretaciones, sino también de las llevadas a cabo por otras personas del grupo [15]. También hay experiencias en las que el trabajo de narración en grupo es reaalizado por un equipo que incluye a expertos de diversas especialidades [16]. De todos modos, la psicoterapia de grupo ha demostrado ser eficaz en víctimas de trauma también porque uno de los principales efectoses que puede producir la reestructuración de las relaciones interpersonales, que han sido afectadas por el trauma.

Nuestro enfoque tiende a acercarse a este modo de actuar. Nuestro trabajo, de hecho, no sesitua en una situación de emergenciani es sólo enfocado en la rehabilitación sobre el daño psicológico que la violencia ha provocado en las personas. Se encuentra, más bien, desde una perspectiva psicosocial, que parte de una situación afectada por el trauma de la guerra para ayudar a superar los efectos que bloquean las relaciones interpersonales y comunitarias. El objetivo es involucrar a la comunidad en un proceso de crecimiento colectivo, en el que incluso cada persona pueda encontrar su propio papel activo.

CONCLUSIONES

Las reflexiones llevadas a cabo muestran que, en el caso de una intervención realizada con una distancia de los acontecimientos potenciales causantes de traumas, el trabajo del trauma no se puede separar de un compromiso más general para apoyar el desarrollo de la comunidad. Esto implica un programa de investigación y acción, donde es

esencial crear un estrecho vínculo entre investigadores / trabajadores de ayuda humanitaria y la propia comunidad, que de este modo viene a asumir un papel activo y no sólo el de destinatario de la intervención.

También significa que el propósito del proyecto es estimular los recursos a escala individual y comunitaria, para fomentar la dinámica de un fortalecimiento cada vez mayor de la resiliencia, en lugar de centrarse únicamente en el cuidado de los sujetos más vulnerables, considerándolos implícitamente como un "objetivo" separado del resto de la comunidad. El marco de la cooperación universitaria, con el establecimiento de relaciones de intercambio entre investigadores extranjeros, expertos locales y la comunidad misma, puede crear condiciones favorables para un proyecto de este tipo, siempre que exista una atención constante a la dinámica de la contratransferencia en toda su complejidad.

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PLANS AND PROJECTS "BEYOND THE BOUNDARIES": SUBJECTS, KNOWLEDGE AND TOOLS

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This panel proposed a disciplinary look at theoretical reflections and case studies useful to think about the role of the universities according to the specific perspectives of urban planning courses and curricula within the decentralized cooperation initiatives around the world. The focus is based on changes in knowledge and skills "required to" and "produced by" the universities, within a large numbers of international experiences, where researchers are more "service providers" or a kind of "problem solver" (on demand) rather than subjects able to develop a supportive expert knowledge to do better in the cities and territories beyond the national boundaries. In fact, in a context of fewer resources available, a lot of Italian universities have been involved within international cooperation projects, but with a very low ability to reflect on practices and translate these experiences in common knowledge to better carry out our work as planners (reading, interpreting and regulation of urban and territorial transformations) in fragile contexts (or in developing or emerging regions as well). Thus, the panel has been configured as a space to present and discuss researches and studies in order to enhance and connect projects and theoretical reflections on:

- interventions in the international arena, in which specific experts skills were able to support processes and projects helpful to regain a more appropriate role in society and in the public debate;
- strengthening the framework of the knowledge and skills of the Italian schools of planning resulting from the comparison and/or contamination with international experience also to reshape the national formative offers.

Therefore, the aim is to verify the ability to deal with the internationalization of the practices and training that pass through the decentralized cooperation projects, by coming to terms with the continuous redefinition – within the practices – of the "disciplinary boundaries" and the professionalisms.

THE GENERAL FRAMEWORK

Within a conference that has been focused on the discussion of the relationship between international cooperation and Universities, according to the different perspectives offered by the different panels, our panel has been defined as a challenging question on what we define the characteristics of the schools and the knowledge of the "Italian urban planning" involved in international initiatives and projects and, in particular, those of cooperation for/to the development. The aim it has been to explore and put under observation the role of planning as an opportunity to act reconfiguration of the development, of the cultural heritage, and more in general, the improving the quality of life in cities and territories.

The proposed and discussed ideas are located into a perspective that argues the need and the opportunity to try to restore the centrality of power and the technical components within the public institutions, looking with some suspicion to the international cooperation 'as a profession', and, therefore, critically observing the action of international agencies or NGOs specializing in this activities.

In fact, often with more financial resources and a focus full-time on this or that area compare to the Universities, the NGOs or International Agencies, by their own nature and mission, frequently tend to favour instead of deal with the roots of the more relevant issues. Even so, inevitably, the resolution of concrete problems would undermine, in a sense, the very reasons for their existence in life and their professionalism.

The Universities, however, according to their different goals and objectives, have the opportunity to play a positive role in terms of training and, most importantly, of sharing of research tools and appropriate response to the specific context. Moreover the Universities also have an interest in maintaining relations of exchange and interaction of long-term, but also to expand and accumulate situated knowledge and experimentations.

In this sense, the cooperation projects may be more appropriately used to let us know and, therefore, make known, even neighbouring areas "unknown", obscured by a system of cultural hegemony and domination by the media, mirroring the strong existing asymmetries of power, and, therefore, inevitably influential on the persistence of the condition of discomfort, isolation and subordination. In addition, the enormous amount of scattered projects, often without an examination of the real needs and without any form of coordination among different donors, with the simultaneous arrival of large amounts of money, put the political and the technical component into an often opportunistic condition, which threatens to take away their sense of commitment and accountability towards public affairs.

In many parts of the world, the mass of projects with no results and no measurable effects, despite the money

invested – according to the well-known law of the evaluation on the "efficiency of expenditure" and not on the "effectiveness of the results" – tends to amplify, at the end, the feeling of uncertainty, in particular, those of the local planners and their difficulty to imagine and shape the future in their "space".

Even considering that, as it has been said it is actually much easier for international cooperation to provide support in terms of humanitarian aid, rather than instruments of regulation or for the strengthening of institutions (despite the abundance of funded institutional capacity building projects), it contributes, not rarely, to the reproduction of dangerous processes of de-politicization of the questions, making in fact, the project target, "the people" declassified (maximum) to the role of victims.

The comparisons with the experiences and reflections proposed highlighted the importance of the international project to:

- the engage with the community of practice, starting from inside the institutions;
- the development of a way of thinking and acting jointly, between exterior and interior, strongly anchored to the local level;
- a critical approach to the theories of planning for the most optimal use in their practices;
- a simultaneous attention to training and parallel adaptation and development of the research agenda informed of the work context.

At the same time, it is perhaps possible to consider the opportunity of working within the experiences of this kind also in order to understand how to adapt, develop and make better use of our tools of the trade "at home", even in situations more difficult and extreme.

These reflections, in fact, offer us the opportunity to understand, from a different perspective, such as our work and our commitment can be useful, since it allowing us to orient the direction and redefining new priorities in research agendas.

CONTRIBUTIONS

The panel has been organized to discuss two main focuses:

a) educational training, research and roles of urban planners;
b) tools and policies for the development of techniques, resources and social actors.

Contributions came from the Universities of Trento, Florence, Camerino and Rome. In particular, Alberti, Bindo, Gialanella's paper presents the results of an exploratory investigation into the relationships International cooperation in the European Universities with other foreign countries.

Roberta Nicchia's paper describes that, in the last ten years, the University of Trento has been involved in a decentralized cooperation programme that promotes cultural, technical and administrative exchange between the Provinces of Trento and Sofala, Mozambique. The contribution focuses on the spatial planning activity in Mozambican rural towns, resulting from the cooperation of the different actors belonging to the programme. The focus is on the introduction of culturally-compatible changes and, therefore, on the full involvement of the population in the decision-making process.

From the University of Florence, Loda and Tartaglia's paper illustrates the results of the collaborative relationship between the University of Florence and the University, the Department for Urban Development and the Municipal Council of Herat, aimed at the formulation of a new strategic Masterplan (SMP) for the city of Herat. In particular the paper illustrates the systematic programme of analysis undertaken to construct an updated information base on current socio-demographic and territorial situation of the urban area, and some findings testifying the deep changes that have been taking place in the last decades. Moreover, the paper offers with a more detailed description of the analysis process and the proposed strategic actions about the transportation urban system.

Pierantoni, Camaioni and Sargolini's paper explained that UNICAM has developed a system to support the decision-making process through the definition of a valuation model tested on seven regions: the Autonomous Province of South Tyrol, National Park Gesäuse region Mostviertel (Austria), District of Maramures (Romania), Region of Kosice (Slovakia), North Hungary (Hungary), District of Rzeszow (Poland). The model plays with three roles: 1) critical analysis of the transport model in place; 2) critical analysis of the status and potential of the territories; 3) project of new scenarios for a more sustainable transport system.

Again, from the Sapienza University, the Montella's paper analyses the results of the report and identifies the role of the MUST-Millennium University Studio Team and the role of the University of Sapienza University within a specific project of international cooperation, proposing an open debate on the ranking of Italian universities at a time of economic crisis and cuts the funds of international cooperation. The essay examines the activity of the High Level Course on the Millennium Development Goals, with particular attention to the third edition of the courses taken as the final result, an analysis report on a cooperation project between UN-HABITAT and Homa Bay, a small town on the Kenyan shores of Lake Victoria.

And, moreover, the Scacchi paper reflect on the Habana Vieja, the largest historic centre of colonial type stored in Latin America and even today retains its traditional urban footprint, harmonious juxtaposition of different architectural styles, Declared by UNESCO "World Heritage" in 1982. Through this paper she analyse the work of recovering the historical centre of Habana, officially launched in 1994 through the Master Plan entrusted "Historian of the Oficina de la Ciudad de La Habana" with the Spanish Agency for International Cooperation, the Government Local, universities and associations for international cooperation. Twenty years after the start of this project is to assess whether it was put into play an effective movement of regeneration, having produced processes of participation and human resource development and economic premises, or if the risk was to be alone "staged" for tourists, rearranging some houses and central services attractive major, "just as they once were" only to recall nostalgically the past and recreate "typical situations", imposed by mass tourism.

CONCLUSIONS

The papers and the discussion helped us to reflect on the specific role and contribution that we can provide as Italian scholars, teachers, planners, especially in a general widening of the boundaries of our activities, but also considering the wider basin of provenance of our students from all around the world.

In particular, the different experiences have provided some guidance on "how" the Italian planning practices can say something to the rest of the world. Not as "success stories *tout court*" or formalized mechanisms to export "to colonize the world" within an exhaustive list of given questions and answers, but as special skill, often artisan, to be able "to do well despite everything", to work on rough ridges keeping open the reflection on their own limitations rather than on its own merits and solid certainties.

In this sense, the utility of the Italian experiences would lie more in the general attitude into a "critical exercise", rather than in the "translation" of "given answers". Providing, in this way, an operational contribution versus the spread provision of "manuals" with the usual neo-colonial approaches: problems at the South, and solutions from the North.

But, of course, to activate this important changing, we should begin to do not disperse the stories and feedbacks on the work we are developing around the world, giving us the opportunity for discussion and debate to expand our schools, while we are trying to make a contribution to their schools, to their territories and in their institutions.

UNA EXPLORACIÓN DE LOSCURRÍCULOS DE LAS ESCUELAS EUROPEAS DE PLANEAMIENTO EN EL ÁMBITO DE LA PLANIFICACIÓN DESCENTRALIZADA

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ABSTRACT

Esta ponencia quiere presentar los primeros resultados de un trabajo de investigación exploratorio sobre las relaciones de cooperación internacional en las universidades europeas con países extranjeros. Se ha querido estudiar en detalle las actividades fomentadas en este sentido por las escuelas de regional and urbanplanning. Se ha utilizado la lista de Universidades que mantienen relaciones con la Facultad de Arquitectura de la "Sapienza" a través del programa Erasmus para realizar una selección preliminar. A partir de la información publicada en las páginas webs de estas universidades, se escogieron las que se han mostrado especialmente activas en favorecer experiencias de cooperación, y sobre estas se ha desarrollado un trabajo de investigación más detallado. La metodología utilizada ha requerido una exploración más escrupulosa de las experiencias propuestas, a través de la interacción directa con las escuelas seleccionadas (solicitud de más informaciones y envío de encuestas). El análisis se ha desarrollado a partir de varias preguntas de investigación: ¿Cuáles han sido las modalidades privilegiadas de intercambio? (¿Estudio teórico? ¿Workshop? ¿Proyecto?) ¿En qué momento de la carrera se proponen? (¿En los últimos cursos? ¿En los primeros? ¿En asignaturas obligatorias u optativas?) ¿Cómo se estructura la colaboración entre países? En esta ponencia se presentará el trabajo de sistematización de las informaciones sobre las principales experiencias de cooperación en las escuelas europeas de planning, pero cabe señalar que el objetivo final de la investigación será comprender si es posible reproducir dichas experiencias las en la formación básica del planner.

MARCO TEORICO

Para hacer frente a un panorama laboral cada vez más globalizado y orientado hacia la internacionalización, la capacidad profesional necesaria hoy en día, tanto en elámbitolaboral como en el científico, parece necesitar de un enfoque basado en la observación de las diferentes áreas geopolíticas y en la interpretación del escenario global. Varios institutos, escuela yuniversidades en los últimos años han trabajado para añadirun conocimiento de las principales tendencias políticas y económicas que tienen lugar en contextos internacionales, facilitando extremadamente el intercambio cultural y la colaboración entre especialistas y estudiantes de diferentes disciplinas. Muestra de ello son los muchos programas que fomentan el intercambio y la movilidad internacional, surgidos principalmente de acuerdos institucionalesde cooperación entre países europeos y del extranjero.

La intención de investigar acerca de la formación que en este campo se ofrece en las universidades europeas surgió de la observación de estas dinámicas, y de la constatación de la necesidad de fortalecer la competencia de algunas figuras profesionales que están llamadas a trabajar en un contexto internacional. Esta investigación permitirá conocer las posibilidades de proporcionar en la educación universitaria herramientas útiles para afrontar contextos internacionales tanto en la actividad profesional como en la investigadora.

En particular, se decidió indagar acerca de la formación del plannereuropeo, que parece necesitar cada vez másde nuevas habilidades, métodos y herramientas para garantizar un enfoque proyectualadecuado a contextos internacionales. Se puede deducir, en efecto, que además de la formación básica de un plannerserían necesarias asignaturas adicionales dirigidas aintroducir al alumno en el trabajo en el extranjero.

La universidad parece tener la responsabilidad inicial en la formación del plannereuropeo, que necesita de nuevas herramientas y capacidades cada vez más dirigidashacia un panorama que va más allá de su lugar de procedencia. De hecho, en las escuelas de arquitectura en Europa asumen cada vez más relevancia los proyectos desarrollados en ámbito internacional, hasta estructurar master y cursos de postgrado que incluyen en sus programas actividades de intercambio y planificación en países extranjeros.

Se observa en los últimos años una atención especial a la creación de asignaturas que tienen como objetivo el conocimiento y la comprensión de los escenarios internacionales, tanto delos países en desarrollo, de los emergentes y de los desarrollados. Estaorientación nos lleva a reflexionar sobre la utilidad que este enfoque podría tener para que la formación del plannersea más completa,ya que de esta manera se ve obligado a desarrollar capacidades críticas y de acción en contextos distintos al suyo, donde necesita diferentes herramientas y modos de intervención.

Si en la formación del planner tiene tanta relevanciaesta orientación internacional, ¿por qué no estructurartambién

los programas de grado con este enfoque? ¿Por qué no introducir dentro delos planes de estudiosasignaturas específicas que traten el tema dela internacionalizacióndirectamente en los proyectos?

La investigación realizada se mueve en la intención de encontrar elementos que ayuden a reflexionar sobre la figura del planner en un ámbito internacional y cómo se provee su formación en las universidades europeas.

OBJETIVOS

La Universidad se puede considerar a todos los efectos el lugar donde empieza la formación del planner, el lugar donde el estudiante puede desarrollar sus propias capacidades y aprender nuevos conocimientos que le permitan confrontarse con las exigencias del mundo laboral. Por otra parte, hoy en día, el mundo del trabajo, cada vez más globalizado, pone al planner más a menudo en la situación deenfrentarse con realidades territoriales muy diferentes de las de su país de procedencia y/o de formación.

A partir de este escenario, en este artículo se presentan los primeros resultados de una investigación que quiere reflexionar sobre el papel que las universidades, tal y como están estructuradas hoy en día, tienen en preparar alplannerpara esta emergente demanda laboral.Con este objetivo se ha analizado la estructura de la oferta académica en las escuelas de planificación urbana y territorial en Europa para destacar principalmente el siguiente par de aspectos.

El primer aspecto se refiere a la naturaleza del intercambio. En este sentido la investigación trata de entender cuando se prefieren experiencias de corta duración (como por ejemplo los workshop) y cuando, por el contrario, el intercambio es parte integrante de una asignatura cuatrimestral o anual. También se analiza si se propone una experiencia proyectual o solo se llega a un conocimiento teórico. Además se distingue entre que estas experiencias estén estructuradas dentro de los planes de estudio o se propongan como optativas fuera de la oferta académica obligatoria. En este sentido resulta importante analizar, además, en qué momento del plan de estudios se proponen estas experiencias de intercambio. Para completar el marco cognitivo se quiere conocer también cuáles son los temas que normalmente son objeto de estudio en estas experiencias.

El segundo aspecto analizado se refiere a la naturaleza institucional del intercambio. A través de la investigación propuesta en este artículo se quieren identificar los países que proponen más experiencias de intercambio dentro del plan de estudio. El análisis quiere también identificar los canales que más a menudo se activan para poder realizar el intercambio a la hora de estructurar la colaboración con una universidad extra-europea. En concreto se quiere estudiar si existen proyectos de intercambio estructurados o sólo se proponenexperiencias aisladas. El objetivo de esta fase de análisis es delinear la naturaleza del intercambio, poniendo el énfasis sobre todo en la identificación de los actores y de las instituciones más sensibles a las experiencias de cooperación y de intercambiocon países fuera de la Unión Europea.

METODOLOGÍA

La investigación se llevó a cabo a nivel europeo, mediante la selección de las escuelas de planificación que se mostraron ser particularmente activas en la promoción de intercambios internacionales.

Para una primera selección de Universidades, se ha tenido en cuenta la lista de las universidades que, en el año académico 2012/2013, han firmado el programa Erasmus con la facultad de Arquitectura de la Universidad “Sapienza” de Roma. Se decidió empezar por las universidades que participan al programa Erasmus porque creemos que el hecho de firmar lo que puede considerarse como el programa de intercambio por excelencia en el ámbito de la enseñanza universitaria europea, puede considerarse una señal de apertura a los intercambios internacionales. Además, esta investigación comienza por la Facultad de Arquitectura porque, por lo menos en Italia, es el principal centro de formación de los planners del futuro. Para fases sucesivas de la investigación, podría ser interesante analizar también las experiencias llevadas a cabo en las facultades de geografía o asignaturas experimentales de economía y planificación.

El objetivo final de esta investigación es conocer las experiencias realizadas en distintos países de la Unión Europea para ayudar a mejorar la formación de los planners y que pueden ser reproducidas en los planes de estudio de las universidades, especialmente de las italianas de las que forma parte este grupo de investigación. Por esta razón, para esta primera fase de trabajo no se ha incluido el estudio de la situación en Italia, centrándose primero en el análisis de los mecanismos que favorecen las experiencias de cooperación internacional en las universidades de los otros países europeos.

Investigación preliminar y selección de las escuelas de planning

La exploración de las actividades de cooperación internacional dentro de los planes de estudio de las universidades europeas se ha llevado a cabo a través de tres fases de investigación.

A través de la primera fase han sido seleccionadas, entre las escuelas de arquitectura en la lista, aquellas donde la formación del arquitecto se inclina hacia la dimensión urbana y territorial más que en los aspectos tecnológicos, constructivos y de diseño. Este primer estudio se llevó a cabo exclusivamente con la información disponible en las páginas web de las universidades.

Después de seleccionar las escuelas que pueden ser consideradas como responsables de la formación de los planners

europeos, se ha empezado por el análisis detallado de los planes de estudio ofrecidos. En esta fase, hemos tratado de averiguar el interés de algunas universidades sobre los países exteriores a Europa. Se ha intentado examinar si la familiaridad histórica y cultural (véase, por ejemplo, las antiguas colonias) o de idioma facilita las relaciones entre países europeos y extra-europeos. Este trabajo ha sido necesario para descubrir el perfil de los países que prestan más atención a la formación de sus estudiantes desde un punto de vista internacional. En el estudio de las experiencias propuestas también se ha hecho una primera distinción entre preparación teórica y práctica, llevando a cabo un análisis detallado de aquellas donde efectivamente se ponga el estudiante en las condiciones de experimentar lo que significa hacer proyectos en contextos fuera de Europa. También se hanestudiado las páginas web de las oficinas de las "Relaciones Internacionales" de las universidades, para obtener informaciones sobre la posible ubicación de dichas experiencias en un proyecto de internacionalización.

En la tercera fase de investigación se han seleccionados cuatro países europeos que han mostrado una mayor apertura a la cooperación internacional con países fuera de Europa: Francia, Alemania, Portugal y España. Después de haber esbozado sumariamente el perfil de las experiencias propuestas en estos países (a través del estudio de los documentos disponibles en la red) se decidió utilizar las encuestas para obtener más informaciones de las experiencias más interesantes.

Encuestas

Los cuestionarios utilizados para la recogida de información sobre la experiencia de cooperación internacional se han estructurado de acuerdo a la información inicial obtenida en la fase anterior de investigación.

El cuestionario ha sido estructurado para que fuera posible recoger informaciones tanto sobre el tipo de contactos que llevaron a la colaboración entre las dos partes, comosobre el tipo de actividades previstas en el intercambio.

Respecto al primer asunto se ha querido averiguar si las actividades de cooperación surgen de contactos personales o institucionales, y además sila voluntad de intercambio y apertura al exterior depende de los docentes o de acuerdosentre las universidades.

En cuanto al análisis detallado de las actividades previstas en el intercambio se ha tratado de esbozar el tipo de actividad propuesta a los estudiantes, teniendo en cuenta por un lado la relevancia que se da a este tipo de experiencia en los planes de estudio y, por otro, el tipo de conocimientos y experiencias que se consideran como fundamentales para la formación como planner.

Se enviaron cuestionarios a todos los representantes de las actividades de intercambio con países no europeos propuestas en las universidades seleccionadas previamente en Francia, Alemania, España y Portugal. Se decidió consultar directamente los responsables de las asignaturas o workshop con el fin de obtener, de esta manera, la información más específica posible sobre las experiencias seleccionadas.

Se consideró la opción de recoger información adicional sobre las experiencias activadas contactando directamente con los responsables de las áreas internacionales o de cooperación de varias universidades. Sin embargo, este camino ha sido abandonado para esta primera fase dado que en algunas universidades la oficina para la internacionalización es responsable solo de los intercambios Erasmus, mientras que en otras se hace referencia en general a la posibilidad para los estudiantes de hacer prácticas externas de trabajo en el extranjero. Ambas situaciones salen de la oferta académica en las universidades que es el marco donde se quiere mover esta investigación.

RESULTADOS

Los resultados obtenidos se presentan divididos en dos fases:por un lado la "investigación cognitiva", basada en el análisis de los programas publicados por las universidades y por otro lado las respuestas a los cuestionarios enviados a los respectivos responsables. Esta segunda fase, pese a que aún no haya producido resultados significativos, consideramos que merece ser explicada con el fin de comenzar a esbozar las líneas futuras de la investigación.

La primera parte de la investigación sirvió para entender cómo la internacionalización es tratada por parte de la oferta educativa. Se observaron varias fórmulas para entrenar al alumno en la labor de realizar proyectos de planificación urbana en el extranjero. Una primera fórmula esfacilitar la experiencia de un análisis comparativo internacional mediante, principalmente, la concesión de ayudas y subvenciones para abordar el período de estudio en el extranjero, particularmente para la realización de tesis. Otro caso sería la organización deasignaturas de acuerdo con la especialización de la carrera. En algunos casos, de hecho, se tratan de programas de grado que explícitamente se ocupan de la cooperación internacional al introducir la posibilidad derealizar proyectos en el extranjero.En estos casos, las facultades organizan proyectos, workshop, seminarios dentro del plan de estudios. En particular se organizan workshopen los que se propone un proyecto de arquitectura y planeamiento en ubicaciones fuera del país de origen de los alumnos de manera que estos deben realizar estudios específicos previos y recabar las características culturales a través de la estancia directa en el país de acogida. Se prevé, en estos casos, un período de una o más semanas de estudioen el extranjero, preferiblemente en colaboración con la universidad de acogida aprovechando las estructuras que ésta ofrece. Estas experiencias normalmente terminan con la elaboración de un proyecto, que en algunos casos se publican en la prensa o en laspáginas web delos departamentos.

Los resultados hasta ahora encontrados llevan a poner de relieve el empeño general e institucional para la

internacionalización de las carreras, aunque, específicamente en los cursos de arquitectura, la decisión de internacionalizar su orientación (salvo casos excepcionales) sigue siendo opcional. El análisis de la formación del planner hasta el momento parece sugerir un escenario poco homogéneo, variando en función de las decisiones tomadaspor las distintas escuelas de arquitectura o las personales de cada estudiante.

Francia

En Francia se examinaron 16 universidades, de las cualesdos fueron descartadas por estar especializadas respectivamente en diseño y restauración. De otras cuatro no ha sido posible obtener información sobre sus planes de estudio. De las diezescuelas de arquitectura que quedaron, en ocho se encontró cierto interés por la dimensión internacional de la educación teniendo en cuenta quese ofrecen asignaturas (teóricas y/o proyecto) o workshopdonde es posible confrontarse con el extranjero. Centrándose sólo en losintercambios de carácter proyectual con países no europeos, se ha llevado a cabo un estudio exhaustivo de cinco universidades[1].

Las experiencias de proyectos de cooperación internacional examinadas fueron más de 20, casi todas propuestas entre el cuarto y el quinto año de la carrera. Casi todas están incluidas enel plan de estudios, pero se puede argumentar razonablemente que la información sobre workshop y otras experiencias extracurriculares no incluidas en el plan de estudios es más difícil de encontrar en la red. Algunas universidades ofrecen en los últimos dos años de estudiounaespecialización completamente dedicada a proyectos y planificación más allá de sus fronteras. Yen Versalles también es posible lograr la doble titulación franco-china en arquitectura.

De hecho, los intercambios con los Países asiáticos, parecen ser especialmente fomentados en las universidades francesas. Cincoasignaturas proponen intercambios con China y Japón, doscon ciudades de India y dos con ciudades de Camboya y Tailandia. Como se puede ver en la siguiente tabla se detectan otros intercambios con ciudades de América Latina (3), con Palestina (1) Uzbekistán (1) y Marrueco (1). En general, podemos ver que hay una tendencia a establecer relaciones sobre todo con los países emergentes o en desarrollo.

Tab. 1 – Países involucrados en intercambios internacionales con las universidades francesas examinadas.

Países involucrados	Numero de intercambios
INDIA	2
AMERICA LATINA	3
ASIA	5
CAMBOYA - SiemReap	1
TAILANDIA - Bangkok	1
PALESTINA	1
MARRUECOS - Casablanca	1
UZBEKISTAN - Tachkent	1
Indefinidos	2

A partir de las descripciones de lasasignaturasconsultadas en internet se ha observado que la fórmula más frecuente que se propone es la de un viaje de inspección en el país donde se propone el proyecto al comienzo de la asignatura (el periodo de la estancia es variable y no siempre se expresa) mientras que el desarrollo del proyecto propuesto casi siempre se lleva a cabo en la universidad de origen. Sólo en casos raros se fomentan períodos más largos de tiempo en el extranjero y que elintercambio sea bilateral.

Para la segunda fase de la investigación, el envío de cuestionarios, de las más de 20 asignaturas y workshop examinados se ha podido establecer contacto con docerepresentantes. Por desgracia, y probablemente debido al período en que se realizó la investigación (cerca de las vacaciones de verano), contestaron únicamente 4 representantes[2]. De las respuestas recibidas a través de los cuestionarios se observó que los promotores del intercambio provienen tanto de las universidades francesas como de las extranjeras. La iniciativa, casi siempre (3 respuestas de 4), parte de un programa universitario ya estructurado y con financiación. La experimentación en los proyectos se lleva a cabo tanto en el campo de la arquitectura como en el dela planificación urbana, y, en cualquier caso, dentro de los dos últimos años de la carrera. Las experiencias de intercambio para los cuatro casos analizados implican dos semanas de estancia en el extranjero durante el semestre académico. Sólo en el caso delintercambio entre Versalles y Kyotoel acuerdo es bilateral, y se prevéuna estancia de cuatro semanas de los estudiantes japoneses en Francia (dos semanas de proyectos y dos de viajes). Gracias a las respuestas obtenidas, se puede decir que las experiencias de intercambio están bien consolidadas: se desarrollan desde hace varios años[3] y,en general, se espera que se realicen también en el próximo curso académico.

Como conclusión del análisis hasta aquí desarrolladose puede decir que las facultades de arquitectura francesas parecen estar particularmente atentas a la formación de sus estudiantes en los ejercicios de proyecto más allá de sus

[1]L'École Nationale Supérieure d'Architecture de Paris La Villette, l'École de Architecture de Paris Belleville, l'École Supérieure d'Architecture Paris Malaquais, l'École d'Architecture de Saint-Etienne e l'École d'Architecture de Versailles.
[2]Tres son universidades de Versalles y una de Malaquais (Paris).
[3]A parte el caso de la asignatura que prevé un intercambio entre Versalles y Casablanca, pero sin embargo, según la opinión del representante es parte de la tradición de la Universidad deVersalles.

fronteras. La formacióncomienza a través de cursos de inglés y de asignaturas impartidas en este idioma desde los primeros años de la carrerapara, posteriormente, concretase de manerapráctica en los últimos dos años en los que son bastante comunes asignaturas teóricas sobre aspectos particulares de la historia y de la construcción de países extranjeros, además de intercambios para la experimentación de técnicas de proyecto. Cabe señalar que el apoyo por parte de la estructura académica francesa a la cooperación internacional también es subrayada por el apoyo financiero que ofrece a los estudiantes para participar en estas iniciativas.

Alemania

La investigación llevada a cabo en las universidades alemanas ha permitido, hasta ahora,identificar algunas facultades activas en los intercambios internacionales en el campo de la planificación urbana. La mayoría de lasescuelas alemanas tiene programas de estudios que prestan mucha atención a la arquitectura de los países europeos, pero algunas se distinguen por la presencia en los planes de estudio de actividades internacionales, es decir que promueven intercambiosde carácter cultural tanto unilateral como bilateral con países no europeos. El intercambio se lleva a cabo a través de la formulación de proyectos de arquitectura en asignaturasobligatorias o en workshop opcionales que se llevan a cabo en parte o en su totalidad en el país extranjero que participa en el intercambio.

Cabe señalar que la introducción de asignaturas de “proyecto internacional” directamente en el plan de estudio se lleva a cabo sólo en los casos de grados orientados al desarrollo de la formación específica en contextos internacionales. En particular, estamos analizando algunas facultades de arquitectura, como la de Darmstadt, la “TechnischeUniversitätDarmstadt”,donde se organizan asignaturas para la cooperación internacionalpero no se incluyen necesariamente períodos de formación en el extranjero, y la Facultad de Arquitectura de Frankfurt am Main “Fachhochschule Frankfurt Am Main” donde se alienta el intercambio con Nepal, Australia y Sudáfrica mediante la organización de workshop de una duración de dos semanas o más.

La búsqueda se llevará a cabo por otrasfacultades de arquitectura si se detectara la presencia de cursos de planificación estructurados para fomentar intercambios con países no europeos.

España

El primer estudio exploratorio realizado en los programas de estudio que se ofrecen en lasfacultades de arquitectura de España ha puesto de relieve una atención generalizada hacia la tecnológica y la construcción del proyecto, que parece prevalecer en la enseñanza de la planificación. El análisis de los detalles de las asignaturas de planeamiento y urbanismo propuestos también demuestra que en la mayoría de los casos, la atención se centra principalmente en el estudio de las dinámicas del territorio español: de los programas de las asignaturas que se han encontrado en la red, surge que la atención se centra principalmente en el estudio detallado y en el análisis de la legislación propia de cada región, la Ley del Suelo de cada Comunidad Autónoma, y de los diferentes niveles de planificación especificados en dichasleyes.

En este marco representa una excepción la facultad de arquitectura de la Universidad privada Camilo José Cela de Madrid. En este caso se utilizan los workshop para introducir actividades de carácter internacional en el plan de estudio. Dentro de las asignaturas semestrales de proyectos se prevén workshopque duran unos pocos días y que ofrecen la posibilidad de una colaboración con profesores de otras nacionalidades.

En general, sin embargo, la investigación hasta ahora no ha detectado la presencia de cursos donde se prevea un período de permanencia obligatoria en el extranjero. En el análisis de las asignaturas de carácter teórico, sin embargo, sí que aparece una sensibilidad diferente y cierta apertura al conocimiento de realidadesfuera de las fronteras españolas. Dentro de estasasignaturas, de hecho, se observa con frecuencia la inclusión de reflexiones teóricas sobre la historia de la arquitectura y del urbanismo, en todo el continente americano. El interés, sin embargo, no parece materializarse (por lo menos según lasinformaciones disponibles en la red) en experimentos de carácter proyectual.

Portugal

La investigación realizada sobre las universidades en Portugal señaló, en primera instancia, que, además de las facultades de arquitectura y de diseño también es posible detectar la presencia de muchas universidades que ofrecen grados completamente dedicados a la planificación urbana y territorial.

Entre las muchas universidades detectadasen el territorio portugués sin duda destacan la Universidad de Porto, que ofrece una carrera en “Planeamiento y Projecto Urbano”, y la Universidad de Lisboa, donde además del masteren “Planeamiento do Territorio” propuesto dentro de la Facultad de Arquitectura también encontramos el Instituto de Geografía y Ordenamiento delTerritorio. En estas facultades las actividades de carácter internacional destaca particularmente el trabajo sobre cuestiones relacionadas con la realidad de los países africanos.

En el caso del Instituto de Geografía de Lisboa, este interés se encuentra en las asignaturas obligatorias y en las opcionales. En el primer caso, además de una base teórica se fomentan periodos de estudio en el extranjero, aunque no está clarala modalidad de intercambio y el tiempo que el estudiante puede pasar en el país extranjero. En el caso de las asignaturas opcionales, sin embargo, surge un enfoque sobre todo teórico, y el objetivo declarado es entender y analizar el proceso de planificación en África, pero también en este caso no se explícita si existe la oportunidad de pasar un

período en el país estudiado o no[4].

En una fase posterior de la investigación se continuará con la investigación para tratar de esclarecer de qué manera se da a los estudiantes la oportunidad de pasar un período de estudio en las áreas estudiadas.

CONCLUSIONES Y PERSPECTIVAS DE TRABAJO

De la investigación llevada a cabo hasta ahora se deduce una gran atención general, por parte de las universidades europeas examinadas, para las realidades fuera de sus fronteras. Se encontró, sin embargo, que cada país formaliza este interés de manera diferente. Sin duda, esta primera investigación sugiere que la Francia es el país donde las experiencias de cooperación internacional, especialmente con los países no europeos, están más estructuradas y generalizadas. Debe señalarse que la investigación sobre las universidades francesas ha sido facilitada por el hecho de que es posible consultar directamente en las páginas web prácticamente todos los detalles de las asignaturas.Pero obviando esa facilidad para el investigador, la semejanza en la estructura propuesta para el intercambio en casi todas las universidades francesas (asignaturas semestrales y visita de dos semanas en el extranjero), sugiere una voluntad compartida y, probablemente, gestionadaa nivel nacional.

La primera fase del estudio presentada en este trabajo deja abiertas muchas líneas de investigación. En primer lugar sería interesante comprender (tal vez a través de cuestionarios específicos enviados a las oficinas internacionales) si en los países no analizados en esta fase es inexistente el interés a experimentar lo que significa desarrollar un proyecto en el extranjero o si, por el contrario, simplemente no se publicitan en las páginas web de las universidades. La misma investigación podría llevarse a cabo para aquellas universidades de los países examinadosen las que, en esta primera fase, no se ha encontrado información sobre la realización de experiencias internacionales. En ambos casos, tal vez sería oportuno reflexionar sobre las motivaciones culturales que justifican la apertura o no al extranjero. ¿Por qué un país está más interesado en la formación de sus planners desde un punto de vista internacional? ¿Se puede hablar de uninterésen fortalecer los conocimientos adquiridos por el alumno? ¿Es un interés dictado por acuerdos a nivel nacional con otros países? Y la falta de interés, ¿puede ser un indicio de una visión miope de lo que son hoy los horizontes de un planner? ¿O simplemente es un síntoma de un deseo de especializarlos estudiantes desde el punto de vista técnico y teórico dejando la experimentación práctica al mundo laboral?

Otra aproximación se podríallevar a cabosobre el sistema de cooperación internacional en el ámbito universitario en su conjunto. A través de un análisis más detallado de los primeros datos obtenidos en estainvestigaciónpodría ser posible entender cuál es la fórmula preferida y considerada más efectiva para la adquisición de las habilidades necesarias por parte del alumno. También será fundamental entender realmente lo que se aprende de las experiencias de intercambio. ¿Cuáles son las expectativas? ¿Las experiencias de cooperación llevana oportunidades reales de empleopara los estudiantes? ¿Cómo el intercambio afecta la manera de hacer proyectosen el país europeo que lo propone? ¿Y cómo afecta alpaís extra-europeo? ¿La presencia de los intercambios favorece una afluencia de plannersy arquitectos europeos en las áreas extra-europeas? En resumen, ¿cuál es el valor añadido de un programa de formación que toma la decisión de invertir en la cooperación internacional?

[4]En la Guía académica de la asignatura “Planeamento Urbano em África” (disponible en la red) solo se habla de “conducir una investigación empírica sobre los procesos de urbanización en los PALOP”.

SPATIAL PLANNING IN PREDOMINANTLY VERNACULAR SETTLEMENTS. THE CASE OF AFRICAN RURAL TOWNS.

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ABSTRACT

In the last ten years, the University of Trento has been involved in a decentralized cooperation programme that promotes cultural, technical and administrative exchange between the Provinces of Trento and Sofala, Mozambique. This contribution focuses on the spatial planning activity in Mozambican rural towns, resulting from the cooperation of the different actors belonging to the programme. African rural towns are essentially towns of farmers in which the development of strictly "urban" activities and functions are found in a society whose features are typically "rural". Vernacular settlements and traditional housing typologies are still widely dominant in the landscape. Nevertheless, "urban" and "modern" settlement patterns and housing models are being imported.
The paper investigates the dialectic relationship between vernacular traditions and modernization, which expresses in a complex mixture of traditional and modern elements. Main research methodology was a household survey led in Sena, a small town situated in the rural Mozambique. Furthermore, some suggestions are provided, which aim to support a spatial planning process that is culturally appropriate and responds to the specific characteristics of this particular typology of human settlement. The central strategy is the enhancement of vernacular settlement patterns and housing typologies and their integration with emerging urban features. Two main reasons determined the choice of this strategy: the preservation of the traditional forms of spatial organization is essential to support the survival strategies of most of the population; protecting and reinterpreting the vernacular tradition by culturally appropriate means is a useful strategy to avoid the indiscriminate colonization of western models. The focus is on the introduction of culturally-compatible changes and, therefore, on the full involvement of the population in the decision-making process.

INTRODUCTION

Small towns of sub-Saharan Africa are experiencing a very rapid demographic growth, which in some cases can lead to the doubling of the population within a few years. The search for adequate policy responses and actions related to the management of urban growth is actually one of the main declared objectives of the national governments of Third World countries, as well as of international organizations. Nevertheless, up to now urban development research and projects have centred mainly on megacities, while small towns almost completely lack planning on how to accommodate people moving from the surrounding rural areas and how to provide them with services [1]. Ordinary management of or - at best - upgrading already-existing urban contexts are generally the objectives of local administrations, for whom planning the urban growth represents an unattainable goal, due to the lack of financial resources and technical capacities.

Local administrations, international aid agencies and NGOs operating in small towns of Africa propose generally only small-scale interventions (urban projects) or sectoral programs (i.e. infrastructural improvement, site-and-services, slum upgrading and - only seldom - public housing provision), rather than a consistent and organic activity of urban planning. Furthermore, these sectoral programs are not always present: they generally follow environmental, political or socio-economic disasters. Therefore, they are often "emergency programs" through which a considerable amount of money is used to resettle the population affected by floods, civil wars, droughts and famine. To cope with the problem of housing big numbers of people in a short time, international aid organizations and national and local governments often adopt foreign-designed, mass-produced and pre-packaged housing solutions [2].

Resettlement programs, as well as other sectoral interventions, are generally designed for major urban centres of the Third World and then automatically transferred to small and intermediate towns without any attention to the specificities of these typologies of human settlements. If these programs demonstrated to be inadequate even for those centres for which they were expressly formulated [3][4][5], they are far less suitable to the small towns. These settlements are generally planned on a two-dimensional grid, which is applied on the territory without considering the often-complex morphology of the place and existing natural elements (i.e. vegetation and water bodies). In the landscape there is no centre, neither reference points nor signs remarking identity or educating to beauty or pleasure. The grid is generally designed by a regular, perpendicular road network and is composed by the obsessive repetition of

the same module: a small housing plot provided with basic services (generally just a “wet core”) and, sometimes, one small house for the whole family. This typology of housing policy and programs refer generally to cultural models that were originally developed for Western, industrialized countries and are passively inferred to southern, tropical, rural contexts. General assumptions and blanket solutions to housing needs are likely to suffer from being out of place or even face total rejection. These pre-packaged housing models pay no attention to local housing cultures, indigenous dwelling types and patterns, and ignore the environmental context of the proposed architectures. Therefore, accustomed to a different relationship between internal and external space than that of a conventional Western house, a people may experience a disconcerting loss of “environmental control”, which comes with being unable to relocate or alter the dwelling to suit specific social or climatic conditions, as they have been accustomed to do. To live in a Western-styled house requires the fragmentation of personal spaces and the adoption, at least in part, of the lifeways of another culture; though to adopt them may mean the loss of cultural and personal identity. As a result, individuals find themselves physically and psychologically uncomfortable in modern structures. In particular, it is generally not taken into account the design of spaces able to host large family structures (often polygamous) and to integrate different activities within the plot (living, cultivating, livestock holding, handicraft goods producing, domestic selling etc.), that are the base of most subsistence strategies of poor people of the Third World [6].

Furthermore, houses are often built with industrial materials. The widespread use of concrete, steel, prefabricated elements and other “modern” materials and building technologies has demonstrated not to be affordable by local economies and to cause also the loss of cultural heritage and traditional abilities of local manpower. Furthermore, in contrast with various traditional architectural forms and locally available materials, modern technologies are less appropriate also from an environmental point of view, as they produce a less-balanced relationship between the building and its environment. This consideration is not only valid in relation to the "lifecycle assessment" of industrialized vs. traditional constructing technologies, but also in relation to their performances in terms of climate control and to the provision of indoor comfort in tropical countries [7].

RESEARCH CONTEXT, OBJECTIVES AND METHODOLOGY

Small towns in Sub-Saharan Africa are essentially towns of farmers, in which “modern” administrative functions, provision of infrastructures and services, and development of strictly “urban” economic activities are found in a society whose features are typically “rural”. This occurs also in Mozambique, where processes like globalization of the economy, modernization of transport and communication infrastructures, rapid urbanization, and administrative decentralization are deeply transforming both the physical structure of the *vilas rurales* (literally “rural towns”) and their socio-economic and cultural characteristics. Therefore, African rural towns present a hybrid settlement pattern, in which urban and rural characteristics melt together. Rur-urbanization can be explained as a process of population growth and of strengthening the urban features of the small towns, while preserving relevant rural characteristics [8].

These rural characteristics, in fact, are not residual, but instead represent a structural component of the rural towns that strongly influences local economies, lifestyles and also physical settlements. This dialectic in relation to the rural-urban polarity is absolutely dynamic, since it changes constantly as a consequence of the relevant globalization processes that small towns are experiencing.

It can be affirmed that vernacular settlements and traditional housing typologies are still widely dominant in the landscape of African rural towns. Nevertheless, “urban” and “modern” settlement patterns and housing models are being imported as a consequence of ongoing global processes. The result is a dialectic relationship between vernacular traditions and modernization that expresses itself in a complex mixture of traditional and modern elements. The aim of the paper is to investigate this topic in relation to a specific context: *vila de Sena*, a small town situated in central Mozambique, along the Zambezi River. Sena belongs to the rural district of Caia, Province of Sofala, where the University of Trento has been involved in the last ten years in different spatial planning activities within a decentralized cooperation programme that promotes cultural, technical and administrative exchange between the Provinces of Trento and Sofala, Mozambique. Analysing the evolution of vernacular traditio towards “modern” housing typologies allows to provide some suggestions, which aim to support a spatial planning process that is culturally appropriate and responds to the specific characteristics of this particular typology of human settlement.

Main research methodology is a household survey that was carried out in summer 2008 as part of the drawing up of the Sena master plan. The purpose of that survey was to understand the peculiarity of this town, which showed a complex mix with reference to the urban-rural polarity. The survey was made through a sample of 47 households randomly selected within the administrative boundaries of the town, covering the whole built-up area on the basis of its density. As a research tool, a structured qualitative interview was proposed to each household. Most of the questions required open answers, being more appropriate for the explorative character of the survey, the low educational level of the interviewees and the object of the analysis. Each interview took almost two hours and was made directly at the household. The language used was generally Portuguese: only in some cases local technicians of the Spatial Planning Office had to translate from Chisena. The interview was structured in the following five main topics, each comprising of a set of questions: housing typology; household composition; income and expenditures; access to socio-cultural-recreational services; use of environmental resources. The selected topics were associated with the spatial organisation of the town. The elaboration of the results consisted first of all in the codification procedure, referring answers to

interpretative categories. It was possible, then, to complete the database, and to carry out exploratory data analysis, which allowed households to be classified according to different typologies. The classification of the households was made on the basis of two different, but interdependent, criteria: monetary income and main occupation. According to these criteria households were divided into four typologies, representing different social groups and whose existence depends respectively on: 1) subsistence agricultural activities; 2) both agricultural and non-agricultural subsistence activities; 3) hybrid urban activities; 4) modern activities. Moreover, through the survey it was possible to identify and analyse three different housing typologies emerging in the rural town, as described in the next Section.

EMERGING HOUSING TYPOLOGIES IN SENA

One of the results of the survey in Sena, was to notice that housing typology is a reliable indicator of the social groups the household belongs to. Three main housing typologies, in fact, were individuated, each corresponding to a different social groups emerging in the rural towns.

Traditional mudzi

Households that rely almost completely on subsistence agriculture accompanied by odd jobs or other low-income non-farming activities (such as agricultural trade, street trade, handicraft, employment in the construction sector or in international aid), belong to the subsistence sector. Due to the very low monetary income, less than 1 euro per day, the survival of these households crucially depends on the direct and free access to natural resources: land for agriculture, water, firewood, cattle breeding, healing plants, building materials. The housing typology of households belonging to the "subsistence" socio-economic sector, is the traditional *mudzi:* the vernacular housing typology that consists of different small buildings, called *palhotas*, settled around a wide, circular open space (see Figure 1).

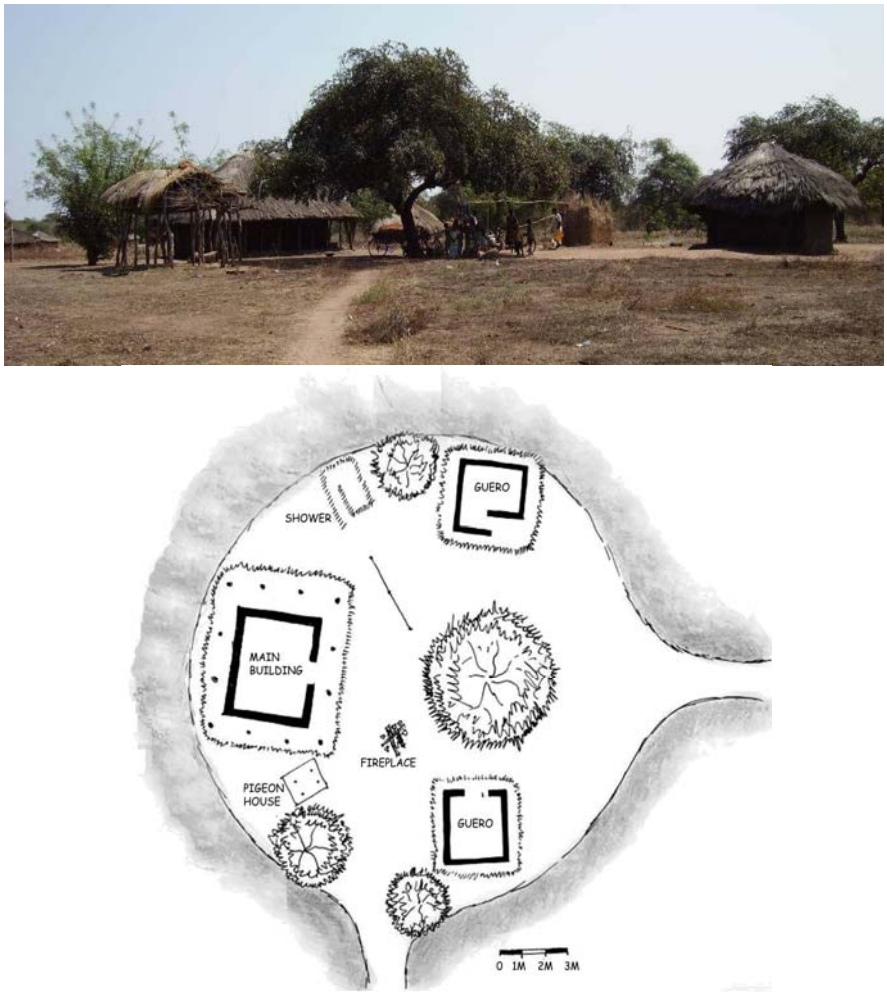

Fig. 1 - Graphic and photographic survey of a traditional mudzi.

The settlement grows up progressively together with the family. In the case of a monogamous family structure, the *palhota principal* is reserved to the head of the family, his wife and little children. When children grow up, they move to their own *palhotas*, one for the women and one for men. Generally at the age of fourteen, the now adult son builds his own *guero*, the *palhota* where he will receive his wife once married, according to a patrilineal social organization of the *sena* population. In the case of a polygamous family structure, the head of the household must equitably provide each wife with her own *palhota.*

Indoor spaces are very intimate ones, used just for sleeping and for shielding oneself from sunlight or rain during the day. Moreover, indoor spaces are also used to store agricultural products. For all these reasons, *palhotas* have only small openings to allow the cross-circulation of the air while keeping the interior in shade. All daily activities are conducted outdoors, in the central open space where firewood to cook is placed, cereals and straw dry over a *mesa alta*, guests are received, domestic selling takes place, animals scratch about or are locked inside fences, and children play. It is interesting to notice how each *mudzi* adapts to the family structure and also family's different activities contribute to the personalization of the compound.. The central space is generally dominated by big, leafy fruit trees, like *massaniqueras* and *songolas*, under whose shadow most of the domestic activities take place. Nature, in general, is an integral part of the compound, tracing boundaries among different properties and, moreover, is essential in improving the outdoor microclimate.

Palhotas have generally very small dimensions (2x3 m, 3x3 m, 3x4 m, 3,5x4,5 m) and the indoor space consists of just one room, without any articulation of the inner space. Sometimes it is possible to find porches surrounding the *palhotas* completely or just on one side. These porches, which can also be closed in by wooden *estacas* or vegetable reeds, provide one of the most-used areas of the compound and it is usual to find householders eating or resting in the shade provided. Porches also have the function of protecting the walls of the building from atmospheric conditions. Latrines are generally to be found, while each compound has a spiral element made of *caniço* (vegetable reeds), that provides a place to shower in privacy. Building techniques commonly used in this housing typology are the vernacular ones. Walls are generally made of earth, according to two main techniques: *tijolo cru* (sun-dried mud bricks, or adobe) and *pauipique* (wood frame, filled with mud and stones). In a few cases it is possible to find walls made of wooden posts covered with *caniço* or *capim* (straw). The roof is always a wooden structure made of thin, circular posts covered with *capím*, and can have two or four pitches.

All families declare that the small buildings had no monetary costs, since the men of the family are normally engaged in collecting building materials (such as mud, wood and straw) freely in nature, in processing them and in building the *palhotas*. The whole family, however, participates in the construction process, sometimes with the help of other relatives and neighbours. More than one interviewed householder underlined the point that children also help as they can, by bringing water for example, because it is important for them to get acquainted to the process in order to be able to build their own *guero* once they become adults. Once the *palhotas* are finished, women are responsible for ordinary management and housing maintenance, such as soaking earthen pavements with a solution to drive insects away, or to add further mud layers to the walls after the rainy season, sometimes decorating them with *matope* of different colours.

Hybrid mudzi

Households belonging to the social group depending on "hybrid urban activities", accompany the agricultural activity with a non-fam middle-income activity, in public administration or in the trade sector. In this case we are talking of the sale of agricultural produce or of the handling of a banca movel (stall) in the market. In this typology, family-based trade is no longer traditional street commerce but it presents modern characteristics and assets. Motorcycles are bought and trucks are rented to allow transportation of goods, which can be manufactured goods coming from other provinces or other countries. Income ranges from 850 to 5,700 Euros/year. Once more, in this typology there is recourse to natural resources as firewood, but these resources are not collected directly but bought at the central market or from street vendors.

The housing typology that better represents this group of households is what has been here defined as "hybrid *mudzi*" (see Figure 2), that testifies to the higher complexity of this social group, the households of which—as seen—deal with both modern and traditional activities and present a complex mix of urban and rural behaviours. Among households belonging to typology 3, in fact, savings are mostly invested in the improvement of the housing conditions. This means the substitution of some of the traditional *palhotas* with more "modern" constructions. Modern buildings are made of conventional materials (bricks, corrugated iron sheets, cement, mortar and plaster). The result is a hybrid *mudzi*, where the traditional spatial organization of the housing compound shows a mix of traditional and modern constructions. Generally only the main *palhota* is substituted with a modern building, since the construction of a new building is very expensive and skilled manpower must be paid to build the house, due to the lack of knowledge related to "modern" building techniques. Among the surveyed hybrid *mudzi* of this typology, no one was provided with electric energy, but they all had a shower (or rather, a place to have a shower) and a latrine.

Conventional house

The 8% of the interviewed householders are modern traders and form the socio-economic élite of the town. These households have a much higher income in comparison with the others, which can exceed 28,000 euro/year. Modern trade is endowed with a shop in the central market, or consists of transactions carried out at national or international level given the proximity to Malawi. Transportation means appear as motorcycles and trucks, rented shops and waged employees are associated with this activity. As in the previous typology, there is recourse to both natural resources and manufactured goods. The class of modern traders expresses an aspiration to an urban lifestyle, and this is testified to by the housing typology spontaneously adopted by all households of this class: the "conventional house" (see Figure 3).

This time there is a radical change with respect to the traditional *mudzi*: a new, modern house is built, with a different organization of indoor and outdoor spaces, conventional housing materials, electric energy and so on. The "conventional house" of *Sena* is reminiscent of those that dominate the landscape of the peripheries of Beira and other major cities of Mozambique, in terms of shape and constructing materials. The "conventional" housing typology consists generally of a main building and a kitchen. These two constructions are bigger than the traditional ones and the main building presents a spatial and functional articulation of the inner space. In this typology, in fact, *gueros* do not exist and, when children grow up, they have their own room (one for males and one for females) within their parents' house. But even if a kitchen is built, households declare that they still prefer to cook open air. The buildings are generally grouped perpendicularly, forming an "L" that creates a rectangular open space in the middle of the plot, which is much smaller than in the *mudzi*. Generally the plot is surrounded with a high, massive wall that has only one access to the main road in order to protect family properties and trade goods, that are often stored in the compound, from robberies. Generally there are no trees or presence of vegetation within the plot. In these housing compounds there is always a latrine and a shower, generally located at the back of the main building, and at least all main buildings are provided with electricity.

Compared to the small, one-room *palhotas* of the *mudzi*, "conventional" buildings are bigger (7x4m, 7x6m) and present also a spatial and functional articulation of the inner space. The roof can have two or three pitches with different inclinations, the latter reflecting the most-used housing model of the periphery of Beira. Furthermore, the buildings of this typology are made up of "conventional" building materials, mostly *tejol quemado* and *chapa*, that is bricks for the walls and corrugated iron sheets to cover the roof. These buildings, which are sometimes also plastered and coloured, are not constructed by the family members any more, as specialized manpower is needed. The costs for the realization of this housing typology are very high. For the main buildings alone in Figure 3, which has a dimension of 7x6 m, the household declared to have paid 45,000 MTn (1,185 euros).

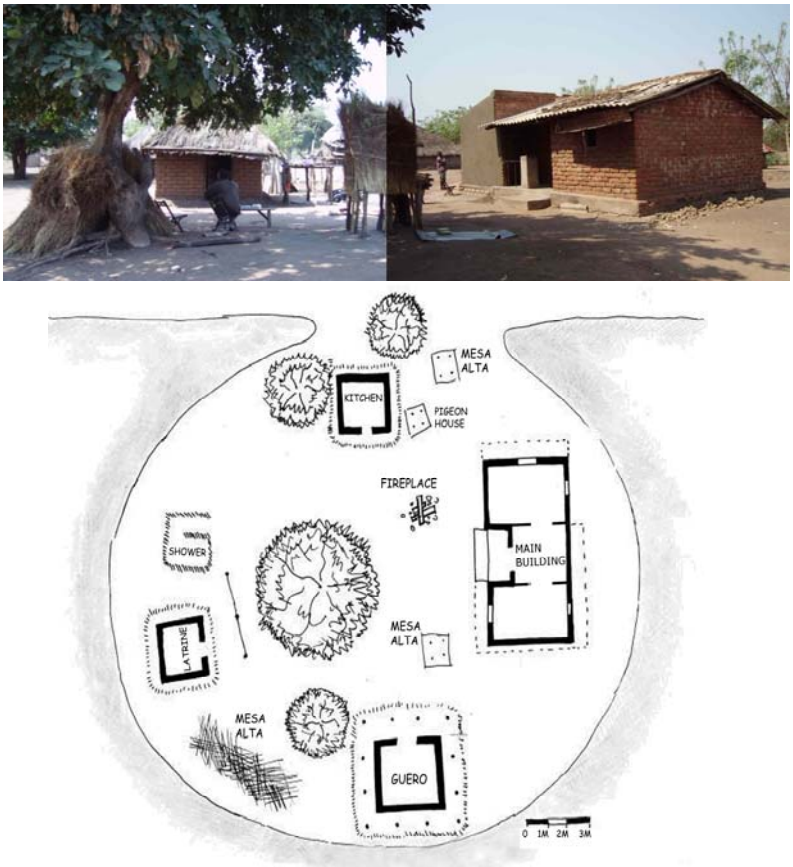

Fig. 2 - Graphic and photographic survey of a "hybrid mudzi".

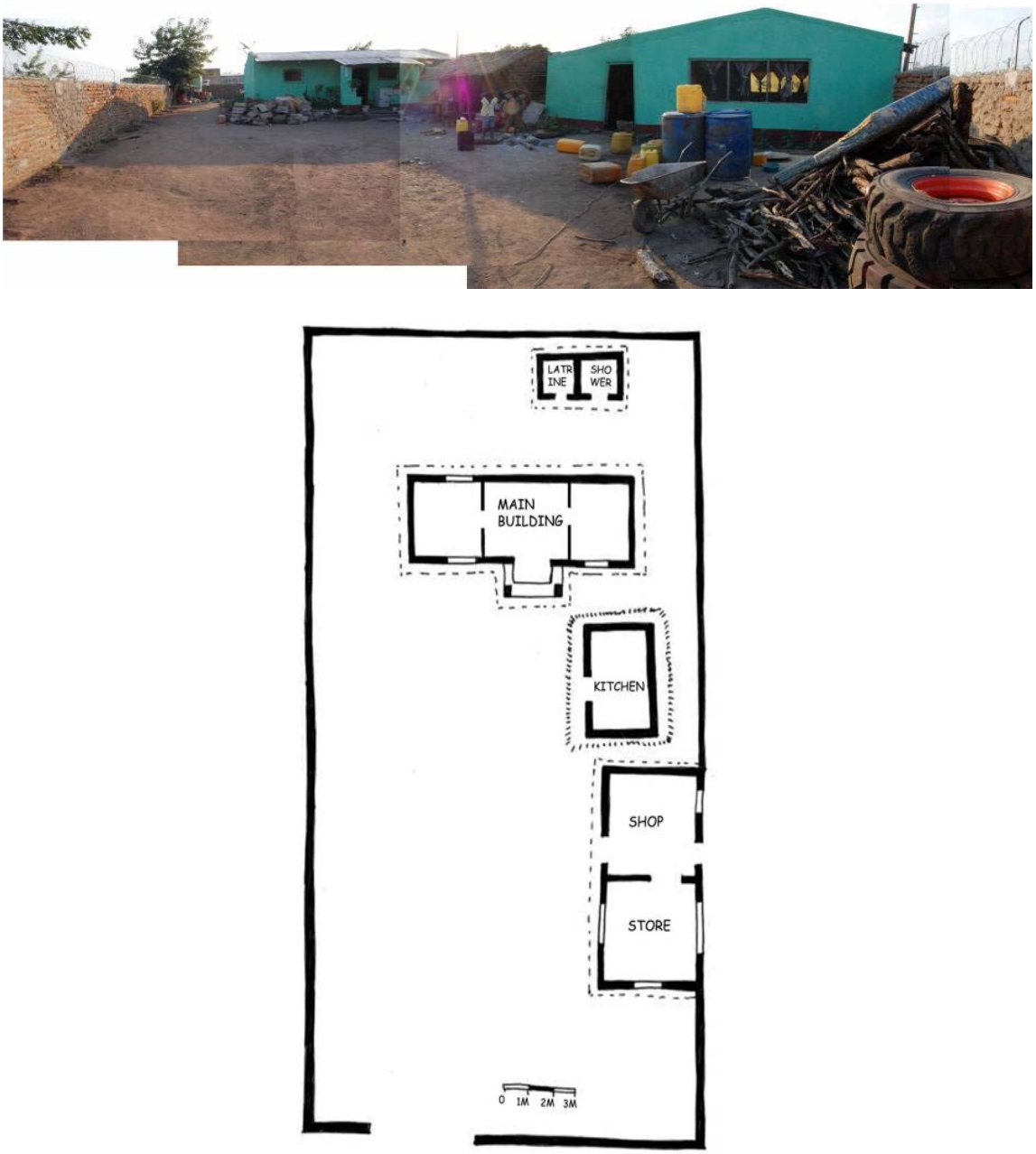

Fig. 3 - Graphic and photographic survey of a "conventional" housing compound.

PERSISTENCE AND TRANSFORMATION OF VERNACULAR HOUSING CULTURE

An important characteristic of the rural town is the persistence of vernacular settlement patterns, housing typologies and building technologies, which are widely dominant in the landscape. Traditional *mudzi*, in fact, constitute the great majority of the built-up area in Sena, are closely related to rural settlements and give to the small town its particular character of being a big rural village.

The vernacular compound is the only affordable option for most of the population. since it is constituted of small buildings made of materials that are freely collected in nature (i.e. mud, wood and straw). A *mudzis* spatial relations reflect the socio-economic organization of the *sena* population. Small *palhotas* organized around a big open space are expression of the polygamous structure of the families, which rely on more than one housing unit and the livelihood strategies of which take place prevalently in the compounds outdoor area. Moreover, vernacular building techniques are based on natural materials available *in loco*, which is an advantage from both an economic and an environmental point of view. These constructions, in fact, are "sustainable", since they use only renewable resources the regeneration capacity of which is not overcome. No energy is employed in the extraction and processing of building elements, such as sun-dried mud bricks and wooden posts, which also do not present the problem of waste disposal, since they can be

completely recycled. Furthermore, vernacular technologies present a better bioclimatic behavior of the building shell in relation to the local tropical climate. The earthen walls and the straw roof, in fact, work as a natural air conditioning system, since they absorb the humidity of the air during the night and the dew at dawn and, when the sun shines on the building, the evaporation considerably reduces the indoor temperature. With respect to the high daily temperatures, both materials (earth and straw) present good insulating properties, while corrugated iron sheets have such a high coefficient of thermal conductivity that one should advise against using them in such climatic conditions. Also nature, that is widely present in vernacular compounds, has the function of improving the outdoor microclimate. Through leaves transpiration and production of shadow, the temperature is mitigated and the humidity of the air is balanced. Finally, vernacular building techniques produces the valorisation of local material culture: local resources, technical skills and housing heritage. They are also simple enough to allow the self-building process that is widely diffused in Sena. This process guarantees the uniqueness of each housing compound, which is personalized according to family needs and tastes. Moreover, self-construction has important social and cultural implications, since it reinforces community linkages through mutual aid and is also an important step in the initiation of the householders to their adult life. Summarizing, vernacular housing typologies combine comfort, aesthetics and functionality, in the respect of the local housing culture.

Anyway, it is evident that the traditional housing culture is evolving towards the model of the “conventional house”. This model, that is considered more “modern” and “comfortable”, is spontaneously adopted by those among the population with a medium or high income, whose aspiration to an “urban” lifestyle it exemplifies. The household survey in Sena highlights how the housing typology can be considered a reliable indicator of the households lifestyle and socio-economic level, as well as of its “urbanity” rate: families belonging to the subsistence sector live in vernacular rural housing compounds (*mudzi),* while households of the capitalist sector invest their savings principally in the improvement of the housing conditions. In some cases, some traditional constructions are substituted with “modern” ones *(hybrid mudzi),* while in the case of the traders, the socio-economic elite of the town, a new modern house is built, which is reminiscent, in terms of shape and building technologies, to those of Mozambique cities peripheries.

Conventional typologies represent a radical change with respect to the local housing culture. In particular, the relationship between indoor and outdoor spaces changes considerably: the indoor surface is between 1.5 and 5mq for each person in the traditional *palhotas* and 10-11 mq for each person in conventional houses, while the outdoor space is strongly reduced in conventional compounds. This is surely related to the fact that families with high income do not need a big outdoor space to carry on subsistence activities.

Through the survey, it was also possible to analyse the subjective perception of households in relation to their housing condition. It emerges clearly that there is a general belief among the population that vernacular housing typologies are synonymous with poverty and all households have the aspiration to improve their housing and living conditions, that for most of them this means building a conventional house. In particular, it is to be noticed how the corrugated iron sheets are generally preferred to straw to cover the roof, in spite of being far more expensive, producing an uncomfortable indoor environment, and being very noisy when it rains. They are still inaccessible to the majority of the population, but from the interviews it comes out that they are preferred not only because they are more durable, but also because they are a symbol of well-being.

It is important to underline that the actual trend is not only determined by the spontaneous action of medium- and high-income social groups, but it is also induced by the resettlement programs, such as the *“Programa de Reassentamento da população afectada pelas cheias 2007”* [9], which actually subsidize and offer technical support only if a “conventional house” is built. This is also contributing to the introduction of the “conventional housing” model in the imagination of the people as synonymous of “modernity”, “comfort” and “well-being”, fomenting its emulation in individual choices.

CONCLUSIONS

Vernacular settlements and dwellings are regional and cultural and are subject to many influences. Resources, technology, climate, environment, lifestyles, values and meanings all play a part in shaping settlements and dwellings built by the people. The vernacular habitat, then, is the product of the interaction and harmonious fusion of all these tangible and intangible aspects of a community [10]. This holistic approach, spontaneously adopted by the people in their self-building activity, is typical of the vernacular settlements. Addressing the issues of local settlements and architectures that communities developed spontaneously over time is unavoidable for planners dealing with prevalently vernacular contexts, which small towns of Sub-Saharan Africa are.

Vernacular settlement patterns and architectures evolved over millennia and still represent the majority of the built environment among many cultures. Nevertheless they are disappearing fast, since they are being replaced with settlements inspired by Western models. The latter, as seen in previous Sections, are no longer intimately related to the characteristics of the place and of the community that lives it. On the contrary, they are producing a growing homologation of the living environments at global level. The risk of the present trend is not only that of providing settlement solutions that are inadequate to local contexts, but also of losing vernacular traditions, which are a precious world heritage of urban diversity, material cultures and skills.

Nevertheless, in African rural towns there is still a strong connection with traditional values and locally-rooted

ways of life, something that is exemplified by vernacular settlement patterns, housing typologies and building technologies. These constitute the great majority of the built-up area and give to the rural town its particular character of a big rural village. They represent an important cultural heritage that has almost been lost in major urban centres, where settlements and housing typologies have developed instead towards Western models. Even though the adoption of housing typologies and building technologies inappropriate to the local context is not as evident in African small towns as it is in the cities, their early signs should be taken seriously into consideration.

The analysed trend demonstrates the need to govern the rur-urbanization process with adequate integrated policies and a coherent urban planning activity in which the "spatial" component has a strategic importance. The central idea proposed for the spatial planning activity is the enhancement of vernacular settlement patterns and housing typologies and their integration with emerging urban features.

Two main reasons determine the choice of this strategy. First of all, the preservation of the traditional forms of spatial organization is essential to support the survival strategies of most of the population, therefore spatial planning within African rural towns should support "subsistence" settlement patterns. The fact that 70% of the population belongs to the "subsistence" economic sector calls for the deeper comprehension and protection of all those forms of spatial organization of the urban territory that allow the poor households to carry on their different survival strategies. Therefore, protecting "subsistence settlement patterns" could ensure a dignified standard of living to the whole population and avoid the risk of *favelization*, in particular in regards to the newly urbanized households. This risk is particularly high in Sub-Saharan African rural towns, in fact, where demographic growth is generally associated with the phenomenon of "urbanization of poverty". According to this strategy, promoting housing typologies inspired by local material culture is a central issue in spatial planning and management within the rural towns.

The second reason for enhancing the vernacular tradition through spatial planning is that the existence of large-scale vernacular settlements offers the opportunity to experiment with urban development patterns that are more appropriate to local housing culture and endogenous resources than the "conventional housing" model that is currently being proposed. This planning principle suggests the promotion of housing typologies, building technologies and construction processes that find their inspiration in the vernacular tradition. Protecting and reinterpreting the vernacular tradition by culturally appropriate means, in fact, is a useful strategy to avoid the indiscriminate colonization of Western models. The focus is on the introduction of culturally-compatible changes and, therefore, on the full involvement of the population in the decision-making process.

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DEVELOPING THE NEW STRATEGIC MASTERPLAN FOR HERAT (AFGHANISTAN)[1]

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ABSTRACT

This paper illustrates the results of the collaborative relationship between the University of Florence and the University, the Department for Urban Development and the Municipal Council of Herat, aimed at the formulation of a new strategic Masterplan (SMP) for the city of Herat. In particular the paper illustrates the systematic programme of analysis undertaken to construct an updated information base on current socio-demographic and territorial situation of the urban area, and some findings testifying the deep changes that have been taking place in the last decades. Moreover, the paper deals with a more detailed description of the analysis process and the proposed strategic actions as regards to the transportation urban sub-system.

INTRODUCTION

This paper illustrates the results of the collaborative relationship between the University of Florence and the University, the Department for Urban Development and the Municipal Council of Herat. This relationship was formally set in motion in 2004 on the initiative of the coordinator of the project, who became aware, while conducting research surveys in Herat, of the absolute lack of recent socio-economic and demographic data relating to the city[2].

Afghanistan's tribulations and complicated history since the late 1970s have, in fact, resulted in a drastic reduction in room for manoeuvre as far as research is concerned, with a resulting huge gap in knowledge on all aspects that are not strictly military regarding life in the country. By the time the Taleban fell, the country had been deeply transformed; yet it was still a puzzle, not only because of an almost complete lack of reliable data but also because of the difficulty in rebuilding structures capable of managing all the needs of a civil society.

The construction of an updated information base appeared, then, to be of the utmost urgency for Herat, where a tumultuous expansion process of the urban area was underway. This process, begun during the Taleban period because of the relative security of the city, was subsequently accelerated, generating a profound but problematic transformation of the organization and layout of places [1].

Multiple changes occurred in the absence of any updated instruments for governing the territory. The city's urban policies referred to the old Masterplan, devised at central government level in 1963. This plan was based on an orthogonal grid and envisaged such significant expansion that the Ministry of Culture called for a revision, a request which was only partially met in 1978. In the absence of other instruments, this Masterplan, aspiring to western urban models, effectively influenced the city administration in their day-to-day running of the territory. Apart from the fact that such plan had little to do with the local context, it was found, after the fall of the Taleban, to be totally inadequate for tackling the new problems of the area. This had a negative effect both on the results and the image of public action.

These considerations fuelled our conviction that the main priority of this cooperation was to ensure the availability of updated instruments for governing the area, both to deal with the new problems arising from the expansion of the city, and to stabilize Herati society according to more ordered and enduring models of civic togetherness.

Thus, the University of Florence developed a special cooperation project which aimed to offer theoretic, methodological and technical support to local entities engaged in the important role of managing the territory, while at the same time offering training to personnel.

In 2011, with the financial support of the *Direzione Generale per la Cooperazione allo Sviluppo (DGCS)* of the Italian Ministry of Foreign Affairs, the University of Florence, in conjunction with the Department of Urban Development, the University and Municipal Council of Herat, undertook a systematic programme of analysis and planning of the urban area, aimed at the formulation of a new Strategic Masterplan (SMP) for the city of Herat.

As the name suggests, this is a planning approach which, far from being based on a static vision of urban space, is an attempt to harness the most significant aspects of change and development, ensuring, at the same time, the deepest consideration of the specific geographic, cultural and social aspects of the area within a multidisciplinary approach.

[1] This article is a joint project of the authors. The sections "Introduction" and "Socio-demographic aspects and condition of real estate" have been written by Mirella Loda. The section "Transportation issues and strategic actions" has been written by Mario Tartaglia.

[2] The members of the Florentine team are: Mirella Loda (Social Geography/Project coordinator), Gaetano Di Benedetto (Urban Planning), Manfred Hinz (Intercultural Studies), Massimo Preite (Urban Planning), and Mario Tartaglia (Transport Planning).

According to this approach, the first macro-activity of the SMP-project was aimed at analysing the current social and territorial situation of the city. The analysis was based, as far as the scanty existing material permitted, on the perusal of existing literature and documentation. The themes dealt with were the physical environment, economic prospects and cultural heritage. Only for the latter was there already a vast collection of accurate documents, thanks to the hard work carried out in Herat by the Aga Khan Trust for Culture, who courteously allowed us access to their data on material heritage.

For many other areas of city life it was necessary to compile the database through direct surveys. In particular, the following direct surveys were carried out: 1. Household survey, 2. Mobility survey, 3.Traffic survey, 4. Study on the availability and conditions of real estate, 5. Study on property values, 6. Study on urban facilities (schools, hospitals, etc.), 7. Study on urban utilities (power network, water system, etc.), 8. Study on transport infrastructures and services (road, parking, public transport, etc.), and 9. Study on intangible cultural heritage. Moreover a model was developed of the demographic evolution of the city up to the year 2051 and – through photo-interpretation of satellite images – an analysis was carried out on land use in the Herat area.

In the following pages we will confine ourselves to sum up some of the main findings of the surveys on socio-demographic aspects and the condition of real estate and to illustrate data and planning proposals related to mobility and traffic. A complete description of the research findings and of the planning proposals of the SMP is contained in [2].

SOCIO-DEMOGRAPHIC ASPECTS AND CONDITION OF REAL ESTATE

The household survey was conducted between October 2010 and February 2011 on a random sample of 3,083 households and 22,102 individuals (51.3% male, 48.7% female). On the basis of the collected data, the total population living in the 12 Herati districts can be estimated at about 493,600 inhabitants. In 1979 Herat had 140,300 inhabitants, a figure that testifies to the city's intensive growth in the last decades.

The Herati population is very young (like that of other Afghan cities). The distribution of the population according to age shows that 68% of the dwellers are under 26, while the percentage of older people is only 3%. As a consequence, a high rate of population growth is predictable in the next two-three decades. The gender-based age pyramid shows that in Herat genders are more evenly balanced than in other Asian countries. These statistics would seem to exclude the widespread practice of selective abortion as in China and India, where selective abortion still results in a lower proportion of women over the whole population (e.g. in 2001 in India 927 girls were born for every 1000 boys).

In Herat a fast-growing population lives in a relatively small space. Therefore, the density rate is very high – just shy of 84 inhabitants/ha. This figure is high even compared to crowded Asian cities like Shanghai, and especially considering that Herat's city centre is characterized by low buildings with max. 1-2 storeys.

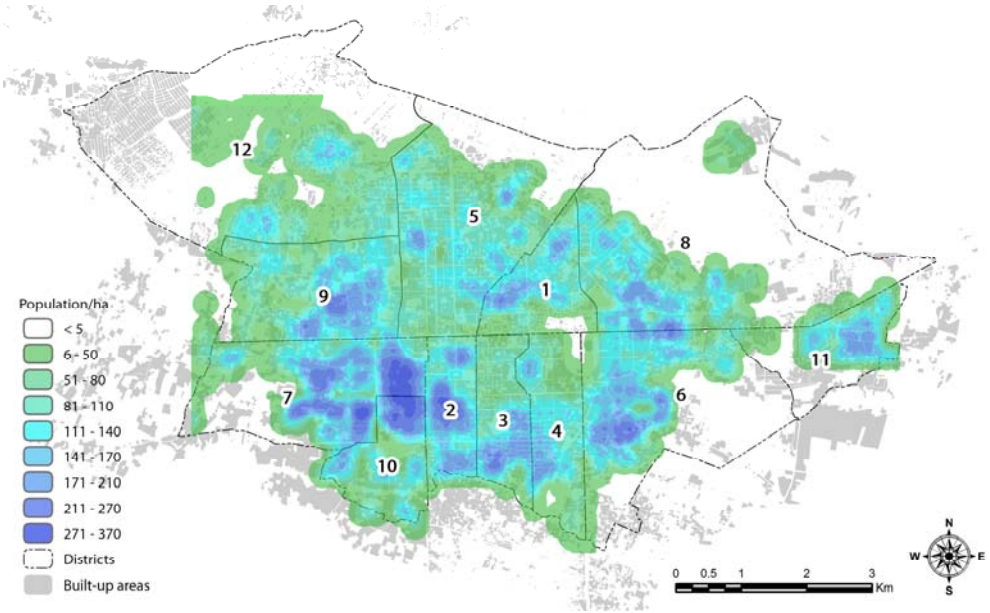

Fig. 1 - Population density in Herat, year 2011. North-Western area of District 12 not represented (*Source:* our processing of the Household survey data, 2011).

The distribution of population in the urban area is obviously not homogeneous (Fig. 1). Areas with very high population density (blue areas) are located especially in the old city (up to 200 inhabitants/ha), in the adjacent neighbourhood to the north-west, and also in the newly developing urban areas.

On average, Herati households consist of 7.1 individuals. The figure is impressive when compared with western societies (for example the Italian figure in 2010 was 2.4). In the majority of cases (85%), the household comprises two generations; in one out of eight households three generations live together in the same unit (extended families). One-generation families are extremely rare. No clear tendency to separate generations has been observed. In 1/3 of cases, collateral branches of the family live under the same roof. The tendency of different family branches to become independent will greatly contribute to improving the housing demand in the future.

There are no clear distribution patterns according to household size in the urban area. Families with more than 8 members are distributed fairly regularly throughout the whole urban area. The relatively high presence of families with more than 10 members in wealthy districts shows that large household size is not correlated to low income and poverty. On the contrary, the extended family proves to be still deeply rooted in local culture.

The average monthly income per capita is 1,530 Afghans (roughly 29$)[3]. However, the average value conceals huge differences in family income. Almost 1/4 of Herati families can be considered wealthy, because their members each have a monthly income of more than 1,900 Afghans. One fifth of Herati families are very poor, because their members have a monthly income equal to half the average value (18$) or even less.

For more than 2/3 of Herati families the main source of income is labour or clerical work. Entrepreneurial activities are the main source of income for one family out of five. The percentage of families living on yields or annuities is very low (2.3%). Due to the high number of students and housewives, a low percentage of people at an active age (15-65) contribute to the family income.

It is very interesting to note how the occupational structure varies according to gender. Despite the fact that women represent more or less 50% of the student population (figure that testifies a great improvement in woman condition compared with the Taliban time), they play a very minor role in economic activities. Very few women embark on a profession after school or university and two out of three become housewives. However, women who enter the work market occupy relatively well-paid and prestigious positions.

A little fewer than 2/3 of households live in a house they fully own; 1/3 of households live in a rented house or are paying off a mortgage. Rented homes are mostly located in the old city and in the area to the north–west.

People express a very high level of satisfaction with regard to their living conditions. Above all, appreciation of their own neighbourhood is extremely high. On average, however, opinions vary according to the different aspects considered. Retail, and above all, religious infrastructures are considered to be highly satisfactory. On the contrary, schools, streets and health infrastructures and services are to some extent in critical condition.

Libraries and parks, followed by sports facilities, are among the amenities that people most miss in their neighbourhood and that would improve the quality of their lives. As expected, opinions regarding missing amenities vary according to age. The under-25s attribute more importance to libraries and sports facilities and less to traditional forms of entertainment like tea-houses. Opinions about missing facilities vary even more according to gender. Women attribute much more importance to sports facilities and to playgrounds for children.

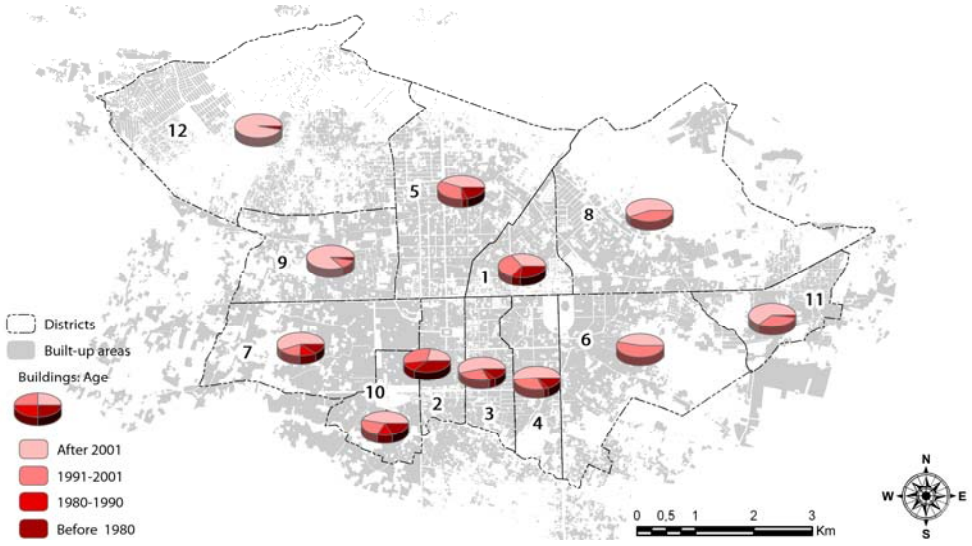

Fig. 2 - Age of buildings in Herati districts (*Source:* our processing of the building survey data, 2012).

Similarly to what has occurred in the demographic and social sphere, the profound transformation of the city in recent years has also affected its physical size and form, radically altering the urban landscape at a particularly accelerated speed following the fall of the Taleban regime. In order to implement the new Strategic Masterplan of the

[3]According to data of the World Bank, in 2011 the average per capita income (at nominal values) in Afghanistan was 400$. The latest National Risk and Vulnerability Assessment-NRVA survey (Spring 2007) indicates that 42% of the population lives below the poverty line.

city, it was thus indispensable to carry out a survey on the extent and conditions of real estate. The survey was carried out between October 2011 and January 2012.

On the basis of the findings, the number of buildings in the city can be estimated at 54,841. It can be seen from Fig. 2 that a very large portion of the existing real estate was built recently: 54% of the total has, in fact, been built in the last 10 years. The pre-conflict buildings which, in this context, can be defined as 'historical', are concentrated in the centre of the city.

The urban landscape is still characterized by fairly low buildings: more than half have only one floor (above ground) and only one sixth have three or more floors. In accordance with traditional architecture, one sixth of buildings have a habitable basement which is useful during the very hot and very cold seasons.

Traditional one-storey or, at the most, two-storey houses still characterize in particular the historical quadrilateral; buildings in modernist style, again with one or two storeys, can be found especially in the area of 1940s urban expansion to the east of the city centre. Buildings with several storeys, recently built according to international styles are mainly to be found in the outer limits, particularly to the north west of the centre, while in district 12 (where the percentage of buildings erected since 2001 is as high as 96%) there is the highest percentage of buildings with three or more storeys. This building type is very common also in many interstitial spaces in almost all districts, occupying spaces which were previously empty, or substituting ancient buildings. One of the features which most characterize the new buildings is the sloping roof, in line with a widely imitated European taste and far removed from traditional architectural styles.

With regard to basic utilities, the condition of buildings, while showing a vast improvement in recent years, is still problematic. Almost all buildings are connected to the electric grid but blackouts occur because of insufficient capacity. In addition, just under two thirds of buildings receive water from the public aqueduct, while more than half still get their water from the well. As regards wastewater, only in 12% of cases does this flow into septic tanks, and in 1.87% of cases into a cesspool, with resulting environmental consequences.

The surveyed buildings generally contain a very limited number of dwellings: more than half include only one, the others from two to four. Overall, it can be estimated that there are 128,145 dwellings in the area of the 12 Herati districts.

The inhabitant/dwelling ratio and inhabitant/room ratios show average occupancy rates which, however, differ greatly according to district. To correctly assess the occupancy rate, it should be borne in mind that the average dwelling size is small: two thirds measure under 100sqm (5% less than 50) for families which are, on average, very large (7.1 individuals).

The collected data regarding the level of satisfaction among inhabitants with regard to their home show that the level of satisfaction is high on the whole, though not as high as that shown for neighbourhood. Overall opinions on homes, as for neighbourhoods, are broken down according to different aspects, but in this case the differences between one aspect and another are more marked.

In the analysis of different aspects, respondents surprisingly express a strong sense of security associated with their own home. It is very interesting that, while in the overall assessment there is a certain gradient in level of satisfaction according to territory– differing according to the aspects considered – there is no territorial gradient in the assessment of security level.

Consistently with the very high level of satisfaction with the neighbourhood, the respondents expressed a high level of appreciation with regard to aspects such as 'position', 'accessibility' and, to a lesser extent, 'equipment'. Rather more critical, instead, is their opinion of the size, state of maintenance and appearance of their home, especially in the south-western quarter of the city.

From a synoptic vision of the territorial gradient, we can see that in the south-east and south-west districts the level of dissatisfaction is much higher than average, signalling particularly critical situations in the urban context as a whole. From all the results, we can deduce that the high degree of neighbourhood satisfaction illustrated above is based first of all on strong feelings of social and ethnic belonging, rather than on the quality of local infrastructures and amenities, or on the quality of the own home. A crucial role is certainly played by a particular form of 'social capital', i.e., by the certainty of being able to count on the support of a wide family and social network in the immediate vicinity, in dealing with an external situation which is problematic in many ways and even threatening. The proximity of numerous relatives is a reality for a large part of the population, with percentages which oscillate between 25% and 40% of the total.

The importance assigned to a parental and social network and a healthy appreciation of the neighbourhood, together with a relatively critical assessment of the characteristics of their own homes would seem to indicate that in the future people will try to improve their living conditions by investing in their home (enlarging, building upwards), rather than moving to other urban areas.

TRANSPORTATION ISSUES AND STRATEGIC ACTIONS

The strategic approach followed for developing the Herat Strategic Masterplan is based on a long-term vision: a sustainable growth for a performing city. The identified values - economic, social, and environmental sustainability – led to the definition of objectives and actions able to realize the shared general vision. Under this perspective, the

planning procedure entailed a sequence of steps, which led from a survey of the existing situation to the identification of the developing scenarios and the main problem areas, right up to the formulation of appropriate action to resolve them.

With regard to the transportation urban sub-system, the surveys mentioned in Section 1 have been realized about daily people trips, traffic flows, urban transport infrastructure (roads, parking, facilities, etc.), and public transport services. The collected pieces of information, joined to the surveyed data about population and other urban issues, allowed to achieve a comprehensive analysis of the current status of the Herat's transport and mobility.

Furthermore, a fundamental step in planning transport structures to ensure a city's efficient and sustainable development is the estimation of demographic changes in the urban population over the same time period as the plan, which in our case is the twenty-year period up to the year 2031.

In order to formulate this estimate and draw future scenarios, a demographic model has been developed, based on the 2011 population survey data and appropriate modeling techniques [2]. Based on the future scenarios outlines, further transportation planning activities, including the identification of objectives and actions, have been performed with a multidisciplinary and shared process integrating all the other planning action lines developed within the Strategic Masterplan.

The current status of the Herat transport and mobility

Situated in the far north west of Afghanistan, Herat has for centuries been an important junction for overland transport [3]. The ancient trade routes of central Asia also passed through, and in particular those which linked eastern Asia with the Middle East and Europe. Nowadays the roads which connect Herat with the surrounding regions still follow the direction of the ancient trade routes (Fig. 3).

Apart from local roads, there is one road which leaves Herat and heads east to Iran, another which goes north to Turkmenistan, the northern half-ring of the so-called Afghan Ring Road in the north-west, the East-West Corridor in the west and finally the southern half-ring of the Ring Road towards Kandahar in the south.

Apart from the two links with Iran and Turkmenistan, these roads lead to the capital Kabul, situated at the opposite end of the country. Until 2011, all the roads connecting Herat with the rest of the country were so severely damaged by war events as to be impracticable. Only since 2002, after the fall of the Taliban regime, the government of Afghanistan has undertaken a vast investment programme for the reconstruction and improvement of the national road system, so that a large part of the road network around Herat has been recently rebuilt or rehabilitated.

Also in the city of Herat, like in the rest of Afghanistan, the maintenance and development of the transport systems have long been disrupted by socio-political events in the country. Nevertheless, in the last century, as Herat's urban fabric developed and changed around the ancient Old City (the original nucleus of the urban area), the road system grew accordingly. As a result of its rapid development in the last ten years, Herat nowadays has a road system which is neither completely homogeneous, nor clearly hierarchical and is not in a good state of repair.

Although some improvements of the city streets have recently been completed, the state of the road network is still quite bad. The major network amounts to a total length of around 410km, while the minor network (roads not suitable for motorized vehicle traffic) covers around 470 km in total.

At present, only some of Herat's streets are surfaced. The percentage of paved streets equals less than 20% of the whole network and less than 40% if we only consider the major network. In addition, the condition of the paved streets is rather poor because of lack of maintenance.

Road signs are generally lacking in the city: many of the urban roads have no vertical signage. Most of the city streets have one carriageway for each direction, and almost all city streets have two-way traffic. In the Old City are the majority of roads one-way, mainly because of their limited width.

The levels of traffic that use the urban network are higher on the main access roads and in the city centre, including the Old City. In the northern part of the city and along the north-south axis which leads to Kandahar, the traffic is swollen by heavy transport vehicles (estimated at over 200 trucks a day) which cross the city along the two roads to Iran and Turkmenistan. This heavy duty traffic is due to the Herat customs house, located to the north-west of the city.

Parking is poorly regulated in Herat: if on the one hand vehicles are frequently parked at the kerb, there is, on the other, a scarcity of proper parking areas, especially in the busiest areas of the city. Street parking is used on most of the city streets, although the parking places do not generally have horizontal signage.

There are not many street areas where parking is prohibited, although there is no street parking where the narrowness of the street does not allow it, such as in the Old City. If the width of the street allows, double and triple parking is a common practice which is preferred to the use of off-road parking areas. A few off-road parking areas are present in the city, in the form of both street level parking and covered parking areas in one- or two-storey buildings.

Public transport has been operating for several decades in Herat city, using different types of vehicle – buses, minibuses, the so-called 'coaches' (large cars not really built for public transport), taxis, rickshaws – run by two different government authorities, both under the auspices of the Ministry of Transport and Civil Aviation.

There are three bus lines, with a distance between 10 and 15 kilometres each, and they all converge at the northern edge of the Old City. The minibus service consist of two lines, just over 10km each, both crossing the narrower streets of the Old City, while coach service is quite spread but mainly converging in the city centre. Taxis run along fixed service lines and offer a better service with regard to the quality of the vehicles, but they are more expensive.

Rickshaws are commercial vehicles which have been modified to take passengers; they offer few comforts and can take up to four people.

The commercial speed of public transport services in Herat is not high. Buses and minibuses travel at a speed of between 10 and 15 km/h and rickshaws around 10km/h. Coaches and taxis are faster, with an average speed between 20 and 40 km/h. The total number of passengers transported every day is around 180,000 broken down as follows: around 6% on buses, 11% on minibuses, 35% on coaches, 27% on taxis and 21% on rickshaws.

The overall conditions of public transport in Herat are not considered to be very good even by the stakeholders who manage the service itself. One of the biggest problems is considered to be the lack of coordination between the two government bodies which superintend the service and between these and the municipality of Herat. Another negative aspect is that routes and stops vary considerably and are not always honoured by the driver, who try to follow easier routes according to traffic conditions. The quality of both public transport stops and vehicles is in most cases inadequate to the needs of an acceptable public service.

A fundamental asset for the long-distance connection of Herat is the airport, situated about 10.5 km south to south-east of the city. Built by the United States in the late 1950s and used for military purposes in the last forty years, only recently the Herat airport has been rebuilt by the Italian cooperation with an extension and a paved runway and, in 2011, the addition of a new international terminal (ISAF, 2011). The airport is currently for mixed civil and military use and it is expected a very fast improvement of flight supply after the airport upgrade to international standards [4].

As regards transport demand, just over half of households in the city of Herat (51.2%) own one or more vehicles. The share of households owning a powered vehicle (car, minibus, motorbikes, rickshaw) is quite low (42.3%). Of the households that do not own any motor vehicle, 9.0% own just a non-powered vehicle (i.e. one or more bicycles) and 48.7% do not own any vehicles at all. Anyway, the most popular means of transport are two-wheeled vehicles, notably motorbikes and bicycles.

The overall number of motorized vehicles (car, rickshaw and minibus) is quite low. The average motor vehicle ownership per 1000 people is about 25. In terms of global outlook, this value can be considered as being very low respect to the top scale reference, the United States ownership rate that equals a little less than one vehicle per inhabitant.

Being the population of Herat more than 493,000 inhabitants, the number of overall daily trips surveyed in the city is about 654,000. In nearly every case, the trips are fully contained within the urban area (95.4% of overall trips).

Mobility mostly concerns young people in the 15-25 age group (39.3%). Trips involving very young people (6-14) are almost 26% of the total daily amount, whereas 26-35 year-olds make less than 15% of the total number of trips. The number of trips of those aged 36-64 is higher (about 19%), while older people do less than 2% of total daily travelling. The mobility of children under 5 is very low (0.4%). Nevertheless, the female mobility pattern by age is very different from the male one. The female share of total mobility is only 25% compared to 75% male share. It is interesting to note that female mobility suddenly decreases after the age of 25: about 86% of female travelling is related to the 0-25 age group, while only 14% of trips concern women who are 25 years old or older, and no daily trips are made by women older than 65 years old.

The most popular transport method by far in Herat is walking: just under 60% of overall trips are made on foot, about 18% by car, 15% by motorbike, less than 4% by bus and less than 4% by bicycle. Non-polluting modes (walking and bicycles) are equal to about 63% of overall mobility. This modal split pattern looks very different from the ones that we find in western countries, where the walking share is noticeably lower and the motorized modes share and the bicycles share are higher.

Most daily travelling is done for purposes closely related to systematic activities: the total of home-work, home-school, and work commuting is almost 90% of all trips. The highest share is for home-work trips (44.8%), followed by home-school trips (34.5%). Travelling for non-systematic purposes, such as medical, leisure, shopping and administrative reasons, amounts to 7.8% of the total. Although the number of daily trips for school purposes is very similar for both men and women, a very small percentage of women travel for work reasons. Travelling for shopping is also mostly done by men, while women make more trips for leisure reasons.

The overall surveyed net generation rate for daily trips in the city of Herat is about 1.3 trips per day per person. It is calculated as the ratio between the overall number of daily trips and the total number of residents. Compared to similar rates registered in some other world cities, it can be considered a very low mobility rate. Benchmark data are not so different between cities, and average at around two trips per day per person. Cities in developed countries have relatively high mobility rates, and it is suggested that a highly-developed transportation system leads to higher trip generation.

Future scenarios

Herat is moving towards rapid and substantial development which could be decisive in regaining its historical role as regional capital and key player in central Asia. As it moves forward, Herat must pay close attention to the transformation of its transport system, which is key to the economic and social growth of any city.

The demographic model developed during the Strategic Masterplan preparation showed that, within the considered timeframe (year 2031) the population will increase by about 130%, i.e. from approx.493 thousand inhabitants to more than 1,130 thousand inhabitants, due to the combined effects of immigration and births.

On the other hand, the urban fabric of the city of Herat cannot absorb an indefinite number of new inhabitants, but has limits to its capacity to absorb demographic growth. This corresponds to a maximum increase of about 210,000 inhabitants in the entire city (including some existing satellite towns bordering on the north side of the urban area), a figure which will be reached by 2021.

Rather than an enlargement of the existing city, the Masterplan undertakes to redevelop and reinforce the urban limits to prevent further overspill into the surrounding farming areas. It is thus proposed that the share of population which surpasses the capacity limit be substantially allocated to three new satellite cities outside the present urban area (Fig. 3). The three satellite cities, each large enough to cater for about 150,000 inhabitants, will be quite separate from the existing city and will not only be endowed with basic urban services, but all necessary facilities, making them real cities to all effects.

The expected demographic fast growth will dramatically increase the number of daily urban trips, while the planned allocation of a large amount of population in the external satellite cities will produce high concentrated traffic flows direct to the existing urban area. The modernization of lifestyles will probably lead to a substantial increase of the motor vehicle ownership rate, with a resulting increase of road traffic and congestion.

At present, the transport system in Herat is not adequate to its growth prospects. Decades of adversity have hampered the construction of new infrastructures and their correct maintenance as well as the establishment of efficient governance systems, resulting in a transport system which is severely and extensively lacking.

Nevertheless, it is expected that the connections with the rest of the country and with other countries will be completely restored in a relatively short time, and some important local project will be realized, such as the bypass road which will unite the two main roads for Kandahar and for Iran in the south-west quadrant (Fig. 3).

Taking into account these forecasted improvements, as well as the urban planning strategies that emerge from the need to allocate a large amount of population in satellite cities protecting the environment around the present urban fabric, and finally the expected changes in the size and distribution of traffic flows, some strategic actions have been proposed in the Herat Strategic Masterplan.

Strategic actions

The approach adopted by the Herat Strategic Masterplan is founded on the sustainability of social development, economic growth and the environment.

As regard the first issue, the actions envisaged by the Strategic Masterplan must guarantee, as much as possible, that all members of the community, whatever their income, social position, age or gender, have access to transport. Accessibility favours inclusion and social cohesion and is necessary to guarantee that the transport networks can effectively meet the whole mobility demand, with positive repercussions on the optimization of the urban system and its cost-effectiveness. In Herat, this approach requires attention to several specific factors, such as cultural aspects (in particular those connected with gender) and restrictions due to levels of income, which occur in all developing societies but are generally inferior to those in mature economies.

In the second place, the Strategic Masterplan in the transport sector must ensure that in pursing growth and development, the negative impact on the environment is kept to a minimum, avoiding the risk of impacting negatively on the balance between transport and environment. This kind of risk is generally greater in rapidly developing socio-economic systems like that of Herat, because of a more urgent demand for urbanization processes and the development of infrastructures and technology.

A third significant aspect is the balance between economic investment and the management of transport systems. From international experience it clearly emerges that in general, urban transport systems cannot be financially self-sufficient without some contribution from institutions. On the other hand, the effects of an efficient transport system on a community's economy will normally fully compensate for the financial imbalances of investment and management if the adopted strategy transcends a short-sighted, short-term approach. For this reason, the actions proposed by the Strategic Masterplan must be conceived with a view to the longer term, pursuing the maximization of the overall economic value of the urban system and its positive influence on the social and environmental conditions of the city.

Within this perspective, the actions relating to the transport sector are aimed to four main objectives.

The first objective is the consolidation and the development of Herat's infrastructural and organizational requisites as a key player in central Asia. Although this objective will be supported by the completion of several already envisaged government projects, the Strategic Masterplan indicate some further actions (Fig. 3).

One action is to optimize Herat's capacity to accommodate goods traffic through an area which will function as a logistics centre north-west of the city in proximity to the intersection between the bypass and the road to Iran. The logistics centre could house an intermodal terminal linked up with the soon-to-be-built railway network (see [5] and [6]) and customs house, the latter being currently located outside the municipal area. By locating them together in one site, all the functions connected with the handling of goods will be optimized, and the residential area will be relieved of heavy traffic.

Moreover, it is proposed to create a suitable railway network serving Herat, with connections to Turkmeninstan, Iran and the south of Afghanistan through Kandahar (Fig. 3). This railway should also connect the above cited logistic centre of Herat, the industrial area and the airport south to the city.

Finally, these actions should be supported by a substantial development of the airport including the full compatibility with ICAO standards for international traffic, the activation of flights with other countries, a further upgrading of airport facilities and services, the creation of modal connections with urban and rural transport (integration with community transport, creation of interchange car parks), the setup of air cargo links for the transport of goods. All these actions could considerably boost the city's key role, currently penalized by poor existing infrastructures.

The second objective is the strengthening and reorganization of urban transport - through the upgrading or creation of roads and car parks as well as the organization and regulation of mobility and interchange - to ensure that it is adequate to the mobility demand of Herat in terms of quality, transport capacity and management efficiency.

It will be necessary to address the network's current infrastructural inadequacy through actions to improve the physical conditions of the streets: road surfacing, efficient rainwater drainage systems, lighting, improved geometry and street furniture in all main and secondary roads.

It is also of vital importance to work towards the enhanced efficiency of the road network, by drawing up an adequate plan which guarantees optimized use improving the hierarchy of the sub-network of streets by reconnecting them and efficiently defining their sphere of use.

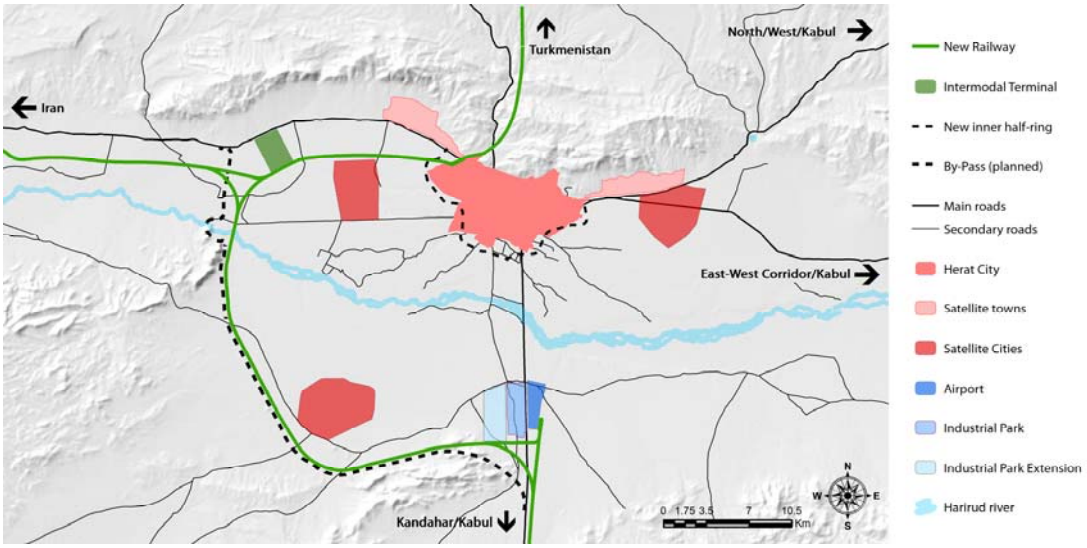

Fig. 3 -The new Herat's transport connections (*Source:* author's processing).

From this point of view, it appears necessary the creation of a half-ring road which will go from the north west to the east of the city and on to hug the south side of the urban area (Fig. 3). This road will connect extra-urban routes which come from four cardinal points and, being a fast road, will discourage traffic which neither originates nor ends in the city from crossing the urban area. This new inner half-ring, which can be accessed from the radial roads, will allow transit and express traffic to circumnavigate the urban area and avoid the centre of the city. At intersections there will be a public transport service, and the possibility to construct interchange car parks to allow speedy entrance to the city without the use of private cars and the relative problems of finding a car park.

The creation of a new inner half-ring can be accompanied by the targeting of areas of particular historical, social, cultural and environmental value which need to be protected from motorized traffic, the adjustment and improvement of the parking system, the creation of a possible network of cycle lanes to favour non-motorized transport which is more virtuous in terms of energy and the environment, the optimization of urban travel for the transport of goods, the adoption of smart technology solutions and Intelligent Transport Systems for managing traffic.

A third objective is the optimization of the urban public transport. If managed well, public transport is the most efficient type of motorized transport from the point of view of both energy and the environment.

In the city of Herat the rate of public transport use is extremely low, i.e. less than 4% of total trips, and the level of service offered by the public transport system is also proportionally low.

On the other hand, the very high rate of trips on foot, equal to about 60% of total trips and at present bolstered by the low number of private cars in the city, can be considered potential users of public transport. The latter must be compatible with the city's culture, affordable and offer a high level of service, being efficient, organized into main lines, i.e. routes where there is high demand, and lines which feed these routes. In other words, it is necessary to create the conditions to raise the level of public transport in terms of vehicle quality, regularity, speed and route preferentiality.

The level of service offered is, in fact, the main element which attracts transport demand. From the mobility data available and the expected increase in population rates, the mobility demand appears to be compatible with a light rapid transit (LRT) system running on its own tracks, separate from road viability system on a certain number of routes which access the city centre. The planning of such a public transport system needs to be joined to a reorganization of public transport in mixed traffic, that would appear necessary from both a management and functional point of view, and the

establishment of an automatic ticketing system, which is at present not available in Herat, in order to streamline trips and allow economic control of the transport system.

The fourth objective is the establishment of effective urban transport planning and governance through continual sustainable planning processes and the development of the managerial skills of local authorities. The achievement of the objectives of social, economic and environmental sustainability greatly depend on the correct planning and management of integrated multi-mode mobility.

It appears necessary to undertake the development of a sustainable Urban Mobility Plan, or rather a sectorial plan which aims to meet the mobility needs of the city, thus raising the quality of life [7], as well as the development of better skills among local institutions for planning and managing the transport system.

ACKNOWLEDGMENTS

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KNOWLEDGE AND PROCESSES OF SUSTAINABLE DEVELOPMENT FOR THE SOUTH-EAST EUROPE

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ABSTRACT

The South East Europe Transnational Cooperation Programme provides for the improvement of the territorial, economic and social integration process for the development of the South-Eastern Europe. It supports and contributes to the cohesion, stability and competitiveness of the area through the development of transnational partnerships and joint actions on matters of strategic importance, divided into four priorities as follows: innovation and entrepreneurship, environmental preservation and protection, improving accessibility and development of transnational synergies for sustainable development. The research activities on these fields are highlighting the close interaction between the diffusion of innovative interdisciplinary interpretations of the territory, and enabling sustainable forms of development in fragile areas and sensitive environments and landscapes.
The project "Access2Mountain", funded by the EU through the European Regional Development Fund (ERDF), perfectly matches within this strategy. The main objective of the project is to develop a model of sustainable development applied to the mountainous regions of the Eastern Alps and Carpathians, in order to support decision makers for implementing and proposing strategies and innovative modes of transport and sustainable mobility, with the aim of stimulating development of the tourism sector. UNICAM has developed a system to support the decision-making process through the definition of a valuation model tested on seven regions: the Autonomous Province of South Tyrol, National Park Gesäuse region Mostviertel (Austria), District of Maramures (Romania), Region of Kosice (Slovakia), North Hungary (Hungary), District of Rzeszow (Poland).
The model will play three roles: 1, critical analysis of the transport model in place; 2, critical analysis of the status and potential of the territories; 3, project of new scenarios for a more sustainable transport system.

The South East Europe Transnational Cooperation Programme contributes to the integration processes of the non-EU member states and supports projects developed within four Priority Axes, as follows:

• ***PRIORITY AXIS 1*** *FACILITATION OF INNOVATION AND ENTREPRENEURSHIP*	• Develop technology and innovation networks in specific fields • Develop the enabling environment for innovative entrepreneurship • Enhance the framework conditions and pave the way for innovation
• ***PRIORITY AXIS 2*** *PROTECTION AND IMPROVEMENT OF THE ENVIRONMENT*	• Improve integrated water management and flood risk prevention • Improve prevention of environmental risks • Promote cooperation in management of natural assets and protected areas • Promote energy and resource efficiency
• ***PRIORITY AXIS 3*** *IMPROVEMENT OF THE ACCESSIBILITY*	• Improve co-ordination in promoting, planning and operation for primary and secondary transportation networks • Develop strategies to tackle the "digital divide“ • Improve framework conditions for multi-modal platforms
• ***PRIORITY AXIS 4*** *DEVELOPMENT OF TRANSNATIONAL SYNERGIES FOR SUSTAINABLE GROWTH AREAS*	• Tackling crucial problems affecting metropolitan areas and regional systems of settlements • Promoting a balanced pattern of attractive and accessible growth areas • Promoting the use of cultural values for development

The SEE Programme aims at developing transnational partnerships in matters of strategic importance, in order to improve the territorial, economic and social integration process and to contribute to the ***cohesion***, ***stability*** and ***competitiveness*** of the region. To this end, the programme seeks to realize high quality results, and oriented projects of strategic character which are relevant to the programme area and objectives.

The Alpine and the Carpathian Conventions state sustainable tourism mobility as a challenge and call for cooperation on this topic among the countries of these mountain regions. Actually, sustainable tourist mobility is not well-developed in mountainous regions, especially in South-East Europe, as mountain regions are lacking sufficient sustainable transport facilities and facing major ecological impacts caused by individual vehicles.

Based on this fact, the project "Access2Mountain" was jointly developed under the leadership of the Environment Agency Austria. It aims at achieving *Durable environmentally friendly tourism accessibility* and connection to, between, and in sensitive regions of the Alps and Carpathians, benefiting all (potential) users through visualization of existing problems, awareness raising, development of common knowledge and creation of a monitoring base. In order to make this possible many and different are the objectives of the Programme, as follows:

- *Knowledge Objective* - Knowledge, awareness and capacity basis for transport problems and solutions with soft mobility established in mountain regions on different levels and for potential users.
- *Infrastructure/connection Objective*- Feasibility to increase soft tourist mobility in sensitive mountain regions exemplified in pilot regions; efficient, attractive, and competitive small railways and intermodal transport for tourism development in Alpine and Carpathian areas with similar problems but different backgrounds. Additional benefits for public everyday mobility and in some areas also for environmentally sustainable freight transport.
- *Transnational Mountain Regional Development Objective* - Strengthened peripheral mountain regions through innovative, competitive offers for –and raised income by– tourism, new accessibility possibilities and follow-up investment.
- *Environmental Objective* - Reduction of green house gases, pollutant emissions and segmentation, and thus sustained and improved quality of the environment.
- *Multi-level policy Objective* - Started/strengthened policy dialogue between/on transnational and EU level, policy development for the Carpathians; Strengthened strategic cooperation between two distinct transnational geographic areas and the Alpine and the Carpathian Convention.

With the long-term perspective of increasing sustainable tourist mobility, railway and multimodal connections will be improved and attractive offers created via pre-investment measures, pilot activities and investments. A policy dialogue on the sub-regional and EU-level, feedback loops with the (Interim) Secretariats of the Alpine and Carpathian Convention and the related working groups dealing with transport as well as the development of the Transport Protocol to the Carpathian Convention will ensure political and institutional sustainability of the project and broader dissemination in these two important European mountain ranges.

The project consists of 2 principle parts linked with each other: TRANSPORT & TOURISM.

Within the 8 Work Packages (WPs) every partners faces different issues and competences (Fig. 1), as follows:

WP 1 - Transnational project and financial management.

It covers all activities needed to coordinate project implementation, partnership and to fulfill the technical project obligations.

WP 2 - Communication activities.

Newsletters, brochures, conferences, and other activities and outputs are planned in order to ensure a coherent dissemination of project outputs, results as well as the publication of any other relevant material to be made available to the broad public.

WP 3 - Analysis, traffic flow models and follow-up tool.

This WP will examine the access to project partner regions as well as traffic flows. This shall support the creation of models that help to understand traffic flows in the areas and to what extent road traffic can be shifted to other modes of transport by including the effects of the respective regional pilot activities. The study will include a sensitivity analysis and an analysis of the environmental impacts of emissions caused by road traffic; an evaluation of the different transport routes; an assessment of calculation methods to be given to the regions will be trained to use this tools. First effects of pilot activities will be examined at the end of the project. Findings will be integrated in the final best practice collection of WP 5.The data provides important input for decisions on follow-up measures and investments.

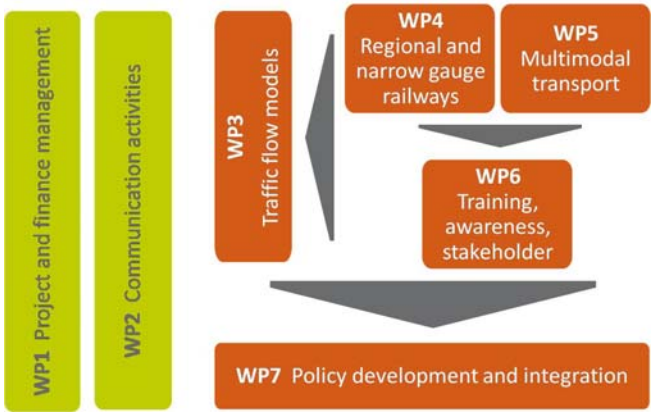

Fig. 1 - Work Plan.

WP 4 - Regional and narrow gauge railways.
The objective is to strengthen an efficient railway net in the Alps and the Carpathians with specific focus on small and narrow gauge railways to better use existing infrastructure rather than building new (road) infrastructures and achieving a modal shift for sustainable tourism in regions with natural assets is the objective of WP 4.
A collection of best practice examples on organizational, economic and tourism issues for small and narrow gauge railways in mountain regions, and an elaboration of concepts for "learning railway regions", will be fine-tuned and their implementation supported. The experience gained will be transferred to all partners and be integrated in a final best practice collection.
WP 5 - Multimodal transport.
Most common mode of transport to tourism areas in the mountains is individual motor car traffic, causing disturbances and damage. In many mountain regions, there is a lack of awareness and knowledge on how to avoid, respectively steer, individual motorized traffic and offer attractive public transport instead. This results in missing offers that allow or attract tourists to travel to, in or around regions by sustainable transport means. Train infrastructure does not exist in all regions or are badly connected. Additional modes of sustainable transport have to be used for tourists to reach their destinations. Sometimes bus connections for public transport are in place, though most are struggling for economic survival with deteriorating infrastructure and connections for tourism transport. Based on these identified lacks and gaps, this WP foresees a common learning based on existing best practices. This will provide knowledge and visions for starting work in the different pilot activities. Experiences made in the Carpathians and the Alps will be used as recommendations in WP 6.
WP 6 -Training, awareness raising, stakeholder integration, communication, follow-up.
Due to experiences of existing studies and projects there is a lack of knowledge on sustainable accessibility and mobility on different levels (destinations, guests, local people, etc.). Activities of this WP focus on the integration of the various target group to ensure the implementation and further work in sustainable mobility.
WP 7 - Policy development and cooperation.
Project results will be integrated into the work of the Alpine and Carpathian Conventions with regard to sustainable tourism and mobility. Further cooperation will be established, especially with the transport working group and the permanent committee of the Alpine Convention and the respective Working Groups of the Carpathian Convention dealing with transport and tourism issues, working on thematic protocols in these fields. Results achieved will be decontextualized and put into suitable formats for transfer in the Alps, Carpathians and other mountain regions such as the Balkans by seeking the involvement of UNEP (project partner EURAC) and Fedecrail. The Protocol on Transport to the Carpathian Convention will be developed. Recommendations for EU-policies in the field of sustainable mobility and tourism in mountain regions will be elaborated and adopted at the Final conference of the project.

This paper provides an overview on the Work Project n. 3, coordinated by the University of Camerino.

ANALYSIS, TRAFFIC FLOW MODELS AND FOLLOW-UP TOOL

The main objective of this WP is to identify a sustainable tourist mobility system in mountainous areas, the most fragile and delicate in terms of the landscape, in the Alps and the Carpathians. To this end, the study consists of three parts in a first phase, which then converge in an operating model for decision support:

- the analysis of the current transport system;
- the definition of the landscape characteristics of the model regions;
- the identification of a new model compatible with the landscape fragility in the places of interest.

Analysis and territorial characterization of the targeted regions and the current state of the transport system. Earliest strategic orientations related to the evaluation of the landscapes and tourist attractiveness.
In the first phases of the research has been done a targeted request of data to each of the model regions. In addition to the information received, for the establishment of a homogeneous framework of knowledge (Fig. 2), a deep research has been performed on the data sources available on the net and in the literature. In particular were so elaborate some basic summaries of the current state of the different regions in territorial, socio-economic, ecological terms.

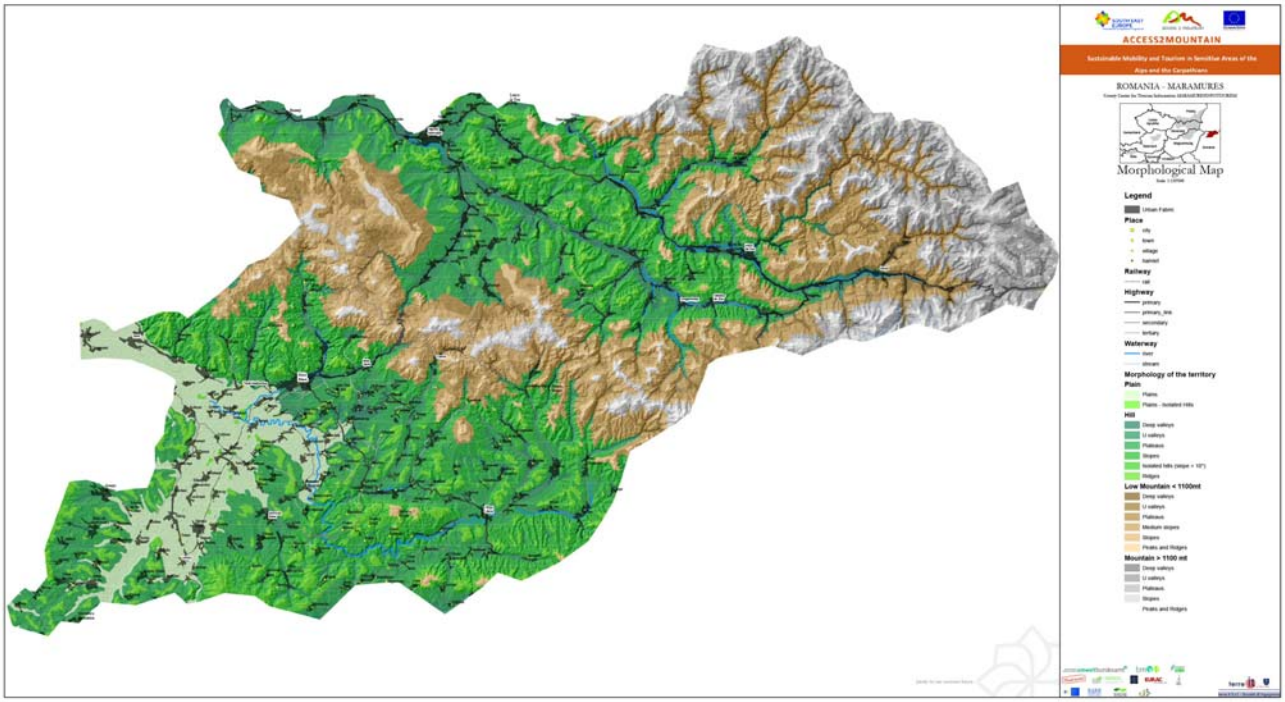

Fig. 2 - Maramures (Romania) |Territorial framework – Elevation analysis.

The study was implemented with the ***SWOT analysis*** (Streghts, Weaknesses, Opportunities and Threats) provided by the partners. Particular attention has been put on the definition of the landscape characteristics of the model regions. An effective approach to the local realities of interest for the project requires a dynamic and trans-scale consideration of their characters and problems, as well as the potential they present. This pertains to various regions. The notable historical, socio-economic, and environmental differences that are observed between model regions and their surroundings, the ecosystem fragmentation that has been brought about by development over the last century, and above all the largely shared intent to promote appropriate and sustainable forms of development for tourism and tourist mobility, confer a crucial role on the implementation of resources and infrastructures. This carries with it connections and interactions that often cross the confines of the individual resources, running into more or less wide contexts of different nature, and regarding, moreover, their co-evolutionary dynamics.

The first summary exploration of the areas in which current, or potential models of tourist mobility, could not avoid considering sufficiently vast and internally diversified territorial areas, in order to appreciate the different aspects characterizing them [1]: areas in general, with significant coexistence or proximity to natural spaces, different types of urban areas, or rural areas that are more or less affected by productive or touristic developments. The study showed how their spatial dimension can vary, including large forests or grasslands, more or less-protected natural reserves, villages or systems of interconnected villages, valleys crossed by local railways, or large tourist centres such as Tatra or Melk, etc. These areas are designated as “target sites” or observation areas.

Each site or area of observation exhibits within it a relatively large number of heterogeneous components (Fig. 3) that interact among themselves, even more for areas that are historically and biologically complex and diversified, and each component is well-characterized under the structural and functional profile. Because of this, it is important to avoid considering each one (such as large forests or grasslands, serial systems of villages, or cultural goods) as areas of observation rather than simple components.

In any case, however, in order to understand and evaluate what is there or what occurs in such areas, it is necessary to frame the areas in the contexts of interest (Fig. 4)., that is, the environments in which relationships of various nature (ecology, landscape, economy, society/culture, etc.) arise and affect the observed area. This obviously does not mean “confined” areas, but areas of different size and those that are largely overlapping.

The reference to contexts opens the way to an effective comparison of model regions. But it is necessary to avoid the temptation to “cover” the entire territory of each model region with contexts. The identification, analysis, and evaluation of contexts (even if they can then assume a more structured character, for example with reference to “landscape areas” foreseen in the Italian Code that are coherent with the concept of landscape sanctioned by the European Convention), in this phase they serve simply to correctly observe the sites in question. It should be noted that correctness is not guaranteed solely by the technical/scientific rigor of the observation, but also by the active participation of local experts and the community, which often boast important “implicit” knowledge of the place.

It is important to note that in this phase, the recognition of both the components through which the observed area speaks and the contexts in which it is framed, can be assimilated in an interactive process that makes use of “probes” - or better, hot spots - in a flexible and dynamic way, on which to begin the necessary close examination without the pretext of completeness or exhaustiveness.

Through direct sampling, landscape features of the various contexts have emerged [2]. When defining the model, it will be necessary to measure the evaluations relative to the different transport systems, both existing and programmed, on the basis of these initial characterizations, with particular attention to:

- the landscape character of the site (protected areas or other areas of natural or landscape value), its fragility, its carrying capacity, and the elements present that detract from the landscape or environment;
- current ways to reach the site, evaluating their possible critical limits;
- intersections and continuity within slow systems at the site in question and fast systems to reach or cross it;
- the contiguity or proximity between the site and other areas with more accentuated transformational dynamics.

The information related to each area of observation are synthesized in maps, several birds-eye view photographs, and the description of the landscape sense of the site, accompanied by explanatory figures and descriptions of the fragility of the sites from the naturalistic point of view.

Fig. 3 - Example of component, Starý Smokovec , Tatra Mountains, Slovakia.

Fig. 4 - Example of observation areas, Kosice Region, Slovakia.

CONSTRUCTION OF A MODEL FOR GOVERNANCE DECISION SUPPORT FOR A SUSTAINABLE TRANSPORT SYSTEM

The second phase of the project is still open and ongoing. As follows the methodology of the work for the construction of the model is presented. After a conceptual study of the model, the Maramures Region was selected as case study on which the model is verified operationally.

The A2M is a project aimed at outlining policies and measures for:

- on the one hand, ***promoting the economic, social and cultural development*** of mountain areas in the Carpathian area (in terms of reducing isolation and marginality, development of tourism and trades, revitalization of the economies and local cultures, etc.);
- on the other, and jointly to the first point, ***reducing or minimizing the negative impacts*** of traffic, transport infrastructures and the number of tourists, on the sensitive areas, the landscape, the environment and the natural and cultural heritage.

To achieve these goals, the working group has focused the attention on the definition of a ***Decision Support System*** that is composed of two parts:

1. **Guidelines** and indications for the definition of strategic scenarios useful to the designers in the definition of proposals for access to tourist destinations. The definition and construction of a guiding-vision (map), that focuses on the current state, the ongoing dynamics, trends, and changes of the territory, is the base for the definition of guidelines for the designer and the policy-maker in definition of the first draft proposals of the new organization of flows, focusing on specific crucial interventions that will lead to the implementation of the strategies (increases/decreases of pressures on an area, new accessibilities, infrastructure improvements and upgrades, new innovative forms of transport other than the existing ones).
2. **Model of analysis** of the various proposals that the planners or policy makers will introduce to evaluate the sustainability and environmental compatibility of choices. The model, which is an interactive tool, will never replace the role of responsible autonomy of designers and policymakers, but it will support them during the decision-making process, warning against the possible risks and impacts, potential or latent. It has the

character of extensibility and adaptability, even in the case of any future updates, and provides an explicit interaction between technical procedure and policy makers. The Model will ensure a triple role of:

- critic analysis of the infrastructural system current in place in each region;
- critic analysis of the state of the targeted territories of interest and their potentialities;
- project of improvement of the transportation system.

The UNICAM research group decided to proceed towards the construction of the decision support system by using a System Thinking (ST) approach. This is a rather popular approach for addressing complex processes, including planning. It is often used to supply a set of tools to address social, economic, ecological, and political challenges, aimed at developing effective Decision Support Systems (DSS) to improve policy making. According to ST theory, an independent system is analyzed by taking note of: the whole system, its constituent parts, and their interactions [3].

Such an analysis is expected to identify the specific internal structure of the analyzed system. ST considers that a specific internal structure can be held responsible for regular *patterns of behavior* (POB) characterizing the situation under investigation. ST assumes that similar POB arise in a number of different situations, but they can be linked to specific system structures (which are, in turn, held responsible for the observed POB).

Therefore, ST can be considered as an effective problem-solving method, to be used in complex management situations.

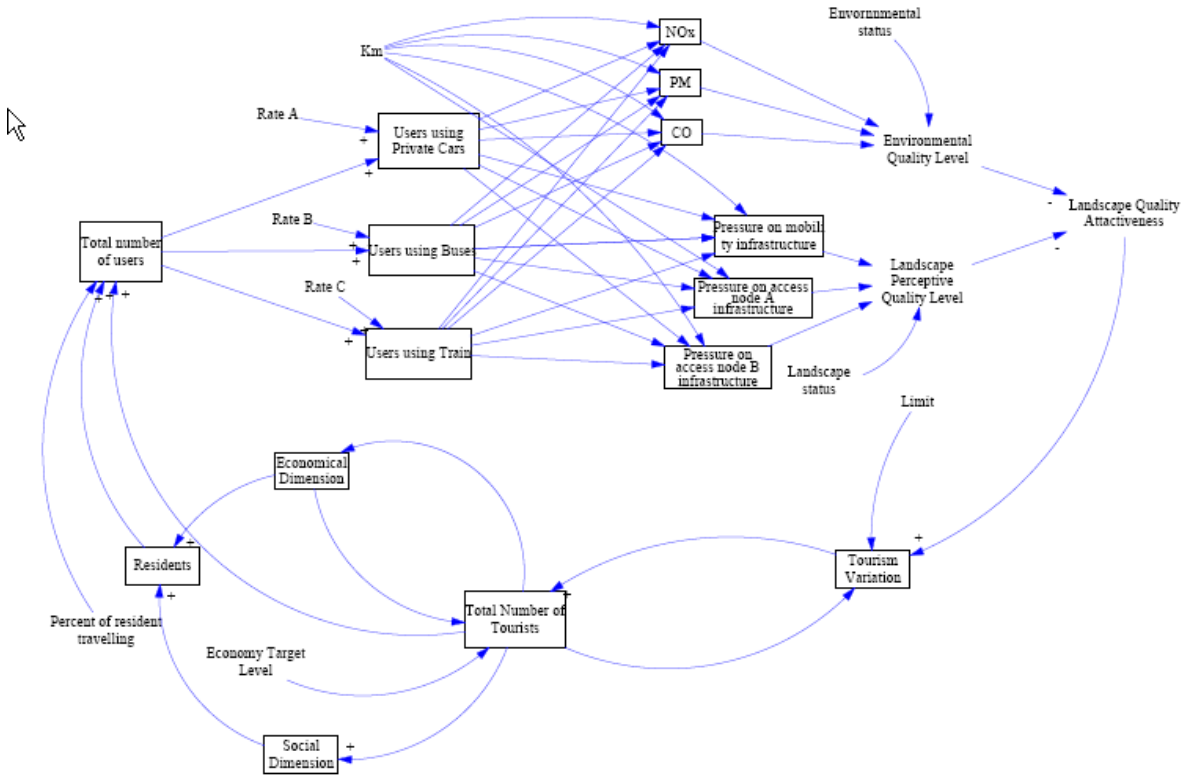

Fig. 5 - Example of the model structure.

The process of Systems Thinking and Modeling (STM) includes the following 5 steps:

1. problem structuring;
2. causal loops modeling;
3. dynamic modeling;
4. scenario planning and modeling;
5. implementation and organizational learning.

The most appropriate instrument used to describe the complex set of relationships among variables in a system is represented by the parts of the systems known as “loop diagrams”, which (when implying both the transmission and the return of information) can be called feedback or causal loops. These diagrams help to represent circular chains of cause and effect that create closed loops within an actual system.

In the case of mountain areas in the Alps and the Carpathians analyzed in the framework of A2M, the work group tried to isolate four domains (Fig. 2) which participate in shaping the overall sustainability performance of the local mobility and tourist system in each region.

SELECTION OF THOSE SUSTAINABILITY INDICATORS FOR THE EVALUATION OF THE PROPOSAL

Through this model the infrastructure and transport systems can be analyzed and valuated, both in place or in project [4]. In both cases the model can be applied on small stretches of infrastructure of variable geometry. Typical information that this decision support system might gather and present includes:

1. *Driving forces* - To achieve the best level of sustainability the model user can act on three levers: the number of users, the different modes of transport, and the spatial distribution of the flows, that requires a constant dialogue between the algorithm and the geographical reference system. The users are divided among tourists and resident users, and the modal splitting includes: car, train, bus, bike, ...
2. *Pressures* - Pressures are deeply related to the modal splitting, and therefore they change according to the typological diversification of the transport modalities. The different pressures are: land consumption, noise, carbon dioxide, nox, particulate, frequency, speed, landscape usage.
3. *Sensitivity Indicators of the territory to the pressures* - The Sensitivity Indicators for a territory crossed by an infrastructure, are defined in both cartographic and numeric manner. They are conditioned and influenced by the landscape and environment character of the current state of the area. The different sets of sensitivity indicators are geo-referenced on **complex base maps**. These maps, through operations of overlaying, allow the operator to obtain a complex and articulated database of risks and impacts (scenario), by using query tools of GIS data (such as the intersection), for each section of an infrastructure.
4. *Impact* - The definition of the impacts of the different pressures on different parts of the territory (which comply with different degrees of fragility and vulnerability to the same pressures) is characterized by the following set of indicators:

    - the ecological balance, the consumption of the essential resources and the physical environment,
    - the human health, the well-being and the quality of life at the individual and collective levels,
    - the quality (identity, legibility, panoramic views) of the landscape and the natural and cultural heritage
    - the local economy of the territory.

Landscape-related indicators

- *speed impact*: indicator of the impacts of the speed of vehicles on the perception of the landscape by an external user.
- *Noise impact / silence quality*: indicator of the quality of silence. This indicator determines the impact degree generated by the transit of vehicles by road or rail.
- *Crossing speed landscape p*erception: indicator of the perception of the landscape depending on the crossing speed.
- *Infrastructure construction quality*: indicator of the quality of the construction of the infrastructure.
- *Landscape capability*: indicator of the ability of a landscape, or part of a landscape, to be modified without negative effects on its own character. This capability can change degree, depending on the type or nature of the changes. The Landscape Capability is specific to a particular type of change or development. The Landscape Capability depends by: i) the Overall Landscape Sensitivity, which is the intrinsic sensitivity of the landscape itself, regardless of the changes that can be made on it; ii) the Landscape Value, which is the value attributed to the landscape by the national and local laws, and the recognized system of values, such as: the silence/quiet, the isolation, the naturality, the scenic beauty, and the local context [5].

Environment-related Indicators

The relationship between different categories of indicators is necessary on the evaluation of the impacts of the mobility system on the biodiversity. The first collects those indicators related to the infrastructure and traffic (e.g. structure of the edges of the roadway, traffic volume, etc..); the second, those related to the ecosystems affected by the presence of infrastructure and traffic (e.g. abundance and distribution of species, modality of dispersion etc..) [6].

- *Infrastructure Permeability,* that detects how the infrastructure interferes with the movement of the species. This indicator refers only to the construction aspects of the track and therefore, it does not depend by the use.
- *Noise*, that describes the effects of noise on the different animals communities, even at a certain distance from the source.
- *Speed*, that directly affects the risk of collisions between vehicles and wildlife. A higher speed increases the likelihood of accidents.
- *Frequency:* the traffic volume that directly affects the permeability of the infrastructure, because it is in direct relation with the investment risk of wildlife, and with the escape behavior of the different species.

The ecosystem-related indicators are useful to define the "Sensitivity" of the various parts of the territory to the pressures described above. This sensitivity will then be determined by:

- characteristics of the vegetation communities;
- presence of species/wildlife communities of special conservation interest, and/or particularly vulnerable to the pressures of the infrastructure system (large mammals, birds, amphibians, and reptiles);
- the role of the area in the system of ecological connections for large terrestrial predators (wolf, bear, and lynx);
- presence of areas of particular environmental value and institutionally recognized (AP, Natura2000, UNESCO etc.).

RESPONSES OF THE DECISION SUPPORT SYSTEM

The answers are nothing more than the various analysis of the proposals that the designer and the decision maker verify in a context of comparative evaluation with the current state of the territory and the other proposals. These proposals become the key variables of the model (or the levers on which to act) and they shall include:

- the intensity of the access flows to the destination areas, or to any sub-areas, or to individual nodes;
- the percent breakdown of flows related to the mode of transport (modal split): individual car, bus, train, bike, and walk;
- the spatial distribution of the flows, for subareas, for types of access nodes, for individual nodes.

The three variables are applied to the three models (interpretation, potential, proactive), on the basis of statistical data both available or estimated (also depending on benchmark). Specifically, for the purposeful model of evaluation of the design hypothesis, even alternatives, the variables could result from the strategic assessment that includes the issues related to variability of tourist attractiveness [7].

In conclusion, the "Decision Support System" (DSS) holds together the *STRATEGIC DIRECTIONS* and the *EVALUATIONS* of the operational model.

This system is configured, in the final version, as a ***tool for decision support***, able to interact at different design scales:

- wide area (region or sub-region);
- component (wide agricultural areas, tourist areas, mining areas, etc.);
- sites or structures (bridges, tunnels, etc.), specifically interesting for the Project.

The main function of the DSS is the ability of extracting, in a short time, useful information for the decision-making process from the analysis of a significant amount of data, and providing answers and guidelines for those who must take decisions of a project or, more broadly, of governance.

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BEYOND TOURISM: RECOVERY OF THE HISTORICAL AND ARTISTIC HERITAGE OF HAVANA

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ABSTRACT

Declared by UNESCO "World Heritage" in 1982, The Habana Vieja is the largest historic center of colonial type stored in Latin America and even today retains its traditional urban footprint, harmonious juxtaposition of different architectural styles. Through this paper we want to analyze the work of recovering the historical center of Habana, officially launched in 1994 through the Master Plan entrusted "Historian of the Oficina de la Ciudad de La Habana" with the Spanish Agency for International Cooperation, the Government Local, universities and associations for international cooperation. Twenty years after the start of this project is to assess whether it was put into play an effective movement of regeneration, having produced processes of participation and human resource development and economic premises, or if the risk was to be alone "staged" for tourists, rearranging some houses and central services attractive major, "just as they once were" only to recall nostalgically the past and recreate "typical situations", imposed by mass tourism. There are many initiatives promoted from Italy, with the aim of creating opportunities for exchange and promotion of local sustainable development. As regards planning are promoted action as land resource management, planning, recovery of the historical-artistic heritage and urban services to enhance the identity of this country and encourage the participation of local communities. The historical, architectural and cultural heritage must be seen not only as "merchandise to show" but as a fundamental element for sustainable development from the perspective of social and environmental as well as economic, intended as a resource to protect and manage flexible and sustainable way to generate new opportunities, jobs and sources of income. If "pilot district", (near the Plaza de Armas) is promoted restoration in style as a "showcase" for the mass tourists, in other popular and industrial districts (barrios San Isidro, Habana del Este, Marianao, Guanabacoa, and San Miguel del Padron) interesting workshops are promoted redevelopment with the participation of local communities. Cuba is a needy country but with potential and tourism is a key resource, but if it's not properly channeled, may be detrimental to the identity. It's important to guide their choices towards sustainable development and to engage in a process of urban regeneration through technical engagement and social participation.

According to Eusebio Leal Spengler, *«Freedom is not possible without Culture»* and it is from this statement that are born the following reflections on the role of universities and research centers in the recovery and development of the city of Havana. The Republic of Cuba has long been included among the priority countries of the Italian Cooperation and currently, as a result of the resumption of bilateral co-operation signed in Rome in 2009 and in 2011, Italy – Cuba relations are also active in the cultural field for the enhancement and development of architectural heritage, with the main goal to reduce poverty and promote the investment of the funds directly to the territory.

In planning, the Directorate General for Development Cooperation of the Italian Ministry of Foreign Affairs (DGCS-MAE), scheduled for the period 2013 to 2015, the Latin America and the Caribbean is allocated 10% of the total funds available. The University Coordination for Development Cooperation (CUCS) is part of this dialogue, and sees the collaboration and support cultural and economic fundamentals of comparison.

Cuba, despite signs of opening of these last years, it remains a needy country but full of potential, for which the tourism has become a fundamental resource that, if it's not properly channeled, may be detrimental to its identity and increase still further the social and economic hardships. It will be necessary to address the future choices toward the Sustainability, valorizing and stimulating the cultural, environmental and human resources, also through the protection, development and management of the architectural heritage.

Thanks to the feedback received from international cooperation projects, especially in the Capital, there is a cultural movement, artistic and urban planning to ensure new results also in the process of local participation. Given the delicate political and economic situation, the question must be analyzed in a trans-disciplinary and cross-sectoral, with a cultural and organizational process, not easy to implement.

Founded in 1519 by the Spanish conquistador Diego Velázquez de Cuéllar, **San Cristobal de La Habana**, currently covers about 720 Km² , is welcomes more than two million inhabitants and is divided into 15 municipalities. Since the 90s of the XXth century, the international tourism recovery in Cuba, has brought considerable urban changes,

which has had to deal with urgent problems: the degradation of historical buildings and settlements; the devastation of particular value natural environments; the crisis of the local culture as a factor of identity; the emergence of social marginalization in so-called *"barrios insalubres"*. Thanks to the expertise of Eusebio Leal Spengler was promoted to the "**Plan Maestro**", focused on the redevelopment and preservation of the historic city center, offering culture and tourism as main elements main elements of the process of regeneration and urban development. Leal argues as *«Tourism exists since the time of Erodoto and perhaps even before, from the first human migrations, but tourism always presupposes a comparison, because the tourists want to see, want to have fun, want to spend time in a positive way, and it is therefore important to create suitable spaces. However the city of Havana was not to give tourists their spaces, had to share them. For this I have tried to follow a principle of solidarity: first for us, for the Cubans, then to offer the world our work…We are poor, it is true, but we believe that poverty has dignity when it is accompanied by solidarity.»* [1]

Twenty years (1994-2014) since the General Plan what brought the impressive restoration process and transformation of ***"Municipio de La Habana Vieja"***, the colonial old town, declared UNESCO World Heritage in 1982, and endowed with an institutional, economic and legal self-employment structures?

Coordinated by the *Oficina of the Historiador de the Ciudad de you Habana*, in collaboration with the *Taller Nacional de Arquitectura y Urbanism*, this retraining has seen to participate of over 80 Countries, different institutions, university faculties, departments and research institutes, through active and interdisciplinary collaboration promoted by the *Agencia Española de Cooperación Internacional*.

The Habana Vieja occupies 50% of the city territory and represents the historical and architectural heritage of the city with a high value. Five centuries of history have characterized the territory compactly, structured by a dense network of palaces, streets, squares and monuments; the architecture reflects periods of great splendor, from the Spanish colonial, from baroque one to the neoclassical, until art déco. [2]

Fig. 1, 2 - View of the "Habana Vieja", from the center to the periphery.

Years of neglect, bad weather, lack of maintenance, deterioration and overcrowding have compromised this heritage, which is then inserted into a restoration program aimed at the promotion of "cultural tourism".

The principal purpose of building renovation was to contribute to the diffusion of the Cuban history and culture *«through the preservation of symbols and material and spiritual expressions of the nationality [...] and of the historical-artistic-cultural memory of the city, above all of its historical center, the largest colonial center of Latin America»*. The process of redevelopment has initially focused "in the pilot block" (Plaza de Armas; Plaza Vieja; San Ignacio, Plaza del Cristo, Amargura, Bernaza, calle Mercaderes ...) through a stylistic restoration of most tourist streets, squares, monuments, religious complexes and buildings with typical *patios*, which accomodate now "cultural case", commercial, reception and catering, granted and managed by Habaguanex S.A. (company of Oficina).

Today, the investment plan for 2009-2015 previews the completion of the process through the consolidation of the most popular "barrios", the main centralities, the administrative offices and production activities and trade. [3]

From the town-planning point of view the financings and the efforts are concentrated on a structural, aesthetic and technological reorganization of the more popular zones; a slow and difficulty process of urban regeneration is begun block of houses by block of houses, also intervening on the residential buildings and on the back-roads, returning public spaces and small gardens, inserting again commercial activity and, so, recreating "pieces of urban life", outside of the more frequent tourist circuits. But the international proposed projects are often difficult to implement, in a territory where a monetary system, tied to mass tourism, with derisive benefits for the population (which has no direct access to convertible currency). The various initiatives of cooperation allow, however, to the Cuban people to activate itself turning passivity into active form, often silent but hard-working.

Many of the initiatives promoted inside of the Cuban territory, is carried out through the "**Program of Human Development at the Local Level of the United Nations (ONU - PDHL/CUBA)**", that has had beginning in 1998, on the base of an agreement between the Cuban government, the Italian government, the UNDP and the UNOSP, and is used in recent years as a frame of reference. [4]

Currently, about a quarter of the historic buildings have been restored, the main squares have been equipped, is revitalizing the waterfront (El Malecón), increased green areas and have created new centers and suburbs to receive the evacuees from the center (Vistamar, Habanamar). However there is still much to do and, currently, the urban plan is oriented toward a Special Plan for Integral Development (PEDI), designed not only for the promotion of tourism, but also to control the urban development of the context. The operational experience, derived from the "Plan Maestro", have been integrated with a strategic vision of each urban problems.

Fig. 3, 4 - Before and after the building restoration (San Ignacio – Habana Vieja).

The last five years (2008-2013) has seen many projects directed to promote a pragmatic strategy with concrete and multidisciplinary initiatives been born by the interchange of experiences among Italian and Cuban local community, to support of the active processes and democratic development of Cuban society. With the most recent projects it is tried to preserve and activate "the strong identity" of the historical center, not only for the benefit of tourists.

Italian Universities involved (Sapienza of Roma, Florence, Pisa, Venice, Milan Bocconi, Verona, Italy, Matera ...) along with various local authorities, have engaged in more than 50 projects to support the regeneration of the *"historic barrios"*, for produced innovative perspectives in the service of the residents, as "the hope of rebirth and better quality of life". [1] You try to regenerate and to address urban and socio-economic development through small-scale projects (residences, schools, health services, cultural centers, small businesses, services related to sustainable tourism ...).

Fig. 5, 6, 7 - Typical local activities in the Habana Vieja.

Fundamental, in addition to the conservation of movable and immovable property, are issues related to the most degraded areas, to their property value and the study of sustainable models of recovery and development.

An important opportunity for international comparison comes from the **Annual Congress of Higher Education (Universidad)**, that promotes the development, collecting testimonies and projects on various topics, including architecture and urban planning, through the delegations of international universities, as well as cultural centers and cooperation. Thanks also to support learning activities and technological integration of *Institute University College de S. Geronimo in Old Havana* (2007-2010), the financing for building works joined the construction of a network for exchange of knowledge and best practices, as well as collaboration through design workshops and dissertations; training on methods and tools relief and filing; on consolidation techniques and models for reuse and tourism management, housing and culture. The main objective is the definition of some methodologies for integral recovery of the housing stock mainly based on few resources and materials available. [5]

Within the various phases of the PDHL/CUBA Program, the main activities concern the following points:

- promotion and intensification of dialogue and debate between the government, local, national and international actors and the local population;
- capacity building and structures of organizational-level cultural actors, technical and financial;
- promoting exchange of experiences, expertise and good practices between Cuban and Italian, European university networks;
- support creative processes and decision-making to preserve the artistic and cultural heritage and recovery of traditional building techniques;
- access to culture and student exchange networks , including through the application of new technologies; the improvement of basic local services, computerization and accessibility to telematic services (GIS enhancement of the historic center; multimedia class "Siena" in *University College of St. Jerome*; support to Gabinete de Archeologia de la Oficina and the Taller Nacional de Arquitectura y Urbanism);
- proposed model of urban planning and construction (block between the *streets Teniene Rey, Habana , Muralla and Compostela ...*);
- renovation of historic buildings and monuments (*Plaza Jesús María; ex convento di Belén converted into senior center; the historic Cultural Center Union Fraternal…*);
- structural and technological rehabilitation housing projects; networks and restore basic infrastructure and service to both residents and tourists; urban requalification of buildings, streets, squares, green areas, health services, community centers and schools (*Center Havana , Barrio Colon, San Miguel del Padrón ...*);
- promotion of micro- activities and revival of ancient local handicraft;
- new activities reception and sustainable type catering, respecting the historic center and the identity of persons (*casa particular, paladares*);
- first social housing project in partnership with APPI/PDHL, the Unity Investments Municipal Cadastre (UMIV), the *Oficina del Historiador* and other local institutions (Community center ...)

Fig. 8, 9 - Municipal Strategic Plan (2005) – Civic participation and design workshop.

In the diagram (Fig. 2) is the process of Municipal Strategic Plan, approved in 2005, to complete the restoration of the most touristic area with the regeneration of degraded *"barrios"* (in this case the *barrio Jesús María*), around the port and in the suburbs. These blocks, in fact, don't benefit of the financings of urban regeneration promoted by the *Oficina*, but there did many cooperation initiatives. To activate the direct share of the population in this regeneration process is not easy, but the different artistic and techniques initiatives can involve each according to his capacity and possibilities.

In the first phase have been implemented workshops of collective participation that illustrate the main renovation, construction and infrastructural works. Based on the approval of the inhabitants and with the technical contribution, is prepared a map for the evaluation of problems and potential, which are derived from guidelines of the strategic plan.

In the *barrio Jesús María* (28.500 ab.), as in the near *San Isidro* (12.631 ab.) and to *Belén* (14.600 ab.) through a cultural and technical exchanges into the "**Laboratory of Integral Transformation**" were purchased and made available materials building and means for restructuring in auto-recovery of residences; were recovered former convents and disused buildings to provide health care, scholasticism and recreational to the bands weakest (elderly, children, sick); centers of orientation and polyvalent areas are predisposed; cultural workshop are activated and of small business, tied up to the world of art, craftsmanship and urban decorum. [6]

In a context of limited availability of resources, it is worth noting that the Universities of Architecture involved were able to reflect on their role, improving their knowledge of management practices and urban and social development, as well as the construction techniques and the ability to repair and "do not care dissipative" in the yards.

Fig. 10, 11 - Barrio Jesús María - Habana Vieja (the architectural heritage degraded; cultural events).

Another Italian initiative that aims to promote the sustainable development of Havana as opportunities for collaboration and community participation is the "**Project Habana-Ecopolis**", promoted since 1998, at the national level by a consortium of institutions and Ong, as consultant in urban planning.

In particular is active with an urban rehabilitation process, not only in tourist area but in the poorest and degraded areas on the east side of town. Particularly, the scope of intervention includes territories with evident problems of degrade urban, environmental and social, as the unicipalities of *Centro Habana, Habana de l'Este, Regla, Marianao, Guanabacoa and San Miguel of the Padrón.* The main aim is to promote, with concrete actions, the improvement of living conditions and the diffusion of a great awareness and civic activity, always in the respect of the political and economic context. [7] The specific objectives concern, however, on urban interventions, services and infrastructure; on the natural environment; on the social and economic plan, strengthening the abilities and local tools for analysis, recovery and planning. In this programme the role of local communities is strengthened through the process of planning and administration of identity and local resources as key elements for sustainable development.

The main projects concern on different problem list:

- decentralization of tools and strategies for the future development of the territory;
- the participation of local communities in the urban regeneration; the project is based on the mobilization of territorial values (identity and resources) and subjects that express potential for self-development (*Consejos Populares,* neighborhood associations…);
- decentralization of services of assistance (ambulatory, cafeteria, training centers ...);
- implementation of systems for the protection and preservation of the natural, cultural and architectural heritage;
- enhancement of historical memory and tourism resources for the community (*Community Center of Marianao*, meeting space and self-management of cultural, educational and recreational initiatives...);
- urban regeneration; supply materials and technologies for the adjustment of private residences (the pilot project of the *barrio Colòn*);
- decontamination of unhealthy areas and construction of the sewer system (*barrio La Corea* ...);
- education in the management of the environment and natural resources (implement recycling of wastes, installation of solar photovoltaic and water collection system on the buildings ...);
- promotion of spaces, services and events of a cultural-recreational linked to religious syncretism and the "Cuban soul" (restoration of the *Museum of Guanabacoa*, *escuela de música y danza*; *Carnival Habanero y fiestas tipicas*...)

Fig. 12, 13 - Project "Habana-Ecopolis" – Marianao (internal restructuring).

Fig. 14, 15 - Project "Habana-Ecopolis" – Marianao (installing solar panels).

Important was the participation of the **International Centre for the Conservation of Architectural Heritage - Italy (CICOP)**, which has coordinated and promoted the information interchange respect to the conservation and management of the historical-artistic, so much in the historical center that in the peripheral zones in the Habana.

It is noted, in particular, the restoration of the *Historical Museum of Guanabacoa*, defined as recovery of a typical example of Cuban architecture, container museum of history and Afro-Cuban culture.

Specialized courses and workshops were organized with the aim of promoting the relationship with the institutions and the local population and stimulate the exchange of professionals and specialists in the field urban and building.

In this way, trying to overcome the conception of the real estate value only for tourism and it motivates people to deepen techniques for sustainable development of their districts. The real estate, which, however is not for sale nor privatized, is seen as an important resource that through a sustainable restoration and management can produce jobs and local wellness. [8]

Fig. 16 - Historical Museum of Guanabacoa; Fig. 17: Barrio La Corea-San Miguel del Padron (urban and social degradation).

In recent years, one of the poles of greater urbanization is the district *La Lisa*, located in the metropolitan area, initially characterized by agricultural farms and family residences, but since 1970 has been turned into a planning laboratory and industrial areas, without adequate infrastructure and services. One of the more peripheral and degraded districts is San Agustín, consists of *"Edificios de microbrigadas"* in Soviet style, no proper infrastructure, services, recreational spaces and connections to the city. [9] Here, a very interesting project is promoted by the "**Laboratory LASA**" (Artistic Laboratory of St. Agustín), created by the artist Candelario, developed with Aurélie Sampeur. Active from 2008 it proposes projects of contextual art in the public space, it's an open laboratory and self-managed, without owners. Its particularity is the activation on the territory of integrated projects on different topics, from the art to the economy; from the educational system to participation; from the urban decorum to the environment. According to Aurélie Sampeur *«it's important to identify the cultural and historical-artistic patrimony, so that to preserve it and to transmit it to the future generations as resource...»* [10]

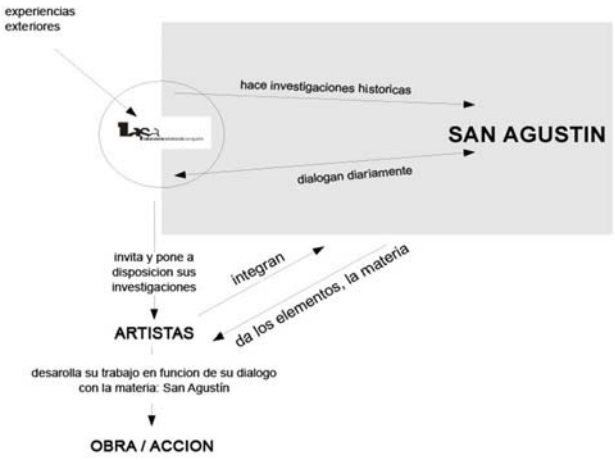

Fig. 18 - Operation scheme laboratory LASA.

Fig. 19 - Urban Regeneration Projects.

The particularity of "LASA" is, in fact, to integrate the knowledge of the urban context and the care of the architecture, public spaces and the environment as a project of Community to promote the upgrading and development of district. The laboratory develops regeneration through permanent and ephemeral works with particular impact on urban and services (building restoration; technology integration; maintenance and illumination roads; green project; artistic works, introducing a transport network with *omnibus*).

Fig. 20 - San Agustin – urban and social decay.

Fig. 21 - Initiatives to involve citizens.

The laboratory is a comparison of the participation and serious commitment, so that the transformations are of high quality, visible and integrated culturally and pragmatically to the context. "LASA" looks for the renewal and transformation of the district, through the overcoming of the economic limits and institutional influence on the arts. It seeks to create new interspace and interpersonal ties, through direct comparison between the artists, the society and the government. Despite the difficulties, the project has received widespread social feedback, and is supported by many international partener Embassies and higher education institutions, both Cuban and Italian (the Instituto Superior Politecnico Jose Antonio Echeverria CUJAE, the Goethe Institute of Havana, the Embassy Italian in Cuba, and the Italian Ministry).

CONCLUSIONS

In conclusion, addition to projects related to mass tourism, have started minor interventions, “barely visible” but almost necessary for urban quality. The role of Universities of Planning confirmed the responsibility of higher education and the cooperation as an opportunity for real comparison between different disciplines and professionalism.

Through these experiences, it’s evident that this process, started twenty years ago, was not only a “staging” for tourists (partly conscious and sought), but has produce, also thanks to the involvement of Italian consultants, several initiatives aimed, on the one hand to bring funding, projects and a greater awareness among urban residents; on the other to a knowledge and interaction with the versatility and adaptability of culture and technique of Cuban population.

In a country accustomed to a total statism as Cuba, the involvement of the population made it possible to rediscover the rights, and the duties attached to a “sense of identity and community”. Urban regeneration of Habana can, therefore, be understood as a tool for sustainable social development, beyond just financial profit related to mass tourism.

NOMENCLATURE

CICOP	Centro Internazionale per la Conservazione del Patrimonio Architettonico – Italia
CUC	Peso cubano convertibile
CUCS	Coordinamento Universitario per la Cooperazione allo Sviluppo
CUJAE	Cuba Universidades “José Antonio Echeverría”
DGCS/MAE	Direzione Generale Cooperazione Sviluppo del Ministero Italiano degli Affari Esteri
IILA	Istituto Italo-Latino Americano
INURA	International Network for Urban Research and Action
LASA	Laboratorio Artistico di San Agustín
OHC	l’Oficina del Historiador de la Ciudad de La Habana
ONG	Organizzazione non governativa
ONU	Organizzazione delle Nazioni Unite
PDHL/CUBA	Programme Local Human Development in Cuba
PEDI	Piano Speciale per lo Sviluppo Integrale
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UMIV	Unità Municipale di Investimenti del Catasto
UNOSP	United Nations Office for Project Services

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SAPIENZA MILLENNIUM. PROJECTS AND THOUGHTS. UNIVERSITY OF ROME SAPIENZA AND THE INTERNATIONAL COOPERATION

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ABSTRACT

In January 2007, the University of Rome “Sapienza” is committed, through the enactment of the Charter and the principles of the Declaration of the mission, to forge links with international bodies and national cooperation, serving as a "University of the Millennium". This is one of the results of a working group set up by the University Council of International Relations, which has recognized the strategic importance of international cooperation for development, understood as the principal form of international relations, in virtue of the ethical and political commitments made by the international community for the reduction of inequalities and for the prevention and resolution of conflicts. Within this overall framework, we analyzed in the essay the activity of the High Level Course on the Millennium Development Goals, with particular attention to the third edition of the courses taken as the final result, an analysis report on a cooperation project between UN-HABITAT and Homa Bay, a small town on the Kenyan shores of Lake Victoria. The report was prepared by an interdisciplinary team of young professionals (Millennium University Studio Team) who, after following the course MDGs, conducted a reality studio for fifteen days in the town of Homa Bay. It is oriented to the analysis of the project LVWATSAN (Lake Victoria Water and Sanitation Programme).
This paper analyzes the results of the report and identifies the role of the MUST team and the role of the Sapienza University within a specific project of international cooperation, proposing an open debate on the ranking of Italian universities at a time of economic crisis and cuts the funds of international cooperation.

SAPIENZA, MILLENIUM UNIVERSITY

“Sapienza, University of Rome, adopts the notion of development as a common good based on the ethics of equality. Development must be pursued through programs and interventions that take into account the specific characteristics of individuals and social groups to whom they are addressed”. “Sapienza University of Rome emphasizes the role of research and education in international development cooperation” (Sapienza Università di Roma, 2007). Article I and Article V of the Charter of Principles for International Development Cooperation, issued by Sapienza University in 2007, reflect the increased role played from universities in the world of international cooperation in last ten years. The role of universities as promoters of international trade has a long history that began with the overcoming of national borders through the Erasmus program since 1994 (born in 1987 in fact), then associated with the Lifelong learning program for students and teachers in 2007. One of the first initiatives addressed to the growing internationalization of University Sapienza was the 2005 launch of the first Global Studio in Istanbul, which was followed by two other editions in 2006 and 2007 in Sydney and Johannesburg. The Global Study involved the international participation of students in projects of redevelopment of urban fringe in host countries. Seven years after the signing by the 191 member states of the UN of the Millennium Declaration, Sapienza is committed, through a process of consultation within the University Council of International Relations, to become the Millennium University and thus to subscribe the commitment to pursue the Eight Development Goals in future cooperation projects. The promotion of a network of universities that share the same values and the willingness to give the boost to a course of higher education among different faculties have been the two main and immediate targets that Sapienza is committed to achieve.

The first edition of the *High Learning Course on Millennium Development Goal* was launched in 2009 and has been a good achievement of participants, both of student and professionals at international level. It 'was the edition of 2011, which actually enshrined the beginning of an official relationship with one of the major international agencies for cooperation UN-HABITAT, the branch of the United Nations dedicated to Human Settlements. The main support of UN-HABITAT has led to the promotion of a *reality field study* in the framework of one of the projects developed in Kenya, in the Nyanza region, in the town of Homa Bay. The study was attended by the group of fifteen young professionals selected at the end of the course.

The project LVWATSAN - Lake Victoria Water and Sanitation Programme - focused on improving infrastructure of solid waste collection and treatment of sewage. The peculiarity of Homa Bay was given from the presence of several international NGOs, including Doctors Without Borders, as well as from UN-HABITAT willingness to engage in an

active way local population, through the establishment of civic volunteer groups, whose main purpose was raising awareness of the population to health issues addressed by the project.

The work of the group MUST (Millennium University Studio Team) lasted for fifteen days and it gave birth to a report of analysis of the project LVWATSAN oriented according to the Eight Millennium Development Goals. More, it was used to identify the activities that, in the project itself, went in the direction of the achievement of the Goals. The work presented at the UN-HABITAT in Nairobi at the end of August 2011 is forthcoming to be published.

WHICH UNIVERSITY FOR WHICH COOPERATION

On the 3rd of December 2008 the General Director of Development Cooperation and eight Italian universities signed a Joint Declaration in order to pursue a common policy of cooperation, based on cooperation between universities and the General Directorate for Development Cooperation of the Ministry of Foreign Affairs of Italy. The innovation compared to previous policies in this field, where there were some universities already engaged in single projects of cooperation with foreign universities, precisely lies in the joint effort played from DGCS and the Coordination of Universities, which together gave birth to a concrete Italian system that can be beneficiary of funds as well as lender itself.

Three networks of universities were created throughout the country in order to more effectively coordinate the work. In each one of these three areas, a university was put in charge of being the coordinator: Politecnico of Milan and University of Pavia for the North region, Sapienza University in Rome for the Centre of Italy and the University of Palermo for the South area. The main advantage of this new organization is a streamlining of the economic and human resources (more universities can collaborate on a single project): thanks to this process the projects and cooperation initiatives promoted by universities in the field of development cooperation are considerably increased compared to usual national trend. In 2009 the project DaBaCU was put in place, coordinated by the Politecnico of Milan: it foresees online databases and web community for the collection and use of data on development cooperation of the Italian universities, and it embodies a useful tool for the promotion of activities of universities as well as seminars and conferences online.

The university is so totally part of international cooperation processes as a main character and as a carrier of concrete initiatives aimed at third countries in training and applied technology. This new role has been rediscovered and formalized also due to the reduction of dedicated funds from the Foreign Ministry for Development Cooperation from 2010 onwards. The 2010 financial law foresaw 210.940 mil of Euros for each one of the years 2011 and 2012, against 326.96 million in the previous one. In the attempt not to lose the wealth of projects and experiences due to that reduction in funds, a new kind of cooperation has been further developed that had not been fully exploited until that time, (the decentralized cooperation), which has seen primarily involved regions and local authorities. In this context, universities have been an added value and the so-called Italian-System has begun to play a significant role.

GOALPOSTS. SCORING POINTS FOR THE MDGs, 2011

MUST Millennium University Studio

The main target of the MUST group while drafting the final report was to translate into concrete action the commitment of Sapienza towards the Millennium Development Goals (MDGs). In this regard, an agreement was signed for cooperation between UN-HABITAT and Sapienza, in order to contribute to the monitoring of the achievement of the MDGs in the project LVWATSAN, through the participation of young academics and university students of the post-graduate study cycle. In a joint attempt to previous activities the purpose was to try to contribute to the deepening from the Must group on what really was a project of international cooperation and which were the ways of relationship and participation between the population affected by the projects and international bodies as promoters. The goal of primary importance for Sapienza was the creation of a typology of partnership that could be replied between the university, the local population and development agencies, in the view of cooperating on small international projects, in which to enhance the role young professionals graduates and undergraduates.

The choice of the different MDGs around which to build the analysis of the project LVWATSAN and its trend has been carried out based on the specific skills of the MUST group members. The chosen topics were selected as the most relevant to the project and as based on the opportunity of carrying out a concrete analysis through field observation, interviews, focus groups, and documents produced by the local and UN-HABITAT local and national offices.

- Improving income generation activities (MDG1)
- Improving nutrition (MDG1)
- Improving primary education for boys and girls alike (MDG2)
- Improving health conditions for all (MDGs 4, 5, 6)
- Improving access to safe drinking water and sanitation (MDG7)
- Improving environmental conditions (MDG7)
- Developing a LOCAL partnership for development (MDG8)

The preliminary work to the writing of the report was the visiting of two locations near the area of Homa Bay, Kisii and Bondo. The main aim was the understanding of the geographical and human dynamics that had led to the choice of that specific area as a possible beneficiary of a *water and sanitation project*.

Then, ten days were devoted to the observation, to interviews and study of documents relating to the town of Homa Bay and, at the same time, to the drafting of the report, accomplished in the last two days and presented to the UN-HABITAT headquarters in Nairobi on the 17th of August 2011.

The peculiarity of the work conducted in Homa Bay is detectable in the *recommendations* of each paragraph and in the main conclusions of the report. Each group has analyzed the actual reality from the point of view of the population and of the concrete effects that the project had produced or was producing, both from the point of view of local officials and national bodies promoters. Some significant differences were mainly detected at the level of the interpretation of the results that the project would have had on the city and its population compared to the funds made available; comments on the sustainability of the project in the long-run and of its effects once it has finished; the deficiency in some cases, of a more structured and integrated overview that did not take into account the most urgent issue to be tackled while forgetting other deemed as complementary; suggestions about the opportunity of any partnership with national and international private entities and the increase of local partnerships, especially among schools and international donors through mechanisms of sponsorship.

SAPIENZA AND DECENTRALISED COOPERATION: A THOUGHTFUL LOOK

The activities of Sapienza in the processes triggered by international cooperation projects can be classified within particular academic domain that theoretical and thoughtful that is the research institutions to support given from and proposals made by the concrete actions analysis of the role of project. The paper is limited to the Sapienza in this project MUST and of the experience of the 2011, due to the greater ease reality studio of information and official data, in finding experience of the writer in the as well as the direct project.

How does a university cooperation program arises:

1. **The initiative.** An Italian university makes the proposal to a group of other national academic institutions to cooperate on a project.
2. **The partnership**. The network of Italian universities just created looks for other international partners that deal with similar topics in order to implement a joint program.
3. **The action.** The result of the partnership is a network of universities that can cooperate. Increasing the number of participants to the partnership, the complexity of the projects will increase.
4. **The involvement of local communities.** Within the involved countries, the university network looks for other entities that can be co-players in the implementation of the project (local community, NGOs, informal sectors, artisan businesses, etc. (Ministero Affari Esteri, 2012)

The timetable

The duration of the entire project MUST has been of about a month, of which fifteen days of course and fifteen days of *reality studio* in the field. The latter was divided into three days of preparatory visits in three different cities in the area chosen for the analysis (Kisii, Bondo, Homa Bay), in order to make clearer the idea of the system-project and how it should bring benefits not only to the single city in which the major project activities had concentrated (Homa Bay) but also in the surrounding areas. The vastness of the project LVWATSAN was not followed from actions particularly diversified and therefore, broadly speaking, in every city the interventions had been more or less the same: the construction of drinking water reservoirs; preparation of drinking water supplies entrusted to groups from the weaker sections of the population; constitution of groups of *microcredit for sanitation* in order to make it easier for the construction of baths in the domestic courts and to improve the cleaning of the daily city market. Probably the need to keep costs down (and, as a consequence, the lack of the opportunity to make the staying of the group MUST last over the fifteen days provided) along with the awareness of wanting to have an overview on the problem that the project faced, led to the reduction of the times which mainly affected on the analysis of the interventions in the town of Homa Bay. The core of the study actually was the writing of the analysis report and of the comments to LVWATSAN within the overall area covered by the project. Although there was an almost complete homogeneity of interventions in different cities, the response of the population had been different. The analysis of the MUST group was intended to rely primarily on qualitative data obtained through interviews and meetings with the inhabitants of the various cities. In Homa Bay there has actually been the opportunity to manage meetings, interviews and visits to projects in a systematic way, but the same not happened in the other two cities. Consequently, the report has been affected by this imbalance, bringing inside more news and commentary on the work of UN-HABITAT in Homa Bay than in Bondo and in Kisii.

THE FOLLOW-UP

The work of the group MUST was entirely conducted in close collaboration with the local population, with the referent of Homa Bay of Multi-stakeholder Forum, a body of popular representation created specifically for the LVWATSAN, and with the local representative of the UN-HABITAT to Homa Bay. At the coordination effort and the willingness of these individuals to actively participate in data collection for the report, however, has not been followed by a follow up process of the project MUST either immediately, after finalization of the report (with the presentation at the headquarters of UN-HABITAT in Nairobi), whether as a result. Probably this distance between the strong demand for participation during the work and the lack of feedback, was due to the fact that the whole MUST project was a pilot one, the first of its kind carried out by Sapienza and therefore, with all the disadvantages and the mistakes of the case.

Unfortunately the lack of monitoring of the results and the impact that the analysis conducted by the group had (or had not) about the project and the beneficiary population, could have affected the entire work, dismissing it as a constructive experience for young professionals and researchers who formed the group MUST, but of little relevance to the actual LVWATSAN in itself and for those who work there, whether UN-HABITAT officials or local residents. This situation has produced a feeling of irrelevance of the work processes analyzed and compared with respect to the consequences that the work could have produced to the entire project LVWATSAN. Is it reasonable to think that at least some of the suggestions in the MUST report could be taken into consideration for improvement of the project? It might be possible to operate the micro-changes to a project whose funds were already allocated, whose aims and methods have already been decided? The risk of falling in the self-reference, both for the UN-HABITAT and for Sapienza, is in fact very large. How then overcome such a problem, which could make pointless the duplication of the interesting and potentially valuable experience of MUST?

SUGGESTIONS (ad maiora semper)

The attempt to answer to the questions posed by the fact that the whole experience MUST should not only be read as a training course for a group of young specialists, but as an experience that has the potential and the force to rise to the role of the driving force behind any virtuous dynamics. Precisely in this regard we will try to understand how the results of the report could have acted on the project, analyzing for each of the seven points, one of the indications suggested by MUST team.

Improving income generation

The main recommendation that appears in the first point of the report is as follows "*The evolution of the micro-credit for sanitation scheme into a micro-credit for business (as it has already happened in the town of Bondo) deserves attention, for it may be an effective tool for providing the necessary startup capital to a number of individuals and groups. The strengths of this institution so far seem to be: interest rates as low as 1% ; solidarity groups backing the borrower and guaranteeing his/her commitment to repay; some flexibility in repayment schedules; lending of construction materials (not money). The same modality could be applied to a business-oriented scheme"* (MUST, 2011).

The recommendation already contained an example of how it is possible, in the reality of the project, improve the income generation activities through the forms of micro-credit. In the town of Bondo a micro start-up had favored the creation of effective and well organized micro enterprises. Why not replicate the experience in other cities affected by the LVWATSAN? Considering this possibility could become a springboard for a joint development project (parallel or subsequent to LVWATSAN) with the UN or some other entity or with non-governmental organizations dealing with microfinance and development economics.

Improving nutrition

"A properly designed and effectively implemented SFP for Shauri Yako Primary School could address some of the nutrition and health problems of its pupils, particularly those belonging to vulnerable households. To this regard, either a regular SFP could be established or a SFP designed to target specifically the orphan pupils with limited financial resources, could be taken into consideration. This could take the form of private funding (regular donations) to support the initiative already taken by the school's teachers (MUST, 2011).

Even in this case, the recommendation has originated from an already activated action in a school in Homa Bay, thanks to LVWATSAN. The MUST research showed that the presence of the canteen is an incentive to the increase of the importance of the institution for the parents and how this implies an increase in school attendance and a decrease in the drop-out rate. Aware of the economic difficulties in whom are schools and municipalities, the study MUST proposed to make permanent school feeding programs through mechanisms of donations from private entities.

Improving primary education for boys and girls alike

"There is also a need to consider low-income children who missed primary education before free education was introduced. Although they are past primary school age by now, there is a need for rehabilitation centres for all children who are willing to learn, regardless of their age and especially if they face particularly severe economic and social conditions." (MUST, 2011).

The widest gender issue here was linked to that of equal opportunities in primary education for children. The group that worked on this goal tried to highlight the theme of gender across each of the main areas addressed by the other MUST groups. In this case, therefore, the relevance of the recommendations focuses more on the possibility that there would be, regardless of the success of LVWATSAN, an improving in the processes of schooling and a reduction of the gender gap also through targeted interventions in health (free distribution of hygiene stuff) preventing the dropping out of girls coming from the poorer sections of the population.

Improving the health condition for all

"*Most LVWATSAN interventions are entirely acceptable if seen over a short-term period, but there seems to be a lack of an organic and structural vision. (…) In order to improve the unsatisfactory health situation, strong efforts should be made to implement actions in the field of prevention and information. Specific suggestions that can be offered are the following: school courses on risks and prevention of the most common diseases; Lower health care fees and make drugs affordable for poor people (not necessarily free, but token fees);increase investments in health-related infrastructure; provide grants for specializations in universities, with a compulsory training in local public hospitals; facilitate exchange programmes for doctors(…)"* (MUST, 2011).

This macro-area collects in itself almost all of the operations covered by the LVWATSAN and therefore represents the core of the recommendations made in the MUST report. It shows a lack of orderliness in the project and based on this it propose some on-goings improvements for the boosting of its effects on the target population. Here, too, the proposed interventions are small (establishment of information and prevention programs in schools on the most common diseases in the area, a lowering of the rates of certain medications most frequently used). They are also urged changes in larger scale, probably out of range of a project of the United Nations, but that give us an idea of a more complex planning that, if organized with public institutions, can lead to higher and most concrete results.

Improving access to safe drinking water and sanitation

"(…)More water tanks could help cope with the lack of water supply; Water kiosks should be always situated in strategic points convenient for the entire community, in order to reduce the distance from the households; The same price should be guaranteed in all water kiosks, and such price should be affordable and not higher than the one local water vendors charge;(…)" (MUST, 2011).

The fifth objective analysis of this part of the LVWATSAN, considers some weaknesses (e.g. shortage in the supply of water tanks compared to the real needs of the population or the lack of attention to the price of clean water compared to that of sellers of contaminated water, etc ...) and tries to give directives to modify specific aspects in some actions already taken. In summary, do not propose new actions but simply an adjustment of those already in progress or tricks of those still to be made. Over all, a better and more careful management of new points of supply of drinking water, to be located in places easier to reach and lower prices.

Improving environmental conditions

"*The MUST Team feels it is important to ensure the prompt implementation of the environment-related actions in the LVWATSAN project areas. In addition, it offers the following recommendations: promoting tree cultivation to prevent soil erosion; Establishing nurseries in partnership with the local community and schools; promoting the role of CSOs and CBOs*" (MUST, 2011).

In a project like LVWATSAN, based essentially on improving the environmental conditions of the place where it is implemented, there are few observations that it was possible to do in this field. The good work of UN-HABITAT in this area has improved the quality of waste disposal and as a result of the waters of Lake Victoria, the main basin of the resident population.

Develop a local partnership for development

"The MSF would probably function best as an independent body to ensure that it is able to maintain its independence beyond the life of the LVWATSAN project; work out of its own offices; become more visible and make sure it has mandatory representation from at least 50% of the community groups that exist in the town. Explore opportunities for partnerships between local public organizations and private entities and foundations. Develop partnerships with schools – create activities for pupils to improve participation into political and civic life. Consider a municipal "public space forum" (MUST, 2011).

From the political point of view, in the broadest sense, the project LVWATSAN was not fully functional. The body that was supposed to represent the population actively involved in the project, MSF (Multi-stakeholder Forum), was underused and unrepresentative. Emptying it of the opportunity to take real action on the project, both in the preparatory phase and in the activity on the field, the whole project failed in its dialogic component. The beneficiaries of LVWATSAN, who were not personally involved in the project (with the construction of toilets, water tanks, etc ...), had no idea what it actually was and how the project could change their lives. The same MSF could encourage mechanisms of partnership with NGOs on the ground and with national private entities, if he had a greater bargaining power than what the project had given him. Exactly these were the observations of MUST, that enticed to develop stronger partnerships using the springboard given by LVWATSAN.

CONCLUSIONS

The role of the group MUST and its pilot experience was important for two main reasons:

- It gave the input for a greater involvement of Sapienza University in international cooperation projects;
- It pointed out the positives and the negatives of involving young scholars and professionals in the field study experience in contact with the beneficiary population of a project and gave them the opportunity to deal with situations that are, for them, often only theory.

Thanks to the MUST experience, Sapienza can boast a concrete experience of working with an international organization such as UN-HABITAT, which can be used for opening new channels in the future collaborations. The publication of the report Goalposts Scoring Points for the Millennium Development Goals is an important initial step for watching Sapienza as the Millennium University actively engaged through paths of interdisciplinary research. The validity of such an experience lies mainly in the opportunity that was given to participants MUST to be actively involved in a project with large flows and to use their professional skills, acquired during their own course of study. What to do to improve and make more effective the action of a second MUST experience? Certainly the mode of interaction and preparation (modular course, written exercises, group choice based on demonstrated competencies) are to be retained, but perhaps it would be advisable to choose a project that is not already fully started. The next challenge may be represented by the inclusion of the MUST group, even as a listener, to an ex ante study of a new cooperation project. Engaging young professionals to the field study (or to a part of it) that precedes the formulation of a cooperation project would be an important step forward in the process of introduction of the university institution within the processes of cooperation, in which it can actually add value. The university research so acquire a new concreteness and would give in exchange for cooperation projects a look at theoretical and introspective, the lack of which is often due to path failures and missed goals.

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PARTICIPATORY DESIGN AND BUILDING WITH INTERNATIONAL STUDENTS AND INDIGENOUS COMMUNITIES OF MEXICO

Alessandra Basile, Roberta Nicchia, Roberto Pennacchio, Andrea Tulisi
Associazione Archintorno

Abstract

Archintorno is a non-profit association formed by young architects with seat in Naples. In the last 7 years it has promoted projects, in which European and Mexican students were directly involved in designing and building architectures that support self-help development programs proposed by indigenous communities of the Oaxaca State, Mexico.
The poster presents three Design-Build Studios, focusing on the complex participatory process that saw international groups of students and indigenous communities as main actors at each step of the projects.
With each community, the process starts with a first survey, where all elements useful for the project's development are collected, and a first exchange of expectations, ideas and arrangements takes place. The latter continues during the architecture design and with the choice by the community of one project among different proposals. After that, during the construction step, technical exchange among the participants is pursued; the attempt is to valorize local building materials, knowledge and expertise - and through this to strengthen the community's self-esteem -, and to practically suggest possible improvements in these fields. Moreover, an important goal in this phase is the cultural exchange, which emerges spontaneously thanks to the experience of living and working together for some months. This aspect is also improved through an household survey lead by the students with the families of the host village, in order to understand local lifestyles and housing cultures. Main objectives in each project are to create integrated project and to stimulate networks of cooperation and solidarity on our territory and abroad, by involving different actors: public, private and the various expressions of the civil society.

Objectives

promote networking experiencies
participatory process
cooperation
cultural exchange
use local materials
experimentation
create integrated project
valorize vernacular housing
and building tradition
create appropriate building
endorse local culture
support communities project
training students

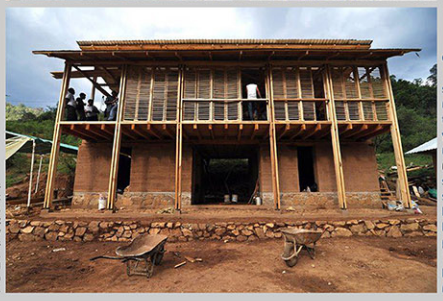
Achieved Results

Casa Comunitaria/Community House

site: Santa Cruz Tepetotutla, Chinantla Alta
request from: community assembly
type of intervention: recover foundation, new building
year of construction: 2006-2007
materials: concrete, wood, metal sheets
students involved: 60
students participating in the construction: 16
local labor involved: 2 carpenter, 1 bricklayer, tequio*
local partner: ONG C.A.M.P.O., AC, Oaxaca, Messico
major funding: Regione Campania, Assessorato all'istruzione, formazione e lavoro, Provincia di Napoli, Assessorato alle Politiche Sociali-Cultura-Pace
patronage: Università degli Studi di Napoli Federico II, Ordine APPC di Napoli e Provincia

Casa Comunitaria/Community House

site: San Pedro Tlatepusco, Chinantla Alta
request from: community assembly
type of intervention: recover existing building, new floor addition
year of construction: 2009
materials: concrete, wood, metal sheets
students involved: 20
students participating in the construction: 11
local labor involved: 1 carpenter, 1 bricklayer, tequio*
local partner: ONG C.A.M.P.O., AC, Oaxaca, Messico
major funding: Provincia di Napoli, Assessorato alle Politiche Sociali - Cultura -Pace - Politiche giovanili
patronage: Università degli Studi di Napoli Federico II, Ordine APPC di Napoli e Provincia, Collegio Architetti e Ingegneri Monza

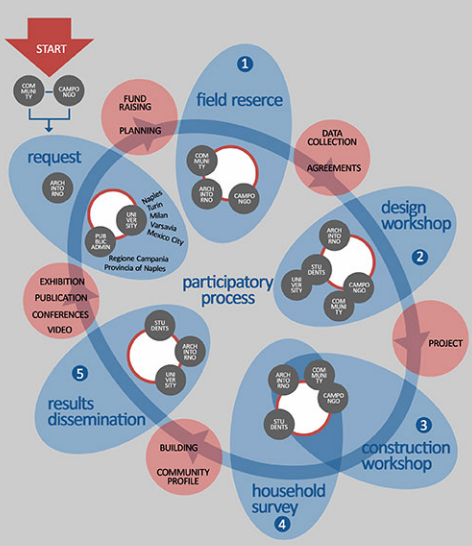


Centro Microregional de Innovación Tecnológica

site: Pensamiento Liberal Mexicano, Valle Central
request from: coop. Gruppo Mixto Rio Pluma
type of intervention: new building
year of construction: 2012
materials: rammed earth, wood, stones, tejamanil, metal sheets
students involved: 26
students participating in the construction: 26
local labor involved: 1 carpenter, 1 bricklayer, coop.
local partner: ONG C.A.M.P.O., AC, Oaxaca, Messico
project partners: CRD-PVS Politecnico di Torino, *Taller Max Cetto* UNAM, Mexico City, MX
local partner: ONG C.A.M.P.O., AC, Oaxaca, Messico
major funding: *Taller Max Cetto*, Politecnico di Torino

*Tequio: each family offers some days of free work to its community each year, thus directly participating in the community development and his strengthening ties. The villagers supported students with this form of social work.

Methodological approach



1 A reunion to establish cooperative agreements

2 Students working on proposals

Pensamiento Liberal Mexicano – Earth structure 3

4 Pensamiento Liberal Mexicano – Survey

Exibition in Naples (2007) 5

Conclusion

The result achieved is not only the construction of the houses but is build up a network of relationships too. The active participation of the communities during the whole project process, the enthusiasm of the students and professionals involved, the interest of the Italian administrations and institutions are a strong sign of the value of the experience. The great number of actors participating, as well as their different nature and geographical origin, testifies the multicultural character and the richness of the experience. Regarding this aspect, in the coming years Archintorno aims to expand the network of actors partecipating in the process, while involving mexican Universities, students and civil society. At the same time, we aim to deeply understand and involve the communities in whole project thanks to the introduction of the household survey, this tool to allow us to build up more solid relationships between communities and us.

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Imagining cultures of cooperation:
Universities networking to face the new development challenges

III CUCS Congress
Turin, 19-21 September 2013

HAITI | 1 | Foyer d'accueil aux enfants démunis d'Haiti

Haiti, Leogane
2011/2012
Post-emergency project
Orphanage facility construction

Architettura Senza Frontiere Piemonte ONLUS

Architettura senza Frontiere Piemonte (Architecture without Borders) is part of ASF onlus Italian Network and ASF International. It handles cooperative projects involved in the protection and the development of architectural and cultural heritage, participation planning, architecture and sustainable technologies, environmental conservation and the protection of civil rights.
As part of the mandate, ASF Piedmont aims to guarantee adequate **shelter for people in need**. In this specific occasion, ASF Piedmont has completed the facility of "Le Foyer d'Accueil aux Enfants Demunis d'Haiti", and that is located in the small city of Leogane.
Leogane is a seaside town in the West Department of Haïti about 30 kilometers from the Haitian capital, Port au Prince. On January 12, 2010 Leogane was at the **epicenter of the earthquake** that affected 3 million people, causing the deaths of 222,517 and injuring 300,000. The disaster it destroyed houses, hospitals and schools. In Leogane the earthquake has also destroyed the old structure of the Foyer along with other 19 facilities for children.
The new facility dwells around 30 children, most of whom are under the age of three. Some are orphans, while others need help because their families are without the necessary means to support, instruct and educate. The director and the staff tirelessly work daily at the Foyer.
The reception house for children set in a **rural area** next to Leogane. The building is as simple as its own structure and it is completely designed for children.

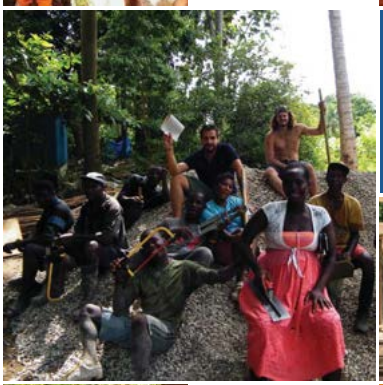
The structure is **child friendly**.
The space, bedrooms and bathrooms, are wide and ventilated which ensure a high hygienic standard. While designing this structure we looked for a solution able to respond to:

- **seismic forces**
- **widespread safety problems**
- **bioclimatic architecture criteria**
- **self-maintenance of the building**

The **construction site** has been a very important experience for local workers to be trained through the direct participation during the implementation of the project.
In these terms it has been crucial for them to be involved during the setting up of laboratories, workshops and in general **technical trainings** that in the end has brought to them an official certificate that proves their new expertise.
In this way the project has been an opportunity to develop local capacity building and will ensure last longing impact of the process through the exchange of professional technical knowledge with the workers and their communities.
The capacity building of worker has had a key role in the project.

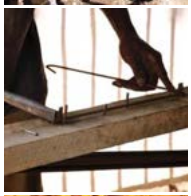
PARTICIPATIVE PROCESS

Beneficiaries involved during designing



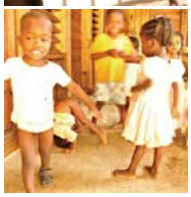
Local community involved in the construction

CAPACITY BUILDING

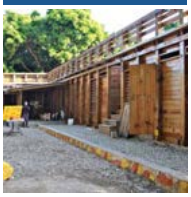


Building site school: 15 trained workers

ORPHANAGE FACILITIES BUILT



30 children and staff accomodated



Conclusions are doubts

In any case, even if a project achieve the outcome, it keeps on asking us new questions:
Is an imported material a sustainable material?
Should be a sustainable project perfectly and easily replicated by locals?
Is welfarism a solution?
Can a cooperation construction project have a key role in the economic development?

The end of the project is a starting point for new paths.

POLITECNICO DI TORINO | UNIVERSITÀ DEGLI STUDI DI TORINO | CUCS TORINO 2013

Imagining cultures of cooperation: Universities networking to face the new development challenges

III CUCS Congress
Turin, 19-21 September 2013

ARGENTINA | Cooperation between Fossano and Rafaela

Argentina, Province of Santa Fe, Rafaela
2013/2014

Multidisciplinary study on urban upgrading, social housing and urban agriculture

Architettura Senza Frontiere Piemonte ONLUS

From past experiences...

The collaboration of ASF Piemonte with the City of Fossano and the Municipalidad of Rafaela began from a partnership between the two cities, the co-operation work is based on a multi-annual program that is implemented through specific projects identified with exchange and comparison.
ASF has worked continuously with the City of Fossano and Municipalidad Rafaela with the following projects:

o 2010 - participation Competition Europaid 2010, with the project Art Incluye.

o 2011 - Within the project "Municipalidad de Rafaela instruments of environmental sustainability and autonomous management of training automotive sector" of the City of Fossano, supported by Regione Piemonte, ASF oversaw a conference on sustainability and social housing in Rafaela and organized visits and meetings of experiences of social housing in Turin for officers and directors of the Municipalidad of Rafaela.

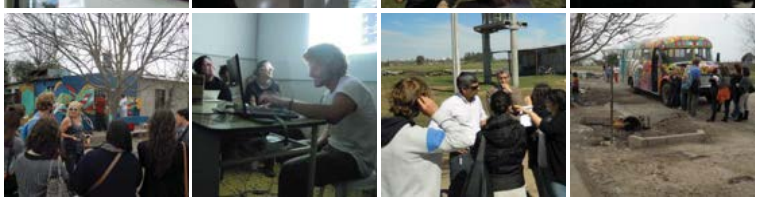
o 2011 - With the programme of the Compagnia di San Paolo "Formazione per lo Sviluppo", ASF Piemonte has provided a grant for the training of a technical Municipalidad of Rafaela, who attended the graduate course Habitat, technology and development (HTS), training course of developing countries CRD III level of the Polytechnic of Turin and has done an internship at the City of Fossano. The goal of his training was to study issues related to the environmental rehabilitation of marginal areas, in particular the enhancement of floodable areas forming part of the hydrological system of risk management in the Barrio Barranquitas, a suburb where there are settlements.

o 2012 - In collaboration with the CRD-PVS, ASF Piemonte has promoted an internship at Municipalidad Rafaela students of the Postgraduate Habitat Technology and Development, who developed a research on the urban regeneration of the Barrio Barranquitas. The presence and work of the students have created the opportunity to present and discuss, with the projects carried out initially in Italy and perfected in Argentina, the themes of urban redevelopment and new types of social housing.

..to new proposals

Addressing new research topics through the comparison will help to strengthen relations between governments, improve knowledge, exchange best practices and enable new development projects and co-development.
The **presence in the field of students**, the different project proposals and comparison with different actors, represents a very effective **way to deepen the debate and raise awareness**.
Urban regeneration, of social housing and urban agriculture are prominent: problems that this project aims to address with a **multidisciplinary research** group of the University of Turin (architecture, sociology, economics, agricultural science) facing a specific case study proposed by Municipalidad of Rafaela.
An opportunity made possible by the project **UNI.COO** (University of Turin), which offers study grants in projects of development cooperation and that selected the three proposed mobility for the fields of sociology, economics and agricultural science proposals ASF Piemonte.
At the same time, two graduating students of the Faculty of Architecture of the Polytechnic of Turin, ASF members, have obtained the contribution of the Politecnico di Torino for the conduct of the thesis abroad.
All the steps are made in **cooperation with local authorities**.
Activities in the first phase are: study and analysis of best practices, frameworks and procedures; teamwork between undergraduates and graduates of the various faculties with case study analysis, thematic workshops organized by professors and aimed at specific training for this project.
Field research is going to be developed in Torino, Fossano, and during the staying of three months in Rafaela between October and December 2013.

IMPROVE URBAN POLICIES THROUGH RESEARCH AND LONG TERM COOPERATION BETWEEN UNIVERSITIES, NGO, LOCAL AUTHORITIES



Multidisciplinary research applied to the Barrio must address the following issues:

- comparative approach and selection of international case studies, identification of best practices: architectural, social, environmental and economic, identification of public policies and housing policies that take into account the feasibility of interventions.
- concept of "productive and self-sustainable community" through the integration of vivienda social, agriculture, enhancement of public space, rationalization of housing development and economic aspects.
- evaluation of alternative forms of financing for redevelopment and urbanization, involving private investment through projects of corporate social responsibility.
- integration in the residential areas of services and productive activities: development of urban agriculture in public areas for urban renewal ("common lands") strengthening of participatory dynamics creation of local economies. Reflections on: mutual trust, willingness to cooperate in the creation of public goods, the ability to create socio-economic networks
- economic sustainability through the analysis of possible funding and procedures such as the DIY so as to facilitate access to the first home.
- architectural project of social housing integrated with private and collectives green spaces, manufacturing processes of the artefacts, such as motors of participation and social integration and choice of materials and building technologies, such as opportunities to raise awareness and action for sustainable development.
- improving the energy behavior attention to the local climate and environmental issues, use of locally produced materials.

EXPECTED RESULTS

URBAN UPGRADING PROJECT OF ONE OF THE BARRIOS OF RAFAELA THROUGH THE INTEGRATION OF SOCIAL HOUSING AND URBAN AGRICULTURE

EXCHANGES BETWEEN FOSSANO AND RAFAELA SCHOOLS ON THE EXPERIENCE OF **SCHOOL GARDENS**

Cooperation as a long term process of sharing needs and knowledge

Imagining cultures of cooperation:
Universities networking to face the new development challenges

III CUCS Congress
Turin, 19-21 September 2013

HAITI | 2 | Re-start from straw

Haiti, Artibonite
2012/2014
Development project
Straw bale construction

Architettura Senza Frontiere Piemonte ONLUS

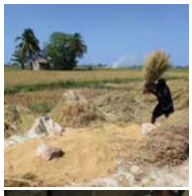
Starting from lessons learnt in the first project set in Haiti, we wondered:
Is an imported material a sustainable material?
Should be a sustainable project perfectly and easily replicated by locals?
Is welfarism a solution?
Can a cooperation project have a key role in the economic development?

Some answers to these questions came out from the research carried on by Matteo Restagno and Gian Nicola Ricci in their degree thesis, that explored different results in cooperation projects and investigated local and **sustainable building materials**.
The main purpose has been to find out some alternatives to imported construction materials, keeping in mind the key role that these goods may have in **local economy**.
Their proposal has been to introduce straw bale construction: in the Artibonite valley, on the North of Port au Prince, the land is used to cultivate rice, important to the food supply, with rice being a staple part of the Haitian diet.
Rice straw needs to be cleared out: common practice has been to burn the fields to get rid of the **unwanted waste**.

This very waste can be used to build anti-seismic, fire-resistant, sustainable and comfortable constructions; cooperating with the firm n.o.v.a. civitas **two prototypes** have been built, using rice straw: the first one, with a wood bearing structure, in Biella, at Cittadellarte - Fondazione Pistoletto; the second one is a module of a load bearing straw bale construction, set in Poirino (TO). (www.youtube.com/watch?v=JsepGrtdc60).
The use of rice straw for construction purposes is not an innovation, but it is a brand new suggestion for haitian rice farmers and for local productive chains.
Italian NGO CISV is leading a programme of **rural development** in Haiti and is working with c**ooperatives of rice farmers**; one of the actions will be to provide a **seed warehouse**, aimed to a better selection and keeping of the seeds, and that will be managed by local organizations.
This building will be a great opportunity for the introduction of this technology and for training workers. The construction process will be driven with the participation of the community.

SUSTAINABLE PROCESS

Improving rural development

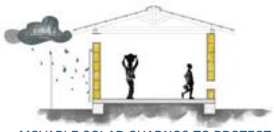


Involving local communities

Using waste

Plan

Section


MOVABLE SOLAR SHADNGS TO PROTECT THE BUILDING AND EXTERNAL AREAS

OPPOSITE OPENINGS FOR CROSS VENTILATION

RAISED FLOOR LEVEL IN ORDER TO PREVENT FLOODS

Building a warehouse for rice farmers cooperatives

Let's start!

For more information:
Matteo Restagno; Gian Nicola Ricci; Andrea Bocco, "Re-start from Straw"
in: Khosrow Ghavami; Normando Perazzo Barbosa; Ulisses Targino Bezerra (editors)
Book of Abstracts (14th International Conference on Non-Conventional Materials and Technologies, João Pessoa, 24-27 March 2013)
Rio de Janeiro - João Pessoa : ABMTENC - UFPB, 2013 [ISBN 978-85-98073-11-8], p. 106

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Imagining cultures of cooperation:
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III CUCS Congress
Turin, 19-21 September 2013

Multiple voices design for the south of Quito:
cooperation between universities and municipalities

Roberta Bianchi, Luca Brivio,
Maurizio Chemini, Alberto Merigo

Polythecnic of Turin
Postgraduate course in Habitat, Tecnology and Development

Abstract
A project proposal on the city of Quito, Ecuador, has been developed during the Postgraduate Course in “Habitat, Technology and Development” of the Polytecnic of Turin, in collaboration with the Universidad Central de l’Ecuador (UCE), the Ministero de Desarollo Urbano y Vivienda (MIDUVI) and the Districto Metropolitano de Quito (DMQ).The main purpose is to start out a mutual comparison between different methodological approaches, hoping for a profitable combination of knowledge, appreciating the local strategies.The project started from the need of the Quito Municipality to conceive a new development plan for the southern areas of the capital that refer to the zonal administration of Quitumbe; the aim was to imagine new transformation scenarios according to the DMQ’s strategical plan guidelines that hope to schedule a sustainable developing program before 2022 according to the perspective of Buen Vivir, which promotes equity and social inclusion. In the southern areas of Quito it is possible to observe the phenomena of informal settlements connected to problems due to land property. The informal settlements, or “barrios informales”, developed without the previous installation of the basic infrastructures and without the related land property document. That happens because the people, settling down in these areas, are hardly capable in getting a house through the legal housing market; however they do refer to illegal landholders also called “traficantes de tierra”, thus they pay the land fee without getting any regular property title. Indeed, referring to the city of Quito, we are not dealing with “land invasion”, such as in many other South American cities, but with irregular parceling plans. From 2010 the DMQ started a massive process for the regularization of the informal settlements through its special department “Regula tu Barrio”, helped by new legislative tools. The result of these dynamics is the suburban sprawl towards the marginal and rural areas frequently bound by ecological and agricultural protection, totally lacking in infrastructures and unsuitable for living. Our project outlines a possible response to the complexity of a such an urban reality, through the characterization of new land property strategies and the redefinition of the informal, regularized or not, occupied areas subject to environmentally restrictions, denominating them “ZEIS”, “Zonas Especiales de Interesse Agricolo e Social”.The expected results deal with the environmental and economical improvement of the periurban scenario, its requalification through the spread of public utilities and the re-thinking of public spaces.The achieved results won’t concern only with the increasing knowledge and experiences of the different subjects involved in the project, but also with a more valuable architectonical and urban product.

Achieved results
The outcome of the project is the investigation, through operative methodology, of key themes about Quito's urban development, shared with many others cities of South America:
- regularization process of the land in informal settlements;
- policy and participatory instruments used by the municipality;
- land policy in Ecuador.

The project not only outlines new scenarios for the urban development of South Quito, but also prepares the ground for a fruitful and continuous collaboration between the involved institutions: Polytechnic of Turin, DMQ, MIDUVI and UCE. Moreover, during the internship in Quito, new themes have been pinpointed and follow-up projects have been outlined, even involving local NGOs and Quito hinterland authorities.

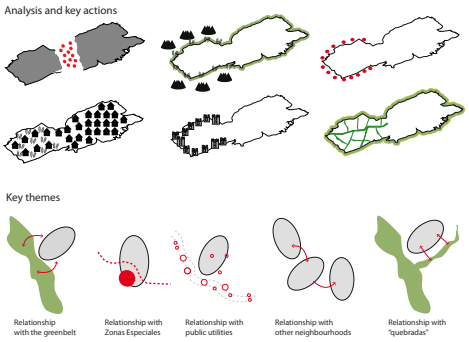
Objectives
The general aim of the internship was a student's professional training, which consists in the elaboration of a urban development project in Latin-America. Informal settlements and difficulties in finding official data have been the main challenges to address.
The specific objectives were the following:
-to develop relationship skills with Ministry and Municipality staff in order to elaborate a shared project, strongly related to the local background;
-to acquire cognitive and methodological tools in order to analyse and compare urban development policies, to integrate the different aim and vision in the design phase
-to support the creation of information sharing and collaboration between local authorities in Quito and Polytechnic of Turin. Building on this network next postgraduate students will be able to elaborate further projects.

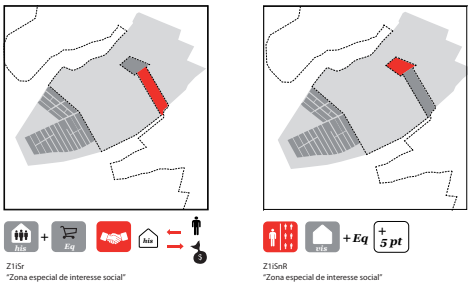
Methodological approach
The work has been divided into 4 phases:
1. analysis and draft proposal
2. presentation of the proposal to local authorities
3. analysis on site through survey and interviews
4. project re-elaboration and contextualization

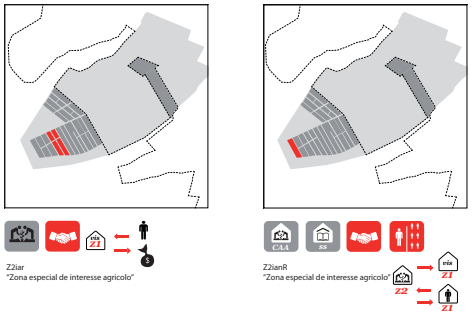
1. A draft proposal was developed in two workshops at Polytechnic of Turin during the Postgraduate Course in "Habitat, Technology and Development". The first project proposal was based on the functional and formal definition of the current urban boundary and on micro-actions in South Quito, focused on the requalification of the existing urban frame.
2. The proposal was presented to Quito local authorities that embraced the project. However they asked for further analysis on local policies. The municipality was interested in integrating the proposal into the current local processes. In detail, the DMQ required the elaboration of a pilot project in order to develop a proposal easy to reproduce in further interventions in the framework of South Quito requalification.
3. In order to address this request, a strong collaboration between local urban departments (Urban Planning Department and Quitumbe District Department) University professors and students and inhabitants of the neighbourhoods involved in the project has been set up. From several surveys and interviews with municipality staff a strong link between problems related to the ongoing massive regularization policies and low urban quality of the suburban districts has been identified. These factors contribute to the spread of the of informal city which is growing without a plan.
4. After this work on site, a project was developed in order to offer a possible answer to these problems, through a urban planning proposal. The project is based on the identification of special areas within the parts of the city, declared non-residential zones, but occupied by informal settlements and subject to environmentally restrictions. These zones will be characterized by:
   1. public utilities and high-quality urban spaces;
   2. social housing to support the legal housing market;
   3. implementation of land regularization process focused on the sprawl control.

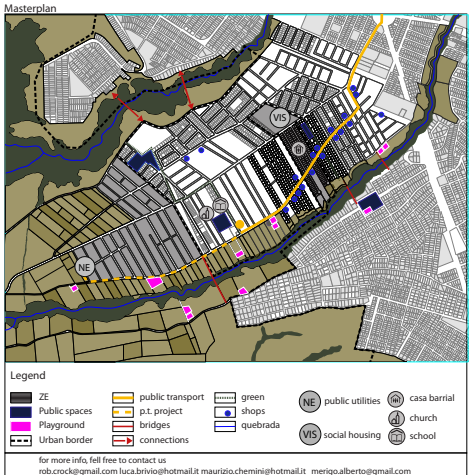
The methodology described above has been integrated with ongoing participatory processes adopted by the municipality. As a result of this approach, inhabitants have been effectively involved, both in the design phase and in the following management of the public spaces.

Conclusion
The researching and planning work, carried out during these months results in a strategic proposal concerned with urban policies and land property and, through a pilot project, outlines potential urban scenarios of requalification for the marginal areas in the southern districts of Quito; the aim was to suggest repeatable principles that could be also adapted to other suburban contexts.The achieved results were especially made possible thanks to the intensive relationship between the subjects involved and their different approaches to the urban issue.The cooperation between the institutions permitted to the students to enhance the project with their own personal and professional experiences for a more valuable urban and architectonical proposal. Cooperation, therefore, was an important element for the good result of the project in its architectonical and urban aspects.The conjunction of these factors straightened the already outlined cooperative relations between Polytechnic of Turin, DMQ and UCE; this could symbolize how academic and institutional entities can collaborate to achieve good planning results and help the students involved to improve personal working consciousness.









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Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

Elimu na Malezi: psychosocial adjustment assessment in Tanzanian primary school children

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Department of Counselling Psychology, Tumaini University, Iringa, Tanzania

Since decades the world has been facing an unrelenting globalization process; but then, there is a growing moral and practical problem, that is the great imbalance in world's resources distribution and life improvement opportunities between people living in Western Countries and in Developing Countries

Introduction

This pilot study aimed to assess social and relational adjustment in Tanzanian primary school children, extending similar projects already carried out in Western Countries [Pastorelli, Barbaranelli, Cermak, Rozsa, Caprara, 1997; Lansford, Capanna, Caprara, Bates, Pettit, Pastorelli, 2007; Ciairano, Rabaglietti, Vacirca, 2008] . As no information about similar studies realized in Tanzania have been found, the first goal of the project was to adapt the measurement instruments to the Tanzanian context . For this purpose and in order to cope properly with any cultural issue, the involvement of a local University was considered fundamental. The assessment of social and relational adjustment has been realized in two different contexts: urban and rural. A total amount of thirty children from two Tanzanian primary schools (fifteen from urban context and fifteen from rural context) were recruited to participate in this research. The instruments used were: Caprara's scales for psychosocial adjustment assessment (prosocial behavior, emotional instability, and aggressiveness, Caprara et al., 1992) and an Italian adaptation of Bukowski's Friendship Quality Scale (FQS, Fonzi et al., 1996; Bukowski et al., 1994). A self-report questionnaire (including the above mentioned scales) was administered to the children in two separate sessions: one in the rural context school, the second in the urban context school, at the same time in the day (morning) during the month of October 2012.

Objectives

1) Instruments set adjustment to the very local cultural context, involving the local University
2) First assessment of possible distinctive features on Tanzanian children's adjusting processes to the adult world requirements

Methodological approach

The questionnaire was first build in Italian than translated in Swahili by an independent translator. The Swahili version was checked and slightly modified with Tumaini's staff before the first administration. Two schools were chosen by Tumaini University as typically representative of urban and rural context within the Iringa region.

30 children (15 from each primary school) were recruited to participate in the pilot study. Specifically, the sample consisted in 20 females (66.7%) and 10 males (33.3%) aged between 9 and 12 years (M=10; SD=0.98).

A self-report questionnaire was administered; it included:

- Measures of psychosocial adjustment (Caprara et al., 1992) in three different dimensions: prosocial behavior, emotional instability and aggression.
- Friendship quality (FQS; Fonzi et al., 1996; Bukowski et al., 1994) in five different dimensions: intimacy/closeness, companionship, conflict, help/aid, security

A T test was conducted to verify if any differences occurred between: psychosocial adjustment and gender, friendship quality and gender, psychosocial adjustment and context, friendship quality and context.

Achieved Results

As regards the ***first objective***, an agreement between University of Torino and Tumaini University (Iringa, Tanzania) was signed to realize this project together. A selected group of Tanzanian students attended a specific training and participated to the administrations by reading the sentences and helping the children to fill the questionnaires. No misunderstanding problems were recorded during the administrations; children comprehended all the items of each scale.
As regards the ***second objective*** the findings indicate that **there aren't gender differences** neither among Caprara's dimensions of psychosocial adjustment nor among FQS's dimensions. Furthermore our findings show that the two schools differ significantly in the level of psychosocial adjustment and in particular in the level of prosocial behavior (Fig. 1). Precisely, **St. Dominic Savio Primary School (urban) reports level of prosocial behavior greater than Masukanzi Primary School (rural)**. Turning to the issue of Friendship Quality Scale, the level of intimacy/closeness dimension significantly differ between the two school (Fig. 2). In particular, **St. Dominic Savio Primary School (urban) reports scores of intimacy/closeness higher than Masukanzi Primary School (rural) ones**.

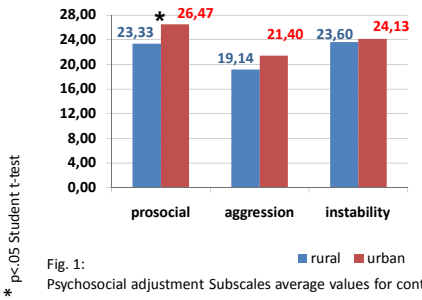

Fig. 1:
Psychosocial adjustment Subscales average values for context

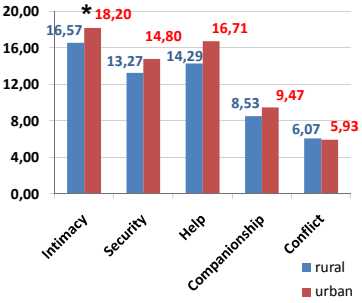

Fig. 2:
FQS Subscales average values for context

Conclusion

General findings from the present study indicate that the gender seems not to be an important factor in social and relational adjustment of Tanzanian children, while the rural or urban context appear to influence two specific dimensions of psychosocial adjustment and friendship quality.
As this is just a pilot study, it is quite too early to pronounce definitive opinions about children adjustment process in Tanzania. Nevertheless, further administrations will be conducted in 2013 with a more representative sample to verify the present results; thanks to the collaboration with Tumaini University, these next steps could be easier to be carried out.
But the final goal of the project is to contribute to focus on the most effective practices for a full and healthy development, addressing helps and subsidies of the International Cooperation.
This imply to find partners and sponsors, sharing ideas, exploring direct actions which may actually help children in their growth, realize them practically, than measure again if any change has occurred.

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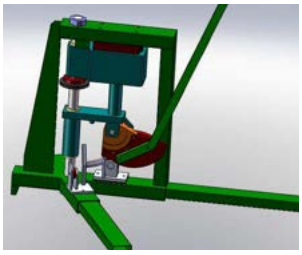


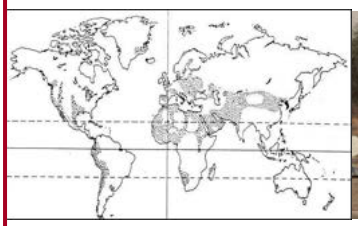
FLOAT-RAM: A NEW HUMAN POWERED PRESS FOR EARTH BLOCKS

Carlo Ferraresi, Walter Franco, Giuseppe Quaglia
Politecnico di Torino
Dept. of Mechanical and Aerospace Engineering DIMEAS

Abstract The Float-Ram is a novel kind of human-powered press for raw earth blocks. It is able to provide very high performance, while maintaining a limited cost, due to some technical characteristics like:
•the adoption of a ***floating mould***, which provides a bi-directional pressing action in simple way;
•***Optimized kinematic structure***, based on a cam-roller transmission system;
•***General mechanical simplicity***, since the node of all kinematic pairs is constituted by a single shaft.
Therefore the Float-Ram can be considered as an important media for the diffusion of high-quality raw earth building in developing Countries.

Building with raw earth

Blocks made of pressed and stabilized earth play a strategic role in self-building experiences of low-cost houses, as concerns improvement of housing condition for people in developing Countries, while respecting the environment and local cultures. One of the advantages of such building technique is that the production of blocks and the construction of the house can be carried out in the same place by means of a low-cost and no energy consuming human-powered press.



Distribution of raw earth building technique in the World

The *Argentina project*, led by Gloria Pasero.

Using a human-powered press

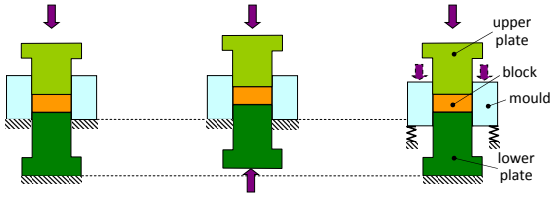
Production of raw earth blocks (adobes) with a human-powered press provides advantages like:
•Better earth compaction
•Constant and calibrated block geometry
•Quick and simple house building
•Non use of non renewable energy

Type of press

In the World today there is a large spread of very simple and cheap presses, which are able to produce earth adobes of rather limited quality. This is mainly due to a poor level of the kinematic and functional design, as well as to the *mono-directional pressing action*.

The quality and mechanical properties of the adobe are greatly improved by adopting a *bi-directional pressing action*, i.e. by presses able to compress at the same time both the top and the bottom face of the block. Few presses of this kind are available on the market, but they are typically mechanically complex, and then expensive and difficult to use.

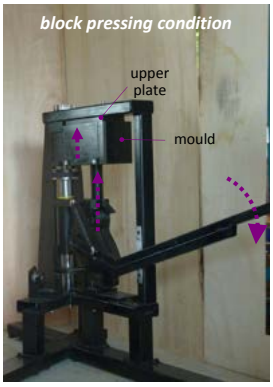
The main characteristic of the Float-Ram is the employment of the *floating mould*, that permits to produce uniform blocks moving only one plate and using a freely translating mould.



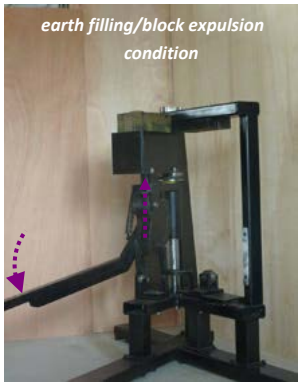
The Float-Ram adopts the concept of the floating mould, the process of block forming develops in 4 phases, switching between two different conditions of the machine:
(a)earth filling/block expulsion;
(b)block pressing.

1. earth filling

2. changing condition



3. Pressing



4. expelling the block

the "*Mattone*" block

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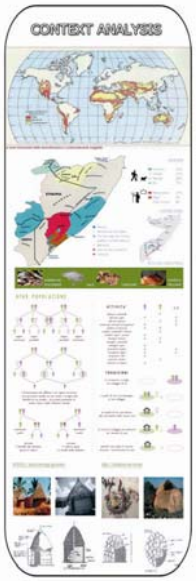
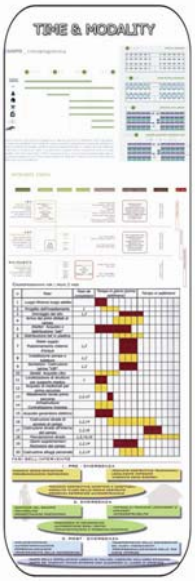
DESIGN FOR EMERGENCY: TRAINING AND EDUCATIONAL PRACTICES

Alberto Giacardi, Irene Caltabiano
Politecnico di Torino - DISEG / DIST

Abstract

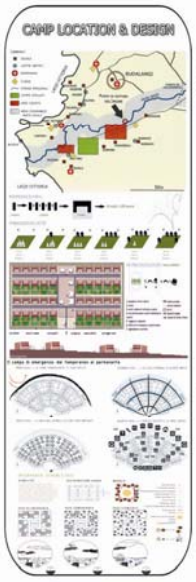
The theme of housing emergency is releated to different scales and contexts but always keeps its dramatic character.
This contribute aims at:
- focusing the attention on emergency situations caused by natural disaster or human escape mechanism in african context;
- reporting the teaching experience on housing emergency and design of refugee camps developped during the different editions of the course on "Habitat Tecnologia e Sviluppo" of Politecnico di Torino.
Within the Course, coordinated by the "Centro di Ricerca e Documentazione in Tecnologia Architettura e Città per i Paesi in Via di Sviluppo", takes place the Workshop "Insediamenti Temporanei". Attending it students acquire competences useful to design a refugee camp in a specific context in which a group of persons need to be recovered during their escape from other areas due to natural or anthropic dangerous causes.
The Workshop deepens the theme of emergency first of all at the urban level; then it focuses attention on houses and technological details.
During the in-depth analysis of the project is requested to assure:
• safety during edification, use and maintenance steps (look at "Details" + "Models & Self-help Manuals);
• protection of neediest groups (childrens, seniors, disabled, etc... - evaluated in the "Context Analysis" phase);
• maximum participation of all engaged users (look at "Time & Modality", "Camp Standards" and "Prototype Design");
• simplicity and quickness of assembly/disassembly using self-help building procedures (look at "Details");
• reversibility of intervention (taken into account expecially during "Models & Self-help Manuals" phases);
• sustainability and environmental conservation (look in particular at "Context Analysis", "Camp Standards/Camp Location and Design";
• respect of local traditions looking at possible hybrid technologies (look in particular at "Local Materials & Sustainability"), without forgetting the importance of economic aspects ("Intervention Costs") and optimization of local resources (at a human and material level).
In this poster a selection of best projects (developed over the years in different edition of the Course) are presented.

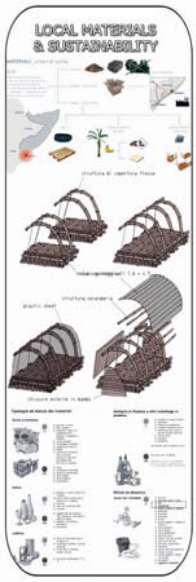




Objectives

The fundamental targets of Workshop "Insediamenti Temporanei" is to create emergency experts able to plan and design solutions for emergency situations according to the conditions of the areas in which they work,
- adopting all the tricks necessary to guarantee safety of working phases;
- knowing how to support population (at a psychological and technical level) during the edification steps;
- respecting local building tradition;
- implementing self-help building procedures;
- involving as much as possible all the "actors" engaged in the building experience.
To achieve these difficult objectives, the Workshop is organized to give to the pre-graduated participants all the instruments useful to face emergency situations. As better deepened in the methodological approach, students are oriented to:
• **collect** all the useful data using the support of libraries, web navigation, manuals, product specs, personal experiences, ...;
• **compare** each others in classroom and at home;
• **propose** solution using as much as possible resources and techniques belonging to the local traditions;
• **pay attention** to some important aspects. For example: energy-economic-time-resource saving, sustainability and safety of working procedures, etc...



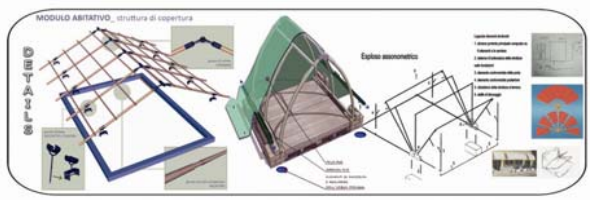


Methodological approach

The Workshop foresees five recurrent steps linked together to make students self-sufficienty. First of all, after a period of **frontal lectures**, students are invited to arrange **groups of maximum 3 persons**, so that they can confront each others and find adequate educational material during the drafting of various projects.
Then a series of **practice sessions** (taking place both in classroom and at home) are organized in order to discuss with professors the step-by-step improvements of single sketch. Therefore, students are required to display a **powerpoint presentation** in order to share with others the results of their studies. During this phase students can find similitude with their own activities or suggestion to improve their single works and it is feasible for them to adjust in real time possible mistakes, thanks to the direct comparison with colleagues and tutors.
At the end, students introduce their works for the **final course evaluation**.

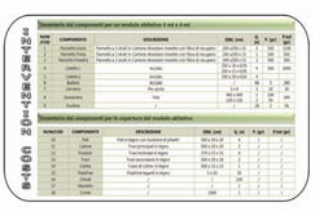
Conclusion

The main target of Workshop "Insediamenti temporanei" is to create **an adequate climate** which lets students **to confront and learn in a collaborative way**. Starting from their previous knowledge, postgraduates are demanded to:
- apply the new design practises in a sustainable way;
- look at economic aspects/optimization of resources (human and material);
- take care of worker safety and final user integration;
- respect local tradition, adopting self-help building procedures or, at least, hybrid tecnology;
- consider the phases of maintenance and closing down procedures.
The possibility to have a remote control of the student progress using web support, creates - in the immediate future - the conditions to collaborateeven after the Course, when postgraduates apply their knowledge on site.



Acknowledgement

All the examples inserted in this poster are part of the research work developed by the participants at the different editions of the post Graduated Course in "Habitat Tecnologia e Sviluppo" of Politecnico di Torino. For the material we thank: Lorenzo Buratti, Carlotta Cella, Ester Dedè, Elena Dell'Oro, Carlotta Fabbri, Lorenzo Fauvette, Gustavo Ferrero, Tabata Fioretto, Marcello Fodde, Irene Freni, Giosafat Gambino, Tommasina Gengaro, Andrea Giaccone, Carolina Gnecco,Elisa Grande, Francesca Lozza, Veronica Lupica, Marika Miano, Silvia Onnis,Francesca Pegorer, Roberto Pennacchio, Nicoletta Perlasca, Chiara Pieri, Luisa Pische, Massimo Ravasini, Isabella Rombi, Valeria Rota, Viola Sellerino, Valentina Serpico



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EVALUATION OF THE HORIZONTAL FLOW PLANTED FILTERS END ANAEROBIC FILTER FOR THE TREATMENT OF GREYWATER IN VENEZUELA

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Abstract

This research provides an analysis for the appropriate environmental management of the greywater in the neighbourhood of Moscú II, a district of San Felix (Ciudad Guayana, Venezuela), where the inadequate management of these wastewaters has a high impact on the public health and the environment. The experimental study began at the end of 2010, with an environmental and territorial study of the neighbourhood and the choice of the most appropriate technology (horizontal flow planted filters HFPF and anaerobic filter AF). After the experimental phase in Italy (2011), the technology was implemented in Venezuela and a monitoring phase of the physical-chemical and microbiological quality of the water treated was initiated (2012). The results obtained demonstrate that the systems work in accordance with Venezuelan environmental standards, which means they may be reused for the purposes of household cleaning and irrigation of family lots or gardens. This study has been developed by CeTAmb (University of Brescia) with the technical and financial support of the Italian NGO "Servizio Volontario Internazionale" SVI.

Achieved Results

The Moscú neighborhood was built in 1995. The area of study has a size of 12,000 m^2 and it has a population of 75 families (which live in 69 houses), 153 adults and 151 children. The inhabitants are low-income people and they work in informal activities. The sources of wastewater, the characteristics, the type of wastewater, the different management systems and their distribution in the neighborhood. The experiment in Italy, with the pilot plants in laboratory, confirmed that the two types chosen (HFPF and AF), are the most appropriate technology and these often yield optimal cleaning : Turbidity ≈ 90%, SST ≈ 85%, COD ≈ 90%, BOD5 ≈ 93%.

In the case of the study in Venezuela, the design, construction and experiment of the pilot plants is characterized by an average daily flow of greywater of 350 L/d. The final systems configuration with the trap of oils and fats as a primary treatment, the bypass system, as a secondary treatment: the HFPF and the AF with vertical flow, the accumulation tank, common to both systems, and the infiltration system. The treatment capacity in Venezuela of the HFPF is 350 L/d of graywater, for the AF is 120 L/d.

The cost of the installation of both systems ≈ € 500. After the construction of the plant pilot plant (april 2012), it has started the first monitoring analysis of the physic-chemical and microbiological characteristics of gray water (I-M) and the second monitoring (Sep 2012) (II –M) compared to Venezuelan normative limits for discharge in for reuse in agriculture for human consumption. As additional activity has been built a family small vegetable garden, downstream of the HFPF.

Objectives

The aim of the research is to develop the appropriate technologies (horizontal flow planted filters HFPF and anaerobic filter AF), in order to solve the problem of wastewater, in particular of greywater, in the neighborhood of Moscu, Ciudad Guayana, Venezuela.

Methodological approach

The phases of the project summarized below:

Territorial and environmental assessment of the city Ciudad Guayana, Venezuela (second half 2010);

Study of appropriate systems for the management of wastewater, analyses of best technological solutions for the district, designing of pilot plants in Italy and Venezuela (first half 2011);

Development of experiment in Italy, construction and experiments with the pilot plants in laboratory. (second half 2011);

Development of experimental work in Venezuela, construction and testing of the pilot plants and monitoring analysis of the physic-chemical and microbiological characteristics of greywater (first half 2012);

Analysis of chemical and microbiological characteristics of raw greywater (second half 2012);

Conclusion

•The experiment, both in Italy and in Venezuela, has shown that the constructed anaerobic filters and horizontal flow planted filters effectively remove very good chemical and microbiological parameters as PTotal. NTotal, Coliform Total, Fecal Coliform, Esterichia colli

•The treatment of horizontal flow planted filters must be compatible with the reuse of treated water in agriculture for human consumption, respecting the limits of Venezuelan standards, after four months of regular operation.

•The optimal pilot plant for management of greywater (case study: 376 L / g - 8 persons) was found to be composed of a trap oils and fats, followed by a HFPF and a storage tank of water that, once purified, can be reused to irrigate for the family small vegetable garden.

•This solution, tested at domestic scale, has been well received by the community and is easy to operate.

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Abstract

Costruire con la comunità è un progetto di cooperazione tra il CRD-PVS del Politecnico di Torino, l'UNAM (Universidad Autonoma de Mexico), l'associazione Archintorno, ONG C.A.M.P.O. e la cooperativa Rio Pluma, svoltosi tra settembre 2011 e ottobre 2012. Esso si inserisce all'interno di un più ampio percorso che la ONG C.A.M.P.O. porta avanti dal 2009, con lo scopo di innescare processi di **innovazione tecnologica** attraverso la trasmissione della tecnica costruttiva del pisè, così da attuare uno **sviluppo locale sostenibile** nelle comunità indigene della regione messicana di Oaxaca. Il progetto ha visto la realizzazione di un centro microregionale nel villaggio rurale di Pensamiento Liberal Mexicano al fine di riattivare la **microeconomia locale**. Vi è stata inoltre la volontà di **trasferire tecniche costruttive** e di creare un momento di **confronto accademico** tra studenti di differenti università e la comunità. La vocazione fortemente didattica del progetto, ha coinvolto su più fasi del processo 10 studenti della Facoltà di Architettura e Ingegneria del Politecnico di Torino e 15 del Taller Max Cetto dell'UNAM (Universidad Autonoma de Mexico) consentendo loro un' importante **acquisizione di competenze** in campo edile-architettonico e di **cooperazione internazionale**. La prima fase ha visto la stesura di più proposte progettuali tra le quali è stata scelta dalla comunità quella più vicina alle proprie esigenze. Il progetto architettonico è stato poi trasformato dall'intero gruppo di studenti in progetto esecutivo, iniziando così un percorso congiunto durato quattro mesi, periodo in cui si è svolto il cantiere in **autocostruzione partecipata**.

Risultati acquisiti

COOPERAZIONE

DIDATTICA

CANTIERE

Obiettivi

Acquisizione competenze sulla progettazione architettonica nei PVS e competenze tecniche di cantiere.

Condivisione di competenze e trasferimento bilaterale di tecnologie

Avviare un processo di sviluppo economico implementando le attività agricole già presenti sul territorio

Approccio metodologico

Conclusioni

Il progetto ha coinvolto diversi attori i quali grazie alle loro competenze hanno permesso di realizzare il centro microregionale, ed ha operato contemporaneamente su tre ambiti: la Cooperazione, lo Sviluppo e la Partecipazione Locale, la Didattica. La cooperazione e l'autocostruzione in un contesto con una tradizione architettonica e costruttiva differente, ha permesso di attuare una strategia Top-down/Bottom-up coniugando il trasferimento di un sapere tecnologico con lo scambio di saperi empirici della comunità, favorendo un processo di interazione e apprendimento collettivo. Le criticità riscontrate sul campo non sono state un limite alla realizzazione, al contrario hanno permesso di raggiungere risultati più adeguati alle risorse a disposizione.

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Hervè Brugoux. Architetture in Madagascar

Laura Marino
Università degli Studi *Mediterranea* di Reggio Calabria
DarTe – Dipartimento di Architettura e Territorio

Abstract
Trovare un'espressione architettonica per un problema che racconti la storia del problema stesso.
È quello che l'architetto Hervè Brugoux da più di 30 anni prova e riesce a fare in Madagascar.
Riuscire a rispondere alle richieste dei committenti, a volte anche particolarmente esigenti, con materiali locali, riducendo al minimo l'uso del cemento e ancor meno del cemento armato. Ridurre al minimo il trasporto di materiali, utilizzare maestranze del posto risolvendo con tecniche costruttive elementari dei nodi tettonici complessi sono tutti obiettivi che l'architetto Hervè Brugoux si è posto e che, nel corso degli anni, con le sue architetture, ha raggiunto.
Parafrasando un testo di Giovanni Leoni su Pier Luigi Nervi, "La forza del lavoro di Brugoux consiste non in una sfida alla materia condotta con mezzi scientifico-matematici ma nella ricerca di un modo elementare ed economico, raggiunto per via intuitiva e solamente perfezionato grazie agli strumenti di calcolo, per organizzare la materia in funzione di un problema costruttivo derivato da una richiesta programmatica, che nella maggior parte delle opere più significative di Brugoux consiste nel compito elementare di coprire uno spazio. […] Un atto costruttivo semplice viene messo al servizio di un compito architettonico elementare."*
*G.Leoni "Stile di verità". La lezione inascoltata di Pier Luigi Nervi in A.Trentin T. Trombetti a cura di La lezione di Pier Luigi Nervi Bruno Mondadori Milano 2010

I materiali

Hervé Brugoux utilizza nei suoi progetti pochissimi materiali: mattoni o pietra e legno.
Questi materiali sono utilizzati ciascuno con una sua specificità. I mattoni pieni a faccia vista o la pietra, utilizzati non come semplice rivestimento ma come materiali collaboranti alla struttura, sono impiegati per la partitura verticale. Brugoux utilizza i mattoni o le pietre per creare dei setti che hanno il compito di delimitare lo spazio interno come nel caso della Chiesa di Mahavatse. Raramente ad essi è assegnato il compito di sorreggere la copertura. O meglio, in alcuni casi la copertura è semplicemente appoggiata sui setti, in altri casi invece la copertura ha una struttura indipendente e i setti si muovono liberamente sotto di essa in un ideale rimando alla pianta libera di Mies o di Le Corbusier.
Brugoux utilizza la pietra nelle zone più vicine al mare, negli alberghi e nella scuola di Ankilibé dove la pietra è il materiale più facile da reperire a km 0, più resistente all'umidità e alla salsedine e più coerente con il paesaggio circostante.
I mattoni pieni invece li utilizza di più negli edifici "pubblici", nella chiesa, nell'oratorio e nel seminario e prevalentemente in zone più interne, inserite in un contesto più "urbano": è il caso degli alberghi a Tuléar e a Fianarantsoa dove le strutture ricettive si affacciano sulle strade principali delle due cittadine.
Brugoux utilizza il legno in molteplici declinazioni: lamellare o semplice, strutturale o di rivestimento, naturale o laccato, affiancato sia ai mattoni che alle pietre. L'unica costante è che Brugoux utilizza il legno prevalentemente per le partizioni orizzontali, per le coperture. Nella chiesa di Nôtre Dame des Flots il legno è utilizzato in singoli elementi per costruire il reticolo spaziale della copertura; per la scuola di Ankilibé il legno lamellare è utilizzato per le travi e per tutto il tetto; per la biblioteca dell'Alliance Française il legno è utilizzato sotto forma di pannelli con orditure differenti.

La ricerca sull'architetto francese ha trovato esito nella pubblicazione "Hervè Brugoux. Architetture in Madagascar" LetteraVentidue Siracusa 2012

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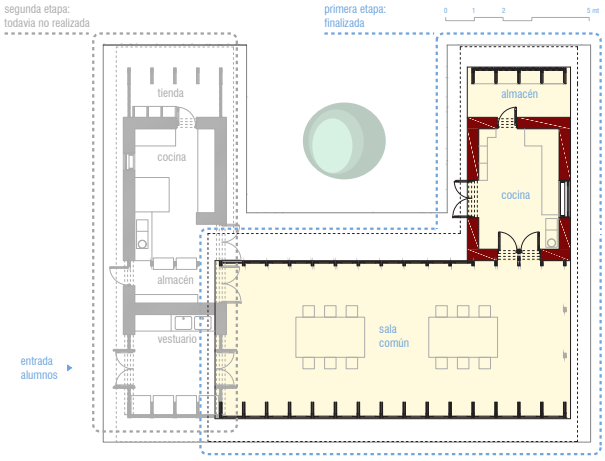
CASA DEI MESTIERI

CERRO LA GRANADILLA
GUATEMALA

team C.A.S.A. (Mezzosangue lab + AK0)
under the padronage of Università Roma Tre



C.A.S.A. is an experience that merges aspects of education, experimental research and international cooperation involving professionals, students, volunteers and a local community in Guatemala.

ACHIEVED RESULTS

The first project phase of C.A.S.A. has been concluded in Cerro la Granadilla with the erection of the first construction stage.
The design includes a second kitchen that has yet to be build. During construction, the presence of 25 volunteers provided the opportunity for bidirectional knowledge exchanges. Students and young professionals from Europe gained experience with building procedures and detail solutions. On the other hand their presence on site stimulated local craftsmen to (re-)use appropriate techniques like rammed earth or wattle and daub.

OBJECTIVES

The project aimed at developing and applying technological solutions with low environmental and high social impact. The use of wood and raw earth techniques seemed to provide the best potential to reach these goals.

METHODOLOGICAL APPROACH

The cooperative elaboration of technologically, economically and aesthetically appropriate solutions not only provides a useful building, that will help to improve the life of some persons from the local community, but can be replicated in other processes of self-construction for private houses and small public buildings.

CONCLUSION

Building abroad enhances the communication between designers, builders and end users of the architectural work. The borders between the three categories blur and a spontaneous but intense knowledge flow starts having the building site as an exchange hub.
This provides fertile ground for locally appropriate techniques and detail solutions and for a close identification of all involved actors with the built result. Specific findings can easily be replicated in future experiences.

IMMIGRANT ENTREPRENEURSHIP

Alessandro Arrighetti*, Andrea Lasagni*

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In recent years, the ethnic entrepreneurship has assumed a role of major importance in Italy. Firms managed by immigrants are a significant part of Italian business world, but they are also an opportunity for exchange between populations of different origin, an opportunity for social mobility, the search for autonomy (individual and group) and, in some circumstances, a factor strengthening social cohesion. Not a few, finally, are the experiences that provide for their involvement in transnational initiatives and projects in co-development.

This panel session has explored the issue and provided an update on the state of the art research with several contributions by scholars working in the Italian universities, according to different disciplinary approaches.

The paper presented by Arrighetti, Bolzani and Lasagni has provided new empirical evidence to understand the evolutionary paths of ethnic businesses in Italy. Besides a sharp decline in the birth rate of enterprises founded by Italians, the number of new businesses run by immigrants in Italy is growing steadily. Today ethnic businesses are able to offer new types of services and to extend the variety of products available, including on markets to which access the natives. This study confirms that the enhancement of the physical resources, knowledge and financial requirements of the communities of origin retains an important role in the entrepreneurial motivations of immigrants. At the same time, it has also showed the presence of significant relationships with mainstream markets. Looking at a considerable portion of the firms analysed, it is possible to find support for the traditional models that associate strongly to the enterprise social network of the ethnic communities of origin entrepreneur who founded it. However, for a relatively large segment of firms, they observe phenomena such as strengthening formal inter-ethnic relations and founding teams and firms where members of the majority groups operate as partners or employees. In short, there is evidence of multicultural hybrid organizational models and increasing ‘diversity’ in organizations in the evolution of ethnic firms in Italy.

Fullin’s paper focused on self-employment among immigrants, a theme that has been the subject of several studies in Italy. However, there are few contributions that compare self-employment of immigrants with self-employment of natives. On the other hand, the studies on self-employment often tend to overlook at all or only marginally consider the differences between natives and immigrants. This paper used Eurostat data to assess the characteristics of self-employed immigrants and natives in five European countries. In addition, it seeks to shed new light on whether and to what extent self-employment might be a refuge choice both for the natives and immigrants having low education skills.

De Luca’s paper is aimed at assessing the development of the entrepreneurial career and the transnational ways of living of 28 immigrant women. The role of the family and the different use of the ethnic resources bring to different career paths. These differences are also evident in the transnational activity, which is mainly of an economic nature and linked to the company. The company also benefits from the different cultural background of the owner. Some companies, in fact, arise from the desire to take advantage of their different cultural background, turning their passions and skills in economic activity, while other follow a more traditional path, which not necessarily include the use of ethnic resources. In addition, attention to the country of origin is also visible in the social engagement, which also moves parallel on two fronts: that of the host society and the one of society of origin. While, on the one hand, there is a desire to help other immigrants to deal with the daily problems that arise in the Italian context, on the other hand some women develop afterwards the wish to do something for those who remained in the country of origin. In this case, visibility, contacts and skills acquired in the course of the business are of particular importance and facilitate the success of transnational projects.

The contribution by Coviello takes into account a particular case of immigrant entrepreneurship institutional body: a consortium of craftsman, conceived and founded in 2006 by a Romanian entrepreneur with a fellow and an Italian company. The consortium includes several companies with Romanian owner, most individual firms but there are cases of some relevance also with Italian employees. The consortium is not only an innovative solution in terms of coordination and efficiency but also acts as a channel of social mobility by promoting the transition to self-employment of immigrant workers previously placed in a position of dependency. The case of CerTo allows to highlight mechanisms of integration and social advancement which, although based on membership in networks of compatriots and pre-existing fiduciary bonds, lead to better conditions for socio-economic inclusion in the context of inclusion.

PERCORSI EVOLUTIVI E VARIETÀ DELLE IMPRESE ETNICHE IN ITALIA

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ABSTRACT

A fronte di un netto calo del tasso di natalità delle imprese fondate da italiani, il numero di nuove imprese gestite da immigrati in Italia è in costante crescita. Oggi le imprese etniche sono in grado di fornire nuove tipologie di servizi e di estendere la varietà dei prodotti disponibili, anche sui mercati a cui accedono gli autoctoni. Il presente lavoro propone nuove evidenze empiriche per comprendere i percorsi evolutivi delle imprese etniche in Italia. L'indagine conferma che la valorizzazione delle risorse fisiche, conoscitive e finanziarie specifiche della comunità di origine conserva un ruolo rilevante per le motivazioni imprenditoriali degli immigrati. Allo stesso tempo, viene segnalata anche la presenza di rapporti significativi e, talvolta, prevalenti con i mercati *mainstream*. Si osserva inoltre che una porzione delle imprese analizzate appare coerente con i modelli tradizionali che legano fortemente l'impresa etnica al *network* sociale della comunità di origine dell'imprenditore che l'ha fondata. Un segmento relativamente ampio di imprese, invece, sembra allontanarsi significativamente da questa rappresentazione fino a comprendere soluzioni che prevedono l'inclusione di individui (soci o addetti) nativi o provenienti da comunità diverse da quelle di origine dell'imprenditore. L'ipotesi di una crescente varietà delle forme organizzative dell'impresa gestita da immigrati riceve ampia conferma empirica.

Parole chiave: Immigrazione; Imprenditoria immigrata; Impresa etnica; Italia

INTRODUZIONE

A fronte di un netto calo del tasso di natalità delle imprese fondate da italiani, il numero di nuove imprese gestite da immigrati in Italia è in costante crescita. Oggi le imprese cosiddette "etniche" sono in grado di fornire nuove tipologie di servizi e di estendere la varietà dei prodotti disponibili, anche sui mercati a cui accedono gli autoctoni.

A questo si aggiunge che negli anni più recenti l'imprenditoria immigrata ha assunto in Italia un ruolo sempre più rilevante, come fattore di consolidamento dei processi di integrazione socio-economica degli stranieri nel nostro paese. I risultati ottenuti in questo lavoro offrono un quadro parzialmente inedito. Infatti, l'impresa etnica può essere considerata un fattore importante per rafforzare la coesione sociale, perché diviene un vero e proprio luogo di scambio e di interazione sociale e non solo economica.

LA LETTERATURA DI RIFERIMENTO

Lo sguardo sull'imprenditoria immigrata oggi è cambiato rispetto al passato. Le imprese etniche sono, infatti, più diversificate ed eterogenee di quanto la loro rappresentazione stereotipata mostri. Tradizionalmente, infatti, venivano messe in evidenza le differenze tra imprenditori "nativi" e imprenditori immigrati (diverse motivazioni, differenti risorse disponibili, distanza nelle esperienze e nella cultura, ecc.). Le imprese etniche sono state descritte come intrinsecamente "fragili", per la discriminazione della società ospitante o perché esse operano in mercati protetti basati su stretti rapporti co-etnici (Ambrosini e Erminio, 2011).

Attualmente, dal dibattito emerge una maggiore complessità del fenomeno. I nuovi modelli tendono a sottolineare l'eterogeneità (cioè la notevole varietà) delle soluzioni organizzative e produttive adottate dalle imprese etniche. Ne risulta un profilo dell'impresa gestita da immigrati rinnovato: all'immagine semplificata dell'impresa gestita da immigrati che ottiene un supporto essenziale dalle risorse fisiche, conoscitive e finanziarie specifiche della propria comunità di origine, si va sostituendo una visione in cui sono presenti numerosi modelli organizzativi e molteplici strategie di *business*.

La letteratura tradizionale sulle tipologie di imprenditori e di imprese fondate/gestite da immigrati distingue tre diversi tipi: *middleman minorities* (minoranze di intermediazione), e*nclave entrepreneurs* (imprenditori di *enclave*) (Zhou, 2004) e i*mprenditori transnazionali (*Portes *et al*., 2002).

Middleman minorities

Storicamente le *middleman minorities* sono costituite da imprenditori immigrati che svolgono la loro attività imprenditoriale in forma di commercio e di scambio tra le elite di una specifica società e il resto della popolazione (Zhou, 2004), per lo più concentrandosi in alcune occupazioni a basso-medio valore aggiunto. Il loro ingresso in attività di intermediazione è stato tradizionalmente spiegato da due argomenti: a) la reazione culturale ostile della società circostante ad uno specifico gruppo etnico e b) la mancanza di uno status sociale riconosciuto nel Paese in cui si sono stabiliti. Bonacich (1973) ha sottolineato che questa scelta è legata a una c.d. "mentalità di soggiorno" che caratterizza certi gruppi di immigrati, i quali sognano un ritorno a casa e pianificano la loro esperienza migratoria solo come un modo per accumulare denaro rapidamente, per poterlo investire nel Paese di origine e rendere possibile il ritorno. Questo tipo di mentalità fa sì che le attività dei *middleman* sia caratterizzata da lunghi orari di lavoro, frugalità, concentrazione in attività facilmente accessibili e liquidabili e elevati livelli di solidarietà interna. Tali imprenditori hanno pochi legami con le strutture e le relazioni sociali della comunità locale nella quale svolgono le loro attività imprenditoriali. Le imprese sono tendenzialmente localizzate nei quartieri urbani poveri e popolati da minoranze etniche, spesso andando ad occupare attività di commercio al minuto o del terziario abbandonate dagli imprenditori locali. Tuttavia studi più recenti hanno anche messo in luce casi di imprese *middleman* attive non solo nel commercio e nel settore terziario, ma anche in ambito manifatturiero o primario, localizzate nelle periferie o nei quartieri urbani più benestanti e popolati dalla classe media locale.

Enclave entrepreneurs

Gli imprenditori di *enclave* sono caratterizzati da stretti legami di tipo etnico e di co-nazionalità, che pervadono le strutture sociali e influenzano la localizzazione di queste imprese (vedi Portes, 1981; Portes e Shafer, 2006). Le imprese di *enclave* tendono a concentrarsi in una stessa localizzazione urbana, caratterizzata dalla presenza di una forte identificazione etnica e un minimo livello di organizzazione istituzionale. Inoltre tali imprese svolgono attività in settori diversificati (es. servizi professionali; produzione; commercio al dettaglio), non solo occupando nicchie di mercato lasciate vuote dagli imprenditori locali. Infine, le relazioni tra proprietari e lavoratori e tra imprenditori e clienti (anche se in misura minore) sono caratterizzate da rapporti di co-etnicità.

Tali caratteristiche di localizzazione e concentrazione in zone popolate da connazionali sono spiegate dalle modalità in cui si sviluppano queste attività. Soprattutto nelle prime fasi di sviluppo, queste imprese hanno bisogno di essere prossime alla clientela co-etnica cui si rivolgono e alle fonti di risorse di cui abbisognano, tra cui credito, informazioni, lavoro e altre forme di sostegno (Portes e Manning, 1986). Light (1972) avanza l'ipotesi di un "mercato protetto" in cui le condizioni di nicchia all'interno di una comunità etnica promuovono il successo dell'impresa etnica. Dal momento che le comunità etniche sviluppano spesso esigenze particolari in termini di prodotti/servizi (es. orientamento all'acquisto di prodotti etnici; preferenza per negozi gestiti da qualcuno della stessa provenienza culturale), gli imprenditori loro connazionali hanno un notevole vantaggio competitivo rispetto agli imprenditori locali nel rispondere a queste esigenze (Aldrich *et al*., 1985; Masurel *et al*., 2002). Studi più recenti hanno, però, evidenziato che l'evoluzione di molte aree urbane in quartieri multietnici sta favorendo lo sviluppo di imprese di *enclave* che contemporaneamente svolgono il ruolo di *middleman* con altre nazionalità e gli abitanti nativi (Zhou, 2004).

Nella letteratura sono stati identificati diversi fattori che spingono gli immigrati ad aprire imprese del tipo di *enclave*. Tra questi, sono stati particolarmente rilevanti la dimensione del mercato (ampiezza della comunità straniera appartenente allo stesso gruppo culturale, in particolare con bassa competenza linguistica), l'esistenza di gruppi di lavoratori isolati (Evans, 1989), il capitale umano e la dotazione di capitale sociale (Brenner *et al*., 2010). Gli aspetti culturali sono molto importanti per le economie di *enclave*. Le attività economiche sono regolate dalla solidarietà interna (*bounded solidarity*) e di fiducia regolamentata dalle norme sociali (*enforceable trust*), meccanismi di sostegno e controllo necessari per la vita economica della comunità e per il rispetto delle norme, dei valori e per il sanzionamento di comportamenti socialmente devianti (Portes e Zhou, 1992). I rapporti di tipo co-etnico tra imprenditori e lavoratori, così come con i clienti, in genere trascendono i legami di tipo economico e contrattuale e si basano su norme di reciprocità comunemente accettate (Zhou, 2004).

Imprenditori transnazionali

Gli imprenditori transnazionali gestiscono attività che coinvolgono contemporaneamente i loro Paesi di origine ed i Paesi ospitanti. Portes *et al*. (2002) per l'identificazione di questa categoria di imprese, impiegano variabili quali lo svolgimento di frequenti viaggi all'estero per motivi di lavoro e l'esistenza di una relazione positiva tra il successo dell'impresa e i contatti con il Paese d'origine o con Paesi terzi.

Gli studi sul fenomeno dell'imprenditoria transnazionale sono stati effettuati soprattutto negli Stati Uniti, in cui i comportamenti transnazionali caratterizzano la vita di molti immigrati, specialmente quelli originari dal Sud America. Lo studio di Portes *et al*. (2002) ha dimostrato che gli imprenditori transnazionali rappresentano una quota considerevole degli imprenditori immigrati, anche se non costituiscono la maggioranza degli immigrati. Gli autori hanno dimostrato che gli imprenditori transnazionali presentano caratteristiche diverse rispetto a quelli che svolgono

attività domestiche e rispetto agli immigrati occupati come lavoratori dipendenti, soprattutto in termini di dimensioni e portata delle reti sociali.

Anche all'interno della categoria degli imprenditori transnazionali sono state proposte alcune tipologie specifiche. Una delle più citate è quella proposta da Landolt *et al*. (1999) sui migranti Salvadoreñi negli USA, empiricamente convalidata da Sequeira *et al*. (2009). Tale tipologia presenta cinque diversi classi di imprese a seconda del loro grado di coinvolgimento a livello transnazionale sul piano finanziario, del personale occupato, delle risorse destinate alla crescita e del mercato di riferimento:

- Imprese "circuito": sostengono il flusso di risorse materiali e immateriali tra il Paese di origine e il Paese ospitante;
- Imprese "culturali": distribuiscono prodotti provenienti dal Paese di origine nel Paese ospitante;
- Imprese "etniche": vendono a una clientela multietnica i prodotti provenienti dal Paese di origine dell'imprenditore o di altri prodotti occidentali;
- Imprese "di ritorno": fondate dagli immigrati che rientrano nel Paese di origine;
- Imprese "transnazionali di espansione": imprese costituite nel Paese di origine ma che considerano gli immigrati all'estero come parte del loro mercato.

Un modello simile è stato proposto da Itzingsohn *et al*. (1999) nel suo studio delle comunità domenicane di immigrati nella zona di Washington Heights di New York City. Sequeira *et al.* (2009) hanno analizzato ulteriormente i fattori che influenzano la scelta del tipo di impresa transnazionale da sviluppare, in particolare esaminando il ruolo delle percezioni degli immigrati verso il Paese ospitante e l'intensità del legame con il Paese di origine. Generalmente si può affermare che l'esperienza degli immigrati e il loro atteggiamento verso il Paese ospitante è strettamente correlato alla positiva percezione di opportunità imprenditoriali. Migranti che subiscono discriminazioni sul mercato del lavoro del Paese ospitante potrebbero essere maggiormente spinti verso forme reattive di imprenditorialità transnazionale, in quanto questa esperienza negativa potrebbe influenzare sfavorevolmente le loro percezioni verso il Paese in cui sono ospitati. Ancora in Sequeira *et al*. (2009) viene dimostrato che i migranti con una percezione più positiva delle opportunità disponibili sono generalmente attivi in imprese del tipo "circuito" o "culturale" piuttosto che imprese "etniche". Gli immigrati con più intense relazioni con il Paese di origine hanno invece più probabilità di essere coinvolti in attività transnazionali, quindi con una minore presenza nelle imprese "etniche". Un ulteriore aspetto interessante che emerge da questo studio è che gli imprenditori di imprese "circuito" o "culturali" hanno una maggiore probabilità di attribuire il successo della loro impresa alle caratteristiche personali dell'imprenditore (es. capacità ed efficacia personale) o al sostegno sociale, mentre gli imprenditori "etnici" percepiscono come più importante la qualità dei prodotti/servizi offerti.

Nuovi indirizzi di riflessione

In tempi più recenti, oltre alle distinzioni tipologiche sopra viste, l'osservazione della realtà imprenditoriale etnica ha spinto alcuni autori a una maggiore sofisticazione dei modelli teorici ed empirici adottati, cominciando a spostare l'attenzione verso l'aspetto proattivo e manageriale delle scelte strategiche e gestionali sviluppate dagli imprenditori immigrati. In alcune ricerche si è, quindi, iniziato a distinguere analiticamente le tipologie di strategie attuate dalle imprese controllate da immigrati. La distinzione più comune si basa sul grado di etnicità del prodotto/servizio offerto e sul grado di co-etnicità tra l'imprenditore e i clienti finali / mercato. In sostanza, questi studi si ispirano alla letteratura tradizionale che differenzia tra imprenditori *middleman* vs. *enclave* (Zhou, 2004).

Seguendo questa distinzione dicotomica, alcuni autori hanno identificato diversi tipi di strategie – e di imprese fondate da immigrati – sulla base delle possibili combinazioni tra prodotto etnico vs. non etnico (lato offerta) e di clientela etnica vs. non-etnica (lato domanda). Rusinovic (2007) ha proposto una classificazione dei mercati disponibili all'imprenditoria degli immigrati sulla base della clientela e del prodotto, come mostrato nella Fig. 1.

Fig. 1 – Tipologia di imprese secondo la matrice clientela/prodotto di Rusinovic (2007).

		Clientela (domanda)	
		Co-etnica	Mainstream
Prodotto (offerta)	Etnico	Mercato etnico	Mercato *middleman*
	Non-Etnico	Mercato di nicchia	Mercato *mainstream*

Questi quattro mercati sono definiti come segue:

- Mercato etnico: popolato da imprenditori che vendono un prodotto etnico a una clientela principalmente delle stesse origini nazionali e culturali dell'imprenditore. Tali clienti, che definiamo "co-etnici" presentano una serie di esigenze e preferenze speciali, che sono soddisfatte al meglio da chi condivide questi bisogni e li conosce intimamente (Waldinger, 2000). Pertanto gli imprenditori immigrati che scelgono di collocarsi in questo mercato sfruttano un "mercato protetto" in cui non sperimentano virtualmente alcuna competizione da

parte di imprenditori locali esterni alla loro comunità (cfr. Ward, 1987). Questa situazione può dunque essere descritta come un monopolio di fornitori etnici, o una "no-go area" per concorrenti esterni (Ward, 1987), il che costituisce certamente un vantaggio per questi imprenditori.

- Mercato *middleman*: in questa situazione i prodotti etnici sono venduti ad un pubblico generale (Engelen, 2001). Se il termine "*middleman minorities*" era stato originariamente coniato per descrivere le relazioni tra minoranze etniche e maggioranza della popolazione nelle società pre-capitalistiche, nel suo attuale uso caratterizza anche imprenditori immigrati che servono una clientela non necessariamente co-etnica (Kim, 1999). Come affermato da Jones *et al.* (2000), questi imprenditori hanno un vantaggio in quanto essi promuovono un prodotto che deriva dal proprio patrimonio culturale, è unico per loro e non appropriabile altri. A differenza degli imprenditori attivi nel mercato etnico, però, essi godono di un monopolio relativo ai prodotti etnici, e quindi di un mercato protetto, ma senza i limiti demografici e finanziari collegati all'orientamento verso una clientela strettamente co-etnica.
- Mercato di nicchia: mercato in cui gli imprenditori non forniscono prodotti etnici, ma generali, come ad esempio assicurazioni, servizi finanziari, assistenza legale, scuole-guida, intermediazione immobiliare verso clienti co-etnici.
- Mercato *mainstream*: gli immigrati operanti in questo mercato offrono prodotti generali, non di tipo etnico, a clientela locale, nativa del Paese ospitante. Essi entrano dunque direttamente in competizione con gli imprenditori locali e sono in sintonia con le esigenze di un mercato più ampio. Le transazioni su questo mercato sono spesso trascurate negli studi attinenti all'imprenditorialità degli immigrati, con le recenti eccezioni di Leung (2001) sulle imprese ICT cinesi in Germania o di Saxenian (2002) sulle imprese indiane e cinesi nella Silicon Valley.

Naturalmente è da intendersi che, sia a livello teorico che nella realtà, i confini tra i diversi mercati non sono così netti e distinti come possono sembrare a un primo esame. Potrebbero, inoltre, esistere differenze tra imprenditori immigrati nella scelta di quali mercati servire. Ad esempio, Rusinovic (2007) ha dimostrato che gli imprenditori immigrati di prima e seconda generazione differiscono in tali scelte in quanto gli immigrati di prima generazione tendono ad essere più attivi nei mercati etnici e a servire clienti co-etnici, mentre quelli di seconda generazione tendono a scegliere mercati di tipo *mainstream*. I risultati differiscono altresì tra diversi gruppi etnici, riportandoci alla necessità di considerare sia fattori culturali che strutturali quando si affrontano indagini di questo tipo.

Una proposta ulteriore è quella di Ndofor e Priem (2011) che hanno individuato due strategie opposte in termini di combinazioni di prodotto/mercato etnico o *mainstream*. Essi definiscono una "strategia di *enclave*" quando l'impresa gestita da immigrati serve pienamente una comunità etnica, con un prodotto etnico, realizzato da lavoratori co-etnici e con materiali forniti da fornitori co-etnici. In sostanza essi identificano la partecipazione ad una intera catena del valore di tipo co-etnico. All'opposto, una "strategia dominante" viene messa in essere quando l'impresa serve il mercato locale con un prodotto di massa che viene prodotto attraverso manodopera non necessariamente co-etnica e con materiali forniti da fornitori *mainstream*.

Nello specifico ambito del fenomeno imprenditoriale dei migranti nel contesto italiano, una tipologia che ricalca le precedenti è quella offerta da Ambrosini (2011). Egli differenzia tra cinque tipi di imprese:

- Impresa etnica, che offre prodotti etnici a clienti immigrati;
- Impresa allargata (o impresa esotica), che fornisce prodotti etnici a clienti misti (nativi e immigrati);
- Società di intermediazione, che offre prodotti non etnici (generali) a clienti immigrati;
- Impresa di prossimità, che commercializza prodotti non etnici a clienti misti (nativi e immigrati);
- Impresa aperta, che offre prodotti non etnici (generali) a clienti di origine locale.

Infine, è necessario fare un cenno ad una classificazione basata sull'intersezione tra le tipologie di proprietà delle imprese degli immigrati e il settore di riferimento, proposta da Li (1993) in uno studio riferito alle imprese cinesi in Canada. Egli distingue i seguenti quattro tipi di imprese:

- l'impresa di tipo tradizionale, a gestione individuale o famigliare, attiva principalmente nei settori di servizio alla persona (es. servizi di ristorazione) e del commercio al dettaglio;
- lo studio professionale di proprietà e gestito da professionisti nei campi medico, legale, contabilità, che sono proliferati negli ultimi decenni;
- imprese controllate attraverso investimenti diretti da società con sede in Asia e, talvolta, aventi filiali anche in Canada;
- investimenti ad alta intensità di capitali eseguite da immigrati in risposta ai programmi di immigrazione del Governo Canadese.

Il contributo di Li (1993) mette in luce alcune interessanti considerazioni di tipo storico e temporale. Il primo tipo di imprese, più tradizionale, è quella stabilita dagli immigrati all'inizio dei loro percorsi migratori, quando l'ipotesi della mobilità bloccata può spiegare perché molti stranieri tentano di aprire un'impresa come un mezzo per sfuggire a un mercato del lavoro per loro svantaggioso. Con l'incremento del numero dei migranti e del loro insediamento, la

domanda di servizi, di beni etnici e generali aumenta e questo può essere un'ulteriore stimolo per le imprese tradizionali e per la nascita degli studi professionali. L'autore sottolinea che gli ultimi due tipi di impresa sono, invece, spiegate da fattori politici, relativi ai cambiamenti nelle politiche migratorie e da variabili economico-finanziarie.

L'INDAGINE SUL CAMPO: UN PROFILO DELLA IMPRENDITORIA IMMIGRATA IN EMILIA ROMAGNA

Il nostro lavoro si propone di offrire un ulteriore contributo alla comprensione dell'imprenditoria immigrata in Italia e all'analisi della varietà dei modelli e delle tipologie che caratterizzano tali imprese. L'indagine, che è stata realizzata attraverso 130 interviste a imprese etniche localizzate nelle province di Parma e di Bologna, fornisce evidenze descrittive sostanzialmente coerenti con risultati da tempo consolidati nella letteratura di riferimento (Tab.1).

In primo luogo, la distribuzione della numerosità delle imprese etniche per provenienza geografica può delineare un quadro non dissimile dalle struttura della popolazione immigrata in Italia. Inoltre, il grado di scolarizzazione degli imprenditori alla guida delle imprese etniche considerate risulta molto alto: quasi il 50% degli intervistati ha conseguito un titolo di studio di scuola secondaria superiore con un curriculum di cinque anni e più di un terzo è in possesso di una laurea. Infine, occorre sottolineare un aspetto importante: per fare impresa al di fuori della propria comunità di origine è fondamentale la conoscenza della lingua locale e la possibilità di comunicare senza barriere significative con i potenziali clienti. In altre parole, è importante capire se le impree etniche siano sostenute da una effettiva conoscenza della lingua italiana. I risultati ottenuti (di nuovo in Tab. 1) mostrano che oltre metà degli imprenditori immigrati intervistati parla italiano in modo più che soddisfacente.

Tab. 1 - Statistiche descrittive relative agli imprenditori immigrati intervistati.

	% su tot. imprese	Nr. Imprese
Genere intervistato/a		
Maschio	67,7	88
Femmina	32,3	42
Area geografica di origine		
Est Europa	29,2	38
Asia e Medio Oriente	26,2	35
Africa	35,4	46
America Latina	8,5	11
Titolo di studio		
Nessuno o scuola primaria	1,5	2
Scuola m. superiore (profess. – 3 anni)	13,1	17
Scuola m. superiore (liceo/college)	20,8	27
Scuola m. superiore (istituto tecnico - 5 anni)	28,5	37
Laurea	36,2	47
Competenza linguistica		
Non parla bene Italiano (1)	1,5	2
(2)	16,2	21
(3)	40,0	52
Parla Italiano in modo fluente (4)	42,3	55

Fonte: elaborazioni su risposte interviste ad imprenditori immigrati – Univ. Parma – anno 2012.

Per comprendere ulteriori elementi legati alle esperienze degli imprenditori immigrati intervistati, è utile fare riferimento ad un ulteriore insieme di caratteristiche descrittive riportate nella Tab. 2. Innanzitutto, è degno di nota il fatto che i dati raccolti fanno riferimento ad un campione di imprese composto in larga misura da ditte individuali (quasi il 60% del totale), ma sono sono stati intervistati anche i titolari di società. Per questi ultimi si tratta, quindi, di una forma organizzativa di maggiore complessità e di notevole interesse nella prospettiva di cambiamento.

Secondariamente, si può osservare che in almeno un terzo dei casi l'impresa è stata fondata o acquisita da un gruppo di soci e non da un singolo individuo. Ciò conferma che l'impresa etnica sta articolando e differenziando i propri percorsi evolutivi assumendo modelli organizzativi più complessi sul piano imprenditoriale-manageriale di quelli tipici delle soluzioni di *self-employment*.

Tab. 2 - Statistiche descrittive relative alle imprese etniche.

	% su tot. imprese	Nr. Imprese
Forma societaria		
Ditta individuale	59,2	77
Società	40,8	53

Fondazione dell'impresa		
Fondata da solo o acquistata da solo	63,1	82
Fondata con altri soci	23,8	31
Acquistata con altri soci	11,5	15
Ereditata	1,5	2
Età dell'impresa		
Minore o uguale a 5 anni	54,6	71
Da 5 a 10 anni	20	26
Da 10 a 20 anni	18,5	24
Oltre 20 anni	6,9	9
Nazionalità dei clienti (valori % medi)		
Stessa nazionalità imprenditore	12,8	-
Italiana	72,6	-
Altre nazionalità	15,4	-
Nazionalità fornitori (valori % medi)		
Stessa nazionalità imprenditore	7,8	-
Italiana	78,3	-
Altre nazionalità	13,8	-

Fonte: elaborazioni su risposte interviste ad imprenditori immigrati – Univ. Parma – anno 2012.

In molti casi, l'avvio dell'impresa per gli immigrati non risulta essere un fatto contingente o la reazione ad una situazione temporanea, ma l'esito conclusivo di una lunga fase di inserimento nel territorio e nel paese di destinazione. Dalle interviste raccolte in questa indagine, emerge come la maggioranza delle imprese (il 54%) segnali un età di costituzione molto bassa, inferiore o uguale ai cinque anni. Solo una su quattro risulta attiva da oltre dieci anni.

L'integrazione con la realtà locale è evidente se vengono analizzati alcuni aspetti delle politiche commerciali adottate dalle imprese intervistate. Lo stereotipo dell'impresa etnica che si rivolge prevalentemente, se non esclusivamente, ai propri connazionali o si orienta a soddisfare essenzialmente la domanda proveniente dalla popolazione immigrata, non trova riscontro nei dati raccolti. Si osserva una propensione marcata verso la domanda *mainstream* e si osserva che i prodotti e i servizi sono destinati prevalentemente alla clientela italiana (ancora in Tab. 2). Ed è significativo anche che per le imprese etniche considerate quasi l'80% dei fornitori sia rappresentato da italiani. E' vero che in termini di valore gli acquisti realizzati presso fornitori connazionali risultano di entità non trascurabile (quasi l'8% del totale), ma questo dato non sembra sufficiente a suggerire una particolare focalizzazione degli scambi a favore dei mercati di origine. In sintesi, si può ipotizzare che le filiere in cui si collocano le imprese etniche analizzate nel presente lavoro presentano una propensione allo sviluppo di scambi con mercati esteri non elevata, mentre sono in grado di operare in modo integrato con la struttura commerciale delle imprese italiane.

Le principali motivazioni per l'avvio dell'impresa sono: la ricerca di autonomia, indipendenza e soddisfazione per il lavoro e la voglia di valorizzare le proprie competenze. I principali punti di forza che gli imprenditori immigrati considerano rilevanti per la loro attività sono la migliore qualità dei prodotti e servizi offerti rispetto ai concorrenti, i migliori servizi offerti (es. assistenza post-vendita) e, infine, le buone relazioni con i clienti italiani. I principali punti di debolezza che essi hanno indicato sono i costi di gestione, le insufficienti risorse finanziarie e le difficoltà nelle pratiche burocratiche e fiscali.

Anche se lo studio non aveva come obiettivo la valutazione degli effetti della grave crisi economica, è stato proposto il seguente interrogativo agli imprenditori immigrati: "Secondo Lei, quale è la probabilità (da 0% al 100%) che questa Sua impresa sia ancora attiva tra 3 anni?". Secondo le risposte fornite, quasi il 60% degli intervistati si dichiara fiducioso e prevede che la probabilità di superare la crisi sia molto elevata per la propria impresa.

QUALI STRATEGIE, COMPETENZE E COMPORTAMENTI PER LE IMPRESE ETNICHE?

Nel complesso, dal nostro lavoro emerge una rappresentazione dell'imprenditorialità immigrata più composita di quanto non appaia negli studi precedenti. Innanzitutto, l'impresa etnica, non utilizza in modo esclusivo risorse della comunità di origine, ma appare in grado di accedere alle opportunità fornite dai mercati *principali* (cioè i mercati in cui sono presenti sia consumatori immigrati che italiani) e dalla comunità autoctona.

Come accade per gli imprenditori italiani, la spinta alla costituzione dell'impresa è collegata al desiderio di autonomia e di indipendenza personale ed è sostenuta dal desiderio di autorealizzazione professionale e di valorizzazione delle proprie competenze e attitudini. Inoltre, le motivazioni che vedono la scelta imprenditoriale come ripiego (rispetto ad un lavoro dipendente) o come reazione alla condizione svantaggiata di immigrato sono presenti, ma non prevalenti. Poi, le scelte imprenditoriali sembrano meno condizionate dai legami con la comunità di origine rispetto a quanto previsto nella letteratura.

In sintesi, una parte delle imprese analizzate appare coerente con i modelli tradizionali che legano fortemente l'impresa etnica al *network* sociale di appartenenza dell'imprenditore che l'ha fondata, mentre una quota relativamente ampia di imprese etniche, invece, trova corrispondenze solo parziale in questo quadro concettuale.

ORGANIZZAZIONE E IMPRESA ETNICA: L'IPOTESI DI "IBRIDISMO CULTURALE"

Le evidenze raccolte mostrano che, all'aumento della complessità organizzativa e alla varietà delle strategie adottate, cresce anche l'apertura dell'impresa a soggetti (clienti, fornitori, soci, dipendenti) provenienti da comunità diverse da quelle di origine dell'imprenditore. Si è scelto di utilizzare il concetto di 'ibridismo culturale' per descrivere le imprese gestite da soci di diverse nazionalità o in cui lavorano dipendenti non-coetnici. Il risultato è che le imprese connotate da ibridismo culturale non sembrano mostrare strategie e comportamenti riconducibili alla fragilità e alla marginalità.

Le imprese con connotazioni "ibride" risultano caratterizzate da un orientamento molto marcato verso il consumatore italiano e da una offerta di prodotti e servizi non-etnici ad una popolazione di clienti in prevalenza non co-etnica. Tali imprese, inoltre, dopo la fase di *start up*, hanno ricevuto un supporto esplicito da amici e conoscenti italiani e da consulenti e professionisti. Figure, queste, esterne alla comunità di origine e derivanti da legami sociali e contatti sviluppati in Italia nel corso del tempo. Infine, le interviste presso le imprese "ibride" hanno permesso di evidenziare una migliore conoscenza della lingua italiana rispetto alle altre imprese gestite da immigrati.

Le imprese 'ibride' nel campione analizzato risultano essere più del 30% del totale (Tab. 3). Si nota che tali imprese 'ibride' hanno una età media (circa 10 anni) superiore al valore medio delle imprese intervistate (circa 7 anni). Inoltre le imprese "ibride" risultano maggiormente orientate verso una offerta di prodotti e servizi non-etnici per una popolazione di consumatori in prevalenza non co-etnica. Infine, una quota molto elevata (quasi 80%) delle imprese 'ibride' ha dichiarato di aderire a qualche forma volontaria di associazionismo.

Tab. 3 - Classificazione delle imprese etniche: l'ipotesi di ibridismo culturale.

Tipologie di imprese	**Nr.**	**% su totale**
Ibridismo culturale nullo	80	61,5
Ibridismo culturale limitato	26	20,0
Ibridismo culturale elevato	24	18,5
Totale	**130**	**100,0**

Fonte: elaborazioni su risposte interviste ad imprenditori immigrati – Univ. Parma – anno 2012.

In conclusione, possiamo affermare che l'impresa etnica sta diventando, non soltanto una importante realtà economica, ma anche un nuovo fulcro di scambio e di integrazione tra individui appartenenti a diverse comunità e depositari di relazioni e conoscenze molteplici e stratificate. In questo senso, l'impresa etnica deve essere considerata un fattore importante per la coesione sociale nel nostro paese.

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IMMIGRANT WOMEN AND ENTREPRENEURSHIP: STRATEGIES OF DEVELOPMENT AND FORMS OF TRANSNATIONALISM

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ABSTRACT

The goal of this work is to explore the development of the entrepreneurial career and the transnational ways of living of 28 immigrant women. The role of the family and the different use of the ethnic resources bring to different career paths. These differences are also evident in the transnational activity, which is mainly of an economic nature and linked to the company. The company also benefits from the different cultural background of the owner. Some companies, in fact, arise from the desire to take advantage of their different cultural background, turning their passions and skills in economic activity, while other follow a more traditional path, which not necessarily include the use of ethnic resources. In addition, attention to the country of origin is also visible in the social engagement, which also moves parallel on two fronts: that of the host society and the one of society of origin. While, on the one hand, there is a desire to help other immigrants to deal with the daily problems that arise in the Italian context, on the other hand some women develop afterwards the wish to do something for those who remained in the country of origin. In this case, visibility, contacts and skills acquired in the course of the business are of particular importance and facilitate the success of transnational projects.

FEMALE IMMMIGRANT ENTREPRENEURSHIP

The attention towards female migration is quite recent [1]. This delay was motivated primarily in two ways. In general, even when the female migration is independent, it is mainly due to economic reasons [2], as in the case of men, and therefore it is believed that the differences between men and women are not such as to require a specific theory. In fact, family reunification or departure to form a new family in the context of immigration are for women frequent reasons for emigration [3]. In addition, other authors have emphasized the role played by the search for greater freedom and by the desire to escape from an overly patriarchal society [4] as well as by the fact that, in the context of immigration, women are able to improve their status [5].

If several authors have noted the marked asymmetry in the attention paid to migrant men compared to women's migration, it is not surprising that this asymmetry is even greater when we narrow the field to the study of entrepreneurship. The interest towards (male) immigrant entrepreneurship has produced over the last decades many works (see, among others, [6] [7] [8] [9] [10]) about the motivations encouraging migrants to choose self-employment, the different rates of entrepreneurship in different ethnic groups, the role of human and social capital (family and ethnic ties).

Given the wideness of the studies on the subject, we will here focus our attention on those aspects that also affect women's entrepreneurship, in order to be able later to highlight their peculiarities.

For example, the vacancy chain theory [11] suggests the existence of a substitution mechanism such that the most disadvantaged in the labour market tend to fill positions vacated by those who have the opportunity to choose the most profitable and prestigious occupations. In this case, immigrants penetrate and occupy progressively (both dependent and independent) heavier, less paid and precarious jobs (as defined also by [12]). In self-employment, immigrants often occupy market niches related to activities that require low skills and long working hours, such as small shops, bars/restaurants, or small firms of packaging in textile sector, or become small carriers or self-employed in construction.

Even the blocked mobility theory (for example, [13]) suggests that self-employment for immigrants represent a valid alternative to the underemployment of dependent workers or even a response to unemployment.

Other elements to be considered in the study of immigrant entrepreneurship are the role of ethnic and family ties and human capital. While the theory of Aldrich and Waldinger [6] emphasizes the role of the ethnic community, other authors [7] emphasize the importance of human capital and distinguish between community ties and ethnic and familiar ones [14]. The first, in fact, although potentially useful to start the activity, may later become an obstacle to the growth and the company's expansion beyond the ethnic context of reference. The latter, however, are useful in any case, helping to provide the initial capital and labour at low cost. This second aspect is less relevant when referring to tasks that require specific skills and qualifications. Overall, though, the difference in the level of family intervention in the enterprise is an aspect that helps to differentiate between immigrants, both male and female.

Finally, some authors have criticized the structuralist explanations, emphasizing instead the role of free will and conscious decision of immigrant entrepreneurs who "take control over their own lives and do not only appeal to ethnic and class resources [...], but also to experiential and motivational resources" [10, p. 394].

In this brief literature review, we cannot forget the few studies concerning female immigrant entrepreneurship. In some research, with a structuralist approach, the gender variable is just one of many used to detect any inter-group differences in the profile of immigrants [14] [7] [8]. Overall, the most important results that emerge from this body of research is that, with rare exceptions, the propensity to entrepreneurship is higher among unmarried women. Other studies use a qualitative approach, which highlight the important role played by immigrant women in the ethnic economy [15], their decision to pursue self-employment to find a better balance between work and family, as well as to earn more money [16]. Self-employment also provides a greater gain compared to being an employee, generally of low-level [17]. Finally, according to Lunghi [18], female enterprise is typically the implementation of a specific project aimed to give up unskilled work to create a more creative activity, which ensures greater personal satisfaction.

FORMS AND PERSPECTIVES OF TRANSNATIONALISM

The search for a higher gain and/or greater personal satisfaction are also important motivations to undertake a transnational activity, in the economic, political and/or socio-cultural field.

Strictly speaking, the concept of transnationalism has been used in recent years to indicate “occupations and activities that require regular and sustained social contacts over time across national borders for their implementation” [19]. In reality, that of Portes *et al*. is just one of the many definitions of this concept, which emphasizes the presence of regular and sustained, then "empirically verifiable", activities [20]. This definition severely limits the scope of the concept of transnationalism, since, as also admits Ambrosini [21], the majority of migrants are settled and transnational activities are usually occasional. However, it is a clear definition, which helps to perceive transnationalism as something new thanks to the intensity and frequency of these exchanges. In fact, a criticism to the concept of transnationalism is that it does not actually describe a new phenomenon, as transnational ties have always been part of international migration [22].

Another way to respond to this criticism is to consider transnationalism not a new phenomenon, but a new perspective. Guarnizo [23] speaks of 'transnational living', i.e. cross-border relations of social, cultural, political and economic nature that emerge from the migrants determination to maintain and reproduce in the host country their social environment of origin. The transnational experience is very close to the concept of 'bifocality' used by Vertovec [24], which defines the two points of view in which migrants live and define their own identity, but that does not necessarily translate into verifiable activities [21].

This step is crucial to connect with the other line of studies on transnationalism, the anthropological one [25] [26] [27]. In this perspective, focus is on the roots of the migrant in different social and territorial contexts, its belonging to transnational 'social fields', or to a set of social relationships multiple, interdependent, through which ideas, practices and resources are exchanged. Levitt [27] makes it clear that to be part of these fields, individuals do not need to move physically between borders, but it is sufficient communication, the transfer of ideas, the comparison between different ways of belonging. It is no coincidence that Levitt and Glick Schiller [25] suggest the distinction between ways of being and ways of belonging. Only the first refer to concrete and empirically verifiable activities, while the latter refers to the conscious definition of their own identity and belonging.

The emphasis on belonging and identity are useful to clarify the relationship between transnationalism and assimilation. In the traditional assimilation view, in fact, the links with the country of origin were treated with distrust by the hosting one, who suspected the migrant of 'double loyalty' [21]. On the contrary, the protagonists of social and political transnationalism are in fact mainly stable and integrated immigrants [28] [5]. This aspect was important in our decision to investigate the transnationalism of immigrant entrepreneurs, as those who have taken the path of self-employment are resident for some years in the host country and rarely plan to go back home [29] [30]. The acquisition of economic stability and, in many cases, a good level of integration in the host country, could enhance the interest in establishing economic ties with the country of origin not only through business activities, but also through investment projects and development of local communities, which contribute to the visibility and symbolic power to immigrants [31].

These investment projects in the country of origin are one of the possible forms of transnational activity. They are usually developed by groups of immigrants (the so-called HomeTown Associations, HTA), which are also responsible for advocating the rights of minorities and to give visibility to local problems [32] [21]. Apart from this form of political transnationalism, others are less relevant in our research, like the actions taken by International NGOs, which nevertheless in some cases seem less effective than informal initiatives [33].

The political activity of this type of association intertwines with the economic one, i.e. investments in terms of infrastructure and public goods designed to improve the quality of life of the communities of origin. Although this form of economic transnationalism is undoubtedly interesting, these initiatives, at least in the Italian context, are still sporadic. Another type of economic transnationalism, for us the most important, is that of entrepreneurial activities. The growth of immigrant communities promotes the formation of ethnic businesses that provide goods and services to their community, importing or anyway maintaining ongoing and regular ties with the country of origin [34] [23]. From the

business point of view, many activities undertaken by immigrant businesses are 'open' [12] but there are some areas of the economy where more properly 'ethnic' businesses are growing and in which, as we show in this paper, national or 'ethnic' belonging is fundamental to the entrepreneurial activity. In general, cultural transnationalism is promoted at various levels: through participation in voluntary associations and cultural activities [35] and through the maintenance of certain traditions and customs of the culture of origin, encouraging the construction of a multi-faceted identity sometimes difficult to detect empirically [28] [37]. Fully connected to cultural transnationalism is symbolic transnationalism, "that does not import goods, or it does so only on a side basis, in order to reconstruct atmospheres, environments and meanings" [36, p.20]. However, in the present work, we find few example of this type of economic-cultural activity. From this point of view, more important are activities that the interviewed women entrepreneurs undertake in their spare time, through more specifically socio-cultural initiatives.

DATA AND METHODS

This work on immigrant entrepreneurs is part of a more general research on the national profile of immigrant entrepreneurs, which used as a method of data collection a semi-structured questionnaire. Among the topics addressed in the questionnaire, there are family background, pull and push factors in migration, job career, economic situation of the company, social and associational networks, economic transnationalism.

Often, the selected sectors and nationalities have made the presence of women entrepreneurs unlikely. For this reason, in order to obtain a sufficient number of cases to focus on women, 7 more questionnaires were administered to women immigrant entrepreneurs operating in the province of Milan, without any selection concerning nationality or sector, because of the difficulty in finding them. To these 7 entrepreneurs, as well as to the 3 successful women entrepreneurs, always operating in the province of Milan (see note 2), in addition to the semi-structured questionnaire, we asked some open-ended questions, mainly aimed at understanding the difficulties faced by respondents as a woman and as an entrepreneur. The questions covered the following topics: reasons for the decision to start their own business, benefits of entrepreneurial activity for balancing work and family, or discrimination faced difficulties as a woman and / or as a foreigner, and any other activities - associations, cultural - carried out in their spare time.

The theme of transnationalism, therefore, only concerned their business. However, during the interviews, there were numerous references to other forms of transnationalism, both 'political' and cultural. The bifocality and belonging to transnational social fields by migrants emerge in various forms in our research, which will be analysed in the next paragraphs.

Instead, we start now to present briefly some of the characteristics of the women interviewed. As you can see by looking at the summary table in the appendix, apart from the Chinese - with one exception – that all work in the textile and leather, in the other cases we have a great variety of activities carried out, although most relate to trade and services. In addition, there are many nationalities represented. Despite this diversity, there are many elements that these women have in common in their experience of life and business management.

A first interesting fact is that the interviewed women are in Italy since several years, almost 16 on average. It is therefore a group of people that has already passed the early stages of migration and has already reached a certain stability, not only economic, but presumably also from the point of view of integration in the social context. This is especially true for the women interviewed in the province of Milan, which show good knowledge of the language and, in 6 out of 10 cases, they also have Italian citizenship, while all the other interviewees are foreign citizenship. Moreover, half of the respondents have a diploma or a degree. It is generally among these people, as shown in the literature, that transnational activities should emerge more frequently [23] [21].

FAMILY, CAREER AND REASONS FOR BEING AN ENTREPRENEUR

In this section, we focus initially on the role of the family in business development, as well as on the constraints and opportunities offered by the family in business management. In fact, as frequently shown in literature, the presence or absence of the family in Italy often contributes in shaping the relational and economic context in which female (and male) immigrant entrepreneurs move. First, 24 out of 28 interviewees have one or more children, 21 are married or cohabiting. No wonder, then, that more than two thirds of the respondents have asked for help and advice to their families in the daily management of the company and in the recruitment of workers and funds necessary to start and run the business. Less frequently, on the other hand, the people who women have asked for help and advice are Italian (about half of the respondents citing them in their contacts), while only a third of the women entrepreneurs have in their contacts of non-relatives compatriots. The contacts with Italian rather than with family members in the social networks of respondents varies greatly depending on nationality. In fact, while only 2 out of 11 Chinese do not have family members in their network, a third of other entrepreneurs (6 of 17) do not have family members among their useful contacts for business management. Similar differences also concern to their compatriots. Conversely, while only 3 out of 11 Chinese have useful contacts with Italians, more than half of the other entrepreneurs (9 out of 17) have significant contacts with Italians. Some of the women interviewed in Milan have highlighted the dynamic role that Italian friends have played at the beginning of the business: "*And is there anyone in particular who has supported this process of*

gaining a good reputation? Yes, there are. Italian friends. That pushed me. In fact, I could say that they were very important because in the beginning I had not this confidence that I would be successful. They encouraged me a lot "(M9). Another one: "*Who gave you the most support? There was a dear friend of mine [...]. He already knew I was doing odd jobs and was looking around when I was not working for the cleaning company, to earn more [...] Then he saw that I was doing all of this work without an invoice, and said: "A., Look, it's the moment. If you want I will speak with an administrator and so you begin" So, with a lot of fear - but he gave me so much strength - I started my business* "(M7). Instead, this is the point of view of a Chinese on the relationship with the family and compatriots: "*It is normal I feel better with Chinese, there are fewer problems with the language and then also privacy is important so I prefer to work only with relatives*" (C10).

The family at various levels has some importance also in the reasons that have led women to start their business. In three cases, other relatives had already started the entrepreneurial activity and, therefore, the interviewee only participates to a wider entrepreneurial project. In another case, the activity started on the advice of the partner. Among the secondary reasons for beginning the activity, respondents mentioned the desire to follow the family traditions, the need to be closer to the family and get a job for family members. The influence of the family, although not negligible, is secondary to the desire to earn more money (mentioned by 9 respondents as main reason and by 5 as secondary) and the desire to enhance their skills and competences acquired (referred to as main reason by 6 women and as secondary by 11). However, it could also be linked to the need to have a more regular work (referred to as main reason by 7 respondents and, secondly, by 2). The desire for a more regular work can also be interpreted as an expression of the wish to get out of underemployment, as well as - after all - the desire to see enhanced their skills and expertise. In two cases, moreover, women mention the aspiration to less strenuous work and, in one case, as a secondary reason, it is recognized that business activity represented an alternative to unemployment. The theory of blocked mobility seems to get an acknowledgement from our interviews.

The reference to the enhancement of their capabilities and skills and the desire to work more regularly prompts us to wonder what career paths the women interviewed followed before starting their entrepreneurial activity.

First, only 16 women out of 28 had worked in their country of origin, therefore almost half of the women have only the working path in the host country. Since the working career, as well as the business activities, are too different to be examined in detail in a synthetic way, we built a typology that summarizes the most significant features, while also taking into account what has already appeared in the literature (contribution of family, degree of 'ethnicization').

The first group, the biggest one (10 women, all of them Chinese), includes women who in Italy have worked almost exclusively by relatives or fellow citizens. Their jobs were somehow connected to the future company (for example, in the textile industry) or occupations in contact with customers who favoured language learning (ex. waitress) and who later opened a business in the apparel or leather sector, often with the help of a spouse or other family members. Thus, the career path ends with an ethnic family business in sectors with high foreign presence (*vacancy chain family path*).

The second group (3 Moroccan women) differs from the first only by the fact that women have previously worked for Italian and have little or no previous experience in the sector of their entrepreneurial activity. The random career path ends with a company in sectors with high foreign presence (*vacancy chain random path*).

The third group (3 Senegalese women and one Ecuadorean) had a career path in foreign-dominated sectors (such as peddler or anyway self-employed) and also run an entrepreneurial activity aimed at co-ethnic or other foreigners. So this is the path most closely ethnic (*ethnic business*).

The fourth group (5 women, different nationalities) is instead composed of women who have managed to maintain or return to the profession they performed at home or turn a hobby that they had for many years in a business. These entrepreneurs most valued the skills and competences they acquired (*creative enterprise*).

The fifth group (4 women, different nationalities) is made up of women who, after several experiences, have invested in a business in the open market, generally alone or - in one case - with the Italian partner and, consequently, their identity nationality is neither shown nor valued, and could even be a disadvantage (*unidentified company*).

Finally, the last two women, with higher education and that in Italy were able to get clerical jobs, decided to exploit, in the context of their own business, their being a foreigner. In fact, working together with other foreigners, they offer services to Italian public organization or private subjects to improve their knowledge of cultures other than their own (*bridge or intermediary business*).

Regarding the companies in the first, second, and, in part, the fifth group, we find a path of ecological succession, while the third and last group benefited from new business opportunities offered by the growing presence of foreign immigrants.

If these two groups can be considered to be those that best exemplify the situation of bifocality and transnational ways of belonging, in reality transnational ways of being of the interviewed women are multiple and do not only concern the economic field, even if we will start right from the latter.

ECONOMIC TRANSNATIONALISM

From the economic point of view, our research has shown a reasonable level of transnational relations, especially with the country of origin, but also with other countries. Most important are economic ties with the motherland. In fact, about one-third of the respondents (8 of 28) said they entertain business relations with the country of origin. Seven

women buy products in the country of origin and resale them in Italy. Among these, we find an owner of a deli that also sells kebab, a Chinese pastry and a hairdresser. In these cases, the goods are purchased at the country of origin to ensure the authenticity of the product, both when the customers are mainly Italian, and, as in the case of the hairdresser and the Chinese pastry, when the customers are both Italian and foreigners. The authenticity of the product allows attributing a specific cultural identity even if, at least in the case of kebab, this identity has become increasingly globalized and artificial, and has lost much of its original connotation [39]. Adapting the typology proposed by Ambrosini [21] [36], we could define this category as symbolic transnationalism based on authentic products. The strategy of these companies is the originality, regardless of the quality of the product or service. This originality appeals to the Italians, but also to compatriots and foreigners in general, just because the authenticity of the product can satisfy the one and the other.

In other cases, entrepreneurs purchase the products in the country of origin, or commission semi-finished products, as in the case of clothing and leather goods intended to be sold in the shops of Chinese import-export. In fact, even if some of the Chinese entrepreneurs purchase in Italy from Chinese wholesalers, most entrepreneurs prefer to maintain direct relationships with their country, in order to reduce transaction costs. Two entrepreneurs follow the production and commission in details the types of goods to be produced. In this way, they can gain a competitive advantage compared to the Chinese who simply buy their goods from wholesalers, tending to sell products very similar to each other. Instead, these women seek to maintain their own specificity and originality, always trying to take into account the demands of the market. This is a competitive merchant transnationalism (even if the products are not 'ethnic'). Since the products marketed are often similar and primarily aimed at low-end market segments, competitive advantage is given by the speed and flexibility in the identification of specific customer preferences.

Finally, another example of economic transnationalism is that of M., an Ecuadorian entrepreneur, and owner, together with another woman compatriot, of a travel agency, which is also money transfer and which recently has started as real estate agent. This business has developed following the requests of compatriots, who increasingly want to invest their earnings in the purchase of real estate in the country of origin. However, customers are not only compatriot, but also immigrants from other South American countries. In the interview, M. stressed the importance of her very good reputation among customers, consolidated thanks not only to her efficiency, but also to her ability to listen to customers, their stories and their everyday problems. She said, jokingly: "*We always say that we should buy more uncomfortable chairs, because people are here for hours and do not go anymore. This gave me a good reputation. Once I have also received a call from Spain to see if I could provide a cheaper ticket, and I did. They call me and trust me only by word of mouth, even though they have never seen me*"(M5). The good reputation allows her to operate on a transnational level not only with her country of origin, but also with clients (compatriots) residing in other European countries. It is here an example of connective transnationalism, which, however, has found its own peculiarity in the real estate business.

The economic activities outlined above are transnational ways of being, and are also regular and long-lasting activities, as well as empirically documented, which can be included in the narrowest definition of transnationalism.

It is not always the case, however, for the transnational activities that we will discuss in the next section.

CULTURAL TRANSNATIONALISM AND SOCIAL ENGAGEMENT

Some of the activities undertaken by the interviewed women have a strong cultural connotation, so we can speak of cultural transnationalism even if there are no concrete business ties with the country of origin. For example, some food services, unlike the kebab restaurant mentioned above, do not buy outside Italy the raw materials they need.

First, in our sample there are three food services run by Senegalese women. These activities are 'informal', designed primarily for compatriots. It is important to note that Senegalese immigration in Italy is predominantly male, although the female presence is growing [34]. There are still many Senegalese leaving their wife and children at the country of origin, where they spend several months a year anyway. When they are in Italy, these food services represent important gathering places, where they spend their free time with friends and family finding familiar flavours and atmosphere, typical of their country. The fact that the food services are 'informal' and are addressed primarily to their compatriots (even if one of the Senegalese women said she has also Italian and Bangladeshis customers), allows for greater flexibility with respect to compliance with the rules of hygiene and formal requirements required by Italian bureaucracy. This helps to keep costs down, but also gives a sense of insecurity and uncertainty (they would be forced to close or to pay fines if the authorities would inspect them) and limits their ability to attract a larger and varied customer base, as they do not advertise their activities, but rely only on word of mouth. In any case, the current activity, as well as representing a connection with their culture of origin, has made it possible for these women to terminate their previous work as street vendors. In addition, this type of activity does not require special training, since the women interviewed draw only on their culinary skills.

A similar case is that of H., a Moroccan woman who runs a deli in Turin directed both to Italians and to compatriots. The business strategy here is to offer local products to Italians and Moroccan products to compatriots, so that both can find their own traditional foods. This choice, therefore, is opposite to that of the owner of the deli kebab viewed in the previous paragraph, since while the latter turned to Italian customers betting on the product exoticism, H. instead has chosen the path of tradition and familiarity.

A mix of familiarity and exoticism provides the Senegalese hairdresser, who addresses to foreign women (co-nationals or not) and Italian ones, suggesting her country's traditional hairstyles (braids, etc.). The possibility to appeal to a Italian clientele is also an effect of the increased visibility and regulation of its activity, which currently run a real store, while before the activity was run in her house. Instead, G. has mainly focused on the exotic charm of customs and traditions others than their own, as she owns a school of belly dance with an Italian clientele.

The activities discussed above are linked to symbolic transnationalism in a broad sense and, in these, economic elements and marketing strategies intersect with cultural values and identity. Among them, we find a typical ethnic business (Senegalese food service), next to an expanded ethnic business (the hairdresser), open business (gastronomy) and an exotic one (belly dance), according to the typology proposed by Ambrosini [12]. However, this is a symbolic transnationalism closely connected with the entrepreneurial activity, a transnationalism then mostly weak, because it is rarely connected to a regular and constant exchange with the country of origin. However, in many cases, this transnationalism allows the interviewed women to enhance their identity and their ethnicity. Apart from this option, there are few entrepreneurs who engage in social, political or cultural activities that can be transnational, even in the broadest sense of the term, that is to re-define identity and belonging in a bifocal perspective that takes into account the dual context, the country of origin and of immigration. Among our respondents, five promote cultural or socio-political trans-national activities.

Owner of a beauty salon, S. in her spare time organizes events with the support of the belly dancing school where her daughter works, that is owned by Italians. These events, a mix of competitions and performances by famous artists in North Africa, represent to S. not only an additional income, but also the possibility to introduce an important aspect of their culture that has always been a great passion for her. Among her future projects there is a greater investment in these cultural initiatives, in the hope of being able to transform it into a real work, shifting from a job that has no cultural connotation linked to her country of origin to one rather strongly marked in this sense.

D., in Italy since 1993, is the chairperson of a cultural mediation cooperative company, which employs both foreigners and Italians. Through this activity she has managed to tighten ties with local associations and institutions in the area. These ties have been useful for a project that she has pursued alongside her business. It is a program of education and development for women resident in her country of origin, aimed at encouraging a process of empowerment of women and awareness of their rights in a society still deeply patriarchal [40]. The first goal is to build a house of culture, health and labour for women with the help of the Italian institutions and some NGOs. D. has followed this project as part of her associative activity. She is the president of a cultural association of compatriots. Thanks to the visibility and the social capital built while running her business, D. was able to help her fellow citizens in the dual context where she moves, that of the host country and that of the country of origin. Her intervention in the country of origin, however, is the result of a social commitment beside her job, even if it is in the working environment that the necessary conditions to carry it forward have developed.

A similar pattern can also be observed in the activity of L., a member of a cooperative cleaning company that is also responsible for a multi-ethnic catering service (further example of an enterprise of exotic and symbolic transnationalism) and president of an association that assists women who want to obtain recognition of their qualifications in Italy. In addition to social commitment with the immigrants in our country, also L., which has been in Italy since 1975, in more recent years has turned her attention to the country of origin. In this regard, she founded, along with other fellow compatriots and some Italian, a twinning committee with her city of origin that promotes exchanges between teachers and social workers of the two countries to help them better manage students at risk of social exclusion, developing specific and targeted approaches [40].

A., a Filipino woman married with an Italian man that runs a café, in her free time is member of an Italian association that gives legal assistance to immigrants. Moreover, she is member of the Women Federation for World Peace, which works for the empowerment of women all over the world.

Finally, M., the Ecuadorian entrepreneur who, with her travel agency and real estate represents a case of economic transnationalism, is also active from the cultural point of view. Her commitment aims to raise awareness of the conditions of discrimination and inequality that Ecuadorean women experience both in the country of origin and in the host country. For the moment, this commitment addresses especially to seek improvement in the condition of the Ecuadorians in Italy, in marital relationships and with their children, while there are no measures to help women residing in the country of origin. M. dedicates to this activity as member of a cultural association of compatriots. The lack of involvement of M. in properly transnational actions from a social perspective in support of women in her country of origin, beside the economic one already seen, may be due to different reasons: her relatively recent arrival in Italy (in 2000), her being the single mother of a small daughter (while D. and L. do not have children, and S. and A. have adult ones) with therefore less free time and, more importantly, the still temporary prospect of her migration project, which is still aimed to return to her country of origin.

FINAL REMARKS

In most cases, the business path of immigrant women does not deviate - in its main features - significantly from that of men. Most entrepreneurs seized - often as part of a shared family project - the opportunities offered by the vacancy chain or by niche sectors more closely ethnic. Nonetheless, reasons related to the family appear to be

particularly relevant. In addition, some women have been able to use in an original and successful way their creative skills that sometimes, in the country of origin, were not more than hobbies. In other cases, finally, the entrepreneurs have taken advantage in their own business of the opportunities resulting from their bifocality, participating in a sort of cultural transnationalism.

Overall, the area where there is greater transnationalism is the economic one. This may seem obvious considering the fact that we interviewed women entrepreneurs, in many cases Chinese, but thanks to this research, we have better defined the different exchanges of transnational goods, services and information. In addition, many of the activities do not have real ties with the motherland, but merely to import atmospheres and cultural traditions.

Finally, of particular interest seemed to us the social commitment of some of the interviewed women, both in the Italian context and in the country of origin. In both places, this effort is dedicated primarily to women and it is this aspect that is most influenced by the gender identity of our respondents, together with the almost total absence of a strictly political connotation in their transnational action. The transnational social commitment is more recent than that to immigrant women (compatriots or not) in Italy and it is conceivable therefore, that in the coming years we will see a growth of this phenomenon, as is already the case in several countries, where immigration is less recent.

Finally, it is likely that the different levels of transnational activity depend on the different institutional and social contexts of the countries of origin and the different levels of interest and ability of the different countries to attract and encourage this type of initiatives, which also move to a local, not national, level. We hope to explore this aspect in future research.

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APPENDIX – The interviewed immigrant women entrepreneurs

Int.	Prov.	Nationality	Activity	Age	Citizenship	Marital status	Chld	Arr. in IT	Education	Cohabit.
M1	MI	Egyptian	Café	49	Also Italian	Married with Egyptian	2	1984	Univ. degree	3
M2	MI	Egyptian	Belly dance school	48	Also Italian	Widow		1984	Diploma	2
M3	MI	Moroccan	Beauty centre	50	Also Italian	Married with Egyptian	2	1984	Univ. degree	3
M4	MI	Ecuadorean	Tailor's shop	43	Ecuador	Divorced	2	2000	Diploma	2
M5	MI	Ecuadorean	Travel and real estate agency	33	Ecuador	Single	1	2000	Short degree	1
M6	MI	Chilean	Cleaning/catering service	64	Also Italian	Divorced, living with Italian	no	1975	Univ. degree	1
M7	MI	Colombian	Cleaning company	45	Also Italian	Divorced	2	1991	Univ. degree	0
M8	MI	Romanian	Shoes and accessory design	32	Romania	Single	no	1998	Short degree	0
M9	MI	Albanian	Cultural mediation	50	Albania	Single	no	1993	Master	1
M10	BG	Filipino	Café	55	Also Italian	Married	1	1977	Diploma	2

						with Italian				
T1	TO	Moroccan	Grocery stall	46	Morocco	Married with Egyptian	2	1994	Diploma	3
T2	TO	Moroccan	Deli	35	Morocco	Single	no	1992	8 yrs school	3
T3	TO	Moroccan	Deli and kebab shop	45	Morocco	Separated (hsb in Morocco)	no	2000	Univ. degree	2
P1	PO	Chinese	Pastry shop	38	China	Married with Chinese	2	1992	8 yrs school	5
P2	PO	Chinese	Garment import export shop	33	China	Married with Chinese	3	1989	8 yrs school	10
C1	CT	Senegalese	Food service	34	Senegal	Married with Senegalese	1	2002	8 yrs school	4
C2	CT	Senegalese	Food service	35	Senegal	Married with Senegalese	3	1994	8 yrs school	4
C3	CT	Senegalese	Food service	26	Senegal	Married with Senegalese	1	2006	Short degree	2
C4	CT	Senegalese	Ethnic crafts/hairdresser	38	Senegal	Married with Senegalese	2	1991	Diploma	3
C5	CT	Chinese	Shoes wholesaler	32	China	Married with Chinese	1	1996	8 yrs school	4
C6	CT	Chinese	Garment wholesaler	34	China	Married with Chinese	2	1999	Diploma	2
C7	CT	Chinese	Shoes wholesaler	36	China	Married with Chinese	2	2004	Diploma	2
C8	CT	Chinese	Leather retail and wholesaler	26	China	Married with Chinese	2	2000	8 yrs school	6
C9	CT	Chinese	Leather wholesaler	29	China	Married with Chinese	3	1998	Diploma	5
C10	CT	Chinese	Leather wholesaler	44	China	Married with Chinese	3	1999	8 yrs school	8
C11	CT	Chinese	Garment retail shop	30	China	Married with Chinese	2	2000	8 yrs school	3
C12	CT	Chinese	Garment retail shop	38	China	Married with Chinese	3	1995	8 yrs school	4
C13	CT	Chinese	Garment retail shop	38	China	Married with Chinese	1	1998	8 yrs school	2

LOCAL DEVELOPMENT IN INTERNATIONAL COOPERATION: ISSUES, APPROACHES AND PERSPECTIVES FOR A TERRITORIALISATION OF DEVELOPMENT POLICIES

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INTRODUCTION

The session aimed at investigating the relationship between cooperation and local development practices in the Global South. Theoretically as well as at the level of development cooperation policies and strategies, a reconfiguration of the reference scales at which the very idea of development is conceptualized has been taking place since the Seventies. The context is that of the process of reorganization of the international politico-economic system that began in those years, which also encouraged the social sciences to adopt new perspectives in analyzing and interpreting social phenomena and economic processes. Alongside the essentially aspatial and macroeconomic approaches which remain dominant to this day, an attention to the local dimensions of development has gradually gained ground, moving from somewhat subterranean beginnings to its current prominence [1]. This reconfiguration is very much part of the considerations that have matured since the early Eighties regarding the crisis that swept through the field of development studies and the post-impasse debate that has enlivened the subsequent decades. In this context, local development has steadily become more and more central to development policies, starting with a number of Northern countries in the Eighties, and explicitly emerging in the developing countries since the second half of the Nineties.

Local development's rise to prominence in the South raises a number of questions that the contributors have tried to address in the session. Are we dealing here with yet another transfer of development "technologies" - technologies that are basically theoretical and operating approaches - from North to South? And how appropriate are these technologies? Can we speak of a "discovery of local development" in Developing Countries (DCs), or is what we are seeing more of a top-down approach, where the impetus descends through the long networks of international development, with the latter's own rhetoric and priorities? How does the attention to local development in DCs link up with the debate surrounding endogenous development, the informal economy and the activism of civil society on the one hand, and the processes of political and administrative decentralization on the other? And, above all, where does local development stand in a context that would appear to be dominated by the processes of globalization and deterritorialization? One of the hypotheses underlying this investigation is that the growing international stress given to local development must be interpreted from a multi- and trans-scalar standpoint, through an approach capable of encompassing local dynamics, national cultural and politico-social contexts, and processes that operate on the supranational and global scales. In this perspective, dealing with local development means considering a complex sequence of global-local interactions, between economic trends and processes of redefining political space, between local discoveries in the framework of global conditions, conceptualizing them through multiple decontextualizations and subsequent reconceptualization practices at different scales and in different contexts.

In the next section we will outline the fortune of local development in the DC, highlighting both the (global) context where local development emerged in the Nineties and the inner tension between top-down and bottom-up approached in development theories.

LOCAL DEVELOPMENT IN THE ECONOMIES OF THE DCS

The global context of local development in DCs

With a certain delay with respect to the North's debate concerning local development theory and practice, the latter concept began to appear in the policies of the developing world during the Nineties [2] [3]. At this point, it was closely connected with the shifting strategies for international cooperation in its various forms (bilateral, decentralized, nongovernmental), both in Eastern Europe - those portions affected by the UE's expansion in particular [4] – and in many developing countries in Africa, Latin America and Asia. A glance at the list of the programs and projects spearheaded by the organizations involved in international cooperation (the World Bank, various United Nations agencies such as UNIDO, the ILO, FENU and the European Union itself) [5], is sufficient to provide an idea of how local development has become one of the buzzwords of international cooperation in the last decade.

This espousal of local development and all its trappings by the major supranational organizations is something of a watershed in our view, as it was in some respects the seed and source of the ambiguities that have beset local development initiatives in developing countries. While in the literature discussed in these pages, local development

proceeds from the solid empirical evidence provided by observed economic trends - often openly at odds with the orthodox narratives of economic development - the interpretation that the international organizations proffer is heavily influenced by the ideological/normative context in which these institutions live. The break between the concerns of local development - like those of participation and gender differences - and the neo laissez-faire orthodoxy of groups such as the World Bank - is, in fact, more apparent than real. As we will see above all in the case of Egypt, heterodox theories are often introduced in the mainstream - intellectual and operative - of these supranational actors as a means of highlighting the need to revamp the relationship between the State and the market. If it is true that abandoning the rigid monetarist orthodoxy goes hand in hand with acknowledging the regulatory role of the State, it is equally true that most of the criticisms target the State's disorganization, and the bureaucracy that amplify rather than restrain the markets' flaws.

In particular, in order to clarify the context from which this investigation springs, it is advisable to dwell for a moment on the fact that the neo laissez-faire approach taken in the strategies of the major exponents of development cooperation was virtually the only alternative to the development crisis and the debate it fueled, so much so, indeed, that the international literature refers to it as a mainstream approach. Starting from the early Eighties, with the so-called Washington Consensus, this approach found adherents in the World Bank and the International Monetary Fund, spreading thence to permeate the thinking and policy-making of many development agencies, including those of the United Nations, other international bodies and a large proportion of national governments worldwide.

In the early Nineties, following the failure of the Structural Adjustment Programs, development cooperation policies were heavily impacted by the change of course embodied in the Post-Washington Consensus, which was explicitly influenced by the neo-institutional approach. In this connection, it is now widely acknowledged that the local scale's new role in development cooperation policies and strategies resulted from the considerations triggered in the second half of the Seventies by the attempt to create a view of development that could constitute an alternative to the aspatial approaches of the macroeconomic school, as well as from the influence that the New Institutional Economics [6] exerted on the work of the major players in development cooperation. This approach is based in identifying, at the national, subnational and local scales, those institutions that are not directly linked to the market as actors capable of correcting the market's shortcomings.

In the developing countries, following the new rules of the internationalized economy - mostly through the channels of development cooperation - has hinged on two sets of factors, one politico-economic, and the other more purely political, which refer explicitly to good governance. In this context, development cooperation has gradually incorporated local development policies as the preferred tool for combining initiatives that are intended to influence the economic as well as the political spheres by promoting processes of divestiture and decentralization, often seen as the necessary accompaniment to local development policies. There can be little doubt that the link between the new role of the local in development cooperation strategies and the gradual enlargement of the very goals of development, which in some cases extend so far as to include the political dimension by making development aid conditional upon introducing democratization processes, is emblematic of the relationship between the political and economic perspectives of local development. This overlap not only demonstrates how a focus on participatory democracy, local governance and decentralization has accompanied local development thinking in the DCs, but has also contributed to unmasking the inadequacy of approaches, concepts and models that are explicitly tied to the Western world's specific historic and cultural patterns. Here, as the controversy sparked by what has been termed the right-based approach has made clear, the legitimacy of efforts to export and impose (through military intervention in some cases) models and processes of forced democratization is very much a moot point. The criticisms inspired by these processes of standardization have been similarly skeptical of the work of the supranational political bodies that have taken it upon themselves to develop and spread a sort of "global policy" based on the universality of democratic principles.

Local development in the DCs: between top-down and bottom-up approaches

If we analyze local development in the DCs, as least as far as Senegal, the rest of French- speaking Africa [7] and Egypt are concerned, we find that two opposing visions have been at work. The first sees local development as a highly institutionalized process, marching in lock-step with political and administrative decentralization. However much it can mobilize local society through inclusive processes, it still moves from the center downwards. Local development is generally presented as the one essential means of stimulating local agencies, and hence local society, to formulate and deploy strategies for their own areas' infrastructures, economy and welfare [8] [9]. By contrast, the other vision of local development puts greater emphasis on the community, or on relatively endogenous - and possibly even marginal - dynamics, some seen as residual, others as innovative.

In recent years, many countries in the Southern reaches of the world have discovered endogenous local dynamics that were either unpredicted or cannot be seen as issuing strictly from development aid; at the same time, they have also changed their approach to development cooperation, passing from exogenous, top-down processes, to self-reliant, bottom-up approaches that have largely been put forward by groups who are in the minority as regards their ability to wield power, like many of the NGOs in the North and an increasing number of Southern NGOs. Among the unforeseen changes, we can include a variety of interesting social movements that have taken place in different parts of the South [10]. These organized initiatives have striven to re-conquer and regenerate their own "local space", and have been successful in rising above the merely local and banding together in quite complex organizations involving as many as

half a million people and more, as has been the case of certain initiatives in Mexico or West Africa. It should be noted that many of the efforts are far from being antagonistic to development cooperation, and indeed have prospered thanks to their ability to attract and manage sizeable amounts of international aid. At the same time, they have been able to garner grass-roots support among small farmers and villagers, while striking a balance between tradition and modernity. As a result, these initiatives bask in the floodlights of international cooperation, and many aid agencies and NGOs rely on their dynamism as the fulcrum of their intervention strategies.

As part of this change of approach, there is a growing critical awareness of the meaning and role of an aid agency, of the importance of the actors involved, of local values, the crucial need to strengthen and support the local area's capacity for self-organization, and of the social, relational and environmental dimensions of a type of development that cannot be rooted only in an economic sphere that has nothing to do with the social [11]. In making way for an approach stemming from an idea of community-based, self-reliant and bottom-up development, the world of cooperation has also fitted itself out with a whole series of tools for analyzing the territorial, social and cultural context that leverage participation and the need to understand the local viewpoint, as exemplified by the various approaches that fall under the heading of "participatory diagnostics" (MARP, RRA, etc.) [12]. As mentioned earlier, this change in outlook would appear to have spread to the major international bodies, rather than being restricted to the more bottom-up actors such as the NGOs.

The distinction between an institutional top-down vision and a "community-based", bottom-up vision of local development also hinges on the conceptual view of the territory in which the trends triggered by local development processes operate, where on the one hand we have a received territory, which precedes the process and is generally a politico- administrative division of space, and, on the other hand, a constructed territory, the "project" territory. As the territory is the result of a process of construction on the part of the actors, not defined beforehand but recognized a posteriori, the territory of local development is not something that exists everywhere: often, in fact, we find that we are dealing with spaces dominated by the exogenous laws of localization, which are not identified as territories. The two conceptual views must not be confused, but must both be taken into account in the local development discourse. Territory then can be defined as the 'container' and the result of a process of elaborating content [2: 299].

Situating the contributions

Within the contributions presented at the session, we can identify at least two main themes. The first one is the relationship between territories in sharing and establishing different, yet related, patterns, of Local Economic Development (LED). The second stream is related to the interaction between LED and social structures, with specific reference to LED as an interface between different source of power and legitimacy and between different scales of decision and implementation. As the first theme is concerned, the first two papers in this sub-section make reference to project between Italian authorities and national and local administration in the Sahel area (Burkina Faso, Mali, Niger and Senegal). In their intervention, Egidio Dansero and Agnese Migliardi outline a critical assessment of the Italia-Sahel programme, with special reference to the "Fondo Italia-CILSS di lotta contro la desertificazione e per la riduzione della povertà nel Sahel" (ITALY-CILSS FUND, ICF), established in 2002 and active until 2011. ICF is a very interesting case-study that shows from one side the attempt to adopt a spatial and territorial approach to development cooperation, with analysis and actions interlinking different political and action scales, and from the other side a technocratic development machine that failed in try to put together the different actors of development cooperation but at the some time has been quite effective in local initiatives.

The two other contributions dealing with the Italian Development Cooperation's practices take into account a more specific issue, that is to say the role of decentralized cooperation and the possibility of technology and practices transfer. The paper presented by Maurizio Tiepolo and Mario Artuso is the report of a decentralized cooperation between the Politecnico of Turin and Niger and Senegal. The establishment of a multipurpose and open access GIS in the public administration of three minor cities has highlighted the potential of codified geographical knowledge in order to make effective the control of local authorities over their territory in order to facilitate and secure Local Economic Development processes. The presentation of the group led by Giulio Mondini and Sergio Olivero addresses a totally different issue that is the social and territorial impact of the RENEP (Renewable Energy for Palestine). What is at stake, here, is the fundamental issue of transfer of models (in this case the smart city framework) and technologies (renewable energies, with special reference to solar production) from their original Northern context to the Global South (in this case to a context, the Palestinian one, which is characterized by an unusual degree of conflict). The case study provides evidence for the positive impact of such transfers on LED, creating opportunities for employment and empowerment, above all among the youngest generation. The second group of papers deals with the interaction between LED and social structures, with special reference to the puzzle of different sources of legitimacy and (political, social, economic) power in Africa and Brazil. Sara Belotti's case studies on sustainable tourism in Mozambique, with reference to the specific case of Zinave National Park (PNZ) highlights the complex relationship between "traditional" and "legitimate" structures and hierarchies and the superimposing administrative "legal" authorities. In particular, using GIS, the author demonstrates that the dynamic interaction between legitimate and legal sources of authority is projected into a territorialization which is evolving over time, mirroring the emerging power architecture. As a consequence spatial hierarchies are unceasingly reworked and redesigned in order to match power dynamics. Such a view is also confirmed by Roberto Di Meglio on Local Economic Development and social economy in the context of the ILO (International

Labour Organization) policies apt to secure decent work, fair income and participation into the development processes. In particular, the brief case study concerning the Ghana Decent Work Programme (GDWP) shows the importance of the dialogues between "local norms and values" – as embodied in traditional sources of power and legitimacy – and local government authorities and agencies. Once again, the interaction of different power architectures enact Local Economic Development processes and entails spatial transformation (in the Ghanaian case the multiplication, integration and up-scaling of LED projects at different scales and in different regional contexts). A similar standpoint arises from Francesco Bicciato's account on the ART (Articulation of Territorial Networks for Sustainable Human Development) framework of the UNDP, where the role of local communities is twofold: on the one hand, they support decentralization and local governance; on the other hand they can get involved in South-South decentralized cooperation, facilitating the exchange and integration of LED practices. From a different perspective Carla Inguaggiato observes the interaction between producers' cooperatives and social structure in the case of Northeast Brazil. It is interesting to read the Latin-American case study in comparison with the African ones. Inguaggiato, in fact, takes into account three villages created by the agrarian reform (assentamentos) between 1997 and 2005. As such these settlements cannot be considered as bearer of traditional forms of legitimacy. On the contrary, they rather are the outcome of a policy dropped from central and local political authority. The assentamentos policy actually denotes a "third culture" between traditional indigenous settlements and State-sponsored massive colonization and intensive exploitation. Using the methodology of network analysis, the author shows that different social structures (arising from kinship ties, previous working experiences, political and/or religious background, and technical knowledge) do play a role in differentiating the Local Economic Development processes enacted by different villages. Of course it is not about "traditional" architecture of knowledge and power, yet it shows the transformative capability of different territorialization patterns to adjust and adapt LED. Massimo Pallottino's theoretical reflections show some "family resemblance" with Inguaggiato's standpoint, apart from the common geographical focus on Brazil. In particular, Pallottino emphasizes the continuity between theory and practices in Local Economic Development processes: as a consequence, the internal stratification of the local communities (that is, ties and relations among the social actors) becomes a pivotal element driving the success and the failures of LED projects.

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LOCAL DEVELOPMENT: SOME PERSONAL REFLECTIONS

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The attention paid to the local dimension of development contributes casting a new light on the whole development debate, as it roots economic, social and political transformation processes into the concrete lives of women and men struggling for a better livelihood. In this debate many reflections have been devoted to explore the way the social actors interact and generate what we conventionally call 'development objectives'. After all, the idea that 'development' will take place within a sort of mechanistic process of consensus is the key (implicit) assumption that justifies a lot of efforts in this domain, and under which the interaction of the social actors is assumed to take place.

Some implications of the discontinuities in what it is often unduly assumed to be the fundamental unity and homogeneity of the local communities, and that may undermine the development consensus mentioned above, need however to be recognized and taken into account. The case of the national park in Mozambique shows well the coexistence of different and alternative institutional sets: the modern 'developmental' world which includes (and sometimes embeds) the formal governmental institutions; and the 'traditional' social institutions, that Giddens [1] describes as the forerunner of the modern formal states, and that on the contrary in many cases coexist with the latter, within a setting that could hardly be defined as 'temporary'. It is not only matter of recognising the internal stratification of the local society; but to acknowledge the existence of a 'double institutional truth' concerning associated life.

While the recognition of this 'double institutional truth' has been object of many reflections and well documented studies, there is perhaps still some unanswered question on the way these interact in the domain of development. They are often understood as they were two alternative ways of approaching the field: the practice of development that 'acts', offering a 'developmental' grasp on things that are to be done; and a theory that is able to unveil the social reality beyond the structures that are set up in order to carry on policies and projects, which offers useful indications to the development practice. However, the latter extends its influence well beyond what is expected from a simple and 'neutral' technical set-up, insofar it shapes our understanding of the world. In some sense it becomes a practice-and-theory altogether, where it is difficult to keep a clear distinction between the two elements: we 'do' things coherently with what we have understood of the world, or we understand the world in a way that confirms our way of doing things? Thus, practice generates theory (or it 'is' a theory in itself); and somehow unavoidably, knowledge often ends up legitimising practice rather than challenging it.

The case from Brazil offers an interesting perspective on the internal stratification of the local communities. We are often used to think at development in terms of specific initiatives, aimed at pursuing stated objectives. Through a highly formalised local network analysis, we can acknowledge in the Brazilian case how development initiatives can be represented in terms of ties and relations among the social actors: something so simple and implicit, to be systematically uncared for in many current development analysis techniques. A deeper reflection on the idea of relationship as a key concept towards a better understanding of development and development cooperation [2] can be a promising area in which efforts can be spent.

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TERRITORY AND LOCAL DEVELOPMENT IN THE ITALY-CILSS FUND

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ABSTRACT

The communication starts from the analysis of Italy-Cilss Fund (ICF), a cooperation program that has engaged for about a decade, from the beginning of 2000, the Italian governmental international cooperation in the Sahel, involving various forms of partnerships: International Organizations (UNOPS, Cilss), the central government of Mali, Senegal, Burkina Faso and Niger, regional and local governments of the selected areas of intervention (Zarese), Italian NGOs, and especially Sahelian various associations of civil society just to the villages of intervention.
ICF represents a program of great interest, such as organic attempt to coordinate an approach focused on local development and territory, variously defined, combining a wide range of initiatives to combat desertification. Despite a great effort in the process of setting up and defining the program, with many innovative issues, in its implementation it has experienced considerable difficulties, delays, route changes, even radical.
ICF experienced all the difficulties and ambiguities of an approach combining "positive" local development approach (relatively autonomous dynamics in the room) and a "normative" one, trying to stimulate with relatively similar approaches in different contexts of the interventions local projects oriented to combating drought and desertification as obstacles to development.
ICF has been and still is a collection of stories, a great event in its preparation and becoming, a mirror and a laboratory of Italian way to international cooperation. It is not only interesting but relevant from a political, civil and scientific point of view to reconstruct the ratio, the becoming, out of a evaluation logic (even if considering evaluation reports in the various stages of its life cycle) to put in evidence light and shadow, good and bad practices, capitalize and stimulate a process of collective learning in a world such as that of cooperation that seems to be hard to not proceed to tear and removals.

INTRODUCTION

The Italy-CILSS Fund (abbreviated here in ICF) is a major project that has been implemented in four Sub-Saharan countries (Mali, Niger, Burkina Faso, Senegal[1]) for over eight years. It represents an interesting research lab for analyzing local development approaches within international development policies in the late 1990s and early 2000s. Indeed within it, we can find some of the key features characterizing international aid policies at the time: the food security goal supported by technological knowledge and GIS; the call for a strategic collaboration between international/governmental development agencies, decentralized cooperation, NGOs and national governments towards political and administrative decentralization processes; the integration of previous development approaches into a local development perspective.

In our opinion it is useful to adopt the conceptual framework offered by a *geography of* – and *for* – the development cooperation [1] [2] to retrace the territorial rationality of this program: from the articulated *ex ante* spatial analysis to the - symbolic, material and organizational - production of territory and scales engendered by its intervention (ICF territorialization). If this is certainly relevant from an academic point of view, we believe it could also encourage a debate into the development cooperation world where benchmarking and critical knowledge sharing do not come easily. After a brief analysis of genesis, structure and evolution of ICF, we will develop some reflections about its relationships with a territorial approach oriented to local development.

THE ITALY-CILSS FUND

The ICF to Combat Desertification for Poverty Reduction in the Sahel was part of a wider Italy-Sahel Program for poverty reduction, following the DGCS Guidelines adopted in 1998. The ICF was approved by the Italian General Directorate for Development and Cooperation (DGCS) in October 2002, and formally started in 2004-2005 for a

[1] The research has been done in IAO-Gender project, financed by the IDC (Italian Development Cooperation - Direzione Generale alla Cooperazioneallo Sviluppo del Ministero) under the Italian Ministry for Foreign Affairs, managed by the IAO and based in Florence.

duration of three years after extended until 2011[2]. Both the Italy-Sahel Program and the ICF focused on 4 of the 9 CILLS countries[3], which in 2000 represented more than 75% of the CILSS region in terms of GDP and population, and almost 87% in terms of active population in the agricultural sector.

The preliminary talks about the Italy-Sahel Program and ICF took place between 1999 and 2002, by means of an institutional and technical partnership between DGCS, CILSS, national governments of the 4 countries, Italian NGOs[4] and decentralized cooperation[5] operating in those countries.

ICF was expected to treasure good practices experienced in the last years by the Italian cooperation, while the Italia-Sahel Program represented the common framework to identify synergies between a wide range of actors involved in development at the regional, national and local level.

Within the framework of a more rational management of natural resources, the general objective of ICF was to tackle the poverty and desertification spirals by improving the socio-economic conditions of rural populations in some marginal and vulnerable areas, labeled ZARESE[6].

The IFC was based on a complex institutional structure, articulated on three managing levels: a "Sub-regional Pilot Committee" (CSRP) located at CILSS headquarters; a "National Pilot Committee" (CNP) for each country; and a "Fund Managing Committee" for each ZARESE (CZGF) at the local level. All of these committees were composed of institutional and civil society delegates (from DGCS, CILSS, NGOs, national or local governments, peasant's organizations), according to the managing level.

Furthermore, a technical assistance structure (IAC) – made by NGOs' and peasants' organizations members - was designated to support local actors (CZGF, local governments and civil societies organizations) in outlining or updating their Local Development Plans and, at the same time, identifying and implementing the most appropriate interventions. Beneficiaries of ICF grants were indeed both peasant's or community based organizations and local governments which had to submit their project proposals to CZGF and CNP for approving.

Beside all this mechanism, two executive bodies were identified: the IAO[7] of Florence with technical assistance and monitoring duties; and the UNOPS[8] as administrator of the Fund.

Through this complex and articulated institutional structure which absorbed a great amount of energies and resources (in terms of time, money, capabilities and motivations of the actors involved), the ICF has been implemented in 12 ZARESE[9] (3 for each country), embracing some 1302 villages and a population of 300.000 people. During the first phase (2005-2008), the activities of ICF led to financing and realizing 754 micro-projects at the village scale. These micro-projects concentrated on four areas of intervention[10], and mainly focused on horticultural and agro-forestry production, food processing and socio-economic infrastructures. However, by the medium-term evaluations in 2006-2007, some problems came to light such as the lack of coherence among many small interventions scattered all over the territory of each ZARESE, and the little attention actually paid to the natural resources management component. Therefore a change in strategy occurred at the beginning of the extension phase (2009-2011), characterized by a shift from micro-projects at village scale to structural projects – focusing on restoration and conservation of natural resources – at the inter-village or rural community scale[11].

CONTEXTS OF ACTION AND SPACES FOR REFLECTION: A CRITICAL ANALYSIS OF ITALY-CILSS FUND

As we have mentioned before, the aim of our research was to deconstruct theory and practices of ICF in Sahel to better understand its history and territoriality (at different scales), its multi-level institutional architecture, and the local development funds approach adopted by the Italian Cooperation.

The organizational set-up of ICF clearly shows its complexity. It included the experimentation of the ZARESE method, the defining process of intervention areas (through data collecting, negotiation and multilevel governance mechanisms), the identification of a broad set of stakeholders and their roles, the adoption of a local development

[2] The initial allocation established by the DGCS amounted to €15,5 million, after increased to €21,2 million.
[3] The "Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel" (CILSS), created in 1973, is actually made by 9 countries (Gambia, Guinea-Bissau, Mauritania, Senegal, Mali, Burkina Faso, Niger, Ciad and Cape Verde).
[4] More active NGOs on rural development in those countries were Lvia, Cisv, Cospe, Acra, Terra Nuova). All of them have been involved in ICF.
[5] Especially Piedmont and Tuscany Regions and Bolzano Province.
[6] "Zone à risqué Environnemental et Social Elevé". This tool was originally developed by the center Agrhyment-CILSS to identify target-areas for intervention. Within ICF, the Zareses coincided with the administrative unit named *Département*, *Circle*, or *Province* (according to the country), embracing some smaller local governments called *Communes* or *Communautés Rurales* (political units) and several villages within them.
[7] The "*Istituto Agronomico per l'Oltremare*" is the consultancy and technical assistance organ of the Ministry of Foreign Affairs on the field of agricultural science and technology.
[8] United Nations Office For Project Services, created in 1974 as a member agency of UNDP, has become independent in 1995.
[9] According to the country, the 12 Zarese corresponded to the local administrative level called *Province* in Burkina Faso (Kourittenga, Oubritenga and Zondoma), *Circle* in Mali (Douentza, Mioro and Kolokami), or *Département* in Niger (Illega, Loga and Keita) and Senegal (Louga, Bignona and Matam).
[10] Support to Community Development (SCD); Support to Socio-Econonic Development (SSD); Strengthening of Community Capacities (SCC); Natural Resources Management (NRM).
[11] The size of projects increased also in budget terms: micro-projects varied between 3 thousands to 30 thousands euro while structural projects spanned from €30 thousands to €100 thousands.

approach combined with a multilevel operational architecture[12].

Several critical issues have emerged from the mid-term and final evaluations as well as from our interviews to actors involved in ICF (both in Italy and Sahel). These issues concerned the organizational complexity, the ambiguous role of some actors (e.g. UNOPS[13], Italian NGOs[14]) and the absence of some others (like the decentralized cooperation[15]), the lack of timing between the outflow of grants and the activities on the ground, the difficulties encountered in peasant's - or community based - organizations involvement, the need to stimulate the applications for funds in the specific sector of natural resources management (otherwise quite neglected).

However, beyond that complexity, a core element of ICF was - or should have been – its local development approach to ensure local communities ownership of development processes. Furthermore, over the same period and in the same countries many other interventions of the international cooperation[16] were centered on this approach. But what did that mean?

In the following section we try to summarize some reflections raised in the international debate which can shed light on the ICF approach. Between 90's and 2000's, local development approaches, albeit belated with regard to Northern theoretical and political debate [4], have become a core element of development policies [5] [6] in Africa, as well as in Latin America and Asia. This was closely related to a shift in strategy made by the international cooperation in its different forms (multilateral, bilateral and non-governmental) [7] [8].

Paradoxically this has happened while, in Northern countries, local development era was seemingly coming to an end, at least according to some critical authors [9]. On the one hand, in many symbolic places of local development, for example in Italy, some warning signs of crisis were coming to light. On the other hand, local development policies were not achieving the intended effects for many reasons: the challenges of globalization; the first symptoms of the international economic and financial crisis followed by drastic cuts in public expenditures; the risks for these policies of becoming mere instruments for local appropriation of financial resources, without considering the very (innovative) meaning of theoretical constructs such as local, territory and participation [10].

Borrowing the title of an important essay edited by Becattini and Sforzi [11], there are still many "lessons about local development" to be learnt nowadays. However a critical approach is then strongly recommended, especially with regard to local development strategies and practices adopted in developing countries. Misunderstandings, ambiguities and oversimplifications have occurred in the practice, leading many authors to ask themselves how far local development discourse has been driven by endogenous dynamics rather than stimulated by exogenous expectations of international cooperation. In this latter case, can it be considered an "appropriate technology" (from a cultural, economical and political point of view) for developing countries? Or does it have been just a new wave in the international development sector [12], legitimated by other rhetorical discourses such as those on governance, decentralization and participation?

Here we present some answers given by international literature through an analysis of local development between North and South [4], focusing in particular on the Senegalese case study [13] [14] [15] [16].

The label "local development" often include a vast array of mutually contradictory definitions and approaches which can be placed along three different continuums:

- normative/positive (or policies/processes). Local development may be conceived, in a normative way, as a policy (local development as it should be) or, from a positive perspective, as a process (local development as an empirical fact, although not objective and linked to the observer's point of view). Local development history is characterized by a progressive shift from its discovery as a new and unexplainable fact (e.g. Italian industrial districts), to its institutionalization (policies to support existing local development processes), till its normative definition (how and what must be done to activate local development processes). International cooperation has clearly assumed a normative perspective, even when it started – or should have started – from local dynamisms recognition;
- top/bottom. Partly overlapping the previous distinction, we can identify two different ways to local development. A top-down dynamic, on the one hand, trying to fix roles and rules of action and to stimulate local development planning[17]. And on the other hand, a bottom-up dynamic, resulting from local dynamisms

[12] For a detailed analysis of the multi-stakeholders nature of ICF see Perotti [3].

[13] Many questions have arisen about costs and financial management transparency of UNOPS which should have had a purely technical role, too often trespassing into a political one.

[14] Italian NGOs should have had a double role: a political one, supporting the peasant's movement and actively participating in ICF governing bodies; and a technical one, supporting and counseling the promoters of micro-projects at local level. For this second purpose, it was assumed that NGOs would receive external funds from Italian decentralized and government cooperation by presenting projects proposals consistent with ICF objectives. In fact to let NGOs participating, it has been necessary to cover their operating expenses directly with ICF resources, which has not been well accepted by many actors. This also led NGOs to be considered as merely "work providers" instead of political speakers.

[15] One of the most interesting features of the Italy-Sahel Agenda and the ICF was represented by the attempt to involve Italian decentralized cooperation and NGOs into a national integrated system. While NGOs involvement has somehow occurred (see previous footnote), it has not been the case for decentralized cooperation. This is because, on the one hand, DGCS couldn't deploy additional resources for them (but rather counted on receiving financial support from them), and on the other hand, decentralized cooperation and NGOs often worked within the ZARESE areas chosen by ICF but in different localities or with different partners so it was difficult to reorienting their activities.

[16] For example the Italian Cooperation was adopting a similar approach in the Casamance Region of Senegal (Primoca and Sedhiou projects), in Niger (Keita project) and in Burkina Faso (in partnership with Ngo Lvia).

[17] See Lazarev and Arab [17].

and resources, often linked to a "community" dimension. The first one is also closely intertwined to the political and administrative decentralization processes which have been taking place since the 90's in the four African countries selected by ICF [18]. These processes have entailed the creation of local communities, stimulating local governance and involving civil society stakeholders in both negotiation and planning mechanisms, which have often lead to more formalized "Local Development Plans". Therefore some authors believe that it would be more appropriate to differentiate between decentralization – as a descending movement originating from governmental policies – and local development which is basically an ascending process [19];

- political/economical dimensions. Local development literature has been especially insisting on economical aspects, often proposing idealized representations of homogeneous local communities, and leaving aside internal conflicts [10].

In this variety of definitions, the most aware ones affirm "that local development does not merely consist in reducing inequalities between places, but rather that specific features of places play an essential role in driving development processes, in offering opportunities and in reducing risks" [20, p.44]. It is basically the relational intensity between actors and local material resources that differentiate one place from another [20]. In this perspective, local development can be conceived as a dynamic of change, activated by a set of actors (public, private, or both) who share some development visions for increasing local (human, economic, natural) resources value. These actors, thanks to their specific local knowledge and their interpersonal relations (of trust, identity …), can stimulate positive dynamics of change in a quite endogenous and place specific way.

Development agencies usually consider territory as a constitutive element of local development. However in practice, this notion has often be employed in specious and partial manners, always mentioned but rarely examined in depth. Territory thus become a passive frame for action or a mere space for exercising political-administrative jurisdictions; otherwise it has been assumed as a set of relations facilitated by proximity, or even as a clot of resources and values which can be known objectively, without regard to different local actors representations.

In order to be more effective, the international cooperation should consider the territory as a dynamic support for its actions, and be aware of: the local resources and their modes of exploitation, the local actors and the way they are organized, territorial representations, evident or hidden conflicts, cross-scale relationship, competitive advantages.

THE ICF BETWEEN DECENTRALIZATION AND THE ZARESE METHOD

Having briefly summarized the debate on local development, we now apply these observations to the different phases and contexts of intervention of ICF. ICF considered the ZARESE as the reference "scale" for the management of grants, although getting implemented in specific rural communities and - within these - in specific villages. The ZARESE's were "forced" to be a space for negotiating local development, even if this was already falling within local governments' prerogative.

The ICF was conceived with a strongly geographical approach, or better inspired by a strong territorial rationality which attempted to impose itself against very different economical, political and social situations, at the national and local scales. The Italy-Sahel program and ICF referred to a "natural" region – the Sahel - within which some high risk areas were identified. The term ZARESE described at the same time an approach, a target-region of intervention, a set of scales of action and a method. This approach attempted to combine the use of social-economical and environmental indexes (obtained through quantitative analysis), with representations and indicators resulting from interviews with a variety of actors at different scales (national governments, peasant's movement and CBO, local governments and NGOs.

Before ICF, the ZARESE method has been experimented for the first time in the late 90's within a wide program for the monitoring of agricultural productions and food crisis alert. It has been developed by the Italian cooperation and the Agrhymet – CILLS Center of Niamey, which made available a big amount of data and socio-economic information. Who initially conceived the idea of ZARESE had very clear that the selection of such areas was not only an identification of some geographic regions (based on environmental and socio-economic indicators), but that is required the involvement of the appropriate actors and that it should have been finalized to the strategic objectives of ICF.

As a matter of fact, the ZARESE method constituted a regionalization process with a resulting production of scales of observation and action, and of territories of intervention. The ZARESE has thus become a "project" scale of action overlapping- in a conflicting manner - the territories of competencies, legitimacy, and of the relations among the actors involved directly or indirectly by ICF. The sustainability of such territorial approach is arguable, and was strongly criticized since the early days of ICF.

Moreover, the institutional and social architecture of ICF was constituted by the intersection of the ZARESE method and the approach of the local development funds. It thus clearly elected the territory as the theoretical and operative perspective for identifying the actors, stimulating the local governance, defining a common vision of local development. This perspective though conflicted with the territorial complexity, with the problematic relation between different levels of political representation, of consensus building, and of territorial self-acknowledgements.

A critical point was the relationship between ICF and the decentralization processes. ICF deployed itself in 4

countries which were - and are still today - living very different phases of the decentralization process. This is a crucial difference considering that the ICF approach is based on a multilevel governance, inspired by the idea of balancing an institutional "top-down" method, with a "bottom up" method, intended to value the local dynamics.

When ICF started, for example, Senegal was fully involved in a decentralization process, while in Burkina this has happened more recently. In this latter the ICF arrived after the General code of Burkinabé territorial collectivities was just adopted in 2004 with the first elections of 351 *Communes* (49 urban, 102 rural), and before the establishment of regional boards in 2006. It useful here to highlight the peculiarities of the Burkina case compared to the other countries involved in the ICF. In Burkina the ZARESE relied on an administrative level - the *Provinces* - which were not inherited from the colonialism, as were the *Départementes* in Senegal. The Provinces were indeed introduced after the Sankara revolution in 1984 and, although they were non elected administrative levels, they represented a form of regionalization which accounted for the territorial differences, especially with regard to ethnical differentiations. However the Provinces, initially foreseen by the decentralization bills, will be eliminated by the General code of territorial collectivities, which encompassed only the "Regions" and the "Municipalities". On the one hand, the Regions appear as mere geographical inventions with names which are purely referential (East, North, Mid-Center, Sahel), clear expression of a "top-down" driven regionalization. On the other hand, the Provinces are only relevant in the frame of administrative deconcentration, with an High Commissioner and a Provincial consultation framework.

The ICF thus tried to integrate an institutional "top-down" vision of local development (closer to the administrative decentralization), with a "bottom-up" communitarian one. This happened first involving in the ZARESE Managing Committees a complex variety of actors: elected, representative of the decentralized government services and of organizations of the civil society. Secondly, making sure that the projects proposed to the Fund were consistent with Local Development Plans, without considering the fact that they did not often exist (and ICF did not envisage any budget to elaborate them) or, in most cases, were (as it happened in Italy) the mere addition of desired projects, not the outcome of a common and strategic view.

The choice to work at the scale of ZARESE thus represented both an element of interest and controversy. A first critical issue is the assignment of a governance role to the ZARESE scale which yet corresponded to an administrative level rather than a political one. ICF relied in all 4 countries to levels which were an expression of deconcentration, rather than decentralization. On one side the intention was to trigger local decisional and managing processes, on the other side ICF settled on a territorial-political level which was not existing before. Despite all these contradictory elements, it should be noticed that the ZARESE helped to make clear the need for territorial development policies to be grounded to an intermediate level between the Regions (too large) and the single Municipalities (or Rural Communities in Senegal).

A second critical issue is the promotion of micro-projects at village-scale, moving from the ZARESE level to the micro-local one, and skipping in fact the Municipality or Rural Community level. This strategic choice caused the belief that the ICF was not much consistent with a local development approach. The shift to structural projects during the extension phase implied a change of scale (a supra-village one), giving a greater role to the local authorities, such as the Municipalities or the Rural Communities, which were indeed fully activated only in 2007.

A further critical element, although very common in local development projects, has been the assumption to replicate everywhere the same local development model, following a "top-down" view rather than a "bottom-up" one [21]. A key element in local development processes is the very presence of local dynamisms, of self-organization capabilities, often taken for granted. Where these conditions do not exist (and the ZARESE method was not able to detect them), it is necessary to build them up before starting the project.

CONCLUSION

In this paper we have attempted to develop some reflections about the institutional infrastructure of ICF and its local development approach. We would like to conclude our analysis of ICF by considering its threefold nature. On the one hand, the ICF can be seen as a "golem", the popular figure made out of clay which can be shaped to be strong and perfectly obedient, but unable to think. This is a frequent temptation for big development project to create the perfect machine - based on technical knowledge - who serves man under controlled conditions.

On the other hand, it actually looks much more as the "Frankenstein" because it holds together "the best of" Italian cooperation strategies and methods, but if you make some small changes results may be very different from your intended purposes. In ICF history, a problematic aspect is represented by the fact that the higher rationality of the project had been supposed to integrate and conciliate a wide set of individual rationalities (decentralized cooperation, NGOs and peasant's movements, CILSS, national and local governments, stakeholders and their knowledge at local level). Moreover, the final outcome of each strategy and action, which has been taking place at different scales during ICF, may be seen as a multilevel and multi-country "*bricolage*".

Despite that, one of the positive feature highlighted during our interviews was that many actors have shown the ability to reorient direction, approach and scale of intervention of ICF, even if this change has occurred too late when grants were almost finished.

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PRODUCERS' COOPERATIVES BROKERS OR MIRRORS OF SOCIAL STRUCTURE: A CASE STUDY FROM NORTHEAST OF BRAZIL

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ABSTRACT

This working paper aims that showing how relevant variability of social structure influences the different diffusion of agriculture. My arguments are the following. First the different social network structure of villages reflects different history of village creation. Second the presence of more connected network favours the diffusion of agriculture as income generating strategy. Third that the producers' cooperative plays a different role in the villages according to importance of agricultural employment as income generating activities and driving forces behind network formation.
Three villages created by the agrarian reform ("assentamentos") can be considered quasi-natural experiments of village composition and network formation as they include both old and new settlers; family agriculture is an innovation for the context and producers' cooperative represent a change in the organizational landscape. Households living in these villages ("assentados") are a new category of rural inhabitants that have higher political participation than average rural inhabitants and which are more connected to the state [1]. "Assentamentos" have potential for promotion of local development as in an area historically characterized by sugarcane monoculture, land tenure inequality and "coronelism" [2], agrarian reform permitted access to land to households with different professional experience and geographical origins.
Villages case studies analyzed show how a combination of kinship and agricultural employment ties foster the creation of connections between households of different geographical origins. The two main elements allowing for such connections are villagers' recruitment patterns and the role-played producers' cooperative. By analyzing the history of three villages' creation and the results of a household survey including both socio-economic features and social networks, the paper shows how the village where agriculture is more widespread is the one where there are more bridges across groups.

COMMUNITY BASED ORGANISATIONS: EMPOWERMENT THROUGH PARTICIPATION OR ELITES CAPTURING?

Development agencies aim at becoming drivers of innovations that they consider beneficial to empower the target population. Participation and local development have become central issue in development discourse after the failure of structural adjustment policies. They identified, among others, in households' participation in Community Based Organizations (CBOs) an instrument to spread the innovation they want to promote.

The main negative effects of CBOs are creation of exclusion patterns either related to the costs of specialization or the difficulty of innovation diffusion. CBOs such as producers' cooperatives often promote specialization in some cash crops and smaller producers that tend adopt multiple livelihood strategies [3]. "CBOs reproduce and reinforce relations of domination and subordination between elites and non-elites"[4]. This phenomenon is referred in literature as "elites capturing" [5] [6]. The strong presence of this phenomenon made it consider a form re-functionality previous dependency patterns such as colonial indirect rule.

Most studies focused on two main issues; first understanding what characteristics of early and late adopters and how innovation introduced by development projects spread through social networks focusing on the number of adopters of the same behaviour [7], on the people they are communicating with [8] [9], role of information versus other forms of peers influence [10] and second identifying what are drivers of households' participation by using dyadic regression [11] [12].

The main aspect that I would to complement in this paper is the weak approach to network theory. Most previous studies focus on the idea is that inclusion and exclusion dynamics are essentially based on individual characteristics. Development agency action instead goes beyond participants in the project that are often quite a small number. The previous authors look mainly for individual factors that increase the likelihood of households to participate and/or to

[1] This research has been developed in the framework of the International Doctoral Program in Local Development and Global Dynamics, School of Social Sciences, University of Trento, where the author is a PhD student.
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adopt the innovation but they do not consider the local structure of interdependencies in which households are embedded.

It is possible to refer to local development not only in terms of expansion of individual capabilities [13] but also in terms of emergence of autocatalytic society that is not totally dependent on external support but which is able to auto-reproduce. My approach is not to consider innovation in terms of emergence of new organizational forms [14].

The aim of my analysis is first to map multiple ties that connect the households in the villages (nodes), second to identify groups and third to understand what are the forms of brokerage that connect groups. For each village all the households of permanent residents have been interviewed collecting both attributes and social, economic and kinship ties among them.

Such approach can also respond to some critiques directed to the shallowest aspects of participatory development conception and rationale. First the utopic idea of community [15] has been contested as networks of constituency (kinship) and exchange (agricultural employment and frequent contact) have been elicited. Second conception of development based on individual motivation and voluntarism discourse [16] as the research has, as main starting point is interdependence among actors and importance of peer influence and contextual effects in shaping behaviours.

My argument is that a development intervention, such as producers' cooperative, which aims at introducing innovation, is likely to trigger local development when it is created in a context where there are already connections across groups or when it is able to facilitate the creation of ties across groups. This social structure might be able in fact to overcome the main causes of the exclusion patterns and elites capturing phenomena such as homophily, innovation diffusion patterns and peer effects. The combination of innovation that reaches first central individuals, individuals that tend to interact with similar others (homophily), behaviour is influenced by individuals with whom they interact, in absence of brokering links across groups, defined by individuals that share the same characteristics, will lead to the fact that the benefitted group will just one and most probably be the most connected one.

CONTEXT OF ANALYSIS

Object of analysis are three villages created by agrarian reform (*assentamentos*) in state of Alagoas, Northeast of Brazil where it operates a producers' cooperative, supported by Italian and Brazilian donors. The three villages can be considered quasi-natural experiments in terms of village composition and network formation as they include both old and new settlers. Households living in the settlements ("*assentados*") are a new category of rural inhabitants that have higher political participation than average rural inhabitants and which are more connected to the state [1].

Alagoas has the lowest life expectancy (67,6 years), one of the lowest GDP per capita and highest illiteracy rate of Brazil [17]. Alagoas economy has been dominated by monoculture since XVI century and today it is the fifth producer of sugar cane in Brazil and first producer in Northeast region [18]. The municipality object of analysis has unequal land distribution being the Gini Index of land 0,85 and Gini index is 0,39 [17]. It is a quite small municipality with a total population of 28.749 inhabitants and 35,1% of the population lives in rural areas.

Assentamentos have potential for local development as in an area historically characterized by sugarcane monoculture, land tenure inequality and "coronelism" [2], agrarian reform permitted access to land to households with different professional experience and geographical origins. The risk is that rather than new organizational forms what will emerge are forms re-functionality [14] of existing forms of domination. Access to land alone is not enough to trigger structural change. Two are the forms of re-functionality that can be identified: change only in label of captivity namely from landlord responsibility over workers to state responsibility over villagers or return land tenure concentration as prior to agrarian reform. In the first case the two tools of control used with sugar cane labour force, namely housing guarantee and debts persisted over time. First the land of "*assentados*" is still property of the state and they have been negotiating with the local administration to have access to resources both at community and individual level. Second there was great attention towards guaranteeing housing facilities. Third all of the households in the settlements have debts towards the state, as nobody was able to pay back the first and only state credit support agricultural production. In this second case few big farmers will concentrate the large majority of plots ("*lotes*") and a large number of households would work as labour force for new landlords ("*trabalho alugado*") and there will be an increased dependence on state subsidies and state employment.

New organizational forms instead can be represented by rising importance as agriculture as economic activity. The emergence of wealthy smallholders' farmers that in the state of Alagoas and in general Brazil is very rare. These "new men" could be a new political group, less influenced by patron-client dynamics, as they do not depend on state subsidies (bolsa família, cesta básica, pensão) but that are more politically active than average inhabitants of rural areas. The potential for the cooperative is therefore to support the emergence of this new social category. The risk though is that the cooperative could only include the biggest producers, excluding small producers. Keeping together small and big producers could place the cooperative in the position of a broker between several groups while serving only big producers could create envy and hatred from the least successful farmers.

SAMPLING STRATEGY

The three villages have been selected out the 18 existing rural settlements created by agrarian reform [19] [20]. The sampling criteria were: 1) difference in villages' history namely social movement recruiting households to occupy the land, 2) percentage of households' members of the cooperative and 3) household average income from sell of products to cooperative. The aim of this sampling strategy is that different village creation rules lead to different households' features and network formation patterns.

I have interviewed 102 households in village A, 38 in village B and 37 in village C that represent all households permanently living in village A and B and 95% of those living in village C. The total number of household living in each settlement does not reflect the number plots registered at INCRA: more than one household live on one plot and some households has more than one plot.

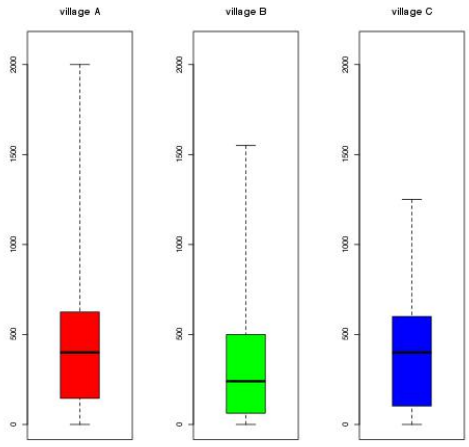
Tab. 1 - Villages' main features.

Settlement name	Creation year	Settlement area (ha)	# Plots[3]	Total population[4]	% Coop members	Household income from coop	Members contribution to total coop production	Households with agriculture as main livelihood strategy	Name of social movement
VILLAGE A	1998	690	100	437	28.0	10478.9	65.6%	49%	Private association
VILLAGE B	2005	453	42	279	4.8	1337.7	0.3%	45%	MST
VILLAGE C	1997	445	38	285	23.7	119.3	0.6%	22%	Comissão Pastoral da Terra

DATA ANALYSIS

Agriculture represents an innovation as income generating strategy. It can represent a possible way to promote local development, the question is what makes some settlers decide to adopt such innovation and others do not. The table below illustrates the different distribution of income from agriculture in the three villages. While the median value does not differ significantly it is possible to observe that range is very different across villages. In village A in fact values go up until 2000 reais corresponding to more the medium salary.

Fig. 1 - Box plots comparing income from agriculture in the three villages.



I argue that the reason why village A is the most successful settlement in terms of agricultural production and also organizational structure, is not only because many of the settlers had already experience in agriculture (32% of settlers), but also because of the co-evolution of intertwined social ties that allow for the creation of ties across groups that better allow innovation to spread, namely to adopt agriculture as main livelihood strategy.

[3] Number of plots in which the area of the village has been divided by INCRA.
[4] The data refers to municipality health services (September 2012).

My argument is that the difference in history of the three villages and especially recruitment and early organization of the village explain village composition and kinship network features and marriages between new and old settlers in the village.

1. History of the villages, especially households' mobilization and recruitment patterns and early organization of settlements, explain the different structure of kinship networks.
2. Agricultural employment, supported by cooperative activity, allows for the creation of links beyond kinship that allows more connection across groups of different geographical origin or different migration waves.
3. The three observed frequent contact networks of the three villages are based different network patterns, that despite the similar level of density, allows for a different level of diffusion of information and behavior across households.

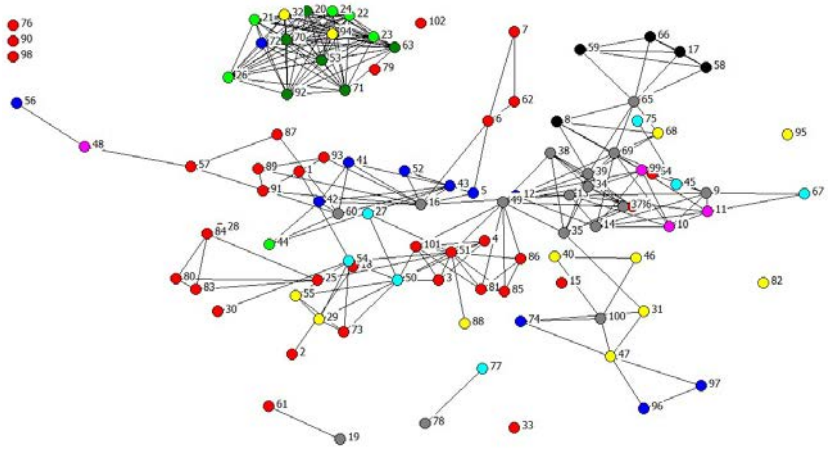
To test such hypotheses both quantitative and qualitative analysis will be adopted. First the description of villages' history shows he differences in kinship networks structure (polycentric versus centralized) along with the difference in village composition. Networks visualization has been produced with the software UCINET [21]. Second the crucial role of agricultural employment in building ties across groups defined by common origin in the three villages. Third the use of Exponential Random Graph Models (ERGM) allows identifying the factors that predicts the contact network, which is considered to be a good approximation of how people interact.

Village history and kinship networks

The three organizations recruiting households in the three villages sampled differ first in criteria to recruit and mobilize households, second in the rule to define households who can have access to land after a period of occupation, third in spatial organization of the settlement and in political representation of settlers and ability to negotiate with local and national authorities and fourth in the way the state access to land (expropriation versus acquisition). These factors influenced several variables such as number of households experience with agriculture, second number of households that already knew each other before occupation (whether they were coming from the first village or in the same migration wave), third in density of kinship network and percentage of old and new settlers and percentage of old and new settlers.

In village A the charismatic leader of a private association, that led the process of encampment and expropriation of the land, recruited a large portion of households that now live in the village. Most of these households were members of this association that was based in the south of Alagoas. The creation of an association also allowed for more time for households recruitment factor that is reflected on a higher number of household already with experience in agriculture 32% and also the fact that many of them already knew each for almost two years. At the moment of settlement establishment the leader of the association, at that point became the first president of the settlement, declared the settlement collective. This allowed him to prevent to send away households that were in exceeding the number of plots indicated by INCRA. There were no rules limiting the number of households connected by kinship and there is in fact low percentage of isolates in kinship network (12%). Furthermore during the period of encampment and early period of settlement composition several collective activities were organized in the village. This latter element probably favoured the creation of more marriages among different groups both among old settlers and new settlers and also among new settlers of different origins. There are in fact in the village 12 marriages across different groups where household of same geographical origin defines groups.

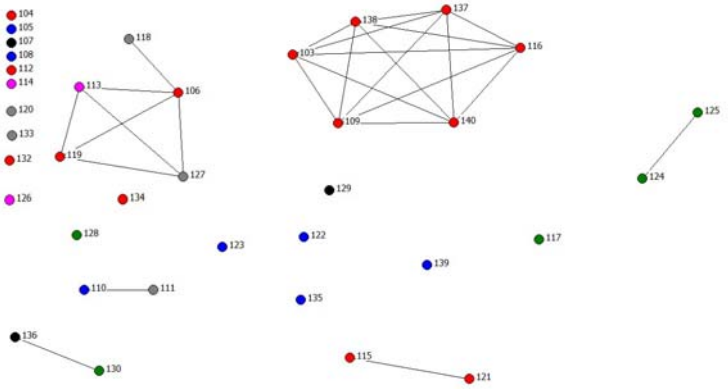
Fig. 2 - Village A kinship network: nodes coloured by origin.



Village B was created by Movimento Sem Terra that defined a maximum number of households linked by sibling ties that could live in the same village. The observed kinship network is quite sparse being only 50% of households connected by kinship ties. Only a very small number of households already knew each other before the process of

encampment and occupation. MST activists calling people to occupy had in fact short time gather people and therefore collected households with very different work experience, mostly they were employed in the sugarcane sector (37%) and only 21% were already living of agriculture. Many households have been literally socialized by politics: most of activities promoted by MST were especially participation to political parades, occupation and other forms of protest to make pressure on the government to expropriate the land. Furthermore at the moment of land division in plots when MST indicated households that could have access to land, participation in political parades was an important criterion. Marriages brokering ties across group are quite lacking there is in fact only one marriage connecting among two households of different geographical origin arriving during the first migration wave or the first group of settlers and no marriages between old settlers and new settlers.

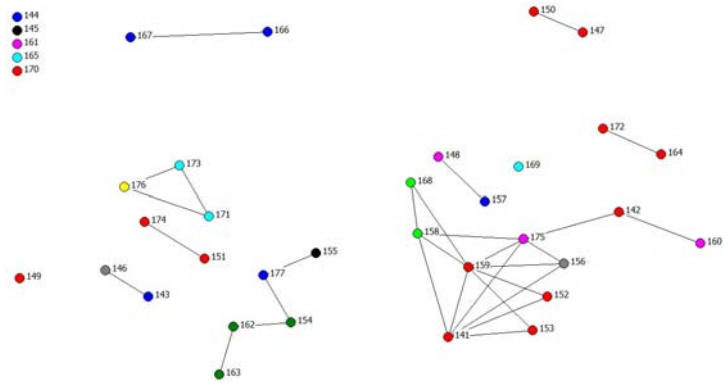
Fig. 3 - Village B kinship network: nodes coloured by origin.



Comissão Pastoral da Terra created village C, differently from the previous two settlements, the land has not been expropriated after a process of occupation but instead it has been bought by INCRA. This factor has important two implications. First there are a larger number of households that were already living in the village (27%) or in the immediate neighbouring area that arrived there as soon as they received information by their relatives that it was possible to get access to the land and old rural workers were eligible. Second most of the new settlers did not shared a common history of occupation but rather INCRA with the intermediation of Comissão Pastoral da Terra called households that already had experience of struggle in different settlements across the state of Alagoas. A small group of three households have already been occupying in other settlements for over six years.

This situation is represented by the graph of kinship ties there is a larger group mostly composed by old settlers coloured in red and few new settlers connected by kinship ties. The lack of the a strict rule certainly favoured the presence of larger clans in the village and less isolates (only 19%) but the lack of common joint activities certainly hampered the creation of brokering marriages across groups. There are only two inter-group marriages between old and new settlers. Furthermore similarly to what we observe in village origin is not an important factor to predict frequent contact network, more relevant are in fact kinship and agricultural employment.

Fig. 4 - Village C kinship network: nodes coloured by origin.



Agricultural employment as brokering tie

Agricultural employment is an important form of brokerage as it creates connections between different groups defined by kinship; what varies though is the overall impact of this brokering connection. Three different graphs represented below show the different brokering power represented by agricultural employment. Nodes coloured by party, kinship ties in red and agricultural employment ties in green.

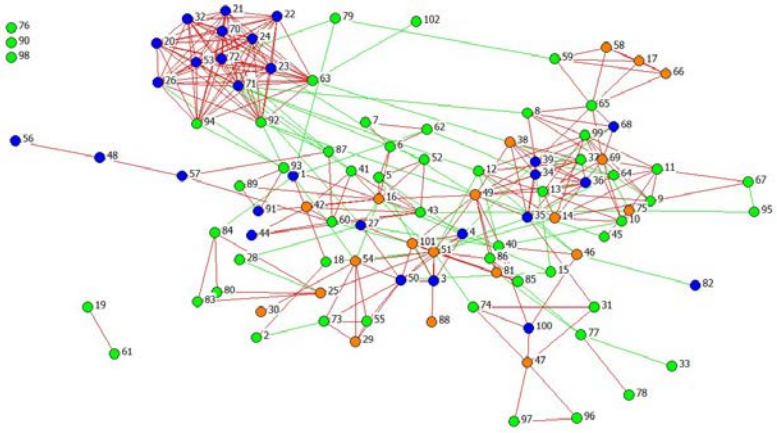
In village A the presence of agricultural employment ties totally changes that network structure of the village; there

is a shift from a situation of potential clash between two cohesive unconnected blocks to an integrated system. Only with kinship ties there were two distinct and isolated groups being one a large endogamous cohesive clan and a more polycentric structure where households of different origins are tied together by marriage. Agricultural employment ties keep together the two groups in a quite articulate way. The presence of multiple ties between the two groups makes the whole structure less vulnerable to possible tie cuts that can tear the two groups apart. Most of the households are in fact integrated in the system and there are only three households that are left aside. Agricultural employment includes in fact 77% of the households. On a more general scale this also means that many households are able to find their source of employment in the same village where they reside. The cooperative has role in the importance of agricultural employment as the guarantee of a market for households' crops allows creating the necessity for agricultural labour force to support their production. It is important point though that not all households specialized in agriculture are economically sustained by the cooperative as there are important producers that do not sell to the cooperative. It certainly through that the technical assistance and credit provided by the cooperative initially along with the facility to collect products in their field that members currently have certainly represent a big support for their economic activity.

Tab. 2 - Comparison among agricultural employment network in the three villages.

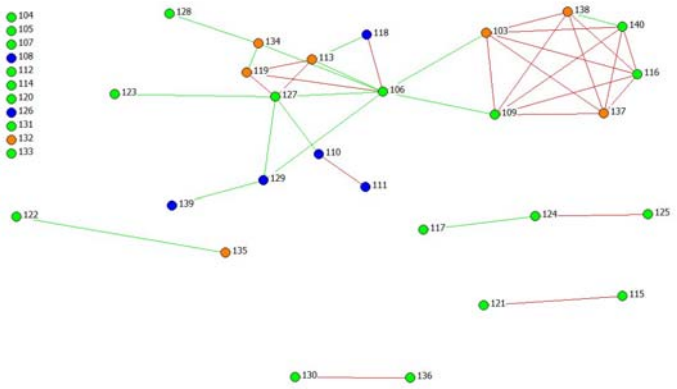
	Village A	**Village B**	**Village C**
Isolates	33%	50%	54%
Density	0.014	0.024	0.021
Average degree	1.41	0.89	0.76

Fig. 5 - Village A kinship and agricultural employment tie.



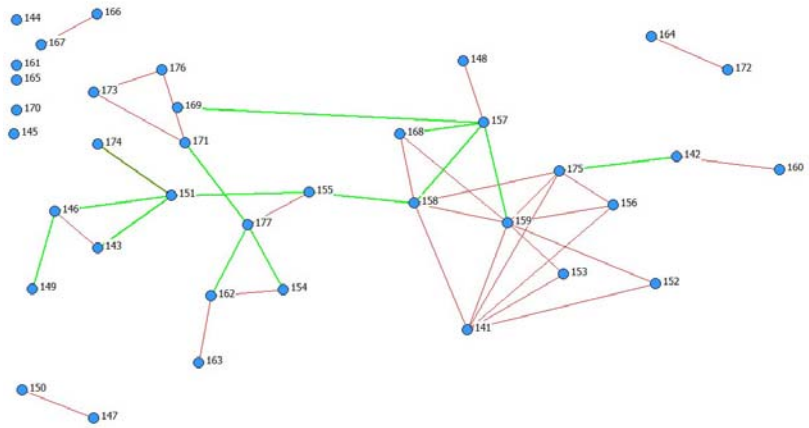
The picture in village B is totally different in fact, despite the brokering role between the two main groups, many families are left aside being the percentage of isolates 26%. There are 45% of the households declare to make their living mostly out agriculture but when it comes to income from agriculture the values are mostly below one salary. This data show that most of the households that agricultural production is mainly for subsistence and not on larger scale that would allow them to hire somebody even occasionally to work on their plot. There is in fact a quite strong correlation (0.44) between income from agriculture and number of households employed in agriculture and between being member of the cooperative and number of households hired (0.41) while only weak correlation between agricultural income and being member of the coop (0.25). There are in fact quite a number of members that almost do not sell any product to the cooperative.

Fig. 6 - Village B kinship and agricultural employment ties.



In village C the brokering role of agricultural employment is extremely relevant but quite vulnerable. There are only three ties that connect the main clan mostly composed by old settlers and their relatives and some of new settlers. The role of agriculture is certainly the lowest among the three villages: only 22% of households make their living out of agriculture and most of households (57%) live out of a mixture between sugar cane employment and other activities. The role of producers' cooperative is still very marginal as only two people are members of the cooperative and the cooperative has been operating in the village only since 2009.

Fig. 7- Village C kinship and agricultural employment ties.



Different history different elements to compose contact network: ERGM results

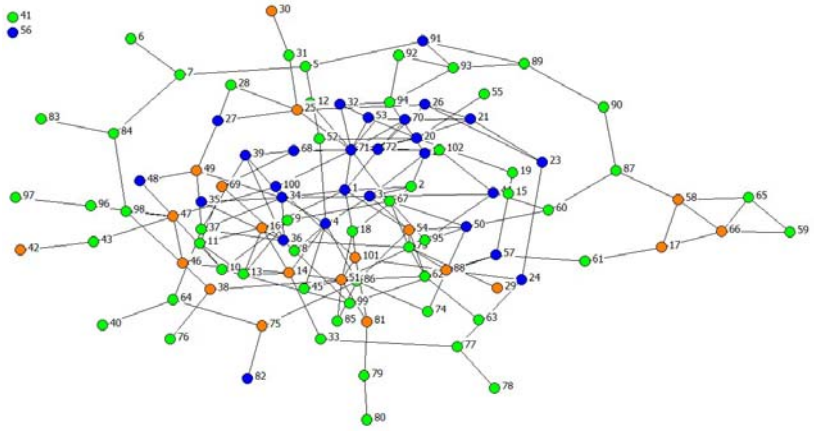
The three graphs below illustrate the frequent contact network of each of the villages. The three networks have a very small number of isolates and similar average degree but they present different local structures.

Tab. 3 - Comparison among contact network.

	A	B	C
Density	0.034	0.114	0.101
Isolates	2%	5%	0%
Average degree	3.39	4.21	3.6

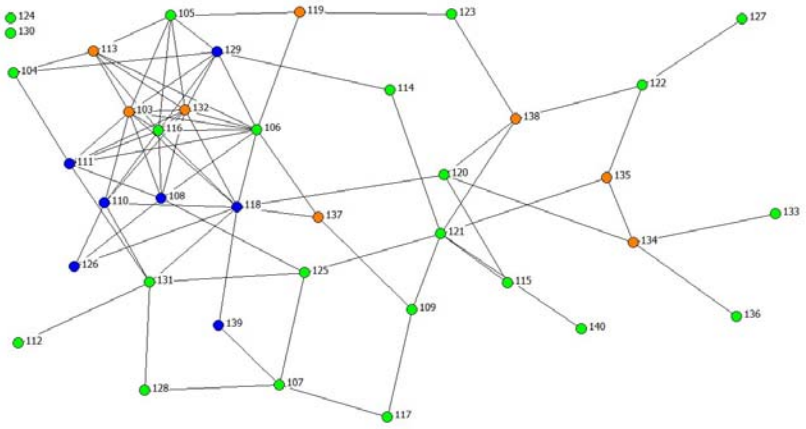
Village A network is more interconnected being difficult to separate single cliques, except at the periphery of the network. In village B and C instead it is easier to identify cliques.

Fig. 8 - Village A contact network.



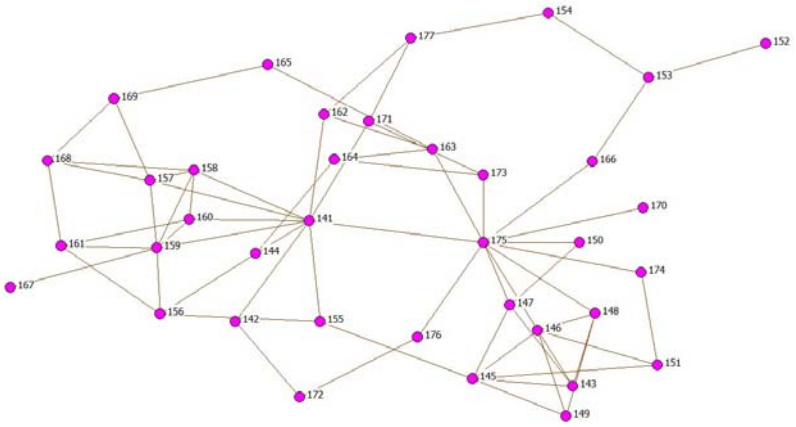
In village B there is very dense group where all households are connected to each other whether the rest of households are only connected by a smaller number of ties. Households that arrived together at very beginning of encampment process and that are currently living in the same road compose this group.

Fig. 9 - Village B contact network.



In village C two main groups that composed by households connected by several ties but there are few brokering ties among the groups.

Fig. 10 - Village C contact network.



ERGMs are a class of statistical models for social network analysis that is designed to enable network pattern recognition, which represent the structural signature of the network [22]. The ERGMs use maximum likelihood estimation and Monte Carlo Simulation. The model creates a theoretical network and tests it against the observed network. The goodness of fit statistics gives a precise measure of how the predicted network is similar to the observed one.

My objective is identifying what are the shared features and/or shared contact (homophily)and the local structures that are able to predict the network of contacts and how do they vary across the three villages. The four statistics parameters that I am using in the models are “nodematch” that measures when two nodes (households) in the dyad share the same attribute, “edgecov” that measures when two edges share the same networks and two ERGMs terms namely geometrically weighted edgewise shared partner distribution and geometrically weighted degree distribution. The variables analyzed were selected as they were considered to be the most likely to foster the creation of link among nodes: monthly income from agriculture, monthly total income, participation into political parades, migration wave in which the household has arrived, household membership in the cooperative, household present employment, the occupation of the households before the occupation period, the number of households that referred the household in object as among the most popular, place where the household lived shortly before the agrarian reform, connection of the households in the other two collected network kinship and agricultural employment. All covariates are categorical or indicators variable as there is low probability that two households to match on a specific value.

In village A, that is the most complex village in terms of networks and the village with the highest agricultural production, there is wider number of factors contributing to network formation while in the other villages there is a smaller number of factors that are to able explain the contact network. In village A same geographical origin and homophily are to be the most important elements. In village B instead it is more difficult to identify what drivers of households frequent contact but being in the same migration wave and in the same party are important in defining a link in the frequent contact network. In village C the co-existence in the same network of households is the major factor that allow predicting the other networks while no shared attributes has a relevant effect.

CONCLUDING REMARKS

This working paper starting from the analysis of three social networks namely agricultural employment, kinship and frequent contact explored how groups emerge and how they are connected to each other in three villages created by agrarian reform. The differences among the three villages show that an innovation such as agriculture can more easily spread in a context where there are more connections across groups. These connections are represented by kinship that is mainly related to history of the village and agricultural employment that has been supported by the role played by the cooperative.

NOMENCLATURE

CBOs	Community Based Organizations
ERGMs	Exponential Random Graph Models
INCRA	Instituto Nacional de Colonização de Reforma Agraria
MST	Movimento Sem Terra

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RENEP – RENEWABLE ENERGY FOR PALESTINE

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ABSTRACT

The RENEP project arose from the need to develop the energy sector in the city of Hebron, in Palestine, bringing know-how at local level and helping create innovative entrepreneurship and new jobs in the market of renewable energy in the Middle East. At the same time there is an interesting opportunity to demonstrate, through a real implementation, the advantages offered by new technologies that can be also exported in other Middle East countries. Starting from Energy, the City of Hebron aims at an effective integration of all utilities (energy, water, telecommunications), creating smart ICT infrastructures for e-governance, attracting external investors and enabling funding by international organizations.
The main objectives of RENEP are the improvement of the efficiency of electric energy networks and the enhancement of the quality of life for citizens through continuous availability of electric energy from renewable sources connected within a smart network, reducing energy costs and environmental impacts. These objectives will be met through the design and building of a Pilot Site, interconnecting existing solar panels, through a "smart grid approach" consisting of an experimental production of energy optimized in economic and environmental terms. The role of energy storage capacity will be also thoroughly investigated. International donors may be interested in being involved in order to fund project implementation, since the experience made in Hebron can be at the basis of further activities in the Middle East.
Therefore, the project will define technical and organizational requirements to build economically and environmentally sustainable intelligent infrastructure systems and services for smart cities. Moreover, the systematic installation of photovoltaic systems on Hebron's roofs can become part of the city urban planning strategies and, at the same time, offer new opportunities for qualified jobs in installation, management and maintenance.

CONTEXT

Increasing population and urban growth are driving a major change in Palestine's energy demand, boosting consumptions and requiring environmentally sustainable solutions. At the same time, global warming and related worldwide CO2 reduction policies are forcing a technologic transition to Renewable Energy Sources (RES), like wind and solar. RES market will be one of the main drivers of green economy, enhancing business and creating new qualified jobs. For Palestine, renewable energies represent therefore both a need and an economic opportunity, within a wide strategic scenario that can be oriented to energetic independence reducing the need of importing energy from Israel.

The City of Hebron is a Palestinian city in the southern West Bank, 30 km south of Jerusalem. It is the district capital of the Hebron Governatorate, the largest one in the West Bank, in an area where the sun shines with continuity: photovoltaic systems are therefore a potential important energy source. No solar production is obviously possible during the night, and surplus production during the daytime is not self-consumed in case energy production exceeds energy consumptions. Solar panels represent the city "distributed power plant", and need therefore effective energy governance networks (smart grids) and mechanisms in order to be fully and efficiently exploited.

The systematic installation of photovoltaic systems on Hebron's roofs can become part of the City urban planning strategies. At the same time, this can offer new opportunities for qualified jobs in installation, management and maintenance processes. Energy storage capacity represents a strategic issue, since it is able to make the entire City RES-based energy system profitable. The City of Hebron can become the area where innovative energy storage technology is tested and used as catalyst of profitable energy initiatives.

The City of Hebron can aim at an effective integration of all utilities (energy, water, telecommunications), through an energy driven, bottom-up, business-oriented approach to build economically and environmentally sustainable smart infrastructures. This approach can create resources to fund smart ICT infrastructures for e-governance, attracting external investors and enabling funding by International organizations.

RENEP PROJECT

The RENEP (Renewable Energy for Palestine) project, a business-oriented research project, funded by the PMSP (Palestine Municipal Support Program) of the Italian Ministry of Foreign Affairs, is an attempt to develop new energy management strategies to exploit the maximum potential from renewable energy sources. The project is part of a cooperation agreement signed by Hebron and Turin Municipalities, with SiTI, AI Engineering and Province of Turin as technical and scientific partners. The project originated from SiTI's presentation on smart energy during the 1st Conference on e-Municipality that was held in Hebron in June 2012 [1].

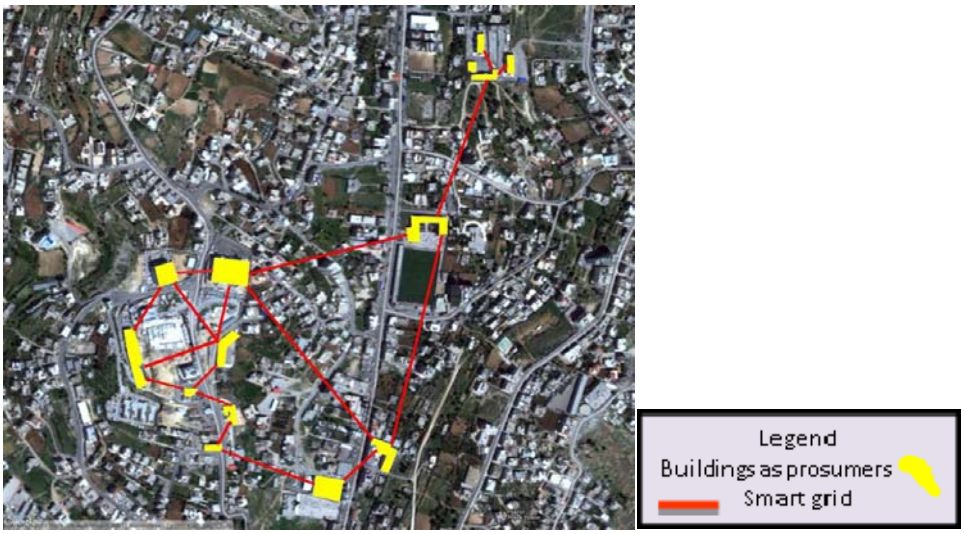

Fig. 1 - Example of a possible smart grid in the city of Hebron.

RENEP project starts from the idea that city can be seen as a network of "prosumers" (producer – consumers), where buildings (houses, offices, industries, schools, hospitals, sport facilities, etc.) can act as energy consumers in a traditional way, but also as energy producers. Each building is connected through "smart" connection, enabling data and power exchanges on both directions.

Figure 1 shows a possible implementation of a smart grid in the Hebron urban context, where public and private buildings are connected by a smart infrastructures able to both collect data and transfer energy from producers to consumers.

Energy can be produced through new or existing photovoltaic systems on roofs, representing a potential important energy source. However, the production during daytime can be higher than consumptions, so surplus production is not self-consumed. At the same time, no production is possible during the night. The main idea is to store the surplus production during the day and use it during the night. In order to do so, local energy storage systems needs to be installed. A proper energy flow management by means of energy storage units, dispatchable loads and demand side management will allow the efficient exploitation of renewable energy sources within the technical limits of the current electrical infrastructures.

Figure 2 shows the integration between the building, acting as a "prosumer", and the surrounding infrastructure, composed by the electrical grid and the energy storage systems.

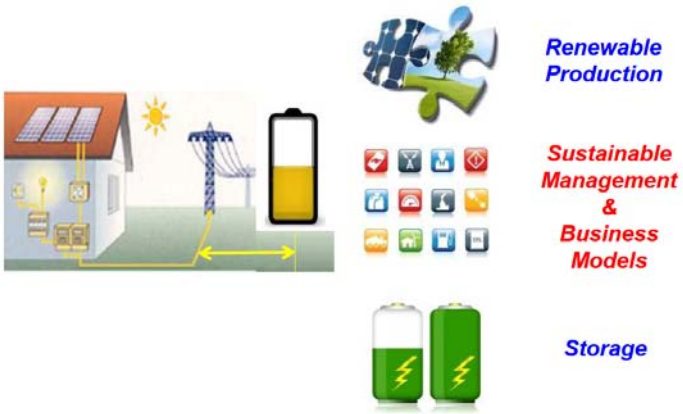

Fig. 2 - Building as a prosumer in a Virtual Power Plant.

A proper energy management strategy must be developed [2] to exploit the maximum potential from solar source and to guarantee an efficient use of storage systems. Through a smart grid approach, solar panels are identified as

distributed power plant, with a central management which finds the optimal matching between production and consumption, also with the help of storage.

PROJECT ACTIVITIES

Several specific activities have to be carried out in order to reach the expected objectives.

1. **Data Collection**. The collection of baseline data will consider the existing networks and energy facilities in Hebron with the collaboration of the HEPCo Company. Other information that will be collected concern the localization of the public buildings, schools, Municipality departments and other buildings. The collection will cover also the data of already existing renewable plants and in particular solar plants. The process should be carried out in the field and at the offices of the HEPCo Company. Before being used for the technical study itself, the data will be further checked and validated in order to ensure a good level of credibility and accuracy. Collected data will be analysed and discussed in cooperation with local technicians, in order to verify, through a process of validation, compliance with the actual condition and completeness of the information obtained. During the data collection activities, several site visits will be organized to better understand the feasibility of the connection of different types of buildings that can be linked and managed through a smart grid approach.
2. **Legislative framework analysis**. The legislative framework will be collected and then analysed by means of the local electrical technicians in Hebron, the Palestinian Electric Energy Authority and other Municipalities and management Authorities. On the basis of data concerning the pilot site and preliminary analysis, some suggestions and considerations can be made also concerning the tariff system.
3. **Building of pilot site**. A set of technical and organizational criteria will be defined in order to identify the exact territorial contexts to be used as pilot site (Figure 3). Areas characterized by different building types with different load types will be selected, where there is a strong presence of RES production systems. In the pilot testing phase the selected buildings will be treated as a "Virtual Power Plant" (VPP), evaluating their load and energy production profiles and defining optimization criteria at economic and environmental level. The PV installations on this set of buildings will be monitored through ICT interfaces, using available transmission lines and systems: this VPP represents the basis for the future "smart grid", whose design and implementation depends upon investments. The investments are related to sustainable business models relying on energy policies by the City. The VPP will create a living context where energy storage potentials, energy production and data transmission technologies, and the integration between them can be evaluated. Therefore, the pilot site will be designed in order to become a benchmarking context for foreign companies to test innovative products and solutions in the smart grid and smart city context. A critical issue is represented by the connection between the distribution grid and local RES systems, that can become able to operate as semi-independent unit (only actions that are compliant with Palestinian laws and regulations will be considered). These connections will be deeply analysed in order to find out possible solutions able to overcome possible grid problems. Solutions can be identified both on the technical side and on the governance side. Energy storage requirements will be identified, investigating existing technological solutions able to cope with the challenges.

Fig. 3 - Smart pilot site.

4. **Preparation of tender documents**. The preparation of Terms of Reference (TOR) and tender documents is a major step: a contracting company has to be chosen, by means of an international tender, in order to implement

a city-wide smart grid, whose size is enough to test and validate innovative business models and to help improving Palestinian energy regulations. Based on the Pilot Site, a financial analysis will be carried out in order to define a suitable business plan for the Hebron Municipality, including cash flow, break-even point and the IRR related to the investments and energy cost. The analysis will consider the possible future installation of renewable energies and the implementation of a more extended smart grid in all the city of Hebron. The capacity of the pilot site to host testing and simulation of innovative smart grid solution can attract foreign donors (Foundations, Investment Funds, Companies, etc.), with a positive impact for the economic sustainability of the project. In addition an energy driven, bottom-up, business oriented approach to build economically and environmentally sustainable smart infrastructures will be also activated. The collected data during the exercise on the pilot site will be compared with the estimates and the financial analysis, leading to an on-field verified process.

5. **Training. Local young technicians** will be trained with special reference to VPP approach, integrated governance of distributed energy sources, installation and management of renewable energy technologies, design, management and commissioning of smart energy technologies, design of smart energy systems and smart grids. The main goal is the development of a local expertise able to create jobs and innovative technology-intensive start-ups.

EXPECTED RESULTS

Energy can represent a first important step in smart infrastructure implementation process. A “smart grid” approach can create an ideal context to gather the required financial resources to build the infrastructures of a “smart city”. Hebron’s best practices may be extended to other cities and to all Palestine, empowering energy self-production and self governance by a smart use of renewable energy sources in urban contexts, paving the way to a medium-term wider energy independence of Palestine. The approach of the project will allow to build economically and environmentally sustainable intelligent infrastructure services for smart cities.

The expected results of the project are:

- comparison report upon Italian and Palestinian town and territorial energetic plans.
- Training for trainers plan.
- Photovoltaic building roofs as a distributed generation for smart cities. The installation of photovoltaic systems on Hebron’s roofs can become part of the City urban planning strategies; at the same time can offer new opportunities for qualified jobs in installation, management and maintenance.
- Building of a Demonstrative Pilot Site based upon photovoltaic panels above some mayor Hebron buildings, in order to better show the potentialities of adopting a smart grid approach in energy management.
- Collection and analysis of the Palestinian laws on Renewable Energy and analysis of the tariff system for RES.
- Business models to attract investors to build city e-infrastructures: financial analyses will be carried out in order to define a suitable business plan for Hebron Municipality.
- Empowering energy independence and self governance by a smart use of renewable energy sources in urban contexts, by applying energy saving practices in new and existing buildings and by training tools, courses and materials for a selected group of Hebron’s young technicians with special reference to the installation and management of solar panels and their connection with the Smart Grid.
- Creation of a living context where energy storage, energy production and data transmission technologies can be effectively tested.
- Geoferenced maps of the area to be used to correctly locate technology on the territory, choosing the best areas (e.g. PV orientation with respect to the sun). Detailed assessments will be performed with reference to: GIS systems, energy services GIS based data, cadastral systems and procedures, financial applications and billing systems, ICT networks, protocols, and-common state of the existing network.
- Technology testing of new Renewable Energy Sources (RES) for cities with the aim to generate value and create resources to fund smart ICT infrastructures for e-governance. Technologies will be tested in selected pilot areas and sites, creating a smart distributed energy system.

BENEFICIARIES

Several target groups can be positively affected by the definition of innovative energy management protocols aiming at exploiting the potential of renewable sources, like sun and wind.

The Municipality of Hebron is the first direct beneficiary, as it will become a virtuous example of best energy governance practice, recognized at Palestinian level and in the entire Middle East. As a result, the Hebron area can attract foreign donors, starting from Arab countries (Companies, Foundations, Investment Funds, etc.) in order to test and simulate innovative solutions and products in the energy sector.

Through the definition of innovative energy services, as well as the creation of new job opportunities, also citizens

(especially young people) can experience valuable benefits. Innovative energy services based on the exploitation of RES will lead to a greener society, while optimal management of the different RES can increase economic gain. At the same time, new jobs will increase the financial resources for each families.

However, the definition of business models also involves vocational training bodies and local SMEs. Vocational training bodies, with the help of foreign institutions, can increase their innovation level and expand their market in order to place new young trained persons for local enterprises. In addition, the entire Palestinian Training System will benefit from cultural exchanges with Italy, through the identification of new courses and disciplines to provide a strong link between academic and applied research.

New or existing SMEs will gain qualified personnel from the increased training capacity, guaranteeing installation and maintenance of operational systems in the energy sector.

Finally, the Hebron Electric Power Company (HEPCo) can develop new services for citizens and, therefore, new business models that can be replicated in other Palestinian areas.

NOMENCLATURE

CO2	Carbon Dioxide
GIS	Geographically Information System
HEPCo	Hebron Energy Power Company
ICT	Information and Communication Technologies
IRR	Investment Return Rate
PV	PhotoVoltaic
RENEP	REnewable ENergy for Palestine
RES	Renewable Energy Sources
SME	Small Medium Enterprises
TOR	Terms Of Reference
VPP	Virtual Power Plant

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THE CONTRIBUTION OF LOCAL TAXATION TO THE SUSTAINABILITY OF THE MILLENNIUM DEVELOPMENT GOAL 7C IN THE REGIONS OF LOUGA (SENEGAL) AND NIAMEY (NIGER)[1]

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ABSTRACT

From 2001 to 2012, in Burkina Faso, Niger and Senegal, over 1.6 billion Euros were invested in the environmental sector. Most of this money comes from donations and low-interest loans to increase access to water and safe sewage systems to reach the Millennium Development Goal 7C. However, the incessant growth of the Sahelian cities and their proverbial inability to ensure the maintenance of the infrastructures created hamper the achievement of this goal. More transfers from the State to local governments and a reform of local taxation are needed. This article summarises the early achievements of an assessment of the potential of local taxation in Kébémer, Louga (Senegal) and Niamey (Niger): three municipalities that represent three classes of Sahelian urban centres. The assessment was carried out within the Triangular project Italie-Niger-Sénégal (INS) coordinated by the Province of Turin, co-funded by EuropeAid where the DIST-Politecnico di Torino, the Province of Milan, the Milanese Provincial Fund for international cooperation, the Region of Louga and the City of Niamey were partners. To carry out the assessment, it was necessary to accomplish a street addressing in Kébémer and complete it in Louga, carry out an extensive process of photo interpretation of satellite images to identify built-up plots, construct an open source multi-scope GIS in each of the three municipalities. This made it possible (i) to identify the tax base of the street tax, of the tax on garbage removal, of the tax on vacant land, of the rights of occupation of public land, (ii) to assess their yield, (iii) to localise areas with less access to infrastructure, and (iv) to identify the potential contribution of an improved local taxation to reduce the infrastructural deficit in these areas.

INTRODUCTION

Between 2001 and 2012, in Burkina Faso, Niger and Senegal, investments in the environmental sector amounted to just over 1.6 billion Euros (Tiepolo 2012). The sum is considerable and, unlike the previous decade, it was spent mostly in the urban sector to achieve the MDG 7C, which concerns improvement to the access of drinking water and to safe sewage systems. Much of these resources are attributed to donations or low-interest loans to the ministries.

The supply of drinking water and private and public sewage systems in secondary towns is merit worthy and is a partial turnaround of what has been done up to now. However, we mustn't kid ourselves that all this solves the urban environmental problems of the Sahel. Aqueducts, latrines and the rainstorm drainage are just part of the problem. In Sahelian municipalities the lack of treatment for sewage water and for the sludge from the latrines as well as the collection and treatment of solid urban waste, besides being an endless source of pollution, prevent the operation of the storm water drainage network.

It is unthinkable that international aid can also make provision for this essential environmental component in the 37 cities with over 25 thousand inhabitants now existing in the eight countries of the Western Sahel, and in the numerous small towns. Two matters become important.

First, how to maintain the aqueducts and storm water drainage which have multiplied several times in just a few years? The case of the storm water drainage is emblematic: where existing, it is obstructed by waste, sand or vegetation, completely preventing it's operation.

Second, where to find the resources needed to expand the drinking water supply networks and the storm water drainage, to multiply the private sewage systems and plants for purification and the storage of solid urban waste? The 1.6 billion Euros mentioned above will only cover the previous deficit, not future requirements. And on this point we need to be clear. The incessant demographic growth of every kind of urban centre, the consequent proliferation of dwellings and basic services (schools, healthcare centres) will at least double the need for infrastructures within the space of a decade.

In the light of these considerations, the only possible answer has to come from the single states and, given the

[1] "Introduction" and "Main knowledge gained" are by Maurizio Tiepolo, "The project" is by Mario Artuso, "Coverage of the deficit", "Conclusions" and all the figures are by Sarah Braccio. The contents of the article do not express the position of the INS Project, but only that of the authors.

ongoing decentralisation process, from the municipalities themselves.

The achievement of the MDG 7C is an essential condition of local development. It is not only matter of enduring decent living conditions to urban residents. MDG 7C mitigates the impacts of climate change which, in the Sahel, brings disastrous floods which destroy key tools (business) and investments (dwellings) of local development. A local economy cannot develop if it has to rebuild everything and pay compensation for damages to tens of thousands of victims every year [16].

Urban public finance reform in Global South has been addressed as a key topic of development since the late 70s, focusing particularly on property taxation [6] [2] [3] [5].

Nevertheless, how much local resources can contribute to the need for new urban infrastructure continues to be a politically uncomfortable and unpopular question, which very few scholars prepared to focus on [4].

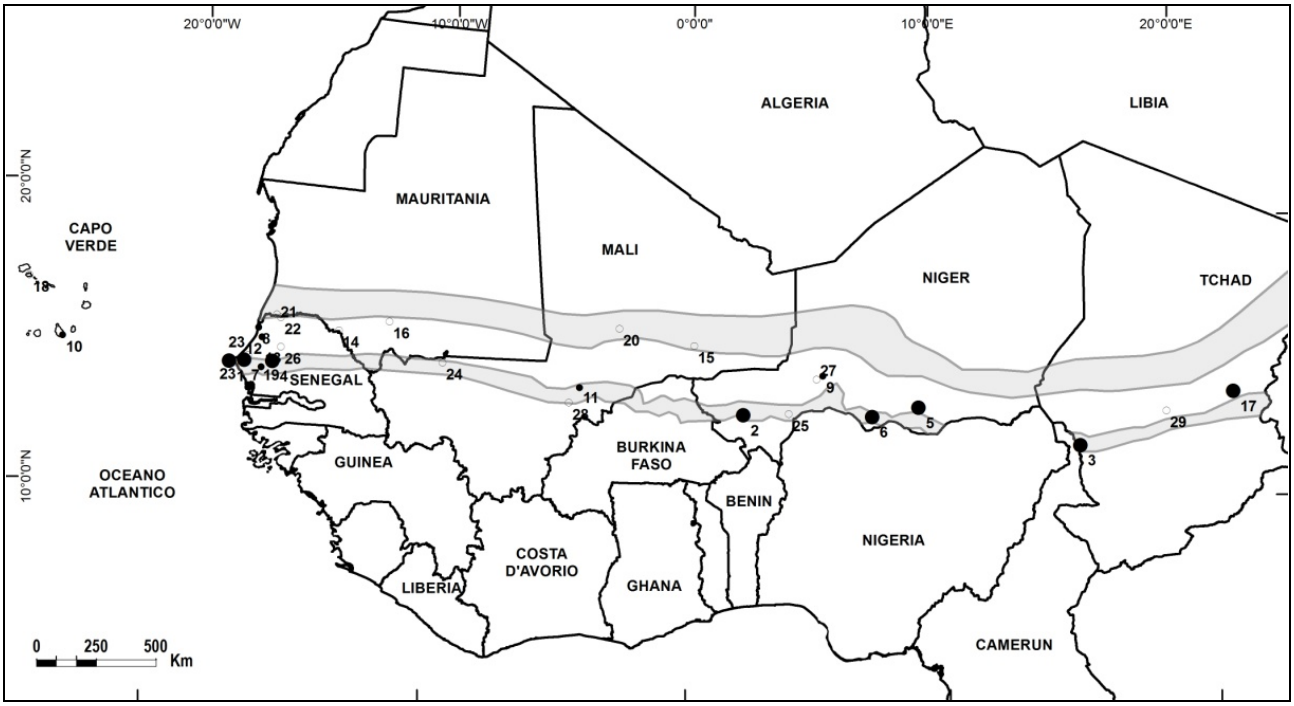

Fig. 1 - Western Sahel delimitated by the fluctuation band 1970-2000 of 200-500 mm isohyets. Cities with population over 250 k (large dots), 100-250 k (dot), 25-100 k (circlet). Niamey (2), Louga (8) and Kébémer (26) are shown. (Sources: 1, INE 2010, INS 2012 e 2001, INSD 2006, INSEED 2009, INSTAT 2009, ONS 2013, AP3A. By E. Ponte).

The triangular cooperation project Italie-Niger-Sénégal (INS) for developing the capacity of the local authorities to manage their resources, implemented between January 2010 and December 2013 with the coordination of the Province of Turin and co-funding from EuropeAid, has made it possible to lay the foundations for improving local taxation in three cities and has assessed the potential yield of local taxation.

The municipalities of Kébémer (23,380 res. in 2010), Louga (90,432 res. in 2010) and Niamey (1,011,277 res. in 2012) represent three classes of Sahelian urban centres (Fig. 1) [13] [8].

DIST-Politecnico di Torino, as associated partner of the Province of Turin, conceived and accompanied the assessment in close collaboration with the other partners: the Province of Milan, the Fund of the Province of Milan for international cooperation, the Region of Louga (Senegal) and the City of Niamey (Niger).

To assess the local resources it was necessary not only to examine budgets and administrative accounts of three municipalities, but also to assess the tax base using administrative census, a survey at dwelling level, and photo interpretation of high-resolution satellite images. The result is a GIS for monitoring the tax base conceived for municipal use.

The following paragraphs will look at the main features of the Project, the main information gathered, the conclusions and recommendations.

THE PROJECT

Assessing the potential of local taxation in reducing infrastructure deficit is not particularly difficult when the extent of the tax base (properties, taxpayers, businesses, etc.), the deficit to be reduced and the unitary costs of the infrastructure to be created are known, especially if the tax base and the needs do not vary much over time.

At the beginning of the assessment, in the three municipalities considered, this information was missing or not up to date. Moreover, in all three municipalities, the tax base was rapidly evolving. The population doubled every ten years, the dwellings multiplied from 12% (Kébémer) to 28% (Louga) to 50% (Niamey) within the same space of time and the parcelled out area increased even more.

In these conditions, even the most willing of local authorities was unable to assess anything. A simple and updatable information system was needed. Its performance had to be calibrated to the forces available. For Niamey it was not possible to update the census of the properties started with the street addressing of 2003, in view of the extension reached by the built up area. It was however possible to build up a GIS with the lot as the minimum unit of analysis, which made it possible to find out the name of the owner, the state of construction and the infrastructures to which the lot had access (surfaced road, storm water drainage, public lighting, etc.). In a context were municipalities have no control on the building lots nor a situation of the built-up area, a GIS allowing the questioning of the data base (DB) by lot, owner or road already seemed to be an important step forward.

In the case of the Senegalese cities, given the much smaller size compared to Niamey, it was possible to concentrate on a survey, lot by lot, and to know the name of the owner and the occupant, the type of latrine and the water supply system, as well as other information. To reach this goal it was necessary to assign to every entrance a street number through a street addressing operation in Kébémer and to update the street addressing of Louga begun in 2003, when the city was just 72% its current size. The lot by lot survey generated an embryo of a DB for municipal use, linkable to other DB, such as those of the land register, the tax department, etc.

These activities were carried out by the INS Project, the technical part of which was entirely defined and accompanied in its implementation by the authors of this paper.

The tax base identification and the potential yield for reducing the deficit of key infrastructures was carried out after completing the GIS.

MAIN KNOWLEDGE GAINED

The Project was divided into 5 phases: (i) identification of the weakness of local taxation, (ii) potential yield of improved taxation, (iii) infrastructures that could be achieved with said yield, (iv) infrastructures priorities and deficit assessment, (v) gap between achievable infrastructures and deficit. The following pages explain the knowledge that was gained in each of these phases.

WEAKNESS OF LOCAL RESOURCES

The weakness of local taxation most frequently complained of by local authorities is the insufficient transferral of resources from the State to finance the tasks assigned to municipalities by administrative decentralisation. This is definitely true, but it is joined by at least three other weaknesses.

First, the modest yield on certain taxes billed and collected by municipalities. Among these, for example, the rights of occupation of public land with kiosks and hangars, the tax on the collection of household solid waste, the street tax (*taxe de voirie*), the tax on outdoor publicity, the costs for delimiting building lots, the tax on the markets kiosks (*souks*).

Second, the transferral to the municipalities of the parts of certain state taxes, such as the tax on vacant land (*contribution foncière propriétés bâties et non bâties* - CFPNB) or properties. The municipal councils complain of the lack of transparency on these transfers, which make it impossible for them to understand to what extent the tax in question is effectively collected by the State.

Third, the capacity to programme income and expenses. According to the ordainment of the local authorities of the two countries, municipalities cannot programme their expenses over several years. However, the reason also lies in the absence of information systems and, therefore, the inability to keep track of the evolution of the tax base and of late payers. An example could be the knowledge of the street tax (*taxe de voirie*) payers: the doubling of construction every ten years (Fig. 2) does not allow the current instruments, which are usually in hardcopy form, to monitor this evolution. Consequently, there is a gap, which is sometimes considerable in size, between the yield programmed when drawing up the budget and the resources collected at the end of the year.

POTENTIAL OF THREE INCOME ITEMS IN THE MUNICIPAL BUDGET

The detailed analysis was developed using three income items in the budget of Kébémer, Louga and Niamey (Tab. 1). These revenues were chosen because they are among those that present the biggest gap between potential and expected (by municipalities) yield, as well as between expected and collected return. They were the street tax, the tax on vacant land, and the rights of occupation of public land in Niger, the garbage removal tax, the rights of occupation of public land and tax on vacant land in Senegal.

Monitoring the tax yield over times presents several problems. In Niger, following the *Statut de la ville de Niamey*

(2011), the decentralisation of tax billing and collection to the 5 districts composing the municipality was eliminated in favour of a centralised structure. Certain taxes, like tax on vacant land, were absorbed in property tax (*taxe immobilière*). The amount to be returned to the city on certain taxes collected from the State changes. This implicated the non- comparability of budgets from before 2011 with those from after this date.

These resources can be greatly increased. It is a matter of broadening the tax base and making collection more efficient.

We have traced three taxation scenarios for the Senegalese municipalities and four for Niamey. They vary substantially depending on the taxation system on vacant land in Senegal and the analogous in Niger: (a) only vacant land served by surfaced roads and/or equipped with storm water drainage and/or public lighting, (b) all vacant land in the built-up zone, (c-d) all vacant land within the municipal area.

Fig. 2 – Kébémer 2004-2013 (left), Louga 2002-2013 (centre), Niamey 2002 -2013 (right). Built-up surface (by S. Braccio).

Tab. 1 – Kébémer, Louga, Niamey. Theoretic yield (authors estimations), envisaged yield (municipalities), collected entrance.

Budget items	*Kébémer*			*Louga*			*Niamey*		
	*millions FCFA**			*millions FCFA**			*millions FCFA***		
	Theoretic	*Envisaged*	*Collected*	*Theoretic*	*Envisaged*	*Collected*	*Theoretic*	*Envisaged*	*Collected*
Tax on garbage removal		3,2	1,6		39,4	31	-	-	-
Street tax	-	-	-	-	-	-	578	242	31
Tax on vacant land	7,4	0	0		6	0	45,2	0	0
Rights of occupation	15,2	22,9	13,8	-	31	15,7	…	937	251

* Mean 2010-2013. ** Mean 2011-2013.

INFRASTRUCTURES THAT CAN BE CREATED WITH THE IMPROVEMENT OF THE THREE REVENUES

Once we know the yield, municipality by municipality and according to different scenarios, of the improved local taxation, we need to translate the expected yield into infrastructures. Reference is made to the cost of building surfaced roads, with public lighting, sometimes provided of storm water drainage, in the three municipalities. For the Senegalese cities we made reference to the costs estimated in 2006 for the construction of several urban roads in Guediawaye [12] and, in the case of Niamey, to the costs for the construction of a road of 12 km built in 2013 with a width of 6 m and equipped with storm water drainage and entirely equipped with public lighting.

On the basis of these costs, the mean unitary cost has been established, allowing the prefiguring, on the basis of the amount of resources available, the kilometres of roads that can be built (Tab. 3).

The quantities were calculated on the basis of the yield over 5 years. In some cases, they were considerable quantities of works that could be achieved with the improvement of just 3 items from the municipal budget.

Tab. 2 – Kébémer, Louga, Niamey, 2013. Viability that could be created according to the local taxation scenarios.

Scenario	*Yield (5 years) FCFA millions*	*Unitary cost* FCFA/Km millions*	*Creatable infrastructure Km*
Kébémer			
A	213	177.3	1.2
B	851	177.3	4.8
C	1,968	177.3	11.1
Louga			
A	733	177.3	4.1
B	3,866	177.3	21.8
Niamey			
A	2,418	111	21.8
B	2,945	111	26.5
C	3,745	111	33.7

DEFICIT AND PRIORITIES OF INFRASTRUCTURAL NETWORKS

At this point it is a matter of seeing to what extent these works make it possible to reduce the existing infrastructure deficit. The first step is to verify the identity and the localisation of the deficit of basic infrastructures. The analysis is concentrated on the state of the surfaced road network, equipped with storm water drainage and public lighting. The criteria for defining the priority interventions include that of the greatest deficit. This is expressed not only by the lesser access to basic infrastructures but also by the number of the population who find themselves in this condition. Therefore, we have considered the infrastructural density and also the population density. The limit values considered are 10,000 res./km^2 for the population density and 5 km/km^2 for infrastructural density, which corresponds to less than one surfaced, drained and lit road out of four (Tab. 3).

In short, in Kébemer, three neighbourhoods out of eight are below the limit of 5 km/km^2 and four are between 5 and 8 km/km^2. In Louga 4 neighbourhoods are below 5 km/km^2 and 1 between 5 and 8 km/km^2. In Niamey, four neighbourhoods are below 5 km/km^2 and seven are between 5 and 8 km/km^2 (Fig. 3). This is 14,300 (82%) and 188,000 residents (19%) in Kébémer and Niamey respectively. The incidence of these areas lacking in infrastructure is therefore greater in the small municipality than in the big one but in both cases the numbers are high.

Tab. 3 – Kébémer, Louga, Niamey, 2013. Deficit of surfaced roads with storm water drainage and public lighting by neighbourhood.

Neighbourhoods	*Kébémer km*	*Louga km*	*Niamey km*
5.1-10 km network/km^2	6.3	3.3	19.4
< 5 km network/km^2	2.3	20.3	29.2
Total	8.6	23.6	48.6

COVERAGE OF THE DEFICIT

The potential yield on improved local taxation expressed in kilometres of surface roads provided with storm water drainage and public lighting can be compared with the deficit of these infrastructures in the neighbourhoods identified as having priority. The result is that the deficit can be zeroed only through taxation of every vacant land throughout the whole municipal territory for five years (scenario C). The other scenarios only allow the reduction of the deficit in five years (Fig. 4).

There is still the underlying issue: after the first five years, will improved taxation also allow an influence on the deficit which, year after year, is generated following incessant urban expansion without infrastructures typical of the

three towns in question? Our assessment assume that the physical growth in the municipalities continues with the same pace it has over the last decade and that the potential taxation translates effectively into works. According these assumptions Kébémer shows an infrastructure capacity higher than the infrastructure demand of the next decade. This means that at long term the deficit could be entirely reduced. On the opposite, Louga and Niamey have an infrastructure capacity far below the growth of infrastructure demand. This means that infrastructure investments using the increased resources from local taxation in Louga and in the Niger capital city could significantly improve the access of residents in the less deserved neighbourhoods. Nevertheless the pace of urban expansion create an infrastructure demand that far exceeds the infrastructure capacity sustained with local resources only.

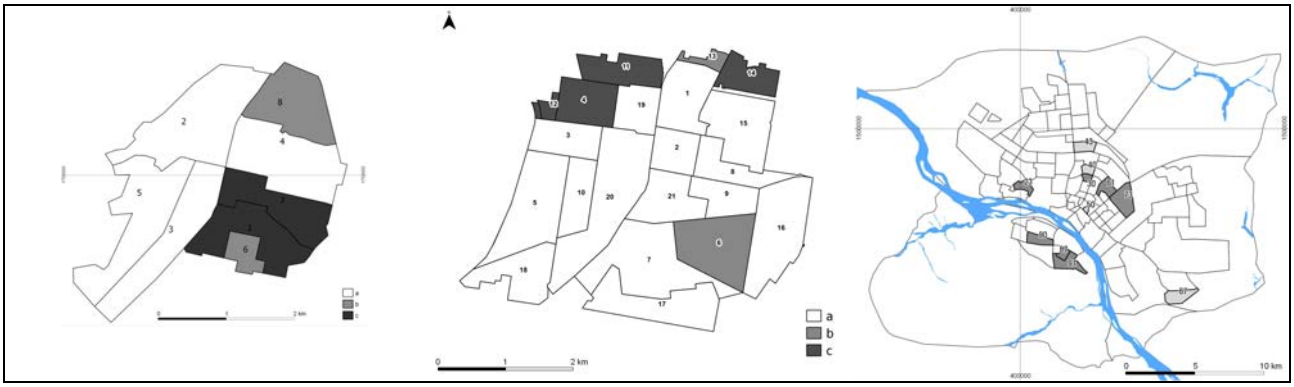

Fig. 3 – Kébémer, Louga, Niamey, 2013. Priority neighbourhoods in the reduction infrastructural deficit. By S. Braccio.

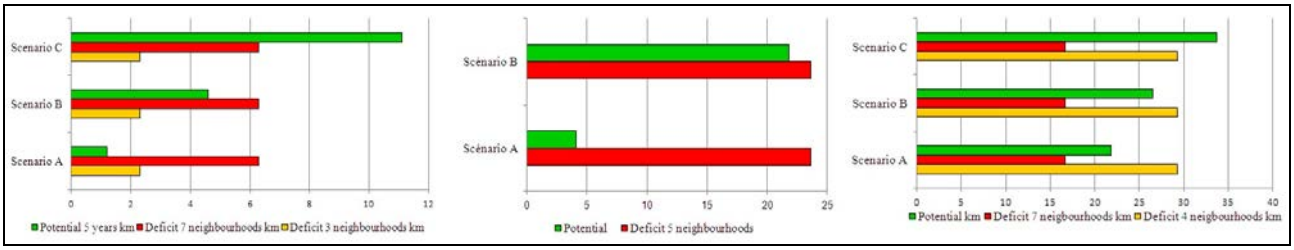

Fig. 4 – Kébémer (left), Louga (centre), Niamey (right), five years. Potential (km) of the 3 revenues (green) and infrastructure deficit (km, red and orange).

Tab. 4 – Kébémer, Louga and Niamey, 2012-2022. Expected evolution of the infrastructure demand and supply capacity with local taxation improvement.

Growth 2012-2022	*Kébémer* *%*	*Louga* *%*	*Niamey* *%*
Built-up area*	12	28	52
Infrastructure (surfaced roads with storm water drainage and public lighting)**	59	21	24
Gap	47	- 7	- 28

* Based on the previous decade performance. ** Assessed after local taxation improvement.

CONCLUSION

The analysis developed so far has proven the existence of strong road infrastructure deficits, that are more severe in large municipalities than in small ones. It has also highlighted that the expected yields of local taxation in municipal budget is often far from accomplishment.

The GIS has enabled an assessment of local taxation potential yield in three Sahelian municipalities that can help decision making.

It has shown that the improvement of just three revenues would make it possible to bring neighbourhoods with fewer infrastructures to the level of one surfaced, drained and lit road out of two within five years.

To achieve this aim it is necessary to tax all vacant land and collect 100% of the billed taxes.

Lesser billing or collecting capacity of vacant land tax would partially reduce the previous deficit in smaller

municipalities as Kébémer and, for the future, would keep the growth rate of infrastructure below the rate of generation of the deficit following incessant urbanisation without infrastructures. Otherwise, in large cities as Niamey, even a full collection of local taxes and their translation into new infrastructure will be able to keep the pace of infrastructure demand in the next decade.

Improving local taxation is an ambitious aim which has to face with a large number of taxpayers who never intend to pay at all. The solution has to come initially from local government, which has to prove that the payment of taxes corresponds to the creation of infrastructures.

There are three recommendations to the local and central governments that are not requiring large law modifications:

- to link the GIS on local taxation to other DB to allow the monitoring of delinquent taxpayers;
- to increase significantly the cost of building lots authorization in order to increase the funds for basic infrastructures construction;
- to introduce a progressive tax rate into street and vacant land taxation depending on the degree of access of the properties to infrastructure.

ACRONYMS

ADM	Agence de Développement Municipal
ANSD	Agence Nationale de la Statistique et de la Démographie
CFPNB	Contribution Foncière Propriétés non Bâties
CK	Commune de Kébémer
CL	Commune de Louga
DB	Data Base
DOSP	Droits d'Occupation Sol Public
FCFA	Franc of the African Financial Community
GIS	Geographic Information System
INS	Italie Niger Sénégal
Ins	Institut National de la Statistique
MEF	Ministère d'Économie et Finances
MDG	Millennium Development Goal
PRECL	Programme de Renforcement et d'Equipement des Collectivités Locales
RN	République du Niger
RS	République du
SM	Secrétariat Municipal
SRSDL	Service Régional de la Statistique et de la Démographie de Louga
TdV	Taxe de voirie
TEOM	Taxe Enlèvement des Ordures Ménagères
VN	Ville de Niamey

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DEVELOPMENT COOPERATION AND SUSTAINABLE TOURISM IN MOZAMBIQUE: TERRITORIAL SYSTEMS AND CULTURAL HERITAGE IN THE ZINAVE NATIONAL PARK

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ABSTRACT

The paper presents the existing relationship between development cooperation, environmental policies and sustainable tourism in Mozambique, analyzing the specific case of Zinave National Park (PNZ). By adopting an approach that investigates the socio-territorial configurations and the traditional knowledge of African communities [Turco, 2002], we want to prove that the knowledge of territorial systems is crucial for the management of environmental cooperation projects, particularly for the promotion of sustainable tourism activities, in order to preserve cultural heritage and promote local development.
In this perspective, the PNZ is an interesting case study because it is going through a phase of conservative and tourism planning, supported by the Ministry of Tourism of Mozambique, two Italian NGOs (CeLIM and LVIA) and some international organizations, in order to promote a *community conservation*.
Applying a participatory research method, called SIGAP Strategy [Casti, 2006], based on field research and the involvement of local actors, we will discuss the results obtained during the fieldwork carried out in the PNZ, in order to reconstruct the territorial structures existing within the Park. This is shown using the participatory mapping [Burini, 2010] which could be the base of a GIS community mapping system able to express and communicate these values, to implement the process of participation of populations to the decision-making process, promoting the sustainable development at a local level.

KEYWORDS: community conservation, sustainable development, environmental cooperation, participation, territorial systems.

COMMUNITY CONSERVATION AND PARTICIPATION IN SOUTHERN AFRICA

The experiences of *community conservation*[1] carried out in Southern Africa ranging from a wide number of guidelines, which move from forms of passive participation, in which the communities have a limited control over the decision-making process, to a full and direct participation in the resources management, called active participation [Cencini, 2011]. Between these two extremes there are many combinations, that has had as result the identification of several classifications, which emphasizes different aspects, including the level of participation [IIED, 1994], the type of ownership [Barrow, Murphree, 2001], or the participatory or contractual approach [Venema, Van de Breemer, 1999][2].

The experiments of community conservation, have been also characterized by a considerable differentiation of results, gaining support, as well as critics and doubts. Despite this, the new approach has greatly contributed to reintroduce the importance of the local community in the debate on conservation, leading, in some cases, the improvement of the living conditions of local population[3]. However, achieve the goals of community conservation, particularly in reality such as those of Southern Africa, characterized by an enormous natural wealth, but weak economies and uncertain political situations, it's often very difficult.

Analyzing the Mozambican reality, in particular, it's possible to emphasize that, despite in the programs of tourism promotion and in the development strategies of protected areas [Ministério do Turismo, 2004; República de Moçambique, 2010; Resolução n. 63, 2009] one of the first objectives is the implementation of local communities participation, in practice this appear still incomplete, due to the lack of both funding and personnel qualified, requiring the intervention of external actors such as the World Bank or others organizations of cooperation. In order to realize successful projects, therefore, in the future it will be needed not only a greater awareness on behalf of the promoters about the part played by African communities for the conservation of their territory, but it will be essential to provide adequate tools to enable these people to cooperate for the natural resources management, enhancing, at the same time,

[1] The term *Community Conservation* is used to describe those principles and practices that argue that conservation goals should be pursued by strategies that emphasize the role of local residents in the management of natural resources [Adams, Hulme, 2001].
[2] Integrating the different classifications, Cencini [2004] distinguishes three forms of *community conservation*, in particular: Protected Area Outreach; Collaborative Management; Community Based Natural Resources Management – CBNRM.
[3] As occurred for example in Zambia (ADMANE project) and Zimbabwe (CAMPFIRE project) where the revenues of hunting, in the past used exclusively by the Government, are now allocated to the residents of the various districts.

the traditional knowledge, which for centuries have regulated the symbiotic relationship between man and nature.

Is in this perspective that this paper presents the results obtained during the fieldwork carried out in the Zinave National Park, with the application of a specific methodology, the SIGAP Strategy [Casti, 2006], which, starting from the reconstruction of socio-territorial structure of the villages within the protected area, proposes the use of participatory mapping as the base of a GIS community cartographical system that can express and communicate easily the local values, facilitating the implementation of the process of governance and people participation, as well as contributing to the management of environmental cooperation projects and tourism development that are currently affecting the protected area.

THE ZINAVE NATIONAL PARK

Established in 1973, with the Government Regulation No. 47 of 26thJune, the Zinave National Park had the objective to protect certain species of animals, especially the giraffe (*Giraffa camelopardalis*), historically found in Mozambique only south of the Save River [Stalmans, Peel, 2010], the roan antelope (*Hippotragus Equinos*), the common tsessebe (*Damaliscis lunatus*) and the ostrich (*Struthio camelus*). Before the creation of the Park, since 1962, this area was designated as a game reserve under the management of the *Safarilândia Moçambique Lda* [LobãoTello, 1990]. With the proclamation of independence in 1975, Mozambique experienced a short period of reconstruction by the new Government, soon interrupted by the outbreak of a civil war that afflicted the country for more than ten years. Because of these political events the PNZ remained for a long time without administration, furthering the increase of poaching and the installation of guerrilla groups, who caused the extinction of many animal species, including giraffes [Ministério do Turismo, 2010]. After the signing of the peace agreement in 1992, the park remain without a guide until 1996, when it was established the first administration with the aim of renewing the effort for the conservation of ecosystems and biodiversity, later strengthened by the inclusion of the PNZ in the project of the Great Limpopo Transfrontier Park (Fig. 1), since 2006.

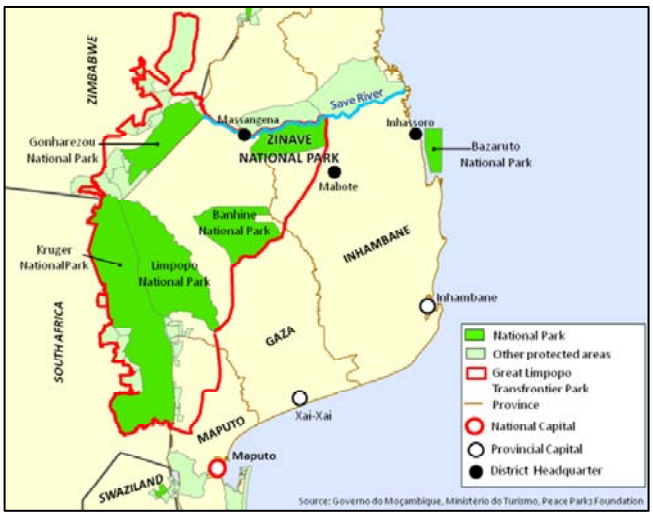

Fig. 1 – The Zinave National Park and the Great Limpopo Transfrontier Park.

Nowadays, the Park covers approximately 4,000 ha, surrounded by a buffer zone of 5 km in width. Despite the article 11 of Law No. 10/99[4] establishes that within the total protection areas, as Zinave, activities such as hunting, forestry exploration, agriculture, mining, and live stock herding are forbidden, here, as in many other parks of Mozambique, is living a population of about 4,500 people, whose survival depends almost exclusively on the Park resources itself. For this reason, after the inclusion of this protected area in the *Project of Transfrontier Conservation Areas and Tourism Development* (PACTFDT), were activated a series of planning actions that, on the one hand aim to gradually implement the restrictions imposed by the law, also with a redefinition of the boundaries that allows the exclusion from the protected area of most of the villages[5], on the other hand aspire to develop activities in tourism as an alternative livelihood for local population, with the help of the World Bank, as well as the Italian Cooperation, within a larger program, such as the Great Limpopo Transfrontier Park. For that reason, the situation requires a careful study that, based on an analysis of the local context, bring out the socio-territorial organization of the villages of the PNZ and recovers the basic knowledge and the cultural aspects that characterize it, useful in the phases of programming as well as for the enhancement of the entire protected area for tourism purposes.

Analyzing the official documents produced in recent years by the Park in collaboration with the different actors involved in the cooperation projects [Ministério do Turismo, 2010; 2011], as well as flipping through the pages of the national strategies for the development of tourism in the protected areas [Ministério do Turismo, 2004], it is possible to detect three key words: sustainability, participation and development. These papers, in fact, put protected areas at the

[4] The article 11 of Law 10/99 of 7th July defines the parks as a "delimited total protection zones destined for the propagation, protection, conservation and management of plants and wild animals, as well as the protection of places, landscapes or geological formations of particular scientific, cultural or aesthetic value, in the interests of and for public recreation, which are representative of national heritage." [Art. 11, paragraph 1].

[5] In order to reduce the human pressure on the protected area the Park administration, in collaboration with the Ministry of Tourism, decided, after a careful study and several meetings with the local population, to modify the current boundaries of the Zinave National Park, in order to exclude all the villages, with the exception of those located in the Covane area, north of the park. The surrounding area, located to the east and the west of the new boundaries, will be converted in controlled activity areas, where local people will be able to carry out their traditional activities, as well as enabling the development of alternative activities.

center of the strategies to promote tourism as the main resource capable of support local development through the implementation of a sustainable management, in which local communities are the main protagonists. If we consider, in particular, the actions implemented in the Zinave National Park, as an example of the application of these principles, however, we soon realize how all the activities start on the assumption that it is necessary to protect the natural environment, while communities are viewed as a potential danger for the biological balance. The emphasis is therefore on the environmental issues and the protection of ecosystems, rather than on the social process linked to the territorial local forms, pointing out the need to understand the existing relationship between the local communities and their own territory, in order to avoid conflicts and promote an harmonious development. In this context, the application of a participatory methodology of research to the fieldwork presented here has made possible the visualization and the location of the existing resources in the park, highlighting the most fragile habitats, but at the same time encouraged a deeper reflection about the meaning of territory from a social point of view. Let's analyze in detail the results obtained in the first phase of application of this methodology in the PNZ.

The SIGAP Strategy as participatory research method

The SIGAP Strategy (*Sistemi Informativi Geografici per le Aree Protette/Azioni Partecipate*)[6] is a research method, articulated in different modular phases and based on the fieldwork and the involvement of local actors. It has, in particular, the objective of recover the territorial dynamics and the landscape values of local cultures, as a platform on which manage a territory. Through a participatory and multiple scales (local and regional) mapping these values are shown and communicated, in order to create useful tools for the steps of negotiation [Casti, 2009; 2012]. In this way, the map, tool par excellence able to show a territory, multiply the agents of production through participation. In this context, the actors that operate in the territory become themselves builders of their own cartography, which, through graphics representations that often break the rigid topographical pattern, can communicate the sense of place in the same way it is experienced by the community [Casti, 2009].

In particular, this methodology adopt the principles of sustainable development and community conservation, translating them operationally, allowing that the information collected during the fieldwork become the true indicators for planning. In fact, the territory is not only a set of natural resources, but refers to symbolic and cultural values, which cooperate to build the identity of the community itself. Recover these values allows to deepen the type of relationship the society has with its own environment, which becomes the foundation for the development of strategies for resource management and environmental conservation. We present the results obtained by applying this strategy to the fieldwork carried out within the Zinave National Park, in order to highlight the dynamics activated by local populations.

Territorial organization of the villages in the Zinave National Park

The Zinave National Park has been the subject of a research conducted by the writer between April and September 2011 as part of a PhD in "Geography of development"[7] which provided the application of the first phase of the SIGAP Strategy, implemented through observation, investigation and the creation of a participatory cartography of knowledge, useful to recover the information about the cultural heritage of the villages[8]. In particular, during the research was carried out the census of the villages existing inside the protected area and its buffer zone, inquiring the traditional organization, followed by an in-depth analysis of two sample villages, in order to recover the traditional resource-use system. This analysis has allowed the creation, directly in collaboration with local populations, of a database until then inexistent, and it has make possible to create participatory cartographic documents, which can be employed in order to implement the process of environmental governance and participation in decision-making moments [Burini, 2012]. Finally, the study has enabled highlight the potential of development of a sustainable tourism as an alternative asset to the livelihood of local communities, in view of the implementation of new regulations for the use of resources. In this context, the paper will focus specifically on the analysis of traditional organizational structure that governs the territory, highlighting the problems detected in the protected area.

The villages currently present within the PNZ and its buffer zone, according to the narrative of the traditional chiefs, were founded at the time of the war of Ngungunhane, last Emperor of Gaza[9], with the *Tsonga* who lived in this region. The king, in order to exercise the control over the newly conquered areas, used to replace the old leaders with individuals belonging to its lineage, which guaranteed the maintenance of its authority [Rita-Ferreira, 1974; Dava, 1997]. Following the end of the Empire of Gaza and the deportation of Ngungunhane in Portugal, in 1896[10], the

[6] Developed by the group of researchers of the University of Bergamo (Italy), this strategy has been tested within the peripheries of the W Transborder Park (between Burkina Faso, Benin and Niger), acting within the «Programme Régional Parc W/ECOPAS» (*Ecosystèmes Protégés en Afrique Sahélienne*).

[7] The thesis, whose discussion is expected for early 2014, is coordinated by Prof. Emanuela Casti, head of the *Diathesis* Cartographic Lab of the University of Bergamo (Italy): www.unibg.it/Diathesis.

[8] This is the body of knowledge related to the territorial organization and use of resources that ensures the physical and symbolic reproduction of the local population.

[9] The Empire of Gaza in the 1860, at the height of its expansion, covered the area included between the Maputo river and the Zambezi river.

[10] Ngungunhane reigned from 1884 to 28 December 1895, the day he was imprisoned by Joaquim Mouzinho de Albuquerque in the fortified village of Chaimite. Exiled by the colonial Portuguese he was transported to Lisbon, accompanied by one of his sons, Godide, and other dignitaries. After a

Portuguese began their political-administrative installation in this area [Dava, 1997]. The reorganization of the territory into administrative uniform units that followed caused deep changes in the traditional political structure of the region, producing the splitting up of the possession of the largest aristocratic lineages, renamed *regulado* or *cabado* [YañezCasal, 1996]. In this way the traditional authorities became ambiguous political institutions, whose power was reduced because, while they was continuing to represent the socio-territorial organization at the local level, they were simultaneously integrated and submissive to the colonial administration, which gave them different tasks (collection of the *imposto da palhota* – the tax on the hut; control to the access of strangers in the *regulado*) [Yañez Casal, 1996;Dava, 1997]. The situation didn't get better after the independence, when the *Frente de Libertação de Moçambique* (FRELIMO), since 1974, carried out a campaign of annihilation of the traditional leaders, considered collaborators of the colonial Government, in view of the creation of the "new man", free from any prejudice and superstition [Kyed, Buur, da Silva, 2007]. The *Grupos Dinamizadores*, composed by reliable people to the Party, replaced the *regulos*, while the political and religious traditional structure was completely banned [Dava, 1997]. Even the Zinave National Park was affected by this process of transformation, reflecting still today of the outside influences. After an initial denial, the Government has returned today to officially recognize the traditional authorities, but these at the legislative level are equated to the Secretaries of the administration, the lowest level of the official hierarchy[11]. The effort to recognition and valorization of traditional leaders implemented by the State, although it may be considered an important change, in practice helps to create confusion among the leaders themselves, due to the ambiguity of laws, that cause the emptying of the power exercised by the traditional authorities in favor of the Secretaries.

The fieldwork carried out in the Zinave park has tried, in this context, to reconstruct the traditional hierarchical network still existing in the villages, starting by the creation of a localization map of the traditional villages, identified for the presence of a traditional authority and specific sacred places recognized by the entire population. In this regard, it was identified a first information gap comparing the information gathered during the fieldwork with the official documents (Community Action Plan - 2010, Management Plan - 2011) published by the administration of the PNZ, in collaboration with the NGOs involved in the cooperation projects activated in the Park, which neglect the traditional organization, making reference instead to the administrative system established by the central Government. According to these reports the villages are 21 in total, grouped into 6 administrative Communities (Covane, Machaqueta, Maculuve, Malindile, Mechisso, Tanguane), a group of villages headed by a Secretary. At the same time, these Communities are grouped in two *Localidade* (Maculuve and Tanguane), defined as the basic unit of the local administration system[12]. Even after the first meetings with the local people we have realized that the real situation is more complex, since those who are indicated as "villages" in the official plans, often correspond to administrative entities such as the Community headquarter, or to areas in the Park where there aren't a real village but just a group of concession, since they haven't any autonomy statute. We proceeded, therefore, to collect information regarding the traditional organization of the local communities in order to identify the role played by the different settlements mentioned in the official documents and their traditional status. It's so that, through many meetings with the population and the visit of all the villages, as well as the use of a participatory mapping, we were able to create a first map of the traditional organization of the Park (Fig. 2)[13].

At the end of the work, in the protected area and its buffer zone, have been surveyed 19 villages, more 6 that are disappearing, as they are situated in an arid area and most of the resident population has moved near to the administrative Community, in which the water supply is facilitated (hand pumps, waterhole). It was found that the status of the villages has a hierarchy that reflect the *matsua* organization, based on different levels of authority installed in the various villages in the protected area and its buffer zone, as well as in neighboring areas. These traditional leaders manage the land access and the political relations of its own territory of competence.

At the top of this hierarchy we find the *hossi ya hombe* (or *regulo*), with the highest political and symbolic power, able to resolve the conflict dynamics between villages, the religious issues and other symbolic functions. Within the community the *hossi ya hombe* acts as a "father", because he stands for the link between the community and the ancestors. These, in fact, lay down the rules to which it must submit the community through the gestures and the words of the *hossi*, affecting the political, economic and cosmic order. The *kuphahla* is the most important moment during which is celebrated this connection between the spiritual and the material sphere, with a ritual invocation of the spirits organized in the most significant moments of village life (start of the agricultural season, famine...) [Dava, 1997]. To the *hosi ya hombe* is also recognized the political power, that is to say the right to distribute the land among the other village leaders who depend on him. In fact, there are three levels of authority, which correspond to specific areas of competence: *hossy ya missava* (in Portuguese *cabo*), *nganakana 1*and *nganakana 2* (in Portuguese *papassão*). These

brief stay, he was transferred to the Azores, where he would die eleven years later.

[11] The Legislative Decree No. 15 of 20th June 2000 defines the traditional leaders as "people who take and exercise power in accordance with the traditional rules of the respective communities", but when exists a legitimate authority as well as a Secretary, the community can decide which of the two figures has precedence in hierarchical level.

[12] According to the *Lei dos Orgãos Locais* No. 8/2003, of 27th of March, the *Localidade* is the basic territorial unit of the local administration of the State and represents the level of permanent contact between the local communities and their authorities [art. 14, paragraph 1]. It includes villages and other housing groups included in its territory [art. 14, paragraph 2].

[13] The fieldwork was done by who is writing in collaboration with Hélio Olímpio Moisés, graduate student in Geography, and the Department of Geography of the University Eduardo Mondlane in Maputo, with to the support of the PNZ Administration and the Warden, the Ministry of Tourism of Mozambique and the Italian NGOs LVIA and CeLIM.

levels are divided along lines of collateral[14] patrilineal inheritance and land access.

Going down in the hierarchy, directly dependent on the *hossi ya hombe*, we find the *hossi ya missava*, or the "chief of land" (*missava* = land/sand/soil), which is responsible for a portion of the *regulado*. In his area of competence this traditional leader has the task of maintaining the order in the name of the *hossi ya hombe* and the right to grant the land to any newcomers. Moreover, it is to the *hossi ya missava* that the chiefs of lower level turn to when conflicts break out, so that this *hossi*, supported by its advisors, decides if the *nganakana* can solve by himself the situation or if it is necessary, in more complex cases, consult directly the *hossi ya hombe*. By the *hossi ya missava*, depend the *nganakana* and from these the *nganakana 2*, whose main duty is to transmit the word of the top-level authority to the inhabitants, in addition he has to maintain the control and the order of territories distant and peripheral [Yañez Casal, 1996]. Finally, to support the activities carried out by the village chiefs at the different levels of authority, there are two important groups of influence: the *tinduna* and the *tindoda*. The *tinduna* (singular *n'duna*) play the role of advisors to the village chief in the administration of the territory, while the *tindoda* (singular *madoda*) represent the consultative and judicial body, composed by the elders of the community [Dava, 1997; Feliciano, 1998].

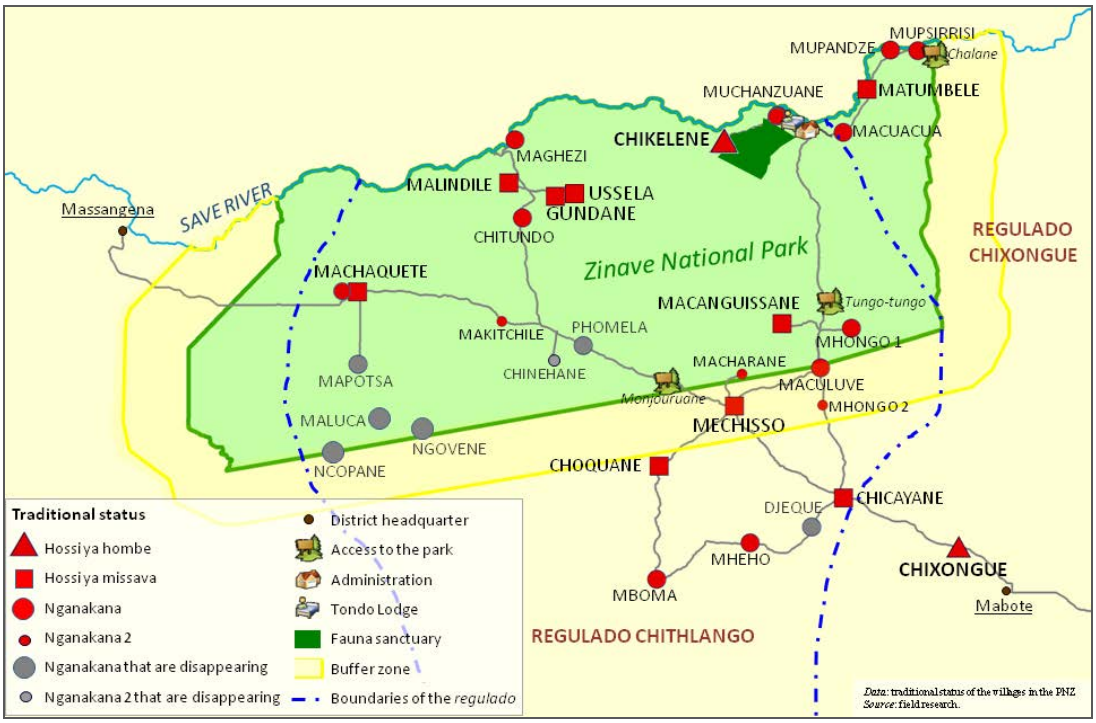

Fig. 2 – Digitalization of the participatory maps created in the Zinave National Park on the traditional status of villages.

This organization is present also in the Zinave National Park (Fig. 2). In fact, during the fieldwork it was found that the protected area is divided between two *regulado*, the Chithlango, based in the village of Chikelene, to the north on the river Save, and the *regulado* Chixongue, whose headquarter is the homonym village situated outside the protected area. In particular, analyzing the hierarchical structure on which rests the *regulado* Chithlango, we can see that the villages directly dependent by the *hossi ya hombe*, controlled by a *hossi ya missava* are: Ussela, Gundane, Malindile, Machaqueta, Mechisso, Macanguissane, Muchanzuane, in addition to other villages located outside the protected area, including Chicayane and Choquane. The territory of this *regulado*, in fact, includes most of the park area, extending beyond it to the south and the west to the border of the Gaza Province, to the north to the Save River and eastward to the limit of the *regulado* Chixongue. From the village of Macanguissane, located in the south, near the gate of Tungo-tungo, depend directly the *nganakana* of Mhongo 1 and Maculuve, from which have their origin, respectively, the *nganakana 2* of Mhongo 2 and Macharane. On the north-west, along the Save river, is located the *hossi ya missava* of Gundane, from which derive the *nganakana* of Maghezi, and the *hossi ya missava* of Malindile, under whom we have the village of Chitundo, in addition to Maluca and Ngovene, further south, both now almost deserted. From the village of Ussela depends directly on the *nganakana* of Phomela. From this village have their origin the *nganakana 2* of Makitchile and Chinehane. In the western part of the Park we find the *hossi ya missava* of Machaqueta, from which descend the *nganakana* of Mapotsa and Ncopane, two villages today uninhabited. Finally, in the buffer of the park is located the village of Mechisso, governed by a *hossi ya missava*, from which arise the *nganakana* of Mboma, Mheho and Djeque, already outside the limits of the protected area.

Considering, whereas, the villages of *regulado* Chixongue, located in the PNZ, it was found that by the *hossi ya*

[14] In the collateral system, at the death of the leader the person who inherits his authority is the elder brother, to be followed, in the case there aren't other brothers alive, to the eldest son (son of the eldest brother).

missava of Matumbele depend directly the *nganakana 1* of Macuacua, Mupandze and Mpsirrisi, whose villages are located along the Save River, near to the Park Administration headquarter. In particular, the fact that the village of Chixongue, where the *regulo* is living, is located outside the protected area has led the Park Administration to exclude him from the official management of the issues about this portion of its territory. In fact, in the official documents of the PNZ the coexistence of two different traditional authorities (*hossi ya hombe*) and the territory division between two different *regulado* is ignored. In addition, while the *hossi ya hombe* of Chikelene is involved in the activities carried out by the Administration, being a member of the association *Vuka Zinave*[15], the *regulo* Chixongue is not involved at all, as inhabitant in a village not affected by the local issues related to conservation.

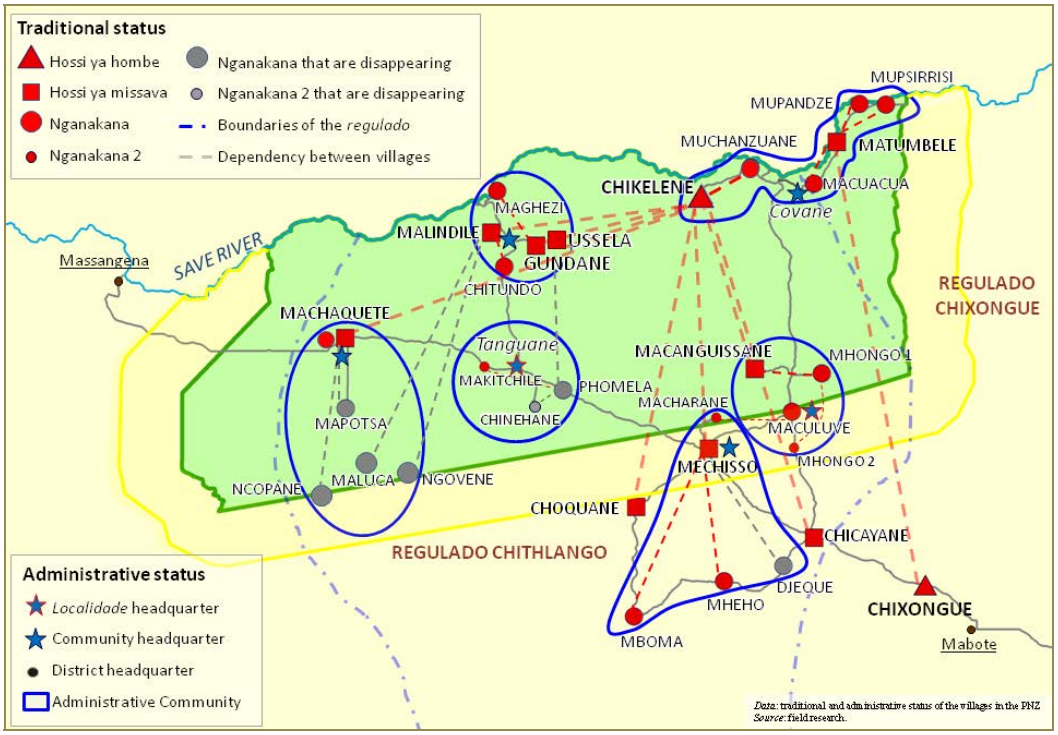

Fig. 3 – Administrative status of the PNZ and its overlap with the traditional organization of villages.

Continuing with the analysis of the system of authorities existing in the villages of the Park we can detect a real overlap between the areas of influence of traditional authorities and the new administrative organization imposed by the central Government (Fig. 3). According to the story tell by the local people, with the outbreak of the civil war and the installation of several military headquarters of FRELIMO inside the Park, many people decided to leave their concessions to move close to these installations, to be more protected. After the war, many families decided to stay in the new home, while a territorial reorganization was established by the Government, and encouraged by the Administration of the Park, in order to centralize the population by eliminating the sparse settlements existing in the protected area. They were thus created the administrative Communities near to the existing housing districts, located around the military headquarters during the war, but disconnected from their traditional network. While this situation has had a positive impact on quality of life of the local population, ensuring the access to the basic social services (a primary school in each Community, two medical centers with maternity in Tanguane and Maculuve, the construction of several manual water pumps), at the same time it caused the creation of a double level of authority, traditional and official, which led to the emergence of symbolic conflict such as disputes over land ownership.

The territorial organization established by the Government, in fact, has based the creation of the administrative Communities on the proximity of the villages, ignoring the traditional links existing between them, cutting, in many cases, the ties between the *hossi ya missava* and their *nganakana*. It's for this reason that the Community of Mechisso include the village of Macharane, governed by a *nganakana 2* traditionally connected to the village of Maculuve, in addition to the territories of Mboma, Mheho and Djeque dependent from the *hossi ya missava* of Mechisso, while in the case of the Community of Malindile, the villages of Ussela and Gundane, governed by two different *hossi ya missava*, were grouped into the same administrative structure, reducing the power of the traditional leaders. Similarly, the villages of Ngovene and Maluca, two *nganakana* traditionally subjected to the *hossi ya missava* of Malindile, but located far from this village in the south, now depend administratively by the Community of Machaqueta, whose

[15] The intercommunity association *Vuka Zinave* ("Awake Zinave") was officially created in 2010, for the initiative of the Italian NGOs LVIA and CeLIM involved in the cooperation development projects within the protected area, with the aim of strengthening the dialogue between the community of the PNZ and the other actors working in the Park. The group is made up of various representatives, both men and women, of the five administrative Communities, including some village leaders, the *hossi ya hombe* Chithlango and some local administration members (Secretaries and chiefs of the *Localidade*).

headquarter is located close to the villages. In Tanguane, however, the creation of the administrative Community, that group the villages of Makitchile, Phomela and Chinehane, led the emergence of conflicts between different traditional chiefs of the area, since the Community headquarter is located in the territory of the *nganakana 2* of Makitchile, while the village of the *nganakana 1* Phomela is now almost uninhabited, with a reduction in its power also he is at a higher hierarchical level. In addition, within the same village of Makitchile, have formed two different housing districts, with distinct functions: Tanguane, headquarter of the administrative Community and the Localidade, and Dondoti, in which is living the *nganakana 2*.

The new administrative organization is creating problems for the recognition of the power of traditional authorities, as already noted, because some villages governed by *hossi ya missava* are now disappearing, in favor of the headquarter of the Communities, situated in the territories of competence of headman of a lower level, creating hostility. In fact, despite the families choose to move, the symbolic links with the *hossi* of the original village persists, and they continue to entrust to this the celebration of the ceremony and the conflict resolution. At the same time, however, these households has also to submit to the official authorities, as well as to the traditional chief responsible for the distribution of land and for the resource use in the new village, with a complexification of the situation.

Finally, if we examine the construction of the “sanctuary”, created by the Administration of the Park for the reintroduction of the fauna locally extinct, as an example of the actions carried out under the projects that are affecting the Park, we can observe that, also by the administration and the organizations that are working in this area, has been ignored or underestimated the symbolic importance still recognized to the traditional authorities. In fact, the sanctuary, which extends between the area of the village of Chikelene, where lives the *regulo* Chitlango, and the village of Mutsanzuane, as well as having subtracted part of the lands under the authority of the *hossi ya hombe*, caused, during the building of the structure, the closing of the only track leading the village of Chikelene with the rest of the Park for a few months. Despite the *regulo* has been very diplomatic and during several meetings has stated that the reintroduction of the animals and the development of tourism in the Park may in the future lead to an improvement of the living conditions of its population, and the Administration has motivated the closing of the fence with issues related to theft of material and it has worked (after our report) in order to open the new road in a short time, this action shows a lack of consideration of the authority represented by the *regulo*. Although the village of Chikelene is now inhabited by a few families (18 concessions), it is still the core of a bigger territory, which stretches south to the Zimane District, beyond the boundaries of the Zinave National Park, while his traditional headman is the main religious and political authority on the territory, an aspect that cannot be ignored when are established and implemented planning actions in the area.

CONCLUSIONS

The area of the Zinave Park, as we have analyzed, is still characterized by the presence of a traditional structure threatened today because of the overlap of governmental authority. This situation has caused, and will be cause in the future, the emergence of conflicts between traditional and legal power. In fact, despite a declaration of intent by the Government to respect the traditional authorities implied in the Decree 15/2000, in practice the traditional organization is reduced and emptied in favor of the administration one, with the creation of homogeneous entities that do not reflect local reality. In this context, the Park Administration, as well as the actors who collaborate with it in different projects (World Bank, NGOs), adapts, taking the Community as basic reference for the management of the territory included within its borders. As already pointed out above, the Management Plan of the PNZ almost completely ignores the traditional organization and hierarchy of the villages, rather than develop their specifically, being more worried about modify the boundaries of the Park in order to exclude the greatest number of people from the protected area, that stop to analyze the dynamics of the area. In particular, with regard to the socio-territorial organization of the villages, it’s important to underline that in the official documents and reports prepared by NGOs, there is no reliable list of the villages located inside the PNZ. At the same time, any document considers the fact that the protected area is divided between two different *hossi ya hombe*, ignoring the authority of the *regulo* Chixongue as resident outside the Park, and enhancing the role played by the *regulo* Chithlango, a situation that, with the implementation of new regulations, could result in the emergence of conflicts.

The NGOs who have worked for years in the PNZ have begun an important process, which aims to promote awareness of the role that communities must assume, through training, sensitization and facilitation, as well as allowing a better flow of information about the projects realized by the Park. Despite this, it is necessary to highlight a lack of knowledge about the structure of authority that regulates the life of the communities of the area. As we have seen, the mechanisms that govern the traditional political issues, the spiritual sphere and the land use, are more complex than the organization established by the Government, taken as reference system for the projects undertaken. In addition, to understand whose are the actors that operate in the area, with the *regulo* and the secretaries, it is essential to communicate in an effective and comprehensive way, as well as to make the whole population feel as part of a common project, a project that respects roles, traditions and beliefs.

The process, currently in progress, for the redefinition of the boundaries and the reshaping of the role played by the communities towards the protected area can be an excellent opportunity to implement new schemes of management, redefining priorities, models, methodologies, in order to create an active involvement of local people, improving their living conditions and, at the same time, optimizing the natural resources management. It 'sin this way that the fieldwork

carried out within the Park using the SIGAP Strategy, stands as the first phase to know the socio-territorial structure of the Park, which have to be studied in deep, in order to break the traditional patterns of conservation, concentrated on the preservation of ecosystems, to fully embrace the concept of sustainability.

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THE ILO's APPROACH TO LOCAL DEVELOPMENT

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INTRODUCTION

The ILO's approach to local economic development[1] (LED) aims to promote decent work, productive employment that delivers a fair income, provides social protection and allows women and men to participate in the development process. It does this by focusing on a specific territory, targeting sectors with economic potential, linking job quality to enterprise competitiveness, building capacity of local and national stakeholders, involving employers' and workers' organizations, being locally owned and managed, prioritizing strategies and tools that benefit the poor and linking LED to employment policies.

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The LED[2] approach provides a comprehensive framework of initiatives and actions that respond to the need to integrate the economic, social, political and institutional dimensions of development at the local level in the rural areas. As a consequence LED is a process that will provide different solutions according to place, culture, economic potential and political circumstances, as well as social and institutional environment. Although its adaptability does not make it possible to define what actions and policies a typical LED initiative consists of, the inalienable principles of the LED approach are:

- **participation and social dialogue**: the use of participatory mechanisms fosters social cohesion;
- **public/private partnership**: cooperation and coordination of development activities prevent ineffective go-it-alone approaches and support the legitimacy and sustainability of the development process;
- **territory**: The territory is an ideal platform for the creation of a strong local voice on behalf of its stakeholders. Unlike traditional community development approaches, LED provides the means and structures that represent the local voice when dealing with its national and international counterparts.

The economic dimension of development is particularly important within the LED approach, since economic activities and interactions are a driving force that fosters **social inclusion, poverty alleviation and innovation.** The local or territorial dimension in the LED process is crucial and reflects **the degree of common interests, self-regulation and knowledge**; t**he intensity and frequency of interactions**; **the likelihood of tapping into national and global decision-making structures**.

Although the fluidity of the LED process makes it is impossible to prescribe a strict set of policies and actions, a typical LED intervention is led by a certain number of basic steps, which include:

- Territorial diagnosis and institutional mapping
- Sensitizing
- Creation of a local/regional forum
- Designing the LED strategy
- *Coordination/implementation structures*
- *Monitoring and evaluation*

Within the LED strategies it is important highlight the role played by the SSE Organizations and Enterprises. The SSEOEs **provide stable jobs** – they are difficult to relocate as a result of their territorial anchorage – and provide an opportunity to reintegrate vulnerable groups into society and working life and they are also more resilient to the crisis. The economic crisis of 2008 has had negative impacts on the majority of enterprises; however an ILO report[3] provides historical evidence and current empirical evidence that proves that the cooperative model of enterprise survives crisis,

[1] LED is a participatory development process that encourages partnership arrangements between the main private and public stakeholders in a defined territory, enabling the joint design and implementation of a common development strategy, by making use of local resources and competitive advantages in a global context with the final objective of creating decent jobs and stimulating economic activity. See Gasser (2002).
[2] Extract from Gasser et al. 2002.
[3] Resilience of the Cooperative Business Model in Times of Crisis, J. Birchall and L. Hammond Ketilson, ILO COOP Geneva 2009; www.ilo.org/empent/Publications/WCMS_108416/lang--en/index.htm.

but more importantly that it is a sustainable form of enterprise able to withstand crisis[4],maintaining the livelihoods of the communities in which they operate.

Social and solidarity economy entities can open markets, provide financial intermediation, facilitate procurement and organize market information. For many small producers the only possibility of getting the required economic dimension to market their products is through some kind of association. SSE organizations are, by definition, local in nature, but have the potentiality to connect the local to the global and the rural with the urban.

Local development and social economy offer opportunities to include groups that have suffered social and economic exclusion as showed by many studies. [5]

Since SSEOEs work for growth and sustainable development of the communities where they operate and being locally rooted, they are the stakeholders more interested in defining and implementing local development strategies. Social and Solidarity Economy[6] is a concept designating enterprises and organizations, in particular cooperatives, mutual benefit societies, associations, foundations and social enterprises, which have the specific feature of producing goods, services and knowledge while pursuing both economic and social aims and fostering solidarity.

The ILO Declaration on Social Justice for a Fair Globalization, adopted unanimously in 2008, recognized that *a strong social economy was critical to sustainable economic development and employment opportunities, along with productive, profitable and sustainable enterprises and a viable public sector.*

Policies supporting *sustainable economic local development*, in particular through SSE, can play a key role in response to the challenges of globalization and the drive for decentralization, in particular increasing the participation and local dialogue, connecting people and their resources for better employment and a higher quality of life in the rural areas.

The ability of supplying **social services** to those who are not covered by the public systems, has been repeatedly shown by the SSE, as in the case of Italy, where the increasing vacuum has been filled satisfactorily, by the social cooperatives. In developing countries, finding ways of providing relevant and effective coverage to informal workers and their families is a priority.

For more than 20 years, SSEOs in developing countries have provided, for example, community-based health insurance schemes, especially to rural and informal workers who are not covered by national social security systems. In some countries, these health insurance initiatives have been integrated into national health insurance schemes. Other socio-economic groups (e.g. teachers) also have created mutual health organizations to benefit from complementary health insurance schemes. These kinds of organizations are found especially in Central and West Africa. An increasing number of these initiatives are organized in networks and federations in order to better represent their movement and to offer administrative and financial services.[7]

As crucial part of the territorial agendas, the **social dialogue** can be strengthened by a large number of social and solidarity economy organizations representing the voice and interests of those who are not normally represented by the traditional social partners: for example, small farmers, represented by marketing cooperatives of agricultural products or operators of the informal economy and associations of street vendors.

At the local level, the ILO acts as a facilitator of dialogue between the public and private sectors and local communities, to promote development which is unthinkable without the active participation of the social economy. Many technical cooperation projects[8], implemented by the ILO in Latin America and Africa have shown how, in implementing local development strategies, the role played by Social Economy organizations is particularly significant.

The inclusive and transparent decision-making process and the operational rules, which is a character of SSEOs, helps to establish a culture of dialogue, which could shed new light on the governance[9] and social dialogue. It may be in the interest of the classic tripartite social dialogue structures to involve and consult SSEOs, as well as other actors of civil society which are representing the most vulnerable populations in the world of work. The collaboration between the social partners and SSEOs could be strengthened in a common effort towards the resolution of social and economic issues.

Finally, the **environmental problems** as well as **food security, migration, informal economy, land ownership and a greater control over public resources**, can be tackled better through policies and programs based on the local development approach and the promotion of social and solidarity economy.

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[8] See the experience of PRODERE in Central America in the '90. PRODERE was an interagency project (UNDP-UNOPS-WHO-ILO) and the LED component was implemented by the ILO. http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/EXTLED/0,,contentMDK:20274433~menuPK:402644~pagePK:148956~piPK:216618~theSitePK:341139,00.html.

[9] In the social economy people get together and help each other, helping them value their place in society. The government actors and the private sectors can easily and at less cost reach them collectively. By getting together they will be able to be involved in the policy making at the national, sub-regional, and regional level.

Most countries in the Organization for Economic Cooperation and Development (OECD) and many in Africa, Latin America and Asia have launched decentralization processes, driving adoption of policies for local development, thus promoting agendas for territorial development.

Social and Solidarity Economy Organizations and Enterprises are characterized by democratic governance, without the objective of profit maximization. This makes them very appropriate for endogenous development. As mentioned by Borzaga and Tortia (2009) "These institutional features strongly support an active role for social enterprises not only in the provision of goods and services of general interest, but also in local development processes. In the United Kingdom, social enterprises are defined by law as community companies. In Italy, social enterprises develop similar strong linkages with the community, since the subjects controlling them are locally-based and usually serve objectives relevant to the local level. Limitations to participation in regulated financial markets also make them dependent on localised financial sources."

It is important to promote policies to support local development, deepening decentralization and deconcentration at a national level. The territorial agendas and local development initiatives not only have to find the connections outside their own reference socioeconomic environment, but must be supported from the central level, with policies and mechanisms. In this sense, the role of social actors is crucial to achieve the necessary consensus. At local level, both workers' and employers' organizations have a special interest in getting involved in LED because interventions will benefit the work and livelihoods of their members and that of their families. More specifically, LED offers them an opportunity to be part of institutional forms of participation and social dialogue such as LED forums, value chain development facilitation groups or project steering committees

WHAT THE ILO IS DOING

The ILO[10] works to create more and better jobs by promoting the social and solidarity economy through local development approach. It does this by:

- Advising on policy and law. The ILO provides advice on the design and implementation of policies and laws on social economy policies. At the local level, the ILO acts as a facilitator of dialogue between the public and private sectors and local communities providing an operational framework for the four dimensions of the ILO's decent work agenda, employment, labour rights, social protection and social dialogue, combining them in multidisciplinary, integrated approaches.
- Building capacity. The ILO provides a wide range of capacity-building tools related to local development and social economy[11]. Among others, I would like to mention the Academy on Social and Solidarity Economy[12], carried out since 2010 every year. See also at www.delnetitcilo.net/en the distance learning activities on local development. In preparation there is a distance learning course on Social and Solidarity Economy that will be ready by the end of 2013.
- Providing research-based advocacy. The ILO produces[13] case studies and other material highlighting the relevance of promoting social economy through LED for social protection, employment creation, rights at work, social dialogue and "green" jobs. Consolidated partnerships exist at international, national and local level with academic and research institutions and the International Cooperative Alliance.
- Technical assistance. Local Economic Development approach[14] has been used successfully, with ILO support, by around 36 countries in the world.

Since the 1990s, ILO has promoted LED in 36 countries: 13 in Africa, 2 in Arab States, 9 in Asia, 6 in Europe and Central Asia, and 6 in Latin America.

ILO member States increasingly apply LED as an integrative strategy to implement the decent work agenda[15] at sub-national level. Over 13 countries from 3 regions (Africa, Asia and Latin America) have identified decent work objectives that make reference to LED and rural enterprise development.[16]

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[10] Rodríguez-Pose A. (2001).

[11] See at moodle.itcilo.org/mycoop/.

[12] See at http://socialeconomy.itcilo.org/en.

[13] See the websites www.ilo.org/coop; www.ilo.org/led; www.itcilo.org/socialeconomy.

[14] The LED approach can include:
- stimulate entrepreneurship, businesses and development of SSEOEs;
- improve enterprise competitiveness and exports;
- upgrade value chains to generate local benefits and attract inward investment and tourism
- upgrade skills and improve access to local labour market information;
- mobilize savings and credit, and facilitate access to social protection;
- improve physical and financial infrastructure;
- strengthen local institutional frameworks and governance.

[15] The ILO strategy addresses the need for practical decent work policies and programs from the outset, while encompassing both rural and urban economies in an integrated manner.

[16] ILO: Strategic Policy Framework 2010-2015, Governing Body, 304th Session (Geneva: 2009).

There are many examples of ILO projects and programs implementing the LED approach, below in the BOX 1 a summary ***from the Ghana Decent Work Programme***.

The ILO has also facilitated the creation of a community of LED and SSE practitioners and experts around platforms like www.ledknowledge.org and the "COLLECTIVE BRAIN" at http://www.sseacb.net.

LED projects generate impact: for instance in Sri Lanka, the "Enter-Growth" project (2006 - 2009) has impacted 16,400 businesses (rising to 52,000 once interventions have impacted along value chains); has led to a near tripling of household incomes; and achieved a 15 percent increase in employment in four targeted districts.[17]

LED projects also generate progressive approaches: in El Salvador, the Local Economic Development Agency (LEDA) of the Department of Sonsonate promoted a Centre of Entrepreneurial Services for women, which has allowed them to access business development services, but also to be better represented in local government.[18]

Worldwide 68 LEDAs are members of the network, "International Links and Services for LEDAs, ILS-LEDA".[19]

FINAL REMARKS

The ILO's comparative advantage in the implementation of technical cooperation projects lies primarily in the experience, in being part of consolidated networks on LED and SSE, in its tripartite structure and also in the worldwide ILO office structure, which can count on international specialists on decent work agenda related issues.

Additionally, the long experience of the International Training Center of the ILO in Turin in delivery residential, distance learning and blended training courses, is a relevant comparative advantage with regard to the LED and SSE capacity building activities. The ILO training programme on SSE and LED is well known and recognized.

SSE and LED can facilitate the transition to the formal economy, to offer alternative models of "doing business to the young people", to have a more rooted economy in the territory, offering more stable jobs and taking care of the environment. LED and Social Economy should play a significant role in the post-2015 MDG agenda to support a more inclusive and sustainable development.

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[18] Urbina, W.: ILO LED story on the Centre of Entrepreneurial Services for Women (SEM) project.
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THE TERRITORIAL APPROACH TO LOCAL DEVELOPMENT AND LOCAL GOVERNANCE: THE UNDP ART INITIATIVE

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The United Nations Development Programme (UNDP) recognizes the critical role played by Local and Regional Authorities (LRAs) in pursuing the development agenda. As tier of government closest to citizens, LRAs play a crucial role alongside with central governments and Civil Society Organizations in promoting sustainable development and inclusive growth at local level. UNDP's new Strategic Plan puts special emphasis on the role of local governance and local development in eradicating extreme poverty, reducing inequalities and addressing exclusion.

Through the ART Initiative (Articulation of Territorial Networks for Sustainable Human Development) launched in 2005, UNDP promotes a territorial approach to development. This is a multi-actor and multi-sectorial approach in which different local institutions and actors (public – LRAs, and private – CSOs, private sector) work together to define development strategies that reflect a wide range of interests and needs at the local level. The bottom-up approach based in the community demand allows identifying territorial priorities adopting a real participatory approach. Through the participation of Local Authorities and the mobilisation of additional private and community capacities and resources, the territorial approach to development intends to trigger a change in the quality of citizens' life and wellbeing, ensuring a balance between socio-economic growth, equity and environmental quality and increasing the resilience of the most vulnerable. The rationale of ART Initiative is that the local and global dimensions are increasingly interlinked. There are issues that affect citizens with causes that escape the local sphere, i.e.: employment, migration, climate change, health, human security. In the end in many cases, the answers to local needs can only be given through linking with intermediate, national or global levels.

ART is a programme that facilitates the complementarities and strategic and operational coordination among different international development actors on the field: national programmes, decentralized cooperation actors, agencies of the UN System, civil society organizations, NGOs, private sector and academia. It supports national policies and local development processes prioritized by the countries themselves to achieve the Millennium Development Goals (MDGs) and the local level implementation of the principles for effective development cooperation.

Convinced of the importance of LRAs and the territories' social and economic stakeholders as relevant cooperation actors, the Initiative is an entry point for international partners interested in harmonizing activities in support of local governance and local development. The aim is to develop a common strategy instead of isolated and punctual projects. Interventions, focused on supporting local development and local governance, are aligned as much as possible to local, regional and national priorities. In this way, the tensions to recentralise the administrative and political power can be mitigated through a "multi-scale dialogue within a country".

With the support of UNDP's ART Framework Programmes, participatory and inclusive instruments are established at the local and national levels to coordinate and streamline linkages and ensure ownership of development processes, harmonization of actors and actions, and alignment to national and local development priorities. In short, ART sets in motion processes to articulate decision-making and resources at the local, national and international levels while implementing concrete actions aimed at meeting immediate and medium-term needs. *National Coordination Committees* (NCCs) are undeniably one of UNDP's ART Framework Programme backbones. The most discernible of ART's national level instruments, they are the expression of the Programmes' drive to establish a partnership with the national government, based on dialogue, mutual responsibility, collaborative work towards common objectives and coordination, through the following instruments: *Territorial Working Groups* (TWGs) and *Local Working Groups* (LWGs) promote strategic planning management; facilitate consensual decision making among local authorities, civil society and private and public stakeholders; strengthen and develop territorial/local capacities and provide an accountability and monitoring mechanism of cooperation actions. *Local Economic Development Agencies* (LEDAs) are instruments to enhance territorial economies for a fair, balanced, inclusive and sustainable development. The *Local Planning Cycle* (LPC) is the territory's long-term vision of its development ambitions and potential; it seeks to concentrate activities around the most urgent problems and involves the collaboration of all local key stakeholders. Through the ART Initiative, UNDP also supports Decentralized Cooperation partnerships between LRAs in partner countries, as well as South-South cooperation partnerships with the exchange of knowledge and experience for the development of specific initiatives in different sectors. As a result of these efforts, more than 600 partnerships have been established with different stakeholders in Europe and more than 1,000 in developing countries. The ART initiative understands *Decentralization Cooperation* in a broad and inclusive sense, where local and sub-national governments, civil society, NGOs, the private sector and academia work with counterparts in other countries to advance local sustainable human development. In this sense, ART has the ability to maximize its immense potential to contribute to a new "development paradigm".

ART also allies with LRAs Associations to connect country-level practice with policy/advocacy efforts, for instance in the Global Task Force of Local and Regional Governments for post-2015 development Agenda towards Habitat III, the II World Forum of Local Economic Development and in the framework of the Open Working Group on Sustainable Development Goals.

In the last 10 years the ART Initiative has proofed the validity of the Territorial Approach to Development through an inter-sectorial and integrated way in different fields of intervention:

- Policies for technical and administrative decentralization
- Democratic governance
- Delivery, quality and sustainability of territorial public services
- Local economic development
- Territorial planning systems
- Promotion and implementation of gender mainstreaming in all development activities

Tab. 1- ART Initiatives in the world.

COUNTRY	PROJECT	COUNTRY	PROJECT
Gabon	In 2011 ART Gabon conducted an evaluation of its first operational phase (2006 – 2011) and formulated the second one (2013 – 2016). The evaluation's findings have revealed that the Programme has generated tangible and measurable results in local participatory platforms, local planning processes, capacity-building and financing of income-generating micro-projects.	Ecuador	ART UNDP Ecuador puts ART's multilevel governance instruments at the disposition of national and local actors, in support of the country's development strategies and MDG achievement. In this context, the Programme has activated five Provincial Working Groups and one Cantonal / Municipal Working Group in seven of Ecuador's provinces.
Mauritania	In 2011 ART Mauritania reinforced the Programme's institutional component through the establishment of the National Coordination Committee and two Regional Working troupes (the latter through a Wali's decree) to support regional development processes.	El Salvador	ART El Salvador offers technical assistance and participatory instruments to implement local development national policies and development effectiveness initiatives at the local level.
Mozambique	Local economic development.	Uruguay	UNDP's ART Uruguay Framework Programme supports the government in its decentralization efforts with a special focus on the second and third tiers; it also supports local economic development by strengthening territorial governance instruments.
Marocco	The Programme established the National Coordination Committee (NCC) in 2007; each of the two areas of operations have active Territorial Working Groups (TWGs) that have become reference points on issues of DC partnerships and strategic planning of local development: in 2011 alone, the working Groups took part in 18 exchange missions involving 124 development partners (DPs) and also participated in a local governance training cycle.	MyDEL	Women and Local Economic Development (MyDEL) was the first ART regional-level initiative aimed at directly addressing gender equality in El Salvador, Guatemala, Honduras and Nicaragua. It is coordinated by UN Women and headquartered in Guatemala's regional coordination offices. It aims at laying the foundation for a Central American strategy on women's empowerment to promote and enhance women's entrepreneurship.
Senegal	Created in 2009, ART Senegal seeks to contribute to improve the population's living conditions. To achieve this, it supports national decentralization, institutional capacity building and participatory local	Lebanon	ART Lebanon's overall goal is to support the national government and the local communities in its areas of intervention and in the elaboration and implementation of strategic development plans, with a special focus on disadvantaged groups.

	planning processes.		
Bolivia	Operational since 2008, ART Bolivia has become an important tool in support of the country's decentralization process and reorientation of its productive sector, with a special focus on governance and local development	Indonesia	In the NTT province, the PWG has merged with the Province's mechanism for aid effectiveness, the "Integrated Secretariat for Development Partnerships" (SPADU). The PWG has been therefore institutionalized as an official unit within the provincial government, contributing to development effectiveness through the harmonization and alignment of development partners with locally established priorities
Colombia	The ART-REDES Framework Programme closely works with the Bureau for Crisis, prevention and Recovery (BCPR); it seeks to strengthen the role of local communities in achieving sustainable local development, democratic governance, MDs and reconciliation.	Sri Lanka	ART Sri Lanka started its activities in 2006 in the wake of the devastating December 2006 Tsunami. The Programme quickly became a valuable platform to coordinate the intervention of scores of decentralized cooperation partners wishing to support the country's post-disaster and early recovery schemes.
Cuba	The most senior of all ART Programmes, the Local Human Development Programme (PDHL), has emerged as a unique platform for Local Human Development in Cuba. It has maintained and reinforced its pivotal role to promote and facilitate UNDP's and other UN organizations and agencies' actions in locaL development, mainly thanks to its strong allianc	Albania	In collaboration with its national counterparts and UNOPS, ART GOLD2 Albania provides support to the reform agenda for the country's accession to the EU, MDG achievement and development effectiveness.
Dominican Republic	The ART Dominican Republic Framework Programme was born in 2007. The Programme works in line with the Government's strategies for local Development and decentralization. Furthermore, the activities of the ART Dominican Republic Programme are implemented within the UN Development Assistance Framework (UNDAF) and the UNDP Country Programme Action Plan (CPAP).	Kosovo	In view of the particularities of the region and the proliferation of development actors, ART has put its instruments and methodology at the service of existing initiatives and actors. In this sense, the Kosovo experience represents ART's added value par excellence as a facility for articulation, coordination and participation, offering instruments capable of enhancing and contributing to the agendas of existing development actors and donors to-be.

MICROFINANCE: FROM THEORY TO PRACTICE

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Access to financial services is one of the fundamental engines of development. According to recent estimates by the World Bank 2.5 billion of adults (i.e. 50% of worldwide adults) do not have a formal bank account and the low-income individuals are the ones more exposed to financial exclusion because of poverty, travel distances and monetary and non-monetary burdens associated to opening a bank account.

Financial exclusion is also correlated to unequal distribution of income. It has been estimated by the World Bank that the richest adults in developing country are more then twice as likely to have a formal account. Moreover in many developing countries access to financial services either for loans or savings is generally informal; this implies the "unbanked" pay higher fees on such services than they would if they could access formal services.

Spread nowadays in many developing countries, microfinance services have contributed to bridge the gap between the unbankable's investment ideas and financial opportunities, helping low-income households in asset-building, risk management and consumption smoothing as well as investment in education and health through the additional income generated by credit access.

As a side-effect, microfinance has also contributed to bridge the gap between practitioners and researchers and within the latter. The growing attention to microfinance practices has lead to new fruitful research ideas in the field of developing studies, attracting also large synergies between practitioners (i.e. NGOs, non-profit foundations, associations, institutions for development, etc.) and academic researchers with heterogeneous background (psychology, economics, sociology, anthropology, etc.).

This panel has collected academic research on financial services in developing countries often carried out jointly with national or international practitioners. In particular, the following studies focus respectively on micro-insurance schemes in southern Ethiopia, on current and new potential approaches to microfinance as a tool for social inclusion and on the microfinance as recovery tool after a natural disaster in the specific context of Sri Lanka.

All of these researches directly or indirectly highlight the importance of a mutual cooperation between the academic and the practitioners' world for a more comprehensive and policy-oriented analysis of microfinance in the international cooperation arena.

SOCIAL INCLUSION THROUGH MICROFINANCE: AN ANALYSIS OF CURRENT APPROACHES AND NEW FOLLOW-UP PROCEDURES

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ABSTRACT

In the last twenty years, following a fast and strong expansion, microfinance has been characterized worldwide by a relevant heterogeneity of the actors involved, especially in its main segment, microcredit. The socio-economic vulnerability of the population involved in this type of project led to the need for new concepts of sustainability, based on a schism between the institutionist and the welfarist approaches. Previous impact assessments demonstrated that a proper access to financial services improves life conditions among economically active poor persons by increasing their entrepreneurship opportunities and thus their income. Nevertheless, commercial and institutional approaches can lead astray from the original purpose, considering microfinance merely as a new tool to access financial services and not as a whole range of social processes driven by both financial and social services. Based on a research paper on the microfinance sector in Jordan, one of the most developed Arab countries in terms of micro-lending, this study analyses the different approaches of microfinance adopted in Jordan in the last years, focusing on the socio-economic impacts and the development of a relevant social return, at three levels: personal, communitarian and regional levels. The research shows the need for the implementation of new procedures within microfinance institutions (MFIs), based on specific approaches that allow the fulfillment of all the requirements related to the business cycle, in both an economic and a social perspective. From the access to financial services to the management of the micro-enterprise, the population targeted by the MFIs faces a diverse range of challenges, therefore loan officers should act as social workers and business developers, adopting specific follow-up procedures able to contribute to a real social impact.

INTRODUCTION

In the last decades, microfinance, and its main component microcredit, performed one of the most relevant sector growths, especially within the financial and socio-economic development system. Microfinance is recognized worldwide as the provision of financial services (savings, credits and insurance) to low-income persons carrying out productive activities and excluded by the standard financial system because of their socio-economic conditions and high risk profile. Therefore, microfinance represents one of the main tools for poverty reduction and socio-economic growth, especially in developing countries. Together with other similar tools, microfinance, especially with the microcredit supply, but also with the relevant impact of savings and insurance programs, represented a new approach for poverty alleviation. It approaches the target population without creating a dependency relationship, but looking at beneficiaries as micro-entrepreneurs that need a specific tool to empower their conditions with their own work and commitment. Since the first Global Microcredit Summit held in Washington D.C. in February 1997, the growth of microfinance institutions (MFIs) has been promoted in the socio-economic development sector. The strong expansion of the last thirty years is mostly related to the development of new and non-traditional methods and approaches implemented worldwide by microfinance institutions. In particular, the concept of "*group lending*" overcame collateral adverse selection problems related to information asymmetry through "peer monitoring" (Chowdhury, 2009).

The development of microfinance undertook different approaches, basically related to the type of the microfinance institutions (Non Governmental Organizations - NGOs, non banking financial institutions, banks), their status (regulated or non regulated), their activities (savings and credits, direct credit institutions, development projects including credit), their methodology (group lending, individual loans) and their sources of financing (deposits or external financing) (Berguiga, 2008). These different approaches are strictly related to the division, defined by Murdoch (1998) as the *microfinance schism*, between the *institutionist approach* and the *welfarist approach*. These are both based on the shared commitment of financial services provision for micro-entrepreneurs, but created a system split into what Woller described as "*two nations divided by a common language*" (Woller, 1999). Starting from a common purpose, different methodologies led to the development of a diverse range of experiences and results, depending on the way in which microfinance services are supplied, the target population selection criterions and the performance evaluation methods.

Welfarists base their position on the assumption of their commitment to serve the *very poor* (Woller, 1999). This approach considers the provision of a whole range of services, not only credit or saving, but also non-financial services,

such as specific entrepreneurial trainings and assistance able to support the target population in all the business cycle phases, under an economic and a social perspective. In some cases, an inappropriate and inaccurate administration brought to the failure of some microcredit programs, due to high unpaid rates and transaction costs (Von Pischke et al., 1983; Yaron, 1994), allowing institutionists to *attack* the welfarist approach identifying it as a threat for the effective fulfillment of the microfinance services provision (Woller, 1999). The institutionist approach is therefore based on the *logic of market* supported by different international organizations, such as the World Bank, the United Nations, the United States Agency for International Development (USAID) and the Consultative Group to Assist the Poorest (CGAP). This approach is based on the assumption of limited donors for a growing demand for microfinancial services (Ben Soltane, 2012). According to institutionists, all MFIs should aim at financial sustainability, maximizing the productivity, preferring *breadth of outreach* (number of beneficiaries) to *depth of outreach* (targeted level of poverty, usually shown by indicators such as the average loan size and the number of women beneficiaries). This approach places the institution at the center of the process, instead of the target population and the socio-economic impact or a relevant social return. What for the institutionist is a threat to financial self-sufficiency, under the welfarist approach represents a specific commitment towards social performance standards, in order to reach the common goal of reducing poverty and improving socio-economic conditions of the population excluded by the formal financial system.

This schism and the related debate proves the need for a in-depth understanding of the different approaches and the possibility to adopt and support a joint approach able to serve and reach different targets of the population and to fulfill both social and financial requirements. Starting with a theoretical overview of the *microfinance schism*, the paper analyses the results of a field research on the microfinance market in Jordan, which aimed at studying the microcredit supply in one of the most developed countries of the Middle East and North Africa (MENA) region, in terms of microfinance provision. The results will show the lack of a proper follow-up procedure and social impact assessment, except for rare cases where the institution had recently started to adopt this kind of tool. The *social blanks* identified during the research led to a methodological analysis that examines the core microcredit procedural steps, underlining some social measures considered highly relevant for the sector commitment. In the conclusions, the paper proposes a reflection on more social oriented procedures implemented by microfinance institutions. This includes an evaluation of the current gaps, valid not only for the Jordanian experience, but also for other developing countries where micro-entrepreneurs need a proper, specific and personalized support for the socio-economic growing process.

THE MICROFINANCE SCHISM AND THE RELATIONSHIP BETWEEN SOCIAL AND FINANCIAL PERFORMANCES

Besides structural differences in terms of approaches and methodologies, microfinance has been defined (Woller, 1999) as a heterogeneous movement characterized and driven by a shared commitment to provide financial services for the development and growth of micro and small enterprises run by persons automatically excluded by the formal financial system due to their socio-economic conditions and the subsequent high risk profile. This common aim didn't prevent the development of different approaches. These concern the debate on the best way to achieve microcredit main goal and the use of the diverse range of tools that allow having an impact on poverty alleviation through access to financial services. According to each side of the debate, there is a *trade-off* which implies the implementation of a "*unique model*", instead of a combined approach that would allow reaching both social and financial performance requirements (Bédécarrats et al., 2011).

In the late '90s the failure of some microfinance institutions brought about the need of a debate between the two sides. The institutionists emphasized the achievement of financial self-sufficiency through breadth of outreach. They supported a *financial system* where microfinance is implemented by a large-scale approach, profit seeking MFIs and where positive beneficiary impacts are assumed (Woller, 1999). In order to accomplish this model, each institution should maximize productivity and effectiveness, raising interest rates to face the transactions costs (Ben Soltane, 2012). The development of this approach precedes two relevant trends of the last years: on one side, the upgrade process of microfinance institutions from an "*NGO*" and "*Non-Profit*" status to a regulated one, based on a profitability and market logic (De Briey, 2005). On the other side, an on-going downgrading process that brings traditional commercial banks to the discovery of new markets and new target populations, once considered as high risk.

Institutionists point out the difficulties in keeping a model based on social performances and standards without a careful financial administration and strategy. Welfarists instead base their approach on depth of outreach and the acknowledgment of the original social purpose of the movement, emphasizing the social impacts and livelihoods improvements reached through the access to financial services, without assuming them by any financial indicators. Welfarists also underline the importance of different non-financial tools and services that somehow are not considered by the institutionists, due to the high financial requirements. The vulnerability of the population targeted by socio-economic development tools such as microfinance requires the provision of a complete range of services. Beyond the access to credit of financial services, these can support and ensure the socio-economic development of the entrepreneur. Technical and social trainings, for instance, could enhance and develop certain skills that the target population requires to face all the direct and indirect challenges of the business cycle. In order to follow these methodologies, welfarists may require subsidies, which are instead eschewed by institutionists. Though, this belief does not consider that the main innovations implemented by the sector in the last years (group-lending and village banking) came from *subsidized* MFIs

(Woller, 1999). Furthermore, the analysis proposed by Woller (1999) considers, in the evaluation of *subsidy*, a distinction between a *social* investor and a *selfish* one, driven by different motivations and expectations towards the MFI's achievements, smoothing the institutionists' fears about donors' availability. This brings to relevant considerations related to the importance that the elaboration of *impact assessments* represents within each MFI. These assessments are unnecessary in an *institutionist system* but are a priority for a MFI depending on subsidies (Woller, 1999). Welfarists also consider the current microfinance evolution under the *logic of market* as a threat for the population usually targeted by these programs, as it could lead to a selection distortion and a marginalization of the poorest persons in favor of the ones considered more affordable and creditworthy (Chao-Beroff, 1997). Apart from any biased opinion, the risks related to the commercialization of microfinance seem to be real, with deep changes, not just in target population selection criteria, but also in the range of activities implemented, the indicators considered in the monitoring and the importance of social impacts in the evaluation of the intervention.

Recent studies (Bédécarrats, 2012) underline the need and the feasibility of combined models that go beyond the inner lack of communication between the two factions, overcoming the mutual distrust and the idea that just one of the approaches could lead to the achievement of the common goal. Financial and social performance therefore became relevant topics in the microfinance system, fostering the need for a specific evaluation, focused on the debate on the possible combination between the two. In the social and financial performance debate, it is relevant to consider that the factor analyzed for the financial debate has always been relatively clear and unquestioned throughout the years, referring usually to the ROA – Return on Assets, cost per borrower and portfolio quality (among all, the PAR 30). Instead, the debate regarding how to assess and measure the social performance of MFIs has been crucial. In the last ten years, the Social Performance Task Force (SPTF) has been working on the realization of a specific kit of standards of social performance for MFIs. As shown by previous researches, the social performance has been approached by four main dimensions, including "*serving larger numbers of poor and excluded people; delivering high-quality and appropriate financial services; creating benefits for clients and improving the social responsibility of MFIs*" (Bédécarrats et al., 2011; Hashemi, 2007). Therefore, the major relevance of social performance led to different researches aiming at proving a direct trade-off between the two performances. The main difficulty of these kinds of studies concerns the management of the data considered during the analysis, in most of the cases elaborated by the MIX – Microfinance Information Exchange, self-reported and largely unverified (Bédécarrats et al., 2011). The analysis conducted by CERISE, involving institutions from 51 countries, shows some relevant relations between financial and social performance, about their compatibility and the need for a specific mix that allows keeping all the financial requirements without underestimating social performance practices. The research underlines the relevance of the development of non-financial services able to improve customer satisfaction and payback capacity, though at first these may have a possible negative impact on efficiency and sustainability. Another study, based on Social Ratings elaborated by MicroFinanza Rating (Hoepner et al., 2012), considered the relation between social and financial performances. The research shows a parabolic relationship between client protection (external social performance) and financial sustainability, designing a *U shape* curve. Investing in social responsibility could therefore ensure clear impacts on financial performances; negative at the beginning, with the initial social performances improvement, but positive once a strong client protection has been achieved.

A proper analysis on the social commitment is also suggested by evidences of *mission drifts* of MFIs (Copestake, 2007). This trend is generated by a confusion related to the presence in the sector of diverse and heterogeneous institutions, and a *conflict* between financial sustainability and social performances. The contemporary activity of commercial banks, non-governmental organizations and financial institutions may be contributing to a general confusion regarding the common commitment and the relevance of social and financial performances. A proper reflection could, therefore, contribute to a more social oriented sector, focusing on the social impact achievements and its relevance within the institutions, clarifying and pointing out the different activities implemented.

An approach made by these inputs, considering the importance of a strategic mix between the two performances and the related practices, opens to new considerations and to the second part of this paper, based on a field research in Jordan. The survey allowed estimating the provision of microfinance services in the Arab country, the importance of social assessment and the subsequent development of a different methodology based on specific follow-up criteria and a social commitment focus.

Over the years, a large and not very productive debate split microfinance into a rigid *dichotomy*, where both institutionists and welfarists fall into the easy and automatic belief that just one way could be viable. This *dichotomy trap* (Woller, 1999) brought to failures in both sides, whether due to lack of financial sustainability, or missed achievements of basic social impacts. Nowadays, MFIs and academic researchers need to reconsider the whole microfinance and microcredit process under an updated point of view. This evaluation, based on actual and previous field experiences, could consider the diverse range of needs and difficulties that micro-entrepreneurs and economically active poor face daily.

AN OVERVIEW OF THE MICROFINANCE SERVICES PROVISION IN JORDAN

The study presented in this paragraph refers to a field research conducted in Jordan in June and July 2012, preceded by an analysis of the existing scientific support (among all, Planet Finance, 2007; CGAP, 2009; Saqfalhait, 2010), that

led to a better understanding of the peculiarities in the Jordan experience[1]. Jordan is nowadays one of the most developed countries in the MENA region, with more than 250,000 beneficiaries (MIX, 2013) and a heterogeneous presence of MFIs, for their status, methodologies and services supplied. As in other developing countries, the microfinance sector in Jordan is a rather young sector that reached its maturity a few years ago; MFIs started their activity in the Kingdom in the 1990s, during a time where the country was facing a high unemployment rate, rising prices and a consequent growing poverty. The market has been supported by the Ministry of Planning and International Cooperation (MOPIC) and the United States Agency for International Development (USAID) that launched a specific program (Access to Achievement of Market-Friendly Initiatives and Results – AMIR) in 1998, that was able to provide financial and technical support for the development of three major Jordanian microfinance institutions.

The cited research considered the major microfinance institutions in Jordan, deciding to exclude from the analysis other relevant experiences carried on by international organizations (United Nation Relief and Works Agency – UNRWA – Microfinance Department) and local institutions, such as the Poverty Pockets Empowerment Project promoted by the MOPIC and implemented by four local NGOs. This choice has been motivated by the need to evaluate the approaches of the seven main MFIs in the country, building an overview of the current situation and focusing on the strengths and threats detected during the survey data collection and reported during the research.

Through an in-depth analysis on each MFI involved in the study, the research underlines the main features of the microfinance sector in Jordan, indicating a context mostly oriented to social performance, with high rates of women participation and an average loan that ensures the focus on the economically active poor of the country. In almost all the MFIs considered by the research, the product development is quite advanced and the local outreach, based on an average of 10 local branches per institution, seems to guarantee a strong link between the institutions and the beneficiaries, except for the rural areas, where the market needs to increase its intervention. One of the first features that clearly appear when analyzing microfinance in Jordan is the low presence of Islamic financial products, with only three MFIs providing them with a percentage on the current portfolio below 1%. Among all, the most evident results of the research regard the social performances of the MFIs, underlining, despite a good depth of outreach (average women participation above 90% and poor-targeted average loan), that just some of them realized constant social impact assessment. In most of the institutions, existing evaluation didn't lead to a proper reflection on the social responsibility and the quality of the intervention. This lack reflects weak follow-up procedures observed in almost all the institutions. In most cases, the relationship between the borrower and the institution, in the figure of the loan office, became quite weak after the credit provision. The whole process cycle seems affected by a *strong commercial approach*, with some crucial steps, such as target selection, project evaluation, follow-up procedures and social impact assessment, characterized by rigid market logics and strong financial and efficiency constraints. This approach, implemented within the different MFIs in a heterogenic way and with different outputs, clearly led to the growth of a stable and efficient market, which is one of the most developed in the MENA region. Though, as mentioned in the first part of this paper, a strong and intense microfinance commercialization may affect the original mission of the institutions. Unless we recognize the differences in the positions adopted by commercial banks and financial institutions implementing - not just in Jordan - microfinance, a deep reflection on the role of MFIs in the poverty alleviation sector is mandatory. This experience follows the recent sector downgrading mentioned in the first paragraphs, but within this paper the aim is not the analysis or the evaluation of these institutions' intervention. It offers an overview and an in-depth analysis that led to a reflection of how microfinance procedures could be implemented in a different way. Social impact assessments and non-financial services and activities represent a relevant cost for the institution, especially if they are constantly repeated during the process. It is, therefore, easily understandable, expected and reasonable that a MFI driven by a logic of market and dependent on a *selfish investor* won't invest in any social activity that apparently won't have specific and clear effects on the efficiency and the financial performance. Some authors (Bédécarrats et al., 2011) report a direct link between social and financial performance. It is therefore desirable that also commercial MFIs could invest more on social performances, pushed by international donors that would look for both financial and social achievement, through new tools such as social audits.

As in any other microfinance market, the institutions involved in Jordan are characterized by a strong heterogeneity, most of all declaring a not for-profit orientation and strong social values. This view and approach should automatically create expectations regarding non-financial services and their impacts on the target population, considering the role that the institution is assuming. Therefore, the first analysis of the data collected led to a deep reflection of the social performances of the Jordanian MFIs, observing that, despite the aforementioned remarkable financial results, the social performances seem to be quite weak. During the first semester of 2012, Tamweelcom, one of the biggest Jordanian MFIs, started a deep socio-economic evaluation based on the *Progress out of Poverty Index*[2], considering household improvements, business income and family conditions. The project, supported by Grameen - Jameel Microfinance Ltd., aims at improving the target selection, follow-up procedures and development of new products. Although five out of the seven institutions considered in the survey mentioned an on-going social impacts assessment, in most cases the evaluation was not properly matched with a follow-up procedure that could provide a clear monitoring of the social conditions before, during and after the microcredit. Without respecting specific criteria and regular monitoring, this

[1] N. Saqfalhait and A. Bigio, Analyzing the Features of Microfinance in Jordan, *International Research Journal of Finance and Economics*, Issue 111, pp. 69-85, July, 2013.
[2] For further information about the Index and the Jordanian form, visit http://www.progressoutofpoverty.org/.

could lead to an overestimation of the changes - positive or negative - observed in the beneficiary's enterprise and life, considering variables that are not directly dependent on the access to microfinance services.
The research pointed out that most of the considered MFIs represent relevant and successful cases of socio-economic development, providing a valuable support to the most vulnerable population brackets. Therefore, the financial performances contribute to a healthy sector, but with many *social blanks*. Follow-up and social assessment gaps do not allow providing a complete microfinance support and most of the beneficiaries do not access the holistic support that would allow facing all the different challenges related to his enterprise and his vulnerable conditions.

The *social impact lacks* led to a further analysis that could design new tools and procedures able to overcome part of the issues. These considerations, based on field experiences in difference microfinance and socio-economic development environments aim at providing alternative ways to the current microfinance structures and processes in Jordan and in other developing countries where social impacts seem to be affected and overlooked by the commercialization process.

FOLLOW-UP PROCEDURES

The analysis of the main results observed in the field research mentioned in the previous paragraph led to an analysis focused on the social performances in Jordan and other countries where microfinance has been implemented as one of the poverty alleviation and socio-economic development tools. As detailed, the microfinance market in Jordan is characterized by relevant financial performances, but also by some social issues that require an in-depth analysis on the main weak points underlined in the study (among all, follow-up procedures and social impacts assessment) . Most of the considerations concern the figure of the *loan officer* and his relationship with the *borrower* (or beneficiary in the case of broadening the focus to microfinance and not just microcredit). The commercialization of the sector could bring about a relationship between loan officer and borrower that is close to the commercial bank framework. This would be based on a financial focus and totally subjected to market logics not considering the relevance of social approaches in the development of micro and small enterprises within a highly vulnerable context.

As already mentioned, this methodological debate concerns the whole microcredit process, focusing on some core steps that could lead to a more social-oriented approach: 1) *Target selection and field visit*, 2) *Business and social orientation and commitment*, 3) *Business and social follow-up*, 4) *Socio-economic impact assessments*.

Target selection and field visit

The Progress out of Poverty Index, currently adopted by one of the Jordanian MFIs, is one of the tools that could facilitate the beneficiary selection, targeting the vulnerabilities and verifying the likelihood that the participant and his/her household are living below the poverty line (or other margin considered by the institution). The analysis of the vulnerability, matched with a first business evaluation could ensure a first pre-selection of the participant (and his/her family[3]). This would allow gathering basic, but relevant, information concerning the main individual and familiar situation (internal conflicts, external threats for any household member, health conditions, access to education and nutritional habits) and the business project, new or on-going. In order to reach the accomplishment of a complete socio-economic profile, the loan officer should carry on at least one home visit and a visit to the place where the business is running or the entrepreneur is proposing to start a new one. This first phase and contact with the borrower and his/her family is highly important for at least two reasons: firstly, it allows verifying the target selected according to the institution's mission and vision. On the other hand, it enables the next steps ahead based on the main social and economic opportunities and threats identified during the pre-selection. According to the context and the organization's structure and mission, it may be advisable to draw a training plan, including both entrepreneurship and social topics, such as gender equality, assertiveness and self-confidence. Dealing with socially oriented topics, properly matched with economics ones, may ensure the required knowledge for the oncoming challenges. A specific training programme, as other non-financial services, represents a relevant and demanding institution's investment, but it is definitely a tool that can positively impact on the business and, therefore, on the payback capacity, as well as a clear individual improvement.

Business and social orientation and commitment

Once the loan officer has concluded the first social and technical visit, both the familiar and entrepreneurial situation will be clearly defined, ensuring the elaboration of a basic *business plan* that will evaluate the feasibility of the

[3] It may be possible, during the analysis of the microcredit process, the mention of a relationship *loan officer-family* rather than a *loan officer-borrower*, due to social and environmental thoughts that consider the high vulnerability of the target population involved in the process as a constraint that recommends to manage a direct relationship with all the family and not just with the entrepreneur. The development of the micro and small enterprise could be widely affected by emergencies related to the whole household and the loan officer has to be previously informed about all the possible socio-economic risks that may arise. At the same time, starting a new business or enforcing an existing one is always an achievement reached by all the family, therefore the loan officer should consider all the strengths within the entrepreneur, starting from the most direct and close level, the household.

proposed project. The preparation of the plan, preferably done mutually with the beneficiary (as a second - practical - step of the theoretical training), could underline the main needs of the business, outlining the priorities on the oncoming investment through the microcredit. In the business plan phase, the loan officer should always leave the responsibilities to the beneficiary, enhancing his/her self-confidence and managerial skills (above all, decision making and technical competences). In order to foster the business development and the economic follow-up, the business plan should include basic steps, goals and achievements. These are quantitative benchmarks that will also positively impact on the personal motivations of the entrepreneur and his/her family. During this phase, it could be possible to consider the elaboration of a proper *social plan*, according to the expertise and social commitment of the institution. This would be matched in some parts with the economic and quantitative achievements of the business plan. This plan will reflect on the social information, individual and familiar, gathered during the home visit. The main aim of this mutual social deepening concerns the acknowledgment of specific *social actions points*, both for the loan officer who will carry on the follow-up and the beneficiary who is directly involved. These *points* are qualitative achievements that are related to certain situations that can positively affect the household conditions and, consequently, the beneficiary and his/her project. These action points should be measured qualitatively, but with precise steps, such as a better nutrition habit, household sanitary conditions and, in the case of school-age children, education involvement and interest. Together with the quantitative achievements of the business plan, the social improvements detailed in the social plan will be part of the follow-up methodology implemented by the loan officer. This will be based on the belief that any individual and familiar threat could seriously affect the business development, therefore also affecting the payback capacity and the institutional financial sustainability. Based on the adopted approach and the institution's mission and vision, this social evaluation could be part of a commitment between the beneficiary and the institution, in order to *use* the microcredit as a direct tool to work on some social weaknesses. This would constrain the credit renewal to some *social achievements*, or just serve as additional - but extremely relevant - support for the loan officer during all the follow-up phase, improving his acknowledgment regarding the personal sphere of the entrepreneur.

Business and social follow-up

One of the main social weaknesses identified during the field study in Jordan concerns the follow-up procedures implemented by most of the MFIs. In some cases, the institution only schedules a visit subsequent to delays or problems in the repayment. This means that their actions are clearly too late, after the occurrence of the problem and its main effects, bringing about serious difficulties to design and plan any solution. In other situations, the field visits were not as frequent as they should be according to their main aim, which should be the constant monitoring of the project and checking of the threats identified during the first visit. The simple fact that the beneficiary is regularly paying the scheduled fee doesn't imply that is not facing any kind of economic or social difficulties. The over-indebtedness, one of the biggest problems in the microfinance sector in Jordan, in some cases comes from the need to pay a previous debt that is not possible to accomplish with their own resources. These difficulties make it easier for the beneficiary to open a new debt just to fulfill this prior obligation. Therefore, the regular repayment, despite representing a positive sign, cannot be used as a justification for not applying a rigorous, constant and necessary follow-up procedure. According to the context, the follow-up procedures should include at least one monthly visit, considering the high vulnerability of the target population and the frequency with which the occurrence of social and economic issues could lead to relevant changes in the existing family and business stability. The previous microcredit steps should ensure a proper wealth of information regarding the entrepreneur, his/her family and the business. The monthly field visits will be carried on, checking all the improvements or difficulties observed, taking into consideration both the economic and the social commitments defined before the microcredit. The regularity of field visits should be personalized (even if, as mentioned, it should be at least monthly), according to beneficiary's vulnerabilities and repayment plan. The need for constant and regular monitoring would suggest matching and crossing the visits with the repayments schedule; in case of a monthly repayment, the institution could organize the visits between each repayment, creating a bimonthly direct contact that will ensure a proper follow-up and socio-economic support. The first contacts between the loan officer and the borrower are crucial to define a relationship characterized by mutual trust and to consider the field visits as what they really are, a socio-economic monitoring of the family and the business, and not a formal control set up by the microfinance institution.

Socio-economic impact assessments

In the last few years, the global changes involving microfinance brought about the need for more specific and regular social impacts assessment, especially if required by *social investors* interested in the *social rate of return*, the target population and their socio-economic improvements. Most of the MFIs involved in this study - except for the *profit oriented* commercial institutions - are currently performing a social impact assessment, adopting different criteria and socio-economic variables. The general concern that rises during the sector analysis has been the lack of implementation of a social approach by almost all the Jordanian MFIs. Therefore, the research questioned the relevance of an assessment devoid of a proper follow-up procedure and social information gathered during the microcredit cycle. The same happens with the economic information, which often is limited to the feedback obtained from the hypothetic regular repayment. One of the main risks of social impacts assessments as any other social development tool evaluation,

concerns the analysis of improvements not directly related to the microcredit, but to concurrent circumstances that the target population may be facing. The idea of a more social oriented microcredit cycle comes from the need for a new approach that is able to smooth these social blanks, getting the loan officer closer to the population and creating an information flow that could identify the improvements or the issues directly related to the microcredit. This would help to make a better analysis and to propose solutions also for the other situations being faced by the beneficiary, approaching the role of the loan officer to that of a social worker. Such an approach will render almost automatic the comparison of the qualitative and quantitative results at the end of the cycle with the ones gathered during the first visits and the elaboration of the *business* and *social plan*. The institution will consequently get a more realistic idea of the main issues faced by the target population, adapting the microcredit cycle to their needs and the previous feedback.

During the aforementioned four core steps, the procedures specified could provide a more social oriented process when matched to other procedures customized and related to the program implementation framework. The main doubts regarding an approach focusing too much on social performances would definitely be related to its financial sustainability. Previously mentioned research (Bédécarrats, 2011) demonstrated that financial performance strategies can be combined to the social ones, without facing a rigid *trade-off*. All the procedures, extra-activities (such as the *social plan* or the frequent home and business visits) proposed in this paper, imply clear and evidently higher transaction costs. Nevertheless, a better social orientation, together with a positive operational and repayment response by the borrower, can balance the financial efficiency loss and contribute to more relevant and deeper social impacts.

This paper does not want to underestimate the importance of financial performances, but aims at focusing on certain *gaps* identified during the field research in Jordan. A more social oriented approach that is not properly matched with specific strategies and procedures would lead to efficiency and sustainability problems. MFIs should consider that investing in better social performances will not make the fundraising more difficult. On the contrary, reaching the main social achievements, or at least getting closer, will point out the need for a deeper commitment towards the social impact of the sector by donors and institutions.

CONCLUDING REMARKS

This paper is strictly related to the results gathered during the field research in Jordan, initially focused on a better understanding of the microfinance provision in the Arab country. The first results analyzed during the survey, showing a strong commercial orientation by the MFIs, led to a further in-depth study based on the social commitment of microfinance.

The theoretical overview in the first paragraph allowed considering the different approaches implemented over the last few years. The failure of several institutions led to new sector debates and to an evaluation of the relationship between financial and social performances, outlining the need to overcome the social impacts assumption based on good financial results. Therefore, microfinance should not just be considered as the provision of financial services and products, but as a tool that includes both financial and non-financial services. An analysis of a specific microfinance sector should consider the MFIs' ability in fostering the development of micro and small enterprises, enhancing personal and professional skills and improving the socio-economic conditions of the entrepreneur and his/her family. The provision of financial services without a holistic perspective will threaten not only the social commitment, but also the financial goal - above all the credit repayment. A concrete microfinance provision should therefore lead to concrete and relevant impacts on three levels: the personal, the community and the regional level. The first level refers to personal achievements, such as better education or nutrition and women empowerment, while the other two concern wider spectrum impacts based on job creation and local development. A proper analysis should be able to consider the role of MFIs' intervention toward these achievements, gathering information regarding the main needs and expectations of the population involved in the process.

Despite strong and relevant financial results, the field research in Jordan observed several social gaps, especially related to the follow-up procedures and social impact assessments. Specific considerations regarding vulnerabilities and needs of the population normally targeted by these programs allowed outlining and proposing proper procedures that could ensure a more social oriented intervention. The analysis points out four core steps in the microcredit process where appropriate and customized procedures could ensure a stronger relationship between the institution and the beneficiary. The differences between each context led to the development and provision of diverse services and procedures, based on the main features of the population involved. Therefore, this paper does not want to propose a new and complete methodological process, even if it focused on specific procedures. It aims at stimulating a reflection on the relevance of the social impact of microfinance and the provision of services by institutions so different from each other, but all included under the same *umbrella* of microfinance institutions. At the same time, though, the deep commercialization led to the need for a design of some core steps and activities that are able to ensure a stronger social perspective, underlining that a micro or a small enterprise cannot be properly supported without considering social and personal issues that clearly affect the borrower and his/her environment.

Further analysis concerning specific procedures and activities within the microcredit process in each context, possibly starting from tools like the Progress out of Poverty Index, could therefore enhance a social awareness that in the last few years seemed to be weakened by financial and market constraints. MFIs have to redefine their own structure and methodology according both to financial and social performances. A proper academic support will be

essential during this phase, but it should start by effective field surveys focused on the main features of the environment, the institutions and the micro-entrepreneurs, considering the vulnerabilities and the needs of the population and developing new processes and products able to have an impact on poverty alleviation.

NOMENCLATURE

AMIR	Achievement of Market-Friendly Initiatives and Results Program
CGAP	Consultative Group to Assist the Poorest
MENA	Middle East and North Africa Region
MFI	Microfinance Institution
MOPIC	Ministry of Planning and International Cooperation
NGO	Non-governmental Organization
PAR	Portfolio at Risk
PPI	Progress out of Poverty Index
ROA	Return on Assets
SPTF	Social Performance Task Force
UNRWA	United Nation Relief and Works Agency
USAID	United States Agency for International Development

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THE WILLINGNESS-TO-PAY FOR INSURANCE: EVIDENCE FROM SOUTHERN ETHIOPIA[1]

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ABSTRACT

Rainfall variability is a major problem in Ethiopia. The ability of Ethiopian farmers to deal with drought risk is made more scanty by the extension of land plots, which does not allow for a proper crop diversification, and by incomplete and inefficient financial markets which limit appropriate risk management financial strategies. Insurance can represent indeed a potential drought risk transfer mechanisms. However, the sustainability of a traditional drought insurance scheme is flawed by moral hazard, adverse selection, high administrative costs and risks not locally diversifiable. A promising alternative is index-based insurance whereby indemnities are related to an "index", rather than to verifiable losses. Several pilot projects and experiments have been carried out over the last fifteen years. This work is meant to contribute to such vast literature by reporting the results of an experiment carried out with Ethiopian farmers. Based on a sample of 120 rural households in the Wolayta zone - Southern Ethiopia, we aim to estimate the willingness-to-pay (WTP) for a drought index-based insurance product. Data were collected in 2013 through a discrete-choice experiment where household-heads were asked to make a choice out of different choice sets. Additional economic, financial and social data have been collected since 2011, within a wider research conducted on a larger sample including the one used in the current experiment. Data are analyzed employing a Mixed Logit model that allows for random preferences and overcomes a problem of the Multinomial Logit model, i.e. the irrelevance of independent alternatives (IIAs). The study is still in the implementation phase. Main preliminary outcomes are presented.

INTRODUCTION

The consequences of man-made or natural shocks in rural areas of poor countries can be devastating but even non catastrophic adverse conditions may challenge farmers. Traditional strategies followed to comply with this vulnerability, such as having some savings or diversify production, or informal insurance mechanisms may not be effective (Fafchamps, 1999) while the adoption of formal insurance has generally been considered as challenging both for farmers and for the insurers (Brown, 2001). Many examples of failures in crop insurance are reported in the literature; schemes based on estimated crop losses suffer of moral hazard which loosens farmers' commitment in production with an adverse selection effect where only bad farmers buy insurance (Hess, Richter and Stoppa, 2002). On the opposite, relatively new products base the compensation on the value taken by properly designed, standardized, verifiable climatic indexes (precipitation, wind-speed, temperature, solar radiation) with statistical correlation with crop yields which cannot be influenced by the customer behaviour (Bryla, Dana, Hess, Varangis, 2003). Prevailing contracts are area yield, livestock, weather indexes or weather derivatives (Hess, Richter, and Stoppa, 2002; Skees, 2003). Results of pilot projects based on these contracts are expected to reduce farmers revenue volatility (Hill and Robles, 2011). However, take-ups seem still meagre (Sarris, 2013; Clark and Kalani, 2011) and weak points are stressed. They are related to basis risk, to their cost[2] and to limited delivery channels. Elabed et al. (2013) and Hill et al. (2011) suggest index products with more than one risk included to reduce the impact of basis risk and to improve WTP, but the latter also depends on many other factors.

Several studies attempting to better understand WTP of rural farmers in poor countries mainly rely on experiments, given that the market still has to be developed (Breidert, Hahsler, and Reutterer, 2006, as quoted by Hill et al., 2011).

[1] This research, based on a field experiment, is conducted by the "Finance and Development – FinDev" group of the Research Center on International Co-operation of the University of Bergamo in co-operation with Wolayta Soddo University (WSU-Ethiopia), College of Business and Economics (CBE). The two universities co-financed in equal share the research. The study represents a complementary analysis to the main research project named MicroRiMI (Microfinance, Risk Management and Innovation) through which FinDev has been collecting data – with the co-operation of WSU- in the same area of Ethiopia since 2010. MiroRiMI is sponsored by the University of Bergamo, Giordano Dell'Amore Foundation (Milan), Cariplo Foundation and Lombardia Region. The current paper is a very preliminary version of the main outcomes of the experiment. The full paper will benefit of further development of the analyses and will be complemented by a second, refined, round of the experiment foreseen for November 2013. Davide Castellani contributed to this version with literature review, experiment design and data analysis and interpretation; Belaynesh Tamire worked on data collection and data entry and Laura Viganò worked on literature review and experiment design.

[2] For more details, see Skees (2003), Hess (2003) and Larson, Varangis and Anderson (2002).

While experiments have been considered useful for the learning process that they trigger in potential customers (Patt et al., 2009), their efficacy has been challenged in some studies when limited correlation was found between outcomes from experiments and choices of real insurance (McIntosh et al., 2013) although for other authors this is not the case (Norton et al., 2011 and 2012). Factors affecting WTP pertain to the customer characteristics or the type of actors involved. Patt et al. (2009) point out that most studies focus on economic explanations while behavioral factors (emotions and trust in the suppliers, in the product or in oneself) may matter more. Among factors quoted by many authors, the attitude toward risk may be mentioned. Correlation between risk aversion and WTP may have opposite signs, sometimes counter-intuitively; a negative correlation was found, under specific conditions, by Giné et al. (2008) or Hill et al. (2011). According to Sakurai and Reardon (1997), Gautam et al. (1994), the demand depends, among other things, on households risk management strategies. Wealth is also relevant. Patrick (1988) found higher level of net worth associated with lower premiums. Assets, in fact, may allow to better absorb income shocks; however, even the opposite may be true if ownership of larger amount of assets induces the farmer to take risky decisions and, therefore, to buy insurance (Akter et al., 2009 find positive relationship between land owned and insurance). An ambiguous behavior related to wealth is proved by Clarke and Kalani (2011) which find the highest take-up ratio with intermediate wealth levels; in fact, too poor farmers may have nothing to lose and do not need to insure, while very rich farmers may have other options than weather index insurance (Castellani et al., 2013). Cole et al. (2009), find that insurance demand is sensitive to cash on hand but this depends on the source of cash; for example, Sakurai and Reardon (1997) find negative significant effects of off-farm income and livestock holdings on demand for formal insurance as both allow to implement self-insurance mechanisms. Indirectly linked to cash holdings, Giné et al. (2008) find that credit constraints reduce the purchase of insurance, possibly because it limits cash availability. On the other side, being indebted could negatively affect WTP if all cash is used to repay the loan. Related to the characteristics of the farm, Hill and Robles (2011) found that that farmers with poorer soil quality buy more insurance and Sakurai and Reardon (1997), stress the dependence of demand for drought insurance on the agro-climatic zone. The nature and types of different disaster risks are also important factors for insurance participation decision. Related to farms profitability, absolute value of income influences WTP (Akter et al., 2009) but income variability is relevant as well (Fraser, 1992). A quite controversial effect may be expected by the presence of aid as, while it undoubtedly increases available cash, it distorts demand. Experiments are often based on an initial "artificial" cash endowment which may have important distortions on behaviors during the game (Sarris, 2013) and may even compromise the possibility to implement a real project at market conditions (not subsidized).

Besides individual, households, or area characteristics, also the type of channel or strategy to offer insurance may make the difference, both in terms of accessibility and in terms of knowledge and trust by the potential customer. The latter could be increased if the delivery happens through risk sharing groups (Cole et al., 2009) and if marketing visits are constantly offered[3]. Education may help increasing knowledge of products and, then, trust (Akter et al., 2009) although some studies do not find direct correlation between education and WTP (but this may depend on the type of education provided). Knowledge, in turn, depends on the complexity of the contract, defined by its conditions: price, maturity, delivery methods, index chosen, triggers or thresholds. Price is relevant for Cole et al. (2009) while, as mentioned, basis risk is outlined by many studies (Fuchs and Wolff, 2011; Hill and Robles, 2011).

The ones quoted are just some of the possible patterns in exploring WTP for crop or drought insurance in poor rural areas. The Ethiopian case has been heavily analyzed. Among the relevant studies, Hill and Viceiza (2010), conducted a field experiment on a sample 261 Ethiopians of Silte Woreda (Southern Ethiopia), exploring the link between fertilizers purchase and the offer of weather insurance. Insurance showed positive effects on the purchase of fertilizers. Clark and Kalani (2011) studied the rationality of actual purchases of insurance using data on 378 farmers from the Ethiopian Rural Household Survey (ERHS), and conclude that while behavioral explanations to the low take-up rate offered by other studies could be weak, farmers buy few contracts because of rational decisions, due to the type of product offered. Hill and Robles (2011), working with farmers of Silte Woreda on the idea that farmers are different in their production and preference structures, show the need to offer diversified insurance contracts. Hill et al. (2011)studied 1,400 Ethiopian households for 15 years as part of the Ethiopia Rural Household Survey; they explored many aspects of WTP related to the product and farmers' characteristics; for example, they found that insurance contracts are more likely bought by educated, wealthy and proactive potential customers. The role of local risk sharing groups as channels was outlined as well. Norton (et al., 2012) implemented a study based on experimental games in Tigray in 2010, within the HARITA[4] project to compare different choices among options on the use an initial endowment of 70 birr: taking the drought index insurance, investing in simulated savings accounts, participating into risk-sharing groups, or holding cash. Preference for higher frequencies of payouts was recorded together with more frequent choice of insurance over savings and over participation in risk sharing groups and, in some cases, over cash holdings. McIntosh et al. (2013) focused on fertilizers and their relationship with weather index insurance in Amhara region. They considered many factors among which credit and insurance availability and worked on two different research approaches: a survey estimating WTP and the observation of actual purchases. Although not completely comparable, also due to some weaknesses in the offer of the real product, slightly positive or even negative correlation is found between the two approaches. Purchases in the study sample were lower than those of the total population. Behavioral variables or basis

[3] As stated, Patt et al. (2009) consider experiments as possible ways to increase trust.
[4] Horn of Africa Risk Transfer for Adaptation.

risk (probably not well known) were little influential. Lack of cash was an obstacle to take-ups which were mainly driven by in cash endowments (vouchers offered by the researchers).

Besides the numerous weather insurance pilots projects, in Ethiopia, practical implementations are increasing. Among them, the Ethiopian Project on Interlinking Insurance with Credit in Agriculture (EPIICA) offered by Nyala Insurance Company (NISCO) and Dashen Bank in Amhara region (quoted by McIntosh, 2013). Nahu (2010) describes several products, including a weather derivative through which the Word Food Program made the Government of Ethiopia buy a coverage by AXA Re in 2006 in order to obtain eventual financial resources for food aid in case of extended drought, and the one offered by the Ethiopian Insurance Corporation (EIC) in co-operation with the World Bank in 2008. The other products described are offered by NISCO: a pilot Double Trigger Multiple Peril Crop Insurance (DTMPCI) and a Weather Index Crop Insurance. The first was an area yield insurance started in 2007 in Oromia State; the second was first offered in 2009 in collaboration with OXFAM America and World Food Program in Tigray and Oromia regions, then extended in the South and in Amhara Region. Overall, the author lists some weakness and strengths of these pilots. Among the first, lack of awareness by famers, of a suitable regulatory framework, and, very important, lack of reliable data. Also delivery channels are limited as insurance companies are based in towns and this increase transaction costs. However, the author stressed the increasing attention of the government to small farmers, the expected establishment of a reinsurance intermediary in Ethiopia, and the abundance of research and technical assistance. The author concludes with a positive judgment on these experiences by stressing the need of collaboration among the different actors and, at the farmers' level, the importance to also consider other risks faced by farmers. This latter statement also emerged in Volpi (2005) who, being involved in the first phases of the implementation of the pilot project by the EIC and the World Bank in 2008 mentioned by Nahu (2010), stressed the reasons why farmers were not so reactive to the proposed insurance contract. In fact, after the instruction phase, only 26 farmers bought the contract. Volpi (2005) stressed the rationality of farmers who stated that the contract was only addressing one important risk but several other risks equally important were affecting their vulnerability. Therefore, they could not afford to pay for only one of them.

The next section describes the experiment conducted in this study and reports the preliminary results.

EXPERIMENT AND AMMINISTRATION OF THE SURVEY

In the study, we take a full client's perspective instead of a supply's perspective. The objective of is to have an understanding of who is the potential client and of the willingness-to-pay for drought insurance. No formal crop insurance was indeed available in the area where the survey was conducted. The hypothetical product was not designed according to the real rainfall data and tuned on the base of farmers' feedback, but we adjusted a product that was already available in another area of the same region[5]. The product is a weather derivative that pays a fixed indemnity when either a moderate or severe shortage of rainfall occurs in a specific month of the agricultural season (Hill and Robles, 2011). Farmers can get as much securities as they are willing to buy. This pilot-project was employed as a benchmark in order to build reasonable hypothetical products that farmers can afford. The actuarially fair price is thus unobserved but we can expect that it lays in one or more of the different premium-indemnity combinations that we consider in the discrete choice experiment.

In the preliminary phase of the experiment, we carried out focus-group interviews in the villages in order to understand farmers' perception about drought risk and to outline a shared definition of moderate drought and severe drought, respectively.

The categories of the product attributes are five: covered season, intensity of drought, supplier, premium and indemnity. In particular, the covered season category has two levels: *Belg* season, i.e. the small rainy season between the beginning of March and the end of May, and *Meher* season, i.e. the big rainy season between the beginning June and the end of September. The insurance supplier category has four levels: microfinance institution (MFI), farmers' cooperative, informal insurance association (*Iddir* in local name), and *Kebele* (the smallest administrative unit of Ethiopia).

The survey was administered by a team of ten trained enumerators to 120 farmers over a period of three weeks, in March 2013. The farmers were randomly selected from a larger sample of 360 farmers already involved in a three-year data collection project (2010-2013). The surveyed farmers are from three *Kebele*, of the Wolayta area located in the SNNPs Region of Ethiopia[6].

The three villages are Hembecchio, Kutto Sorfella and Abala Faracho. Each village is representative of one of three agro-ecological zones. The zones are named by the Ethiopian Ministry of Agriculture after the characteristic crops: ginger and coffee zone, barley and wheat zone, and maize and root crop zone.

EMPIRICAL METHODOLOGY

In this section, we analyze the household's optimizing behavior regarding the choice among different insurance alternatives. A household n faces a choice among J alternatives in each of T choice situations. We suppose that the

[5] See Hill and Robles (2011) for a comprehensive discussion of the product.

[6] For the sake of brevity, in the remainder of the paper we improperly refer to the *kebele* as villages.

utility that the household obtains from choosing alternative *j* is a linear combination of the insurance product attributes, x_{njt}, and a random term, ε_{njt}[7]:

$$U_{njt} = \beta_n' x_{njt} + \varepsilon_{njt} \quad (1)$$

Whereas the attributes are observed by the analyst, coefficient vector β_n is unobserved for each *n* and varies across households with density $f(\beta_n|\Omega)$ where Ω are the parameters of this distribution that are to be estimated. The stochastic element, ε_{njt}, is also unobserved and different assumptions on its distribution result in different choice models. As usually common in the choice analysis, we impose the condition that ε_{njt} is independent and identically distributed (IID) extreme value type 1 (or Gumbel) across all *n*, *j* and *t* (Hensher, Rose and Greene, 2005). Conditional on β_n, the Logit probability of household *n* choosing alternative *j* in the choice situation *t* is:

$$\pi_{njt}^{std} = \frac{e^{\beta_n' x_{njt}}}{\sum_i e^{\beta_n' x_{nit}}}, i = 1, \ldots, J \quad (2)$$

The standard Logit model, as expressed by (2), does not allow for unobserved characteristics that can induce correlation among alternatives in a choice situation and among choices over time. The Mixed Logit model, i.e. the unconditional logit probability, overcomes these restrictions by allowing for the variance in the unobserved household-specific parameters and, therefore, does not exhibit the property of Independence from Irrelevant Alternatives (IIA) (Revelt and Train, 1998). The Mixed Logit probability is:

$$\pi_{njt}^{mix} = \int \left(\frac{e^{\beta_n' x_{njt}}}{\sum_i e^{\beta_n' x_{nit}}} \right) f(\beta_n|\Omega), i = 1, \ldots, J \quad (2)$$

The (2) is a weighted average of the logit formula evaluated at different values of β_n. It follows that the Mixed Logit probability for the sequence of choices is:

$$\Pi_{njt}^{mix} = \int \prod_t \left(\frac{e^{\beta_n' x_{njt}}}{\sum_i e^{\beta_n' x_{nit}}} \right) f(\beta_n|\Omega), i = 1, \ldots, J \quad (3)$$

In (3), we want to estimate Ω, that is, the population parameters that describe the distribution of individual parameters (Revelt and Train, 1998).

HOUSEHOLDS' CHARACTERISTICS

We include several variables that proxy for household's characteristics in order to allow for potential heterogeneity in the attributes' coefficient. An important household's characteristic is net income. It is, along with the price, the usual component of demand models. However, we are unable to properly estimate net income. The expenses borne by the household over the period when the income is generated are to be deducted but the current data available do not allow for a proper costing[8]. For that reason, the net income is not included in the analysis.

As alternative proxy of the household's economic capacity we use the household's net-worth, that is, the difference between total assets and total financial liabilities. Total assets include agricultural assets, non-agricultural assets, and financial assets[9]. Financial liabilities are made up of all outstanding debts. The net-worth is also a proxy for the ability of the household to cope with negative shocks and make up for unexpected expenses. However, we do not control for the different liquidity costs of assets. Instead of considering the absolute value of net-worth, we test for a non-linear relationship with the insurance take-up probability by taking net-worth percentiles.

The land holding is not considered in the assets since in Ethiopia it is not an household's property, cannot be transferred or used as collateral[10]. Farmers are used to establish crop-sharing or short-term rent agreements. The size of land is however important in the decision of what to crop and to what extension. Besides, when the land does not provide for a living, farmers are forced to seek for alternative source of income. We control for the households' land

[7] The expression (1) is how the utility is usually represented in discrete choice models (Hensher, Rose and Greene, 2005).
[8] This is one of the objectives of the three-year research project that is expected to end in December 2013.
[9] The non-agricultural assets are: bicycles, motorcycles, radio sets, mobile phones, jewels and watches, tables and chairs, and beds. The financial assets are savings and outstanding credits.
[10] In Ethiopia the land is owned by the government.

holdings in terms of *timad*, that is, a local unit of land[11].
Other characteristics may proxy for the interviewee's risk aversion such as the interviewee's age, gender, and the number of family members. Others, such as the education, can influence the ability to understand the insurance product and properly appreciate the insurance's utility. We consider if the interviewee is both literate and the grade reached.

Since trust and transaction costs are significant determinants of financial contracts, we expect that being client of a microfinance institution, member of a local cooperative, or part of one o more *Iddirs*, i.e. local informal insurance parties, can increase the respective likelihood to prefer one supplier instead of another one.

Finally, we include some dummy variables to control for basis risk. In our case, the basis risk is the probability of receiving an indemnity when the households are not affected by drought, or not receiving an indemnity when it is affected. The dummy variables are built on stated perceptions of how different is the rainfall pattern at the household's field compared to where the weather station is located, and how much more or much less it rains at the weather station than at the household's field.

Table 1 reports all attribute and control variables.

Tab. 1 – Variables.

Variable name	Definition	Unit	Type
Product's attributes			
Premium	Cost of the insurance contract	ETB	Integer
Indeminity	Expected payment in case of drought	ETB	Integer
Belg	If Belg is the covered season	0,1	Dummy
Perceived probabilty	How often a moderate or severe drought occurs	Years	Integer
Cooperative	If cooperative is the suppplier	0,1	Dummy
MFI	If MFI is the supplier	0,1	Dummy
Iddir	If Iddir is the supplier	0,1	Dummy
Households's and interviewees's characteristics			
Networth lower than 2nd centile	Networth <= ETB 4,055	0,1	Dummy
Networth between 2nd and 4th centiles	ETB 4, 055 < Networth <= ETB 6,902	0,1	Dummy
Networth between 4th and 6th centiles	ETB 6,902 < Networth <= ETB 11,155	0,1	Dummy
Networth between 6th and 8th centiles	ETB 11,155 < Networth <= ETB 14,780	0,1	Dummy
Networth greater than 8th centile	Networth > ETB 14,780	0,1	Dummy
Log of landholdings	Household's landholdings	Log(Timad)	Continuos
Age	Interviewee's age	Years	
Gender	If the inteviewee is male	0,1	Dummy
Number of fam. members	Number of members who live with the head	N.	Integer
Illiterate	If the interviwee is illiterate	0,1	Dummy
Education	Grade reached at school	N.	Integer
Cooperative client	If client of at least one cooperative	0,1	Dummy
MFI client	If client of at least one MFI	0,1	Dummy
Iddir member	Number of Iddirs where the HH is member	N.	Integer
Very different pattern and less rain	Very different rainfall pattern and less rain on average	0,1	Dummy
Somewhat different pattern and less rain	Somewhat different rainfall pattern and less rain on average	0,1	Dummy
Somewhat different pattern and more rain	Very different rainfall pattern and less rain on average	0,1	Dummy
Very different pattern and more rain	Very different rainfall pattern and more rain on average	0,1	Dummy

ESTIMATES OF MARGINAL EFFECTS AND WILLINGNESS-TO-PAY

A preliminary analysis was carried out considering all the variables listed in Table 1. However, in the final model we retained only those variables that turned out to be statistically significant and sufficiently consistent over different model specifications. Table 2 presents the estimation results of the Conditional Logit (CL) model and the Mixed Logit (ML) model. The estimates coefficients of the ML are almost all significant and the overall goodness of fit is somewhat higher than in the CL. Besides, the standard deviations of the two random coefficients are statistically very significant and important in terms of size. This suggests that the ML is more appropriate.

The premium coefficient is negative as expected and the marginal effect implies that, for instance, an ETB 100 increase in the insurance price decreases the likelihood to purchase it by 28%. The price's marginal effect accounts for the opposite behavior, that is a positive coefficient, of high net-worth households who, given the average experiment

[11] Four *timad* are approximately one hectare.

premium, are more willing to purchase insurance by 13%, on average. Unexpectedly, the indemnity coefficient is also negative and reflects unobservable motivations. Given that premium and indemnity are almost uncorrelated by experiment design, one reasonable explanation is that the greater the indemnity the lower the trust in that the indemnity will be actually paid. However, further analysis is required.

Despite the majority of interviewees stated to deem *Meher* as the most important agricultural season, the results hint that they prefer to insure against a possible drought in the *Belg* season. The likelihood to choose an insurance product that covers the production in the *Belg* season production is greater, on average, by about 6%. There are, though, some differences among households in terms of preferred season. In particular, households that have got a net-worth between the 2nd and 4th centiles and households that believe that the rainfall pattern on their field is somewhat different from that at the weather station and it rains more on average, tend to prefer the *Meher* season. On the other hand, households that believe that the rainfall pattern on their field is very different from that at the weather station and it rains less on average, tend to prefer the *Belg* season. These results put forward that *Belg* season is believed to be more exposed to drought risk.

Tab. 2 – Estimation results.

	Conditionla Logit		Mixed Logit		
Variable	**Estimate**	**Std. Err.**	**Estimate**	**Std. Err.**	**Marg. Eff.**
Premium	-0.0242***	0.0027	-0.0229***	0.0032	-0.0028
Premium * Networth greater than 8th centile	0.0108**	0.0043	0.0126***	0.0049	0.1273
Indemnity	-0.0183***	0.0019	-0.0089***	0.0033	-0.0012
Belg season	0.4257*	0.2522	0.8322***	0.3015	0.0578
Belg season * Networth between 2nd and 4th centiles	-0.9615**	0.4254	-1.4150***	0.5159	-0.1056
Belg season * Very different pattern and less rain	0.6398	0.4044	0.7637*	0.4338	0.0570
Belg season * Somewhat different pattern and more rain	-0.9973***	0.2834	-1.1430***	0.3123	-0.0853
Perceived probability	0.0120	0.0176	-0.3092***	0.0916	-0.0427
Std. Dev. Perceived probability			0.2647***	0.0626	
Cooperative	-0.8737***	0.2501	-0.8162**	0.3206	-0.0337
Std. Dev. Cooperative			0.8608***	0.2985	
Cooperative * Illiterate	0.7645**	0.3299	0.9399**	0.4117	0.0367
Cooperative * MFI client	1.1080***	0.3299	1.3776***	0.4413	0.0538
MFI	-0.1021	0.3615	0.5569	0.4645	Not sig.
MFI * Networth between 2nd and 4th centiles	-1.8004***	0.5081	-2.6278***	0.6825	-0.0916
MFI * Illiterate	1.2242***	0.3698	1.6568***	0.4592	0.0577
Iddir	-0.3271	0.2875	0.1556	0.3675	Not sig.
Iddir * Networth between 2nd and 4th centiles	-1.585***	0.5181	-2.2017***	0.6311	-0.0758
Iddir * Illiterate	0.6566*	0.3365	0.7934**	0.3863	0.0273
Number of ob.s	1872		1872		
LR - $\chi 2$	421.74***		58***		
Pseudo-R2	0.325		0.371		

*** Significance level at 1%
** Significance level at 5%
* Significance level at 10%

The perceived probability, i.e. how often a moderate or severe drought event occurs, lowers the likelihood to purchase drought insurance. This means that there is preference for insurance against moderate drought since it recurs more frequently and may be forecast with less uncertainty than a severe drought. Furthermore, poor rural households are probably impatient and discount long-term realizations more than the better-off. For instance, an increase of 3 years in the perceived probability of drought decreases the likelihood to purchase insurance by nearly 13% on average. The standard deviation of the perceived probability is also statistically significant but small, and implies that for 12% of the population the coefficient is positive instead.

With regards to the preferred insurance supplier, the results are somewhat uncertain. The only statistically significant coefficient is for the cooperative variable. If the insurance products were distributed by the cooperative instead of the administrative unit, i.e. *Kebele*, the willingness to purchase would decrease by 3% on average. The standard deviation is also very significant both statistically and in economic size. For 39% of the population the coefficient is indeed positive. The cooperative as insurance supplier is mostly preferred by illiterate interviewees and MFI clients. On the contrary, the coefficients for the MFI and *Iddir* variables are both positive but not statistically significant. However, as well as for the cooperative case, illiterate interviewees have a preference for both the MFI and the *Iddir* instead of the *Kebele*. MFI and *Iddir* are, on the contrary, less preferred by households with a net-worth between the 2nd and 4th centiles.

Table 3 presents the average estimates of the willingness-to-pay for the insurance attributes computing as the negative ratio of the attribute' coefficient and premium's coefficient. First, households would pay a lower premium by ETB 0.46 for every increase in the indemnity by ETB 1. Second, households would pay about extra ETB 11 for an insurance product that covers the *Belg* season. Third, for every more year in the perceived drought probability, households would pay a lower premium by nearly ETB 15 on average, but this is true for the 88% of the sample. The remaining 12% of the sample would pay more for an insurance product against a long-term severe drought. Finally, households would pay about ETB 13 less on average if the supplier was a local cooperative instead of the *Kebele*, but the 39% of the surveyed households would pay a higher premium.

Tab. 3 – Willingness-to-pay estimates.

Average Willingness-to-Pay (in ETB)			
Attribute	**Mean**	**SD**	**WTP < 0**
Indemnity	-0.46	-	-
Belg	11.16	-	-
Perceived probability	-15.40	13.23	88%
Cooperative	-12.58	43.06	61%
MFI[a]	28.13	-	-
Iddir[a]	-1.81	-	-

[a]Coefficients are not significant

STANDARDIZED VS. CUSTOM-MADE INSURANCE PRODUCTS

Figure 1 and Figure 2 report the distributions of perceived probability of moderate and severe drought respectively. The stated frequency of occurrence of a moderate drought is very similar in the three villages considered, with an overall mean of 2.4 years and a standard deviation of 1.03 years. Besides, except for Kutto village, the shape of the distributions is also akin. Some differences can be observed in the frequency of severe drought but these are almost trivial in relative terms. For the severe drought case, the overall mean is 15.4 years and the standard deviation is 7.57 years. The differences are more remarkable when we look at the shape of the distributions with a median value between 10 and 20 years.

This preliminary analysis of the perceived probability provides some support to the design of a sole insurance product against the risk of moderate drought and, with appropriate caution, also against the risk of severe drought. In the development stage, the perceived probability must be however compared with the actual drought rainfall distribution in order to design a suitable product.

We here employ the ML model estimates of Table 2 to assess the convenience and attractiveness of hypothetical drought insurance products. In particular, we compare an *ad-hoc* product tailored according to the interviewee's perceived drought probability and different products designed according to a reference probability. This exercise allows to estimate the likelihood to purchase a standardized product (S) against a custom-made product (CM). We take different values as reference probability of drought that correspond to the ALL distribution's mean, mean plus one standard deviation, mean minus one standard deviation, mode, and median.

For every reference probability *k* and indemnity amount *j*, we, first, work out the equivalent fair premium (see Table 4) and, second, the market share (ΔMS) of CM as difference in terms of predicted aggregate likelihood of purchase. The latter is calculated as follows:

$$\Delta MS(kj) = \frac{1}{N}\sum_{i=1}^{N} P(CM|k, j, X),$$

where X are household's characteristics that interact with *k* and *j*. Since the other product's attributes are the same for both products, they are irrelevant in the decision process.

We find that, first, as the reference probability is increased, the premium shrinks and the market share of the standardized product grows. Second, when the reference probability is smaller than the average perceived probability, as the indemnity increases, the market share of the standardized product falls. On the contrary, when the reference probability is greater than the average perceived probability, the market share of the standardized product increases along with the indemnity. Finally, as the average perceived probability of drought heightens, such as in the severe drought case, the market share of the standardized product becomes less sensitive to changes in the reference probability and the amount of indemnity. It follows that, in the design of an insurance product for moderate drought, a small change in the reference probability and, then, in the fair premium, can lead to a big change in the willingness to purchase insurance. On the contrary, in the design of an insurance product for severe drought, small changes in the reference probability barely affect the willingness to purchase such product.

Fig. 1 - Kernel distribution of perceived probability of moderate drought (in years).

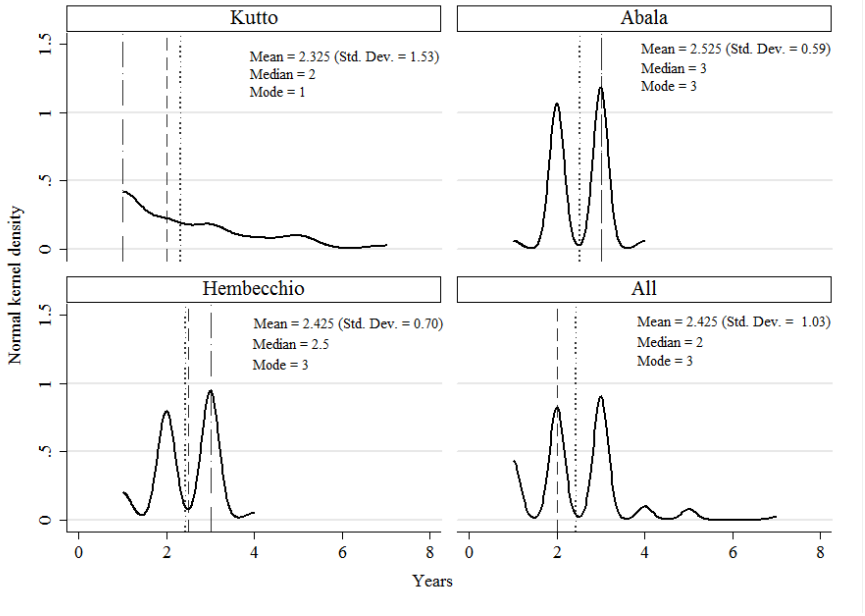
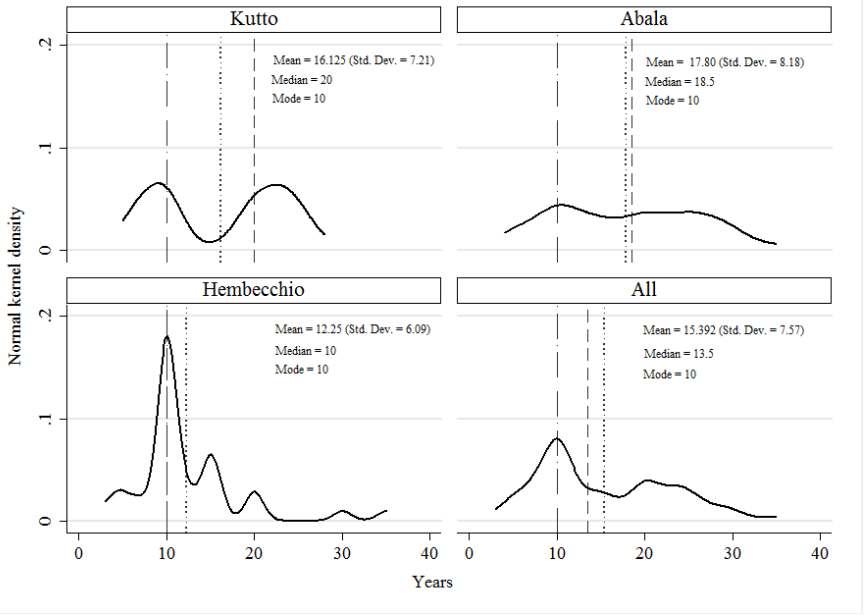


Fig. 2 - Kernel distribution of perceived probability of severe drought (in years).



Tab. 3 – Reference probabilities, indemnities and fair premiums.

Ref. prob. / Ind.	400	450	550	600
Moderate:				
1.395	286.74	322.58	394.27	430.11
2	200	225	275	300
2.425	164.95	185.57	226.80	247.42
3	133.33	150	183.33	200
3.455	115.77	130.25	159.19	173.66
Severe:				
7.80	51.28	57.69	70.51	76.92
10	40	45	55	60
13.5	29.63	33.33	40.74	44.44
15.39	25.99	29.24	35.74	38.99
22.99	17.40	19.57	23.92	26.10

Fig. 4 – Market share (predicted likelihood) of custom-made insurance product against the risk of moderate drought.

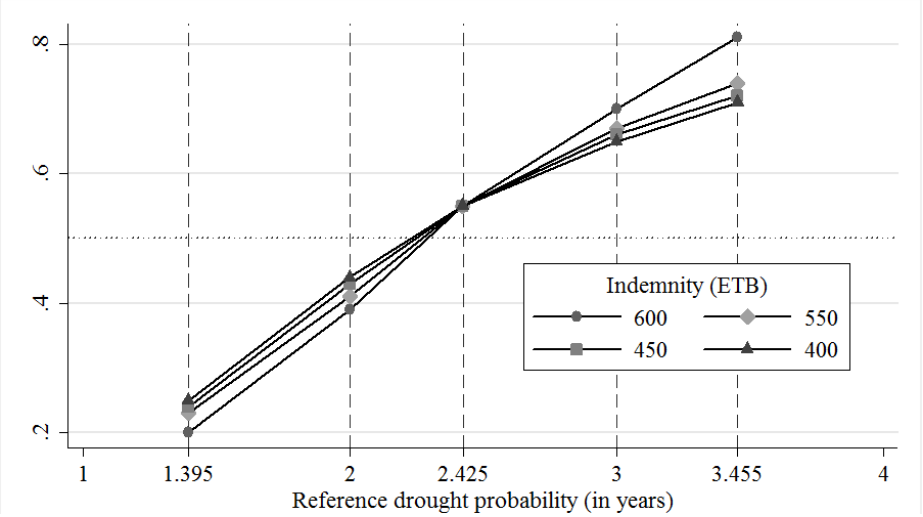
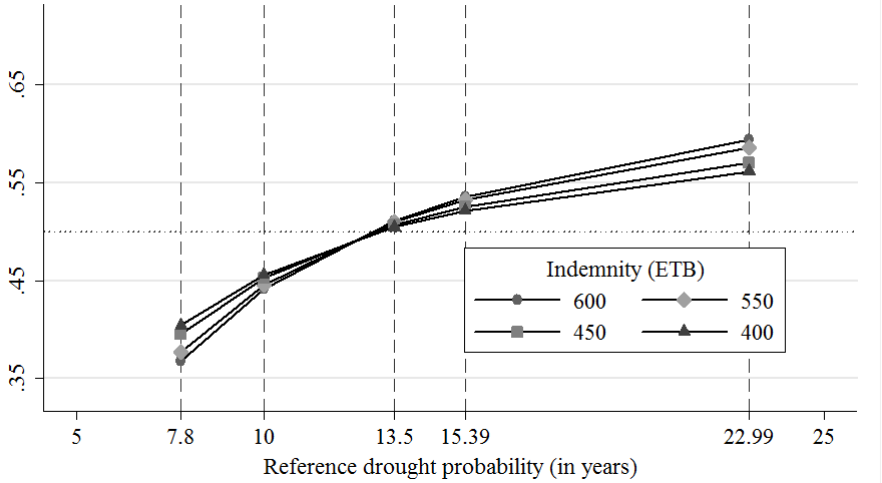


Fig. 5 – Market share (predicted likelihood) of custom-made insurance product against the risk of severe drought.



CONCLUSIONS

Crop insurance against the risk of drought is still in a pilot phase in Ethiopia and, especially in rural areas, the most of households are unaware of formal insurance in general. We carry out a stated choice experiment in three villages in Southern Ethiopia in order to assess the willingness-to-pay for an insurance product that pays a fixed indemnity if a drought occurs. We find that premium, indemnity and perceived drought probability are important determinant in the insurance take-up. The estimated coefficients of the three variables are all negative. Whereas a negative coefficient is expected for premium and perceived probability, it is counterintuitive for the indemnity and further investigation with alternative hypotheses testing is necessary. A market simulation analysis suggests that households are more sensitive to premium and indemnity changes when the insurance product is against moderate but more frequent drought events.

This study suffers, in particular, from a proper design of the insurance product. Further research should allow for different payment alternatives and let household buy more than one contract. A second round of the experiment is planned for November 2013 to address these points.

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MICROFINANCE IN A POST-DISASTER CONTEXT: THE CASE OF THE 2004 TSUNAMI IN SRI LANKA[1]

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ABSTRACT

We summarize the joint work of academic scholars and ETIMOS (an Italian foundation involved in microfinance) for the evaluation of the intervention of the latter in Sri Lanka in the aftermath of the 2004 tsunami. After the shock ETIMOS recapitalized a local microfinance bank which faced a huge loss in its loan portfolio; then in 2007 and 2011 academic researchers conducted impact evaluations of such intervention. The main results are positive under different viewpoints since: i) the loans received after the shock were effective for the subjective and objective recovery of damaged people, and ii) the recovery aids highly damaged borrowers received enhanced a significant level of generosity among interviewed villagers.

JEL codes: O12, O22, G21, C91
KEYWORDS: microfinance, disaster recovery, altruism, life satisfaction, tsunami, impact evaluation.

INTRODUCTION

Natural shocks produce consequences at a macroeconomic level through the destruction of material wealth and capital stock and at a microeconomic level affecting the way damaged people take decisions on several aspects of life, i.e. consumption, savings, human capital investment, trust and altruism. Under the first viewpoint, there has been a growth in the empirical macroeconomic research assessing the impact of natural shocks (see, among others, Skydmore 2001; Toya and Skidmore, 2002 and 2007; Kahn, 2005; Cuaresma et al. 2008; Noy, 2009); under the second one, an increasing number of microeconomic studies aim to assess the impact of either natural or caused-by-humans shocks on social preferences[2].

More severe consequences of natural calamities can be found in developing countries relative to developed ones. In the former, especially in low-income rural areas, natural disasters often destroy all the few available resources of the household; moreover, the poor local communities are highly vulnerable to natural hazards because of their inadequate housing and poor health-care systems. The negative impact of the shocks is also magnified by the scarce socio-ecological resilience to costal disasters of many developing countries which usually lack of efficient institutions for collective action, robust governance systems, and a diversity of livelihood choices that mitigate the effects of extreme natural hazards (Neil Adger et al, 2005).

For these reasons there is often, especially in developing countries, a close correlation between situations of economic vulnerability and increased exposure and fragility in the face of natural disasters, which in turn generate a further deterioration in the conditions of the affected communities, triggering a vicious circle between poverty and vulnerability to natural hazards. Once a given balance is compromised, the social, economic and political - but also environmental and the climatic system - arise more or less rapidly, looking for a new and different equilibrium position. The transition phase (or post) is characterized by the presence of multiple actors - social and institutional, public, private and third sector - called to intervene, as well as tools to support and help that combine among themselves to quickly restore a situation of normality and, more gradually, to address the community in the affected area towards a new horizon of growth of welfare.[3]

[1] We thank C. Angelico, C. Pagano, E. Agostino and N. Kurera for the precious support on field data collection. Etimos Foundation, Etimos Lanka and AMF is fully acknowledged for financial and logistic aid.
[2] Among others, Cassar et al (2011) find that Thai tsunami damaged are more impatient and trusting, while Callen (2010) document damaged people become less impatient. Whitt and Wilson (2007) show higher cooperation among the evacuees after the Hurrican Katrina and similarly Solnit (2009) find that disasters harness social capital. As far as shocks caused by humans are concerned, Becchetti et al. (2013) document the civil conflict in Kenya had a negative impact on trustworthiness and, similarly, Cassar et al. (2013) show evidence of a lower amount of trust among victims of the civil war in Tajikistan.
[3] The post emergency context is usually characterized by: i) The decreasing, more or less pronounced, more or less immediate, of the stock of available resources, human, financial, goods and services, especially those basic necessities. ii) The presence or acceleration of processes of exclusion from access to the resources themselves for certain groups of the population or certain geographic areas. iii) The low relatedness and increased cost of coordination, with presence - especially in the first post-emergency phase - of cases of adverse selection and / or moral hazard. iv) The extreme

With this premise, *can microfinance be considered as an asset by the poor households hit by a natural disaster through which they may recover*? *What are the direct and indirect effects of microfinance on tsunami-damaged borrowers' income, productivity and social preferences?*

This article is a brief summary of a broader project involving academic researchers and an Italian foundation, ETIMOS, aimed at answering the questions above in the specific case of Sri Lanka. After the 2004 tsunami, ETIMOS foundation recapitalized a local microfinance institution operating in the south of Sri Lanka, i.e. Agro Micro Finance (AMF) which witnessed a severe loss in its loan portfolio caused by the insolvency of many tsunami-damaged borrowers who lost all their capital assets were unable to repay their loans. The outcomes of this intervention have been then evaluated by a team of academic researchers through quantitative and experimental methodologies in two field studies conducted in 2007 and 2011/2012. The full set of findings presented in academic publications, working papers and communication material are briefly summarized in a consistent way in this article.

In general, ETIMOS's intervention through the capital injection to AMF was effective for disaster recovery under different viewpoints. The tsunami negatively impacted the Sri Lankan borrowers' wealth, income and life satisfaction. In particular, the negative effect of tsunami on life satisfaction has been estimated to be more than twice as its effect on income because of the significant drop in current income and the psychological/emotional effects. Damaged borrowers received advantageous loan conditions in terms of interest rate and loan size by AMF through which they were able to repay previous loans and start their recovery phase. Such loan policy is estimated to be effective since the loan to income ratio positively affected borrowers' income and worked hours especially for damaged relative to non-damaged borrowers. Finally, highly damaged borrowers received significantly more aids for the recovery showed higher generosity in a money donation experiment in comparison with less damaged borrowers (who, instead, received less help).

The descriptive and econometric evidence suggests a positive impact of microfinance on borrowers' monetary and non-monetary recovery and highlights a hidden channel through which it affected their altruistic preferences, namely indirect reciprocity. The main lesson we learnt from these fieldworks is that microfinance can work as an effective recovery tool in post-disaster contexts which can be used to restore the subjective and objective well-being of damaged individuals as well as to enhance for them a high level of generosity.

The remainder of the paper is the following. In section 2 we describe the characteristics of the context and the project implemented by ETIMOS in Sri Lanka. In section 3 we present the methodology of the impact analysis and in section 4 we summarize the main findings.

MICROFINANCE, THE TSUNAMI IN SRI LANKA AND THE INTERVENTION OF ETIMOS

The devastating effects caused by the tsunami of 26 December 2004 have had a strong emotional impact in the world, with dimensions rarely seen before. The International community has had an immediate reaction and promised massive aid interventions in terms of unilateral, bilateral and multilateral aid. In the period that followed the tsunami were collected / or promised $ 13.5 billion for the emergency and reconstruction of which more than 5.5 billion were private donations. If we look at the proportions of public funds by governments and multilateral banks and private funds, it can be seen over the last few years a strong growth trend in favour of private fundraisers. In 2003, 15% of the "humanitarian funds" came from private sources; in 2005 the percentage rose to 40%.

The implementation of activities has proved to be fast and efficient, even if the difficulties and external (governments and local partners) and internal (international implementing agencies and NGOs) obstacles have caused some slowdowns and loss of efficiency and effectiveness of the actions undertaken. The main difficulties, encountered by donor countries and agencies /organizations in the implementation of emergency response and reconstruction, were the existing weaknesses in national and local capacities of the affected countries.[4] Despite the difficulties and the shortcomings, the generous aid programs provided to affected populations, have helped to ensure their safety and start planning for the future. Within six months, there was already a palpable perception of recovery: the kids were back in school and health facilities and services had been partially rehabilitated in all country[5].

In this context some elements, both in case of national and international emergencies, suggest to consider also the tool of microfinance among those activated in the post-emergency. Through microfinance it may be more likely to achieve precisely those poorer segments of the population who, being already at serious risk of survival, appear to be the most exposed and vulnerable in the event of severe crisis, whatever nature they have. Moreover, given the steady

variability of resources to be distributed, also determined by the now chronic anaemia of public budgets. v) Lack of full involvement of communities and local governments, according to the logic bottom-up, to take charge of a joint planning process, with a view to overcoming the very first phase of an emergency. vi) Most significant impact on the most vulnerable, poor population and micro- entrepreneurial activities.

[4] Armed conflicts in Indonesia and Sri Lanka, government policies, bureaucratic procedures often confused, politicized and centralized decisions (including the choice of target beneficiaries and the selection of the same), problems of corruption and distrust of leaders or local administrators, restrictive and often imposed by national and local authorities, have created serious obstacles to the international and the impact, inevitably, was less effective. The implementation was determined by the local contexts but also from inefficiencies and lack of coordination among International agencies, organizations and NGOs.

[5] The data relating to reconstruction in Sri Lanka were provided by RADA, (Agency for Reconstruction and Development), an agency created by the President of Sri Lanka in November 2005 with the aim to coordinate and monitor overall operations of post-tsunami reconstruction and development, including all damaged sectors and areas.

decrease of resources allocated globally to public development aid, to which is added the trend in recent decades to the progressive replacement of development aid with those for the emergency, any initiatives to promote tools that optimize, streamline and enhance the increasingly scarce resources, have become highly topical (and, of course, be more effective). In practice this means including among the actions to be implemented in response to an emergency situation, a specific measurement of micro-credit to be activated.[6]

The microfinance institutions (MFIs), despite having legal status differently from country to country are characterized by a high level of knowledge and presence in the local area, by the use of tools based on trust and not on collateral requirements, for effective support for micro-enterprise and gender policies, local communities. These features allow a rapid reactivation not only of the financial micro system, but also, to those ones related to the trust and hope for life, relational and social capital of a community or an entire country. In addition, by offering additional services of technical assistance, the MFIs allow their customers to receive a service with higher added value, which aims to support them in all the different needs (savings, investment, capacity building) that may occur during the term of the loan. The analysis of the specific operational context requires usually include the presence of flexible financial instruments, able to respond to the various needs that may arise in the post-emergency situations.[7]

In the initial phase of a post-disaster context, microfinance plays a subsidiary role. The local economy in a situation of arrest and stagnation is weak and unstable; people become dependent on foreign aid provided in the area of emergency by the government, international donors, individuals, from the mobilization of communities and local networks. MFIs themselves, supported by donors, take action to provide immediate relief and rescue operations to achieve both of its customers in the communities in which they work. The MFIs are in fact widely spread throughout the territory, they have relationships with local administrative authorities, are present in every village through their own agents of credit, the Credit and Saving Cooperatives, Community Based Organisations (CBOs) through which they play microcredit programs. The action is facilitated in case of need for the rapid mobilization and knowledge of the territory.

The second stage of the emergency, defined post-emergency, is the moment when the people affected by the catastrophic event fail again to achieve a minimum level of security. However, it is the phase in which microfinance becomes a technical tool for intervention by helping the rapid resumption of economic activities starting from the base of the destroyed communities and hence spreading widely. It may encourage savings for groups and can intervene with forms of insurance and leasing products, with credits for the construction of houses or to purchase assets for production that provide the opportunity - for those affected - to resume economic activities and to be able to re-generate income for the family.

In Sri Lanka, the post-emergency has generated a huge range of needs to be met: owners of small shops and traders who had to replace stocks lost goods, buy new goods for resale, repair shops; craftsmen who needed money to buy back small tools and equipment destroyed; small domestic herds of animals (mostly poultry) destroyed that had to be distributed; farmers who had lost their crop and needed funds to reclaim the land affected, to buy machinery and tools; fishermen who had to repair the boat and / or replace equipment destroyed or lost. In addition to this is the huge demand for funding for the reconstruction of houses destroyed or for the repair of houses damaged by the tsunami.

The microfinance sector in Sri Lanka has received for these purposes a considerable amount of money. International agencies, organizations usually working in the field and often NGOs have turned to MFIs offering different solutions: from donations to the emergency, to combinations of donations and soft loans for the resumption of production activities.[8]The provisions of funds by the Italian Civil Protection to Etimos arrive early after the event and the intervention started by the second half of 2005, when, after the immediate emergency phase, the population was working to restore normal economic conditions. The houses were rebuilt and it became crucial to support the rebuilding of micro entrepreneurial activities, formal but also informal, which had to ensure the survival of the poorest sections of the population. The intervention is aimed at microfinance institutions (MFIs) of different nature (NGOs, development banks, cooperative movement), which reflect the structure of the sector at national level. Among the beneficiaries of

[6] The actors are called upon to implement such a measure can be identified as follows: i) A local institution, already present and operating in the affected areas, who knows the socio-economic context, able to interpret and may order priorities, and that takes care of a listening phase and the preliminary investigation; ii) An entity - public or private - that has availability of fund and may constitute a guarantee fund or a fund for providing micro-credit; iii) The banking system and / or Microfinance Institutions (MFIs), which evaluates the creditworthiness of the beneficiaries and operate as lending agency; iv) The final beneficiaries, families, businesses and non-profit organizations, but also, to international logic, the same MFI.

[7] For example, lines of capitalization for the strengthening of the local production, craft, micro- or agricultural-rural business, already present in the territory or to be started up; lines of credit for the support cooperatives of producers, already established or to be supported, or tools to connect and channel the flow of migrants' remittances to their countries of origin, using the financial vehicle of the MFI and thus encouraging a double financial inclusion upstream and downstream of the process.

[8] From the point of view of the volumes allocated, Asian Development Bank has invested the largest amount of money through the programs implemented by the Central Bank of Sri Lanka and the Ministry of Finance. The circle of donors and international donors related to the field of microfinance has again played the most active and dominate role. In 2006 there were made 20 "Microfinance Schemes", for a total amount paid of Rs. 27,664,000, equal to $ 276 million. Not all entities implementers are distinguished by efficiency and effectiveness but some of them had a strong impact on the territory for an excellent activation and mobilization of community lending. In the context of post-tsunami, the government has continued to support the field of microfinance and the "Small and Medium Enterprises" including forms of direct implementation realized by the two major financial institutions: the Ministry of Finance and the Central Bank. A negative effect of government intervention programs in favour of the Microfinance sector has been determined by the restrictions imposed on the final rate to be charged to the beneficiaries. The programs of the Central Bank and NDFT have been effective in terms of target group funded and speed of intervention. The placing on the market of money took place by placing constraints and restrictive conditions applicable, however, it has led to a mechanism of emulation and high competition among MFIs that has caused a race to the provision of micro financing at lower and lower rates, damaging the credit culture created through years of work.

this intervention, in this analysis we focus on Agro Micro Finance (AMF), an initiative of the Agromart Foundation which provides technical assistance and training for the creation of self-help groups aimed at conducting small businesses. Agro Micro Finance finances the final beneficiaries, especially in rural areas, through the village organizations, which are concerned with the selection of customers. The intervention in support of its microfinance activities was carried out in three ways: capitalization line, line of credit and capacity building.

The line of capitalization allows local MFIs to receive funds by paying a one-time 1% commission for monitoring. The initiative is designed to restore the operating conditions previous the tsunami and, subsequently, to support the development of organizations by strengthening the capital structure. The funds are included for the first two years in the liabilities of the balance sheet but do not involve the payment of interest or repayment of the capital. In this first phase they should be used for the purposes set out in the contract and any use is subject to monitoring by Etimos. Through the credit line, Etimos provides funding for a period of 3-4 years, to support the recovery of the productive activities of the beneficiaries or the launch of new business initiatives by micro entrepreneurs directly or indirectly affected by the tsunami. The loan is granted to organizations at an interest rate of 7%, with a repayment plan in monthly instalments and without requiring collateral. The rate of 7% is about 4 points percentage below the average rate at which organizations are funded on the market. The line of capacity building initiatives was to strengthen both institutions in the management of microcredit activities, both entrepreneurial skills of the beneficiaries of the institutions themselves. The loan is then directed to the strengthening of the institution and / or the beneficiaries of micro-credit: funding, assistance and training for the entrepreneur and the enterprise, and training and tutoring to staff and members of the institutions, the installation of a software created specially for the management of microfinance programs, counselling in the preparation of plans development. The training activities and consultancy funded involved training institutions both local and international present in the area.

The tsunami was an unexpected opportunity for growth for many of the MFIs affected. Through the total funds received by Etimos and other lenders, institutions were able to rebuild their assets and loan portfolio of fixed capital destroyed as a result of the disaster[9].

METHODOLOGY OF THE IMPACT EVALUATION

The first field data collection was implemented in April-June 2007. A group of Italian researchers delivered a questionnaire in three coastal districts in south Sri Lanka, namely Galle, Matara and Hambantota. Interviews were performed face-to-face to a sample of 200 damaged and 105 non-damaged randomly selected borrowers from the list of all the AMF customers in each district. The usual problem of ex-post impact analyses is the selection bias in the screening process so that observed differences between individuals who participate into a project and those who do not may depend on ex-ante (different) unobservable characteristics. The advantage in our case is that both the damaged and non-damaged samples consisted of *already selected* MFI borrowers, the only difference between the two groups being that *treatment* individuals have been hit by the shock (damaged) while *control* ones have not (non-damaged).[10] In other terms, both groups are likely to share the same observable and plausible unobservable ex ante factors which helped them to pass the screening of the same MFI (i.e. sense of entrepreneurship, trustworthiness, etc.).

Since the tsunami was unexpected it was impossible to arrange a panel survey with borrowers interviewed before and after tsunami. For this reason, in order to construct the pre-tsunami level of the variables/indicators of interest, a retrospective panel data approach (see McIntosh, Villaran&Wydick, 2011) specifically tailored for our case. In particular respondents were asked to declare the current and remember the past levels of memorable variables by making reference to four different time windows: (P1) six month interval before the first microfinance loan ever obtained; (P2) the period going from the first microfinance loan to the tsunami date (December 26, 2004); (P3) the period between the tsunami date and the first microfinance loan after tsunami; (P4) the period from the first microfinance loan after tsunami to the survey date (April 2007). A detailed description of this methodology and related issues is reported in Becchetti and Castriota (2009, 2011).

The second field data collection was conducted in November 2011-January 2012 to a random sample of AMF damaged and non-damage borrowers and consisted of the standard socio-demographic survey plus an experimental session aimed at eliciting social, time and risk preferences. In particular, we implemented a "Dictator Game" (DG), a standard and simple game largely adopted in the literature to elicit altruistic preferences in an incentive compatible way. This game involves two players, a Sender (S) and a Receiver (R). Their true identity is not revealed so that no player can identify whom (s)he is playing with. S is endowed with 900 LKR (the equivalent of 5.74 €) and has to decide how much of it to send to R; R takes no actions in this game and receives the amount of money S has sent. According to the

[9] Especially for smaller organizations, the funds received were also an important contribution to the strengthening of the position on the ground. Several could open new branches. New customers were acquired either in the early stages of reconstruction, especially when it felt the need to share, and after months of the cessation of the state of emergency. The availability of funds made possible investments for the improvement of internal processes, through the development of information systems and training of staff. The organizations affected establish new ties with potential international financing agencies. The instrument of credit has allowed Etimos to increase the resources available and to optimize their use. With an initial fund of 6,500,000 euro Etimos has provided funding for more than 10,000,000 euro. The initial provision is still almost intact and amounts to 5,200,000 euro (net of management fees and funds given to the agencies for capacity building).

[10] Hereon "damaged" borrowers are defined as those who report at least one damage from the tsunami.

classic utility theory, S's maximum utility is reached by sending 0 LKR and keeping the whole endowment (900 LKR). Any S's deviation from 0 can be interpreted as a measure of altruism.[11] The survey contains questions concerning socio-demographic information, social preferences and – as the questionnaire delivered in 2007 – the kind of damage they received in the 2004 on six dimensions, i.e. family members, house, economic activity, buildings/assets, working tools, raw materials. For further details on the experimental protocol, the sampling and the survey questions see Becchetti et al. (2012a). Note also that in this last wave we retrieve from AMF its bank records consisting of information on 767 loans issued from 1995 to 2011.

MAIN RESULTS

a) Findings from the first wave (2007)

The full set of results and robustness checks from the first wave of data collection are reported in Becchetti and Castriota (2009, 2011). First of all, the tsunami had significant consequences not only on material well-being but also on psychological and emotional aspect of borrowers' life. In particular, when comparing cumulative distributions of real household income and changes in life satisfaction from the second (pre-Tsunami) to the third period (post-Tsunami, i.e. from the shock to the first MFI refinancing) for the damaged and non damaged individuals, we find first-order stochastic dominance of the distribution for the former with respect to latter, the difference becoming larger for those registering more damages.[12] The change in income is significant for the damaged and not significant for the non-damaged sample, while there are abnormal changes in life satisfaction for damaged depending on the number of damages received. Importantly, the loss of income only partially accounts for the dip in wellbeing: the econometric analysis highlights the tsunami generated, net of income effect, a decrease in life satisfaction twice in magnitude its effect on the change in income. A more comprehensive presentation of the results is in the paper by Becchetti and Castriota (2009).

In order to evaluate the impact of microfinance as recovery tool after tsunami we look at the impact of the loan to income ratio[13]on changes in real income and work hours in the periods before and after the refinancing, i.e. from P3 to P4. From a descriptive point of view, those with a loan to income ratio below the sample median report a change in income from P3 to P4 of 21.8% against 86.4% for those above it. In the same direction, the change in weekly worked hours for the former is 4.9 against 15.6 of the latter. To summarize, the post-tsunami loan to income ratio had a significant effect on the borrowers' recovery in terms of change in income and work hours, the effect being larger for those who were damaged by the tsunami than for those who were not. Consistently with the income path after the tsunami, the refinancing loans were effective also under the point of view of the borrowers' life satisfaction and self-esteem, having the sample distribution of these subjective well-being indicators reached its pre-tsunami form. The refinancing effect is robust to econometric estimations accounting for composition effects, heterogeneity between the sample of damaged and non-damaged borrowers and in time windows, and various selection effects. A complete description of descriptive and academic findings is reported in Becchetti and Castriota (2011).

b) Findings from the second wave (2011-2012)

Results and robustness checks from the second wave of data collection are reported in the more recent papers by Becchetti et al. (2012a, 2012b) in which damaged and non damaged borrowers' social preferences and the AMF's strategy in the post-disaster context are investigated.

As far as the impact of the tsunami on the borrower's social preferences is concerned, through the implementation of the dictator game described above we compare behavioural measures of altruism of damaged borrowers with those of the non-damaged ones and, within the former, among those reporting more damages (not only losses to the economic activity but also injury or damages to the house) vis-à-vis those reporting less damages (only losses to the economic activity). Results are summarized in table 1. The tsunami had a negative impact on victims' altruism even at a 7-years distance from the event: those reporting at least one damage send 6% less (if played as Sender) and expect 5% less (if played as Receiver) of the total endowment. However, if we restrict the analysis to the sample of only damaged people, we find that those who received more help because more severely damaged tend to give and expect relatively more than less damaged/less helped borrowers. A possible interpretation for this result may be generalised indirect reciprocity

[11] We conducted also two other games in order to collect behavioural measures of risk aversion and impatience which we use as additional controls in the econometric analysis. In particular, we implemented a "Risky investment game" to collect risk preferences through a simple game consisting of an investment decision. Each participant is endowed with 300 LKR and has to decide whether keeping the money or investing any portion x of it in a risky asset that has a 50% chance of success (option 2). The investment pays 3x if successful but zero if unsuccessful; the decision maker keeps all uninvested units. The amount invested (x) provides us with a rough proxy of risk aversion (the higher the investment, the less risk averse being the individual). With a final lottery we elicited also a behavioural measure of all participants' time preferences in a standard incentivized way: each participant has to choose between receiving a fixed payoff immediately vs. payoff increasing with the delay of the money delivery.

[12] To have an idea of the magnitudes, consider that non-damaged facing negative changes in life satisfaction are 20% while damaged are 65%.

[13] The loan to income ratio is the amount of the first loan received in the post-tsunami phase divided by the post-tsunami pre-refinancing monthly income.

(Stanca, 2010, Nowak and Sigmund, 2005) according to which a kind (or unkind) action received directly or indirectly for example by development aid agencies is reciprocated towards a *third* agent, in our case, the receiver in a dictator game. In other terms, we showed a possible indirect effect of recovery after calamities since the benevolence experienced from donors heals the loss of pro-social attitudes generated by the calamity shock. The results are robust to econometric analysis controlling for selection, omitted variable bias and separating the indirect effect of aids on altruism from those deriving direct from the calamity (for a complete description see Becchetti, et al. 2012a).

Tab. 1- Comparison of altruistic preferences.

Groups	Share of giving	Share of Exp. giving
Non damaged	37 %	44 %
damaged	31 %	39 %
Among which		
less damages (less aid)	29 %	33 %
more damages (more aid)	34 %	43 %

The banking strategy followed by AMF before, during and after the calamity has been described using the bank records retrieved in the last wave and have been matched with the borrowers' socio-demographic information collected in same wave. We focused on the determinants of loan amounts, interest rates and credit defaults and find: i) the standard lending rules based on bank sustainability (for instance, new loans obtainable conditionally on the repayment of previous ones) were suspended to help the tsunami-damage borrowers to recover; ii) having been damaged by the tsunami has no effect on credit defaults but a significant and unexpected increase in default rates of non-damaged borrowers is observed soon after the calamity and iii) the interest rates paid by non-damaged borrowers were lower than those paid by the damaged ones in the post-tsunami period. Consider that the last finding is consistent with the disaster recovery policy of ETIMOS and AMF aimed at reaching the most damaged individuals and sustaining their recovery through credit concession at more advantageous conditions in terms of loan amount and interest rates relative to those offered to less or non damaged ones (cross-subsidization policy). If this policy, on the one hand, determined the positive effects described above, it may have indirectly generated, on the other, incentives for non-damaged borrowers to declare strategic default because of the tsunami or to hide their true status, declaring for instance a higher amount of damages than the real in order to access new loans at low interest rate. Consistently, the data show strategic default and/or contagion effect may have been in place during and after the tsunami. Hence, while the support of AMF helped damaged people to avoid contagion and recover from the calamity, it may have indirectly generated moral hazard problems for non damaged ones. We advise a form of compulsory micro-insurance scheme (complementary to the loan) which can reduce the probability of moral hazard/strategic default for borrowers not affected by future calamities who expect an increase in their financial burden to subside calamity-affected ones. More details on these aspects are in Becchetti, et al. (2012b).

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THE GLOBAL ECONOMY AND INTERNATIONAL DEVELOPMENT COOPERATION IN EMERGING COUNTRIES AND NEW MARKETS

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Several countries that in the past have been traditional beneficiaries of foreign aid and development cooperation are witnessing unprecedented processes of economic growth. The so called “African lions” or the countries of the “Emerging Africa”, India, Vietnam or Brazil are increasingly seen as attractive markets for foreign direct investments and the business community in general. Investors are competing to gain relevant positions within these markets, also as a way to compensate the crisis currently affecting traditional markets like Europe. Consequently, within these countries, new economic actors – companies, foundations, philanthro-capitalism,migrant entrepreneurs… - increasingly side or overlap with the traditional actors of international development cooperation. These processes poses relevant questions and challenges in terms of: *i)* the relationship between economic growth and social development, with particular focus on the issue of inclusiveness of the process of economic growth and accumulation; *ii)* the coherence between the initiatives of economic and development cooperation undertaken by national or local systems of cooperation; *iii)* innovation in the financing and implementing of development cooperation projects; *iv)* the relationship and the overlap between for profit and not for profit, between economic interests and international solidarity.

The papers presented during the panel addressed some of those issues. Alice Sindzingre’s analyses the factors behind the positive growth rates in Sub-Saharan African in the last ten years. Sindzingre shows how the processes of African growth mainly rely on structural imbalances, being generated by distorted export structures that are based on commodities, and therefore little sustainable in the long run. Lorenza Mola’s paper addresses the role and efficacy of trade preferences within development cooperation policies, focusing on emerging African countries, comparing the trade regime applied by the European Union with China’s policy in the region and highlighting critical points of the international trade regime that should be addressed within the debate on the post2015 global development agenda. Michele Boario and Emanuele Fantini’s paper take Ethiopia as a case study to assess the contribution of the private sector to African economic growth and the role that international cooperation should play in promoting such processes.

THE IMPACT OF EMERGING COUNTRIES ON SUB-SAHARAN AFRICAN ECONOMIES: FACTORS OF LONG-TERM GROWTH?

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ABSTRACT

Sub-Saharan African economies have exhibited positive growth rates since the mid-2000s, and the contribution of emerging countries to this growth is the matter of heated debates. The paper shows the complexity of causalities, which depend on: i) channels (trade, investment); ii) the emerging country (China having by far the strongest impact); and iii) African countries' market structures. On the one hand, this growth relies on structural imbalances: it is generated by distorted export structures that are based on commodities, and falls if international prices decline, which necessarily occurs due to the inherent volatility of prices - high prices are moreover driven by factors that may not last, i.e. the growth of emerging countries; this growth also increases the specialisation of African economies in commodities. On the other hand, emerging countries have positive impacts via their investments, notably in infrastructure, which foster industrialisation. Likewise, developed countries' aid, due to policy conditionality and its detrimental effects, induces greater asymmetries than does the aid of emerging countries.

INTRODUCTION[1]

After the 'lost decades' of the 1980s and the 1990s, Sub-Saharan African economies have exhibited positive growth rates in the 2000s. This has led observers to conclude that, thanks to emerging countries – China, India, Brazil -, stagnation is now a thing of the past. The paper shows the complexity of causalities: these depend on: i) channels (trade, investment); ii) the emerging country (China having by far the strongest impact); and iii) African countries' market structures. On the one hand, this growth relies on structural asymmetries. It is generated by distorted export structures that are based on commodities. This growth falls if international prices decline, which necessarily occurs due to the inherent volatility of prices. High prices are moreover driven by the growth of emerging countries: the growth of African economies depends on factors that are external to them and will decelerate if demand in emerging countries decelerates. This growth increases the specialisation of African economies in commodities, while emerging countries consolidate their comparative advantage in manufacturing and threaten nascent African industrial sectors. As industrialisation is a key determinant of long-term growth, emerging countries may, in the long-term, erode their short-term positive impact on African economies.

On the other hand, emerging countries have positive impacts via their investments, especially in infrastructure, which foster industrialisation and the spill over effects of investments in commodity sectors. In addition, developed countries' aid, due to its conditionality on the reform of core policies and competences of African governments, and its detrimental effects, induces far greater asymmetries than does the aid of emerging countries.

The paper is structured as follows. Firstly, it underscores the structural asymmetries that characterise Sub-Saharan African export structures, i.e. their dependence on primary commodities and a growth that is driven by exports, and therefore factors that are external to African domestic policies. Secondly, it explores whether emerging countries, notably China, amplify these structural asymmetries. Likewise examined are their positive (via demand and high prices) and negative impacts (incentives to keep the specialisation in commodities), emerging countries here following patterns that were initiated by developed countries. Thirdly, it shows that foreign direct investment also has positive and negative effects and that the asymmetries it conveys are similar across emerging and developed countries. Fourthly, it argues that the strongest asymmetry may be found in the aid device and in developed countries' conditional assistance.

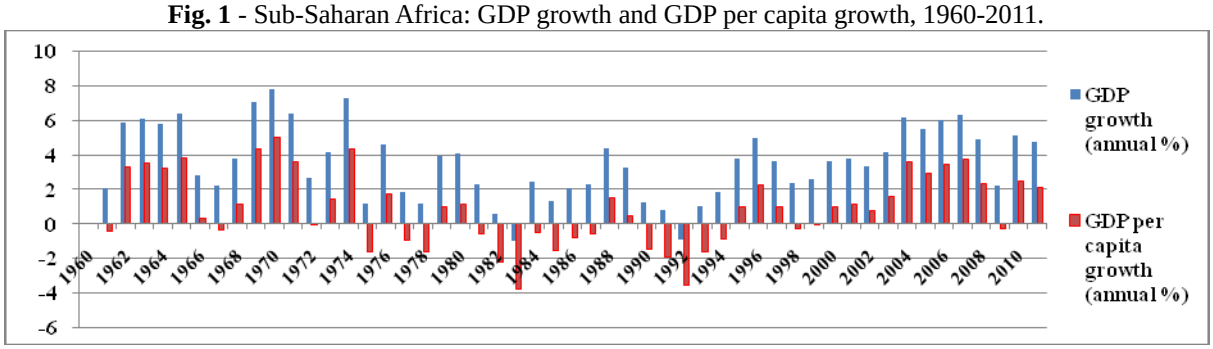
A GROWTH DRIVEN BY STRUCTURAL ASYMMETRIES: THE IMPORTANCE OF PRIMARY COMMODITIES IN EXPORTS

[1] This paper was presented at the III Congress of the Italian Universities Network for Development Cooperation (CUCS), Panel 7.4: Global Economy and Development Cooperation in Emerging Countries and New Markets, Turin, 19-21 September 2013. Elements were presented at the 5th European Conference on African Studies (ECAS), Lisbon, 27-29 June 2013.

An asymmetric integration in the global economy: commodity-based exports

Sub-Saharan African (SSA) economies have enjoyed high growth since the early-2000s, with output growing by 5.1% in 2012 [IMF, 2013]. Most development finance institutions thus argue that the region may be on the verge of structural transformation (fig.1).

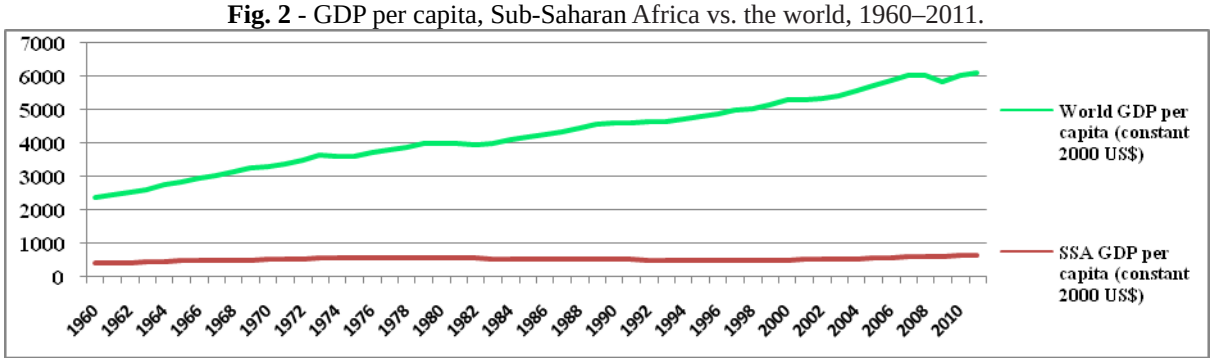
Fig. 1 - Sub-Saharan Africa: GDP growth and GDP per capita growth, 1960-2011.



Source: World Bank World Development Indicators, May 2013.

Underlying causalities and processes, however, are more complex. SSA growth performances must be put in a longer-term perspective, and the broad picture is that of a divergence vis-à-vis other regions (fig. 2).

Fig. 2 - GDP per capita, Sub-Saharan Africa vs. the world, 1960–2011.

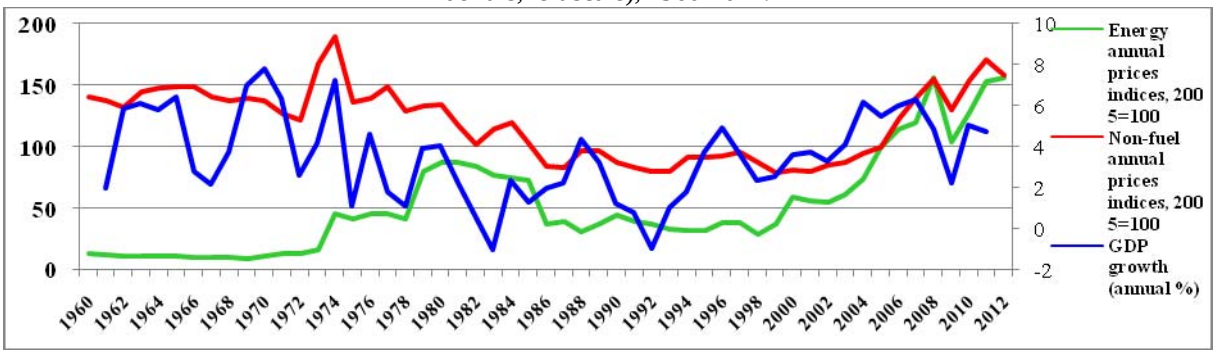


Source: World Bank World Development Indicators, May 2013.

Above all, SSA is characterised by a distorted export structure based on the dependence on primary commodities. It is this distorted structure that has been the main driver of growth in the 2000s, because of the dramatic increase in commodity prices since the early-2000s, both fuels and non-fuels prices.

Commodity dependence generates vulnerabilities because commodity prices are inherently volatile [Nissanke and Kuleshov, 2013; Sindzingre, 2012]. Price volatility has a negative impact on growth rates for countries whose exports and fiscal balances often depend only on one or two commodities, not only because prices may decline, but also because volatility *per se* is detrimental to long-term growth: commodity-dependent countries are exposed to repeated price shocks, and their domestic policies have little effect on their growth rates, which depend on the fluctuations of prices - determined by external forces -, on the growth and demand of other countries (e.g., the US, EU countries, China) and on the vagaries of the latter' domestic policies (fig.3).

Fig. 3 - Sub-Saharan Africa: growth rate (right scale) and commodity prices (annual price index, 2005=100, real 2005 dollars, left scale), 1960-2012.

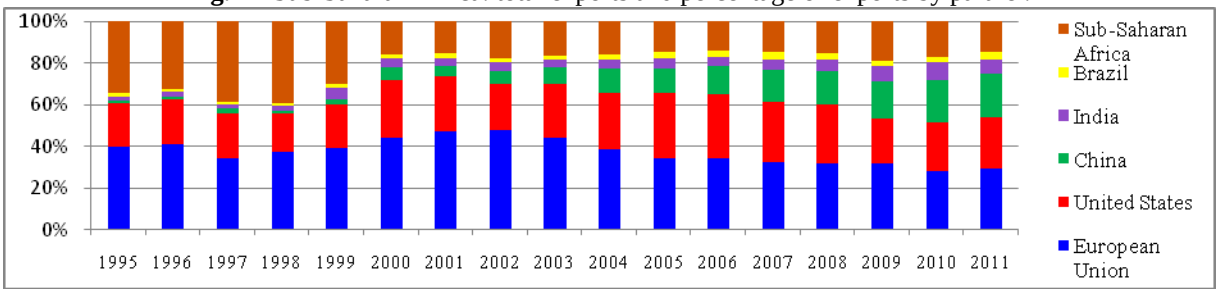


Source: World Bank Commodity Price Data and World Bank World Development Indicators, June 2013.

In addition, China's demand has become a central driver of high prices in a significant number of commodities (Akyüz, 2012). High commodity prices represent a positive gain for SSA exporters of these commodities: an enhanced fiscal space and hence more space for investment, which is a key cause of long-term growth. China's demand is especially strong for metals; it is the first energy consumer in the world, and its energy consumption is projected to triple by 2025 from its 2008 level [IMF, 2011a].

The sustained demand for SSA commodities by large emerging countries represents a diversification of partners, which may attenuate the asymmetry in global trade that is associated with commodity-based exports. All SSA countries export a lower share of their products to their 'traditional' partners (the US and the EU countries) than in 1990, and a greater share to emerging countries, in particular China (fig. 4).

Fig. 4 - Sub-Saharan Africa: total exports and percentage of exports by partner.



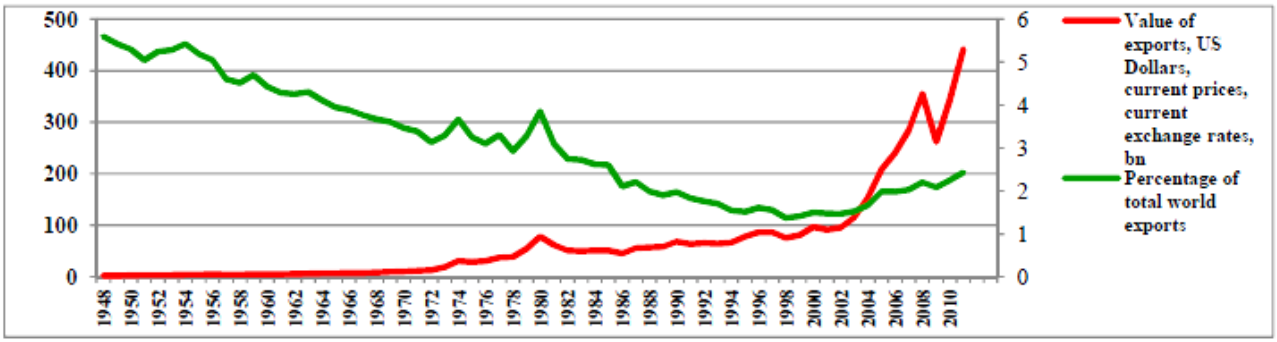
Source: http://unctadstat.unctad.org, author's calculations.

The vulnerabilities induced by this distorted export structure

In 10 SSA countries, commodities exports represent more 75% of total exports [World Bank, 2012]. This distorted structure induces the dependence of fiscal revenues on commodities with volatile prices. In oil-rich countries government revenues from natural resources represented 60% of total government revenues in 2011[World Bank, 2012]. This obviously makes fiscal earnings highly vulnerable to any external shock.

This distorted export structure also affects SSA trade over the long-term. In particular, it explains the diminution of the share of SSA in global exports, due to the increase of the trade of other countries, which trade goods with more value-added, despite the increase of SSA exports in absolute value (fig. 5).

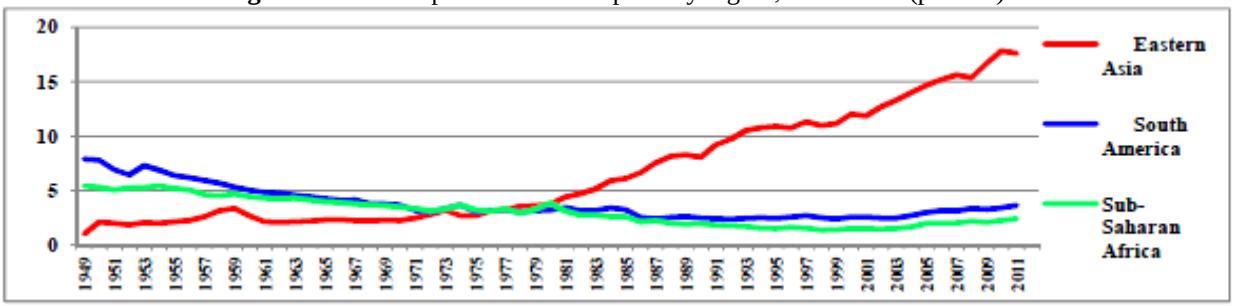
Fig. 5 - Sub-Saharan Africa's exports: percentage of world exports (right axis) and value (left axis), 1948-2011.



Source: UNCTAD Statistics: http://unctadstat.unctad.org.

The long-term forces that undermine SSA external trade generate more divergence than convergence (fig. 6).

Fig. 6 - Share of exports in world exports by region, 1948-2011 (percent).



Source: UNCTAD Statistics: http://unctadstat.unctad.org.

STRUCTURAL ASYMMETRIES AMPLIFIED BY EMERGING COUNTRIES? POSITIVE AND NEGATIVE IMPACTS

Emerging countries have positive impacts on SSA economies via higher demand for products exported by SSA and high prices for some primary commodities that are exported by SSA, and they have negative impacts via the incentives, which their demand for commodities generates towards the strengthening of SSA countries' commodity-based structures.

Global trade's asymmetries: no 'exceptionalism' for emerging countries

Regarding trade and investment, emerging countries, including China, do not exhibit any 'exceptionalism'. Since the end of the 20th century there has been an increasing trend towards internationalisation of production – the global value chains and production networks [Baldwin, 2011]. These processes constitute the features of international trade and affect all countries - be they developed, emerging and developing.

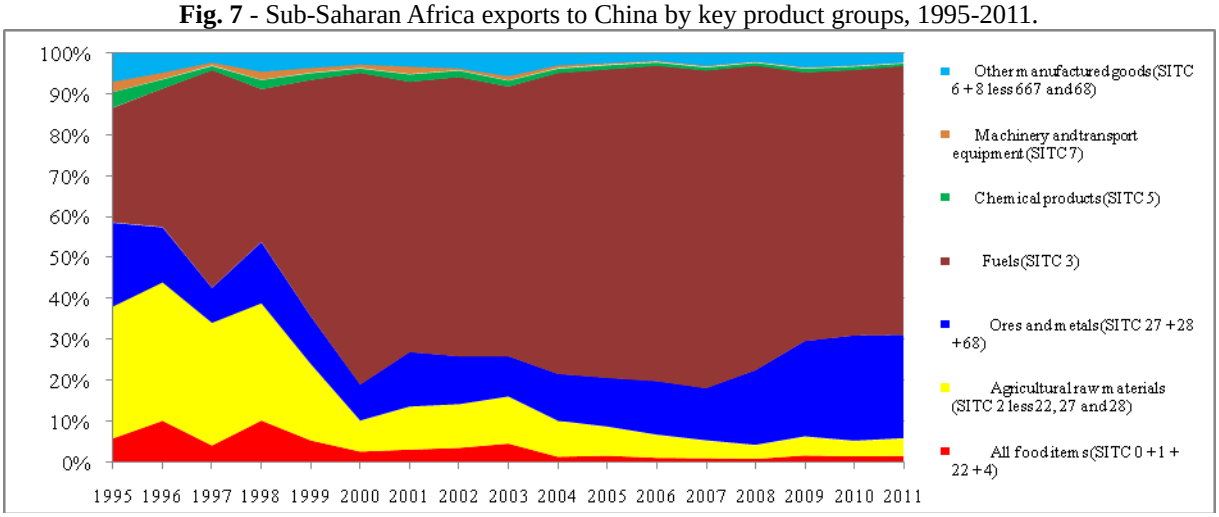
Equally, SSA structural asymmetries are generated by causes that characterise all its partner countries: SSA is dependent on forces that are external to its domestic policies, notably international commodities prices, and on external shocks, i.e. on prices, or on the growth of countries which trade and invest in SSA. Moreover, in a globalised world where all countries are put in competition for attracting investors, the asymmetries created by the obligation to devise attractive trade and investment policies affect all developing countries vis-à-vis all countries, developed and emerging ones.

In addition, if since the early-2000s, due to their spectacular growth and the stagnation of euro zone countries, emerging countries have been driving SSA trade, too much may be assigned them. China's growth may decelerate, which may have important impacts on the growth and exports of SSA and on the demand that China will have towards SSA products as inputs to its own growth –the growth of India and Brazil may also decelerate in the 2010s.

China trade relationships with Sub-Saharan Africa

SSA economies have diversified their trade and investment linkages in the direction of emerging countries, which reduces their vulnerability. SSA exports to emerging countries, however, are characterised by spectacular asymmetries: SSA exports mostly commodities, in particular fuels (fig.7).

Fig. 7 - Sub-Saharan Africa exports to China by key product groups, 1995-2011.

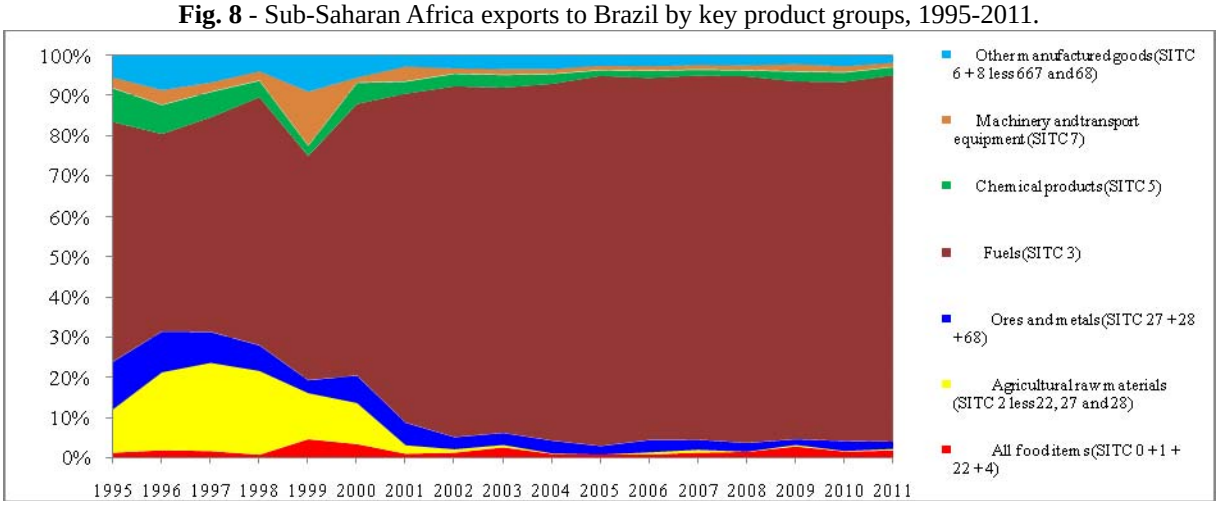


Source: UNCTAD Statistics: http://unctadstat.unctad.org; author's calculations.

China's exports to SSA are very different from its exports to developed countries, which is the second dimension of the asymmetry of trade between SSA and China. China exports low-end manufactured products, which threaten SSA manufacturing sectors and strengthen the specialisation in the export of commodities [Kaplinsky and Morris, 2008]. If China's growth rates continue, however, its demand for SSA products may be also directed towards low-end manufactured products no longer made in China due to increasing local factor costs, which may be a first step towards industrialisation, diversification and therefore long-term growth.

Other emerging countries exhibit even deeper asymmetries: SSA exports to Brazil are almost only made of fuels (fig. 8).

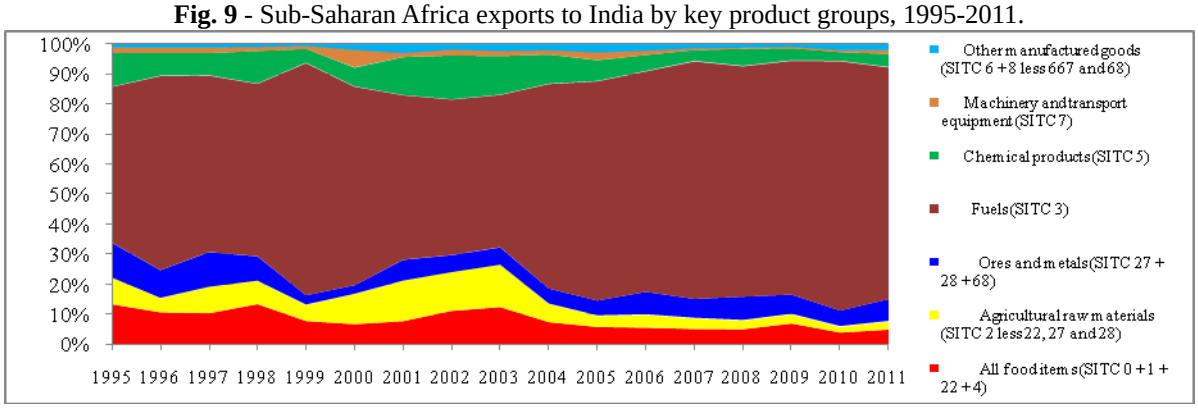
Fig. 8 - Sub-Saharan Africa exports to Brazil by key product groups, 1995-2011.



Source: UNCTAD Statistics: http://unctadstat.unctad.org; author's calculations.

Exports of SSA to India are similarly mostly made of fuels (fig. 9).

Fig. 9 - Sub-Saharan Africa exports to India by key product groups, 1995-2011.



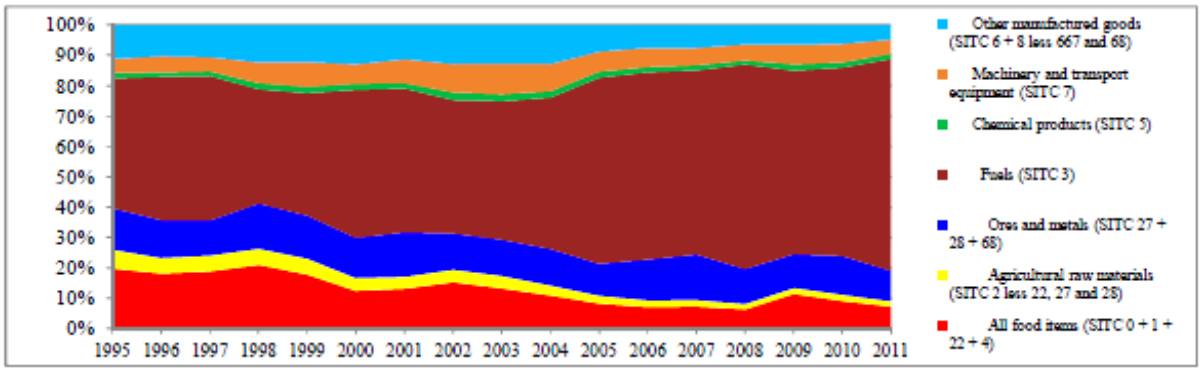
Source: UNCTAD Statistics: http://unctadstat.unctad.org; author's calculations.

As industrialisation is a key determinant of long-term growth, emerging countries may, in the long-term, erode their short-term positive impact on SSA economies.

Do developed countries do better? The similarity of emerging and developed countries trade structures

Since the colonial period Western countries' trade patterns still broadly follow the model of the 'small colonial open economy' - exporting commodities, importing manufactured products (fig. 10).

Fig. 10 - Sub-Saharan Africa exports to G8 countries by key product groups, 1995-2011.



Source: UNCTAD Statistics: http://unctadstat.unctad.org; author's calculations.

FOREIGN DIRECT INVESTMENT: COMPLEX EFFECTS, SIMILAR ASYMMETRIES

China's investment in Sub-Saharan Africa

Emerging countries, and China in particular, constitute important drivers of foreign direct investment (FDI) in SSA. Chinese FDI to SSA as a share of total FDI to the region climbed from less than 1% in 2003 to 16% by 2008 (IMF, 2011).China's FDI in SSA does not represent an important part of total Chinese outward investment, but for SSA it represents a rising share of its total inward FDI. This is a dimension of asymmetry between the two regions.

A great share of FDI is made by China multinationals, often backed by the state, and directed towards the resource sectors (oil, mines). It often consists in a contractual package that 'exchange' commodities for investment financing by Chinese firms, generally in infrastructure – the so-called 'Angola model' [Corkin, 2011]. These deals imply a risk of lock-in SSA structure in the exporting of commodities. The FDI of other emerging countries, Brazil and India, is more limited and more diversified. Likewise, developed countries' investors invest in the resource sector: for example, in Angola, the United States is by far the leading investor in the oil sector [GAO, 2013].

Emerging countries as promoters of structural change for Sub-Saharan African economies?

Emerging countries, however, have the potential of reducing these asymmetries. They mean more players and more capital inflows towards SSA. Also, the growth of emerging countries implies increasing wages and costs in these countries, hence windows of opportunities for SSA countries, where FDI can outsource activities of the low-end segments of production networks.

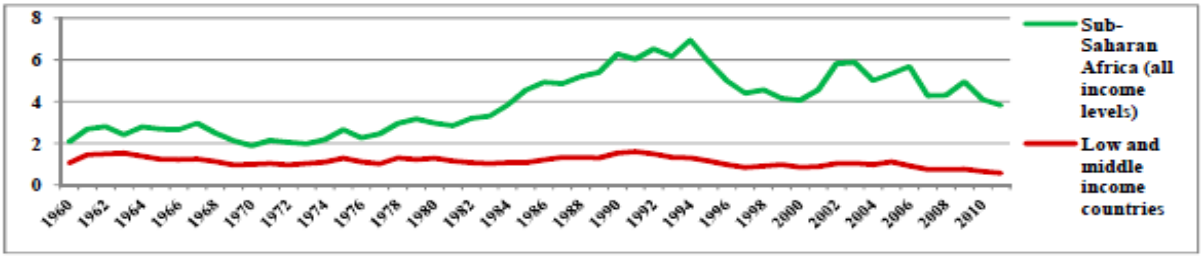
Moreover, emerging countries invest in SSA industrial sectors, e.g., manufacturing, construction, finance, agriculture, services, which is an opportunity for structural change since industrialisation is a key determinant of long-term growth [Rodrik, 2009]. Chinese manufacturers increasingly invest in SSA in order to benefit from preferential trade tariffs and lower labour costs [Dinh et al., 2012]. China established several Special Economic Zones in SSA with the aim of promoting manufacturing. An increasing number of private medium and small enterprises from China operate in SSA in the sectors of manufacturing, infrastructure, agriculture and services [Shen, 2013; Gu, 2009]. In addition, emerging countries invest in infrastructure, and the enhancing of infrastructure by investors from China and other emerging countries is undoubtedly beneficial for SSA countries' growth [Calderon and Serven, 2010].

AN IMPORTANT DIFFERENCE: CONDITIONALITY IN DEVELOPMENT COOPERATION

A key cause of asymmetry: Sub-Saharan African countries' dependence on foreign aid

Some SSA countries are excessively dependent on aid, e.g., for budgets, investment, maintenance, infrastructure, health, education. Net Official Development Assistance (ODA) to SSA represented $20 per capita in 2000 or 4.1% of Gross National Income (GNI); $54 per capita and 4.3% of GNI in 2010. In 2000, ODA represented 23.1% of gross capital formation, and 18.8% in 2010.In 2000, ODA represented 11% of imports of goods, services and income; in 2010, 9.9% [World Bank World Development Indicators, 2012]. Despite important variations within SSA, besides the small-island economies of Oceania, SSA is the region of the world that is the most dependent on aid, and much above the average of low-income and middle-income countries (fig. 11).

Fig. 11 - Net Official Development Assistance received, in percentage of Gross National Income.



Source: World Bank World Development Indicators online, May 2013.

Aid dependence induce well-known negative effects, e.g. Dutch disease, negative effects of volatility - as aid is very volatile (Bulir and Hamann, 2008) -, and the undermining of institutions, in particular tax institutions [Moss et al., 2006].

China's specific mode of development cooperation: a trade-aid-investment-nexus

China's aid is not easy to compute: loans are difficult to distinguish from export credits, and Chinese statistics do

not use the OECD Development Assistance Committee criteria[2]. China's financial resources provided for aid fall into three types: grants (aid gratis), interest-free loans and concessional loans [Chinese Government, 2011]. The first two types come from China's state finances, while concessional loans are provided by the Exim Bank. This demonstrates the close links between trade, investment and aid. Chinese aid to Africa is much less important than Exim Bank export credits, despite a clear increase [Brautigam, 2009; Mlachila and Takebe, 2011].

In contrast with developed countries' donors, Chinese financing is largely focused on infrastructure investments; part of export credits and other financing for infrastructure investments are linked to extraction of natural resources through 'infrastructure for natural resources' deals. China's aid also differs from 'traditional' donors by its close ties with the state banks and state enterprises, often involved in the implementation of China's foreign policy vis-à-vis SSA [Christensen, 2010]. In addition, Chinese aid has not suffered from volatility in amounts, paradigms and fads that have characterised Western aid [Brautigam, 2009].

A key point is that this mode of development cooperation made of a nexus of aid, trade and investment does not include conditionalities on particular policies - economic or political. This is a major difference with western aid, multilateral or bilateral. Whether it is made of loans or grants, the development assistance of OECD-DAC countries, of international financial institutions or of a major donor such as the European Commission is conditional to economic reform that affect the entirety of a country's macro- and microeconomic policies (as in the IMF and World Bank programmes) - and often, to political reforms.

In contrast, China's aid is more a development cooperation driven by diplomatic and political economy relationships, which go back to the period of independence of SSA countries in the late 1950s-early 1960s and Cold War context, and its motives are broader than strictly economic ones, as they explicitly include the support of Chinese firms [Brautigam, 2009]. China's conditions therefore relates to contractual issues, and not to a government entire macroeconomic policy. China's claims non-interference with recipient countries domestic affairs and its cooperation therefore deals with all regimes, be they illiberal democracies or even 'pariah' regimes [Alden, 2007]. Chinese aid is therefore often criticised for supporting dictatorships and corrupt regimes.

Developed countries aid as based on conditionality: the most detrimental asymmetry?

Many dimensions of developed countries' ODA, however, convey aspects that do not compare positively with China, particularly the fact that developed countries' financial assistance is conditional on recipient countries' domestic reforms. The latter may be very intrusive and prescribe drastic changes in recipient countries economic and political equilibria. Given their asymmetric position – the 'donor'-'recipient' relationship - aid-dependent low-income countries have little possibility to refuse these reforms.

There is no doubt that the absence of conditionality on financing may induce many problems, e.g., the support of certain types of political regimes, opaque deals, corruption and the like. Developed countries' conditional aid – multilateral or bilateral - , also includes these problems, in addition to other negative effects that are inherent to conditionality itself, i.e. committing aid ex ante and making aid conditional on reform. They have long been demonstrated since the first programmes of stabilisation and structural adjustment prescribed from the 1980s onwards to SSA governments by the international financial institutions – the IMF and the World Bank. Loans were conditional on government policy and institutional reforms in the borrower country, aid here being a lever to encourage policy reform. As SSA countries' performance did not improve, the IFIs reacted in augmenting their conditionalities in the 1990s. The latter became increasingly structural and extended to non-economic issues, e.g., 'governance'.

The effectiveness of conditionality is obviously mediated by the recipient government's willingness to accept the conditions. Conditionalities, however, by definition express the existence of tensions, imply a limitation of sovereignty and trigger resistance. Conditionality inherently induces policy reversals (stemming from the 'exchange of reform for financing', the 'buying of reform'). It paves the way of the 'aid game'. The persistent failure of conditional IMF stabilisation programmes has led, on the donors' side, to a repetition of lending since the 1980s onwards, and on the recipients side, to the continuation of dependence on donor lending. Another reaction of IFIs has been to add 'selectivity' to conditionality, where donors lend to governments that already have good policies and institutions: conditionalities appear to be effective mostly in countries that reform.

Conditionality indeed demonstrates the inherent divergence of interests and asymmetry between the aid-providing IFI and an aid-receiving government, including domestic interest groups. These divergences between donors and recipients, which are intrinsic to the mechanisms of conditionality, entail negative effects. Donors may impose conditions on unwilling recipients, while recipients may be willing but unable to implement conditions. Aid is typically affected by the 'Samaritan dilemma'. For example, if the recipient government knows that donors condition their aid on a reduction of poverty, it has little incentives to exert high effort toward this objective, as in doing so it will receive less aid in the future; and the 'Samaritan's dilemma' is aggravated by moral hazard: the donor can never know if a poor outcome is the result of low effort ('bad policies') or 'bad luck' [Svensson, 2005]. Conditional aid indeed inherently exhibits important coordination failures (including information problems on other donors' aid).

On their side, donors did not enforce the conditions, due to their own institutional incentives to lend. The device of conditionality has therefore contributed to the erosion of the credibility of the IMF vis-à-vis borrowing countries

[2] See Brautigam's very informative and relevant blog: http://www.chinaafricarealstory.com.

[Marchesi and Sabani, 2007]. In being non-conditional, China's aid avoids these pitfalls.

In addition, aid – be it conditional or not – is a dimension of the foreign policy of developed economies [Alesina and Dollar, 2000]. Aid delivered by developed countries' donors has also allowed for the maintenance in power of autocratic or corrupt regimes [Easterly and Williamson, 2011], which use aid as a rent and for redistribution to clienteles and manipulate donors' conditions as instruments for their own domestic politics, or a strategy using donors as 'scapegoats' [Vreeland, 1999]. All this is an obvious cause of aid failures.

CONCLUSION

This paper has examined the structural asymmetries that characterise SSA export structures. It has shown that emerging countries, and particularly China, follow the patterns that have been initiated by developed countries, and that emerging countries' trade and foreign direct investment have complex effects, positive and negative [Sindzingre, 2013]. The paper has also shown firstly that more than trade or investment, aid relationships convey the greatest differences between developed and emerging countries, notably China. Secondly, despite the recurrent critiques of unconditional aid in the literature, it has revealed that that developed countries' aid may be among the strongest determinants of asymmetry between Sub-Saharan Africa and other countries, because of the mechanism of conditional financing.

ACRONYMS

FDI	Foreign Direct Investment
GNI	Gross National Income
ODA	Official Development Assistance
SSA	Sub-Saharan Africa

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GENERALIZED TARIFF PREFERENCES FOR DEVELOPMENT AND EMERGING COUNTRIES: ASSESSMENT AND PERSPECTIVES

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ABSTRACT

The paper addresses the role and efficacy of trade preferences within development cooperation policies. It does so from a legal perspective, in relation to past, current and prospective frameworks of trade preferences for developing countries, and takes into account the role of private business as major actors of development in beneficiary countries, given that the trade (and investment) component of development policies relies on firms for successful implementation. Moreover, it looks at emerging countries, particularly African ones, as significant examples of the evolving relevance of trade preferences to processes and actors involved in promoting development. Accordingly, the main problematic issues will be outlined with regard to the traditional trade instrument designed to foster development, i.e. the Generalized System of Preferences adopted since the 70s by developed countries to extend preferential duties on imports of products originating from developing countries (Section 2). The legal arrangements backing such trade regime up with respect to resource-seeking and export-oriented investments by foreign firms into beneficiary countries, on the one hand, and the recent trend to raise export restrictions on raw materials and mineral products by some governments, on the other hand, will also been introduced into the discussion (Section 3). The challenges thus identified will be described in relation to the Sub-Saharan emerging countries throughout the evolving trade regime applied by the European Union for the last decade, that is also informed by World Trade Organization-compatibility, as compared with China's policy in the region (Section 4). In conclusion, some critical considerations will be drawn as regards the post-2015 development cooperation strategies and the increasing role attributed to trade therein, in light of recent academic contributions to their formulation by the EU.

PREFERENTIAL TRADE AS A COMPONENT OF DEVELOPMENT COOPERATION POLICIES

Focusing on trade within international development cooperation prompts some general observations. In particular, it is clear that any effort on enhancing trade performance of developing countries ultimately relies on private, for-profit actors' responses to the policies designed to that effect, thus strengthening the relevance of such actors with respect to public institutions and not-for-profit sectors. This, in turn, calls for carefully crafted incentives and guarantees for (both domestic and foreign) investments in the sectors envisaged by 'trade and development' strategies. The other general observation concerns the instruments through which the trade pillar of development policies is implemented. The traditional trade tool for development, i.e. unilateral concessions by developed countries of preferential tariffs upon the importation of goods originating from beneficiary developing countries, has attracted many studies and controversial assessment as to its effectiveness. The reasoning coming into play in the discussion concerns both the structural elements characterizing these arrangements – as will be outlined in Section 2 – and the general trend towards the erosion of the margins for preferences available to developing, beneficiary countries (following successive rounds of multilateral trade liberalization and the widespread conclusion of free trade agreements). Preferential trade with developing countries aims at boosting their exports thus promoting the industrialization and diversification of their economy, and contributing to economic growth. However, this rationale is hampered by the fact that developing countries acceding liberalized international markets may not have or develop sufficient capacity for coping with such integration.

These observations suffice to underline the point for a critical assessment of the recourse to trade preferences for development alone. Indeed, several other trade or trade-related policy interventions such as regulating non-tariff barriers to trade, offering aid for trade, promoting and protecting investment, guaranteeing protection and enforcement of intellectual property rights, extending loans and guarantees to private actors investing in strategic sectors, assisting developing countries to improve the domestic business environment and, enhancing corporate social responsibility have increasingly appeared as necessary to foster development. Thus, other instruments alongside or instead of tariff preferences are envisaged by countries interested in a 'modern' 'trade and development' strategy.

Imagining however that this dynamic is inherent to the evolution of 'trade for development' strategies without taking into account the broad international legal environment of international exchanges as well as the changes that occurred in the world economy over the last decades would be misconceived and unrealistic. In particular, the multilateral trade rules set through the GATT and the WTO agreements, and the stagnation of the Doha Round of

negotiations since 2000, have influenced the strategies of States. Also, the problematic economic growth of emerging countries like the BRICS and several other countries has played a significant role in the revision of the existing 'trade for development' instruments, such as the unilateral tariff preference arrangements. The several instances in which these two factors have impacted on the undergoing changes of the trade component of development policies will be outlined in Sections 2 and 3.

The purpose of this paper is to assess the legal frameworks of these policy developments and to discuss the critical aspects they involve in relation to emerging countries. It should be noted that the paper concentrates on trade in goods, although the services sector has been growing in importance in trade relations with the developing world and especially with the emerging countries. Section 4 of the paper elects Sub-Saharan countries among emerging countries as particularly suitable to describe what is analysed in general and theoretical terms in the previous sections. There are several reasons for this choice: the potential effects of the shift from auto-selection to objective indicators of developing needs for eligibility to tariff preferences; the trade-related approach to sustainable development and eradication of poverty followed by the EU within the general evolution of EU-ACP relations, which owes its specificity to historical ties; the major influenced played by WTO rules and the claims of third States within the WTO; the way other emerging countries, in particular China, approach developing countries and how this may affect developed countries' trade arrangements with the region.

THE GENERALIZED SYSTEM OF PREFERENCES: ITS RATIONALE AND STRUCTURE (TAKING THE EU AS AN EXAMPLE)

The idea of tariff preferences for development represents an application of the principle of dualism of rules applying to countries with different levels of developments, that was claimed by the "New International Economic Order" and characterizes the right to development [1]. It emerged at the first UNCTAD conference in 1964 and received unanimous support at its second conference four years later, when Resolution 21 (II) was adopted. The text called for the establishment of a "generalized, non-reciprocal, non-discriminatory system of preferences in favour of the developing countries, including special measures in favour of the least advanced countries". The objectives of the Generalized System of Preferences (GSP) were encapsulated in the title of the Resolution ("Expansion and Diversification of Exports of Manufactures and Semi-Manufactures of developing countries") and were stated in the following terms: "(a) To increase their export earnings; (b) To promote their industrialization; (c) To accelerate their rates of economic growth" [2]. Thus, at least on the surface, the basic elements of such a preferential arrangement consist of its unilateral adoption, general application, non-discrimination (apart for the most preferential treatment for least developed countries), lack of reciprocity, and focus on manufactured goods as the main beneficiary products in order to reduce reliance of developing countries on export of primary products. Indeed, absence of across-the-board preferences in terms of product coverage implies a kind of *de facto* discrimination across beneficiaries in favour of those countries having "greater capacity to produce the manufactured goods that are designed for preferential treatment" [3].

Such an arrangement represents a departure from the 'most-favoured-nation' (MFN) rule expressing the non-discrimination principle on which the post-world war II multilateral legal trade regime is founded, and it cannot be justified under the regional integration exception. Art. I GATT provides the MFN treatment according to which any GATT Party (now, any WTO Member) shall receive the best treatment accorded to any third country as regards customs duties primarily and among other issues. This clause is unconditional, meaning that the MFN treatment extends to all other parties automatically without any advantage in return. The only exception admitted to this rule in the original framework of GATT 1947 refers to the creation of customs unions or free trade areas (Art. XXIV GATT). This recognizes the potential benefits of closer integration of the economies of the parties to international trade, provided that certain conditions are met to assure that these preferential arrangements work as 'building blocks' rather than 'stumbling blocks' for exchanges with third parties. In particular, among other conditions, this means that tariff preferences are accepted under GATT law by means of international agreements, in so far as they consist of the elimination of duties or other restrictive regulations of commerce on substantially all the trade (in terms of product coverage and volumes of trade) between the constituent parties.

The acceptance of the GSP within the GATT was premised on the introduction of Part IV on Trade and Development in 1964, which laid down non-binding commitments in favour of developing countries. The embodiment of the GSP arrangement was firstly realized on a 10 year basis by means of a Decision adopted in 1971 [4] and permanently in 1979 through the Decision generally referred to as 'Enabling Clause' [5]. Based on it, contracting parties may accord differential and more favourable treatment to developing countries as regards tariffs levied on imported products in accordance with the GSP. Thus, the general features of the arrangement conceived at UNCTAD apply. The Decision also states that the preferential treatment “shall [...] be designed and, if necessary, modified, to respond positively to the development, financial and trade needs of developing countries”.

An authoritative source of interpretation of several conditions attached to the GSP arrangement came later in 2004 from the WTO Appellate Body (AB)'s report on the *EC-Tariff Preferences* dispute brought by India [6]. The AB considered the Enabling Clause as an exception to the MFN rule. It specified that the requirements on the "generalized, non reciprocal and non discriminatory" nature of the preferential arrangement for developing countries (set out at

footnote 3 of the Enabling Clause) are binding (paras. 146-147). It also clarified that the requirement of "generalized" preferences refers both to the entire category of developing countries (i.e., not only to former colonies - para. 155) and to product coverage. It interpreted the "non-discrimination" requirement in the sense that donor countries are not prevented from according differential treatment among developing countries provided that this is based on differences in their "development, financial and trade needs", to be assessed on objective grounds, and responds positively to such needs (paras. 163-164). On this point, the AB outlawed the Panel's findings (at para. 193) [7].

Central to the issue of emerging countries, the system builds in a 'graduation clause'. Para. 7 of the Enabling Clause *calls* less-developed countries to "participate more fully in the framework of rights and obligations" under the GATT, as their economies progressively develop and thus differently, according to the achieved degree of economic development. In the WTO era, the approach changed. The system now *aims* at eliminating discrimination and integrating developing countries into the general regime, as stated in the Ministerial Declaration adopted at the first WTO Ministerial Conference, 1996 (para. 6) [8]. Another main element concerning development needs within the WTO legal framework relates to Least Developed Countries (LDCs - i.e., countries falling in the category officially recognized in 1971 by the UN General Assembly) [9], which are granted privileged status across the whole system of rules [10]. With respect to commitments and concessions, this is affirmed by Art. XI, para. 2 WTO Agreement.

The GSP did not result in a common arrangement implemented by developed countries, which, on the contrary, separately adopted their own GSPs. There are currently eleven donor countries, namely Australia, Belarus (a non-WTO member in the process of negotiating accession, at the same time being a GSP beneficiary under some other donors' arrangements), Canada, the EU, Japan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey and the United States [11].

Against this background, the EU's and the US's GSP arrangements, in particular, share some peculiar features which are of particular interest for the purposes of this paper focusing on emerging countries. These consist of mechanisms of eligibility, country and product graduation, tariff modulation, safeguards, differentiation, and conditionality. Their main implications for the treatment of emerging countries by GSP donors will be now outlined, taking the EU's GSP as an example.

The EU adopted its GSP arrangement in 1971 [12]. Since then, general schemes were renewed on 10-year cycles, each adapted to the evolution of international trade every year, and more recently every three years [13]. Since the Nineties, the EU combined the original objectives of the system inherent to the link between "trade and development" with specific objectives on the promotion of and respect for the environment, labour rights, human rights and good governance in the beneficiary countries. The currently-in-force Regulation (EC) No. 732/2008 [14] will be superseded by Regulation (EU) No. 978/2012 (the 'new Regulation' or the 'new EU GSP') [15] on 1 January 2014, to be applied for an extended period of ten years until 2023 for purposes of legal certainty and stability [16]. These two schemes are designed to take account of the above-mentioned AB's decision, which indeed dealt with the WTO compatibility of the special regime to combat drug under the EU GSP previously in force.

Under the current and the new EU GSP schemes, preferential treatment is granted according to three regimes: the general regime, the incentive arrangement for sustainable development and good governance ('GSP+'), and a special arrangement for the LDCs which offers duty-free market access into the EU ('Everything but Arms', or EBA). The new EU GSP scheme is designed with a view to taking more into account the diversity of the developing countries and the purpose is to focus on helping the less advanced among them (whereas 7)[15]. In a nutshell, it is premised on the assumption that because of global tariff erosion (see Section 3 below) maintaining tariff preferences for the more advanced developing countries would imply too high competitive pressure on poorer countries [16]. And, as is evident in the language of the preamble part of the Regulation, this approach is meant to abide by the non-discrimination requirement for generalized tariff preferences set by WTO law as interpreted by the AB in the *EC-Preferences* decision (whereas 9) [15].

This overall approach is evident in the criteria adopted for benefitting developing countries of trade preferences under the general regime. Hereunder, tariff reductions are granted on the products covered by the unilateral arrangement instead of the MFN duty applied by the EU. To benefit from this regime, GSP eligible countries shall not have been classified by the World Bank as high-income or upper-middle income countries during three consecutive years immediately preceding the update of the list of beneficiary countries. Accordingly, and subject to annual revision, eight countries recently classified as high-income countries and fourteen upper-income countries will no longer benefit from EU GSP trade preferences from January 2014; among these, Brazil figures prominently [17]. They nonetheless remain eligible countries under the EU GSP, in order to benefit from the ordinary tariff preferences again, in case their classification downgrades. It is quite interesting to note that the new system will depart from the current one, abandoning the additional consideration for the diversification of exports of potential beneficiary countries - a criterion that has maintained Brazil among beneficiary countries so far [16].

However, even for those countries which remain eligible for tariff preferences under the general regime, a product graduation mechanism is foreseen in order to exclude certain products originating in a specific country when they have become competitive enough, as reflected by the fact that their exportation exceeds a certain threshold of all GSP imports of the same products into the EU. The new EU GSP will increase the threshold percentages determining such graduation (textiles products being subject to a lower percentage and to other specific provisions aimed at safeguarding the EU production). The new GSP legislation will make graduation more targeted on narrower product sectors. It will also strengthen the devices construed so as to avoid graduation in case of non-diversification of a beneficiary's exports -

an occurrence which could disrupt its economy. As a result of these new rules, two BRICS will be denied tariff preferences for more product sectors than they currently are, China for precisely twenty-seven sectors in total (six more than under the current regime, including several 'sensitive' products as will be outlined next) and India for six (five more); also Costa Rica, Ecuador, Indonesia, Nigeria, Thailand and Ukraine are concerned with one or two sectors each [18] [16]. The graduation list is to be reviewed on a three-year basis.

Although the EU GSP scheme has a wide product coverage, it differentiates between 'non-sensitive' products, on which duties are suspended, and 'sensitive' products, on which duties are fixed at a specified lower rate than the MFN duty. The new EU GSP widens the scope of free market access granted to products originating from beneficiary developing countries, as it introduces new products or moves previously sensitive products into the category of non-sensitive products. 'Sensitivity' is defined in order to take account of the situation of the sectors manufacturing the same products in the Union. For example, most mineral products covered by the new EU GSP scheme are considered non-sensitive products, while the majority of textiles and machinery products are sensitive, with a more balanced split of metals between sensitive and non-sensitive products (Annex V) [15]. This is of a certain importance when assessing the effective pursuance by the GSP scheme of its overall objective of fostering the development of beneficiary countries through export-led industrialization and diversification.

Safeguards are also foreseen in the form of the reintroduction of the normal Common Customs Tariff duties. This procedure is managed by the Commission and initiated upon request by Member States, EU producers or on its own. It may take place when a product originating in a beneficiary country is imported in volumes and/or at prices which cause, or threaten to cause, serious difficulties to Union producers of like or directly competing products.

Another relevant mechanism provided by the EU GSP scheme, in combination with the new EU GSP origin rules [19], concerns origin cumulation. Products can be imported into the EU under the GSP tariff preferences only if they originate from beneficiary countries according to the specific rules of origin unilaterally set by the EU. Although this is a highly technical issue [20] [16], it is worth pointing out that the new EU rules aim at facilitating the acquisition of origin for purposes of GSP preferential treatment and also favour regional economic integration by allowing products produced in several countries to satisfy the applicable criteria conferring origin on a cumulative basis. Thus, the EU has elected four regional groups of countries for purposes of regional cumulation [19].

Lastly, both positive and negative conditionality mechanisms are put in place. The former subjects the extension of additional tariff preferences to a beneficiary country's respect for human rights, environmental protection and good governance. The special incentive arrangement (GSP+) is aimed at those eligible countries which abide by the condition of having ratified and implemented certain conventions on the environment, labour and human rights and good governance. This is intended as an objective condition for discriminating between eligible countries, as required by the WTO AB's interpretation of the non-discrimination requirement under the Enabling Clause. In fact, additional preferences should address the special burdens and responsibilities resulting from conventional commitments undertaken by vulnerable countries suffering from a lack of diversification and insufficient integration within the international trading system. Thus, this mechanism is driven by the general objective of the scheme too. The negative conditionality mechanism provides the temporary withdrawal of the preferential treatment, under whatever regime, upon the occurrence of systematic violations of core human and labour rights, shortcomings of customs controls, and also for "serious and systematic unfair trading practices including those affecting the supply of raw materials, which have an adverse effect on the Union industry and which have not been addressed by the beneficiary country", among other conditions (art. 19, para. 1 (d)) [15].

TRADE PREFERENCES IN CONTEXT: THEIR EFFECTIVE IMPACT AND THEIR INTERACTION WITH FOREIGN INVESTMENT AND WITH EXPORT RESTRICTIONS

Whether and how trade preferences (have) effectively work(ed) for the development of developing countries is a matter of debate. The most evident point is that the margin of preference is eroded by successive multilateral tariff negotiations and by the continuing expansion of free trade agreements. Many of the mechanisms described above have also been criticized [21] [22] [23].

It has been suggested that criteria for eligibility, graduation, product coverage, tariff modulation and safeguards would rather meet the needs of preference granting countries for preserving imports pressure and surges in sensitive industrial domestic sectors [3]. Conversely, in the political rationale and legal texts of the (EU) GSP, at least the first two mechanisms are justified in light of the general objective to differentiate among developing countries according to their development needs on the basis of the non-discrimination requirement, in line with the interpretation of the Enabling Clause in the *EC-Preferences* case. Indeed, this should be the authentic spirit behind the inclusion in the Enabling Clause of the provision according to which "such treatment accorded by developed contracting parties to developing countries be designed and, if necessary, modified, to respond positively to the development, financial and trade needs of developing countries". At the same time, however, safeguards from import surges at least cannot be outlawed from a unilateral, voluntary, non-reciprocal preferential arrangement, and this was already embodied in the GSP envisioned by UNCTAD [3].

The non-reciprocity requirement applying to the GSP arrangement has also been challenged, with reference to those GSP schemes which indeed make the granting of preferences conditional on some specific behavior of the

beneficiary country. Moreover, a relevant point relates to the selection of objective criteria for granting preferences and differentiating among beneficiary countries (due to the lack of a common regime and to the unilateral, "*octroyée*" or "gift" nature of the arrangement, each donor country sets its own criteria according to its internal process, although it has the burden of proving their compatibility with the requirements set by the Enabling Clause) [24]. It has also been suggested, and rejected, that reciprocity (legally conveyed by treaties) would ensure greater market access concessions by developed States [25].

As has been seen, both forms of preferential trade treatment depart from multilateral trade rules based on non-discrimination but, as almost all countries in the world are WTO-members, unilateral or conventional arrangements have also to abide by the requirements and limitations provided by WTO law - and may be challenged before the WTO dispute settlement system. All aim at and rely on private business as the drivers of development. GSP and free trade area success depends on their final users, i.e. firms. Therefore, one may argue that they should be coupled with policies leading investment strategies by firms from donor countries into beneficiaries countries as well as by domestic firms therein. In both cases, investments are export-driven, that is, they do not seek to access the local market but are aimed at sourcing donor countries' industries and markets with resources and manufactured goods.

Preferential arrangements - and resource-seeking investments in GSP beneficiary countries - are confronted with a recently increasing phenomenon, that is, the introduction of export restraints of raw materials and mineral products by certain developing countries. Quantitative restrictions on exports are prohibited under GATT Art. XI, unless "temporarily applied to prevent or relieve critical shortages of foodstuffs or other products *essential* to the exporting contracting party". But the violation of such provision may seek justification under the GATT general exceptions, which provide for the conservation of exhaustible natural resources among other justifications. Other forms of export restraints may be put in place too, such as export duties (which are not prohibited *per se* under WTO law).

A recent instance concerns Chinese measures restraining exports of raw materials and of rare earths, which have been challenged by the EU and other countries within the WTO. It appears from the decisions adopted so far [26] [27], development considerations may come into relevance under two opposite perspectives. On the one hand, the implications of export restraints of natural resources for the export performance of other developing countries can easily be derived from the observations made by the claimants. Export restraints not only produce scarcity and cause higher prices in global markets, but they also advantage domestic industry by ensuring it sufficient supply, and lower and more stable prices for the materials concerned. On the other hand, China claimed that under Art. XI interpreted in light of the 'trade and development' provisions of the GATT (Art. XXXVI in Part IV), a developing country may adopt export quotas on 'primary products' which have a role in "securing economic diversification through the development of domestic processing industries" (para. 7.265) [26]. However, the panel and the AB ruled that Art. XI does not hold a different meaning or should not be applied differently for developing countries (para. 7.280) [26]. China also evoked the customary norm in international law of sovereignty over natural resources as "developed in recognition of the 'essential' role that natural resources play in the progress and development of states that possess those resources" (para. 7.265) [26]. How can these points be connected and their relevance to preferential tariff arrangements for developing countries assessed? Although both sides of the legal dispute make suggestive arguments, it seems that under WTO law none of them relevantly apply to GSP schemes. Countries are 'enabled' but not obliged to extend tariff preferences to developing countries and it is generally understood that Part IV of the GATT enounces non-binding commitments in favour of developing countries; any country, independent of its level of development, may challenge another WTO member's measures nullifying or impairing the benefits accruing to it from WTO law. Moreover, beneficiary countries, and economic operators, are not bound to accept or apply the preferential duty accorded under an importing country's GSP, and they are not prevented from adopting export restraints in WTO-compatible forms counterbalancing that tariff advantage.

THE CASE OF AFRICAN EMERGING COUNTRIES: THEIR PLACE WITHIN THE EU'S POLICY TOWARDS THE ACP COUNTRIES AND OTHER APPROACHES

Against these scenarios, the African continent is a significant setting for analysis as regards the dynamics involved in the economic relations with emerging economies. The phenomenon of "African lions" [28] and other African emerging countries witnessing higher export and/or GDP growth rates than the global rates [29] triggers policy responses by both developed and emerging countries (such as China and India) [30]. The policy approaches differ among trading partners, and this has stimulated a debate in development studies, although it has so far received less focused attention in the legal literature as compared with other disciplines. For example, a recent contribution "assesses the 'competitive pressure' that China's growing presence in Africa exerts on the European development policy regime" by focusing on Ethiopia [31]. The following analysis shows that the EU approach to African, Sub-Saharan emerging countries is to be framed within the EU-ACP relations and explains the set of legal instruments deployed accordingly. It also compares these instruments to those involved in China's approach to the region.

The Sub-Saharan countries including South Africa comprise the African component of the ACP Group of States [32]. As a result of historical ties, ACP States have always enjoyed a privileged position in their trade relations with the EEC/EU compared to other developing countries [33]. Throughout the Yaoundé I-II and the Lomé I-IV conventions, and still under the Cotonou Agreement on a temporary basis until the end of 2007, the EU granted ACP countries more

non-reciprocal, preferential tariff treatment than the preferential treatment given to other developing countries under the EU GSP. This privileged regime was challenged before the WTO dispute settlement bodies, which ultimately ruled against its compatibility with WTO law [33]. The trade provisions encapsulated in the Cotonou Agreement (the new general framework for EU-ACP partnership signed in 2000) was aimed at bringing EU-ACP trade relations into conformity with WTO law while at the same time preserving their more preferential character (arts. 34-37) [34]. Thus, a waiver from WTO obligations was obtained according to Art. XXV, para. 5 GATT for a transitory period until the end of 2007 [35]. Meanwhile, the Cotonou agreement provided for negotiations on a regional basis of reciprocal, free trade agreements within the Economic and Partnership Agreements (EPAs). Up to 2007 and indeed now, these are far from being concluded homogenously, on the ACP side, among regions and within each region (the Carribean, the Pacific and four African regions).

On the EU side, in order to comply with WTO law, the so called 'Market Access Regulation' was adopted in 2007 to unilaterally apply the conventional trade arrangements with those ACP countries having already concluded an EPA or an interim, goods-only trade agreement which however had not entered into force yet as of 1 January 2008 with the EU. Since then, lack of this conclusion, or the undertaking of the necessary steps to ratify the already concluded agreements, on the part of ACP countries, the EU applies its GSP scheme, thus equating trade preferences to the ACP countries concerned to the other eligible developing countries [36].

As a result, the picture of EU-ACP trade rules is one of great fragmentation and diversification, even among Sub-Saharan emerging countries [37]. As for African ACP countries, only the Seychelles, Zimbabwe, Mauritius and Madagascar within the Eastern and Southern African region are covered by the Market Access Regulation and thus their exports towards the EU benefit from duty-free access on all products except arms [38]. Conversely, Comoros and Zambia within the same region and other countries from the other African regions having concluded an interim agreement or a full EPA with the EU have recently been moved from the Market Access Regulation. They are thus treated under the EU GSP scheme together with the other African ACP countries which have not concluded any agreement with the EU so far. This implies that, as in the case of Nigeria mentioned above, they are subject to the product graduation mechanism or, if and as soon as their economic growth evolutes to reach upper-income or high income status for three consecutive years, they are excluded from the GSP general regime, thus being treated on a MFN basis. This would put competitive pressure on them in comparison with the other ACP countries, with the developing countries having concluded a free trade agreement with the EU (such as the North-African countries or Central-American countries), with those developing countries that, although a beneficiary of the EU GSP arrangement, have seen some products graduated out of it, or even with developed countries having concluded free trade agreements with the EU, such as Singapore.

Under the overall political and institutional framework of the Cotonou Agreement, interim EPAs would establish free trade areas and comprehensive EPAs would extend trade rules to matters such as agricultural products, services, intellectual property rights, competition, and accompanying measures on development cooperation. As regards foreign direct investment by the EU, the Cotonou Agreement calls for the conclusion of agreements and for the introduction of general principles in EPAs as regards investment promotion and protection (art. 78) [34]. Therefore, bilateral investment treaties (BITs) between single African countries and EU Member States still feature as the main legal instruments in this subject field.

This 'model' significantly differs from other forms of economic cooperation proposed to African countries from outside the region. China and India have recently developed their own Africa Policy [30]. Focusing on China, there are no preferential trade agreements in force with any African country [39]. LDCs African countries benefit from the duty-free treatment for LDCs, which China extends to a few other countries in the Asian continent [40]. On the contrary, BITs have been concluded between China and many African countries in the last fifteen years [41]. Because of China's interests in outward foreign investment towards Africa and because BITs are reciprocal by nature, these treaties partly follow the more liberal approach to international investment regulation adopted by China since the late Nineties [42]. This notwithstanding, China resists pressure from developed negotiating partners to align to the global tendency towards comprehensive, trade and investment liberalization agreements on a bilateral or regional basis [43]. Such legal landscape concerning China-Africa relations does not seem to be subject to changes for the near future [44]. Another difference between the EU's and China's approach to development linked to trade is that China premises it on the principle of non-interference and rejects conditionality, while the EU stresses the importance of ownership and respect for human rights (being an 'essential element' of the partnership; art. 9) [34]. Overall, China's economic cooperation policy is not considered as being framed within international development strategies [31].

CONCLUDING REMARKS ON THE TRADE ASPECTS OF THE FUTURE DEVELOPMENT STRATEGY DESIGNED BY THE EU

In the light of the above analysis, some brief concluding comments are outlined. There is an unresolved tension between the overall objectives of the GSP arrangement - that is, to respond positively to the economic, financial and development needs of developing countries through preferential tariff treatment - and the policy limitations and conditions at which developed countries consent to grant such treatment. With a view to integrating developing countries into the world trading system, tariff preferences risk not effectively pursuing their development objectives if

they are not coupled with other sound trade-related and investment policies. At the same time, different legal frameworks for trade relations applying between the EU and Sub-Saharan African countries show that emerging countries have different positions and preferences towards preferential trade arrangements with major trading partners. If trade emerges as a central driver of development, it must be intended in broader terms than the traditional instrument of trade preferences, because of the pitfalls, ambiguities and doubts on their efficacy.

The academic world has recognized this shift in developing strategies towards more focused preferential trade arrangements and more comprehensive trade policies. Indeed, the EU seems to favour this direction. In so doing, it both addresses initiatives on private business (in the form of credit, loans and guarantees) and on public institutions (through regulatory engagements but also institution-building and trade facilitation). Recent designs of development cooperation policies by European actors emphasize the role of trade as compared with other components of international development cooperation, mainly official development assistance. In a recent contribution to the debate on a post-2015 global framework to succeed the Millennium Development Goals (MDGs), three independent European research institutes identify trade as a key driver of development provided that trade policies are designed to tackle the problems of marginalized and vulnerable economies by promoting economic and trade diversification and by creating productive jobs [45]. In its documents on the future of EU development policy [46], the European Commission builds the new EU's 'trade and development' goals upon the acknowledgment that "trade-driven development is possible and that open markets can play a major role in generating growth" [47].

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NOMENCLATURE

AB	Appellate Body
ACP	African, Caribbean and Pacific
BIT	Bilateral Investment Treaty
BRICS	Brazil, Russia, India, China, South Africa
GATT	General Agreement on Tariffs and Trade
GSP	Generalized System of Preferences
LDC	Least Developed Countries
MDG	Millennium Development Goals
OJ	Official Journal (of the European Communities/European Union)
UNCTAD	United Nation Conference on Trade and Development
WTO	World Trade Organization

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CROWDING IN THE PRIVATE SECTOR UNDER A DEVELOPMENTAL STATE: WHICH ROLE FOR INTERNATIONAL COOPERATION IN ETHIOPIA?

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ABSTRACT

The article revisits Ethiopia's impressive performance in terms of economic growth during the last ten years, highlighting its shortcomings and discussing the scope of the private sector development in addressing such issues. Particular focus is devoted to the role that international cooperation could play in supporting private sector development in Ethiopia.

Over the past decade, Ethiopia has achieved strong results in terms of economic growth, averaging 10.7 percent per year and human development, getting on track to reach the UN Millennium Development Goals (MDGs) with the exception of the target on maternal mortality. In 2012, Ethiopia became the 12th fastest growing economy in the World. If the country can continue its historically impressive growth performance, it could potentially reach the middle income status by 2025 as foreseen by the Ethiopian government in the Growth and Transformation Plan (GTP) [1].

The Ethiopian government, led by the Ethiopian People's Revolutionary Democratic Front (EPRDF) – in power since 1991 after defeating the military regime of the *Derg* at the end of a sixteen years long civil war – has achieved these results by adopting a development model based on a strong developmental state, driving and dominating the national economy. In the 1990s the EPRDF strategy opposing structural adjustments and economic liberalization policies had been perceived as heretical by international financial institutions. Nowadays, however, Ethiopia has been presented as a success story and praised by international organizations and donors as a model for the whole continent. The Ethiopian developmental state appears in line with the shift in the official discourse of the international development apparatus, rethinking the role of the state in least developed countries and rediscovering the importance of public institutions for the promotion of economic growth and development in Africa [2].

With the GTP the Ethiopian government operated a radical shift in its development strategies. EPRDF has abandoned its traditional focus on household agriculture to achieve food security and fight rural poverty, in order to embrace neoliberal strategies to create wealth and employment through the promotion of micro and small enterprises, as well as market led agriculture production. While the Ethiopian developmental state still plays a major role in orienting and promoting these processes, the GTP has foreseen an increased role for private sector's investments and capacities to mobilise the resources needed to achieve its goals.

Until now, however, the government's efforts to "create an enabling environment for private sector investment growth" have proved little effective, particularly in attracting foreign investors. Ethiopia's position in the World Bank's Doing Business ranking did not significantly improved in the last years, languishing around the middle of the regional average [3]. The Ethiopian market is still perceived as an environment dominated by state owned enterprises and private companies affiliated to the ruling party coalition, hostile to the competition by outsiders. These difficulties raise concerns about the sustainability of the whole process of economic growth, and about its inclusiveness and equity in terms of access to and management of resources. This broadly questions the legitimacy of the Ethiopian government and its development policies.

The article addresses this debate, by exploring the potential of private sector development for the achievement of Ethiopian government's development targets, as well as the role of international development cooperation in supporting this process. The thesis we wish to defend is that in order to ensure sustainability and inclusiveness of the process of economic growth – and ultimately its political legitimacy – the Ethiopian government should promote an enabling and expanded environment for the private sector in the economy. This has been acknowledged by the Ethiopian government itself within the GTP [4], but until know little implemented. The process can be facilitated by the international cooperation streamlining private sector development initiatives across all programmes, replicating successful experiences and exploring innovative approaches to engage with local and international private sector.

The first section of the article revisits the tale of Ethiopia as "African Lion", highlights the risks and the bottlenecks implicit in the current process of economic growth and transformation. The second section recalls main economic theories on the scope and contribution of private sector in order to tackle the issues described before. The third section assesses the current situation of the private sector in Ethiopia. The final session discusses the role of international cooperation in support of private sector development.

Revisiting Ethiopia's economic performance

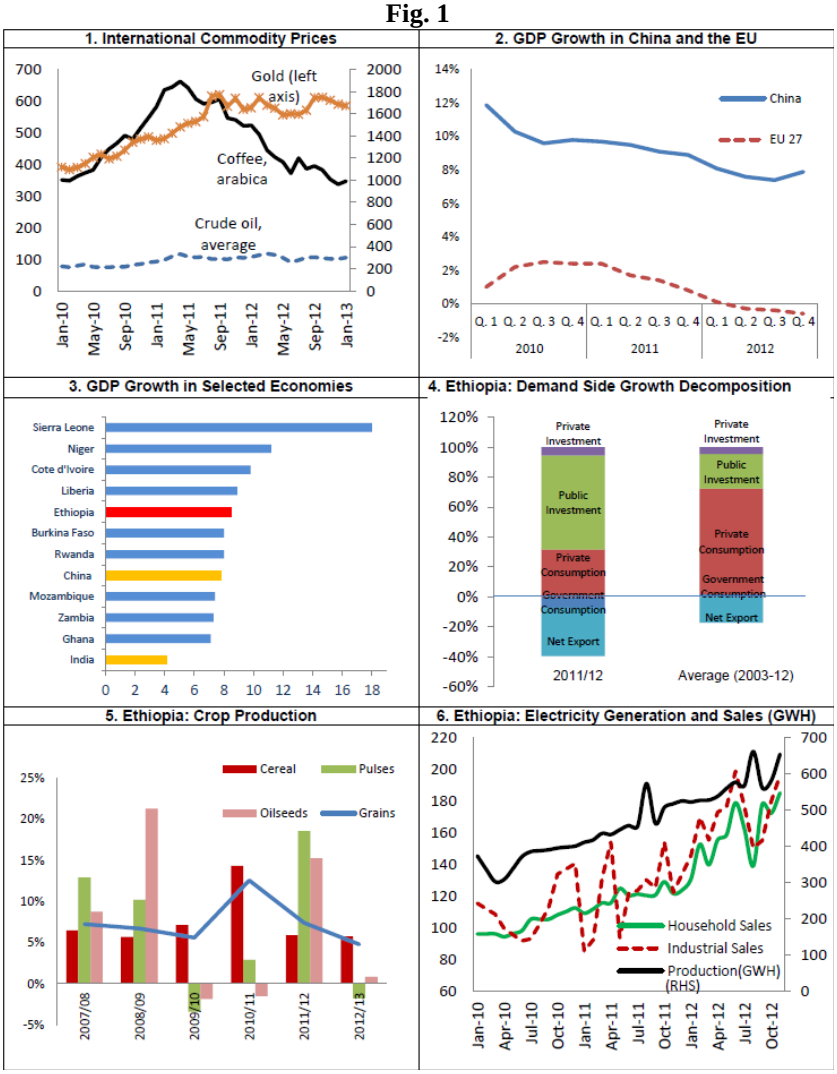
The peculiarity of the Ethiopian case lies in the fact that the process of economic growth is not driven by natural resources extraction, like Angola or Chad, neither on private sector development, like in Kenya. On the contrary, the rise of Ethiopian GDP in the last years results from public capital investments (infrastructures like roads, dams and power plants, housing projects,…).

For how long a country can count on public investments to support growth? There is no easy answer to this question. The empirical evidence in Ethiopia shows that during the last ten years this policy worked effectively. However the last economic data cast some doubts on the possibility to continue on the same path at the same pace. According to a recent World Bank analysis [5], inflation has been brought down to single digits, as a result of tighter monetary policy and a drop in imported inflation. However, financial intermediation and monetization are declining, with important negative implications for private sector development and savings. Financial and human resources are highly absorbed by State Owned Enterprises' investment activities. The external current account deficit is widening as import growths, driven by public capital imports that outpace sluggish export growth.

The relative slowdown in economic activity compared to previous years can be explained by lower crop production. Agriculture, which accounts for close to half of output, experienced a markedly lower growth rate in 2011/12 of 4.9 percent, compared to 9.0 percent in 2010/11. This was explained by a decline in crop production growth from 10.3 to 5.0 percent (Figure 1.5). Despite the emphasis in the GTP on agricultural commercialization, very limited financial resources are available for private initiatives and productivity enhancement.

A difficult external environment also took its toll on growth. Economic activity declined among trading partners, including the EU, China and neighbouring countries (Figure 1.1). International prices for coffee, Ethiopia's biggest traditional export crop, declined by about a third. Only gold prices remained high and stable in the first half of the fiscal year, though prices have dropped recently (Figure 1.2). As a result, the positive growth impulse from net exports in the two previous years converted into a drag on growth in 2011/12.

Fig. 1

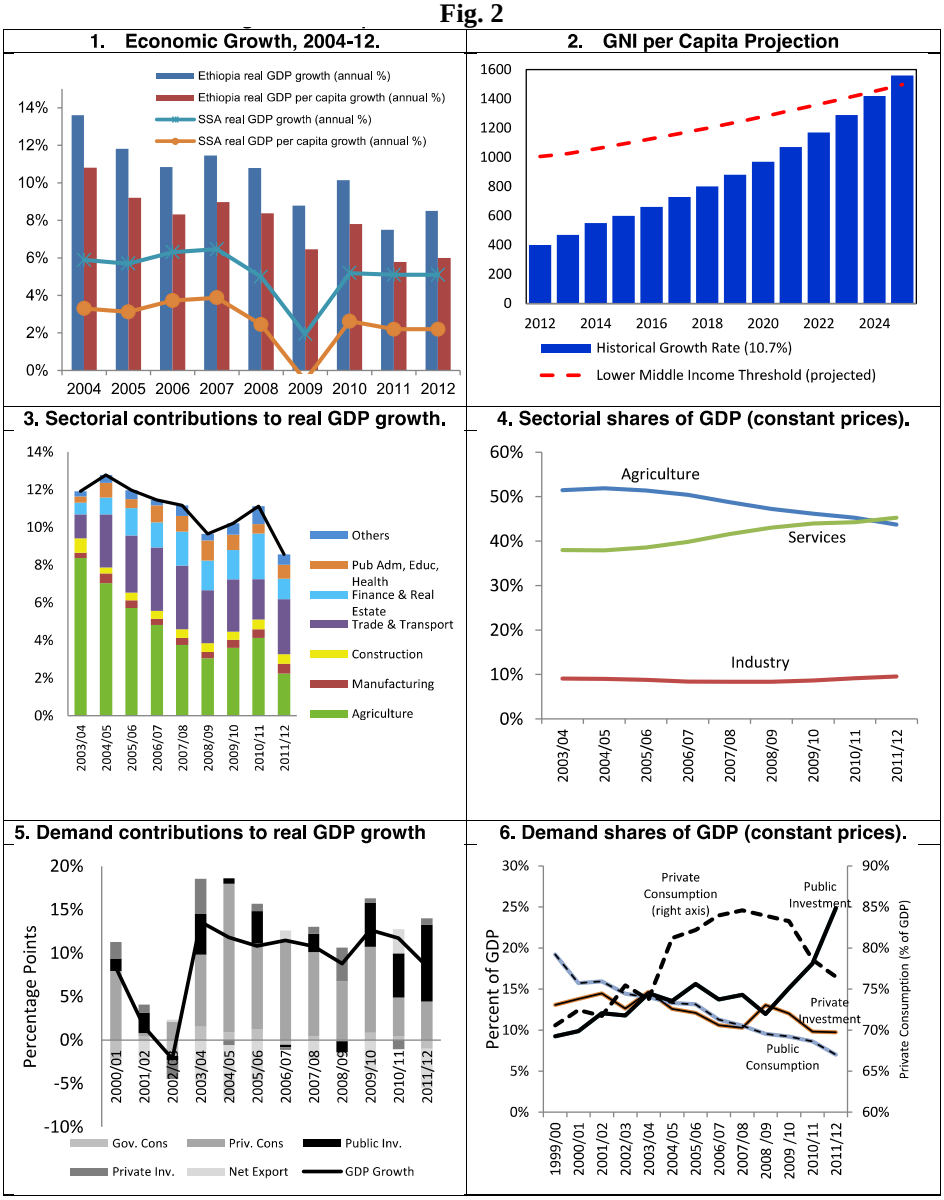


Source: 1.1: World Bank (2013), 1.2: Calculations based on MOFED data. 1.3. EUROSTAT. 1.4: World Bank. 1.5: CSA. 1.6. EEPCO. Note: Demand side decomposition uses GDP deflator for individual items. Note: Figure 1.2 prices are quoted in dollars/barrel (oil), cents/kg (coffee, Arabica), and US$ per troy ounce (gold).

Beyond the short term macroeconomic analysis previously discussed, the examination of the economic growth sources shows a declining role of both private consumption and investment, while public investments are on the rise (Figure 2.5 and 2.6). Between 2007/08 and 2011/12, public investment increased from 14 to 25 percent of GDP. Private consumption, on the other hand, declined from 85 to 77 percent of GDP. Public consumption fell from 11 to 7 percent of GDP; while private investment fell from 13 to 10 percent of GDP with the residual being explained by net exports. Such trends might hamper the Ethiopian aspiration to become a middle income country by 2025 (figure 2.2). The next sections explore the reasons why those trends should be reverted and what role should be played by the international and bilateral cooperation to support the private sector development.

To conclude this section is worth noting that Ethiopian economic growth data are highly debated. While the government projects growth to remain above 11% annually, the IMF expects the annual growth to decelerate to 6.5% in the medium term due to limited opportunities for the private sector to leverage the large public investment, crowding out of private sector credit, and entrenched inflation expectations. The debate involves also the data gathering and the methodology to calculate the GDP and other macroeconomic variables. The accounting data used for macroeconomic purposes are considered unreliable by several international observers. The methodology used to aggregate data in the service sector is flawed by numerous duplications. The mechanism for collecting socio-economic data is altered by propaganda, the need to attract foreign investment and over-reporting to please supervisors. In the case of agricultural production, for example, the growth is systematically inflated. The phenomenon is evident when growth is checked with data on the use of fertilizers and weather conditions. Finally, in a strong inflationary context, public officials and members of the government suffer often of ' monetary illusion ' and confuse ' face value ' and ' real ' results. Should we therefore conclude that actually Ethiopia is not growing at all? Absolutely not, we simply suggest handling official data with care and conservative attitude.

Fig. 2



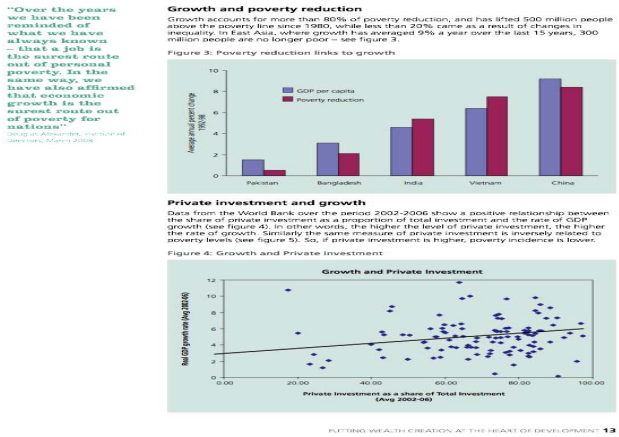
Source: 2.1: MOFED and IMF. 2.2: WB data. 2.3-2.6 WB calculations based on MOFED data. *Note:* The demand composition of GDP growth is based on WB estimates using the GDP deflator for individual demand components.

The scope for private sector

The Growth and Transformation Plan sets clear and ambitious targets to be reached by Ethiopia in a short period of time. As mentioned before, the country aims to achieve middle income status by 2025, through accelerated growth and sustainable development. This goal cannot be achieved without an adjustment in economic policy to phase in the private sector as an additional engine of growth. Moreover, Ethiopia needs to make progress in enhancing domestic savings, and, resolving the bottlenecks of the trade logistics system.

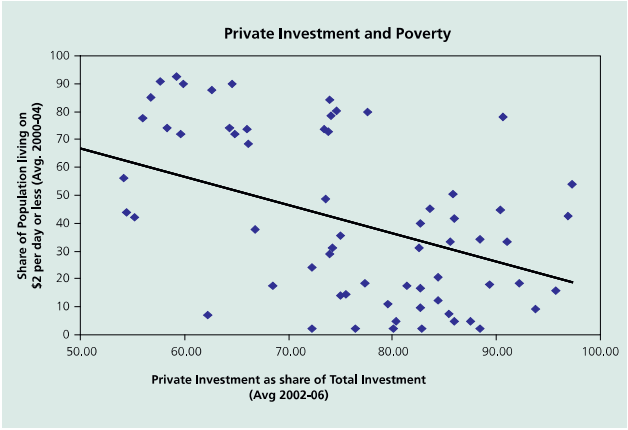
Economic growth will require that the productivity of existing activities is increased, including a more efficient and profitable agriculture sector, and that new and diversified economic activities are developed. Both lines of effort require investments by the private sector. Evidence clearly shows a positive relationship between the share of private investment as a proportion of total investment and the rate of GDP growth (figure 3). In other words, the higher the level of private investment, the higher the rate of growth (for example Haiti, Argentina and Sri Lanka have low level of private investment and low rate of growth, while Korea, Singapore and Brazil have a high level of private investment and high rate of growth). Similarly the measure of private investment is inversely related to poverty levels (figure 4). So, if private investment is higher, poverty incidence is lower.

Fig. 3



Source: World Bank.

Fig. 4



Source: World Bank.

Nine out of ten jobs in the developing world are in the private sector. More accessible and competitive markets enable poor people, including youth and women, to find their own way out of poverty by providing more real choices and opportunities. Markets that function well have wider economic benefits too. They encourage firms to innovate, bring and disseminate new technologies, reduce costs and provide better quality jobs, goods and services to more people. According to the last Africa Economic Outlook [6], given the continent strong population growth and the necessary downsizing of the public sector in many countries, a vigorous private sector is the most important source of jobs for the young.

Moreover exports generated by the private sector expand forex earnings needed to buy inputs for building infrastructure. Similarly, the taxes that private companies and individuals pay fund core government functions such as delivering health and education services. Effective tax collection from companies and individuals builds capacity and accountability on the revenue side of public finance, as well as provides resources for public expenditure.

The structural transformation envisaged by the GTP includes a more professional and value-added agriculture sector and a progressive reduction of agriculture to the benefit of industry. These changes will be inevitably accompanied by a process of urbanization. Only the expansion of the private sector might absorb the large number of workers that are expected moving from the Ethiopian countryside to the growing towns.

For poor men and women, the private sector might offer empowerment. The poor live in the private sector – they buy and sell labour, goods and services in private informal markets. To the extent that international labour standards are applied and civil rights guaranteed, poor people who create or join an enterprise gain voice and dignity. When they earn higher incomes they increase their ability to exercise choices and reduce their vulnerability.

The private sector is not a 'sector' in the way we refer to transport or education. Private companies are part of the fabric of society and operate in all the areas important to the lives of the poor. Also, private companies, not affected by cronyism, which is actually a relevant problem in Ethiopia, can have a different performance culture to government agencies. They are often subject to competitive pressures in markets, and their owners, management and staff are rewarded according to their ability to generate profit. Since profit is an easily measured indicator of performance, it can be used to make rapid adjustments to the deployment of resources in relation to achievements. And, inevitably, companies that do not make profits go out of business. This simple feedback process is the reason why private companies are generally more efficient and innovative than their local counterparts in government service.

This is not to say that there is not an important role for a developmental state, which has already been proved effective in Ethiopia. We would like just to encourage the forging of an effective relationship between the state and private organizations based on comparative advantages in order to provide a sound foundation for successful development. The capability of the state underpins political and economic stability and helps ensure that human rights, personal safety and the security of property are respected. And the state is generally primarily responsible for the provision and regulation of infrastructure, health and education. The state also plays a critical role in providing the institutions required for private companies to grow. It sets the climate for investment and commerce through trade policy, competition policy, regulation of utilities, commercial justice systems, taxation, land reforms, labour codes and environmental management. Markets themselves can be seen as institutions with their own 'rules of the game' that are set by historical, political and cultural factors. It is the role of the state to arbitrate between competing claims on resources and to maintain stability.

The state plays an important role to overcome market failures. It cannot be assumed that conventional economic policies such as market liberalisation will automatically reduce poverty through a 'trickle-down' process. On the contrary, it is now widely accepted that specific measures are needed to ensure that the poor participate. Growth needs to be made available to all in order to address rising inequality, and provide opportunities and the capability to participate in markets. It is justifiable for donors to support government interventions in markets where there are significant failures and inefficiencies which limit private sector growth and prevent the participation of poor men and women, such as in the following remarkable cases:

- monopoly or imperfect competition. If a few producers gain sufficient market power, they can exclude potential competitors, restrict supply and charge higher prices. This is the case in many developing country markets, especially where investment costs are high. Where competition is limited or distorted, it is usually the weak and poor who lose the most.
- Asymmetrical information. Instead of all buyers and sellers having access to the same knowledge, some producers or consumers may lack information, allowing others to exploit their ignorance. Poor information may prevent producers meeting the needs of consumers, and be partly to blame for the failure of financial markets to lend to the poor, and for suppliers of consumer goods failing to meet the needs of the poor.
- Social exclusion. Markets where specific social groups such as women, ethnic minorities or castes face discriminatory barriers that prevent or discourage market participation.
- Incomplete markets. Markets in some developing countries can be either non-existent or too 'thin' to function properly. Because of problems such as high risks, high transaction costs, high transport costs and short time horizons of investors, markets only provide for the needs of the wealthier few. Consequently, the reach of the market is limited.
- Coordination failures. For markets to work, they often need complementary markets and functions to develop with them (for instance, rice and the supply of rice processing machinery). Where price signals fail to cause the complementary market to develop, a co-ordination failure occurs, preventing the growth of the market or causing it to be incomplete.
- Externalities and public goods. Some activities produce positive or negative effects that are not reflected in the market price. For example, the costs of pollution are not reflected in the costs of the producer. This means that the market over or under supplies some products. 'Public goods', such as basic health and clean air, are non-excludable and non-rivalrous. In these cases often the state can better regulate production and consumption than the market.

Having acknowledged the key role of the state to support development - we would like to stress that vibrant, competitive markets populated by dynamic private companies offer the most effective way to create wealth, productive jobs and prosperity for all on a sustained basis. Wealth creation is at the heart of development. The evidence is clear – increasing incomes amongst the poor leads to better educated and healthier poor people. The involvement of poor people in economic growth is the best way to get people out of poverty and represents the exit strategy for aid.

The state of private sector in Ethiopia

The GoE is right in asserting that Ethiopia's private sector is weak. The years under the communist Derg, with its policy of almost total state ownership, and the constant civil war, ensured that the private sector died during that period. The best entrepreneurs fled abroad. In recent years, parts of the Ethiopian diaspora have returned but the level of entrepreneurship remains low. Data from the World Bank shows that the rate of formal enterprise creation in Ethiopia is amongst the lowest in SSA.

The World Bank Enterprise database [7] shows that only a limited number of limited liability companies are registered. Taking into account other types of business does not change the view that entrepreneurship is low. The annual rate of business registration of less than 7,000 in Ethiopia contrasts with Ghana where over 45,000 businesses are registered annually. Ghana's population is about a third of Ethiopia's. Even when account is taken of the informal sector, the level of entrepreneurship remains low. The Ministry of Trade estimates the number of informal businesses amounting to 1.5 million. This contrasts with nearly 7 million in Nigeria, a country with less than double of Ethiopia's

population.

Private corporations, which represent the formal private sector, generate just 27% of GDP. Much of private sector GDP (80%) comes from the informal economy, especially informal agriculture. These corporations employ just 5.8% of the workforce. The vast majority of the work force, some 88%, is informally employed. In 2011, the World Bank estimated [8] that private gross fixed capital formation accounted for just 4.1% of GDP in Ethiopia. This is well below the Sub Saharan African (SSA) average of 13.4% of GDP and less than a fourth of the 20% achieved in the Far Eastern countries (such as China, Korea, and Singapore) that GoE seeks to emulate. The low level of domestic private investment is reinforced by one of the lowest rates of net foreign direct investment (FDI) in the world. According to the IMF, FDI represents just 2.5% of GDP in 2012 [9].

There are few large domestically grown businesses in the country. Moreover, what the literature traditionally identify as 'genuine private sector', has been dwarfed by the activities of two large blocs: the Midroc 'empire' owned by Sheikh Mohammed Alamoudi, and the so-called 'party-associated' enterprises, belonging to the conglomerate EFFORT. The Endowment Fund for the Rehabilitation of Tigray, EFFORT, was established by the TPLF as a means of co-ordinating the effective developmental use of the material and cash resource in the possession of the at the end of the war with the Derg. Under the umbrella of the foundation, and sister organisations in other EPRDF-administered regions, a range of commercial enterprises and factories were established, dealing in trade, agriculture, fertilizer, cement production, textiles and garmenting, livestock and leather, ground transport, mining, engineering, and finance. Together these represent an enormously influential and strategically integrated bloc, dominating key sectors of the economy [10].

There is state monopoly or state dominance in sectors such as telecommunications, power, banking, insurance, air transport, shipping, and sugar. State-owned enterprises have considerable advantages over private firms, particularly in the realm of Ethiopia's regulatory and bureaucratic environment, including ease of access to credit and speedier customs clearance. Local business owners as well as foreign investors complain of the lack of a level playing field when it comes to state-owned and party-owned businesses. While there are no conclusive reports of credit preference for to these entities, there are indications that they receive incentives such as priority foreign exchange allocation, preferences in government tenders, and marketing assistance.

Beside these large actors, the vast majority of businesses are small, sole proprietorships. In Ethiopia, even amongst limited liability companies, the vast majority are micro and small enterprises employing less than 50 persons and with capital employed not exceeding $300,000. There is a missing middle of medium scale enterprises [11] with a consequent limited potential to create new jobs.

Clearly, historical factors have restricted entrepreneurship and private investment. But there are constraints at present, well known from the government side, that are limiting entrepreneurship and private investment. In the occasion of the Prime Minister Investor Conference in 2012, the public private consultative forum, has identified a number of specific problems to be urgently addressed: sudden changes in regulations without any grace period, unclear and inconsistent application of regulations, inadequate coordination between Government implementing agencies, business licensing/registration problems (length of time taken to obtain a licence, requirement to obtain a licence for each specific business activity, requirement to renew it annually, no permission to manage more than one business), tax system issues (double taxation, retroactive implementation), and rise of corruption.

Responsibility and ownership for the facilitation of private sector investment remains fragmented and unclear, particularly in the agriculture sector where numerous ministries and agencies appear to have interest and/or mandates to improve investment. The Parliament has approved a new investment law in November 2012, which, however, fails in clearly outlining roles and responsibilities of the numerous ministries and government entities involved in trade and investment.

In addition to all constraints to private sector development examined so far, a cultural issue is worth to be explored in order to understand why after 20 years from the restoration of the rule of law and the market economy, entrepreneurship and private investment are still so low. Economic success in Ethiopia is regarded with suspicion. In particular among the orthodox believers (45% of the population) is still deeply rooted the idea that "making money" lies in the realm of devil's affaires. Among EPRDF politicians and top government officers, a similar suspicion stems from their ideological background in Marxism and command economy. The two phenomena magnify when combined. As a result, beyond official statements in favour of the market economy, the executive choices of the government and the attitude of the society are often not favourable towards private small and medium entrepreneurs. A clear example can be identified in recent unjustified entrepreneurs imprisonments based on sector estimation of taxes due regardless of the actual profit generated by the specific business. Unsurprisingly the culture of entrepreneurship remains poorly developed in Ethiopia.

A new role for the development cooperation

For a long period of time the development cooperation in Ethiopia has focused on social sectors such as health, education and food security. Those sectors are important, but they are not enough to face the challenges and contradictions analysed above. Currently only 2% of ODA is allocated to private sector development [12]. More should be done and development cooperation in Ethiopia has to evolve to find no-distortive and sustainable ways to support the economic growth of the country.

PSD approaches have evolved over the years. Earlier programmes in the 1980s focused on providing finance and

support services to individual businesses – often with an implicit or explicit subsidy. Aid was commonly tied to the purchase of goods and services from donor countries' companies. While this enabled some businesses to grow, it did little to promote wider market development in either financial services, or in business support services. In the 1990s, as concerns about the importance of poverty reduction increased, the attention of PSD programmes shifted towards small and medium enterprises and microfinance.

More recent PSD thinking has focused on the market system as a whole and on the overall environment for business. This has led to programmes that support the improvement of the business climate, regulatory reform and enhancing market development. Despite these trends, donor support for PSD in Ethiopia remains fragmented. There is plenty of innovation but only few mechanisms that enable co-ordination and learning, among them the PSD Sector Working Group, bringing together the Government and the donors is one of the most effective. A promising additional initiative is a Multi Donor Trust Fund proposed by the Italian Cooperation and led by the International Finance Corporation (IFC), articulated in two main pillars (investment climate and access to finance) meant to bring on board and coordinate as many donors as possible. However the problem remains, given that incentives facing different donors vary widely. Bilateral donors are influenced by political priorities, while multilateral lending agencies face the need to develop and expand their loan portfolios.

Looking at the broader picture, as commercial interest in developing countries has grown, there has been a significant rise in private financial flows in the form of remittances and investment. These are now bigger than official Overseas Development Assistance (ODA) in general [13], and potentially relevant for Ethiopia. The rise of the 'BRICS' (Brazil, Russia, India, China and South Africa) reveals a shifting world order in which former recipients of aid become donors themselves. New donors, including China and India, take very different approaches. Other new entrants include private 'philanthro-capitalists' such as the Gates and Google foundations and the vertical 'single issue' global funds.

Within this environment, development partners need to address a number of key issues if they are to effectively support private sector development in Ethiopia. These include:

- forging and disseminating an entrepreneurship culture at all level in the society.
- Making the best use of an emerging common interest in sustainable development between private companies and development agencies. An example is the New Alliance for Food Security and Nutrition committed between the Government and the G8 to working together to generate greater private investment in agricultural development, scale innovation, achieve sustainable food security outcomes, reduce poverty and end hunger.
- Attracting more private sector participation in both the financing and provision of key development-related services such as infrastructure and some health services.
- Ensuring that the rapidly evolving and integrating global trade and financial systems work for the benefit of people and companies in Ethiopia.
- Increasing the private sector development performance of international agencies.
- Engaging with new and emerging donors such as China and India who are making significant trade-related PSD investments in Ethiopia or the vertical funds.
- Improving knowledge management of private sector development impacts to disseminate best practice more effectively.

Supporting PSD could lead to a substantial positive impact on development results for all the reasons that have been set out. But this will require that donors and their staff begin to think about how to incorporate PSD in all the appropriate areas of their work. For example, livelihoods advisers already look at markets and links with the livelihood opportunities for the poor. Infrastructure advisers should expand their work on private sector participation in the financing and delivery of infrastructure services. Other advisers could explore how markets and innovative public-private partnerships could improve the delivery of other core services to the poor – including health, education and environment. Labour experts should seek strong co-operation with the private sector to understand employers needs and create opportunities for young people in the form of apprenticeships and internships. Governance advisers could further examine how the state operates to improve the business' performance and behaviour.

Particular attention should be paid by the international community in all the initiatives at firm level support. Not only to avoid market distortion, but also the risk to increase the privileges of the 'cronies' above mentioned and jeopardize other initiatives for the creation of a level playing field. In this view a simple stock taking exercise of the existing support at firm level may significantly help.

Finally, the donors' strategy should build on areas that have already proven successful in PSD, such as improving access to the financial sector, market development, infrastructure financing and investment climate reform. But the strategy should also foresee continued innovation and experimentation, such as the use of challenge funds, venture capital, transparency initiatives and other facilities for developing partnerships with private firms and foundations.

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Imagining cultures of cooperation:
Universities networking to face the new development challenges
III CUCS Congress
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PROCESSO DI PIANIFICAZIONE DELLE CATENE ALIMENTARI
PER LA CREAZIONE DI SISTEMI ALIMENTARI IN UN'OTTICA DI SVILUPPO LOCALE

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ABSTRACT

Il poster sintetizza alcune delle componenti tecniche che sono state utilizzate in una serie di azioni attivate in Repubblica Dominicana per la progettazione di sistemi agroalimentari locali sostenibili. Tali sistemi si basano sulla mobilitazione di una pluralità di attori che, attraverso percorsi di partecipazione e di concertazione istituzionale, definiscono insieme uno scenario di azione comune che ha come scopo il consolidamento di sistemi di produzione e di consumo il più possibile basati su un cicli locali.
La Repubblica Dominicana è uno dei luoghi di implementazione di approcci che i membri del Laboratorio di Progettazione Ecologica del Politecnico di Milano (LPE) hanno perfezionato in circa quindici anni di studi e sperimentazioni, combinando competenze e tecniche afferenti principalmente ai mondi delle scienze del territorio, dell'economia, degli studi istituzionali e dell'animazione sociale.
Le attività in Repubblica Dominicana sono cominciate nella fase iniziale del progetto di cooperazione decentrata "Pull Down the Line," finanziato nell'ambito del programma EuropeAid e avente come capofila il Fondo Provinciale Milanese di Cooperazione Internazionale. Tale progetto aveva una serie di obiettivi legati al miglioramento delle relazioni transfrontaliere tra Haiti e Repubblica Dominicana e basati sul consolidamento di competenze nelle municipalità e nelle loro reti.
Successivamente, grazie al supporto dello UNDP e di altri attori dominicani, gli stessi approcci sono stati perfezionati e implementati nella Provincia di Monte Plata in altre aree del paese, integrandosi a più livelli con diverse programmazioni di scala regionale e nazionale.
Con diverse declinazioni e forme di implementazione gli strumenti qui elaborati sono anche utilizzati in altri progetti sul territorio nazionale e in contesti internazionali, interpretando in senso proprio il senso delle attività di cooperazione come mutuo apprendimento a più livelli.

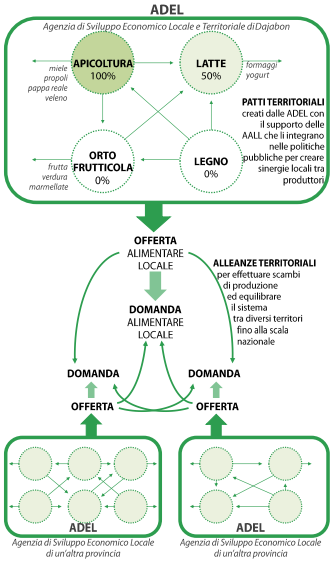
CATENA DI VALORE TERRITORIALE

Una **catena** produttiva genera un valore territoriale quando interconette tra di loro servizi, attività economiche, aspetti sociali ed implicazioni ambientali generando per ciascuna di esse un valore aggiunto nel territorio.

Una catena di questo tipo comprende ad esempio: un prodotto primario; attività formative; tecnologie ed infrastrutture per la sua trasformazione; servizi di commercializzazione; mobilità; ricerca e sviluppo dei processi; l'accesso ai mercati.

Tutte queste attività aggregano valore al prodotto di base contribuendo al suo sviluppo continuo e consentono alla catena di acquisire un valore superiore alla somma dei passaggi, così da diventare una **risorsa strategica** per il territorio.

Questo è attuabile solo solo se viene creata una forte relazione tra tutti gli attori (economici, sociali ed istituzionali) in grado di consolidare nel tempo una fiducia che radichi nel contesto locale le basi per lo sviluppo.



APPROCCIO METODOLOGICO

Lo schema sintetizza la metodologia attuata per la pianificazione delle catena di valore alimentari. Gli elaborati, qui semplificati, riguardano la sperimentazione pilota attuata nella Provincia di Dajabon (progetto Pull Down The Line, capofila FPMCI, cofinanziamento EuropeAID) e poi estesa e ridefinita nella Provincia di Monte Plata con l'obiettivo di creare un Piano Rurale Strategico che garantisca la sicurezza alimentare mettendo a sistema, in modo integrato, gli apporti delle singole catene.

1 FASE PRELIMINARE
Attività di conoscenza del contesto ed inserimento nelle dinamiche locali per diffondere il progetto, presentarlo e coinvolgere attivamente gli attori anche al fine di disegnare, in modo partecipato, la metodologia di intervento e riadattarla al contesto incontrato.

2 FASE ANALITICA
Costruzione di un pacchetto di informazioni utili ad identificare lo stato attuale della catena di valore e definire, in modo puntuale, le diverse componenti che contribuiscono alla sua definizione.
L'analisi è strumentale a descrivere in modo visuale la filiera, evidenziandone le caratteristiche ritenute centrali e focalizzando l'attenzione sugli ambiti che verranno in seguito trattati progettualmente. In questo momento devono essere prodotti dei materiali intermedi che consentano agli attori di comprendere la bontà del processo e motivarli al rispetto degli impegni che verranno assunti.

3 FASE INTERPRETATIVA
Decodificazione delle varie componenti della catena di valore per contribuire positivamente al suo miglioramento complessivo. L'interpretazione deve far emergere, tra gli elementi precedentemente identificati, le potenzialità e le criticità al fine di consentirne un loro trattamento.

4 FASE PROGETTUALE
Gli esiti dell'interazione con gli attori locali sono il punto di partenza per la definizione dello scenario strategico, strumentale al trattamento integrale dei vari aspetti identificati. Per evitare un semplice elenco di attività che si intendono implementare, è necessario includere una componente che descriva in modo organico e chiaro come ogni azione garantisca la sostenibilità delle altre contribuendo alla loro efficacia.

STRUMENTI

TAVOLO LOCALE
Per operare nel territorio è stato organizzato un "Tavolo Locale" ovvero un evento pubblico di lancio al quale hanno partecipato i rappresentanti della comunità: autorità locali; associazioni culturali, giovanili, religiose; produttori alimentari; attori della cooperazione. Nel tavolo si è identificata la strategia di intervento per concertare gli sforzi ed evitare duplicazioni.

QUESTIONARIO GEOREFERNZIATO
Le informazioni sono state ottenute attraverso un questionario appositamente creato e condiviso con i dirigenti della catena apicola, è stato compilato direttamente dallo staff di progetto colloquiando con ogni singolo produttore; quest'attività interattiva ha consentito di instaurare un rapporto più diretto con tutti gli attori. Esso approfondisce contenuti attinenti agli ambiti sociali, economici, produttivi, ambientali e territoriali.

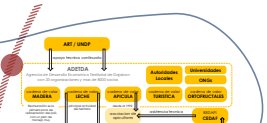
FOCUS GROUP
Incontri partecipativi con i produttori per socializzare l'analisi realizzata ed indagare nello specifico le necessità della catena nel suo insieme, accorparle in gruppi omogenei e, all'interno dei gruppi, individuare e prioritizzare un elenco di attività che risolvano i problemi emersi.

SISTEMATIZZAZIONE
Schematizzazione delle informazioni risultanti dai focus group e creazione della cartografia di scenario strategico.

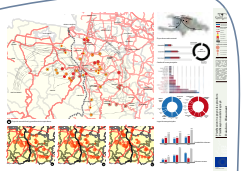
PRESENTAZIONE AGLI STAKEHOLDER
Per garantire l'attuazione e sostenibilità dello scenario è stato organizzato un evento invitando tutti i rappresentanti degli stakeholder ed in cui lo staff di progetto ha presentato dinamicamente il processo ed i risultati ottenuti. In quell'occasione ogni rappresentante ha indicato concretamente come la sua istituzione può appoggiare l'esecuzione dello scenario.

RISULTATI PRODOTTI

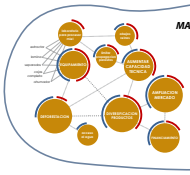
MAPPA DEGLI ATTORI LOCALI
Dalla discussione nel "Tavolo Locale" è emerso che l'Agenzia di Sviluppo Locale (ADETDA) aveva definito le Catene di Valore del territorio organizzando i produttori in associazioni. La pianificazione appoggerà tale processo già in corso, lavorando inizialmente con le catene del miele e del latte, per sviluppare un protocollo pilota con l'intento di replicarlo su tutte le altre catene territoriali.

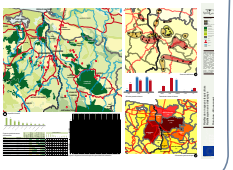


CARTOGRAFIE ANALITICHE
Rappresentazione dei dati su supporti cartografici che mostrino le relazioni tra il territorio e gli elementi propri della catena di valore, nello specifico sono stati individuati: i luoghi e la quantità della produzione (ultimi tre anni); le città ed i canali di vendita; la diffusione territoriale dei parassiti; il sistema ambientale che contribuisce alla qualità del prodotto.

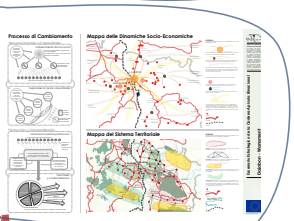


MAPPA DELLE NECESSITA'
Articolazione delle necessità locali individuazione partecipata delle attività da sviluppare per risolvere i problemi.





CARTOGRAFIA DI SCENARIO
Rappresentazione visuale del processo di cambiamento:
(1) rafforzamento tecnico (cabina di regia);
(2) miglioramento delle capacità dei produttori;
(3) infrastrutture per la produzione;
(4) mercato e commercializzazione.
Lo scenario è il disegno delle componenti dell'assetto territoriale che sono emerse dal processo e contiene la rappresentazione delle dinamiche socio-economiche e degli aspetti ambientali e territoriali considerati all'interno del processo stesso.



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CUCS TORINO 2013

Imagining cultures of cooperation:
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"Best Practices in Microfinance: evidences from the International Award"

Maria Cristina Negro
General Secretary
Giordano Dell'Amore Foundation

Dario Peirone
Assistant Professor of Management
Department of Economics and Statistics "Cognetti de' Martiis", University of Turin

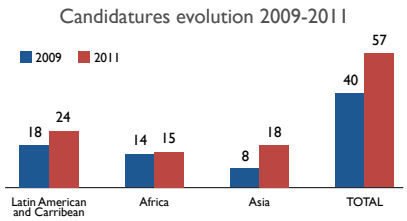
ABSTRACT

The "Giordano Dell'Amore Microfinance Best Practices International Award" promoted every two years by our Foundation is opened to institutions from any developing or transition country outside Europe involved in the delivery of microfinance and related services. The Award has 3 main objectives:

- to increase the public awareness on the importance of microfinance;
- to encourage the exchange of experiences, the sharing of thoughts and in-depth analyses;
- to highlight and make known the best experiences of microfinance that combine innovation and sustainability.

During the last two editions the Foundation received a total of 97 candidatures from 60 countries.

The selection of the 5 finalist institutions as well as the winner, which receives € 50.000, is realized by the Award Committee composed by international experts accordingly 4 criteria: innovation, sustainability, impact and replicability.



OBJECTIVES

The main aim of the present work is to evidence different aspects considered as best practices based on the analysis of the experiences of the finalist institutions within the two editions of the International Award organized by the Fondazione Giordano Dell'Amore.

ACHIEVED RESULTS

In terms of **innovation**, it is essential to take into account the clients' characteristics realizing a preliminary in-depth study. For example, a MFI developed an ad hoc product to promote inclusive business in the timber value chain where the sales contract represents the guarantee and the only precondition. Another element is represented by the Social Performance Management whose implementation requires a strong institutional commitment, especially at board level, and the creation of an institutional culture. A third area emerged focuses on innovative financial systems like the creation of a special *Trust Fund* to implement public works through community participation or the *cooperation agreement* with external enterprises.

Moving to **sustainability**, the main strategies toward its achievement are:

- adoption of a decentralization model where the branch offices act as independent cost and profit centres;
- use of technologies and design of products able to quick reach scale (i.e. mobile banking).

MFIs are deeply concerned about **impact** using different monitoring systems to check, measure and understand it on an ongoing basis. The assessment usually focuses on client's situation both in terms of economic and no-economic indicators; but it can also focus on the institution as a whole with a great stress on client protection; on the environment (i.e. reduction of emission) and on the society (i.e. role of new "neighborhood organizations"). In terms of **replicability**, all the experiences had the potential to be replicated even if they probably need time, determination and resources to ensure proper understanding and thus successful execution. Sometimes the same MFI provides Technical Assistance to other organizations through its senior officials.

The main characteristics of the ten experiences are:

- MFIs are *actives since '90s*.
- Most of MFIs offer *financial services* (microloans but also microsavings, microinsurance and fund transfer) and no *financial services* including groups' organization, animation and training as well as business development services or other social services.
- MFIs are small or medium-size. The average *portfolio* (excluding minimum and maximum value) is less than € 40.000 with around 100.000 *clients*.
- The *average loan size* ranges from € 100 to € 3.000 with a majority of less than € 500 showing the commitment to serving the really poor segments of the population located especially in rural area.

CONCLUSION

Considering the general debate on the role of microfinance, the Foundation is convinced that microfinance represents a powerful tool in the fight against poverty and social exclusion, nowadays more than ever due to the international crisis. This role can be improved adapting the methodologies and systems to the clients' needs as well as assessing the impact of microfinance on the lives of the microentrepreneurs as emerged by the analysis of the ten finalist experiences of the two editions of the "Giordano Dell'Amore Microfinance Best Practices International Award" which are summarized in the special publication realized by the Foundation.

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MICROFINANCE BEST PRACTICES AWARD
FONDAZIONE GIORDANO DELL'AMORE

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COMMUNITY MANAGED MICROFINANCE EXPERIENCES IN EUROPE: THE SELF-FUNDED COMMUNITIES

Patricia Rodriguez Pulido, ACAF - Universidad Autonoma de Madrid
Francesca Lulli, ACAF - Universidad La Sapienza Roma
Abdoulaye Fall, ACAF - Universidad Autonoma de Barcelona

Abstract

The recent crisis on the financial system has opened up new opportunities for non-traditional financing models. Despite of the worldwide development of microfinance sector, we are still a long way from offering to vulnerable people and population in Europe a transparent, tailor-made and quality microfinance products and services to cover their current needs. Self-funded Communities (SFC) methodology has been designed to satisfy local demands of financial services for various types of individuals. European SFCs are usually groups of low-income people who buy shares to create a credit fund, from which they finance themselves. The target population is mainly people at risk of poverty or social exclusion in Europe. SFCs are already operating in six countries in the EU.The model is being used by the members not only for covering basic financial needs but also for fostering solidarity, social cohesion, informal learning (learning by doing and learning by sharing) and a sense of community.

Premise

European low-income families can and do save but they have troubles accessing safety financial services that meet their needs. SFC experience shows that organizing the communities through savings is an efficient strategy to help European low-income families to face unexpected living expenses and to make choices which will improve their lives. Learning from Southern Microfinance experiences and putting at the center the community, it shows us that the key to getting out of poverty in Europe isn't just credit.

Methodological approach

The SFC methodology is based on a community managed microfinance approach. The people, organized in groups (called SFCs) are able to save small amounts of money (micro savings), to borrow money (microcredit), to manage their own finances (financial education) and to earn some income at the end of the financial year (micro investment) coming from the profits of group-lending. The members of each SFC are co-founders and co-owners of the group. The decisions are democratic and the rules are written, shared and known by all the group members.

Achieved Results

Only in the EU, 95 groups have already been created, which means around 1600 members and around 5600 indirect beneficiaries. The rotated capital in 2012 has been around 988.000€ in 2.470 microloans, and the average return on savings stands at 12%, which means a sum of 61.985 €. The repayment rate is 98% and the mean loan is of 400€. In Spain up to 78% of the SFC's members are migrants but due to financial crisis saving groups are becoming an attractive and suitable option for young people and European families. 60% of SFC members say that the group is their only social network. In Hungary SFCs were set up amongst low-income Roma groups in rural areas and in Italy three pilots project were set up among youth (in Central Italy), migrant communities (Southern Italy) and people with mental health disorders (Northern Italy).

Conclusion

From a theoretical standpoint, the SFC represent a challenge that need further involvement. Real practices of community managed financial capital (strictly interconnected with social capital) implemented in developing countries stimulate a reflection on the possibility of reaching a social and economic balance in European countries, capable of recreating or extending the network of resources of those people whom the current economic system is forcing towards social exclusion and financial illiteracy. Mutualism and community managed microfinance practices in Europe could reinforce the savings culture, increase financial security and reduce vulnerabilities and barriers, fostering a safe way to save and building communities resilience and empowerment in European countries. It is definitely a way of moving towards a democratic, transparent, trustable and sustainable microfinance system.

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Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

Economic growth, inequality and new measures of well being. Preliminary issues and fieldwork.

Andrea Salustri, Tor Vergata University Economic Foundation.

Abstract

Quality, social justice, equitable and sustainable well-being, landscape are all meanings that refer to the idea of **culture, cooperation and community**. A preliminary research focused on these issues inspired the development of two projects, that are still in their start-up phase: an activity of food-sharing to be implemented at the local scale in Rome (**Bread & Roses**), and an activity of life, career and business coaching that aims at reducing the vulnerability of workers and of the unemployed, and at increasing the capabilities of NEETs in order to promote their inclusion in the labour market (**Paint Your Life**).

Achieved Results

The interaction between the formal and the informal economy can be viewed in cooperative terms rather than in competitive terms. The public sector can facilitate cooperation enhancing participation and improving the system of accountability in order to assign an economic value to social capital, non-profit and household production activities that might reduce income inequality and increase the individual and collective well-being.

Objectives

Further research is needed to: 1) identify ad hoc measures of value taking into account qualitative issues; 2) collect recent experiences of projects similar to Bread & Roses and Paint Your Life in order to highlight stylized facts and best practices that might be useful to support the activity on the field; 3) define a framework of analysis to illustrate the issues of main interest; 4) Provide recommendations to participants, volunteers and policy makers.

Methodological approach

Social networking, case studies, narrative analysis and theoretical analysis. **Further research should be dedicated to statistical analysis of economic databases.**

Conclusion

The financial crisis is global and involves both the formal and the informal economy. **The rise of new sources of poverty, the increase of social inequality and individual vulnerability, and the lack of economic growth are strictly interconnected and must be faced simultaneously**.

The introduction of quality in the economic models allows to link mid term and long term issues to short term analyses. Specifically, a long term view allows to account for the "intangibles" that are behind the main determinants of economic growth and development. **Cooperation is the major issue to address in order to find a way out the economic crisis. A way out that must be equitable, durable and sustainable**.

OPEN DATA AND OPEN ACCESS: WHICH KNOWLEDGE SHARING FOR DEVELOPMENT COOPERATION?

DATA AND INFORMATION ORGANIZATION FOR DEVELOPMENT COOPERATION AND KNOWLEDGE SHARING

Susanna Sancassani*

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ABSTRACT

The significant value of Open Data and Open Access, both as transparency tools toward public opinion, and as valorization of the results achieved by the institutions, is growing on a daily basis, at global level. Even the world of university cooperation can now take the opportunity to confront with the latter.
Regarding this topic, many are the questions upon which we would like to reflect together, especially looking at what we learned in the last few years.
Which could be the advantages and disadvantages for university cooperation, originating from a more and more intense data and information sharing? Which are the tools and the most suitable channels? Which indicators or objective systems will have to be monitored as priority in the next years?
Which will be, in the short run, the system of indicators that our institutions will need in order to address their policies and to make visible, within international contexts, the mainfold initiatives promoted in the local contexts?
In May 2013 in Geneva, UNESCO launched at the world summit on the Information Society Forum its new initiative for Open Access.
UNESCO is the first organization of the United Nations to make available to everyone, free of charge, its publications, with the possibility to readopt and redistribute them. Does it represent an interesting stimulus, even for universities involved in the field of cooperation? If we really were able to share methodologies, tools, approaches how much more and better could we do?
In times of abundant resources, finding synergies among work groups and projects could be considered an interesting added value; now, in a phase of more and more scarce resources, the knowledge sharing commitment could turn out to be an essential operative modality to continue guaranteeing an effective presence of universities within the cooperation field. Starting from here, the panel proposes to delineate possible answers, confronting the point of view of the universities, national and international institutions and stimulating a cooperative reflection.

PROPOSER
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PARTICIPANTS
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Gildo Baraldi – *General Director OICS (Osservatorio Interregionale Cooperazione Sviluppo)*
Paola Esena - *Programme Manager Polisocial, Fondazione Politecnico di Milano*
Federico Morando - *Director of Research and Policy & Research Fellow, Nexa Center for internet & Society, Politecnico di Torino*

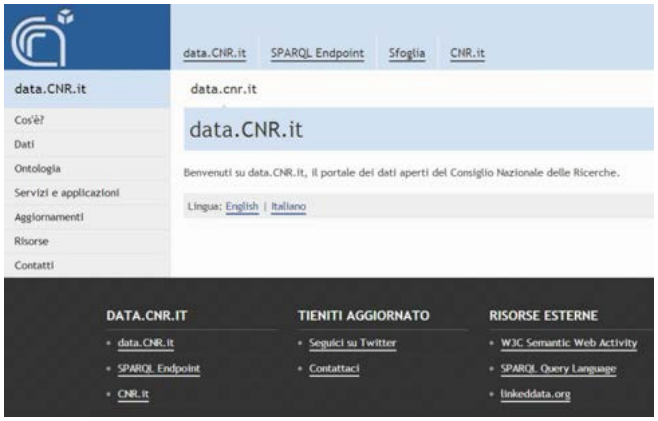
DISCUSSION

The panel opened up with an initial overview of the main initiatives on the theme of Open Data and Open Access, which have a direct impact on the Italian context.

Lucilla Alagna brought the experience of CNR on Open Data (http://data.cnr.it) and Open Access, starting from the underwriting by CNR of the *Berlin declaration*[1] and the *Position statement on open access to scientific research*

[1] Act which represents the European document of acceptance to the principles of open access for the research products financed with public funds and it defines the open access as an essential strategy to guarantee the diffusion and the reuse of research results from the scientific community and the civil society.

results in Italy (http://sito.entecra.it/portale/public/documenti/position_statement_oa_it.pdf), signed by CRUI (the Conference of Italian University Rectors) and the Italian research entities.



The motivations connected to the acceptance to the principles and strategies for OA defined within the scientific works and by the Global Research Council were discussed; more, Lucilla Alagna described the aims and actions of MedOAnet (Mediterranean Open Access Network http://www.medoanet.eu/), a national work group for the definition of guidelines to Open Access to research data in Italy.

The Science & Technology Digital Library (http://stdl.cnr.it/) project was presented; this is one of the initiatives of the Italian Digital Agenda for the use of ICT to favor growth, innovation and competitiveness, in line with the European Digital Agenda (EU Strategy 2020). The project includes the creation of a digital library which allows access and reuse of scientific data and the development of advanced technological solutions, in order of making the processes of scientific and technological research (open science) transparent and comprehensible, and the research financed by public funds (open access) available.

Afterwards, the attention was brought to a few aspects which deserve attention:

- the problem of the quality of research data in a reuse context: this means the need to keep a traceability of the sources and the process of re-elaboration of the data and researches. In this sense, it is necessary to encourage a participative approach and shared responsibility and to incentivize standard tools which could stimulate annotations made by those who own the data or reuse them;
- the identification of sharing processes which does not imply, necessarily, the free release, but which entails the study of business models able to sustain the Open Data approach;
- the possibility to create professional figures connected to such sector, arising from initiatives, projects and "lesson learnt" both national and international.

Among the strong points, one should notice that up until now a big quantity of data and research on various fields of knowledge was collected; more, exists a coherent legislation and a formal acceptance from the various research entities; the capacity of platforms implementation and data managing tools according to Open logics is concrete; there is the necessity to optimize resources.

The problems to be solved are related to the discrepancy of data and the complex interaction between the systems. This makes it difficult to create connections between different databases and the outward openness of well-organized sources.

Which are the suggestions for the future? First of all, it is necessary the study of actions which allow an always greater data circulation, homogeneity and compatibility of data and systems, and the creation of flexible indexes and search keys, universally accepted.

But even more important is the organization of moments and places, real and virtual, in which the discussion and the confrontation of the main representatives of the institutional and territorial entities connected to data management are kept alive.

Federico Morando shared the experience developed by Nexa Center for Internet & Society of Politecnico di Torino on the topic of Openness of public data, providing multidisciplinary insights on the good practices and on the most common obstacles. His participation highlighted the key points of a few concrete experiences, both local and international, drawing the recurring characteristics of the processes of public data access, in order to prevent or manage errors and the most common fears and highlight the opportunities of this scenario.

In particular, the reflections of Federico Morando originated from general considerations on the necessity to open data outwards in order to allow a greater new version and a better interpretation, to guarantee a stimulus of knowledge and innovation generation, and to have an impact both on the public as well as on the private sphere.

Regarding the specific context of the Italian Public Administration, it is significant to note the experience of Piemonte Region.

Data have been published in re-usable formats and organized in such a way so that they were easily searchable and re-usable without incurring in problems of misinterpretation.

The main difficulty consisted not really in the technological context - however complex, since it has to offer tools able to collect and catalogue data coming from different sources, - but from the cultural sphere. Many of the people responsible for data management involved in the process were hesitant about the publication of important data, because of the scarce overview on the possible alteration by others.

Therefore, Open Access for PA means not only a project planning of the technological tools, the re-organization modalities and data interoperability in order to allow its search ability and reuse, but also the design and plan of a learning path for data managers to promote a complex cultural transformation: this learning action which leads the data managers to understand that the opportunity offered by the Open Access movement is a landmark "not only to favor the private sector innovation, and a democratic participation of the citizens, but also to increase efficiency in the public administration itself" as described in the "*white book for the reuse of information in the public sector*" (http://evpsi.org/librobianco), by Federico Morando.

This document, in a clear, direct, explicit and exhaustive modality, highlights the given opportunities, expedients, risks and common errors briefly revisited during Federico Morando's talk.

From the complex world of PA, the focus shifted to a similarly complex setting such as the one of cooperation for development.

Gildo Baraldi described the sphere of decentralized cooperation of the Italian regions, which consists in the creation and management of general partnerships between their territories and those of their foreign partners, finalized to the reciprocal social, economic, cultural and institutional development. It embraces all their International relations:

from cooperation for development to the support of international territorial processes, to the valorization of immigrant foreign communities and of the emigrant regional from and to the partner territories.

It is, therefore, fundamental to consult and inform the territory entities (ONG, universities, local entities, PMI, etc.) involved in the creation and actualization of these partnerships, to communicate their development and results, and adequately inform the citizenship on the use of public funds and the deriving reciprocal benefits.

The present economic difficulty plays a fundamental role in the cooperation: from the data elaborated by OCSE-DAC it is notable a direct relation between the crisis and the decrease of budgets that each Nation dedicates to cooperation and development. In this context it is important to understand that off-centered cooperation is not handouts, but it represents a reciprocal advantage of the partner territories. Thus, there is a synergy issue: it could happen that EU, Governments, regions, local bodies, universities, ONG support similar initiatives, therefore the effort goes toward data collection and sharing, in order to favor synergies and avoid duplications.

Starting from this context, that is wider and at the same time fragmented, it was easy to guess, how to insert with extreme "urgency" the discussion about Open Data: a free circulation of data and information, which does not spring from the collection mainly managed by the central entities, but which valorizes the input of the single local situations, could help to draw an image of a complex reality, with swamped places and resources. Open Data access can function as a stimulus for update and therefore for the acknowledgment of responsibility of the single local entities, while relieving the responsibility of the central organisms.

Numerous factors contribute to the diffusion of the Openness practice in the sphere of cooperation for development: above all, it stands out the diffusion of online services, which allow and stimulate circulation and publication of information and researches by the entities promoting cooperation and those who implement the projects.

Even in this sphere, a cultural change which stimulates a greater openness is however necessary: there is the need to understand that an Open Access Approach can lead to the creation of public and private subjects networks, active in the various territorial situations.

This was the main focus of **Paola Esena** participation who, starting from the direct experience of Polisocial (http://www.polisocial.polimi.it/), considered how much Open Data – hence the amplification of their impact thanks to their circulation, their reuse, and the discussion which originates around them – favors the creation of "network" contexts and project partnerships more and more effective and synergic.

Paola Esena also highlights the necessity and relevance to dispose of tools dedicated to share not only developed experiences and the related sharable and documented data, but even the new project ideas, to favor the creation of indispensable synergies to move around these complex settings.

BEYOND GDP: DEFINITION AND MAKING OF NEW WELFARE INDICATORS, REFLECTING ON CONCEPTUAL AND METHODOLOGICAL ISSUES

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The theme of the panel was proposed by **Filomena Maggino**, a scholar expert in statistics applied to social research. Particularly, Prof. Maggino investigates on the definition and implementation of systems of indicators, on the analysis and statistical measurement of subjective data (attitudes, opinions, preferences, perceptions, skills, ...), on the construction of models and methods of social data. Prof. Maggino introduced the topic with the following remarks: "*The definition of well-being, and consequently his observation and its monitoring , has to deal with the complexity of reality, on the one hand, and, on the other, with the limit imposed by its finiteness. In this sense, the definition and adoption of new indicators to measure the well-being of the Nations requires a paradigm shift and a mentality change in all social actors; on the other hand, it raises several methodological problems related to the complexity of reality and its of his observation. The panel aims to show the role of the new indicators in this perspective, highlighting how closely the methodological and technical implications bring with them also conceptual consequences.*"

The conceptual consequences are inseparable from the practical consequences: the imaginaries and narratives that underpin the ideas of well-being , equity, satisfaction of needs are ' translated ' into political choices and social practices that shape the people's lives.

Participants in the Panel presented various perspectives that emphasize the interplay between knowledge, technology, power and local processes of social and global transformation: transformation that increasingly records a widening of the "scissor" not only between rich and poor, but between those who can rely on natural resources and those who cannot, between those who live in healthy environments and those who are forced to cohabit with pollution and degradation.

The main theme of the presentations was a critical reflection and a profound revision of the indicators of well-being (and of the policies which follow). The speakers called attention to other cultures, respectively, the Indian and Latin American, who embody worldviews and lifestyles very different from those - currently dominant - of Western society.

NANNI SALIO AND THE GANDHIAN ECONOMICS

Nanni Salio is the President of Centro Studi Sereno Regis, that since the eighties of the last century promotes a culture of nonviolence in all its forms. In this conversation Nanni Salio emphasizes the importance and relevance of Gandhi's thought , especially in the realm of economics. In 1909 Gandhi wrote a booklet, Hind Swaraj, which summed up his conception of nonviolence in the field of politics and economics, laying the foundations for the future "school of Gandhian economists". In his analysis Gandhi developed a harsh criticism of the "modern Western civilization", in anticipation of the main aspects of today's systemic crisis (economic, ecological, social), and outlined an alternative model of development and lifestyle, nonviolent and sustainable. Gandhi also introduced critical elements useful to the current debate about the role, limits and dangers of techno-science: such critical issues were subsequently developed, among others, by Jerry Ravetz, Silvio Funtowictz and Vandana Shiva. In 1935 Richard Gregg was inspired by Gandhi in his work on "voluntary simplicity": a theme then taken up by other authors such as Schumacher and Helena Norberg-Hodge, and from the school of the "degrowth" of Latouche. Gandhi's ideas were tested in India, during the struggle for independence, thanks to the collaboration of Vinoba Bhave and Joseph Kumarappa, and were systematized by Romesh Diwan, who proposed a model of nonviolent economy, providing a clear theoretical and practical basis from which to build an alternative to the current global systemic crisis.

Nanni Salio, after pointing out that a number of experiments on a small scale towards sustainability are underway in various parts of the world (demonstrating the relevance of the Gandhian message) underlines the need for an effort by the university cooperation institution to network with these realities, that offer narratives and experiences quite different from the imaginary still dominant, which puts the techno-scientific innovation in the service of economic growth and competitiveness.

SIMONE CONTU AND THE INTERPRETATION OF THE BIOPHYSICAL WELFARE

Simone Contu is an expert in the calculation of the Ecological Footprint (IE), an indicator that measures the consumption of nature on the part of individuals, communities and nations. The IE analyzes the socio-environmental relations from a point of view in some ways complementary to that proposed by GDP. The speaker presented a case study: once again, as in the previous report, the participants are invited to look to India. The vigorous economic

development of India in recent decades is recorded and measured by the conspicuous growth of GD. However recently some scholars, using the methodology of material flow accounting (MFA) to and from India during the period 1961 to 2008, have highlighted the growing unsustainability of the choices made by this country. The "development" is accompanied by a dramatic deterioration of the environment, with negative consequences especially for rural people and indigenous communities, who, until a few decades ago, were the largest component of the Indian population, which was based mainly on the social structure of "village". The situation in India, with ever more numerous and intense socio-environmental conflicts, effectively and dramatically demonstrates the need to take account simultaneously of two boundaries within which the human communities must learn to live: the social limits that require to reduce imbalances that lead to poverty and social inequity, and the biophysical limits of the planet , which demand a careful and limited use of fluxes and transformations of natural resources.

Starting from the different visions of India offered respectively by GDP and by IE Simone Contu (in collaboration with Elena Camino) has provided a brief review of "development", "progress", "welfare" indicators that in recent decades have been increasingly designed, and progressively integrated with measures of environmental sustainability. In addition to illustrating some of the potential , sometimes the effectiveness, often the limits of a quantitative approach to the relationship between human communities and the environment, Simone Contu stressed the importance of the ideas that drive the imaginaries - the world views - and the responsibility of scholars to produce and / or sustain new concepts in order to translate them into measures and policy guidelines.

LISTEN TO THE VOICES OF THE "STAKEHOLDERS"

Paola Camisani has recently completed one year of National Voluntary Service. She was engaged in such service, with Davide Vaccaro, between 2012 and 2013 at the Centro Studi Sereno Regis: they both carried on a research on socio-environmental conflicts underway in India. The two young people have collected video interviews, testimonies, films that express the voices and reasons of the parties involved (partly accessible on web site: www.indiaincrociodisguardi.it).

Paola continued the research, reflecting on the changes that have gradually affected the "international cooperation", for a long time (and partly still now) committed to optimize the transfer of knowledge and technology from North to South of the planet. The imaginary of an unlimited economic growth, and the belief that the "developed" countries can teach to the "poor" or "developing" communities, has ruled the political scene and the economic choices for decades. The academic world has contributed to consolidate the idea of a guiding role of the West against culturally "backward" peoples in the South of the world.

Today, international cooperation and academic research must face problems and contradictions that have emerged as a result of the choices based on such vision of unlimited growth and technological pride: land grabbing, urban marginalization, pollution, social inequality, etc. In India, these contradictions have assumed dramatic proportions: a situation little known to the western public, and so far addressed in a fragmentary way by the actors of cooperation. Protest movements composed of women, peasants, natives are resisting to the process of a "development" that result in an increasing dispossession of local communities from their land, due to the construction of dams, mines, industrial plants. These movements are bearers of an idea of development which is quite different from the dominant one: they emphasize the dependence of mankind from natural systems and the urgent need to combine ecology and equity within a planet with evident biophysical limits. The voices of these communities should become a reference for academics and for the people and entities responsible of cooperation projects: we need to overcome the distinction between "experts" and "non-experts", and build all together new knowledge and new realities.

Massimo Pallottino and Salvatore Monni, even if they refer to contexts totally different from India, arrive at conclusions that are well integrated with the previous ones: starting from a critique of liberal thought they propose to draw elements of reflection from ongoing movements in Latin America that offer a bio-centric perspective of the world, based on the recognition of Pachamama, Mother Earth. Within this perspective emerges the idea of "Buen Vivir", a state of harmony and collective well-being ("good life", not "Live better"). The Buen Vivir places at the centre the experience of each single people, and in so doing it differs from any perspective of a process of homogeneous globalization, that appears as one of the main features of the international cooperation approach. The practical dimension that characterizes many experiences of Buen Vivir is accompanied by interesting initiatives in the legal and institutional realm, as documented by the Constitution of Montecristi and by the National Plans of Buen Vivir 2009-2013 and 2013-2017, that represent an attempt to transfer the values of Buen Vivir from practice to norm.

While referring to research, experiences and reflections drawn from very different cultures and countries, the conclusions that emerge from this Panel converge in stressing the inadequacy not only of the development model based on unlimited economic growth and the superiority of western civilization, but of a vision of the world, typical of the Western world and increasingly exasperated by modern techno- science, which envisions humanity as separate from the natural systems. By the speakers and panelists who have offered their contribution an invitation has also emerged to the academics involved in international co-operation to move into a position of respectful listening towards other cultures, and to become aware that every international cooperation project aimed at improving the condition of "well-being" must be contextualized in a globalized world, where increasingly limited resources are should be distributed combining ecology and equity.

FROM ENFORCEMENT TO DIALOGUE. LISTENING TO THE VOICES OF STAKEHOLDERS: A CHALLENGE FOR UNIVERSITY

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ABSTRACT

In the past the "international cooperation" focussed on optimizing the transfer of knowledge and technology from North to South. The imagery of a limitless economic growth and the certainty that "developed" countries could guide and teach to every other country ("underdeveloped" or "developing" countries) has dominated the political scene as well as economic choices for decades. The academia has contributed to strengthen the idea of identifying the Western world as a role model for those populations that are also culturally "backwards". Nowadays, the international cooperation and the academia have to face issues and contradictions that arose as a consequence of these past choices (land grabbing, urban marginalization, pollution, inequality, etc.). In India these contradictions have assumed dramatic proportions, are not acknowledged by the public and, to date, are dealt with fragmentarily by cooperation actors. Mines, dams, power stations and industrial plants have made "necessary" the need to expropriate millions of peasants and tribals from their own villages, and have reduced the availability of land used for agriculture. Protest movements composed of women, peasants and tribals are opposed to these processes, and act with the aim to defend their territory and preserve their traditions. Such movements are carriers of a development imagery that is different from the dominant one: they highlight the interdependence of humanity with natural systems, as well as the urgent need to combine ecology and equity within a planet with obvious biophysical limitations. The authors undertaking this study have focussed on the socio-environmental conflicts currently taking place in India. The data were collected through video interviews, testimonies and films which reported opinions and motivations of stakeholders (some can be accessed on the web site www.indiaincrociodisguardi.it). The opinions of these individuals need to become a reference both for the academia and for people responsible for cooperation. There is the need to overcome the differentiation between "experts" and non-experts in order to build new knowledge and new realities together.

A RESEARCH FROM BELOW

This research has been initiated through a partnership between the Centro Studi Sereno Regis, the ASSEFA Group of Torino and the Interdisciplinary Research Centre on Sustainability (IRIS), and involved the participation of two young people engaged in the Civil Service. In the year of volunteering (2012–2013) Davide and Paola have carried out a search for the presence and extent of socio-environmental conflicts in India. In such conflicts many local communities are involved, who adopt a variety of nonviolent protests against the subtraction of their goods and belongings: houses, land, rivers, forests, etc.. The preliminary results of this research made it possible to create a website (www.indiaincrociodisguardi.it) being now in progress. In this paper the two Authors aim to clarify the reasons that have led to the research and to illustrate some of the material already present in the website.

Several research centres and academic institutions have studied – from different points of view – the socio-environmental conflicts that since some decades are sweeping through India; they have analyzed the underlying dynamics and the social, cultural, economic, environmental impact according to an academic perspective. The sources of information most affordable and accessible are those published in international scientific journals, that are considered as most reliable thank to the "peer –review" control.

However, despite the efforts made in recent years to take a multi-and inter-disciplinary look, and despite the growing opportunities for dialogue and discussion among scholars not only of different academic disciplines, but also of different nationalities, cultures, imaginaries, the contribution of academic studies to the interpretation of socio-environmental conflicts remains mostly theoretical and restricted to single disciplines. The knowledge - now very wide - provided by academic research have so far been largely ineffective in leading to solutions that allow to transcend the conflicts while respecting the rights of all parties involved.

The opportunity to surf the web and have access to non-academic material (we can say "biased") offers interesting occasions to seize, through the multiplicity of points of view expressed, the complexity and dramatic nature that characterize many of these conflicts when they are placed in their real context.

We chose to start from video files, easily and freely accessible on websites, expressing "live" the voice of local

populations, the main players of most of these conflicts. We found many short documentaries, home movies, parts of TV news, in which images and words put us in direct contact with the "stakeholders".

Starting from these documents we then deepened our investigation, searching newspaper articles, press releases of institutions, governments and firms, research papers, essays that would allow us to place the situations witnessed in the videos within a wider scenario.

In some cases we were able to download, or receive prior authorization, or even buy the films (mostly shot by Indians filmmakers, journalists, activists) that starting from specific situations supplied by the amateur video documents deepened the issue highlighting more wide connections in space and time.

This material, as a whole, represents an important evidence of the forms of nonviolent protest and opposition by local communities (mostly the inhabitants of small villages, or fishermen, or tribal groups living on the margins of the remaining forests of India) in front of the decisions of Indian or multinational companies and enterprises (often with the approval of local governments) to use the territories in which these communities have always been living to dig a mine, settle an industrial plant, build a dam or start a power plant.

KINDS OF CONFLICTS

It is difficult to squeeze in few lines the complexity of such a heterogeneous reality. Actually, these situations are spread over a wide area, all over the vast Indian territory, and are different from each other, involving different actors each time. However our research led to highlight certain analogies: here we mention two of them.

a) The time scale: they are mostly long-lasting conflicts, with alternating phases of conflict (sometimes violent) and phases in which the conflict seems "solved", when in fact it is only dormant, ready to re-emerge, perhaps in new ways, with new subjects [1];
b) the geographic scale: most of the socio-environmental conflicts in India have international or global relevance, because the flows of money, information, matter and energy that are moved in such conflicts involve realities and interests located in parts of the world far apart from the local context.

To a reading necessarily 'schematic' another feature shared by many of the conflicts concerns the characteristics of the two "parties". On the one hand there are the advocates of "doing", animated by the belief that human ingenuity can control and dominate nature thanks to the availability of advanced scientific and technological knowledge and tools, and holders of a power (not only in terms of economic and financial power, but also physical) capable to transform at an increasing rate natural ecosystems in artificial systems. On the other hand it is frequently read that the opponents are labelled as "naysayers", as supporters of "not-doing", by giving this term a negative connotation: stillness, inertia, idleness, longing, ... This interpretation is the outcome of a powerful collective imaginary of our society, often implicit and unconscious.

With regard to the conflicts on environmental issues, we focused on four themes: the construction of large dams, establishment of large manufacturing plants, opening and exploitation of mines, construction of nuclear power plants. In all cases, these are projects that are put forward at some central level ("top-down") and presented as required for "progress" (intended as economic and industrial development of the country), and whose implementation implies the involvement, often adverse, of the local communities living in the selected areas (farmers, fishermen and indigenous peoples).

The building of large dams

Since the 60s of last century, the Indian government has put in place ambitious programs that involve the construction of an extensive system of dams in order to meet the growing energy needs of the nation, bring water to irrigate large areas and to quench the thirst of great urban centers. Alone, the "Narmada Valley project" envisaged building 30 large dams, 135 medium and 3,000 small dams. Not all have been realized, however it is estimated that to date have been displaced - just for this program - between 16 and 40 million people [2]. For some years now the government is working on a new project that foresees the construction of an intricate system of dams on the slopes of the Himalayas. Farmers, herders, and tribal populations of the areas that are expected to be under water struggling for years against the decisions of the central government and federal in order to avoid abandoning their places of origin. Others, whose homes and land are now under water, ask to receive at least the economic compensation, which never arrived.

The building of nuclear plants

To meet the energy needs of a growing population both numerically and in consumption, the Indian government is putting in place a comprehensive nuclear program. This program aims to achieve the energy availability of 14,600 MW by 2020 and provide 25% of energy needs through nuclear power by 2050 [3]. The building of nuclear power plants requires not only a huge economic effort, the occupation and militarization of a large area, the re-release into the sea of water at a temperature higher than that picked up. The exercise of a nuclear plant implies, as input, feeding with nuclear

fuel extracted from mines (uranium and thorium), and as output the production of radioactive waste whose disposal still remains problematic. Not only local groups (mostly fishermen and farmers who are directly affected) oppose against the construction of nuclear power plants: also organized groups at the international level are opposed to the production and handling of radioactive material, which can have persistent and large range effects and can be converted to military use.

Industrial plants

To promote the economic development of the country, the Indian government in 2000 launched a plan that included the establishment of Special Economic Zones (SEZ): geographical areas identified in order to attract foreign capital and to encourage the installation of productive activities, which are subject to legislation substantially facilitated as regards labour and taxes. The industrial production requires huge amounts of energy and matter, and occupies large areas of land. In addition waste from manufacturing processes - often not properly disposed of - pollute the environment and spoil the landscape. Such situations lead to interfere with the economic, social and cultural life of the communities in which they are installed. As many plants require large areas of land, these are subtracted to the inhabitants, who are forced to leave their villages, or are compelled to work in the factories, with rules and working conditions often to the limits of exploitation and security. In many situations local communities rebel against this situation, often with nonviolent methods, and are confronted with paramilitaries troops and forces who, recruited by these companies, and with the consent of the government, interdict access to the areas traditionally occupied by the inhabitants, and given now in concession to the owners of the establishments.

Extraction of minerals

India is a country rich in mineral resources, and is located at the top for the production of some minerals that are considered “strategic”: coal, iron ore, chromite and bauxite. Most of the mineral deposits can be found in the greenest regions of the country, rich in forests and streams. The forests of the so-called 'iron belt' are inhabited by a number of Adivasi communities, indigenous peoples for whom the natural environment is not only a valuable source of livelihood, but also has an important religious, symbolic and social significance. The intensive exploitation of mineral deposits devastates the land with often irreparable damage, pollute the air and water, uproots people and communities. This gives rise to the opposition by many local populations across India, protesting against the ravages made by mining activities. Among the minerals that are mined there are also uranium and thorium, of which the Indian State need increasing amounts to feed the nuclear power plants already present and those it intends to build. The inhabitants of the places of extraction of radioactive materials since many decades are fighting to expose damages caused from the extraction, storage and transportation of these minerals on people's health and living systems of the affected areas.

Common traits in different conflicts

To suffer the consequences of processes connected to industrialization and increased consumption are those who belong, according to the Western imagination, to the poorest social strata. Actually, in many cases these communities do not consider themselves poor, on the contrary: they are rich in social relations, culture, well-being, to the extent that they can draw on the produce of the land, the forests, the sea [4]. By subtracting their natural goods they are forcibly transformed into “ecological refugees”, dispossed people.

The interventions mentioned above subtract land to farmers, peasants, tribal people Dalits who traditionally depend on the land for their livelihood. The ideology of development, which sees the industrialization as the means to increase the income of the people in order to achieve the 'progress', has forced millions of people to lose their homes, their small plot of land, the access to coast. As pointed out by Martinez Alier [5], to suffer the consequences of the growing ecological deficit are and will be more and more the communities who depend directly on local biocapacity, and are therefore dependent on the health and productivity of the ecosystems in which they live. In the Indian social system (and not only ...) these are low-income communities, whose assets are often not convertible into cash. Instead, those who belong to the richest sections - even if they do not have direct access to natural resources - have enough money to buy food and consumer goods, sourced locally or imported from abroad.

The conflicts that we investigated are taking place locally, but are expressions of national and transnational issues. The global nature of these conflicts is given not only by the correlations between distant realities in a globalized world, but also by the presence of several similarities.

These conflicts arise from two different visions of reality and development: one that relies on economic and industrial growth, and the other aimed at achieving equity and sustainability. The imaginary of economic development delegitimizes one of the parties in conflict, often stereotyping those who defend their territory such as anachronistic, nostalgic, struggling against the natural flow of the story.

They are asymmetric conflicts. On the one hand there is the state and / or multinational companies, with powerful economic means and control over media, on the other hand movements are composed of farmers, fishermen, women and tribal people who do not have access to financial resources or to the media.

They include forms of structural violence: the projects are imposed from without consulting the parties involved.

Any form of opposition is repressed by force and often with deployment of police forces. The more powerful party in the conflict usually stands as a champion of legality, democracy and development, accusing opponents of being violent and subversive. Often however, it is the dominant party that eludes state laws and the rights of the populations who are opposing to major infrastructural projects.

Conflicts arise for the defence of one or more ecosystems against the perspectives of intensive exploitation by the government and / or where the alleged owners who normally reside in areas away from the place. They are conflicts in which the movements fight for the recognition of needs that were previously not considered because it was assumed that they could be satisfied: having enough healthy food, clean water, shelter from the weather and so on. The reason for the conflict is not the preservation of nature as such, but the safety of some sections of nature as living spaces of some communities. In economic terms a habitat can provide important resources to the livelihood and for the production of goods, while in cultural terms it provides social and cultural meanings that transcend material aspects.

Many of these conflicts are made invisible because they take place in periphery (suburbs of the cities, remote places in the country sides, South of the world), far from the eyes (and interests) of affluent citizens. The mass media, controlled by the dominant power are able to mute the voices of dissent and to manipulate information about the nature of the conflict.

The erosion of ecosystems undermines the basis on which the livelihoods of some communities relies and in many cases it can lead to situations of extreme poverty. Poverty is not just about low income: it regards also other aspects such as the possibility to access to nature and to basic public services, and the right to participate in decision-making processes. As already mentioned, those who hold low incomes do not necessarily live in situations of poverty if they are able to rely on nature and social networks: the case of subsistence economies that are based on values other than those expressible in money terms.

TESTIMONIES AND EVIDENCES FROM BELOW

We refer to the web-site www.indiaincrociodisguardi.it for a wider overview of the evidences that we have gathered.

In the next pages we present some case studies, introducing each of them through the voices and the images of the communities involved. Such "bottom-up", emotional and emphatic perspective is then enriched with a historical setting of the conflict, and a reflexive overview based on essays and research articles produced by NGOs, grassroots organizations, research and academic centres. We also seek to extend the boundaries of the geographical and social context, in order to seize the international or global relevance of the issue.

Uranium mines – Jadugoda

Video evidences

a) *Buddha weeps in Jadugoda, Ragi Kana Ko Bonga Buru, INDIA, 1999.* The destruction of the natural environment and the social impact of a uranium mine in Jadugoda.
b) *Jadugoda the black magic, by Shriprakash, India, 2009.* Documentary based on the 2007 study, Black Magic of Uranium at Jadugoda, conducted by the Indian Doctors for Peace and Development, explores the harsh realities of indigenous peoples living near the Jadugoda mine, mill and tailings dam.
c) *Toxic Neglect, Moushumi Basu, India, 2011. D*ocumentary about Jadugoda narrated by the villagers themselves. It shows the impact of radiations on local population.

General Info

The Jaduguda Mine is an uranium mine located near Jaduguda village (Jharkhand). The exploitation of the mine began in 1967 and recently new deposits has been discovered in the area. Jadugoda is the main source of uranium for all India. In Jaduguda, there is a constant exposure to low level radioactive emission. Waste from the mines is dumped in open fields, and uranium ore is transported in uncovered dumpers. The company supplied mine tailings as construction material to the villagers. The Santhal, Munda and Ho tribes who live near the mining operation areas are badly affected: children are born with swollen heads, blood disorders and skeletal distortions.. Animals such as cows and buffaloes are suffering from rare diseases.

According to the Uranium Corporation of India Limited - UCIL (a Public Sector Enterprise under the Department of Atomic Energy), the various studies carried out by experts have proved beyond doubt that the diseases prevalent in the villages around UCIL workings are not due to radiation but attributed to malnutrition, malaria and unhygienic living conditions etc. Fear of radiation is essentially human made and mediated phenomenon by a small section of the media without checking out the facts. Most of the apprehensions are based on a false understanding of the facts

(http://www.ucil.gov.in/web/myths.html).

The affected communities organized many forms of protest, as stage dharnas (method of seeking justice by sitting at the door of one's debtor or wrongdoer and fasting until justice is obtained) and demand job and cash compensation from time to time.

In July 2013 the UCIL announced that new rich deposits of uranium between existing uranium mines near Jadugora have been discovered. According to the Director and Corporate Communication, UCIL: "The findings will certainly expand the life of country's first uranium mine in Jadugora by at least five to six years".

Main stakeholders

- Uranium Corporation of India Limited (UCIL): a Public Sector Enterprise under the Department of Atomic Energy; Central and State governments.
- Groups of local inhabitants displaced for mining operations, people living in villages affected by radiations. Several NGO suporting the fight - Jharkandi Organization Against Radiations (JOAR), Jharkhandi Organisation for Human Rights and the Bindrai Institute of Research and Social Action.

Academic sources

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- S. Rahman, Study on health status of indigenous people around Jadugoda uranium mines in India, Indian Doctors for Peace and Development, 2008.

Non-academic sources

- Jharkhandi Organization Against Radiation (JOAR) web site: jadugoda.jharkhand.org.in.
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- Uranium Corporation of India Ltd., Myth. On line: http://www.ucil.gov.in/web/myths.html.

The larger context

According to the Indian programme to expand the nuclear energy sector, intensive researches in the field are been done searching for new uranium mines, in order to reduce the dependence of the uranium fuel supply from other countries. UCIL signals that new projects are starting up:

- A large uranium reserve in the carbonate host rock near **Tummalapalle** (Andhra Pradesh) has been planned for development. All clearances including approval of Government of India have been obtained. Construction activities for an underground mine up to a depth of 300m and a processing plant based on alkali leaching (under pressure) technology have been initiated.
- Near **Lambapur** (Andhra Pradesh) substantial uranium reserves have been identified and UCIL is in the process of obtaining clearances for construction of three underground and one open pit mines in the area and a processing plant at Seripally, 52 k away from the mine site.

The extraction activities of uranium minerals are strictly connected to the functioning of nuclear power plants.

Conflicts related to mines are quite similar to those concerning installation and operation of power plants: one of the most recent and controversial case is that going on in Tamilnadu, near to the village of Kudankulam.

Nuclear power plants - Kodankulam

Video evidences

a) *Selvi, J. Karat, India, 2013.* Selvi was 10 yrs old when she first participated in an anti-nuclear protest in Kanyakumari. In this interview, she talks about how she feels deceived and unsafe with a nuclear power plant in her backyard (http://www.youtube.com/watch?v=R88J4sOX6A0).

b) *Vennila, J. Karat, India, 2013.* Vennila is a young woman who was born and brought up in Idinthakarai, the

present hub of the Koodankulam anti-nuclear protests. She describes her life in the village and why freedom is the dearest thing to her. The documentary is made by an activist herself (http://www.youtube.com/watch?v=FvLkYVfpsNE).

c) *Tamizharasi, J. Karat, India, 2013*. Talks about the indifference Tamil Nadu government has shown towards the anti-nuclear protestors of Idinthakarai and how she believes that in the end, victory will be hers. The documentary is made by an activist herself (http://www.youtube.com/watch?v=qgMCNlsKYvU).

General info

Uranium mined in Jadugonda is used also in Kodankulam nuclear power plant (Tamil Nadu). The plant is the result of an inter-governmental agreement made between India and Russia in 1998, establishing that the Russians were expected to provide the reactor designs and supply the major equipment. Tamil Nadu will receive 925 MWe out of the 2,000 MWe to be generated from the two reactors at Kudankulam. Karnataka will receive 442 MWe, Kerala 266 MWe, Puducherry 67 MWe and the unallocated share will be 300 MWe. The construction on the plant began on March 2002, but faced several delays due to the anti-nuclear protests voiced by locals, occasionally supported by international grouping. The first reactor of the plant attained criticality on 13 July 2013 and the plant is now operating.

According to the villagers, no public hearing was held, it is an authoritarian project imposed to people. More than 1 million people live within the 30 km radius of the plant, which far exceeds the Atomic Energy Regulatory Board stipulations. It is quite impossible to evacuate so many people quickly and efficiently in case of a nuclear disaster.

The people of Koodankulam village were misled by false promises such as 10,000 jobs, water from Pechiparai dam in Kanyakumari district, and fantastic development of the region. Fishermen claim that the warm water released from the plant can impact on the fish catch and will effect on life and livelihood of local inhabitants. Anti-nuclear protests continue to reverberate in the Idinthakarai village, the fishing hamlet which has been the ground zero for protests for almost two years. SP Udhayakumar, Convenor of the People's Movement Against Nuclear Energy (PMNAE), the organisation which has spearheaded the protests, said the protests will continue since satisfactory answers have not been given by the authorities regarding safety issues concerning the plant, which he said was commissioned in a rush.

To allay the fear of local peoples over safety of the plant, the Atomic Energy Commission had set up an expert committee which concluded in its report that KKNPP meets with all current safety requirements and is thus safe for operation [6].

Main stakeholders

- Local populations - People’s Movement Against Nuclear Energy (PAMNE).
- Nuclear Power Corporation of India Ltd. (NPCIL) - Atomic Energy Regulatory Board (AERB) - Ministry of Environment and Forests (MoEF) - Tamil Nadu Pollution Control Board (TNPCB).

The larger context

As of January 18, 2013 in 31 countries 437 nuclear power plant units with an installed electric net capacity of about 372 GW are in operation and 68 plants with an installed capacity of 65 GW are in 15 countries under construction. (http://www.euronuclear.org/info/encyclopedia/n/nuclear-power-plant-world-wide.htm). 29 are under construction in China, 7 in India, 11 in the Russian Federation.

The conflict in Kudankulam is only one – the most present actually in the media – among a number of similar conflicts present worldwide. But the information on the media is scarce, perhaps due to the military and strategic relevance this issue.

Problems still unresolved at the Fukushima plant feed the hopes of those who want to abolish nuclear power plants. On the other hand, many see in nuclear energy a partial solution to global warming.

Non academic sources

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- Stop kodankulam power plant project, group on facebook: https://www.facebook.com/groups/stopkoodankulamatomicplant/.
- Nuclear power protest in Kodankulam, south India, group on facebook: https://www.facebook.com/groups/satyagraha.kumar/.
- NDTV (New Delhi Television) collection of articles written by main national news paper on Kodankulam Power Plant from 2011 to nowadays, http://www.ndtv.com/topic/kudankulam-nuclear-power-plant.

The Renuka Dam

Video evidences

- *A Dam Old Story, Tarini Manchanda, India, 2010.* A film about Himachal Pradesh's precious Renuka Valley - home to biodiverse forests, fertile lands and people who have been living and farming in India's northern mountains for generations. This valley lies in the submergence area for a dam project that is meant to supply Delhi with water. The film takes a look at the stakes for this dam, and asks whether Delhi needs this dam or Himachal's water, at all (https://www.facebook.com/video/video.php?v=278815012131675).
- Renukaji in Delhi's taps, *Kurush Canteenwala, India, 2009.* A documentary made as part of the Infochange Media Fellowship 2009 starts in thirsty Delhi and travels to the Renuka valley (Himachal Pradesh) where families in 17 panchayats will be thrown off their fertile land to make way for the Renuka dam that will supply water to Delhi. Those living in the area point to the many crops they grow and from which they make a decent living, and ask what they can do and where they can go when their land is taken away. The documentary highlights the powerlessness of ordinary people in a democracy and skewed city development that has destroyed Delhi's own water resources and causes it to prey on the resources of people 300 miles away (http://blip.tv/infochange/renukaji-in-delhi-s-taps-3344044).

General info

About 300 km north of Delhi in the Sirmaur District of Himachal Pradesh, a controversy is brewing over plans to construct the Renuka dam in order to supply drinking water to Delhi at a cost of 3900 *crore* ($ 860 million). The dam has been proposed on the Giri River in Himachal Pradesh and is expected to provide Delhi 275 million gallons of water a day. In 2010 concern was expressed by governmental people that further stalling of the project will jeopardise the city's water security.

In 2011 the Renuka Dam project has crossed a major hurdle with the National Green Tribunal (NGT) giving a go-ahead to HPPCL to award compensation to those whose land has been acquired for it.

The project is expected to displace 750 families in 37 villages, and about 1600 hectares of fertile land and forests (including part of a wildlife sanctuary) will be submerged. Sirmour has relatively poor infrastructure and health facilities with nearly 23% of households residing below the poverty line. A report on the project says, as a result of submerging land, there is little doubt that the dam will “directly affect the food security and sovereignty of the families”.

In 2012 the villagers protesting against the land acquisition have alleged the district collector of forcing Gram Sabhas (village councils) to pass illegal resolution in favour of the developers. In august 2013 a group of non-governmental organisations has urged Union Environment and Forests Minister to hear the local people’s viewpoint on construction of this hydroelectric project.

Main stakeholders

- Himachal Pradesh Power Corporation Limited (HPPCL).
- 750 families in 37 villages.

The larger context

The construction of the dam attempts to solve the problem of the water supply for the city of Delhi, which has a population of nearly 14 millions (2011). Water shortage is a growing problem in Delhi, and it affects primarily slum dwellers (http://www.youtube.com/watch?v=AcZCSEZ7JV0). Faced with limited reservoir storage, aging piped infrastructure, and rapidly growing demand, no Indian city today has a continuous water supply. The drinking water requirements of most of the mega cities in India are met from reservoirs of irrigation/multi-purpose schemes existing in nearby areas and even by long distance transfer. Delhi getting drinking water from Tehri Dam and Chennai city from Krishna Water through Telugu Ganga Project are typical examples.

Non academic sources

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WHY A RESEARCH ON VIDEO TESTIMONIES

As we have shown, in tackling socio-environmental issues in India we focused mainly on direct video sources produced by amateur video makers, activists, local committees. Often images are raw, shot with mobile phones or other means of fortune, through which the various stakeholders report on their experiences and expose their views about the events in question. We believe that this approach is important for several reasons.

The reasons expressed by villagers and activists, and the opinions and reflections about the social and environmental impact reported on the web sites of the movements themselves, are the free testimony of people who live in a well known context, and want to express their point of view on the issue. A point of view which proposes a different narrative about development as compared to the most widespread and dominant view. This narrative is more attentive to the needs of local people and more aware of the impact on the environment and human health. As stated by Baviskar [7], now that the misuse and abuse of the environment are becoming increasingly contested, we need new perspectives for understanding issues socio-environmental conflicts. The analysis of the conflict from the perspective of those who suffer from these dynamics can be a useful approach to promote a deeper understanding.

Communication by means of video images represents a stark and direct expressive means. On the one hand it is an easy tool to use for those who want to communicate ideas and to witness a reality. On the other hand, mainly thanks to the images, the ideas it conveys can reach a larger and more diverse public than the written word, engaging on a rational as well as an emotional level both the academics of the prestigious universities, the interested citizens and the illiterate peasants unaware of what is happening outside their own territory.

A CHANGING PERSPECTIVE

Since several years actors of cooperation and scholars are critically questioning the mainstream approach to development. To name just a few among many, Escobar [8], Malighetti [9], Esteva, [10], Sachs [11], Dreze & Sen [12].

Meanwhile a radical criticism is undermining the basis of the mainstream techno-scientific approach, ever more dependent on the financial and economic power: *"According to the 'post-normal' science perspective, the ideal of rigorous scientific demonstration is replaced by that of open public dialogue. Citizens become both critics and creators in the knowledge production process as part of an extended peer community. Their contribution is not to be patronised by such labels as "local", "practical", "ethical" or "spiritual" knowledge. A plurality of co-ordinated legitimate perspectives (with their own value commitments and framings) is accepted. The strength and relevance of scientific evidence is capable of assessment by citizens. All sides come to the dialogue ready to learn, or else the process is a sham."* [13]

According to this perspective, it is hoped that academia, cooperation operators and civil society undertake joint pathways of research and action, in which the distinction between 'experts' and the public / users is definitely removed. An example of the institutional acknowledgment of such new approach may be *EJOLT* (Environmental Justice Organizations, Liabilities and Trade), a large collaborative project bringing science and society together to catalogue ecological distribution conflicts and work towards confronting environmental injustice (http://www.ejolt.org/) [14].

NON VIOLENCE AS A MEAN AND A GOAL

A relevant aspect that emerges from the video material we have looked at is the prevalence of a nonviolent approach on the part of local communities in India. The ancient roots of India civilization resurface in the struggles that rural communities are leading, all over the country, with the aim to defend their land and culture, and the spiritual

relationship with nature.

From Gandhi to Martin Luther King, to get to the case studies that we have examined, nonviolent movements have repeatedly been shown to be able to deal with (and sometimes overcome) crises and conflicts, proposing agreed solutions based on the needs of the community at large. However, they often find themselves in an asymmetrical position with respect to the other party, represented mostly by national or super-national institutions, who enjoy a much larger financial and economic power, and exert a strict control over the media.

Since 1983 Robert Chambers [15]contended that researchers, scientists, administrators and fieldworkers rarely appreciate the richness and validity of rural people's knowledge or the hidden nature of rural poverty. His suggestion was “to put the last first”. In 1997 he modified his sentence, claiming that it was necessary “to put the first last” [16]. With this in mind the leaders of international cooperation and academic research might definitely chose an approach to the problems that involves listening and enhancing the 'voices' coming from the stakeholders directly involved, and from movements active on a local basis and committed to protect the human rights and promote environmental sustainability. Such attitude might help to promote a transformation in two important areas:

a) it would enable questioning and gradually overcoming the imaginary hold by the techno-scientific, objective “experts”, who increasingly address research projects towards unsustainable scenarios, drain funds and shape the decisions of the powerful, actively contributing to social and environmental unsustainability;
b) it would allow the imaginary of equity and sustainability to translate into narratives composed thanks to the contribution of all stakeholders’ voices, promoting decisions that respect human rights and nature, based on non-violent tools and aims.

Now the voices of the rural communities are more easy to find, as we have shown: the web is a rich source of information, if one is just willing to sail on it and listen. Our website, www.indiaincrociodisguardi.it, is only a little example, focused on India, but the material that we collected is really worth to be seen and listened to.

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SUSTAINABILITY: FROM THE IMAGINARIES TO THE INDICATORS…AND BACK? THE CASE OF INDIA

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ABSTRACT

The vigorous economic development occurred in India in the last decades has been documented by the conspicuous growth of GDP. However recently Sìngh et al. (2012), by quantifying flows and transformations of matter through India in the period from 1961 to 2008, highlight the growing unsustainability of the choices made by this great country. The 'development' is associated with an increasing deterioration of the environment, with dramatic consequences especially for rural populations and indigenous communities, which were, until a few decades ago, the largest component of the Indian population, mainly based on the social structure of the "village". India is home to ever more numerous and severe socio-environmental conflicts. The situation in India impressively demonstrates the need to take account of two boundaries within which human communities must learn to live: the social limits that require to reduce social imbalances that are cause of poverty and inequity (Rowarth, 2012), and biophysical constraints of the planet, that require a restricted and cautious use of humans' powered flows and transformations of natural resources (Rockstrom et al., 2009).
In our contribution we will offer a brief review of indicators and indices of "development", "progress", "well-being" that in recent decades have been increasingly compared, combined and finally twisted with measures of environmental sustainability. We will outline some of the imaginaries and narratives that characterized the academic research in this area.
In addition to illustrating some of the potentialities, sometimes the effectiveness, often the limits of a quantitative approach to the relationship between human communities and the environment, we will try to highlight the importance of the ideas that drive the imaginaries, and the responsibility of scholars in producing and / or accommodate new concepts and translating them into "scientific" measures and policy guidance.

> *All dialogues have to cross borders—cultural, political and, above all, psychological. […] Dialogue of cultures can acquire new depth if it engages communities and cultures at the receiving end of the system and reaffirms their right to intellectual—yes, intellectual, not only social—dignity. The oppressed do have their own, often-implicit theories of oppression and have no obligation to be guided by our ideas of the scientific, the rational and the dignified. They have every right to be historically, economically and politically incorrect.* [1]

WHY INDIA? WHICH INDIA?

One of us had the chance to get to know - since years '80 of 1900 - the situation and background of some most deprived and marginalized communities of rural India. Moreover she had the opportunity to observe and somehow partner the conceptual development and the field work of a Gandhian NGO, the Association for Sarva Seva Farms (ASSEFA). ASSEFA is primarily a "movement", committed "*to the up-liftment of the social, cultural and economic life of all and to establish self-sufficient, self-reliant and self-managed communities based on the principles of love, sharing and social justice"* (ASSEFA annual Report 2013)[1].

In recent decades, while Indian GDP (gross domestic product) was going up, rural communities involved in ASSEFA projects were facing increasing difficulties to cope with the deteriorating economic and socio-environmental conditions. Rampant urbanization, failing monsoons, declining groundwater levels, rising costs of food and commodities conflicted with the narratives of the "shining" India. In Italy a growing number of people withdrew its support to ASSEFA projects, in the belief that India was now become rich. A powerful imaginary was driving people's thinking: India was perceived as a nation moving from low to high income, from underdeveloped to developed, from "third" to "first" world partner. Indians were finally moving from backwardness to modernity, as evidenced by the growth of GDP.

[1] ASSEFA is based in Tamilnadu, but projects are going on in 8 Indian States. In 2013 ASSEFA staff and volunteers are 3864. The women self-help groups (SHGs) are now between 200 and 250; 629 teachers – with innovative school programs, which include yoga and non-violent education - take care of more than 15.000 students in 130 schools.

AN IRRESSISTIBLE TENDENCY TO CLASSIFY AND SORT

The dialogue – always respectful and loving – intertwined with the leaders of ASSEFA resulted in an increasing dissatisfaction and questioning with regard to many aspects of the life and culture of the "First World". The peripheral point of view of Indian villages shed light on the peculiar characteristics of the Western thought [2]: the haunting objectifying approach to the world and the overwhelming propensity to label, categorize and sort "objects" even when they are incommensurable entities (as cultures and traditions), driven by an unwarranted feeling of superiority towards other civilizations.

The objectifying approach to the world is also at the root of the western scientific thought, together with the presumed "neutrality" and "universality" of science, and the trust that modern techno-science offers both an accurate, quantitative description of the world, as well as instructions and tools to take action in order to solve any kind of problems. The cloud of data of any sort that go mushrooming up - supported by the exponential increase in storage capacity and data handling of modern computers – show however the difficulty to reassemble the complexity of real-life contexts from data collected from a multiplicity of measures taken thanks to fragmented analytical views. According to Bateson [3: 165]: "*The continuum of nature is constantly broken down into a discontinuum of variables in the act of description*".

The critical approach to western civilization and science was advanced in India by Gandhi more than a century ago in the booklet Hind Swaraj[2]: "*This civilization is such that one has only to be patient and it will be self-destroyed*". (pag. 19). Such critical approach included also western science, as it was recently recalled by Anup San Ninan [4] . According to his in–depth examination of the original writings of Gandhi and his associates, the author concludes that Gandhians "*engaged science and technology as a contextually contingent social process and integrated it into a mass political movement, by identifying techno-science as a site of political action*".

DATA COLLECTION IN THE GLOBALIZING WORLD

Obviously data are important: specifically, as regards the efforts being made to monitor the process of globalization and to measure the consequences of the burden that the increasing human presence is loading on the planet, we are witnessing a growing amount of relevant information describing and documenting the huge transformations that are going on in the global natural stocks and flows. But while data collection proceeds fast and quickly, the gap between the ability of collecting data and the inability to take action to reverse the trend is becoming increasingly clear. Data may be collected, assembled and managed in many different ways: sometimes there are conflicting results between different disciplinary views, and even within the same field interpretations may contrast. Moreover skepticism is growing about the effectiveness of the quantitative, techno-scientific approach in offering wise solutions to the present world crisis: some authors are very much concerned about the unintended, unforeseen and unknown consequences of the human manipulation of the Earth ecosystems.

Among the many approaches suggested to cope with the uncertain future of humans on the Earth, we focus here on two strategies that are significantly divergent.

The quantitative, objective, reliable approach

This approach points to multiply the collection of quantitative data, in the perspective of developing increasingly effective techno-scientific tools to monitor and modify eco-socio-systems. Engelman [5: 17] underlines that "metrics matter": "*if we are to manage our way to a sound environment and a durable civilization, we'll need to weight rigorously our progress in ways scientists can support and the rest of us agree on*".

Experts of all disciplines are deeply involved in researches aiming to collect data in their own fields, from social to natural fields, with the aim of contributing to describe – for the first time in the human civilization – the global state of the Earth, of providing measures to deal with emerging problems and to attain "progress". Within this imaginary, the role of indicators is growing in importance and relevance.

Perhaps the first indicator, that dates from the middle of the last century, was the GDP, the market value of all officially recognized final goods and services produced within a country in a given period of time. Even if it has been recognized as coarse, simplistic and misleading from the outset (e.g. [6], [7]) it is still largely used to classify and compare nations' performances and to guide policy.

In the last decades the academic world produced a proliferation of ever new indicators, ranging from disciplinary - based on economic or ecological parameters - to highly interdisciplinary indicators, to the most recent "sustainability" indicators. As a recent paper underlines [8], the appreciation of the role of quantification and the setting up of reliable indicators to monitor the development of our current society grew gradually in the last decade of the XX century. Today the crucial role of indicators is evident, and their use is accepted in an increasing number of fields.

In parallel with the collection of data on single aspects, there is a growing concern to integrate analytical information within a systemic view [9]; Rockström et al. [10] focused on a number of biophysical parameters in order

[2] http://www.mkgandhi.org/swarajya/coverpage.htm.

to trace the "outer limits" that humanity should not exceed, while Raworth [11] underlined the need to not overstep social boundaries.

However "*we have had considerable success in building measurement tools, but less in knowing how to use them, or for what ends*" [8: 1]. Authors underline "*the enormous room for innovation, tempered by the humility to recognize the limitations of our tools and the wisdom to know when their use is appropriate"* [8: 2].

As Jørgensen et al. [12] underline in a recent review of ecological indicators, "*the guiding paradigm of the indicator activities in the last 10 years has been the idea of sustainability, which strongly demands for the three pillars of environmental, social and economic aspects"* [12: 8]. But since achieving sustainability is fundamentally an ethical challenge [13] value-based indicators are needed – according to the author - to measure and motivate the ethical principles necessary to guide the transition toward sustainability. So, how to reconcile the feature of the supremacy of the scientific approach – ascribed to neutrality and objectivity of data collection – with the acknowledgment of an unavoidable "value" component?

The qualitative, systemic, value based approach

The other approach to cope with the uncertain future of humans on the Earth dates back to ancient civilizations, and has barely survived to the spread of the aggressive western imaginary. It is based on a deep awareness of the human dependence on natural systems, on the need to adapt and develop resilience to ever changing conditions and evolving situations, and on the acceptance of the inescapable ignorance that characterizes human condition.

For people interested to learn from other world views, and willing to listen at the narratives of other cultures, the acceptance of the limits of human power, a cautious use of technology, a respectful attitude towards natural forms and processes have always been present. Such worldview, rooted in the distant past and evolved through millennia, allowed many civilizations to survive and develop in all varieties of ecological conditions. Qualitative, contextually rooted experience and the awareness of the inter-being of all living forms were translated into knowledge and rules governing the conduct of the communities.

Old and new narratives

The mental processes of ''data collection'', concept formation and retention, and worldview production among every civilization follow patterns consistent with the language used, as language shapes terms and concepts. Every society has its own understanding of how the natural world works, a repertoire of habits, skills, and styles from which members of a society construct their livelihoods. According to the level of proximity / separation disregard from the natural environment, a knowledge–practice–belief complex includes or excludes an intimacy/closeness with land, animals, and plants. It also includes /excludes institutions (rules and norms) about interacting with the environment, and it produces and conveys a worldview that shapes the way people make observations, make sense of their observations and learn. The western scientific solution has been to quantify a few of the variables, whereas the solution in indigenous knowledge has been to find ways of perceiving the continuum of nature and working with it [14].

While still fiercely contested by the mainstream of the western techno-scientific society, this world view is slowly creeping into the narratives aiming to find solutions to enliven the collapsing global civilization (e.g. [15]). Qualitative, value based approaches, respectful of a variety of view, interests and sensibilities have been proposed not only by indigenous people: many "educated" people, from the East as well as from the West, have long developed a critical look on Western imaginary and related narratives: Ivan Illich, Joan Galtung, Gustavo Esteva, Fritz Shumacher, Joseph Cornelius Kumarappa, Anil Agarwal, Madhav Gadgil, Vandana Shiva, Aurelio Peccei, Laura Conti, and many others have been committed to developing a greater awareness of the need to undertake development paths respectful of views and rights of all parties - including the natural systems that host them. Such awareness (and the ensuing decisions and actions) can be developed only through a bottom-up participatory process, where all subjects are included. In tune with such view, some authors directly challenge the dominant science epistemology based on the findings of experts: "*According to the 'post-normal' science perspective, "the ideal of rigorous scientific demonstration is replaced by that of open public dialogue. Citizens become both critics and creators in the knowledge production process as part of an extended peer community.*" [16]

Indicators…

A recent report from the Working Group on Monitoring and Indicators [17] involved in the design and collection of data in view of the post-2015 global development agenda stated that, while goals themselves may be inspirational, numerical targets should balance ambition with realism. Forward-looking development targets should reflect a clear consensus and understanding of objectives among policymakers, civil society and the public, and factor in the need to improve the living conditions of a growing global population over the next decades. Indicators of progress towards targets may take various forms; changes in rates, ratios, percentages and differences are the most common.

As clearly pointed up by Hak et al. [8: 1] "*the directions we take will be determined in part by the indicators we choose to measure our progress. This is not just a technical debate (although finding good indicators for prosperity, well-being or happiness is a technical challenge)*".

By reviewing the most important or most used indicators designed and applied in the last decades, one can seize clues of the implicit world view that oriented scholars (mostly researchers of western academies). A quick overview shows a steady increase from an economic vision to a socio-economic scenario, followed, in recent years, by a growing concern to incorporate environmental aspects and to extend the spatial boundaries.

GDP has been joined in the eighties of last century by new indicators, taking into account a growing variety of parameters, as life expectancy, literacy and levels of employment. Only more recently changes in less-tangible factors have been considered, such as personal dignity, freedom of association, personal safety and freedom from fear of physical harm, and the extent of participation in civil society. The Human Development Index (HDI), introduced in 1990, offered a new way of measuring development by combining indicators of life expectancy, educational attainment and income into a composite index. The breakthrough for the HDI was the creation of a single statistic which was to serve as a frame of reference for both social and economic development.

As long as environmental problems were multiplying, with the increasing scarcity of natural resources and recurring pollution incidents, the need became evident to develop indicators useful to monitor a variety of parameters, from the reduction of agricultural land to the presence of toxins in streams, to the increase of CO_2 in the atmosphere.

In 2002 the European Commission, stimulated by the growing concern about the environmental problems, produced a shortlist of 14 structural indicators to be developed and monitored, 6 of them labeled as regarding the environment**:** consumption of toxic chemicals, health expectancies, biodiversity index, resource productivity, recycling rate of selected materials, generation of hazardous waste.

From static to dynamic aspects of the environmental issues, and from local to global measures and assessment: this has been the trend in the last twenty years. Indicators have been designed based on material / energy flows as Material and Energy Flow Analysis (MEFA) or Energy Return On Investment (EROI). The human appropriation of photosynthetic production (HANPP), firstly proposed in 1986 [18], has become an important clue to measure the dependence of humanity on natural processes, and the alarming trend towards a growing difference between human demand and ecosystem supply [19].

In recent years, environmental indicators have become a vital component of environmental impact assessments and ‘‘state of the environment’’ reporting. This has increased the influence of environmental indicators on environmental management and policy making at all scales of decision making [20]. Niemeijer and de Groot underline the need to develop a conceptual framework that focuses on the inter-relation of indicators that puts an indicator set at the heart of the selection process and not the individual indicators. The most common frameworks used in indicator based studies are the driving force–pressure–state–impact–response (DPSIR), pressure–state–response (PSR), or driving force–state–response (DSR) conceptual frameworks, which organize and structure indicators in the context of a so-called causal chain.

While most of the indicators remained confined within research centers and government institutions, a new concept was spreading also through the civil society, thanks to the ease of understanding his meaning and of calculating (even if approximately) in a variety of conditions: the ecological footprint (EF) [21]. EF is a standardized measure of human demand for natural capital (Earth's ecosystems) that may be contrasted with the planet's ecological capacity to regenerate. In 2003 the Global Footprint Network (http://www.footprintnetwork.org/), a nonprofit organization, was established to enable a sustainable future where all people have the opportunity to live satisfying lives within the means of one planet. It is considered by the designers as an essential step in creating a one-planet future: by measuring human impact on the Earth we can make more informed choices.

Slowly environmental concerns began to be included in the “measure” of human well-being. According the designers (http://www.happyplanetindex.org/), the Happy Planet Index (HPI) measures the extent to which countries deliver long, happy, sustainable lives for the people that live in them. The Index uses global data on life expectancy**,** experienced well-being and Ecological Footprint to calculate this. The index is an efficiency measure, and it ranks countries on how many long and happy lives they produce per unit of environmental input.

In Italy the BES project, born from an initiative of CNEL and ISTAT, recently published the first Report on “Benessere equo e sostenibile”, centred on the monitoring of twelve “well-being” indicators, ranging from health aspects, social relations, quality of services, environment etc. It represents an innovative effort to go beyond GDP (Italian PIL) in focusing on “what really counts” for Italy (http://www.misuredelbenessere.it/index.php?id=22&tx_ttnews%5Btt_news%5D=67&cHash=9a9cf5078476c78cecfa43b9810374b7).

The Environmental Performance Index (EPI), designed by Yale University scholars, is a method of quantifying and numerically benchmarking the environmental performance of a state's policies. This index, derived from the Pilot Environmental Performance Index (2002), was designed to supplement the environmental targets set forth in the United Nations Millennium Development Goals. The United Nations’ Economic and Social Council is expected to play a major role in the preparation, implementation and follow up of a post-2015 development agenda. The team brings together the efforts of more than 60 UN agencies and international organizations. A Task Team is currently focusing its analytical work on the global partnership for development, monitoring and financing for sustainable development (http://www.un.org/en/ecosoc/about/mdg.shtml).

… and world views

According to Hak et al. [8], as indicators move to the centre of social and political debate, we need safeguards to ensure that the methodologies for calculating indicators and the organizations or government services that generate them are objective, trustworthy and protected from political interference. Most of the newest indicators are attempting to cope with the complexity of the socio-economic situations and the natural contexts of the involved communities, and are used not only to rank the "performance" of the countries, but increasingly to direct political action [22]. Conceptually the indicators are still deeply rooted in a western imaginary, compelling to rank and sort socio-environmental performance of incomparably different communities and contexts in a single list, according to a linear progression. Powerful international institutions are prompting to direct research areas and development projects according to a narrative that conveys a Western vision of "well-being", "satisfaction", "happiness", as well as a top-down approach, centered on the "experts" advise and reached thanks to technological innovations: according to Assadourian and Prugh [23] "*If we are to manage our way to a sound environment and a durable civilization we'll need to weigh rigorously our progress in ways scientists can support and the rest of us agree on"*. Erlichs' confidence in "scientific facts" [24] is translated into the need to find frames and narratives to convince the public to behave according to experts' advice.

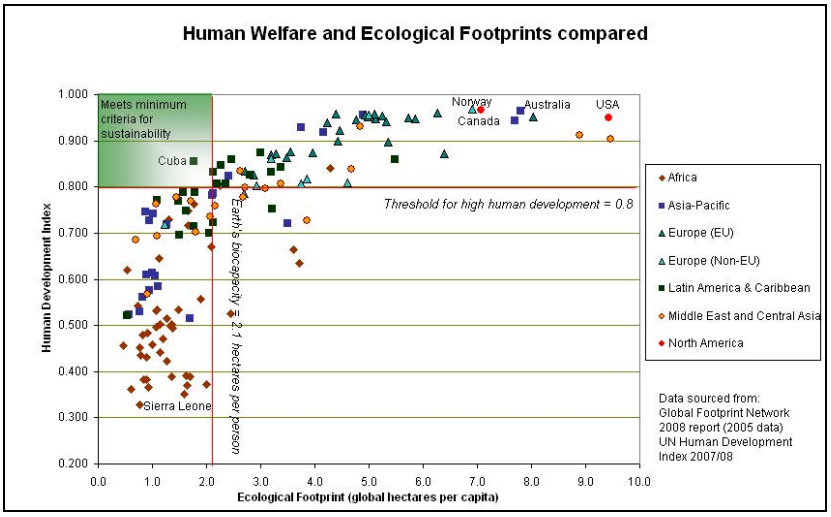
The relevance of data collection, thanks to the improvements in ITC area, is emphasized by Helbing [9: 51] "*It will take a massively data-driven approach that builds on a serious collaboration between the natural, engineering, and social sciences, aiming at a grand integration of knowledge. This approach to real-life techno-socio-economic-environmental systems is expected to enable new response strategies to a number of twenty-first century challenges"*.

The powerful imaginary of techno-science is implicit in many of the key concepts leading to the research and measure of indicators: "development", "progress", "modernity", "innovation". As Kearnes and Macnaghten observe [25: 282] the narratives associated with techno-scientific imaginaries "*are premised on a set of hopes or promises of what future social life should comprise, how the human body should be envisaged, how new transportation systems and infrastructures should be developed, how future warfare should be conducted, and how technological innovation determines particular social outcomes*".

Finally, most indicators are seeking to measure and monitor entities, as nations, whose boundaries have by now become highly porous, in the globalized world: it is the planetary level where the environmental limits to development have now become quite evident [26], and where equity and ecology are to be reconciled [7].

INCOMPATIBLE TARGETS?

There has been an abundance of targets of all types for various phenomena from the economic to the socio-environmental sustainability domain. But not a definitive acknowledgment of the incompatibility between different targets. Yet, a plot which combines two indicators (the Human Development Index and the Ecological Footprint) gives clear minimum conditions for sustainable human development and shows how much more we need to "think inside the box."



The goal (the green square on the upper left of the plot) is the minimum sustainable development quadrant. The concept has been recently emphasized by Raworth [11] "Between the social foundation and the planetary ceiling lies an area - shaped like a doughnut - which is the safe and just space for humanity to thrive in. The 21st century's unprecedented journey is to move into that space from both sides: to eradicate poverty and inequity for all, within the means of the

planet's limited resources". *With fewer words the concept was neatly expressed by Gandhi more than a century ago:* "Earth provides enough to satisfy every man's needs, but not every man's greed".

INDIA'S CONTRADICTORY ASPECTS

India – this great country that counts more than 1 billion and 200 millions people – is now shaken by two incompatible world visions and targets. A few examples illustrate the gap between the Gandhian imaginary, still present in the Indian culture and courageously witnessed and pursued by root based communities and intellectuals, and the western world view, abruptly imported in the last thirty years along with the choices of the central government in league with powerful national enterprises and multinational corporations.

Who is grabbing the land?

A Report by Rowden [27] explores the role of Indian agricultural companies that have been involved in the recent trend in large-scale overseas acquisitions of farmland, criticised as "land grabbing". The Indian government is concerned with its long-term food and water security and has loosened regulations on Indian companies investing in overseas operations. A Governmental Working Group on Agriculture Production in 2010 suggested that, like many other countries who have shopped for land abroad for growing crops to meet consumption needs, Indian companies could also be encouraged to buy lands in other countries for producing pulses and edible oils. "We should seriously consider these options," the Working Group recommended, "for at least 2 million tons of pulses and 5 million tons of edible oil for 15-20 years".

Finally, Rowden's report gives voice to those Indian activists fighting for small farmers rights and against the "land grabbing" going on within India. As Rowden reports, for Indian citizens, local political resistance to foreign corporate takeovers of local farmland is nothing new. Communities all over India have been resisting dispossession from they villages on the grounds that they have a prosperous bio-diverse economy, where food is produced according to the needs of the people: they claim that projects aiming to convert fertile land into power and industrial plants, mines, dams would reduce bio-capacity and threaten their self-reliance.

Thousands of adivasis, farmers, labourers, forest dwellers, fish workers, hawkers, small traders, urban and rural poor from across 15 Indian states and over a hundred grassroots movements rallied in New Delhi in August 2011. These groups criticised the priorities of the new draft legislation, which considers urbanisation and industrialisation (that subtract fertile lands to rural communities) as "inevitable", but not social justice and equity as necessary.

What is poverty, and how it is measured?

When size of income is thought to indicate social perfection, as it does in the economic model of society, one is inclined to interpret any other society which does not follow that model as "low income". [...] As soon as the scale of incomes had been established, order reigned on a confused globe: horizontally, such different worlds as those of the Zapotec people of Mexico, the Tuareg of north Africa and Rajasthanis of India could be classed together, whilst a vertical comparison to "rich" nations demanded relegating them to a position of almost immeasurable inferiority. [28]

As Nussbaumer et al. [29] remind us, indicators are not merely data; rather, they extend beyond basic statistics to provide a deeper understanding of the main issues and to highlight important relations that are not evident using basic statistics. Even if single indicators are straightforward to handle, such metrics present a narrow picture of the issue measured. Complex issues such as human development are multidimensional in their very nature. As a compromise between the simplicity of uni-dimensional indicators and the need to account for the multidimensional nature of some issues, composite indices were created.

One of the most debated concepts is that of "poverty", and assigning weights to such complex index can be challenging and is an arbitrary and value-driven process. Shrivastava and Kothari [30] point out that there is debate on the dominant trends in poverty in India: at one extreme are market-friendly economists who have spotted a definitive reduction of poverty over the last two decades. They are concerned with measurable changes, as the rise in wages and the growing purchase of consumer durables. At the other extreme are serious sceptics, and experienced observers of local situations, with an eye for changes in the qualitative dimensions of poverty (availability of work, security of employment, working conditions etc.): they are critical towards the dominant approach based on numerical data on income, that obscures the underlying causes of poverty, such social inequality and power relations.

According to these authors [30: 87] the widespread hunger persists in India not despite growth, but perhaps because of it: the virtual dismantling of the country's food security, land acquisition from farmers for the purpose of industrialization, diverting cultivation of food towards non food cash crops are among the causes of such situation. India is exporting large quantities of food even as hundreds of millions of people are hungry, either because they are be deprived of land or/and because of price inflation of food prices. Rural poverty increased also by the increasing diversion of land for creating new infrastructures (roads, ports, power stations) end for the extraction of minerals, with horrifying ecological and social impacts [30: 125]. Tens of thousands of hectares of land have been rendered completely

barren and unproductive, mining wastes poison steams and rivers. If India is to feed its own and the world's enormous appetite for minerals, millions of hectares of its land would have to be laid waste [30: 128].

The different conceptual frameworks underlying the design of poverty indicators is evident in a new indicator recently proposed by Khandker et al [31] who take into account the need of energy. According to authors, running modern economies without energy is impossible, and improving the poor's access to modern energy sources can make an important difference to their welfare and can be a catalyst for human development (World Bank, 2000). "Modern" energy is represented by liquid fuels, such as kerosene and LPG, along with electricity, in contrast with biomass fuels (wood, agricultural residue, and dung) that are defined inefficient and risky for human health and for the planet (emission of greenhouse emissions). No mention is done to renewable as compared to non renewable fuels. The paper, as clearly stated by the authors, postulates that energy is essential not only for supporting a decent quality of life but also for continued growth and productivity.

How far is this frame of mind as compared with the personal point of view of a young peasant, to whom the scenery may appear to be totally different! Remigius de Souza [32] helped his mother to make "*sheni*"[3] from the heap of dung collected in the field.. These were stacked and stored mainly for monsoon. It was a "free" energy – fuel – for cooking; this practice still continues. *"The cow dung helped us to help grow food in the farms, helped to cook our food, and helped us to maintain our mud house; thus helped us to sustain. And finally the used cow dung went to the soil"*. Since 1996 Vandana Shiva [33] observed that two thirds and more of the power requirements of Indian villages were met by the 80 million work animals. Indian cattle excrete a huge quantity of recoverable manure, half of which is used as fuel, saving a great amount of kerosene, coal and wood. The remaining half is used as fertiliser. According to Vandana Shiva, without recognising this source of sustainable energy production, scholars and economists did not mention that if animals were replaced by tractors India would have to spend more than a thousand million US dollars annually on fossil fuels, increasing dependence and unsustainability.

TWO ALTERNATIVE PICTURES OF THE SAME COUNTRY

Singh et al. [34] try to offer a double reading of the state of India, by comparing two view points, two imaginaries. They publish in an academic journal, Ecological Economics, and use the concept of social or industrial metabolism and the corresponding methodology of material flow accounting (MFA) to investigate changes in India's biophysical economy, compatible to standard monetary system of accounts. Following this approach, they aim at analysing the ecological "embeddedness" of India's socioeconomic system [35].

Their paper presents an original study based on quantifying resource use trajectories for India from 1961 up to 2008, in order to explore some of the challenges faced by India and to interpret the meaning of its development rhetoric in a biophysical sense. Some of the derived indicators calculated are also presented in relation to GDP to better understand the relationship between the economy and biophysical flows. From the presented data it is evident that the increase of GDP has been obtained at the expenses of a growing dependence both from non renewable energy input, and of an increasing dependency on imports. If India with a projected population of 1.69 billion in 2050 (UN Population Division, 2010) would have the per capita material use of an industrialized country, this would boost its demand for fossil energy carriers, ores and industrial minerals by a factor of 10 to 15. India's development alone would lead to an increase of global material use by 34%.

According to authors, India needs access to energy and key raw materials, but it is extremely doubtful that it can adopt metabolic patterns typical for industrial economies. India would need a new resource revolution...

Shrivastava and Kothari, at the conclusion of their breaktaking inquiry on the recent impressive and predatory growth history of 'shining' India, urge a fundamental shift towards a radical ecological democracy. Such new way – say these authors - has to be undertaken not by India alone, but at a global level. "*We are rapidly approaching the moment when the choices before us would be stark; an institutionalized, hazardous corporate totalitarianism at indefinite war with the people and the earth, or the consensual emergence of a radical ecological democracy... The middle ground between these two choices is already beginning to vanish*" [30: 331].

UNMASKING IMAGINARIES AND CREATING NEW BARRATIVES

Patomäki and Steger [36] hold that a sustainable global future depends on a fundamental shift from the currently dominant national imaginary to a global imaginary. Most of human reasoning is based on prototypes, framings and metaphors that are seldom explicit; although they can be forged, usually they are merely presupposed in everyday reasoning and debates. The background social imaginary offers explanations of how "we" fit together, how things go on between us, the expectations we have of each other and outsiders, and the deeper normative notions and images that underlie those expectations.

According to Rubin [37: S40] the **"***process of creating images of the future is partly intentional, but it also includes*

[3] "*Sheni*" is a 3 cm thick, 30 cm in diameter disc, made by mixing water, rice husk and chopped rice straw, pulverized by feet, and the balls of mix are pressed flat by hand, and sun dried.

subliminal elements. We build up profound presumptions and beliefs about how things are, how they have been, how they develop, and then draw conclusions on how they will be in the future". In society, there also may be the ''official truth'' of the future, held by those who have authority over people and institutions, or by people who are opinion leaders in some other way. Such images of the future may never have been revealed in all their true colours and shades, or formulated into words, so that they could be publicly analysed and discussed. However as a consequence, the future they represent exists as mere presumptions, it is never questioned, and it is accepted as such.

Which kind of imaginary, what narratives are developing academic scholars in their international cooperation projects?

Swaraj (self reliance), swadeshi (self rule), sarvovaya (the well-being of all), antyodaya (care for the "last man"), ahimsha (nonviolence) may not be old fashion, obsolete concepts, surviving within a few NGOs and backward rural communities. On the contrary, they might be the keys on which build a new imaginary of the world, and contribute to design new – qualitative and openly value-laden "indicators" - both for India and for all the communities sharing the globalized spaces of our shrinking Earth.

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CULTURES OF COOPERATION: STRENGTHENING THE NETWORK WITH GANDHIAN ECONOMISTS

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ABSTRACT

In 1909, Gandhi wrote Hind Swaraj, which summed up his conception of nonviolence in the field of politics and economics, laying the foundations for the future "school of Gandhian economists". In his analysis, Gandhi developed a harsh criticism of the "modern Western civilization", anticipating the main aspects of today's systemic crisis (economic, ecological, social), and outlined a model of development and lifestyle alternative, nonviolent and sustainable. Gandhi also introduced critical elements useful to the current debate about the role, limits and dangers of techno-science taken, among others, by Jerry Ravetz, Silvio Funtowictz and Vandana Shiva. In 1935 Richard Gregg was inspired by Gandhi in his work on "voluntary simplicity", then taken up by other authors such as Schumacher and Helena Norberg-Hodge and the school of the "degrowth" of Latouche. Gandhi's ideas were tested in India, during the struggle for independence, thanks to the collaboration of Vinoba Bhave and Joseph Kumarappa, and were systematized by Romesh Diwan, who proposed a model of nonviolent economy, providing a clear theoretical and practical basis from which to build an alternative to the current global systemic crisis. Trials are underway in various parts of the world. In India are of particular interest those conducted by Assefa, Barefoot College, Ekta Parishad and Navdanya, all inspired by Gandhian. In the West, the movement of the "Transition Towns" is carrying out numerous experiments on a small scale sustainability-oriented, demonstrating the relevance of the Gandhian message. It should be an effort by the academic co-operation to go on-line with these realities, that from the vision "Gandhian" narrative propose and experiment with very different actions from the imaginary still dominant, which puts the techno-scientific innovation in the service of economic growth and competitiveness.

The Talisman of Gandhi
I will give you a talisman. Whenever you are in doubt,
or when the self becomes too much with you,
apply the following test.
Recall the face of the poorest and the weakest man [woman]
whom you may have seen, and ask yourself,
if the step you contemplate is going to be of any use to him [her].
Will he [she] gain anything by it?
Will it restore him [her] to a control over his [her] own life and destiny?
In other words, will it lead to swaraj [freedom]
for the hungry and spiritually starving millions?
Then you will find your doubts and your self melt away.

HIND SWARAJ

The text of the talisman was found among the papers of Gandhi after his death and can be considered a kind of testament, which summarizes *Hind Swaraj* (HS) in a short, simple and incisive way.

Both works contain a message that brings together the best of the major religious traditions of humanity and should be read, as Gandhi himself seems to suggest, as a poem, of which he is the poet, in the great tradition of classic dramas such as the Bhagavad Gita: "The key to understand that incredibly simple (so simple as to be regarded foolish) booklet (Hind Swaraj) is to realise that it is not an attempt to go back to the so-called ignorant, dark ages. But it is an attempt to see the beauty in voluntary simplicity, voluntary poverty and slowness. I have pictured that as my ideal". [1]

Development models

The structural violence caused by the current model of development has reached such levels to become a sort of pandemic, as claimed by Michael Klare [2]. Gandhi saw this very clearly: "God forbid that India should ever take to industrialism after the manner of the west keeping the world in chains. If [our nation] took to similar economic

exploitation, it would strip the world bare like locusts." [3]

The criticism of Gandhi, of Vinoba Bhave and Joseph Kumarappa, which together form a "school of Gandhian economists" anticipates the current debate on sustainability: "(While) studying the human institutions, we should never lose sight of that great teacher, mother nature. Anything that we may devise if it is contrary to her ways, she will ruthlessly annihilate it sooner or later. Everything in nature seems to follow a cyclic movement. Water from the sea rises as vapour and falls on land in refreshing showers and returns back to the sea again ... A nation that forgets or ignores this fundamental process in forming its institutions will disintegrate." [4]

Industrialism

A crucial point in HS which raises many accusations is the criticism of Gandhi to the machines. Over the years he was able to return to the issue. What he refused were not the machines as such, but the craze of the machines: "The craze is for what they call labour-saving machinery. Men go on 'saving labour' till thousands are without work and thrown on the open streets to die of starvation. I want to save time and labour, not for a fraction of mankind, but for all. I want the concentration of wealth, not in the hands of a few but in the hands of all. Today machinery merely helps a few to ride on the backs of millions. The impetus behind it all is not the philanthropy to save labour, but greed..." [5] Moreover: "An improved plough is a good thing. But if by some chance one man could plough up, by some mechanical invention of his, the whole of the land of India and control all the agricultural produce, and if the millions have no other occupation, they would become dunces, as many have already become..." [6].

Gandhi invents a philosophy of "intermediate technologies" that will be resumed later by Ernst Fritz Schumacher: "My machines must be the most elementary type, which can be put in the homes of millions" [7]. And in an equally natural way the spinning wheel is described as "the science reduced to the terms of the masses" [8]. He himself recalls the moment "in London in 1909 I saw in a flash that without the spinning wheel there was no Swaraj" [9].

Gandhi's critique of industrialism is extremely clear: "You cannot build non-violence on a factory civilization, but it can be built on self-contained villages. Even if Hitler so minded, he could not devastate seven hundred thousand non-violent villages. He would himself become non-violent in the process." [10]

To criticism of Gandhi echoed those of Kumarappa: "In economics, large scale industry is the antithesis of democracy in politics. It is not by chance that the western nations have come by their economic organization. It is a result of their way of thinking in terms of autocracy. They find themselves with dictatorships in political organization, and centralized industries in the economic field. These two go together and we cannot have the one without the other."[11]

The "Gandhian school" does not raise negative reactions only today: it happened also in those years. In addition to Ambedkar, (leader of the *Dalits*, as he preferred to call the outcasts, rather than *harijan*, a term used by Gandhi) one of the main proponents of industrialism in India was Nehru. "Pandit Nehru wants industrialisation... because he thinks that if it is socialized, it would be free from the evils of capitalism. My opinion is that the evils are inherent in industrialism, and no amount of socialisation can eradicate them" [12].

The confrontation went on until the death of Gandhi, and in a sense even after, as claimed Gvvsds Prasad: "Nehru, during the last months of his life, realized the futility of his approach, particularly after the China war in 1962. He on a number of occasions thereafter expressed the view that Gandhi's approach to India's economic policies had unexpected merits in it. He pointed out on 22 September 1963 in a debate on planning the Lok Sabha: "Agrarian reform is basic to any plan. What is the good of an institution for a few persons here and a few persons there when millions of people in the rural areas do not have a life worth living?" He further argued that what Gandhi did was fundamentally correct. The spinning wheel was a symbol for village industries, which would be needed to serve the most backward Indian villages. Nehru said: "... taking things as they are in India, however rapidly we advance in the machine age -and we will do so- the fact remains that large numbers of our people are not touched and will not be touched by it for a considerable time. Some other methods have to be evolved so that they become partners in production even though the production apparatus of theirs may not be efficient as compared to modern techniques, but we must use that; otherwise it is wasted. We should think more of these very poor countrymen of ours and do something to improve their lot as quickly as we can. This is troubling me great deal." Nehru was disillusioned with the slow rate of the trickle-down effect, and was groping for a new model of development... Considering its openness to conviction which we find at the end of his life, it seems more than likely that Nehru would have given up his faith in heavy industry if he had been warned of the environmental consequences of the industrial model of development at the end of the twentieth century." [13]

In the words of Nehru there is the recognition of the failure of development policies followed and imposed by international organizations (World Bank, International Monetary Fund) for decades to come. And the "shining India" even with an annual growth rate close to 10% (before the crisis) is in no way managed to reduce extreme poverty. As stated by George Kent, Hind Swaraj "served then as the basis for building self-reliance, and thus resisting the British raj. It could now serve as a basis for resisting the rule of hunger in India" [14].

These criticisms of the capitalist economy and industrialism can be summarized in what J. Charles Koilpillai proposes to call "impossibility theorems of Gandhi" [15]:

- *First impossibility theorem:* A continuous increase of material wealth does not guarantee happiness because of the tendency that has to multiply even faster.

- *Second impossibility theorem:* It will be impossible for the industrialization to provide a satisfactory solution to the economic problems of humanity.

It is worth noting that to summarize the thought of "Gandhian school" in terms of "impossibility theorems" means to help making a substantial step forward to the economic theory and bring it closer to the rigor with which the two principles of thermodynamics establish the limits of energy transformations. This is a job that only in the second half of the twentieth century will be taken up by Georgescu Roegen [16] and by the school of bio-economy and ecological economics.

THE "SEVEN WORDS" OF NONVIOLENT ECONOMY

The theoretical framework inspired by the nonviolent economic studies produced in India and elsewhere by some economists, in particular by Romesh Diwan, identified seven key words: self- reliance, bread labour, non-possession and non-attachment, trusteeship, non-exploitation, equality, satyagraha.

1. Self-reliance. This term (swadeshi in hindi) indicates the absence of dependence, and the reliance on one's own strength: a form of self-reliant development. Gandhi would regard it as the Swaraj, that is, the struggle for self-liberation of India.

2. Bread labour. This term means "minimal manual labour for the production of use-values". But in general is the job category that is interpreted in quite different terms by Gandhian economy, as compared to classical economics. In the latter, work is considered a disutility by the master who would like to produce without workers, and is often seen as a nuisance by the worker who would like to receive the salary without working. In the Gandhian concept, the work is rather conceived as a normal activity for a living, a means of self-fulfillment and service to others.

3. Non-possession and non attachment. Gandhi believed that only those who possessed nothing were actually immune to fear. The property and the need to enjoy and have personal property are the cause of all fears, including the fear for one's own life. So the man who is not satisfied with the bare minimum to its physical survival cannot be "nonviolent", at least in the Gandhian meaning of the term.

4. Trusteeship. Again, the meaning of this word differs much from the ideas of classic economies (capitalism, communism, mixed economies), characterized by forms of private ownership of the means of production or statalized, or mixed, which are alienating the majority of the population. To overcome alienation and conflict arising from the management of the property, Gandhi proposes the method of the trust, close to the mutual cooperation. Such method is based on the assumption that no one has any right to the property that is the result of complex social phenomena, i.e. the means of production. How to achieve this? Through the "voluntary surrender" and the satyagraha. Examples of the application of such method are the experience of "nonviolent redistribution" of land initiated by Vinoba Bhave after the death of Gandhi through the program of the "Boodhan" (gift of land) and "Gramdan" (gift of the village), that inspired the nonviolent self-management in the villages, particularly the work of ASSEFA movement in Tamil Nadu and now also in other Indian States.

5 . Non-exploitation. Production must maximize the satisfaction of human needs. Therefore it is to be rejected any technology that, while there are unemployed workers in the community, save the manual labour and favors the concentration of wealth in few hands. Otherwise people are likely to be trapped in a spiral of greed and envy, in which the rich are getting richer and the poor get poorer.

6. Equality. The concept of equality is inextricably linked to that of exploitation. According to Gandhi, if the masses want to eliminate the injustices of capitalist society, if they want to change the methods of capitalism, then they must strive to achieve a more equitable distribution of the products of labour ... We should no longer take care of getting what we can, but refuse to take what not everyone can have.

7 . Satyagraha. It literally means "the force of truth" and is the moral analogous both of war and class struggle, which turns easily into violence. To make a profound social change such as that of nonviolent economy the presence is required of a nonviolent revolutionary minority that must be able to practice the satyagraha, which can be summarized in a few points:

- we must fight for a just cause;
- the struggle must exclude violence in all its forms;
- we need to distinguish between just and unjust laws;
- we must fight without hating the opponent, making a distinction between role and person;
- we have to be able and willing to accept the sacrifice and suffering imposed by the struggle;
- there has to be a concomitant commitment to a constructive program, able to anticipate a positive outcome for all parties in conflict;
- an attitude of humility has to be assumed by those who are engaged in this kind of fight;
- we must assume an attitude of seeking truth and of a sincere acceptance of discipline during the fight.

TECNOSCIENCE

Despite not having received a scientific education, the reflection of Gandhi and his school on "science and technology" anticipates themes of extraordinary relevance. One of the key points is their rejection of technological determinism in science, technology and politics. This anticipated the most recent debate on the neutrality/non-neutrality of science, and the field of science-technology-society (STS) studies. [17]

The action of "Gandhian school" was very concrete and practical: its proponents believed that "the basic objective of science is to enhance a sustainable co-existence of humans and non-human beings." [18] They gave birth to initiatives to develop a program of "science for the villages", in which the priority was the "science of charka", but ranged from health science to that of beekeeping. The AIVIA (All India Village Industries Association), anticipate the centers of "science for the people" that are inspired by a radical proposal regarding "scientists" as "the workers of a community" [19].[1]

Gandhi also harshly condemned the widespread practice of vivisection. More generally, with his critical work he helped to lay the foundations for an analysis of the relationship between science, "internal enemy" (literally, "intimate enemy" according Ashis Nandy [20]) and colonial rule: a theme deepened by Ashis Nandy and other authors [21].

Report of this work deserves the contribution of Shiv Visvanathan [22], with an impressive diagram linking together vivisection, factory farms and slaughterhouses, scientific management of assembly lines (which culminated even then in Fordism), concentration camps, nuclear weapons (Hiroshima and Nagasaki), starting from a conception of the body seen as a machine and denouncing the submissive and subordinate role of many scientists, engineers and technologists in the dissemination of unheard practices of violence.

In another passage, quoted by Anup Sam Ninan [23] Gandhi addresses one of the crucial issues of his thought, the relentless pursuit of truth, putting it in relation with the scientific truth: "You should understand ... that I never refuse a scientific truth that has been established. But you should also note that in (the realm of) science what has come to be accepted as truth today is not unlikely to be proved as untruth tomorrow. Sciences founded on the deduction are always bound to suffer this basic imperfection. We cannot therefore regard it as an absolute truth." [24]

Gandhi is aware of the fact that our human condition leads us to an endless search, a continuous approximation to the truth. His conception of truth is a relative, not absolute truth, as clarified by Giuliano Pontara in an introduction to the anthology of Gandhian writings [25]. Gandhi himself titled his autobiography "Experiments with Truth", an expression of great wisdom and modernity, which allows us to understand why we can speak of "science of *satyagraha* and nonviolence". If modern science is a continuous search for truth by "trial and error", also the method used by Gandhi, on a different terrain - that of ethics - relies on the same principle in the tradition of philosophical speculation of Indian culture.

VOLUNTARY SIMPLICITY, DEGROWTH, SUSTAINABILITY

In proposing the re-reading of HS, Aditya Nigam is inspired by the metaphor of Gandhian "angel of history", opposed to "angelus novus" of Walter Benjamin: "*A Klee painting named 'Angelus Novus' shows an angel looking as though he is about to move away from something he is fixedly contemplating. His eyes are staring, his mouth is open, his wings are spread. This is how one pictures the angel of history. His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe which keeps piling wreckage and hurls it in front of his feet. The angel would like to stay, awaken the dead, and make whole what has been smashed. But a storm is blowing in from Paradise; it has got caught in his wings with such violence that the angel can no longer close them. The storm irresistibly propels him into the future to which his back is turned, while the pile of debris before him grows skyward. This storm is what we call progress.*" [26]

This storm is manifested today in all its intensity with a multiplicity of crises (economic / financial, environmental / energy / climate, relational / existential) that create conditions of great instability and whose ultimate root is of a spiritual nature. [27]

Other scholars and social activists have realized that all the prescriptions needed for present day problems are found in Gandhi 100 years ago. Richard Gregg was probably the first in the West to propose the "voluntary simplicity", in a paper of 1936 published by a religious center of the Quakers in Pennsylvania. [29]

Ivan Illich was one of the most significant personalities and his writings had considerable resonance in the 1970s and 1980s of the last century. Many of his works were inspired directly by HS. In a short essay [30], Illich pays homage to the choice of simplicity and voluntary poverty of Gandhi, with expressions that resemble the beautiful story of Jacques-Henri Bernardin de Saint-Pierre, *The Indian hut* [31], a story that, as recalled by Amitav Ghosh, was "a favorite of Mahatma Gandhi".

The list of critics of industrial gigantism, which led to a huge "scale error" in the design of human societies, includes many other authors (Lewis Mumford, Lanza del Vasto, Jacques Ellul, Ernst Fritz Schumacher, Aurelio Peccei and Dennis Meadow of the Club of Rome, Wendell Berry) up to the Gandhian economics scholars (Romesh Diwan and,

[1] On this topic we may recall at least the action of ASSEFA, www.assefaitalia.org, the "barefoot college" of Tilonia, www.barefootcollege.org, the center "Navdanya", www.navdanya.org, directed by Vandana Shiva.

in Italy, Roberto Burlando) who anticipated the proposals of the movement of degrowth of Serge Latouche.

DEAR GANDHI

We can conclude these reflections by asking two questions: what Gandhi would think seeing what is happening in the world today, and where are those who refer to his teachings, who can be called only approximately Gandhian? We can start from a nice conversation between Dilafruz Williams and Pramod Parajuli [32]: “To talk about Gandhi today is to talk about people who eke out their livelihoods directly from the earth and do it in a way that nurtures both biological and cultural diversity.” [33]

“Gandhi's ecologism (if we can call it that) was about rural peasants eking out their subsistence and necessities from a piece of land. In short, he might not have theorized the mathematics of sustainability but he showed us how to pursue sustainable livelihood”. [34] And this is what Joan Martinez-Alier calls “ecology of the poor” which has always learned to live in harmony with nature, preserving the ability to restore. [35]

Compared to the time and knowledge of Gandhi, we are now also able to theorize a bit of “simple” math of sustainability, although Wendell Berry says with honesty that “you can't expect to think about what you don't know, and nobody knows this planet”. [36] It's therefore necessary to act “with caution”, without haste, to avoid “uncorrectable errors”.

Pramod also notes that: “We talk a lot about how Gandhi educated the Indian masses but we easily forget about what the peasants and the masses of India taught him. It seems to me that it was the peasants of Champaran ... who gave Mahatma Gandhi the first bitter taste of the reality of rural India in 1917.” [37]

In addition to Ruskin and Tolstoy, Gandhi's initiation to the problems of the lower classes took place with the direct involvement in their lives, an experience that marked him for the life. From this experience, he was able to develop a process of decolonization and “Pedagogy of the Oppressed” based on the rediscovery of a personal power founded on nonviolence that everyone, including the most simple and humble, possesses. He was able to transform the seeming “weakness” of the oppressed in a policy of small things (the *charka*, the *khadi*, a handful of salt) with which he managed to bend the English rule. “Today, if Gandhi were alive, he would have beamed with delight to know that people are organizing and mobilizing around such trivial matters as food, seeds, plants, medicinal knowledge, patents rights, human genomes, biodiversity and cultural diversity. Just as Gandhi used the *charka* (spinning wheel) and a pinch of salt as symbols of warfare on British colonial rule, today, seeds, medicinal herbs and food have become potent points of resistance and struggle against global trade and homogeneity.” [38]

Ashis Nandy has also reflected on where we can find “Gandhi Today” [39] identifying four different possibilities.

The first two, the “Gandhi of the state and of Indian nationalism” and the “Gandhi of Gandhian” are both figures of speech that contradict the “prophet who wanted to live in the slums of politics”, as defined by Arnold Toynbee. The other two figures, the “Gandhi of the dissolute and unpredictable” and the “Gandhi of the slums”, who roam the world without weapons to subvert the established order are those that induce sympathy and hope for the future.

But there's more, according to Nandy. He declares that in the last twenty years of his work he was inspired by the Gandhian sentence: “those who think that religion has nothing to do with politics do not know anything about religion or politics.” [40] And this led him to discover “a billion Gandhi” in rural populations of the villages in which ordinary people have always lived with an attitude of mutual tolerance, contrary to what happens in the big cities, venues of inter-ethnic and religious violence.

These are some signs of hope. As well as the Buddhists believe that each of us is a potential Buddha, those persuaded of nonviolence may think that in each of us there is a potential Gandhi to cultivate by practicing the teaching that he has left us: “Be the change you want to see in the world”.

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RETHINKING INTERNATIONAL COOPERATION: THE CONTRIBUTION OF PEACE STUDIES

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Peace building and human security have gained in the last decades an increasing attention in the area of International Development Cooperation (IDC), and are now at the core of the most recent UN elaborations for a post 2015 framework. This focus' shift is also an effect of the dramatic increase in intra-state wars and local violent conflicts following Cold War's end, as well as of the global context after the 9/11, and calls for a new role of Peace Studies in reframing the idea of international cooperation and rethinking its practices. Agencies and NGOs operate providing help both in post-conflict peace-building, and with humanitarian assistance in the midst of ongoing and resurging violence; countless human lives have been saved by international humanitarian interventions. Tensions have however arisen when linking emergency aid to longer term development processes especially for the social, economic and political implications that these interventions may have.

In exploring the relation between IDC and peace, a number of contentious issues can be raised. What contribution can the IDC bring in dealing with short and long term factors that make societies prone to conflict? How to guarantee neutrality, impartiality, and independence in a situation of violent ethnic or internecine conflict? How to be sure that the intervention does not prolong the conflict instead of reducing its duration? How to avoid that the delivered aid maintains and reinforce the very structure which is at the origin of the violence? What elements should be noted with reference to the debate concerning the 'responsibility to protect', and in wider terms, in relation to the position of the civilian population in situation of conflict? How should the issues related to emergency and humanitarian aid be linked to a wider social, political and economic context? How are these issues represented in the current discourse, and what effect have these representations on the practice of IDC?

All these questions have been raised in many occasion and have led to intense debates. It is evident that any successful intervention requires not only a critical assessment of past interventions, but also a systemic evaluation of the context in which the conflict arises, and, with reference to the conflict itself, of its causes and its development. An understanding of how different types of conflict develop and of their main characteristic is essential, as well as all the issues related to interventions in (actual or potential) conflict areas. Peace Studies and Peace Research represent an interdisciplinary field of studies that promotes the exploration of the above issues, and has developed in the last thirty years an openness to contemporary challenges arising in the post cold war period [1]. The panel proposed at the CUCS conference aimed at highlighting areas of interest where further reflection is needed, with contributions led both at practical and theoretical level.

The complexities or the inter-linkages between development and peace issues have been explored first from the point of view of their institutional implications. In his paper, Consorti considers development cooperation though the lenses of the Italian cooperation law too, where international development cooperation is said to be ‘part of the foreign policy’, mostly expressed in its economic dimensions. The international debate has however progressively highlighted the need for a wider perspective: in this, the Human Development Index represents an important achievement. However other authors, such as Maslow, Freire, Max-Neef, had already highlighted the importance of avoiding a consideration of human needs under a too narrow viewpoint: human needs need to be recognized under multiple perspectives, where the relational elements of the context play a key role. It is only by giving a chance for direct expression to peoples and communities often thought as mere objects and ‘targets’ of international development, that these elements may be fully acknowledged and sustainable improvement of life condition will be brought about. Peaceful coexistence is directly connected to a stronger integration between development, rights and peace. The question is how these concerns, particularly after the tragic experience of the WWII have progressively surfaced and have been embedded into institutional arrangements.

The fact of assuming the construction of a culture of peace as a key objective, implies a primary pedagogical commitment that is well reflected in the motto of UNESCO “Building peace in the mind of men and women”. This perspective found an important thrust with Federico Mayor Zaragoza, Director General between 1987 and 1999: the Sevilla Statement, adopted because of his, among others’, initiative in 1987 recognizes war and violence as ‘cultural products’ that can be opposed by an appropriate commitment in education. This debate paved the way for a renewal of UNESCO approaches and, in 1997 for the establishment of the program *Towards a Culture of Peace*, in which a positive approach to peace is substantiated in a series of key principles. The International Year of the Culture of Peace, proclaimed by the UN for the year 2000 builds on these premises, pursuing the aim of transforming these principles in binding commitments for the states. As Consorti remarks peace is a basic human need, to be fostered primarily though education, and IDC must assume peace-building as its own goal.

The issues raised by Bartolucci and Gallo concern the role played by development cooperation initiatives in conditions of conflict. The latter needs always to be understood as part of a much more complex system of relations and powers; international cooperation is affected by them and at the same time affects them; disregarding these complexities leads often to unintended consequences. In general terms development cooperation has an effect on the conditions in which social actors interact, often producing unintended side effects, and fostering conflicts that before the interventions where not there, or had completely different features. When looking at the issues to be considered while providing aid in situation of conflict, other elements deserve to be considered, such as the risk for aid providers of giving unintended support to one part, to the detriment of the other. The ethical message implicit in the way aid itself is administered is also important and oftentimes neglected; these may foster views of belligerence and separation rather than contributing to establish more relaxed relations among the actors on the field.

Particularly in the case of asymmetric conflicts, where a structural imbalance between the parties is part of the causes and the conditions that foster the conflict itself, the elements summarized above may produce completely unwanted effects: those of reinforcing, rather than mitigating, the structural inequalities that are among the root causes. In the case of Israeli occupation of Palestine, for example, it has been observed how the international aid system ends up supporting and confirming the status quo. International development cooperation system operates and legitimates itself through narratives, that play a role in establishing shared and 'appropriate' ways of defining needs and of acting in order to address them. According to Bartolucci and Gallo deconstructing and decoding language and discourse becomes therefore extremely important for understanding perceptions of aid and ways to improve its effectiveness, identifying real needs, as well as addressing ways of preventing escalation of conflict into violence.

De Sisto points out at the reasons that seem to play a role in prompting interventions of NGOs in the field of peacebuilding, often following the priorities dictated by the donors more than adherence to local needs and priorities. The divergence in the goals between donors, practitioners and local social actors is a matter widely debated in literature; when discussing situations related to conflict management, transformation and resolution, this divergence seems however to play a peculiar role: conflict related situations are recognized for making donors less reactive to the needs expressed by the beneficiaries, and short term activities on conflict resolution may provide a relatively comfortable area of engagement that escape the complication of a deeper understanding of local contexts.

The same tensions arise in relation to evaluation too: organizations usually fear a frank discussion about the reasons behind failures; instead, evaluation often overstates the compliance to pre-determined indicators, the importance of donors' procedures (often focused on short term output), and the possibility of generalizing the outcomes in terms of 'good practices'. All that may therefore easily lead to adopt inappropriate perspectives when critically looking at the outcomes of development interventions. Agencies trying to adhere to the 'rules of the game' of an increasingly competitive field of cooperation and conflict resolution, may easily fall into the trap of transforming the potential for peace into chances for protracted conflict, where they have found their 'ecological niche'. According to De Sisto, the only possibility available in order to improve the quality of development initiatives is to establish ground for a better understanding of the local complexities through participation that, in situation of coflict, may open room for alternative ways for conflict resolution.

The questions raised by Pallottino concern the way the interdisciplinary field of Peace Studies and Peace Research interacts with that of Development Studies. Two elements, at the turning of the Century were doomed to leave a trace on the global development scene with paradoxically contrasting effects: the 9/11, redefining the context and the priorities of International Development Cooperation in terms of security; and the Millennium Development Goals, stemming out of the Millennium Declaration and a decade of international debate on the priorities to be summarized within a globally shared agenda. These two elements changed the stage of Development Studies and Peace Studies: they contributed focusing the development agenda on the 'how' agreed-upon objectives had to be pursued; and at the same time re-defined the way peace and conflict had to be represented in the contemporary world, in terms of concerns for security.

An increasingly technocratic and facts-based approach to development issues went on somehow marginalizing the political core of the problems; and contributed pushing a somehow 'orthodox' reflection on peace and conflict towards humanitarism, as in an 'orderly' world the conflict ends up for being conceived just as a temporary disturbance within an otherwise linear path of progress. Humanitarism, strongly needed to save endangered lives, becomes a way of controlling the diversity: a sort of a technique for governance having a similar effect, in this regard, to traditional IDC. Development studies (and contemporary humanitarism) are focused on the idea of a 'consensual world', where conflict is a sort of temporary disturbance; thus they do not appear to fully grasp the implication of conflict in the processes of social, economic and political transformation, and its possible violent degeneration within human societies. It is not therefore a surprise the relatively marginal position of peace related issues in the current debates on the global perspective beyond 2015, after the Millennium Development Goals' terms will come to an end. In this line, and in order to formulate a perspective that is able to respond to some of the weaknesses of the MDGs in giving a fuller account of the complexities of the social interaction, peace studies can offer insight useful to bring back into the game some missing elements.

Peace studies can contribute to future global frameworks by embracing and articulating a positive idea of peace. Peace doesn't consist merely in the conditions where violence is not there, and people is free from fear: this idea of 'negative peace', seems to be closely related to the articulation done in most of the proposals currently discussed at international level, often based on a 'peace and security' paradigm. A wider approach, focused on the features that make

social interaction conducive to a more peaceful society, has been developed by different thin tanks (such as in the case of the 'Pillars of Peace' report), but are still hardly integrated in the debate.

The reflections developed by these contributions represent only a initial move in the attempt of capturing different implications of a renewed understanding of peace and conflict, and the elements that may lead to the improvement of development cooperation practice. In addition to those, other issues should also be explored; some of them have been shortly mentioned in the debate following the presentations, and may serve as a starting point for further research.

Firstly, we should consider the actors are involved in the dynamic, and the extent to which they find room for their voice to be heard and they play 'from within' in the system of International Development Cooperation; or they play somehow independently and are therefore able to introduce some forms of renewal in that system. The independence of actors such as the NGOs is in discussion, basing on the degree of reliance on their relations with the institutions (including the degree of financial support secured through these institutions). The issue is further complicated when considering the constraints introduced by other forms of reliance, such as public support connected to media coverage of events. The role of other actors would deserve deeper understanding, such as those of decentralized cooperation, expression of local territories that develop their interests under a more 'horizontal' approach (territory with territory) rather than the perceived top-down approach of traditional development cooperation.

A second range of issues is that focused on the mechanisms that contributes shaping the landscape of development cooperation, and more particularly of development cooperation in conflict-related situations. What peculiar features are introduced in such situations? Are the existing practices really conducive to a full understanding of conflict reasons, which in many cases is the premise for establishing a path of conflict transformation? Or, on the contrary, they tend to somehow stabilize conflict situation, and the specific 'intervention domain' associated with it?

A third set of comments are those related to the issue of complexity, and the mechanisms that often reduce the ever-changing reality to an easy-to-grasp but oversimplified representation. The pressure to urgent action, oftentimes fully justified by the course of events, represents however a strong incentive to adopt a more complex approach, often perceived as a loss of time. Recent research [2] strongly highlights the need for assuming the complexity as part of the picture, and peace studies may have more than something to say at this regard.

A fourth point worth highlighting, is about the narratives used to represent situations and priorities for intervention. It is interesting to note that the process of institutionalization and mainstreaming of new (or renewed) concepts strongly relies on the construction of a new discourse. History shows that in many cases, institutionalization and mainstreaming of new concepts has been associated with instrumental and political use of these, homogenizing and stereotyping: the case of participation is somewhat paradigmatic [3]. The construction of a new narrative on peace and conflict is however needed in order to transfer into shared arrangements elements that can help reviving what now appears a too short-sighted understanding of development cooperation.

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DEVELOPMENT COOPERATION AND THE "CULTURE OF PEACE" INSTITUTIONALIZATION

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ABSTRACT

From an institutional point of view international development cooperation represents a governmental tool for national foreign policy related to meet foreigners needs of an economic nature. This paradigm does not include peace-building, although peace is a basic human need. International law states "Culture of Peace" as an institutional objective, so State should run their development cooperation programs in a building positive peace framework.

From an institutional point of view, "international development cooperation" corresponds to the tools that States as such, possibly supported by other non State actors – that in this way, however, are absorbed into the institutional framework - put into place to meet needs of an economic nature. In few words, international development cooperation is primarily understood as a response to basic economic needs: food and agriculture at a first level. States also use this lever as a tool of their foreign policy. Italian law stresses hardly this issue, as art. 1 of law 49/1987 expressly states «international development cooperation is a part of national foreign policy». Giving development support, States build ties and alliances. As one of the most important example we can quote the post Second World War "Marshall Plan".

According to this context, governmental development projects have consolidated themselves through time taking a *modus operandi* very linked with political and diplomatic goals that, more in general, "international cooperation" pursue. Several criticisms have been brought up against this element, especially starting from the 70s of the last century, and especially from popular movements that were challenging - and at the same time wanted to correct - the prevailing economistic approach with which governmental institutions look at development cooperation. These criticisms cannot be exhaustively examined in this paper, but can be summarized by the idea that development cannot be limited to the response to basic economic needs [1]. In fact there are needs, not always readily appreciated from the economic point of view, which must be equally satisfied, especially according to development goals. Indeed, their implementation is in certain prevail and precede purely economic interventions. A development cooperation intervention that is limited to meet basic needs (food, health, ...) is not only addictive, but it takes away its eyes from other human needs - such as education, culture, ... - that form the basis for ensuring social and economic independence, and thus future sustainability.

In the same years (more or less the seventies of the twentieth century) similar critical insights started to make their ways into the institutional structures. Paradoxically these structures, although actors of development cooperation, somehow represented the source of inequalities that development cooperation should have fought against. In other words: those who acted, accepted the conditions that legitimized their intervention. The States of the first and second world would turn to those of the "third world" in a logic of international alliances, supported by economic cooperation activities, including those «for development». So the help offered was often presented itself as a weapon of blackmail. It is not indeed by chance if in institutional terms, international development cooperation is an integral part of the foreign policy of a State.

By acting in this institutional context, even the international organizations devoted to development cooperation constitute one of the subjects with which States act at the level of international relations. This subject can be put next to traditional diplomatic activities, and even to the use of armed force as an instrument of international relations. If we consider that the war is conceived as a way - albeit extreme - to assert the good reasons of policy, it is understood that development cooperation becomes an additional powerful tool through which States pursue their sovereign interests. It is hardly necessary to observe that the development cooperation could not have been intended to "develop" the autonomy of the people, but to create conditions useful for the "development" of national interests of donors, including creating and maintaining economic conditions which in fact do not affect the substantial differences between the State which gives and the recipient of the donation. The need for the recipient States to pay their debts back to the donors constitutes a typical example of the condition of subordination in which the institutional interventions of development cooperation operate.

This economic paradigm, that does not really seem to have made significant changes with respect to North-South relations, is hard to include among the areas forms of building positive peace: namely a peace by peaceful means. Even institutional cooperation seems to be dependent on the logics of violence that characterize international relations.

Rather different is the *bottom-up* kind of development cooperation, that comes from below and which is substantiated on the response to human needs: i.e. needs understood in a broader and more comprehensive way than just from an economic or material side. This insight is based on the idea of *human development*, which as we have just hinted at the end of the eighties, was accepted by UNDP, precisely to overcome the setting of development understood as the sole economic growth. States are no longer only classified according to their GDP, but also to the presence of additional elements that contribute to build the HDI (Human Development Index), among which promotion of human rights, peaceful coexistence, democratic participation, environmental protection and sustainable development of land resources, development of health and social services with prior attention to the most urgent problems and the most vulnerable groups, improvement of education of the population, with particular attention to basic education. This was certainly a step forward; but the above mentioned items are still macroeconomic indicators.

In any case, according to HDI World Countries were divided into four equal groups: the index is counted for 169 countries, this means that we have four groups of 42 States, with "a trick" the State that advances was allocated in the highest group. Thus, although this is a less rough economic index than previous, we are still far from a good consideration of the actual elements that allow to analyze the terms of "development-to-be" of a local community.

Despite that, we are facing a significant change in cultural terms. The adoption of the HDI demonstrates that human needs are not only economic and material, and that the development cannot simply create conditions of less discomfort, but must also be completed in more comprehensive ways, taking into account human needs in complex and articulated manners.

Looking at three authors who, from different points of view, based their analysis on human needs, help us to understand how it is possible a change of paradigm that can foster the conceptualization of international development cooperation as a peace-building factor.

The first of these is Abraham Maslow, who conceives an idea of a relational and gradual needs [2]. He resonates in psychological terms and builds the so-called "Maslow's pyramid", that shows human needs in a more complete way: it means that the development is not the result of only basic economic support, but should also take the effort on overall promotion of the human person, which obviously needs to eat and work, but this is only the first step – effectively basic – of the stairs. Development is reached only when we arrive at the top of the stairs, where we find dreams, aspirations and emotions that ask to be answered too. There is no development without answers to human needs.

A second author we can refer to is Paulo Freire. Much could be said about his work. To remain in the field that concerns us more closely, we can remember pedagogic premises that build an itinerary of thought based on the consonance between research and action, and between theory and practice. That is the so called «praxis». In his view, the theory has positive effects only if it is transformed into a praxis of democratic liberation: and this is "development" [3]. According to him, it concerns primarily the relationship between teachers and students, but more generally relations of power. According to Freire, development is the construction of new power relations that build peace through liberation from oppression; therefore, it is not conceivable a development cooperation which does not start from similar premises and is essentially based on an orthopraxis of peace.

Finally, we can look at Manfred Max-Neef. He is a Chilean economist of European origin, which insists on the idea of human development from below. His thesis is not well known in the West, but very well known among the Andean communities, who consider his thought as a fundamental reference point. The photocopies of his work already widely circulated turned in the Andes long before they were published [4]. The Max-Neef idea of development moves from an economic perspective, but in the background remains the political theme that focus on the development of local communities. This is possible only if international aids are decided with autochthonous population, and give them the skills to build their own development, according to their goals and not to the donors one.

The attention to these three different but converging lines of thought allows us to argue for the importance of human development in the practice of international cooperation, especially if we imagine international development cooperation as a peace-building factor.

These reflections can impact also in institutional terms. At first we can mention the importance assumed by the institution of the United Nations and in particular by the adoption of the Charter, that for the first time in human history imposes the prohibition of war and of its threat in the field of international relations. So that the wars - which still exist - should be always placed in the field of "exceptions to the rule".

The profound insight of the *need for peace* by the tragic end of the Second World War impacted on the institutional history too, starting a discussion on "Culture of Peace". These are mostly symbolic cues, but not non-existent, which link peace-building issue to human rights protections. It is mentioned both in the Charter of the United Nations and in other documents among which crucially the founding document of UNESCO, the specialized agency of the United Nations for education, science and culture organization, which motto is "Building peace in the mind of men and women". In fact, the latter states as a premise that "since wars begin in the minds of men, it is in the minds of men that the defences of peace must be built". The overall activities of this Agency must therefore be observed from this specific point of view, as it is an overarching objective.

In this context particular attention should be paid to the Sevilla Statement of 1986. That was produced at a conference of scholars (meeting in Seville in May 1986), which consecrated the scientific idea that violence, and war, are cultural products: such as they can be defeated by cultural actions. The proponents of that conference was Federico

Mayor Zaragoza, a Spanish biochemist, at that moment Director-General of UNESCO from 1987 to 1999, who gave a strong impetus to the peace policies of this organization, especially according to nonviolence as an hard item linked to peace- building policies [5]. So UNESCO started a new program where Culture of Peace and Non-Violence are as two legs. Walking forward the future is not possible if one of them lack.

In few words, Culture of Peace and Non-Violence is assumed as a complex commitment to peace-building, mediation, conflict prevention and management, peace education, education for non-violence, tolerance, acceptance, mutual respect, intercultural and interfaith dialogue and reconciliation. It is a conceptual as well as a normative (*soft-law*) framework envisaged to inspire thoughts and actions of everyone. Therefore, it requires cognitive as well as the emotional abilities to grapple with our own situation in a rapidly changing world as well as with the emerging world society. This aim does not entail mere factual knowledge, but also the broadening of our consciousness and the willingness to develop a new awareness, a new way of being in this world, a new "mental mapping" (the above mentioned change of paradigm).

As stated by the former UNESCO Director-General, "Peace is more than the absence of war, it is living together with our differences – of sex, race, language, religion or culture – while furthering universal respect for justice and human rights on which such coexistence depends". Therefore, peace should never be taken for granted. It is an on-going process, a long-term goal, which requires constant engineering, vigilance and active participation by all individuals. It is a choice to be made on each situation, an everyday life decision. The culture of peace continuously brings new challenges prompting us to reconsider the fundamental principles of humanity by highlighting what binds cultures and societies to each other and from within. Since what unites us is deeper than what separates us, there is a true ethic of living together that is taking shape in the culture of peace and non-violence process.

With a view to achieve the following expectations: a) fundamental principles of peace universally shared to be appropriated by different cultures, thanks to a genuine dialogue and mainstreamed into public policies; b) tension between universality and particularism, cultural identities and citizenship in a globalized world analyzed and a better understood; c) everyday peace to be conceived as an everyday living experience, not only in periods of conflict, but also in ordinary times.

These institutional tensions have led UNESCO to adopt in 1997 a program called *Towards a Culture of Peace Programme*. It is now difficult to find online the original documents, that the UNESCO itself, in its own dossier of information CAB-99/Ws/4) summarizes as follows:

- the notion of "Culture of Peace" means that peace is much more than the mere "absence of war". Peace is a set of values, attitudes and behaviours that promote peaceful conflict management and the demand for mutual understanding.
- Peace is the only way to live together. The term "Culture of Peace" presumes that peace is a way of doing, being, living that can be taught, developed and implemented.
- "Culture of peace" is "Peace in Action". A long-term process that requires a transformation of both the institutional practices of as well as the individual patterns of behaviour.
- Finally, to survive and get involved with these values, a "Culture of peace" requires non-violence, tolerance, solidarity.
- The idea of peace as a consensus is sometimes misinterpreted as absence of conflict, or as a process of social approval. In contrast, to achieve mutual understanding we must admit the differences, such as sex, race, language, religion, culture. The question of mutual understanding requires the recognition of diversity.
- The coexistence of diversity cultivates values of peace, which includes, respect for others, tolerance, solidarity and openness to non-violence.

These points of view - now institutionalized - have produced, among other things, the UN Resolution 5215 of 1997, which proclaimed 2000 the "International Year of the Culture of Peace"; UN Resolution 5325 of 1998, which declared the "International Decade for the Promotion of a culture of peace and non-violence for the Children of the World (2001-2010)" (united to other useful documents, simply on-line available).

The UNESCO has further expanded its work in this area by proposing the idea that peace is the fruit of peace , as stated in The New Programme of Action on Culture of Peace and Non-violence, which **"**implies two essential approaches: a) to rethink the dividends of cultural diversity, as benefits of a continuous exchange between cultures; b) to promote the principle of learning to live together, the challenging Art of Unity-in-Diversity conducive to a lasting conviviality pursuing these three Main Goals: i) to develop a new political, conceptual and programmatic approach *in favour* of a strong commitment by States and civil society to nurture "everyday peace" involving women and youth (i.e. through ICTs and social media); ii) to improve the world's global understanding and deconstruct preconceived ideas by placing emphasis on the future as a humanistic aspiration (i.e. by establishing guidelines for a global curriculum on shared values); iii) To promote a global movement in favour of the ideals and practice of a culture of peace and non-violence with emphasis on youth civic engagement and democratic participation (i.e. by creating "hubs of peace"). Looking at the complete Programme of Action of the Intersectoral Platform for a Culture of Peace and Non-Violence (including the Platform's objectives, strategy and modalities, expected results and partners), we can find some fundamental resources, a selected bibliography and a presentation of its Main areas of Action and Flagship activities.

Taken all together, these Resolutions and activities propose a proactive dimension of the culture of peace as an institutional commitment of the States, which should improve their institutional and governmental efforts for the international development cooperation looking at "Culture of Peace" as a key. That is quite different from the above mentioned economistic approach. Peace is a basic human need; international development cooperation must assume peace -building as its own goal, and according to this issue, international development cooperation could become a formidable peace-building tool.

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DEVELOPMENT COOPERATION, PEACE STUDIES AND ASYMMETRIC CONFLICTS

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ABSTRACT

The connection between economic development and peace has been widely studied. It is commonly held that, at least over the long-term, development cooperation and international aid can contribute to alleviate the root causes of conflicts and help to develop institutions capable of managing and resolving disputes in a peaceful way. Although it is true that in many intrastate violent conflicts improving the economic situation may provides incentives in avoiding violence, and also may strengthen institutions capable of curbing violence and managing the conflict, this is not always the case. Actually, international aid becomes part of the context in which it is provided, and, hence, its impact is hardly completely neutral and there might be cases in which it reinforces or prolongs the conflict. This is, for instance, the case of structurally asymmetric conflicts, where the same structure of the relations among the parts is at the root of the conflict. In cases of this type economic growth per se does not change the pattern of unbalanced power relations. Moreover, an intervention which pretends to be impartial and neutral may in effect result in reinforcing the status quo and hence the unbalance of power among the parts. Tenets of Peace Studies can provide international aid agencies and NGO's with the analytical tools which are needed to understand the conflict situation in which they operate and to devise more effective and appropriate interventions. The role of language and discourse in shaping the image aid workers have of the context in which they operate, and, henceforth, in structuring the type of intervention will also be discussed.

INTRODUCTION

A social or political conflict, whether it is a non violent or a violent one, is always a complex system, where complexity stems from many different and sometimes unrelated elements. There are the parties involved, most often much more than two, with an intricate web of relations connecting them. Correspondingly quite often the objectives are multiple and diverse, some even hidden, not defined once and for all, and evolving over time. Moreover, each conflict does not arise in a vacuum, but in a context, local, regional, or international, a context that may be changing over time with often unforeseen effects on the conflict's structure and parties [1]. "When international assistance is given […], it becomes a part of that context and thus also of the conflict [and hence it is rarely completely neutral. It may either exacerbate and prolong the conflict or strengthen the people's capacity to find peaceful paths to conflict solution:] in some ways it worsens the conflict, and in others it supports disengagement. But in all cases aid given during conflict cannot remain separate from that conflict" [2]. Not only the intervention is not neutral and changes the situation in the field, but the type of conflict shapes the intervention itself, the way it is conceived and designed and the way the aid workers behave. Actually, the intervention is shaped more by the way the conflict is perceived, or even better by the image of the conflict we have, than by the conflict itself. Interestingly, the actual conflict and its image may be quite far one from the other. In part this is unavoidable since there is no way to know the reality independent of our mental models and our culture. From this point of view the language and discourse play a fundamental role, a role which is discussed in the last part of the paper.

Clearly the effects of international cooperation and development aid on conflicts differ depending on the type of conflict and on the context. In the following, three different cases are discussed: i) the case in which there is the potential for social, political or economic conflict; ii) the case of internecine or civil war; iii) the case of asymmetric conflicts.

In all these cases we seek to show that disregarding the systemic complexity of the reality in which we operate may often lead to unintended consequences.

NONVIOLENT SOCIAL, POLITICAL AND ECONOMICAL CONFLICTS

Conflict is a polysemic term which is used to define completely different realities. In many cases conflict plays a positive role since it is through conflict that society changes and that development occurs. Also in cases like these the positive effects of cooperation and aid are not assured. In fact, cooperation and external aid may foster changes in the direction of a more peaceful and just society, but they may also lead to the outbreak of a latent conflict and in some

cases also to the onset of a violent confrontation. Two real life examples are provided next.

One of the authors, in occasion of a meeting with representatives of popular movements in a large town in North East Brazil, has been reported a case which in some sense can be considered as paradigmatic. In that town, a strong popular movement (*movimento dos moradores*) had arisen among the inhabitants of a large *favela*, with the objective to obtain official recognition from the municipality. The struggle had been quite successful: the *favela* had been recognised as a regular neighbourhood, obtaining a connection to water, sewage and transportation systems, street pavements and schools. Still, being a very poor neighbourhood, the *movimento dos moradores* was very active trying to further improve the life conditions of the inhabitants. In occasion of a visit to the neighbourhood, the representative of a medium size Italian NGO was impressed by the results obtained and by the large number of problems which still remained to be addressed. Thinking of setting up a cooperation project he asked which were the most urgent needs they had. As response he got a list of items for a total amount correspondent to about today's 15,000 euros, an amount considered too small for a project to be presented to a national or international funding agency. Thus, the NGO set up a project for the equivalent of over 350,000 euros. Although what arrived there, due to the NGO overhead, was only about half of that amount, it was enough to nurture conflicts. Different groups within the larger *movimento* started quarrelling on how to allocate the unexpected money, or, better, to claim larger shares of it. It appears that the Italian NGO involved had completely disregarded the inherent complexity of the situation, by which there was not a unique actor, the *movimento*, but many sub-actors, with different objectives and/or priorities, connected by a complex web of relations. This case is also an example of the common held wrong belief that 'more' (350,000 euros), if not better, is at least not worse than 'less' (15,000 euros).

Sometimes it may happen that in situations of strong social conflict development aid has the unwanted and unforeseen effect to strengthen the conflict itself, eventually leading it to the onset of violence. A case of this type has been studied by Pallottino [3] with reference to the Ethiopian Southern Lowlands. The Ethiopian Southern Lowlands are inhabited by several pastoral ethnic groups, the Borana/Oromo, cattle breeders, and different smaller Somali ethnic groups breeding mainly camels. The area is affected by a deep crisis which can be explained by focusing on different interrelated aspects: a crisis of the traditional production systems; an ecological crisis due to the interaction between human activities and a fragile environment; a social and political crisis with weakening effects on the traditional self-help and welfare mechanisms.

As it too often happens, the way a situation is described has a 'normative' value in shaping the interventions. In this case the dominant narrative was that at the root of the crisis were the nomadism itself. Pastoralist “nomads are poor and politically unstable, and that is the effect of their nomadism, which in turn is the consequence of the harsh environmental conditions in which they live. The demographic growth rate will lead to an excessive pressure on the available resources, with a further deterioration of the living conditions, an escalation of the conflicts and a growing depletion of the environment.” The same definition of the problem contains the solution: “an intensification of the production systems, which implies a process of progressive sedentarization” [3]. And indeed sedentarization has been largely the goal of both the central government (with also the aim of exercising a stricter control on the population) and the international aid and cooperation actors. As result of this policy not only the living conditions of the population has steadily deteriorated, but also the overall level of conflict has been increasing. In addition, some of the international aid and cooperation workers have played the role of objective accomplices of the government's effort to tighten the control over the population.

Violent ethnic conflicts and civil wars

In the contemporary world, which according to some analysts can be defined by the term *neo-medievalism* [4], there are many cases of cooperation operating in areas characterized by violent ethnical conflicts or civil wars. This is, for instance, the focus of the *Local Capacities for Peace (LCP*) Project, launched in 1994 to answer the question: “How may aid be provided in conflict settings in ways that, rather than feeding into and exacerbating the conflict, help local people disengage from the violence that surrounds them and begin to develop alternative systems for addressing the problems that underlie the conflict?”[1]. Working with agencies providing aid in conflict situations, the *LCP* Project has tried to understand the ways through which aid interacts with conflict, singling out two main interaction media: *resource transfer* and *implicit ethical messages*.

Resource Transfer

International aid always involves the transfer of resources of some kind, whether hard (money, food, instrumental goods, medicinals, …) or soft (training, capacity building, ...). Experience shows that outside resources introduced into a resource-scarce environment, where people are in conflict with each other, become a part of the conflict: people in conflict will attempt to control and use them to support their side and to weaken the other. The types of resource transfers and their effects are many and diverse. A quite frequent case (*allocation effects*) is when warriors stole aid goods or exact a kind of fee in goods or money to allow the delivery of the goods. Such goods are then used to support the war effort either directly, using them, or indirectly, selling them in order to raise money to buy weapons. In these cases the final effect is to prolong the conflict. Another relevant and frequent effect (*market effect*) is the distortion in

[1] www.donoharm.info, accessed July 2013.

the market for goods and labour caused by the aid itself and also by the way the aid agencies operate, with the risk of enriching war-related activities and people, so further reinforcing the war economy. In some cases there are also so called *distribution effects*: depending on the groups which are the target of the aid, and on their position with respect to the conflict, aid can either reinforce and exacerbate the conflict or help reducing the conflict level. Aid agencies are well aware of the risk that aid may be used directly for war activities, but sometimes they disregard the s*ubstitution effects* by which, for instance, aid is substituted for resources that would have been used to meet civilian needs, and, hence, can now be used in support of war. Similarly, the fact that aid agencies assume responsibility for civilian survival in a conflict area allows the warring parties to concentrate their efforts on warfare. All these are cases in which the aid, via substitution, ends breeding the conflict. Finally there are the so called *legitimization effects*, by which, legitimizing some people at detriment of others, aids can support either those people that pursue war, or those that try to move towards peace.

Implicit Ethical Message

As observed by the LCP Project, while carrying the explicit message of caring for the needy, aid does also transfer some implicit messages. The aid workers are often unaware of that, but their behaviour cannot avoid delivering messages. When, and this is a quite frequent case, aid agencies hire armed guards to protect their activities, they deliver the implicit message that security and safety derive from weapons. At the same time, they legitimate the armed people that provide security, and who may be linked to one or the other of the conflicting parties. Here, the message is that arms mean power. It is not rare the case that the behaviour of aid agencies and NGO on the field be characterized by mistrust, competition and rivalries rather than by reciprocal cooperation. That delivers the idea that we do not have to respect or work with people we do not like, and that competition is an option not less acceptable than cooperation. There are cases in which aid workers use the goods and support systems provided as aid to people who suffer for their own pleasures and purposes. This is, for instance, the case when they take the vehicle to the mountains for a weekend holiday even though petrol is scarce. The message here is that if one has control over resources, he/she is allowed to use them for personal benefit without being accountable to anybody. When the aid agencies' plans in case of danger call for the evacuation of expatriate staff but not for the care of local staff, the message is that some lives are more valuable than other. When field-based aid staff disclaim responsibility for the impacts of their aid programmes, blaming others, the headquarters, the donors, or the local warlords, then the message received is that individuals in complex circumstances do not have to take responsibility for what they do or how they do it. When aid workers, nervous about conflict and worried for their own safety, approach every situation with suspicions and belligerence, or with an attitude of dehumanization of one side in a war, the message they deliver is one which risks to reinforce the modes and moods of warfare rather than helping to find an even-handed way to respond to those on all sides who seek and want peace.[2]

ASYMMETRIC CONFLICTS

A case which deserves to be treated separately is the case of structurally asymmetric conflicts, that is of those conflicts whose “root causes […] lie in the structure of relationship within which the parties operate” [5]. Conflicts of this type are, for instance, the Palestinian conflict, the West Sahara one, and the land conflicts which can be found in Developing Countries. Unless the very structure which is at the root of the conflict is not transformed, no stable peaceful solution can be reached, and what too often happens is that international aid, not addressing this point, ends up strengthening this structure, and hence making the conflict more difficult to end. While cooperation interventions which maintain the *status quo* in a symmetric conflict may do no harm, in a structurally asymmetric conflict they end always supporting the stronger part and hence taking a side in spite of the declared neutrality.

An interesting example is provided by the Palestinian agriculture. In spite of it being traditionally the most important sector in the Palestinian economy, agriculture is of little interest to international cooperation and aid. This sector is “largely neglected by donors, also mainly because it touched upon the issues of land and water use” [6]. In fact, much agricultural land falls within area C, the area (about 60% of the West Bank) under full Israeli control, which is the object of a creeping annexation process [7]. Any relevant project in agriculture would not be in accordance with Israeli territorial and strategic resource considerations and hence international aid agencies choose to avoid this sector for their projects. In contrast, it appears to be much easier to mobilize resources in the area of water and sanitation. According to Le More, this sector attracted roughly 10% of the total donor disbursement to West Bank and Gaza between 1994 and mid-1999. The interest for the water sector stems from the widespread recognition that it is a sector of critical economic and social importance, mainly considering that Palestinian water resources are extremely limited. The point which is too often disregarded is that, under the Oslo agreements, 82% of the West Bank ground water resources are allocated to Israel. Thus, although it is true that by international standards the region's water resources are limited and quite depleted, the real issue is that they are over-exploited by the Israelis, who consume much more water than the Palestinian, in particular for agricultural purposes. “While in Gaza and West Bank per capita water consumption is respectively around 60 and 80 litres per day, daily per capita water consumption reaches about 235 litres

[2] For a discussion on all these issues we refer to M. B. Anderson [2].

in Israel, and 400 litres in Israeli settlements" [6]. The problem is that international aid agencies avoid addressing or denouncing this situation out of concern that Israel will put more obstacles to their activity in the PoT (Palestinian occupied Territories) than those they already encounter. "Donors have been generally unwilling to challenge even the most unreasonable Israeli restrictions and obstacles, which have delayed the implementation of many crucial water projects. Rather, international donors chose to deal with the growing restrictions, by diverting significant funds from water supply and sanitation development to short-term projects, such as repairing damage caused by Israeli military attacks, or providing tankered water (at several times the cost) and other humanitarian relief to the Palestinian population" [8].

Again the final result is not only that the status quo is unchallenged, but in fact it is strengthened. Different, but with significant similarities, it is what happens with the international aid to the Sahrawi people. Like in Palestine, the aid provided by donors appears to be a substitute for direct action in the direction of the conflict solution, direct action which would create problems with the Morocco government. The focus on Humanitarian aid has created a situation of strong dependency, and most likely has contributed to the conflict chronicization, stabilizing the status quo.[3]

Discourse and language

To analyse language and discourse is crucially important when devising, planning and/or implementing a development cooperation's intervention, especially in crisis situations. In fact, to analyse language and the ways in which certain situations, events, people are represented by different people in different genres (e.g. media or governmental speeches) can help to understand structural relations of power, to generate a public and intellectual space for critique, to speak and write of the subaltern voices and unsaid stories that have historically been silenced, as well as to break certain mechanisms of escalation and prevent degeneration into overt violence.

In situations of development cooperation's operations taking place in violent contexts, to focus on language and discourse can also help in devising more sustainable interventions for the benefit of the highest number of people and in decreasing the level of conflictuality among factions. For what concerns development cooperation's projects in post-conflict transitions, the main long term goal of development cooperation is to assist recipient countries in building legitimate and effective political, economic and legal institutions. However, often during peace processes, violence actually increases. At the same time, development cooperation agencies can unintendedly put in place interventions that are actually more divisive than unifying. Thus, in the context of development cooperation, discourse and language acquire a relevant importance, an importance that is nevertheless only rarely acknowledged. In the field, development cooperation's agencies and aid-workers often enter in dynamics they fail to fully grasp and sometimes unintendedly end up reproducing asymmetries of power or even they create or exacerbate tensions among the local population. In this context, the way in which the context of intervention of development projects is framed is crucial. As we already mentioned before, referring to the case of the Ethiopian Southern Lowlands, the representation of the situation and the explanation given as the cause of the crisis – nomadism – had the effect of planning and implementing projects aimed at the promotion of sedentarization, with the unforeseen and unintended consequence that the conflict actually escalated.

In other cases, development cooperation projects may unintendedly legitimise some people and some actions, while at the same time de-legitimising others. The case of children distance adoptions is paradigmatic of that. By choosing one child to be helped among many in situations of deprivation and representing him/her as the poorest among poor, may have the result of communities becoming more divisive and prone to violent conflicts. This has happened for instance in the Northern province of Burkina-Faso, Namantenga, where previously peaceful villages quickly became overtly violent for the inequality in the distribution of aid. The non-verbal language is similarly important to focus on. For instance, if an organisation in order to bring aid implicitly accepts the terms of war by negotiating passage with warring parties or it hires guards to protect the delivery, it can give the idea of bestowing legitimacy on warriors (we need arms to bring aid) and that international staff has a higher value (because it deserves to be escorted) than local people. These can reinforce animosity locally. In a different context in Morocco, development projects oriented to women promotion, although extremely important and necessary, have in some cases, unintendedly, ended up for further disempowering women. In fact, for the fact that they were represented as powerless, and in need of help in order to raise international aid, they felt both 'used' and deprived of any agency, with the result that often their situation was actually worst than before.

At the practical level, ways to put at the forefront the usually marginalised attention to language and discourse could include the following:

- to focus more on the study of the context and on the narratives around it;
- to do surveys and interviews about the perceptions of the situation and the adequacy of the planned intervention, and to involve many stakeholders as to have proper representation of the views of the entire community;
- to devise common spaces in which people can share their opinions and feelings about the interventions, as ways of building dialogue for common interests, starting with the right of life.

[3] A discussion on the effects of Humanitarian aids to the Sahrawi people can be found in http://www.globalaffairs.es/en/humanitarian-aid-for-the-sahrawi-people-the-impact-and-limitations-of-aid-policies-for-refugees/.

CONCLUSIONS

It is widely assumed, even in the academic literature on the topic, that development cooperation and internal aid are designed to help putting into place those conditions necessary to sustainable development and positive peace. These interventions are also largely assumed to help managing and resolving crisis situations in peaceful ways. However, despite the good intentions, this not always happens in the field.

As we have shown in the paper, development cooperation's projects are part of the context in which it is provided, and, hence, their impact is hardly completely neutral and there might be cases in which it reinforces or prolongs the conflict. In particular, in the case of structurally asymmetric conflicts, where the same structure of the relations among the parts is at the root of the conflict, an intervention which pretends to be impartial and neutral may in effect result in reinforcing the status quo and hence the unbalance of power among the parts. Finally, it has also been stressed that, in the contest of development cooperation, decoding language and discourse becomes extremely important for understanding perceptions of aid and ways to improve its effectiveness, to identify real needs, as well as to address ways of preventing escalation into violence. As such, to deconstruct commonsensical and 'natural' representations of events, people and situations goes in the direction of building more peaceful social interactions and societies or, in other words, a more sustainable peace.

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WHY DOES INTERNATIONAL DEVELOPMENT COOPERATION NEED THE CONTRIBUTION OF PEACE STUDIES? AND WHY IS PEACE RESEARCH CURRENTLY SO MARGINAL IN INTERNATIONAL DEVELOPMENT COOPERATION?

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ABSTRACT

Peace and human security have strongly emerged as a global concern in the last years, as the post-cold war scenario made large scale confrontation between superpowers less likely. The dream of a peaceful world after 1989 animated the debate around the efforts towards the identification of a shared global development perspective. However after the 9/11, an increasingly complex scenario, where the International Development Cooperation (IDC) was confronted with new challenges and with fragmented and asymmetric conflicts, was hardly taken into account: the development rhetoric went on stressing the need for clearly identifiable outcomes in terms of global development objectives, just as if an established global consensus could be considered an uncontested element of the world order. Humanitarian circles followed the same path, interpreting the response to conflicts in terms of objectively identifiable needs that had to be urgently responded to only thanks to the establishment of a zone of humanitarian sovereignty. Peace studies and peace research, as redefined in the last decade of the 20th Century, look at the factors that make societies prone to conflict, in the attempt of developing a positive approach to the prevention of war, terrorism and violation of human rights. Their approach need to be more transformative than linear, and more careful to the quality of processes than to the quantity of outcomes; in this context, the micro-politics of social change is not seen as the constraining factor that hampers or slows down the reaching of stated objectives, but precisely as the area where a mediation between different and sometimes conflicting interests has to be found. While, following the same lines, many theorists and practitioners would support the idea that a more negotiated approach to social change is needed in order to radically reform IDC, there are reasons why the international community seems to be less receptive to these instances.

INTRODUCTION

It is sort of a paradox that a stronger concern for peace and security emerged in the public debate after the 9/11, just as the Millennium Declaration adopted by the General Assembly of the UN, and the subsequent elaboration of the Millennium Development Goals (MDGs), boosted a new hope for a poverty-free world. The event that redefined the notion of peace and conflict in the contemporary world will be remembered along with the largest convergence on global development: 9/11 and MDGs have attracted most of the attention of decision makers during the first decade of the new millennium, characterizing the perception of a global perspective at all levels, and competing for the resources made available within IDC system. The question about the vision for a better planet for all is however an open question today, perhaps more than what it used to be at the beginning of the century. After a decade in which the most impressive economic and social crisis since the end of WWII has ravaged the planet, the international community at the eve of 2015 (the stated deadline for the MDGs) is left with an empty space in terms of shared global perspectives, and with the need for establishing a consensus about the direction to be taken in the next few years. The 'fear of the vacuum' [1] [2] can be a powerful incentive in adopting a short-sighted compromise; or the opportunity for taking into account the contradictions of the contemporary world and to elaborate a creative solution.

Neglected and marginalised by the time MDGs were initially elaborated [3], issues related to peace and conflict are today on stage more than ever. If until 1989 conflict could be understood and somehow minimised as an unavoidable effect of the confrontation between the West and the East, and after that the last decade of the XX century it could still be seen as a consequence of the fall of the wall, the Twin Towers made crystal clear that a new era of conflict was uprising. Nor the post cold war scenario ended up in a decrease of conflict at global level, as it was the hope of many: as Themner and Wallensteen [4] confirm, with the exception of the rise in the mid-nineties (mostly due to the conflicts related to the dissolution of Soviet Union), the number of conflicts in the World remained constant in the last 15 years, even slightly increasing for what the 'minor' conflicts are concerned. Some observers [5] find the situation of the world of today worst than 20 years ago, as the constant rise of the share of the humanitarian aid on the total of the

international aid seem to witnesses[1].

It is not the ambition of this paper to analyze the key elements of the conflicts and the tensions that feature the world of today. Given the increasingly acknowledged nexus between peace and development, the objective that we will pursue is rather that of highlighting the importance of cross-cutting fields of research such as development and peace studies in reflecting the specific challenges of today's world. These two areas of study have developed quite independently; yet, they look at contiguous and partially overlapping areas of concern. It can therefore be assumed that they could contribute to better understand contemporary world, by introducing explanatory frameworks and by proposing renewed normative paradigms, helping to clarify the implications of global efforts in leading and directing social, economic and politic transformations.

In spite of potential complementarities however, development studies and peace studies, seem to evolve on the base of rather different and possibly irreconcilable perspectives. The relation between the two fields of study is bound to their capacity of progressively integrating new concerns, while escaping from the constraint of an increasingly 'theory binding' practice.

THOUGHTS ON DEVELOPMENT AND DEVELOPMENT STUDIES

During the seventies and the eighties the contradictions in international cooperation systems seemed to lead to a deep rethinking of development concepts. This rethinking was parallel to important changes in the international economy as well as in the geo-political situation: the renewed instability in the international monetary and financial system, the oil crisis, the debt crisis were some of the elements that led to long period of uncontested economic orthodoxy, which translated in the era of structural adjustment. The human and the social costs of this approach led to some degree of rethinking, while the need for a more holistic approach to development was paving the way for the introduction of new concepts such as "participation" or "multi-faceted poverty" into the mainstream approach. Human development approach based on the seminal contribution of Amartya Sen contributed a great deal to a more complete understanding of what the idea of development would entail; the debate about global public goods raised new concerns that needed to be tacked at supra-national level along with a new consciousness about the limits of the earth's resources. The iron curtain contributed reminding that alternative pathways to development could be (more or less successfully) undertaken, and a lively critical debate explored and highlighted different views on the patterns societies could assume, even though a relatively uncontested neo-liberal orthodoxy dominated the 'official' development system.

A certain visible disenchantment about the effectiveness of IDC, and about contradictions and tensions arising in the theoretical debate of DS was counterbalanced by the events of 1989, which fostered a wave of enthusiasm for a renewed global engagement; the debate seemed then much concentrated on "what to do", through the big thematic summits that took place all along the decade. The net effect was to considerably boost the hopes for a global perspective on development, while loading an increased amount of responsibilities on the shoulders of the IDC system, although without really tackling the issue of how the additional costs would be covered. The whole process found a synthesis with the Millennium Declaration, in the year 2000, with what appears a sort of technocratic summary distilled into the elaboration of the Millennium Development Goals. In the last decade of the Century, critical voices were still able to highlight paradoxes and contradictions at theoretical level [6], but not really to grow into a critical mass for alternative. In a world where no real and radical alternative seemed possible, all the thoughts seemed to converge towards a globally shared perspective, where also otherwise alternative and potentially subversive visions find their place, and alternative development had become "… less distinct conventional development discourse and practice, since alternatives have been absorbed into mainstream development" [7]. In such a situation, there is no incentive in reflecting "around" the frameworks, which are assumed as given and unchallenged; the reflection takes place "within" frameworks. The outcome is an increasing attitude of Development Studies (DS) of being functional to IDC system (or rather to a wider 'policy related' world): how to implement policies; how to elaborate better policies towards shared objectives; or how to root new (or partially new) elements into the frameworks that serve as base for policy elaboration: as some scholars have noted [8], the horizon of DS seems increasingly functional to policy, perhaps at the expense of some general look at the issues raised.

The close link between the theoretical reflection and the practice on which this reflection is based and to which it is supposed to contribute, opens another problem, as research on development issues is increasingly linked to institutions directly involved in development, or mandated by them. As Leach and Mearns ([9]:31) remark, "…all knowledge is conditional, in the sense that it reflects the institutional context in which it is produced." Under this point of view, it is unavoidable that knowledge legitimises practice rather than orientating it, with an active engagement of development actors "… devot[ing] their energies to maintaining coherent representations regardless of events" ([10]:2). In practical terms, it is not matter of postulating the impossibility of independent research, but to seriously address the issues raised by mandates, research priorities, clearances, networks, paradigms, networks. But if the above issues are not raised, a call for 'more theory in the practice' may unexpectedly result into a more 'practice-constrained' theory, and particularly so in the case of research in situation of (potential or actual) conflict were the social networks and the access to information are more segmented than usual.

[1] Although this increase can be interpreted also in a different way, as it will be noted later.

The elaboration that took place along the 1990s, ended up un pushing issues related to rights and political representation in a rather marginal position with respect to the new MDG framework [11], while the latter developed a much stronger focus on a sort of global welfare standard. But in the ambition of accommodating rather factual objectives within a wider definition of "how" human societies should evolve regardless of their diversities, MDGs had - for the first time in the era of development, and as the logical conclusion of a much longer process – established the ground for a great perspective, somehow a-cultural and non-ethnocentric in nature, in the sense discussed by Latour [12]. The identification of common benchmarks and indicators play a crucial role in establishing "what" the reality is, and how it has to be looked at, the uncontested existence of "facts" being the key assumption on which the modernity is built. This takes place just at the time that the 9/11 was disclosing the breaking up of the fundamental unity within which the world relations and interactions (including conflicts and wars) had been accommodated until then. Under this perspective, MDGs may be seen as the perfect product of the contemporary development theory; that finds its birth precisely at the time that the "modern" understanding of the world falls apart: because of the contradictions entailed within its own way of explaining (or not explaining) social facts; but even more because of the emergence of a new radical juxtaposition (real or perceived) between different "worlds"; not a juxtapositions between allegedly alternative civilisations, but in the breaking up of a no more uncontested unity.

THOUGHTS ON PEACE STUDIES AND PEACE RESEARCH

Peace Studies and Peace Research (PSPR) in the last decade of the 20th century enjoyed some kind of revamping [13] as, after the downfall of the fear for a nuclear confrontation, new elements where included in their agenda: the conditions under which a peaceful coexistence within the human societies could be pursued became a key focus to look at for a world free from violence of any sort. This transformation was consistent with a renewed (although not uncontested)[2] understanding of "positive peace", which was tackling the challenges of a deeply transformed world, where conflict had to be considered as somehow part of the global game. If tensions are unavoidable, much less unavoidable are their consequences in terms of violence and open conflict: it is on the different ways these tensions can evolve, as well as on the pre-conditions of the processes leading to a more peaceful coexistence, that the concerns of a renewed agenda of PSPR were raised.

Definitions of PSRS based on the notions of violence and conflict play a key role in defining the boundaries of this interdisciplinary field. Still, the issue of how these notions are connected to peace needs still needs to be clarified, in the seek for a better definition of what, in the contemporary world, would be needed for a reflection on "positive peace". Among the concepts that would probably need to be discussed, there are meanings of conflict and violence under a perspective that do not only encompasses the physical dimension: although physical violence and open violent conflict is and should continue being a main concern in PSPR, the notion of structural [14] and cultural [15] violence introduced by Johan Galtung may help accounting for the situations where oppression doesn't follow (only) the path of direct physical violence; in the same context the contribution of Pierre Bourdieu about symbolic violence [16] may bring additional arguments to the perspective of widening up the scope of PRPS, connecting the idea of violence to a general theory about society.

The process of going beyond physical violence, and opening to a wider notion of positive peace, is not without obstacles. It is however an important step in connecting PSPR to a wider understanding of the social transformation processes. Positive peace, more than any other "development related" notion, is associated to the recognition of the subjectivity of the other, and to the processes needed for establishing the rules needed to manage the disagreement and the conflict, other than the oppression or the simple principle of authority. Within this perspective, frameworks are not given but have to be discussed; different stakeholders are not called to "participate" in a play that someone else has written; rather, different interests should be recognised, included, mediated. Such a position would open important areas of reflection on the way different systems of knowledge, power and value interact, and would accept the existence of discontinuities within and across communities and societies. Under this viewpoint, processes of social, economic, political transformation would not be forced into a teleologically consensual perspective [17]; on the contrary it would open a wide range of possibilities in managing differences and disagreements, and establishing the ground for a "pluriverse" [18] world (as opposed to a "globalised" one).

In such a perspective, the tension between the heterogeneity of the human societies and the need for a degree of universality stemming out of the shared belonging to humankind is not easily resolved; not as easily as it may happen with a set of traditional development objectives, which are assumed to be equally relevant for every woman and man on the earth. As a consequence, the heterogeneous representations of human societies and their transformation processes require to be made operational through a relatively complex translation, while the "welfarisation" of the objectives, well represented by the MDG process, assumes that the disagreement in the human societies is simply linked to the identification of the means through which common objectives are pursued. But, as Monni and Spaventa show well [19] the apparent neutrality of the indicators of the progress towards such kind of objectives hides an option for a pre-determined model of society, an interpretative paradigm that sets in technical terms what, on the contrary, should be the object of politically conscious choices.

[2] See Bartolucci [13] for a summary of the debates about "negative" and "positive" peace.

CONFLICT, DEVELOPMENT, PEACE

The fact that development and peace are strictly related is a widely shared opinion. No doubt that the countries in conflict are also those where the development objectives seem to be furthest to be reached and that, as also acknowledged by the UN, violence and fragility have become the largest obstacle to the MDGs [20]. However, if the connection is ascertained, much less clear is the direction of the causal link: in "what" peace is a precondition for development, as it is assumed by some [21]? Or, the other way round, it is development that has to be considered as a precondition for peace? The question that we should be tackling now therefore is: how does the current development mainstream relate to the issues of conflict and peace?

One common approach to this issue is that distilled into the claim "development that brings peace": development, the possibility for a better life would necessarily decrease the conflict within and between societies. This approach evokes a wonderful landscape of pacific coexistence in the "land of plenty". Two question, often unanswered in the world of development, deserve some discussion. Firstly, is the idea of "peace" so much shared across the different societies? It is not, as empiric culture-aware analysis highlights: peace can entail 'respect and inclusion'; but also "control", or "expansion" and also some degree of "oppression" for different minority social groups involved in a specific development arena [22]. If the notion of pacific coexistence needs to be at least negotiated, will the practice of development contribute to this negotiation or propose its own interpretation of what the notion of peace entails?

There is however a second issue that deserves to be raised when observing development processes taking place in practice: can this "land of plenty", where the satisfaction of all the needs of all the needy, be pursued within a perspective where the situation of specific individuals will be improved without ever worsening the situation of anyone else? It is not the case: we may supply fresh water to a village, in order to improve health situation, just to realise that making available that precious resource in a context where the availability of water is regulated though complicated and refined social institutions, makes the level of conflict to increase afterwards; or we may support the claims of poor fishermen communities in a specific trait of a river, just to see a steep increase of conflict with the neighbouring country's community, relying on the same fishing resources[3]. It is not only matter of confining this kind of outcomes as "need for better planning" (as it could be certainly argued from within development system). It is important to develop methodologies for "conflict sensitive" approaches [23], but we should be ready to recognize that any development intervention producing benefits for someone, is bound to redefine social stakes, to modify power, to produce (intended or unintended) "victims".

The claim "development brings peace" looks more problematic than usually thought. But another issue needs to be raised: that of "humanitarianism". Humanitarianism and development have contradictory relations, as on one side they consider themselves as strictly related, on the other side they claim to be anchored to very different perspectives: immediately saving human lives, and ensuring a shared long term development for all in the second case. How to connect emergency relief, rehabilitation and development? How to move from a case where the identification of the needs has to be fast, neutral and technical, to a case where the only thing that matters is what comes out from the negotiation among the social actors? The connection what may appear to be as different phases of intervention has taken various forms: the 'continuum' between emergency relief, rehabilitation and development; then the "contiguum"; than again more recently the approach Linking Relief Rehabilitation and Development (LRRD). These are all conceptual constructions that do not seem to completely solve what at the end seems to be a radical alternative: is the "need" objectively (and urgently) identified though "expert knowledge"? Or is the expressed "need" nothing but the dynamic and temporary outcome of the interaction of the social actors, and more specifically of those whose voice can be expressed and heard in the process? Practitioners from humanitarian and development fields also often claim and reinforce the differences between the two groups, as if the two worlds were really somehow alternative.

But are they? According to Mark Duffield [8] there is not really a difference between humanitarianism and development: the latter is the natural other side of the coin, as part of an emerging system of global governance. According to this author, it was during the latter part of the 1980s that humanitarianism claimed its position as a universal right, above politics that "…caused wars and famines and, at the same time, created delays and bureaucratic difficulties that hampered the relief of suffering. … Placing humanitarianism above politics, as a right in itself, became a compelling critique of the inhumanity of the rigidities of the Cold War and of its suffocating political etiquette. For this reason, apart from saving lives, a neutral humanitarianism appeared radical and progressive; at the same time, it had widespread public support." [8: 77] The merging of humanitarianism and developmentalism took place during the first half of the 1990s, with the new institutional arrangements that allowed aid agencies to work in situations of ongoing conflict and to support civilians in war zones. The limited success of the operations led under this perspective brought about a major shift: from simple 'saving lives' to conflict resolution and post-war reconstruction. As Duffield puts it, "[i]nstead of revolving around humanitarian assistance per se, the new humanitarianism has invested developmental tools and initiatives with ameliorative, harmonising and transformational powers that, it is hoped, will reduce violent conflict and prevent its recurrence." [8: 11] It is there that humanitarianism succeeds in expanding its perspective (and way of knowing the social facts) to development world, with a real project of "social engineering" that, after all is perfectly consistent with a view of a "harmonic development": nothing different from introducing the "applied tool"

[3] Both examples are drawn for the author's experience : the first case summarizes the outcome of the evaluation of a water development project in the South of Ethiopia, where the author was involved; the second is a case from Guinea.

needed to bring this harmony in a world of disorderly transformation. The same kind of transition may be viewed in the recent success of Disaster Risk Reduction methods and approaches, aimed at building 'resilient' societies. But "resilient" to what kind of events? If the answer is "all of them", then this approach is supposed to encompass elements to face earthquakes, floods, but also wars, conflicts, just as if the political choice of a society could be limited to a technical optimum, needed to make societies "resilient"; but insofar this technical optimum on preparedness touches "any" possible adverse event, it soon becomes an all encompassing prescription on how the society should be.

Of course, it is not matter of denying the importance of the way societies react to external shocks (as it was not matter of doubting about the importance of offering appropriate humanitarian assistance at needs). The point, in this context, is rather to show what kind of operational devices are generated within the development world in order to deal with the disorder brought in by conflict and violence, establishing a system of humanitarian governance [24] that has been observed in action in many areas of the planet. Interesting to say in all these debates, conflict appears as something of substantially "a-historical": either the traditional "development industry" is assumed to bring peace regardless from the roots of the conflict itself; or in the humanitarianism and related development lines, the urgency of "saving lives" leaves very little room beyond anecdotic recognition of the root causes.

It should be however clear how problematic could be to derive peace building concerns directly from humanitarianism: the shared concern of 'saving lives' conceals important differences. Humanitarianism-related peacebuilding is bound to confine outside of its concerns all the elements related to the deeper roots of the conflict, and will operate with as if no political implications could be drawn from the assumed "neutrality" of humanitarian interventions. While the position of those who observe the conflict uniquely from the viewpoint of the victims is necessary, the point to be raised in whether a look on the whole situation where the humanitarian intervention takes place, may help avoiding those adverse effects on longer term peace prospects that have been documented by many observers [25]. Again, this kind of counter-effects are confined within "failures of planning and implementation": no one doubts that that they could be minimized through a more careful analysis of the reality; the contradictions rooted in the assumptions behind the whole humanitarian / developmental framework are more often dismissed without much scrutiny.

PEACE AND CONFLICT IN THE POST-2015 DEBATE

Said in short, DS and IDC do not appear to have fully taken into account the issues related to conflict and violence. And to understand what possibilities are there for a new perspective about peace and conflict to be included in the debate, we should refer once again to the MDGs and post-MDGs processes, that represent the common ground for the elaboration of a vision for the future at global level. As Brück [3] reminds, none of the MDG actually refers to peace and security, yet no conflict-affected country has achieved MDGs. In the debate about future prospects, while recognizing the limitations of MDG in responding to issues related to peace and conflict, the latter appear in some cases just as a "sub-topic" of security related concern, or somewhere between sort of "preconditions" for the MDGs themselves to be attained [20], and an objective as such. The world leaders seems in search of a globally shared perspective: which is not as such something negative, as far as the pursuing of this homogeneity does not blur the diversities within a rhetoric that risks to be nowadays far less convincing than what it could have been thirteen years ago [26]. A "new narrative" for development is invoked. But no one dares leaving the old one aside.

Some attempts have been led for innovating the way issues related to peace and conflict may contribute to the formation of a global framework. Il this wake, a more substantial contribution has been brought in by the initiative about the Peacebuilding and Statebuilding Goals (PSG), that has aggregated the consensus of a more than forty countries around the Dili Declaration [34]. Saferworld [27] tries to summarize elements arising from the different pieces of policy analysis looking at peace and peacebuiding as a primary focus (including the already mentioned PSG framework), finding a number of elements on which all these peacebuilding frameworks agree. The elements that are widely recognized as being conducive to a peaceful society, are summarized as it follows:

- All social groups have access to decent livelihoods
- All states are able to manage revenues and perform core functions effectively and accountably
- All social groups can participate in the decisions that affect society
- All social groups have equal access to justice
- All social groups have access to fair, accountable social service delivery
- All social groups feel secure
- The international community is effectively addressing the external stresses that lead to conflict

In the perspective emerging from this kind of a synthesis there is a strong concern for equity: an issue unanimously recognised as absent from the MDGs perspective. Equity concerns are evoked with expressions that seem to recall dimensions of mediation, political participation, inclusion. A point that could be raised is about the theoretical implication of using a relatively undefined notion of 'social group' as primary holder of the rights here above mentioned (at the place of the individuals). Still one could doubt that the issues put forward by Saferworld could be expressed in terms of "objectives". But in the current global debate , it looks like as if something could not be considered

"important" if it is not expressed in terms of an objective.

In the attempt of shading some light on the conditions within a society that are more often associated with a peaceful coexistence, mention should be done of the recent "Pillars of Peace Report" [28]. The report tries to isolate the positive factors which sustain and reinforce peaceful societies, basing on a complex statistical work, that ends up building an eight-part taxonomy which consists of:

- a well-functioning government;
- a sound business environment;
- an equitable distribution of resources;
- an acceptance of the rights of others;
- good relations with neighbours;
- free flow of information;
- a high level of human capital; and
- low levels of corruption.

Most of the issues highlighted would deserve some level of further clarification, which to some extent the report does; and clearly enough some of the concepts involved are sufficiently fuzzy to generate discussion. The merit of this taxonomy is the fact of being somehow de-linked from immediate policy objectives. The Pillars are based on existing data-sets, which may stimulate a reflection on what kind of data would be needed to refine further the analytical framework.

CONCLUSIONS

Let us now to summarize some elements to answer to the questions asked at the beginning of this paper. Why IDC needs the contribution of the PSPR? And why will this contribution be so difficult to accept? Some of the issues summarized above have tried to draw the attention on the fact that the marginal position of peace and conflict concerns may not be only because of the absence of a lobbying platform in the international *fora* that are reviewing the issue [29]. If we consider the four areas where Brück [3] recognises important knowledge gaps that PSPR should contribute addressing[4], we see many issues that development studies have analysed in deep, both in technical and in institutional terms. In at least some of these areas there is perhaps room for the two interdisciplinary domains to learn cooperating. However there are some aspects that PSPR seem more prepared to look at than DS, for the simple reason that, in a way that can be more or less functional to the identification of policy option (and PSPR claim to a certain extent a sort of "militant" approach [13]), the object of PSPR is rather the whole society; while in IDC (and often in DS) the focus tends to be those externally induced transformation processes, sublimated into the intervention itself (be it defined in terms of projects, or programmes or policies), and more so as the DS develops in connection with IDC or policy systems.

Seen from the viewpoint of DS, the issue is to be more fully aware of the political implications of any initiative of IDC, and to try to de-link research efforts from the immediate needs of the latter while tightly keeping under observation the way policy an project induced changes interact with the social, economic, political environment. Or in other words, to be practical, to keep some degree of freedom when conducting research, in order to be able to keep an eye on the context, widening the scope of development research into the area of relevance, and relation to the context, as some scholars have tried to suggest [30]. PSPR may be more able to look at the whole picture of the social transformation, somehow re-composing the hiatus between IDC objectives described in narrow term and wider stakes that risk to remain in the shadow. This is what would be needed in order to avoid the "Maghreb/MDG paradox" : those countries that were considered excellent MDGs performers just immediately before seen the starting of the so called "Arab springs". This attention to the context, beyond those aspects that are deemed functional for 'development' to take place, is based on the capacity of having a look on the whole, without loosing key details because of the narrow focus we are constrained on, and recognizing what Zupi [2] calls the "complexity of the whole". This requires the acknowledgement that the change is not "simple" in the sense of the "impact chain": the inherent complexity of the change is something that requires a different thought on society, change, and also planning.

Looking at the interrelations between peace, conflict and social change, a specific contribution of PSPR can therefore be the conception of "conflict", and an approach capable to address the need of transforming tensions and disputes within and between communities in something different than the violent confrontation: conflict not as something "temporarily perturbing" the landscape, but as something that requires understanding of its deeper roots, and its incorporation as an issue at stake. Introducing the "parties" and their different and perhaps irreconcilable stakes into the game would lead then towards a more profound transformation: a sort of "post-humanitarian consensus" precisely about the fact that consensus may not be there, at least at the beginning, and that it could possibly be built only if the areas of disagreement are explored, the rights are recognised, and the right mediation is found. Even if DS are based on

[4] The drivers of insecurity, conflicts and fragility; trends in security, conflict and peace; the consequences of violent conflict and insecurity; interventions and institutions for security and peace.

the idea of a sort of mechanistic transformation, it is perhaps possible to introduce into it an element of constructivism, to say it with a post-modern conceptualization [12]: no more Needs to be addressed through and appropriately Optimal Technique identified by rationalist modernisers, but social priorities need to be negotiated by those that Latour calls "diplomats". It is the same difference William Easterly [31] finds between planners and seekers, perhaps loosing a bit of the "relational" element that the idea of "diplomat" embeds. This rather abstract idea could be expressed in much more practical terms: promoting for example "mediation and inclusion", and going beyond mainstream participation, often conceived as a sort of token to be paid within completely predetermined policy frameworks; avoiding the "technical optimum trap", and perhaps using the knowledge more in terms of highlighting the trade-offs every choice is bound to imply; allowing for the time needed for the processes to develop [32], instead of being constrained by the tight schedule of outputs and objectives.

IDC is in a deep crisis, which sometimes is seen as expressed as a "resource crisis", but that it is more a "representation crisis" [33]: it is the way through which IDC looks at the world that is not any more able to describe the reality. The "non self consciousness" about the reasons of this crisis, pushes most of the efforts of IDC industry towards operational performance rather than towards a better understanding of the world. Development scholars could raise the question of how useful is to remain so closely (and predominantly) linked to policy oriented approaches[5]. In one sense this closeness "justifies" the very same existence of DS, but paying a price in terms of institutional embeddedness of any knowledge produced. It is somehow a complete reframing of the way IDC understands the transformation of the societies, and its role within it. What is needed is a bit of "self-reflectivity" that DS, described in a bit too clear-cut manner in the previous paragraphs, have from time to time generated: so far not enough, perhaps, to radically transform attitudes of theorists and practitioners.

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DONORS' CONDITIONALITY IN CONFLICT SCENARIOS: THE DIFFICULT RELATIONSHIP BETWEEN GRANT AID AGENCIES AND BENEFICIARIES

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ABSTRACT

Macrae [1: 170] states that external aid ability in conflict management/resolution is highly compromised because aid "remains an instrument of foreign policy, and therefore must conform to the analysis and priorities of individual donor governments, and multilateral organizations that play a political role, such as the United Nations". This paper intends to show current reality of relationships between donors and beneficiaries - with a focus on the NGO sector, specific to conflict resolution efforts. It will briefly explore aspects of the relationships that can be improved in situations when a gap exists, as well as methods for addressing this imbalance in a way that is meaningful to peace work.

DONORS' CONDITIONALITY: OVERVIEW

Some years ago, I wanted to acquire some significant experience abroad, so I found myself on a plane to Ethiopia excited by the idea of working for a prominent international NGO in the field of human rights protection. It did not matter that it was an unpaid internship. What I did not know yet on that plane, nor did I expect, was that I was going to be considered, at my first work experience, the human rights expert of that NGO branch in Addis Ababa. Until that point in time, the organization had run only development programmes on agriculture and when I joined their team, it did not have human rights advisers on board. The reason for enlargement of its focus was very practical; the NGO worried about the lack of funding in the sector of its specialization and planned to direct some of its programmes towards better financed areas of development.

This is not an isolated case. Referring to the NGO world in particular, Aall [2: 379] points out that: *Managing commitment in the face of financial uncertainly adds to the complexity of establishing effective partnerships among official and nonofficial third party intervention in a conflict situation.*

Funding and the lack thereof, undoubtedly affects long-term commitment in conflict areas, and not only; more and more often, the lack of funds especially for the NGO sector, is likely to slant grant applications' proposal "towards what they think the funding source is looking for" [3: 112]. The field of conflict management, conflict transformation and resolution and peacebuilding are the areas an increasing number of organizations, governmental as well as non-governmental, are looking at [4]. For Ropers [5] this is particularly noticeable in long-term post-conflict reconstruction phases, where a large number of NGOs are at work and a marketplace situation develops with a demand and supply of conflict-management services.

Because of the economic situation, the market is less oriented to the needs in conflict areas (however defined) but more on the interests and the assessment of the Western donors. This has the consequences that activities get primarily promoted that abide by the rules of the donors for distribution. This may mean short-term education in conflict resolution, which can be evaluated easily by the number of trained multipliers [5: 525].

Moreover, an extraordinary amount of staff time goes to keeping projects funded; as a result, the time and capacity of these actors to actually perform the necessary services are greatly diminished [3]. At the same time, the attitude of changing focus for survival, particularly common among medium-small organizations especially in the Global South, accounts for a further reduction of aid potential and, even worse, it increases the risks of unintended outcomes [6; 5]. As very clearly expressed by Galama and Van Tongeren [6: 30]: *Local agencies engaged in competition for funding may be drawn into attempting actions which seem unlikely to succeed based on their own understanding of the situation, both because they want the funding and because they hope the donor may know something they don't know.*

Similarly, many scholars note that a significant difference exists between the perceived goals of donors, practitioners and target communities when it comes to the evaluation of a project [7; 8; 9; 5]. On the one hand, donors' evaluation agenda is generally based on the establishment of predetermined and verifiable indicators of change. Diamond and McDonald [3:111] assert that: *The rigidity of bureaucratic structures makes flexibility and innovation difficult. In addition, bureaucracies prefer tradition and are not eager to change… The world is changing, however, so foundations are finding themselves bound by old priorities and procedures that do not necessarily make sense given the current global scene. Although many are now reconstructing their programmes and reexaming trends and priorities, that process can take so long that they are always a little out of date and behind the curve.*

Funders are also usually looking for an efficient, timely, coherent, sustainable and quick outcome, "a measurable result within a specific time frame and a tangible, durable product" [3: 112]. Finally, the inevitable culture bias and

worldview of the funders are bound to have an effect on their funding priorities [3]. From the other side, stakeholders involved in the activities may consider the quantitative measures of the initiative's success used by the funders as secondary to other more immediate needs - such as essential service delivery, and assistance to refugees and displaced people [5]. Similarly, many scholars note that donors' evaluation agenda is generally based on the establishment of predetermined and verifiable indicators of change [7] [8] [9] [5].

The following brief paragraphs and their at times overlapping contents, aim to show how issues and problems are inextricably tied together. They also represent an attempt to establish better relationships between aid actors in conflict situations and thus improve their ability to deliver meaningful results.

OPENNESS TO LESSONS LEARNED AND WILLINGNESS TO ALLOW MISTAKES TO HAPPEN

There is often apprehensiveness on the part of beneficiaries about possible negative consequences of reporting on unsuccessful or less successful interventions. With fierce competition for scarce resources, an honest discussion of a disappointing outcome can have serious unwanted consequences for the community the programme aims at helping [6]. Learning from failures is just as important as learning from successes. The development of good practices can then become a learning tool in conflict resolution interventions.

Lesson learned and best practices

Although both terms *"lessons learned"* and *"best practices"* are often used within the international field of conflict resolution, the definition of these terms has not been often debated. It is therefore fundamental to ask what constitutes a lesson or best practice. There are different levels of lessons learned or best practice, some specific to the context and project, some more generalizable and applicable to a variety of situations and contexts. According to Church and Shouldice [10: 44-45]: *To date there is no transferability requirement that determines the evolution of a practice to the level of "lesson". It would also appear that there are varying evidential requirements for stating that something is a best practice or lesson, which creates further confusion about the terms.*

Closely linked to this point and to the need to address the issue of whether new terms have to be developed in addition to refining the use of current terms, is the argument below, related to modalities for evaluation of projects.

CONCERN WITH METHODS OF PROJECTS EVALUATION

Donors should be more concerned with how projects are evaluated, especially those involving "soft processes" of dialogue or conflict resolution. There are different interpretations of what should be considered success because of the lack of clear agreement on time frame and criteria [11]. Time is only one basis for comparison. The benefits of conflict resolution processes may take many years to come to fruition [3]. Hence, quantitative evaluating tools appear to be inefficient. The number of people trained for instance, does not necessarily imply a change in attitude in all of them, as many factors influence conflict dynamics and their softening. Rather, there is a need for rich longitudinal datasets that follow individuals over time and hence permit monitoring of cumulative dynamics and efficiency of measures used to alleviate it. This paper suggests that further research is needed to develop focused, cost-effective sets of agenda for research, data collection and evaluation.

Diamond and McDonald [3] maintains that some sectors do not have an internal culture or a history of evaluating their own activities; others might be exploring the use of more creative evaluation modes where the evaluation process itself is part of the intervention. Still others are making use of both qualitative and quantitative methods to demonstrate effectiveness. For Jeong [11], points of reference for success can be found in commonly accepted goals and objectives. Criteria for evaluating a success can therefore be formulated according to maximal and minimal approaches to peacebuilding. Maximal approaches are oriented towards the achievement of positive peace: a peace filled with positive content such as restoration of relationships, social justice, creation of social systems that serve the needs of the whole population and constructive conflict resolution. On the contrary, negative approaches to peacebuilding simply refer to the absence of direct use of force, although all the tensions that break out in an open conflict may still exist. It becomes clear that the measurement of achievement of maximal goals requires a longer time frame.

Moreover, it is to be noticed that peace is not only unlikely to be achieved in a linear time frame but cannot be reached with a single area focus.

FOSTERING DIALOGUE AND MUTUAL UNDERSTANDING

Both parties, donors and beneficiaries, should be able to sit down together and discuss what goes well and what goes wrong or badly wrong in a funding practice; what some practices facilitate and what impedes the collaboration needed for creating a network of effective actions. Lack of both communication and fair confrontation, strengthen the position of donors, whose understanding of the dynamics of conflict and interventions could remain incomplete and,

from the donor's side, correct. There seems to be no evidence to suggest that conditionality is generating effective incentives for faster implementation of reforms. On the contrary, it is undermining the quality of dialogue, generating unnecessarily high transaction costs and diverting attention away from the fundamental issues. In fact, conditionality has led to a dialogue that is "superficial" and "confrontational", weakening the potential for more strategic and constructive dialogue that would be an indication of a more genuine partnership.

PAYING MORE ATTENTION TO LOCAL NEEDS

It is fundamental to collaborate more genuinely with the people locked in conflict. In the end, locals must be the protagonists of their history. A growing number of scholars agree that local actors are an indispensable ingredient in a viable and sustainable peace process. If efforts to prevent, resolve and transform violent conflict are to be effective in the long term, they must be based on the strong participation of local civil society groups committed to building peace [11] [12: 13]. No societal transformation can occur if local actors are not interested in the peace process or if they do not pro-actively participate in it; only if the peace process belongs to the people will their willingness to make it work be greater [14].

The concept of local participation is also the basic premise of "track-two" diplomacy: the expertise for dealing successfully with conflict and peace-making does not rest merely with governments but also with citizens, from a variety of backgrounds and with a variety of skills, who have something to offer and can make a difference [3]. As originally conceived by Joe Montville, the terms "track two" or "citizen" diplomacy refer to unofficial contacts between people–usually ordinary citizens– which can later pave the way for official diplomacy, the so called "first track" or "track one" [15].

Cockell [13: 23] suggests that "successful peacebuilding evolves from indigenous societal resources", meaning local institutions and actors, a belief found also in Galtung and LeBaron. The former [16] affirms that peace is not a condition that endures if the protagonists of the conflict are not proactively engaged in its sustainability, while the latter [17: 275] maintains that "all attempts to address conflict need to fit the people and the context involved… Conflicts evolve and shift over time; at the centre remain relationships". Lederach [18] stresses the fact that relationships are at the heart of conflict transformation; they form the context in which violence happens and also generate the energy that enables people to transcend violence. Lisa Schirch [19], in her case studies, describes ways in which communal acts among members of conflicting groups (e.g. eating a meal, dancing, fishing, and looking at a photograph) were central to transforming parties' understanding of themselves, their "enemies", and their conflict.

This is one of the main frustrations and tensions, as locals often feel impelled to make their particular wisdom heard by the decision makers. Deeper analysis of the socio-political-cultural context in which the intervention operates, information about the needs of the people on the ground and new ideas for its resolution, may not be heard by those who make decisions and thus do get transmitted into viable policies [3].

PROMOTING EXPERTISE IN THE FIELD

Funding-driven projects generate unprepared aid staff and initiatives that fail to produce the hoped-for outcomes. The more beneficiaries and their funders are concerned about their own status and the status of their organizations, the less likely they are to be effective. Reality shows that it is not unusual that their understanding of the situation is partial or wrong, especially when funding is the driving force for the intervention [20]. Training of NGO staff involved in the project is fundamental although sometimes lacking. More time and financial resources should be used to address this fundamental aspect.

CONCLUSION

This short paper intended to show that in the field of conflict resolution, that is quickly becoming competitive rather than co-operative, organizations have a major chance to transform the potential for peace in protracted conflict. Limited funding and the desire to survive can convert agricultural organizations into human rights agencies. Aid staff with insufficient skills in the field of work they are assigned to, and who lack in-depth analyses of cultural and social understanding of peace and conflict are the unwanted results. Paying attention to all of the aforementioned issues can contribute to bring changes in priorities in donors' policies – if and when needed – and to guarantee a more accurate correspondence of aid efforts to the need of local actors. More often than not, it seems that the aid system uses a top-down approach, where the donors assumes a control function, whilst NGO beneficiaries became donor-driven and, to certain extent, distant from the people they claim to represent.

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DEVELOPMENT COOPERATION AND INTERNATIONALIZATION OF UNIVERSITIES

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This panel arises from the need to share experiences of integrating international development cooperation in the strategic process of internationalization of universities in all their functions: their teaching, learning and research policies and in the organization of services and administration. The internationalization process, which most universities are embarking on as no longer avoidable, provide them with the opportunity to acquire the tools and the attitudes essential to ward off an otherwise inevitable loss of relevance in contemporary societies. Internationalizing the university through both "cross-border" mobility of students and faculty, and changes to curricula, means integrating the international, intercultural and global dimensions in their central functions (research, training and services) in order to transform society. To gain a broad perspective, an uncommon sensitivity and a high capacity of inter-cultural and trans-national communication is needed not only for teachers but also for the culture of the institution. The end product of such an approach should be the development of a "global perspective" that will lead to the emergence of professionals / citizens of the world. The "global citizen" is one who sees the world and its inhabitants as interdependent and works to promote both his own interests and those of the most disadvantaged populations, anywhere on the planet. Equipped with the appropriate tools, those who leave the university can contribute to the best achievements in their professional role within the community, at home as well as abroad.

Cooperation with low- and middle-income countries provides a fundamental contribution to universities looking for a global perspective and gives new perspectives on issues related to local development and innovation. The exposure of teachers and students to development cooperation, both for reasons of ethical and of personal and professional growth, is very conducive to the acquisition of new skills and generates particular understanding to appreciate diversities and combat prejudices, to manage change and the dynamics that shape society. The ultimate impact of the beneficial dialogue between development cooperation and internationalization of the university is mutual: it is no longer knowledge transfer and "developing the other" but innovating through knowledge exchange and growing together.

This panel intended to gather evidence from the field in the form of proposals or theoretical elaborations, with the view to facilitate the integration and mutual enrichment between the experience of international cooperation and the process of university internationalization in all the different actors of the exchange.

Focussing on the important, global issue of sustainability, Alessandra Bonoli and Francesca Cappellaro's paper [1] discusses how current international programmes in this field aim at supporting "universities to commit themselves to principles of sustainability and give the impulse to start with implementing sustainability into every day processes." After reporting on the numerous and extremely variegated international experiences, the distinctive example of the University of Bologna is presented as a case in point with its geographically decentralised approach and complex organization; its diverse initiatives are described in their social and environmental sustainability impact. According to the authors, the University of Bologna's experience of implementing sustainable practices into the university structure can act as a model "to demonstrate the theory and practice of sustainability" and thus become a "living laboratory of sustainability" leading to real changes.

In his paper [2], Angelo Stefanini argues that, in strengthening their approach to development cooperation, universities should be guided by a process of internationalization aimed at social transformation. From their privileged position and power status, higher education institutions are well equipped to address "the difficulties and contradictions related to poverty-alleviation policies and development paths" through the production, the reproduction and the application of knowledge in fields related to human development, such as environmental sustainability, peace, health, gender equality and quality of life, within a common framework of human rights and social justice. "In short," the author contends, "universities should emphasize the identity and importance of IDC [international development cooperation] activities through their recognition as a statutory objective of university work, their inclusion in strategic plans, the creation of institutional bodies to promote and manage them, and the existence of tools and dedicated funds for their implementation." This goal can be promoted by a process of internationalization leading to the development of a "global perspective" within the university organisational culture, which means for staff and students becoming aware of the ties that exist between their lives and that of others in the global context, and "developing the skills, attitudes and values that enable [them] to work together with other people from different countries and cultures in search of a more just and sustainable world." The experience of the Centre for International Health of the University of Bologna is described as a telling example of an educational action-research in deconstructing current development cooperation's mainstream narrative with the view tore-construct it with different type of knowledge. As the author concludes,

problems may arise when universities will decide to engage in the process of building an institutional ethos and provide a learning framework to students and faculty in order to keep awake critical thinking: the latter is in fact the best tool to avoid disasters in planning and implementing international development projects.

Simona Epasto [3] discusses the role of public consultations in building a post-2015 global agenda for the Millennium Development Goals (MDGs). Acknowledging the difficulties faced by the creation of a global partnership for development (MDG n.8), she reports on an international research aimed at analysing the contribution of these consultations to the global debate in order to "help to reveal people's priorities and to provide key inputs to the discussion of a post-2015 future development program." The problems encountered by what is seen by some observers as an attempt to threaten the entire global health governance, are both in relation to the "difficulties for the main actors of the cooperation for development policies to converge on common goals through constructive dialogue" and to "the need to define new forms of cooperation that would start from the comparison and the involvement of the non-institutional actors of civil life." Since consultations are currently on-going, it is "still too early to define concrete goals and targets for the post-2015 development program of the United Nations." Perhaps it is also too optimistic to expect from such an exercise a reliable, all-embracing and momentous response to the following questions: will the private sector (in the form of food, beverage, or pharmaceutical corporations and private foundations dominated by enlightened "philanthro-capitalists") should and, indeed, could have a role in guiding international and human development? Should the answer beleft to a hard, lengthy, demanding though truly globally democratic process such as only a revived and strengthened United Nations Organization can ensure?

These considerations may probably be taken as a fair compendium of the number of problems raised by the institutional engagement of universities into the system of international development cooperation. A genuine effort to contribute to a real development for all human beings within the framework of human rights and social justice, beginning from those in most need, cannot avoid to face the hard questions of "whose development?" and "who gain and who loses?" Social institutions like universities, having responsibility for upholding the values of scholarship and social transformation, necessarily bear a tremendous and difficult burden, which cannot be underestimated and reduced exclusively to the task of implementing technical projects in poor countries just like a charitable organization. The kind of expertise that universities should equip development professionals with, therefore, should be meant "not to provide people with answers, but with the means to organize themselves and produce solutions to their own problems".

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INITIATIVES TO START WITH IMPLEMENTING SUSTAINABILITY PROCESS INTO UNIVERSITY OF BOLOGNA

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ABSTRACT

In the recent years, voluntary sustainability campus programs are growing worldwide. Regional and international conferences, higher education associations and intergovernmental organizations, such as UNEP and UNESCO, have developed a variety of agreements, declarations and charters on university sustainability with the aim to help, coordinate and strengthen campus efforts. As at 2011 there were more than 30 such international agreements, signed by more than 1400 universities globally (i.e. COPERNICUS Alliance, European Network on Higher Education for Sustainable Development, EAUC, the Environmental Association for Universities and Colleges, UK). Furthermore there are also initiatives working at international level, such as the International Sustainable Campus Network (ISCN) and the Global University Leaders Forum (GULF) or the Global Universities Partnership on Environment and Sustainability (GUPES): an intergovernmental platform launched in 2010 that engages universities globally in responding to the challenges of sustainable development, by supporting innovative and relevant approaches to education. All these programs and initiatives aspire to help universities to commit themselves to principles of sustainability and give the impulse to start with implementing sustainability into every day processes. In its more than 900 centuries of history, University of Bologna has been geographically expanded through the city acquiring more and more separate buildings instead of being concentrated in few campuses. Hence University of Bologna is complex, multi-faceted entity with diverse organizational subcultures, traditions and concerns. The transitory nature of university life for the bulk of the campus community can mean that the real impacts of the institution remain unacknowledged. In the paper a first attempt to collect some University of Bologna initiatives in sustainability field is reported. The actions are categorized by social and environmental sustainability issue.

THE CONTEXT: UNIVERSITY SYSTEM

Currently, there has been a large globally growth of voluntary sustainability campus programs. These programs help universities to commit themselves to principles of sustainability and give the impulse to start with implementing sustainability into every day processes. The different and particular ways of how to bring sustainability into action create a common knowledge that enables universities to build strong sustainability communities. By pooling this knowledge of best practices, solutions and lessons learned, the transfer of experiences in a vital network becomes substantial for successful transformation of higher education institutions into places of sustainability. There is a lot of potential for further development in this field on the technical or the behavioural site. Associated to research and education, the environmental profile also encompasses the environmental performance of the University as an organization.

Implementing sustainable practices into university structure can help to demonstrate the theory and practice of sustainability. The campus itself can develop a feedback mechanism for the teaching and research practices through taking action to understand and reduce the unsustainable impacts of their own activities.

Sustainability transition approach applied at university system

Universities are complex, multi-faceted entities with diverse organizational subcultures, traditions and concerns, and the transitory nature of university life for the bulk of the campus community can mean the real impacts of the institution remain unacknowledged (Lozano, 2011). There may be individual high quality initiatives aimed at addressing these impacts, but where these are restricted to one or a handful of organizational units they inevitably end up ad hoc and uncoordinated. In addition, limited funding and multiple calls on capital budgets favour short-term fixes over green investments with long-term paybacks.

Transition approach can be a useful support in finding the correct approach on how to deal with sustainability at university. Applying transition theory to the specific case of university could be an interesting example on how to put in practice a successful transformation of higher education institution into place of sustainability and it also can contribute to better understand radical innovation processes (Markard and Truffer, 2008).

Several transition concepts have to be considered in setting up a framework for sustainability planning and

management of university system. As university is a complex system, it can be examined with a multilevel perspective (Rip and Kemp, 1998; Geels, 2002; Schot and Geels, 2008) or with arena of development approach (Jørgensen, 2012). A promising approach adopted in the urban field that could be applied at university level is the Urban Transition Management, UTM [Drift, EUR, 2010] that identifies an interesting approach to achieve sustainability innovation.

UTM identifies 5 phases for urban sustainability innovation:

- Phase 1: Preparation & Exploration
- Phase 2: Problem Structuring & Envisioning
- Phase 3: Backcasting, Pathways & Agenda Building
- Phase 4: Experimenting & Implementing
- Phase 5: Monitoring & Evaluation

In conclusion it can be said that Sustainability Transition can certainly provide the basis for the definition of a concept and a roadmap of sustainable initiatives at university, setting priority with the aim at helping to enhance the sustainability of the campuses.

PRACTICAL STEPS FOR IMPLEMENTING SUSTAINABLE CAMPUS

In the following a first attempt of defining a pathway for sustainable campus is provided:

1. *Status quo analysis of sustainability projects and actions.* The first step consists of investigating the status quo and the activities in the sustainability field at university (Internal analysis). In addition an overview of international and/or national sustainability initiatives, networks and projects with special focus on universities can be useful to identify support leading colleges, universities, and corporate campuses. An example is International Sustainable Campus Network (ISCN) is a global forum or the exchange of information, ideas, and best practices for achieving sustainable campus operations and integrating sustainability in research and teaching.
2. *Engaging the university communities.* Staff and students have heavy workloads; limited time and multiple expectations as to how that time is used can make it problematic to initiate, maintain, complete and evaluate projects, and compound natural resistance to change. Usually, the demands of teaching and research results in the structural separation of academic staff from campus management. This has led to the view that focusing on campus issues is a distraction from the core mission of the university. Moreover, universities generally lack the incentive structures necessary to promote changes at the individual level. As shown in Fig. 1, UNEP (2012) proposes an interesting approach for engaging the university and wider communities.

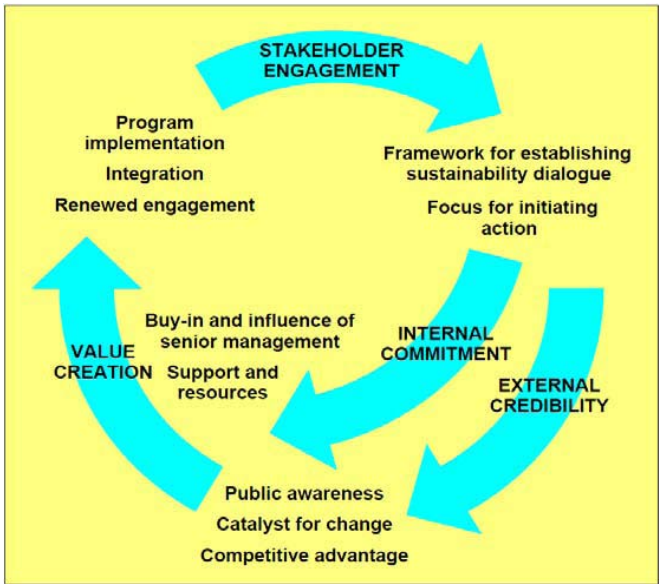

Fig. 1 - The "virtuous cycle" of stakeholder engagement (Partridge, 2005: UNEP, 2012).

As campus sustainability programs become more sophisticated, there is an urgent need for a unified approach for sharing experiences, including measuring and reporting performance. This requires on-going conversations in networks of leading scholars and practitioners.

3. *Create a vision of the campus as living laboratory of sustainability.* The campus can become a living laboratory where to apply strategies and actions and transform itself into green. The results could be the

capacity to reduce its carbon footprint, increase resource efficiency, enhance ecosystem management and minimize waste and pollution. A sustainable university can help to catalyze a more sustainable world. But for realizing this ambitious result it is required the creation of a common vision of sustainable campus among all the stakeholders.

4. *Creation of Strategic Green Niches.* The role of green niches is crucial in sustainable transition process [Smith, 2007]. Providing proposals for starting with a "bottom-up" sustainable initiative (niche-experiment) could help to improve the awareness and to engage all the stakeholders. As in other sustainability transition processes, niche is a concrete way to put in practice a sustainability system also into university system.
5. *Sustainability reporting.* The final result of the previous sustainability process could be the development of sustainability report. Sustainability reporting could be a beneficial initiative involving the whole university, setting targets, goals and performance and informing on sustainable campus progress. It could help to overcome some weaknesses and to improve the strengths already existing. The main benefits to implement a sustainability report could be summarized:

    - to bring together actions, to join the forces and to identify objectives and priorities toward sustainability;
    - to fix a set of indicators in a way to check the progress and to quantify the sustainability performances;
    - to improve the existing knowledge and to introduce new research issues.

SUSTAINABLE INITIATIVES AT UNIVERSITY OF BOLOGNA

In its more than 900 centuries of history, University of Bologna has been geographically expanded through the city acquiring more and more separate buildings instead of being concentrated in few campus. Furthermore, in the last 20-25 years the Romagna campus (Rimini, Cesena, Ravenna and Forlì) has been also added to University of Bologna.

Basically University of Bologna is complex organization and the implementation of sustainability process is a big challenge to experiment and to implement a real change towards sustainability. In the following, a first attempt to collect sustainability initiatives within University of Bologna is reported. The actions are categorized by sustainability issue.

Tab. 1 – Sustainable initiatives at University of Bologna.

Category	***Action***	***Location***
Energy	Photovoltaic plant	Bologna Campus via Terracini
Buildings	Green roof	Bologna Campusvia Terracini
Buildings	Leed Certificate Process	Bologna Campusvia Terracini
Waste Management	Waste separate collection system	Bologna Campus via Terracini and via Risorgimento
Waste Management	Compost plant	Bologna Campus, University Botanic Garden
Waste Management	Informatic Electric and Electronic Equipment Waste (IWEEE) Management and Recovery	Allcampuses of Bologna, Forlì, Cesena, Rimini

As describe in table 1, most of sustainable initiatives are located at School of Engineering and Architecture in via Terracini, Bologna. An important achievement will be that the campus could become a living laboratory where apply strategies and actions to transform itself into green. The final result is to improve the capacity to reduce the university's carbon footprint and increase resource efficiency.

Terracini Campus as Transition and Sustainability Laboratory

Engineering and Architecture School in Terracini is a recent plexus that includes classrooms, offices and laboratories. Also common areas and spaces for students are present, such as reading classrooms, library, cafeteria. Terracini Campus Engineering and Architecture School has been chosen as a laboratory for Transition and Sustainability for University of Bologna. Of course other initiatives have been started also thanks to several other department, but in this paper we refer to our own experience. For a Transition and sustainability "lab" it can be applied an "holistic approach", as suggested by the International Sustainable Campus Network (ISCN, 2013) using a nested hierarchy encompassing individual buildings, campus-wide planning and target setting, and integration of research, teaching, outreach and facilities for sustainability (figure 2).

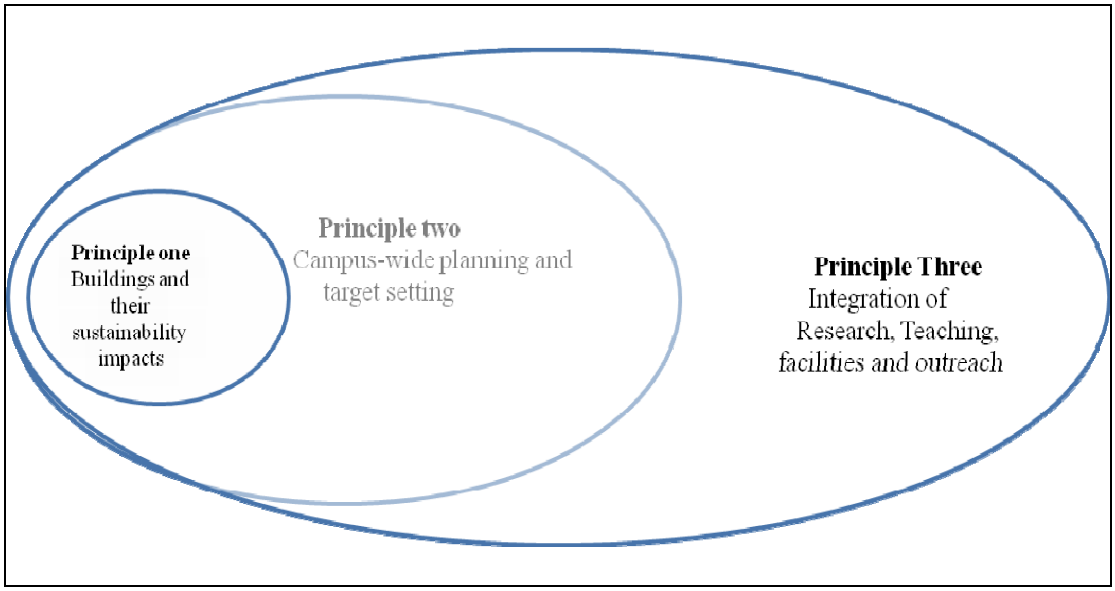

Fig. 2 - The International Sustainable Campus Network (ISCN) holistic approach for sustainable transition projects.

The main goals of that experimental approach are:

- implement good practices in progress;
- involve all the stakeholders of Terracini campus in order to improve the way to the sustainability;
- promote the integration between all different aspects in teaching, research management and decision activities;
- encourage innovative best practices and solutions that can have a good "fall out" not only from an environmental, but also from social and economic point of view.

Most of interventions have been designed and some are already realized with positive effects from environmental, economic and social point of view. In order to facilitate the implementation of interventions through a technical and management approach, a transversal and interdisciplinary team has been created for the coordination, the exchange and the operative discussion on sustainability initiatives of Terracini campus. That team includes researchers and professor, master and PhD Students, technicians, managers and administrative staff.

The actions that have been improving are listed in the following.

Green roofs and vegetated walls. These elements represent helpful components to reduce energy consumptions in buildings. Other important environmental benefits concern the rain water collection for a reuse inside the building and the improvement of the comfort and life quality. A pilot green roofs on the Engineering laboratories of DICAM, located in Terracini, has been constructed in July 2013 and it is one of the first green roof in the city of Bologna.

Urban Waste Separate Collection. Two years ago a project of separate collection has been improved in order to reduce the total amount of undifferentiated waste. The project aims to separate recyclable fractions (paper, plastics, aluminum, organic, etc.) and to promote a correct approach in urban waste management.

Informatics Electronic Equipment Waste Management. A new approach in Informatics WEEE (IWEEE) management has been imagined. University offices and departments produce yearly a very big quantity of Informatics waste in relation with the growth and upgrade in informatics and the necessity to exchange old equipment with the most updated. An overview has been made in order to evaluate the quantity of IWEEE produced, their operating state and their re-usability. Then it has been imagined the possibility of a centralized collection center at Terracini Campus, involving student associations, for the recovery and the preparation for re-use of IWEEE. A trashware activity will continuously recover the disused equipment that in their "second life" will be used inside the university or given to the local community (no-profit associations, schools, social and community centers, etc.), with economic benefits and social added value.

Future actions and initiatives

Other actions are in progress and will be achieved in the near future.

- LEED EBOM certificate for the main building of Via Terracini.
- Reduction of water consumption of all bathrooms, throw flow controllers and timers.
- Introduction of "Water Drinking Fountain" in order to guarantee public drinking and mineral water distribution for students and other people that work in Terracini.
- Creation of some areas and spaces for students constructed with non-conventional building materials.
- Proposal for sustainable and local high quality food supplying for canteen and cafeteria.

Further activities will also propose for next year, in particular in relation with training and dissemination activities for improving sustainable transition knowledge. Workshops, training days and stages could be planned out for teaching staff, technical and administrative staff and students in order to raise awareness on sustainability issues.

Some of expected benefits towards sustainability could be energy and water consumption reduction, use and management of technological systems improvement, reduction of maintenance requirements, increase of the value of the buildings, improvement of the monitoring of energy consumption, reduction of air emissions, savings in energy cost, improving of the work quality, comfort and safety, increasing the involvement and the empowerment of staff and students.

All these actions could generate virtuous transformation for the promotion of sustainability initiatives both inside and outside of Unibo, thus an overall increase of the sustainability awareness and skills will be achieved.

EXPECTED RESULTS AND CONCLUSIONS

Achieving a sustainable path at via Terracini headquarters of the School of Engineering and Architecture leads to improve by economic and environmental point of view and to have a positive impact on research, teaching and life itself of people using this structure. The plexus via Terracini can become a “living laboratory of sustainability”. Through the implementation of best management practices of natural resources (energy, water, etc..), waste and environmental impact reduction and the realization of experimental measures (e.g. roof green or LEED certification) there is the chance to experiment and implement a real change towards sustainability. The described project is based on concrete actions, but at the same time allows to involve researchers and to explore new research fields, such as the identification of methods for the benefits and environmental impacts assessment. The involvement of the administrative staff is crucial for the success of the initiatives, especially for what concerns the operational management of facilities such as offices and laboratories. Finally, the participation and the training of students on sustainability issues can allow them to make a direct experience of sustainability and to improve their skills providing the possibility to build a correct way of living sustainability.

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INTERNATIONAL DEVELOPMENT COOPERATION AND INTERNATIONALIZATION OF THE UNIVERSITY: DE-CONSTRUCT TO RE-CONSTRUCT WITH DIFFERENT TYPES OF KNOWLEDGE

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ABSTRACT

Universities are regarded as key institutions in the processes of social change and development. As such they are well positioned to be oriented to cooperation and technical assistance, with all that this implies (research, development education, human capital formation, etc.). They need however to carve out a more important space in the arena of international development cooperation (IDC) and adopt strategies more coherent to their social responsibility. IDC, from its part, may provide a fundamental contribution to universities that, through a process of internationalization, intend to acquire a global perspective and lead to consider under new perspectives the issues of local development and innovation. The exposure of students and faculty to IDC, both for ethical reasons and personal and professional growth, may create new skills and generate special sensitivity to appreciate diversity, combat prejudice, and manage change and the dynamics that shape society. On the other hand, universities should provide students and faculty with an innovative educational framework suitable to enable professionals to meet the realities of poverty, exclusion and inequality in the South as well as in the North of the planet. To ensure that this task is not reduced to a mere transfer of knowledge and technology, in a sterile act of charity or indeed neo-colonialism, a process of "deconstruction" is needed of the many clichés and stereotypes that are part of the conventional "underdevelopment" and "development aid" discourse. A guided process of internationalization aimed at social transformation may empower universities in this undertaking. Building on the experience of the Centre for Studies and Research in International and Intercultural Health (CSI) at the University of Bologna, this paper discusses the need for a paradigm shift supporting an innovative educational practice that lead to deconstruct IDC's mainstream narrative in order to re-construct it with other, different types of knowledge.

BACKGROUND: THE REALITY OF INTERNATIONAL DEVELOPMENT COOPERATION (IDC)

Before embarking in words and concepts open to different interpretations, some background information is needed. First of all, I'm using the term international (or global) development in the holistic and multi-disciplinary context of human development, i.e. the development of a greater quality of life for humans, and not simply economic growth. Secondly, the Development Aid Committee of the Organisation for Economic Co-operation and Development (DAC-OECD) defines international cooperation as a broad concept that encompasses all kinds of activities carried out jointly and in coordination by two or more sovereign States and/or by these and international organisations, whatever their area or aim. According to this definition, international development co-operation (IDC) may involve processes related to financial aid, governance, healthcare and education, gender equality, disaster preparedness, infrastructure, economics, human rights, environment and other. In this sense, it is specifically composed of institutions and policies that arose after the Second World War and mainly focus on alleviating poverty and improving living conditions in previously colonised countries. IDC may then be defined as a form of international co-operation that makes contact between countries with different levels of development seeking mutual benefit. [1: 9]

A distinction should be made between IDC and international development aid. In fact, "To co-operate implies sharing work or a task, doing something with others in a coordinated way, in conformity with a plan, and to a certain degree, voluntarily, encouraged by some type of mutual interest or benefit, which may be established as well between unequal partners, as between equals. Aid is something different from co-operation. It still has a social content, since it presupposes a relation between partners, but it does not imply sharing. […] In principle, one can help someone who is passive or even someone who refuses to be helped." [2] The term IDC is therefore used to express the idea that a partnership should exist between donor and recipient, rather than the traditional situation in which the relationship is deeply asymmetrical and dominated by the wealth, power and specialized knowledge of one side.

In reality, the term "development cooperation" is often used interchangeably, as a euphemism for "development aid"; whatever that is, its achievements on records are hard to digest. After several decades of what is known as Official Development Assistance (ODA) accompanied by plenty of rhetoric of cooperation and partnership, 1.22 billion people, the equivalent of 20.6% of the population in the developing world, live in extreme poverty (under $1.25 a day). [3] In 1970, the world's rich countries agreed to give 0.7% of their Gross National Income as official international

development aid, annually. Since that time, their actual promised targets were rarely met. Furthermore, aid often comes with a price of its own for developing nations, i.e.:

- aid is often wasted on conditions that the recipient must use overpriced goods and services from donor countries;
- most aid does not actually go to the poorest who would need it the most;
- aid amounts are hindered by rich country protectionism that denies market access for poor country products, while rich nations use aid as a lever to open poor country markets to their products;
- large projects or massive grand strategies often fail to help the vulnerable as money can often be embezzled away. [4]

A possible conclusion is that, looking for solutions to the current problems of poverty and underdevelopment one cannot expect that these will be from aid or from international co-operation as it has been understood so far. Much wider and coherent policies are needed at international level, embracing international trade and investment, environmental protection and technical innovation, migration and arms control. On the other hand, although condemning the "aid system" for its inefficiency is legitimate, to say that the inhuman life conditions of billions of people are a consequence of the failure of the "aid system" is short sighted and the hypocritical search for an easy scapegoat. "Reforming the 'aid system', which is not a 'system' but a sort of cauldron containing almost anything, from good to bad and worse, is a long and slow process. What remains is the unbearable injustice of the iniquitous inequalities between those who have and those who have not. What remains is the intrinsic goodness of the idea that those who have must promote a change leading towards more justice, towards a more bearable human condition for all." [5] What this change should consist in, and how it should be achieved, is the real issue facing IDC. We can speak about four modes of IDC, i.e. financial cooperation, food aid, humanitarian aid and technical co-operation. To narrow our approach I shall focus exclusively on the last.

UNIVERSITIES AND IDC: WHAT UNIVERSITIES SHOULD BE DOING

Universities are regarded as key institutions in the processes of social change and development. They not only, in fact, serve as centres of production (through research), reproduction (through education) and implementation (through assistance and services) of scientific knowledge. They are as well integral part of society, engaged in a 'social contract' governing their mutual relations. In addition, during periods of radical change, universities and their constituencies have often played an equally important role in creating new institutions of civil society, in promoting new cultural values, and in educating members of the new social elites. [6] Academic institution shave also been a favourite instrument for promoting Western world values and the neo-liberal ideology in the developing world as in the case of the Rockefeller Foundation and other large philanthropic initiatives. [7]

In recent years, universities have acquired an increasingly important role in IDC as part of a process that has led to the increase in the number and types of social actors providing international support for greater equality and human, sustainable development. We have gone from a situation where only a few specialized organizations, such as international non-government organizations (NGOs), United Nations agencies and private foundations, were devoted to the task, to one in which many other institutions and social groups have begun to engage in development cooperation programs and projects in various fields and in different countries. This has given rise to a great diversity in cooperative efforts and working methods. In this context, it is not surprising that contradictions and problems have arisen in the way IDC is understood and applied into practice. [8]

Education in general, including higher education, is an essential component of the process of expanding opportunities for freedom to people and societies and for human development. As a result, strengthening the university system and promoting access to the higher education are essential objectives of universities engaged in IDC. Similarly, a role universities might play in IDC is to work together to try and resolve the difficulties and contradictions related to poverty-alleviation policies and development paths, and to promote research in fields related to these goals, such as gender equality, strengthening women's capacities and autonomy, environmental sustainability, peace, health and quality of life, within a common framework of human rights and social justice. From this perspective the place of IDC within the university system cannot be regarded simply as one of the functions of a generic process of international collaboration between universities of the North and the South of the planet, a sort of exotic appendix to embellish academic institutions and their faculty's CVs.

Universities entering the IDC system should aim at enriching humanly and academically the people who participate in this effort and the structures that compose it, in a spirit of selfless commitment to solidarity. This may be facilitated by adopting the 'decentralised cooperation' approach, which embodies the principles of solidarity and equitable and sustainable development among peoples, founded on participation, promotion of human rights and fundamental freedoms by strengthening capacity and powers of decentralized actors and in particular of the most disadvantaged social groups. Decentralised cooperation is founded on commitment of citizens, government, NGOs, associations and local groups, trade unions, cooperatives, businesses, and educational institutions, including universities. Decentralization and participation are the key words. "Non-state actors and local authorities in development" is a

specific European Commission's thematic programme aiming at encouraging non-state actors and local authorities, both from the EU and in developing countries, to get more involved in development issues.

As an essential part of the university's social commitment, therefore, IDC cannot be understood like a sort of extra-curricular activity or be limited to individual obligations. It should rather be integrated into all activities that characterize it. This means that the university should be institutionally involved in this role and support it with technical, human and financial means, avoiding to delegate tasks only to more socially conscious individuals and groups, or allowing it be considered simply as a moral option of an individual nature, alien to academic work and institutional activities. In short, universities should emphasize the identity and importance of IDC activities through their recognition as a statutory objective of university work, their inclusion in strategic plans, the creation of institutional bodies to promote and manage them, and the existence of tools and dedicated funds for their implementation.

UNIVERSITIES AND IDC: WHAT UNIVERSITIES HAVE BEEN DOING

Although the theme of IDC has long been on the agenda of government agencies, NGOs and institutions, in a number of Italian universities only in recent years it has begun to be viewed as an important aspect of the educational and research processes. Despite a variety of undergraduate and post-graduate programmes on development-related issues being quickly born, IDC's progression into university life has often been a slow process and no clear policy on IDC have been spontaneously generated. This can develop only by a series of organizational strategies, a central administrative agency is needed to coordinate, plan, manage, evaluate and monitor the various actions and, finally, programmes and international activities are only generated within a meaningful international framework of education, cooperation and interchange. Mobility, above all, is the area in which universities have incorporated international cooperation in their activities. It should be noted, however, that to have a significant number of foreign students coming from poor countries or to hold training courses on IDC-related topics does not necessarily mean for an institution 'to do' IDC. Moreover, the activity "international" is hardly perceived as an axis cross-cutting all the undertakings of the academic institution. More frequently it is seen as a space of action of the university, which does not connect directly nor visibly improve the quality of processes. Neither, in the end, there seems to be a clear definition of what the desirable levels of investment are or should be, based on the characteristics of institutional support projects and the benefits expected from the IDC. Instead, IDC is often perceived as an object of unnecessary expenditures, an obligation or merely an activity of prestige (for some), and certainly regarded as one of the least needed in times of budget cut-backs. A number of universities have successfully incorporated IDC in their institutional structure, have a dedicated office with a definite plan of action, and carry out a series of international activities. But can it be said that they really 'do' IDC? [9]

So, what are the reasons why universities have been weak in, or indeed absent from the whole system of IDC? Might it be because another actor filled their role? Is it perhaps a short sighted and distorted understanding of the institutional role and social responsibility of the university that prevented a more forward-looking and comprehensive interpretation of the true mission of the university? The academic institutions are well positioned for cooperation and technical assistance with all that this implies (i.e. research, development education, human capital formation, etc.), but they need to carve out a more important space in the arena of IDC and adopt a more committed and solidary approach than many NGOs have shown in the past decades. The question is how can they be supported to embark in such a transformation amidst the storm brought about by the current globalization process?

IDC AND THE INTERNATIONALIZATION OF THE UNIVERSITY

As globalization continues to evolve, universities are called upon to modify their policies and programmes to respond to the changing realities and avoid losing social relevance. A guided process of internationalization is widely viewed [10] as a way of helping them in this task. According to Knight, the internationalization of a university is "the process of integrating an international, intercultural or global dimension into the purpose, functions [i.e. research, teaching and services] or delivery of higher education at the institutional and national levels." [11: 21] The internationalization of higher education is however inevitably affected by different views of the world. On the one hand, it may be seen as the institutional process by which universities can compete on a global level to achieve a competitive advantage in the global market of higher education. Another way to see internationalization is as an example of global cooperation, of international and intercultural sharing in an ideal "global village". A third model of internationalization aims at social transformation through a critical analysis that rejects the supremacy of the market and recognizes the reality of marginalization of populations produced by the neo-liberal globalization. [12] Regardless their ideological position, the existence of different models indicates that universities are organizations based on values and, as such, able to facilitate a transformation of the social order. Be it explicit or implicit, the choice of the model is itself of great importance as it raises the question of the social responsibility of the university in its various expressions. It is apparent, for instance, that for the second and third model the concepts of cooperation, collaboration, solidarity, sharing and fairness are crucial.

The natural outcome for the universities engaged in a process of internationalization should be the development of a "global perspective". According to the Development Education Association [13], acquiring a global perspective in education means becoming aware of the ties that exist between our lives and that of others in the global context; increasing the understanding of the economic forces, and social policies that affect our lives; developing the skills, attitudes and values that enable us to work together with other people from different countries and cultures in search of a more just and sustainable world. In short, the "global citizen" is one who sees the world and its inhabitants as interdependent and works to develop the capacity to promote its own interests as well as those of the most disadvantaged populations, anywhere. The Commission on the Education of Health Professionals for the 21st Century, chaired by the Dean of the Harvard University School of Public Health and the President of the China Medical Board, maintains that the root of the failure of medical education in creating this type of professionals is the poor attention of curricula to the 'global dimensions of health'. Part of this 'culture of indifference' is reflected in the lack of awareness of the importance of the university as a fundamental social institution. [14]

Hanson [15] has explored the main issues related to how individual courses and their instructors might foster what she calls "engaged global citizenship". Reporting on a 6-year outcome evaluation, she discusses the impact and potential of transformative pedagogies. Building on Paulo Freire's pedagogy [16] whereby education is viewed as never neutral and having either an instrumental or an emancipatory purpose, she acknowledges that "if educators do not encourage the oppressed (or the learner) to question, to challenge, and to see the exercise of unjust power as problematic, they enable the oppressed to accept it, adapt to it, and engage in its reproduction." And she asks, "How can educators in a university setting utilize both the internationalization process and their course curricula to catalyse personal and social transformation and foster global citizenship?" She quotes Bond and Scott [17] as arguing for a model of internationalization that may counter "a naive tendency toward the promotion of what they call intellectual tourism, involving the application of traditional academic knowledge and practice to new cultures with no attention to critical self-reflection or the discourse of development." Educators are then encouraged to do more than create international placement opportunities or just use global examples.

What is needed is "not only culturally sensitive professionals or clinical practice, but also personal transformation and extended understanding of, and commitment to social change", particularly in a field like medicine and health where renewed global emphasis is emerging on the social determinants of health, health inequities [18] and social accountability [19] Such an approach calls for recognition of the reality that globalization leads to increased marginalization of significant groups of people around the world. This calls for a model of internationalization that is mainly about prioritising those research and educational activities that increase knowledge and awareness of inequalities both within and between nations. An internationalization that is "guided by principles of mutuality and reciprocity." [20: 73] Universities supporting social transformation models of internationalization should then introduce educational practices that facilitate learning outcomes beyond the walls of classroom learning and professional practice, and leaders and educators who work "tactically inside and strategically outside of the system". [20: 85]

In conclusion, this model of internationalization may provide a fundamental contribution to universities wishing to engage into IDC equipped with a global perspective. On the other hand, abundant literature shows that exposure of teachers and students to field-based IDC creates new skills and generates special sensitivity to appreciate diversity, combating prejudice, manage change and the dynamics that shape society. [21] [22] [23]

CSI AND IDC

The Centre for Studies and Research in International and Intercultural Health (CSI) at the University of Bologna is an academic centre founded in 2006 by a small group of health activists unhappy about the pervasive lack of social commitment in medical practice and education. The aim of CSI is to reaffirm health as a "fundamental right of individuals and interest of the community" [24], to address the power relation between the medical profession and the community as a potent determinant of health, and to engage in working practices for addressing it. By adopting a self-reflective approach, the CSI has been explicitly developing counter-hegemonic methods, and providing a participatory, non-hierarchical academic workspace managed by unanimity, open to faculty, students, health professionals and anyone sharing common goals. Currently it is composed of more than thirty volunteers and scholars from different areas (public health, medical anthropology, economics, and other), is delivering a solid package of participatory and multidisciplinary teaching, and is engaged in community-based research in collaborations with health promoting institutions, at home and abroad. The main problems encountered are related to the conservative attitude of the faculty when confronted with the need for change; the difficulty of health professionals to effectively address in-house power relations; the obstacles perceived by physicians to embrace multi-methodological approaches and to work in multi-disciplinary teams.

As an academic body, CSI views research and teaching as a tool for social change and health promotion. CSI's general approach to IDC is embodied in the title of an elective course, "The destruction of certainties", offered only once and then incorporated into CSI's regular teaching. In order to be able to support IDC, the argument goes, the university should, firstly, open itself to complexity. In the words of the sociologist Edgar Morin,"[T]he 20th century produced gigantic progress in all fields of scientific knowledge and technology. At the same time it produced a new kind of blindness to complex, fundamental, global problems, and this blindness generated countless errors and illusions, beginning with the scientists, technicians, and specialists themselves. […] Fragmentation and compartmentalization of

knowledge keeps us from grasping 'that which is woven together.' […] It means understanding disjunctive, reductive thought by exercising thought that distinguishes and connects. It does not mean giving up knowledge of the parts for Knowledge of the whole, or giving up analysis for synthesis, it means conjugating them. This is the challenge of complexity…"[25: 19] What is needed is a trans-disciplinary and multi-methodological approach, which relies on the contributions of both social sciences and humanities and natural and biomedical sciences. A model of internationalization that brings together an international network of practices for human development is most suited to provide universities with the tools necessary to address IDC's current, complex issues such as global coordination, the power of "new global players", donor dependence and the role of "beneficiary" national governments.

Secondly, teaching and learning in the university should be focused on "processuality". Universities which have committed themselves to a meaningful IDC should be unwilling to propose their own, turn key outcomes to less endowed partners; they should rather join their partners' experiences by participating, through teaching, research and field projects, to their struggle to reclaim their right for a self-directed, human-oriented development.

Thirdly, to suitably and credibly enter into equitable IDC with poor partner countries, most often former colonies, universities should make all efforts to denaturalize historical processes, and analyse their impact. The "aid system" is a case in point. As mentioned earlier, development aid to poor countries, often benevolently presented as IDC, is usually charitably given and thankfully received on the basis of solidarity, economic interests or political affiliation. What used to be a donors "hidden" agenda (i.e. mere self-interest) today is widely acknowledged and unashamedly disclosed. Less debated is, instead, the extent to which donors reflect on, feel accountable (on political, ethical and legal grounds) and conscientiously accept full responsibility also for the unintended effects of their well-intentioned interventions.

Fourthly, it is therefore paramount to deconstruct current IDC's mainstream narrative in order tore-construct it with different type of knowledge. For example, IDC is often an instrument of creation of economic, political, cultural or simply healthcare dependence. This is where the role of universities would really be unique and priceless by, for instance (a)developing mechanisms to hold donors and powerful Northern partners into account; (b) providing knowledge and expertise to support national leaderships and strengthen local capacities; and (c) studying and learning from South-South collaboration both bi-laterally, between emerging powers and low-income countries, and multi-laterally, through clubs and coalitions, perhaps one of the least explored areas by academics. [26]

CONCLUSION

Linking his personal experience of deinstitutionalisation of psychiatric hospitals in Italy to that of IDC, Luciano Carrino, a former IDC official at the Italian ministry of foreign affairs, offers the following inspirational comment: "[It is important] to stimulate critical thinking, making it the main instrument of work and at the same time giving it a sort of ethical value [to refrain from being] complicit in inhuman acts and from falling into the deception of clichés and science. [...] The motivation for what we did first of all was ethical, but we also had the belief that, in this way, we would have approached more the ability to better treat the patients." [27]

According to Carrino, building an international network of practices against social exclusion has political and technical values. A political value of the network is the fact that it serves to give strength to groups which, if not connected, would remain more easily unheard and vulnerable. His technical value is in the fact that today, more than ever, it is not enough to have the desire, the "good intention" [28] to help a community in trouble. Rather, people themselves must know what actions are actually able to change their situation. To empower them, IDC's partners should know how to reduce their dependence on strong groups. What is important therefore is not to provide people with answers, but with the means to organize themselves and produce solutions to their problems by analyzing their own needs and set their own priorities through a participatory approach. The outcome of such a process is that partner communities regain confidence on their capabilities and build higher self-esteem. They realize that the solutions are in the community not in the IDC.

In order not to be reduced to a mere transfer of knowledge and technology or to a sterile, neo-colonial exercise of charity, IDC activities should be integral part of an internationalization strategy oriented toward social transformation and involving a process of "deconstruction" of the many clichés and stereotypes that make up the current, conventional "underdevelopment" and "development aid" discourse. Probably the most difficult task for universities engaging in this process is to build an institutional ethos and provide a learning framework to students and faculty as well "to keep awake critical thinking, to avoid fall into the illusion of having solved all problems, to be able to be irreducibly consistent, in action, with the ethical impulse that unites us all as human beings." [27]

NOMENCLATURE

CSI	Centre for Studies and Research in International and Intercultural Health
IDC	International Development Cooperation
DAC-OECD	Development Aid Committee of the Organisation for Economic Co-operation and Development
ODA	Official Development Assistance
NGOs	Non-Governmental Organizations

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GLOBAL PARTNERSHIP, PARTICIPATION AND DEVELOPMENT COOPERATION: THE ROLE OF PUBLIC CONSULTATIONS LAUNCHED BY THE UNITED NATIONS IN BUILDING A POST-2015 GLOBAL AGENDA AIMING AT A MULTI-DIMENSIONAL AND MULTI-SCALAR DEVELOPMENT

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ABSTRACT

The MDGs represent a concerted project that gave birth to unprecedented synergetic efforts. Ever since their enunciation, they became the focus of political discussions and actions in the field of economic and social development, meetings and conferences were held regularly in order to reaffirm their importance, their effort and to evaluate the accomplished progress.
Among the Goals, the creation of a global partnership for development is often considered the weak link in the chain, whether in relation to the difficulties for the main actors of the cooperation for development policies to converge on common goals through constructive dialogue aimed at efficient and effective actions, or for the need to define new forms of cooperation that would start from the comparison and the involvement of the non-institutional actors of civil life. In this perspective, the UN urged the adoption of a public and a participatory process bottom-up aimed at analyzing the progress and the achievements in relation to the development and the elaboration of new proposals, in such a way as to shape the priorities by creating a stronger sense of belonging to the community. For this purpose, a series of consultations has been initiated to meet the request for greater participation in the formation of a new agenda for the post-2015 development, which is an innovation and an achievement for the adopted methods and for the aroused interest.
This research aims to analyze what the contribution of these consultations to the global debate is, which help to reveal people's priorities and to provide key inputs to the discussion of a post-2015 future development program. At the same time, it explores the potentialities of a synergic cooperation as the fundamental link between international development cooperation, decentralized cooperation and territorial cooperation, a source of renewal in the conception of development based on participation, rights and freedoms, strengthening territorial capacity in the global context and the creation of a network of exchanges that constitute the platform for the construction of new multidimensional development policies.

The Millennium Declaration stands for an agreed project which aims to create the foundation to construct a global interest in order to form a solid ground for future actions all over the world. During the last thirteen years, the MD and the Millennium Development Goals have represented the fundamental keys to political and economic debates that concern the development in the North and in the South. Conferences and Meetings were held regularly in order to confirm their caliber and their effort also to assess the achieved progress.

The eight Goals aimed to halve the rate of extreme poverty, to stop the spread of HIV and to provide universal primary education, represent a concerted project between all countries and major institutions in the world that have given birth to unprecedented synergistic efforts in order to satisfy the needs of the world's poorest. They were adopted by acclamation, through a procedural innovation - called “consensus” - that diverges from the United Nations’ tradition who has always considered necessary that texts of this type were carefully prepared and discussed at length in the Commissions. Nevertheless they have not been exempt from criticism, sometimes even ferocious, like the one of the Egyptian economist Samir Amin, author of an irreverent article that disassembles, literally, the enthusiasms [1].

His critique at the limits of irony, begins with the observation that the procedure of adoption by consensus, outlines a change in the international balances, as the Global Triad would prove able to exercise its hegemony also on the UN. Even though the scope and value of the goals might, at first sight, appear unexceptionable to the economist, he dismantles them one by one, highlighting that they are not the result of an initiative of the poor countries, but of the three usual suspects assisted by the World Bank, the International Monetary Fund and the Organization for Economic Cooperation and Development. That simple fact, according to Amin, creates the doubt that this is an ideological cover for neoliberal initiatives; with hardly objectionable motives, however, he comes to the hypothesis that they are a subtle and a refined tool for the creation of an *apartheid* on a global scale, the extension of the liberal system, reproduction and an in-depth study of the global polarization.

If the extreme simplicity and conciseness of the objectives, on the one hand, led to an immediate impact on the

collective consciousness, on the other it is seen as one of the additional weaknesses, exacerbated by a reductionist approach and the difficulties of measurement.

An additional limit concerns the application of the objectives. They were conceived as targets of a global nature, which can hardly be carried out without an approach that would assess the specific territorial, cultural, economic and political conditions of each country. It seems to be imperative, therefore, to adapt the global objectives to national contexts and to make a global comparison on the basis of territorial surveys.

An additional factor, as mentioned, is that the monitoring and data collection create many problems especially in situations in which the statistical revelation systems do not appear adequate to evaluate the progress and to make comparisons.

Among the Goals, the creation of a global partnership for development is often considered the weak link in the chain, whether in relation to the difficulties for the main actors of the cooperation for development policies to converge on common goals through constructive dialogue aimed at efficient and effective actions, or for the need to define new forms of cooperation that would start from the comparison and the involvement of the non-institutional actors of civil life [2]. In this perspective, the UN urged the adoption of a public and a participatory process bottom-up aimed at analyzing the progress and the achievements in relation to the development and the elaboration of new proposals, in such a way as to shape the priorities by creating a stronger sense of belonging to the community. For this purpose, a series of consultations has been initiated to meet the request for greater participation in the formation of a new agenda for the post-2015 development, which is an innovation and an achievement for the adopted methods and for the aroused interest [3] [4].

In 2001 Kofi Annan, General Secretary of the United Nations at the time, launched within the framework of implementing the Declaration of the Millennium, one of the eight MDGs appears as a powerful tool to mobilize the international community and raise the public awareness about global emergencies. The global partnership for development remains one of the most central nodes to the achievement of other objectives. The themes behind the new system of partnership are fundamental, perhaps even more than it could have been predicted in 2000, nevertheless, as repeatedly pointed out by the UN, the connection between the various goals, the choice of the goals and the use of detection indicators are rather fragmentary. When the MDGs were set in 2000, the contribution of the private sector towards their achievement has not been fully understood, causing an impairment of the sensitivity and global responsibility towards their achievement by 2015.

Some of the most ambitious challenges, such as partnership and the adaptation of different goals to different local contexts, continue to commit the international community after 2015; other detectable limits correlated to the responsibility for the implementation certainly could have been avoided if a public, territorial and more inclusive consultation process had been carried out, before the enunciation of the goals themselves. The choice, in fact, even if preceded by a series of UN conferences, was an exclusive prerogative of a small group of politicians and academics [5].

For these reasons, the UN Secretary-General Ban Ki-moon called for a bottom-up and participatory process aimed at highlighting the priorities of the people, to create a greater sense of belonging and to find answers that reflect the aspirations of the people around the world [6].

Currently the national consultations are underway in 83 countries to whose governments, the UN provides support. Covering a wide range of subject areas and involving the people in most countries of the world, such consultations may provide key inputs for the discussion of future development programs. With the start of consultations three years before the MDG deadline, it is hoped that they will contribute to the efforts of the Member States of the United Nations to agree upon a framework for an actual, effective and efficient development. Finally, it is also hoped that the consultations could deepen and broaden the feedback and the actions of national governments by January 2016.

THE VARIOUS LEVELS OF ONGOING CONSULTATIONS

The national consultations, as mentioned, are underway in 83 countries, with the aspiration to reach 100 countries by the end of the 2013. Organized by the national headquarters of the UN, under the leadership of the Resident Coordinator of the United Nations, they saw the inclusion of many interested parts such as the governments, the civil society, the private sector, the media and the universities. The countries that were selected to participate are a representative sample of the different territorial dimensions. The following list shows the countries currently committed to this effort, but it does not preclude the support to other countries (Tab. 1).

Tab. 1 - *Source:* United Nations Development Group, The Global Conversation Begins.

AFRICA	ASIA AND THE PACIFIC	LATIN AMERICA AND THE CARIBBEAN	ARAB STATES	EASTERN EUROPE AND CENTRAL ASIA
Angola	Bangladesh	Bolivia	Algeria	Albania
Benin	Bhutan	Brazil	Djibouti	Armenia
Burkina Faso	Cambodia	Colombia	Egypt	Azerbaijan
Burundi	China	Costa Rica	Iraq	Belarus
Cameroon	India	Cuba	Jordan	Kazakhstan
Cape Verde	Indonesia	Dominican Republic	Morocco	Kosovo[48]
Central African Republic	Iran	Ecuador	Sudan	Kyrgyzstan
Côte d'Ivoire	Mongolia	El Salvador	Yemen	Moldova
Democratic Republic of the Congo	Pakistan	Guatemala		Montenegro
Ethiopia	Philippines	Honduras		Tajikistan
Gabon	Papua New Guinea	Jamaica		Turkey
Gambia	Samoa	Peru		Serbia
Ghana	Solomon Islands	St. Lucia		Turkmenistan
Kenya	Sri Lanka	Suriname		Ukraine
Liberia	Thailand	Uruguay		
Mali	Timor-Leste			
Malawi	Viet Nam			
Mauritania				
Mauritius				
Mozambique				
Niger				
Nigeria				
Rwanda				
Senegal				
South Africa				
Tanzania				
Togo				
Uganda				
Zambia				

Thematic consultations were polarized on 11 topics covering the main challenges in terms of sustainability: conflict, violence and disasters, education, energy, environmental sustainability, food security and nutrition, governance, growth and employment, health, the fight against inequality, population dynamics, and water (Fig. 1).

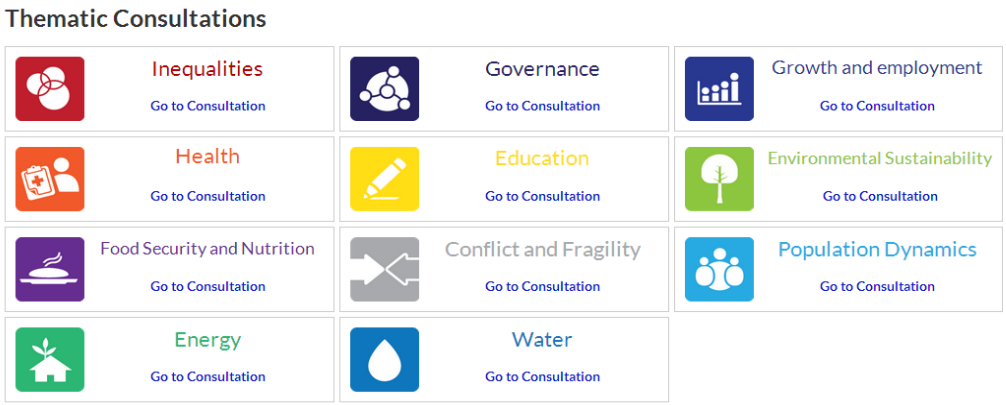

Fig. 1 - *Source:* www.worldwewant2015.org.

Some thematic discussions are accompanied by action-oriented initiatives, such as energy sustainability; at the same time, recent developments in the field of measurement have allowed great strides. Many have commissioned background papers by people from a cross-section of the globe, while the majority has undertaken a series of e-discussions and held meetings of "leadership" to convene leading thinkers in various fields around the world. Table 2 contains a complete description of the 11 thematic discussions' process.

Tab. 2 - *Source:* United Nations Development Group, The Global Conversation Begins.

THEMATIC CONSULTATION	CO-LEADERS	SPONSORING OR ASSOCIATED GOVERNMENTS
Addressing Inequalities	UNICEF and UN Women	Denmark and Ghana
Conflict, Violence and Disaster	UNDP, PBSO and ISDR	Finland, Indonesia, Liberia and Panama
Education	UNESCO and UNICEF	Canada, Egypt, France, Germany, Mexico, Senegal, South Africa and Thailand
Energy	UNIDO, DESA and World Bank	India, Mexico, Norway and Tanzania
Environmental Sustainability	UNEP and UNDP	Costa Rica and France
Governance	UNDP and OHCHR	Bangladesh, Brazil, Egypt, Germany, Philippines and South Africa
Growth and Employment	ILO and UNDP	Japan
Health	UNICEF, WHO	Botswana and Sweden
Hunger, Food Security and Nutrition	WFP and FAO	Colombia and Spain
Population Dynamics	UNDESA, IOM, UNFPA and UNHABITAT	Bangladesh and Switzerland
Water	UNICEF, DESA and UN Water	Hungary, Jordan, Liberia, Mozambique, The Netherlands and Switzerland

Additional financial support has been provided by: the Hewlett-Packard Foundation, Republic of Korea, United Kingdom and the United States.

A global online conversation is taking place on the site worldwewant2015.org, on Facebook and other forums in various countries, as well as through the investigation "my world", that enables individuals to rank their priorities. Through online and offline methods, the site asks the people about which of the 16 problems would lead to a change in their lives, offering also to the interviewees the ability to write suggestions. The 16 options were identified through existing research and voting exercises that cover the existing MDGs as well as sustainability, security, governance and transparency issues (Fig. 2; Fig. 3). The initiative has been developed by the United Nations with the support of more than 230 partners around the world.

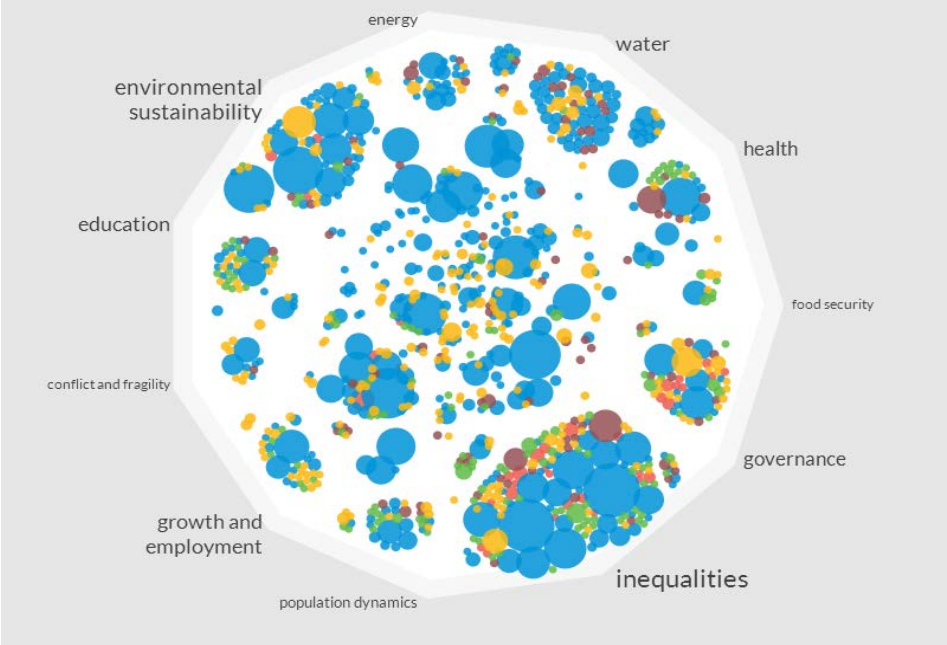

Fig. 2 - World trends. *Source:* www.worldwewant2015.org.

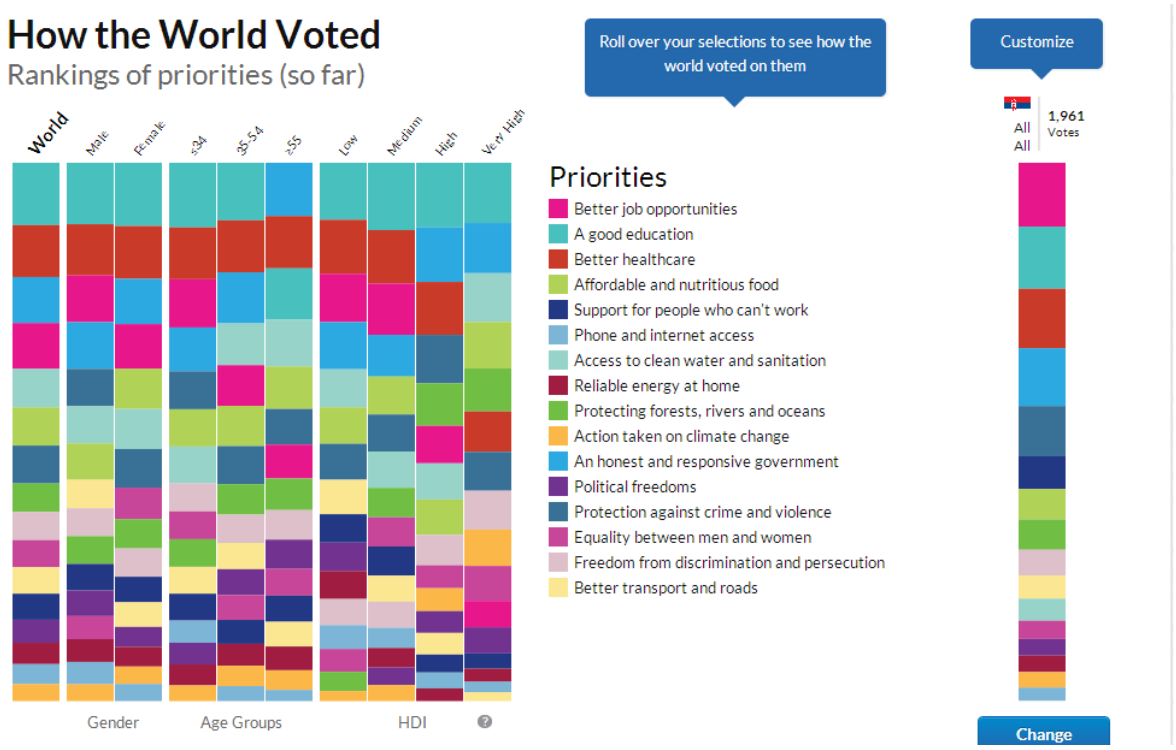

Fig. 3 - *Source:* www.worldwewant2015.org.

THE TERRITORIAL SCALE OF CONSULTATIONS

In order to create a common basis for consultations and implement participation and inclusion at the national level, the Task Team of the UN has provided to national governments a set of guidelines that has been adapted to national contexts. Country Teams of the UN, of governments and of civil society partners have designed their consultations on the basis of stakeholder groups, involving, therefore, groups that usually do not participate in political discussions [7]. A prime example is provided by Iran where the consultations have seen as participants teachers' associations, women health workers, Shora Yari volunteers in Tehran Municipalities, Education and Social Work research institutions and student organizations, among others, to reflect the concerns of the most vulnerable part of the population represented by children living and working on the streets and drug addicts [8] (Fig. 4).

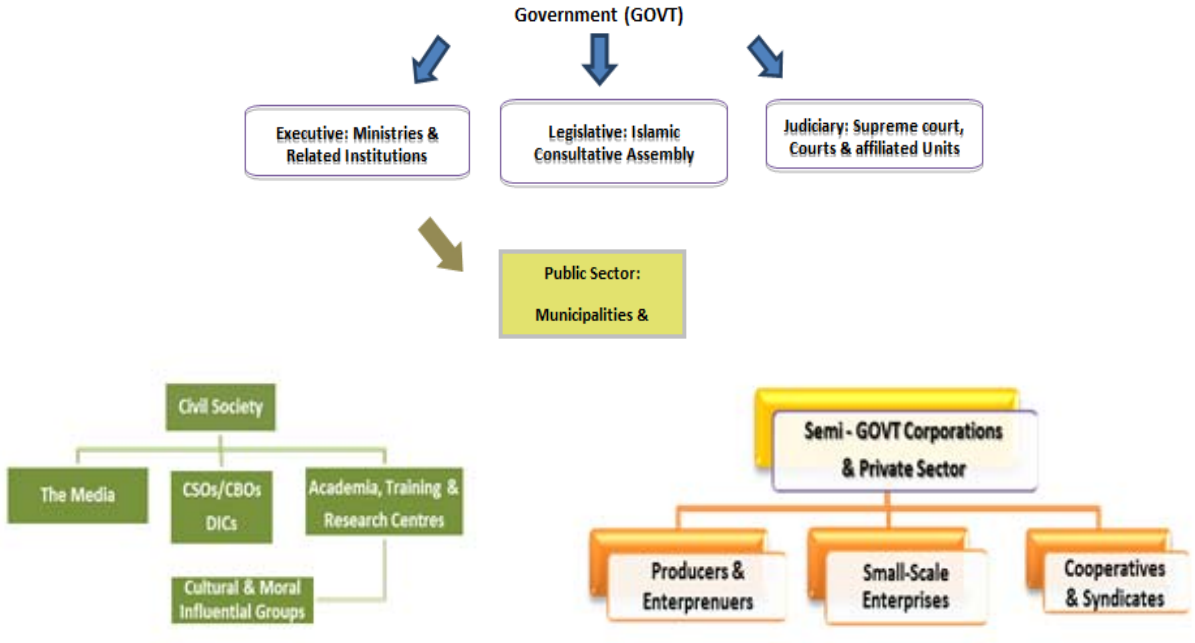

Fig. 4 - *Source:* Iran_DOCX_Post 2015 Final Report (12 June) - post MFA DoE comments - final ver 1, www.worldwewant2015.org.

CONSULTATION RESULTS

Priorities for the Global Development agenda:

- Peace, Tranquility & Security – End to Hostilities
- Supportive Socio-Economic Development – Decent Jobs
- Regional Targets
- Sustainable Development

In India, civil society, trade unions and industry cooperate with the government for the elaboration of answers about the needs of the population. Turkmenistan involved in the national consultations, also, entrepreneurs, farmers, youth and even the disabled. In Ecuador and Peru, the UN teams have drawn especially the attention of children, youth, women and people living in the Amazon region, or those groups usually excluded from the definition of the agenda of development and planning processes. Other examples relate to realities such as Turkey and Bangladesh, where consultations with stakeholders have identified the issues on which polarize discussions on the basis of previous conversations of public policy. It should be added that many countries (Jordan, Moldova, Serbia and Uganda) are using innovative methods to raise awareness such as SMS or media platforms like Google, Twitter and Facebook to involve as many people in the consultations. National consultations tend not only to fuel the debate and implement global post-2015, but they are also leading to decentralized actions of adaptation of global issues through national development strategies as occurred in Honduras and Albania, where governments are interested in using the results of consultation to inform future national development strategies. Then, the case of Bhutan appears emblematic; national consultations are implementing discussions that are already afoot about the concept of Gross National Happiness, using the results to make it even more relevant to specific regional assessments about the citizens' happiness.

THE REGIONAL CONSULTATIONS ON THE NEW DEVELOPMENT AGENDA

The regional commissions of the United Nations and other UN partners, as mentioned, have activated a series of consultations with representatives of the government, the civil society, the private sector and the academic world. The consultation process is slower in Asia and in Africa. From data provided by the UN Economic Commission for Africa three sub-regional consultations in Accra, Ghana, Mombasa, Kenya, and Dakar, Senegal have been convened. At the same time for Asia and the Pacific, sub-regional consultations have been set up on the MDGs and prospects in Almaty, Kazakhstan, for Central and Eastern Europe, in Nadi, Fiji, in the Pacific, Bangkok, Thailand, for the South-East Asia, and Dhaka, Bangladesh, in South Asia. The Economic Commission for Latin America and the Caribbean, along with the Government of Colombia and the Regional UNDG, held two consultations in Bogota to take stock of the MDGs and to outline future development scenarios. What is important, for our purposes, is that these dialogues concerned:

- consultations with civil society;
- consultations with the private sector, including those coordinated by the Global Compact;
- research carried out by focus groups in all parts of the world, including Southern Voice, the Overseas Development Institute, Brookings Institution, North-South Institute, Korea Development Institute, International Centre for Governance Innovation and the World Resources Institute;
- consultations led by the High Level Group of the Secretary General on Agenda post-2015 development with the civil society, the private sector, the industries and the youth;
- the search for solutions for the sustainable Network Development Solutions;
- consultations planned by the Cities and Local Governments.

THE SITUATION IN EUROPE

Governments, civil society groups and UN bodies across Europe are conducting consultations on the agenda post-2015 placed on the development agenda. The European Task Force Beyond 2015 campaign, which reunites almost 200 organizations, supports national resolutions of Denmark, Finland, Ireland, the UK, Spain and France. Further consultations are planned in Netherlands, Italy and Baltic States. At the end of 2012, the European Commission conducted an online survey that gathered input from more than 100 organizations of the civil society on the benefits of the Millennium Development Goals, the feasibility, the potential field of application and the shape of a future order of the day. As part of a major consultation on the development policy of France, between November 2012 and March 2013, the French Ministry of Foreign Affairs also organized a consultation on the post-2015 development agenda. National Committees for UNICEF in the United Kingdom, Germany and Belgium are conducting online and in person consultations. For example, UNICEF UK has pledged 600 young people under the age of 25 between December 2012 and February 2013. The United Nations Millennium Campaign in Spain has also conducted a consultation with 400 people representing 100 organizations of the civil society (Fig. 5).

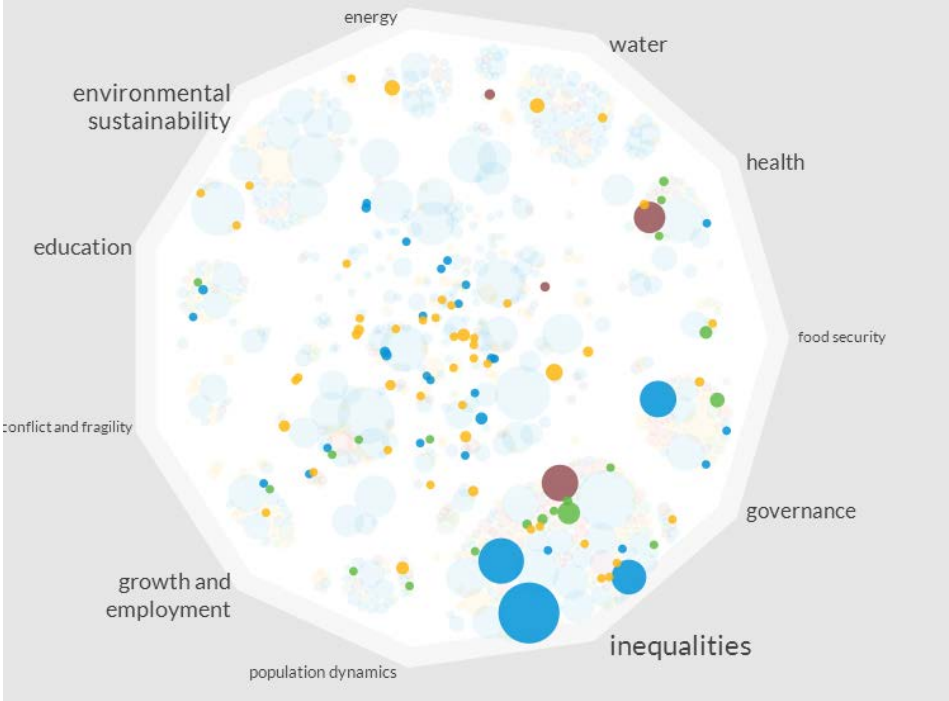

Fig. 5 - Europe trends. *Source:* www.worldwewant2015.org.

GLOBAL CONSULTATIONS

All these processes are expanding the space for an unprecedented global discussion, which allows the sharing of different points of view in order to reach an understanding not only of priorities, but also of the areas of consensus and the means of implementation and measurement of development aims. This must imperatively, in our opinion, be taken into consideration by representatives of individual states that are preparing to intensify intergovernmental negotiations near the end of 2015.

The consultations started in September 2012 by the UN involved approximately 200,000 persons in most countries of the world [9]. The global conversation online www.worldwewant2015.org is growing day by day, with 3,000 persons who actively contribute and over 50,000 members. At the moment these online consultations have reached more than 1 million persons. The peculiarity of these online consultations is the scale, because the contribution is voluntarily outside city, regional or national contexts, and it concerns global and general perspectives. The data provided by the organization indicate that about 130,000 persons have contributed to the national dialogue, of which nearly 50,000 in Eastern Europe and Central Asia and more than 20,000 in the Asia-Pacific region. For example in Uganda only 17,000 took part in U-report, a free SMS based service, designed to give Ugandan youth the opportunity to express their opinions on the main issues. It is important to note that in most countries people of urban and rural areas participated, with a good gender balance. In Jordan, for example, out of 1000 persons engaged in consultations, 43 percent live outside the capital, and 45% are women.

In addition to the websites consultations on access to water, health and education have given rise to discussions in all regions. The central challenge of the post-2015 development program of the United Nations is to ensure that globalization becomes a positive force for all the peoples of present and future generations in the world. In our opinion, globalization offers great opportunities, but its benefits are currently shared unequally. The constant race to the increase in material well-being and GDP threatens the resilience of ecosystems. The persistence of inequality and the struggle for resources are key determinants of growing conflict in many regions of the world. At the same time poverty, hunger, lack of access to water resources, insecurity and violence are key factors that hinder human development and efforts to achieve sustainable development from the economic, human and social point of view [10] [11].

The interdependence of the challenges that they face needs a new, more holistic and multidimensional approach. As evidenced by the reports of the UN Task Team on the Development Agenda post-2015, the fundamental issues are:

- a vision for the future that is based on the fundamental values of human rights, equality and sustainability.
- The definition of the ultimate goals and concrete objectives, reorganized according to four fundamental dimensions characterized by a more holistic approach:
    - inclusive social development;
    - inclusive economic development;
    - sustainability;
    - peace and security.

In the realization of the "future we want for all", a coherence policy seems to be fundamental on a global, regional, national and sub-national scale. Beyond the global aims, a large space for designing national policy and especially the adaptation to local conditions is needed, without omitting an overview and the fundamental principles. Recently the UNDP has focused attention on development through a new approach called Decentralized Governance for Development (DGD), assuming that local development as an important factor of progress towards the achievement of the Goals of the Millennium, since - here it highlights the difference of the meaning- it is not only a local development, but a process that capitalizes on the comparative and competitive advantages of the territories, mobilizes the specific natural, economic, social, political and institutional resources, and it is integrated into national development strategies; in this perspective, decentralization, local governance and participation are the key concepts for the promotion of a balanced development and for the adoption of efficient and effective policies [12] [13].

The program of post-2015 development of the United Nations should be conceived as a global agenda with shared responsibilities for all countries. As a result, the Global Partnership for development would also need to be redefined towards a more balanced approach between all development partners that will allow a real change based on equity and sustainable development. This should also lead to reforms of global governance mechanisms. It is still too early to define concrete goals and targets for the post-2015 development program of the United Nations. In addition, the initiated inclusive consultations are still in course and they will be fundamental to the definition of a shared vision [14].

The immediate challenge is to reach consensus on a development that meets the needs of present and future generations, that is able to define clearly the priorities and that would provide the basis for aid and guidance for coherent policy on a global, national and regional scale.

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FROM A DONORS/BENEFICIARIES RELATIONSHIP TO MUTUAL TRANSFORMATION: IMAGINING AND EVALUATING THE RELATIONAL DIMENSION IN DECENTRALIZED COOPERATION INITIATIVES

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New approaches to international development cooperation, focusing on the so called "decentralized cooperation" (i.e. cooperation between communities, territorial systems, co-development etc.) emphasize the relational dimension and the processes of mutual transformation between the subjects belonging to "donor countries" and those belonging to "beneficiary countries".

Can we speak about a mere statement of principles or rather of processes actually taking place? Has this perception been developed only in the so-called "donor countries" or is this also a theme debated in the discourse and practices of the so-called "beneficiaries countries"?

How decentralized cooperation initiatives change the perception of those involved about issues such as the idea of "cooperation", "development" or the evolution of paradigms such as "local development" or "sustainable development"? How is the relational dimension weighed and evaluated in the decentralized cooperation projects? How are the dimensions of the relationship and the mutual transformation imagined, experienced and evaluated in the University cooperation initiatives?

These questions have stimulated six presentations in the CUCS Congress, on the basis of which papers were prepared that have been collected in these acts, encouraging a lively discussion between the authors of the papers, the panel coordinators, Local Authorities' s representatives and NGO practioners.

The papers, together with participant's interventions during the panel, r presented a retrospective analysis of experiences and tried to highlight those elements related to the issue of "relationships" that are generally considered to be the added value of decentralized cooperation, but that are, at the same time, very difficult to understand in a evaluative analysis.

Participants, as the panel discussant Andrea Stocchiero suggested, have offered contributions that can be ordered on the basis of a scale of action going from projects (micro level), to programmes (meso level) to policies (macro level) of decentralized cooperation.

At the macro level, the contribution of Stocchiero himself, presente and critically reflected Cespi analysis on "What is the future for a policy of Italian territorial cooperation integrated with the Western Balkan countries?". In terms of the meso level, three contributions focused on decentralized cooperation regional programmes (in Trentino and in Piedmont) as well as the associative dynamics in the context of decentralized cooperation in Tuscany.

The presentation by Stefano Rossi (with the contribution of Capuano, De Marchi, Franch and Rosso) analysed "Decentralised cooperation as a policy change for local and international partnership: the experience of Trentino in the Balkans and in Mozambique", while Nadia Tecco considered "La dimension relationnelle de l' "ici" dans les initiatives de coopération au développement. Réflexions sur les effets au Nord de la coopération décentralisée des aires protégées du Piémont". The last contribution at the meso level of analysis given by Berti, Capineri and Nasi focused on the "New social pathways: Voluntary Organizations for Development and International Solidarity in Tuscany".

At the micro level two analysis were presented. The first was "Entre théorie et pratique: Université de Turin et coopération décentralisée piémontaise. Quinze ans de récherche dans le domaine des déchets" which focused on decentralised cooperation activities in the field of solid waste management was presented by Roberta Perna, and considered also the collaboration between universities and local authorities in this area. The second was "Competences et pratiques de cooperation internationale en Sénégal sur la route des Talibés" and focused on a decentralized cooperation project, presented by Julia Gozzelino.

Looking more specifically at the contributions, Cespi presentation analyzed the intertwine and overlapping of decentralized cooperation and territorial cooperation promoted by the Italian regions with the Balkans, hoping for a more explicit integration of these two policies that could have important implications for decentralized cooperation which increasingly focuses on cooperation between territorial systems.

The analysis of Trentino decentralized cooperation policy presented experiences that require a constant monitoring of their objectives at the operational level, and particularly how they relate to the more ambitious and intangible goals of decentralized cooperation such as the creation of regional networks and relationships between territories. The importance of knowing how to read the characteristics of the territories in which one operates was highlighted, both in relation to the territory "here" and the "elsewhere", in order to be able to identify the priority areas where the cooperation should focus.

From the presentation of the Tuscany development cooperation voluntary organisations emerged an interesting map of the relationships between organizations, indicating the difficulty of cooperation between local actors even within the

same territory. This contribution also highlighted the importance that organizations attribute to the issue of training/education as a tool to improving the quality of their action in Tuscany as well as in other countries.

The study of a project on Talibé which fits within the Piedmont decentralized cooperation in Senegal brought an interesting contribution on the skills required by Italian volunteers who work in the field in terms of project management, cultural mediation and conflict management.

The presentation of the Piedmont cooperation on the issue of waste management in Benin offered the opportunity to capitalize the results of previous studies on the same programme, showing whether and to what extent the recommendations of previous studies have been taken into account.

The presentation on the cooperation experiences started by the parks in Piedmont focused on the concepts of "respect" and "reciprocity". In particular, it was highlighted that the links characterising the experiences, initiated thanks to personal relationships, have over time been mediated by the Piedmont development cooperation associations.

The panel ended with a closing speech by the Director of Piedmont Region development cooperation office, Mr. Garelli, who stressed the importance for each decentralized cooperation actor (Local Authority, NGO, missionary group, university, etc.) to be able to assume its own specific role within shared programmes. He also expressed satisfaction that a topic such as decentralized cooperation, generally neglected at academic level, has been object of several studies.

In conclusion the panel showed the intangibility of a key feature of decentralized cooperation, namely the relationship and exchange of knowledge between regions and within the same territory.

The risk of slipping into a rhetorical discourse, as suggested by the title of the panel, is real and it represents a challenge for those who work in this field and for those who study it. From the different interventions the following issues emerged: the gap between the ambitious goals of decentralized cooperation and its real outcomes; the tension between the construction of networks and systems of actors at the local and regional scale in both the North,in the South and in a trans-local dimension;, lastly, the challenges associated with the fragmentation of interventions, with maintaining relationships alive and producing, reproducing and accumulating knowledge on local contexts and actors.

Thanks to these contributions, several interesting elements in terms of experimentation and innovation were shown as well as the role of research in and on decentralized cooperation and its capacity to generate collective learning processes.

NEW SOCIAL PATHWAYS: VOLUNTARY ORGANIZATIONS FOR DEVELOPMENT AND INTERNATIONAL SOLIDARITY IN TUSCANY

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ABSTRACT

The contribution carried out by the research group of the Department of Political ,Social and Cognitive sciences of the University of Siena and funded by Cesvot (Centro Servizi per il Volontariato in Toscana), aims at identifying the structural and organizational characteristics of Tuscan organizations working in the international arena; the values, culture and social missions of these organizations; the human, material and symbolic resources available to them; and the rules governing the actions of people both when they are working within the organizations and towards the outside world.
In particular the research attempts to identify the pathways, the types of activities carried out, and the number and quality of the networks which have been set up, highlighting whether and how these activities fit into the complex system of decentralized regional cooperation.

'INVISIBLE' VOLUNTARY ORGANIZATIONS

Voluntary organizations are one of the most dynamic elements in contemporary society. However, although we know a great deal about the services they provide, often supplementing or even in some cases replacing state welfare services, paradoxically we do not at present have sufficient understanding of the ways in which voluntary organizations intervene in other contexts, in particular in the areas of international solidarity and cooperation for development.

Despite the fact that international voluntary organizations have been active in Italy for several decades, little scientific attention has been paid to the ways in which they carry out their activities "beyond the borders" and studies of this part of the voluntary sector have been very limited[1]. In particular, the overall picture of Italian associations that work to improve international solidarity is highly diverse in character and generally divides into two areas whose limits are ill defined and constantly shifting [19] [20]. From a formal point of view, the essential division is between those organizations that are recognized by the Ministry of Foreign Affairs and those that are not. Beyond this, however, as Vanna Ianni has noted, "a significant number of organizations occupy an intermediate position, both as regards their structure and their methods of operation, that to some extent forms a bridge between the two areas" [28: 9].

AIMS OF THE RESEARCH

The contribution carried out by the research group of the Department of Political ,Social and Cognitive sciences of the University of Siena and funded by Cesvot (Centro Servizi per il Volontariato in Toscana), aims at identifying the structural and organizational characteristics of Tuscan organizations working in the international arena; the values, culture and social missions of these organizations; the human, material and symbolic resources available to them; and the rules governing the actions of people both when they are working within the organizations and towards the outside world. In particular the research attempts to identify the pathways, the types of activities carried out, and the number and quality of networks and links, highlighting whether and possibly how these things fit into the complex system of decentralized regional cooperation.

The basis for these aims is the idea that, precisely because of their diversity, both operational, organizational and in terms of values, the Voluntary Organizations that make up this vast area of inquiry can be placed between two poles of a continuum, with at one end an approach based on international solidarity and at the other one that is targeted towards cooperation for development. This is not an easy matter, considering the lack of clear differentiation of the two

[1] The literature on this topic is generally outdated and confined to the world of NGOs or to specific experiences: Tarozzi A., (1985), *Per una Sociologia del volontariato internazionale*, Fosciv, Milano; Borghese E. (1989), *Un ponte tra nord e sud. L'azione volontaria per lo sviluppo*, Quale Sviluppo, 12, Asal, Roma; Oecd (1986), *Le Ong per lo sviluppo*, Quale Sviluppo, 1, Asal, Roma; Scidà G. (1987), *L'utopia concreta. Indagine sulla associazione Mani Tese*, Franco Angeli, Milano; Ianni V. (1995), *Nascita di nuove forme di azione dell'associazionismo di solidarietà internazionale negli anni Novanta. Il caso di U.Co.De.P. di Arezzo*, I Quaderni di Movimondo n.2, Roma; Baraldi G. (1993), *Le Organizzazioni non governative di cooperazione internazionale*, Mimeo; Boccella N., Tozzo O. (2005), *Le organizzazioni non governative. Risorse e modelli di organizzazione*, Ed. Universitarie di Lettere Economia Diritto, Milano; Serra F. (2004), *Le Ong protagoniste della cooperazione allo sviluppo*, Ed. Universitarie di Lettere Economia Diritto, Milano; Rognoni M.S. (a cura di) (1995), *Organizzazione non governativa e governi: un tandem per lo sviluppo*, Asal-L'Harmattan Italia, Roma; Nasi L. (2006), *Alla periferia del villaggio globale. Sviluppo e valutazione nelle comunità indigene dell'Ecuador*, Franco Angeli, Milano.

concepts, but using an innovative approach which allows a clearer identification of the particular character of the sector enabled us to discover pathways that until now have not been much explored.

The University's research group was assisted in the development and administration of the questionnaire by researchers from the Centro di Ricerche Etno Antropologiche di Siena (Crea), whose role was subsequently expanded to carry out qualitative research by means of four focus groups with participants drawn from voluntary organizations.

As regards take-up, out of 150 VOs identified at the start, 92 completed the questionnaire.

METHODOLOGY

In order to achieve the aims described above, the research took place in different phases using quantitative and qualitative methods.

The results of the survey refer to the VOs that included international solidarity and cooperation for development in their constitutions, either as main or secondary activities. The research was carried out using a structured questionnaire consisting of 56 questions designed to gather information in a way that could then be subjected to statistical analysis. The questionnaire was divided into seven themed sections representing the most important areas of the research. The first section was designed to gather basic information, in order to obtain the necessary 'biographical' and structural information needed to describe the VO.

The other sections were designed to gather information about particular areas including: how work is organized; sources of funding; communications; reporting structures; training. The final section concerns problem areas in the sector and participants' expectations of development and growth.

RESULTS

Using the information obtained through the research it was possible to identify a situation in which different organizations are moving at different paces. On the one hand we find many small and even tiny isolated groups, disconnected from any kind of general strategic or political framework of reference, or from any analysis of the role of international solidarity beyond the simple binary logic of "here and there". At the other extreme there are organizations that act in networks with other similar groups and operate in a way that attempts to follow a coherent strategy of efficacy, efficiency and sustainability.

Between these two extremes we find a third group, undoubtedly the most numerous, whose members swing between attempting to boost their own effectiveness through cooperation and trying to preserve their own identity.

In order to try to give some kind of overall view, however, it is possible to refer to the main areas explored in the research.

Our research has been focused mainly around three themes which have stimulated and encouraged us throughout this fascinating journey.

First, identifying the characteristics of an area that is as yet not well known, if only as one of the many that characterize the way in which VOs operate; secondly, the presence of possible pathways that mark the VOs' operations; finally, the dynamics of these VOs which, as well as having their own internal logic, exist within the well-defined context of decentralized cooperation as set out by the Tuscan Region.

As regards the first of these themes, what emerges from the analysis of the data is a voluntary sector that is extremely fluid, one of the fruits of the 'liquid condition' that seems to be the outcome of postmodernity and is transforming every area of life.

This is a sector with very varied origins, methods, and visions of its own mission where there seems to be no fixed *modus operandi*. Everything is highly variable, changing according to circumstances. There seems to be no well-defined paradigm for action but rather a changeable and fluid approach, dictated more by expedience than by a search for the value that is added by participation and shared aims.

This makes for a picture that is not easy to interpret, one that has a thousand facets reflecting a world within which the preferred tendency is to travel alone or in small groups, within limits but trying to 'defend' one's own 'territories' and one's one particular identity.

It is also a very young environment (in terms of the dates of creation of the VOs) and one which in many cases is struggling "grow up"; one where the prospect of growth in the organization is still unknown territory and often not viewed with favour. The voluntary ethos (with all its virtues but also its limitations) and the fact that people work for nothing are fundamental and they represent the main ingredient with which to face the challenges of solidarity.

An analysis of the replies shows, firstly, that this is a sector which, from the demographic point of view, can be divided into two big families: the first group, making up 45% of all VOs, can be defined as *millennials*, that is, groups that came into being during the third millennium (and so have been active in the area of international solidarity for between 4 and 10 years), while a further 7% have been in existence for less than 3 years. The second large group, 48%, has been active for more than 10 years and thus started up in the 20th century or at the latest in the very first years of the 21st. This seems to be in line with the national tendency: a survey of voluntary organizations by Istat [31] showed that 70% of organizations engaged in international solidarity were set up after 1990. VOs in Tuscany have an average age of

49, whereas those dedicated to international solidarity are on average less than 11 years old, with a maximum age of 29 and a minimum of 3 [29].

This is a young sector, then, the outcome of a set of dynamics that characterized the last decade of the 20th century and the first one of the 21st in particular.

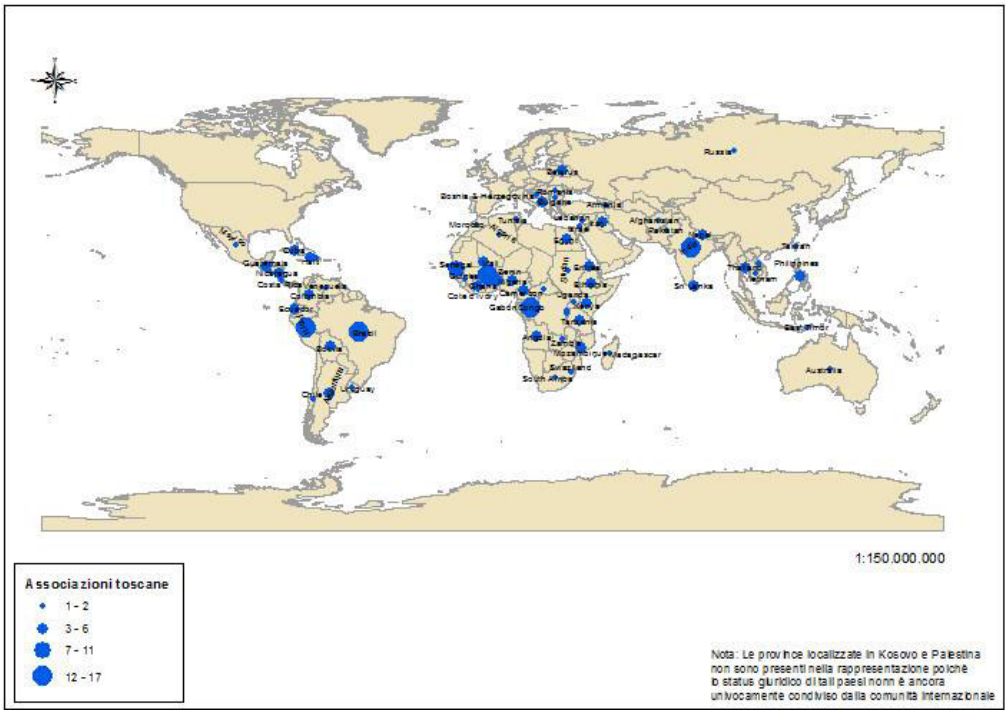
We should not, however, be misled by the relative youth of this sector, in Tuscany and elsewhere in Italy. In the context of the history of voluntary associations, the international sector has been and continues to be today one with the longest operational experience, having been active for over 30 years, the result of an increase in esteem and recognition both in terms of relationships with institutions and on the operational models used in pursuit of cooperation as a tool for increasing solidarity between peoples in different parts of the world [34].

Another significant aspect of the 'biography' of these organizations is that they generally come into being as a result of independent initiatives by groups of citizens, in contrast with the traditional route of affiliation with national voluntary bodies, or with higher level or church-led bodies. 69% of the VOs interviewed in fact stated that they were not local branches of any national organization. This is in stark contrast with the results of other surveys [26] [27] which showed that 63% of Tuscan voluntary organizations were dependent organizations, affiliated or federated with national voluntary organizations. The international voluntary sector however, more than any other (but similarly to cultural organizations and those aimed at protecting human rights), is a product of active citizenship, characterized by the formation of increasing numbers of groups by citizens organizing themselves to deal with matters and problems that arise in their own communities. The growth of so many small independent units, while on the one hand indicating increasing levels of fragmentation, on the other can be seen as constituting something new in voluntary action, directed as it is towards new needs and novel forms of activism by the people involved, as well as perhaps indicating a certain level of dynamism in the sector and thus a maturation process that is already underway. Another factor to note is that these spontaneous voluntary structures are part of a sector that is increasingly lay and non-religious in nature (the number of VOs with a clear religious basis was already falling in 2001), showing that for members the mission and aims of the group are more important than the cultural background it springs from.

As regards particular areas of interest within the vast edifice of international charitable activities, the area we investigated showed itself to be very fragmented, with interests in a number of sectors. In view of this fact, respondents were able to indicate more than one area of interest within a particular question. Three main sectors that are of interest to the vast majority of VOs emerged: they are education (for 79% of VOs) health (70%) and social matters (63%). Only a third of organizations were involved in agriculture, traditionally the most typical focus of international cooperation. This fact might support the idea that it is possible to draw a distinction between VOs whose activities are motivated purely by international solidarity and those whose interest is in cooperation for development. Another sector that interests 33% of VOs is that of culture. Of less interest are commerce and credit (25.6%), crafts (21%), environment and emergencies (both with 18.9%). Only 8.9% say that they are interested in strengthening Institutions and Governance.

Having seen the areas of activity and the typical beneficiaries of this part of the voluntary sector in Tuscany, which are the areas of the world in which it has the greatest presence?

The vast majority of Tuscan VOs (66.3%) are active in Africa, followed by Latin America, where almost half the organizations surveyed are active.



It is not an accident that these are the two main areas of intervention. Leaving aside their social and economic problems, these two parts of the world have been the focus of interest and presence for the majority of VOs ever since the early days of international solidarity in the 60s and 70s.

Other areas in which our VOs are active, albeit to a lesser degree, are Asia (with 27%), the Mediterranean and the Middle East (26%). Paradoxically, areas that are closer to Italy and more easily reached (from all points of view) such as the whole of eastern south-central Europe, are those that have a smaller presence. This may be explained by the fact that it is difficult to operate in areas that are less well-known or whose vulnerabilities are less obvious, or it may simply be due to the fact that our VOs' ideas about poverty and inequality are still focused around the North/South axis.

As regards their presence in specific geographical areas, we can state that our VOs are active in 75 countries of the world.

These VOs are 'born,' 'live' and frequently 'die' as a result of the impulses of charismatic individuals who catalyse and channel their values, ideas, vision and mission. Often it is a trip, an experience, an encounter, an event that kindles the light of curiosity and then leads people to want to find out more, to become more aware and finally to commit to a cause.

The other particular feature of the picture is the high degree of fragmentation: there are many small VOs acting in an area that they engage with little and not always constructively, especially as regards other VOs working in the same area.

Just as the universe is made up of billions of stars that form themselves into galaxies, this 'universe' too is made up of many tiny stars aggregated into separate galaxies.

This atomization is reflected in the dispersed and fractured nature of interventions in developing countries, leading to the existence of an 'army' that lacks any overall command.

If on the one hand the growth of so many small independent units may lead to greater fragmentation and thus to lower levels of effectiveness and efficiency, on the other it may also represent a novelty in the voluntary sector, because of its orientation to new needs and novel forms of activity for the people involved as well as showing the richness of a social fabric, of a civil society with a strong spirit of active citizenship, and thus the strength and dynamism of the sector as it moves towards maturity.

In an area of such pluralism, visibility is a problem. Voluntary groups need to succeed in communicating, in making the organization's activities known, in order to emerge from the undergrowth of a sector that is already of its nature "niche" but also "crowded", so that they become visible, known and findable. All these activities involve considerable expense and require a degree of professional intervention that these small groups cannot afford, or they may simply decide that resources are better spent in areas they regard as more strategically important.

In general terms, we can stress that it is the group's history, its experience in the field that is the most influential variable affecting the way in which it works. As well as producing an implicit acquisition of competences that are gradually strengthened by the addition of those whose expertise can fill technical gaps, this accumulated experience increases the sensitivity and maturity that are needed to deal with complex situations and enable new approaches to be continually developed. Nevertheless groups experience a series of difficulties with applications for financial support: problems with forms, excessive bureaucracy, legal requirements, lack of clarity, leading to the need to invest a lot of time with few results.

Another common element is that - while most groups suffer from a chronic lack of funds (like the rest of the voluntary sector) - the economic dimension, although it undeniably exerts strong pressures on the "project strength", presence on the ground and logistics of the activities, does not seem to act as a discriminant as regards the approach to development problems. The slogan might be "the *mission* is not a matter of money": using one approach rather than another does not seem to depend on the economic resources available; rather it seems to be a matter of 'representation', of a voluntary and willed prefiguration of one's role in choosing to approach development in the most authentic and disinterested way possible, almost 'immature', in a very informal way that results in an equally informal presence on the ground.

By constructing indices we were were able to identify a number of "ideal types" of VO, even if the range of the dynamics complicates the life of a researcher who attempts to 'model' these associative realities.

In the light of the data obtained we were able to identify three models: the first relates to an approach based on international solidarity, the second is focused on cooperation for development and the third is a mixture of the other two.

There are three different ways of looking at development problems and thus three different intervention practices. In order to further clarify the meaning and features of the three approaches we will use the interpretation developed by Korten [32] [33] in order to describe the generational development of NGOs. However while Korten's model follows an evolutional scheme (in fact a generational one), our attempt uses the characteristics of individual generations to provide a (static) description of the VOs that fits the models we have identified.

The international solidarity approach can be explained in terms of the typical characteristics of the first generation, for which communal action represents a demonstration of solidarity and short term commitment, based on humanitarian values of peace and justice, where the role of the actor is that of 'donor' in a situation of scarcity through a purely logistical management of the intervention.

In this model the pair "development-aid" remains central, following a logic of solidarity and humanitarian assistance that could be summed up by the African proverb "the hand that receives is always beneath the one that

gives".

In contrast the orientation of cooperation for development is more 'mature', structured, profound, identifiable with those generations defined by Korten as a development of the first generation in their approaches and methods.

This picture is confirmed by the qualitative analysis, from which there emerges a clear intention by these groups to position themselves in the more 'informal' area of international solidarity rather than the more structured one of cooperation, which is seen more as a complex, closed, bureaucratic and inefficient system. The perception is due in many cases to previous very negative, if partial, experiences which push them towards an orientation which in many cases heralds an approach that is still paternalistic.

The third horizon towards which our research was directed was that of attempting to understand how VOs behave within the regional system of cooperation.

The Tuscan Region has attempted to develop the idea that marks out decentralized cooperation, that is of getting different subjects to participate in project, devising and promoting the creation of a "Tuscan system" of cooperation. In order to achieve this one of its strategic priorities has been to encourage and promote collaboration between all the Tuscan groups engaged in cooperation for development, initiating collaborations with local authorities in order to create a model of decentralized cooperation characterized by the ability to create networks, coordinate and encourage collaborative relationships between very different organizations based both in Tuscany and in the developing countries [41].

Our research showed that this 'system' as it is known is struggling to take off. Many of the organizations that should take part in it remain outside, whether as a result of their conditions or characteristics, or through choice. Thus in many cases groups have chosen to remain on the outside, thus avoiding the creation of situations that might be complex, problematic and difficult to manage, with the aim of continuing to be strictly local in nature (something that is very important to those who belong to and participate in these groups) without any desire to 'expand'. This is why the Region is seen as an organization that is very remote from the day to day reality of the VOs, even as it is recognized as being the body that more than any other has an important role to play in creating cooperation. Thus the majority of VOs continue to exist in their own little area, with their own experiences, their own projects, their own presence within a virtual system in a detached and unconditioned way, where the presence or otherwise of others is a matter of only tangential interest.

What seems to be lacking in our VOs is any awareness that they are part of a system, which they regard as an area reserved for the large VOs rather than as an opportunity for all to become involved in.

Thus the regional authority tends to be seen as a source of finance like any other, and not as an entity that can represent added value in developing areas of activity, sharing information and promoting homogeneous and coordinated growth. This tendency has produced a gulf between different VOs in terms of policies, values and even behaviour. The three models identified earlier may be useful in explaining why attitudes towards the system of decentralized cooperation are so different; the difference comes not only from the experience and degree of maturity but also the political will of the VOs; the latter, however, is often lacking because of the structure of the organizations themselves, meaning that at best they can only stand on the doorstep of the system rather than accessing it fully.

The situation we have just described creates obvious difficulties also in forming relationships with other local authorities; these relationships, where they exist, are limited in time and tend also to be limited to specific cases and to the initial phases of the association's activities.

What we have then is a picture of an institutional dialogue that is struggling to become established, especially in the case of the smallest organizations, and that in any case is aimed mainly at obtaining the funds needed to run projects. The notion of a partnership with local authorities that goes beyond mere financing is still a long way from being fully understood: it is the search for funds that drives these VOs to seek to make contact even when the relationship, rather than being an institutional one, is initially formed through direct relationships and acquaintanceships.

It is only the more organized and structured groups that succeed in making a more considered 'systemic' approach, that attempts to share experience more widely.

Naturally the type and intensity of the relationship and dialogue with institutions is closely connected and directly proportional to the capacities, competences, willingness and potential of the individual VOs: the more 'mature' they are, the greater the opportunities they have to establish collaborations and partnerships that will last.

Although the qualitative analysis reveals a strong desire to create networks and synergies (even if the connections come about mostly on the basis of affinities between people and organizations), as Salvini [44: 131] maintains (and as the research data confirms), many of the VOs in this sector are linked by a common 'radicalism'; an ethical-political tension that develops into activities that are themselves relatively exclusive and that, while constituting an undeniable asset for the development of the voluntary sector, makes the building of external collaborations somewhat impractical both in formal-conventional terms and above all in terms of 'networking'. Consequently what we see is the activation of dyadic relationships (with Cesvot, with the local authorities, etc…) for individual initiatives, but without any notion of creating systematic networks. What emerges above all from the qualitative analysis (but is confirmed by the responses to the questionnaire) is the need that is felt to preserve and defend one's own autonomy, protecting one's own 'creation' from any kind of outside 'contamination'. On the basis of previous negative experiences, participants stressed the risks and difficulties of sharing projects, ideas and activities with others. On this point we need to clarify something, even if it is fairly obvious. This radicalism is typical of VOs operating in the area of international solidarity. This is due not so much to competitiveness as to an individualistic vision of the work done by their own group based on a strong sense of

ownership of the activities and projects that they carry out.

It is in fact easier to establish synergies with VOs in different sectors, with whom they set up collaborations, occasional initiatives to raise funds, awareness and visibility. Rather than being based on a "networking spirit" the relationship is one of mutual help, partly to optimize the use of organizational resources, partly as a result of the need to access new channels in order to obtain economic resources that are otherwise unavailable.

A partial justification for this approach to networking that is suggested and agreed is the size of the group; tiny groups that are fully engaged in their work to the extent that they have no strength or resources left over for networking. In this situation we can identify several pathways, different ways of moving around within a larger system, where everyone finds the route that best suits their characteristics, needs and view of the world.

From this point of view we can not identify one particular 'pole of attraction' even from the purely perceptual point of view, but rather a constellation of more or less recognized actors, the result of a partial and limited perception of their own area of activity. A world that instead of looking outwards, is 'folded in' on its own experience.

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LA DIMENSION RELATIONNELLE DE L' "ICI" DANS LES INITIATIVES DE COOPERATION AU DEVELOPPEMENT[1]. REFLEXIONS SUR LES EFFETS AU NORD DE LA COOPERATION DECENTRALISEE DES PARCS NATURELS DU PIEMONT.

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ABSTRACT

Le processus de coopération décentralisée entrepris par les aires protégées de la Région Piémont, en partenariat avec leurs homologues et non, a développé dans certains pays en développement et avec le temps, une certaine complexité de relations par rapport au nombre d'acteurs, leur typologie, l'échelle d'action et le rapport avec les contextes locaux au Nord comme au Sud du Monde. L'intervention mettra l'accent, en particulier, sur les relations développées à partir du point focal constitué par l'aire protégée du Piémont (dans son contexte territorial) afin d'analyser la capacité de mobiliser ressources et acteurs de ce nouveau et pas conventionnel acteur de la coopération décentralisée.

INTRODUCTION

La coopération décentralisée entre 13 aires protégées mise en œuvre depuis 1999 par la région Piémont de l'Italie avec certains pays du Sud (Burkina Faso, Sénégal, Tanzanie.) revêt une importance particulière dans le champ des études sur la coopération décentralisée et sur le développement local et ce, pour au moins deux types de raisons.

D'une part, le cas piémontais représente l'expérience la plus significative (en termes de nombre de projets et de diffusion sur le territoire) d'interventions de coopération décentralisée entre aires protégées dans le contexte italien[2], étendant ainsi aux aires protégées la sphère des acteurs décentralisés qui participent à cette activité. D'autre part, compte tenu du haut niveau d'engagement qu'elle a su obtenir du territoire, cette expérience représente une occasion intéressante pour comprendre le contenu des relations entretenues non seulement entre les deux principaux acteurs du partenariat (aire protégée au Nord et du Sud), mais aussi (également au Nord comme au Sud), au niveau local, entre l'aire protégée et les acteurs du territoire qui participent avec elle à différent titre aux initiatives de coopération [1].

Le cas de étude va a montrer que, par rapport aux autres coopération, la forme « décentralisée » pas seulement met explicitement au premier plan le rapport avec le territoire, vu dans la dimension du lieu de destination de l'aide, mais grâce a une effet boomerang, aussi dans le lieu de le départ.

Jusqu'à présent, cet aspect n'a été abordé qu'en partie par la littérature, qui s'est essentiellement concentrée sur la valeur ajoutée dérivant de la dimension trans-territoriale des rapports de partenariat [2] [3] [4] ou sur ses contradictions et ambiguïtés [5] [6] et qui a moins approfondi les caractères et les retombées de ces processus au sein des partenariats au Nord. Il faut probablement attribuer ce fait au caractère fragmenté et a l'hétérogénéité spatiale de cette forme de coopération [7] qui peut rendre difficile la reconstruction de la dynamique du processus dans le contexte de provenance.

Il devient toutefois important de comprendre comme en plus de la création des systèmes des relations «de territoire à territoire» (entre le lieu de destination e d'origine de l'aide), il y aussi le développement des systèmes locaux relationnels entre les respectives contextes territoriales. Comment s' articulent et distribuent les bénéfices de la coopération décentralisée dans le contexte d'origine?

Nous avons donc décidé d'explorer le niveau de mobilisation territoriale exprimé par la coopération décentralisée des aires protèges, sa mise en relation d'une pluralité d'acteurs (souvent éloignés du monde de la coopération) et de les lier au territoire d'appartenance et aux partenaires dans un rapport entre systèmes territoriaux dans la Région Piémont.

[1] L'article est un extrait du chapitre de N. Tecco, Il "qui" della cooperazione decentrata delle aree protette piemontesi, in (réalisé par), [1].

[2] Parmi les autres expériences de partenariat des aires protégées italiennes au niveau extra-européen [8] on peut citer :
- le Parc national Gran Sasso Monti della Laga dans les Abruzzes avec le Parc Wadi El Rayan en Égypte;
- la Réserve Naturelle du Monte Rufeno dans le Latium avec le Parc National des Monts Udzungwa en Tanzanie;
- le Parc Lombardo della Valle del Ticino en Lombardie avec les Aires protégées pour la Paix au Costa Rica et au Nicaragua;
- le Parc Adamello Brenta dans le Trentin avec le Parc national Los Glaciares en Argentine;
- le Parc Régional Migliarino San Rossore en Toscane avec le Central Pine Barrens aux États-Unis;
- le Parc National Dolomiti Bellunesi avec le Parc Ethnobotanique d'Omora au Chili.

LA METHODE D'ANALYSE

Pour l'analyse des processus de coopération internationale ne pouvant être séparée de celle de leurs objectifs, nous avons voulu essayer de reconstruire ces motivations, et de comprendre les dimensions du territoire qui se sont faites promoteur de ces interventions de coopération décentralisée. Il a tout d'abord fallu disposer d'informations exhaustives sur les projets entrepris par les parcs piémontais

Dans ce sens, pendant la phase initiale du projet, nous avons collecté le matériel disponible sur les projets de coopération décentralisée. Les principales sources utilisées ont été constituées par la documentation relative aux demandes de financement que les différentes aires protégées ont présenté à partir de 1999 au Secteur Affaires Internationales de la Région Piémont, à travers la participation aux appels d'offres du Programme Sécurité Alimentaire ou en faveur d'initiatives de coopération décentralisée des collectivités locales. Parmi les autres sources utilisées, on peut citer les décisions des directions des aires protégées, ainsi que les divers supports de communication produit par les aires protégées et par la Région sur ce thème. Après cette phase de collecte, une fiche de description synthétique des divers projets réalisés par les parcs a été élaborée. Après une analyse documentaire, nous sommes passés à une analyse sur le terrain. Celle-ci a concerné, entre octobre 2007 et avril 2008, l'ensemble des aires protégées piémontaises ayant participé à des projets de coopération décentralisée à partir de 1999, ainsi qu'une sélection de certains des autres acteurs du territoire engagés dans ces projets. Quand on parle d'acteurs, on se réfère à la double nature de leur engagement, institutionnel (le parc, l'association, l'école), et individuel (le directeur, le technicien…).

La collecte des informations a été réalisée à travers un questionnaire semi structuré, composé d'une majorité de questions à réponse ouverte et de quelques questions à réponse fermée Dans le cas des questions à réponse ouverte, des classifications construites d'après les réponses obtenues ont été effectuées lors du traitement. Les questions portaient sur les motivations, les particularités, de l'engagement territorial en termes de réseaux, les modalités d'interaction, les ressources et de l'évolution du processus de coopération décentralisée des aires protégées piémontaises.

LE ROLE DES AIRES PROTEGEES ET LE PROCESSUS DE COOPERATION DECENTRALISEE

La décision des parcs piémontais d'entreprendre des activités de coopération décentralisée prolonge une série de relations préexistantes qui liaient en quelque sorte le contexte (restreint ou élargi) du parc piémontais et celui du parc partenaire dans le pays du Sud. Ces relations peuvent être décrites et simplifiées à partir de l'image d'un réseau mono centrique [9] dont les limites s'élargissent progressivement à partir de relations qui naissent directement à l'intérieur du parc (par exemple, des contacts entre les personnels du parc) puis qui s'étendent au territoire limitrophe de l'aire protégée (par exemple des contacts entre associations situées dans les Communes où se trouve le Parc), ou encore au contexte régional (relation entre ONG piémontaises), voire au contexte national plus vaste (relations entre ONG italiennes).

Les expériences de coopération analysées soulignent le fait que, dans plusieurs cas, un redimensionnement s'opère entre les principes initiaux de la coopération décentralisée et la réalisation concrète des interventions. Par exemple, si l'on considère que la coopération décentralisée doit associer des institutions exactement comparables, les cas étudiés montrent des situations de partenariat plus diversifiées. Sur un total de 17 relations de coopération décentralisée créées depuis 1999 à ce moment, 10 associent des organismes homologues (aire protégée du Piémont avec aire protégée du pays du Sud. Cependant, la catégorie du parc partenaire, présente une certaine variété d'acteurs selon le niveau de décentralisation qu'ils représentent. Dans 4 cas sur 10 seulement, il se produit une coïncidence complète en matière de décentralisation administrative entre les parcs impliqués (parc régional du Piémont avec parc régional du Sud), alors que pour les 6 autres situations, les autorités de parc partenaires relèvent de différents niveaux administratifs. En revanche, les 7 autres relations de partenariat ont impliqué des acteurs de diverse nature, notamment des collectivités locales, des villages, des associations, des communautés de missionnaires. Dans le cas du Parc Naturel Orsiera Rocciavrè et du Parc Naturel des Lame del Sesia, justement, le partenariat a été réalisé avec deux acteurs, respectivement Naturama et Ageref, issus des communautés qui vivent autour du Parc de Kabore Tambi et de la forêt classée de la Comoe-Leraba en Burkina Faso. Le substrat commun du partenariat semble donc outrepasser la simple recherche de un partenaire homologue.

Dans le cas des aires protégées et des villages environnants, le partenariat pourrait être interprété comme la recherche d'une union du principe de la conservation de l'intérieur du parc avec les exigences de développement dans sa zone périphérique.

Quoi qu'il en soit, là où le contenu de la relation n'a pas été explicité depuis le début du partenariat, des difficultés se sont présentées pour le maintien de la relation et la définition des activités de projet. Elles ont été surmontées dans certains cas à travers l'identification d'un nouveau partenaire appartenant au même territoire où étaient réalisées les précédentes activités. Dans ces occasions, certains parcs piémontais ont essayé de préserver un lien avec le territoire à travers la collaboration avec partenaires considérées plus compatibles du point de vue des activités menées du point de vue des activités menées. En particulier, à partir d'une collaboration avec la Direction Régionale de l'Environnement, des eaux, des forêts et des cascades et en particulier l'Unité de conservation de la Comoè Lerabà (DREEF), un organisme décentralisé du Ministère de l'Environnement, le Parc des Lame del Sesia a noué une collaboration avec une association locale (AGEREF) au Burkina Faso, tandis que le Parc des Laghi di Avigliana, à partir d'un partenariat avec

la Réserve de la Cienaga de Zapata, a continué ses activités avec la Province de la Havane. Le Parc naturel du Lac Majeur a abandonné la coopération avec la Direction Nationale des Parcs (DPN) du Sénégal, mais il continue sa collaboration avec le Parc de Djoudj et la Réserve de la Langue de Barbarie, à travers un projet de coopération décentralisée appelé « Teranga » de la Ville de Turin ; dans ce cas, le partenaire de référence du projet a changé ainsi que le rôle joué par le Parc du Lac Majeur, qui est passé de chef de file à partenaire, mais la relation avec le territoire se poursuit [10].

Les interventions réalisées peuvent être distinguées selon deux typologies différentes: une typologie à caractère technique, étroitement liée aux compétences de l'Autorité du Parc, et une typologie à caractère socio/économique, qui reflète des préoccupations plus larges, notamment les relations de l'aire protégée avec sa périphérie et sa contribution à son développement.

À travers l'apport de ressources financières et les acquis liés à la mise en relation, les interventions ayant comme destinataires l'acteur homologue ont essentiellement concerné les domaines de l'éducation à l'environnement (8 interventions), de la formation (7 interventions), de la construction des petites infrastructures (5 interventions), de la gestion de la faune et de la cartographie (4 interventions), alors que celles qui sont réalisées en faveur de la population (graphique 9) se sont principalement concentrées dans le domaine du tourisme et de l'artisanat (5 interventions), de la fourniture de services tels que la distribution d'eau potable ou la santé (4 interventions). Les projets n'ont ainsi pas représenté seulement une occasion de renforcement relationnel et de suivi, ils ont aussi souvent permis la réalisation effective des petites infrastructures et d'activités. Les parcs piémontais semblent alors avoir privilégié des domaines où les acteurs locaux sont en mesure de jouer un rôle central dans la réalisation concrète et surtout dans la gestion future des actions engagées.,

En termes de contribution au partenariat, les parcs des pays du Sud semblent avoir apporté des ressources pouvant être assimilées à celles du partenaire homologue au Nord, même si la ressource représentée par la rédaction des projets présente souvent des carences. En général, les parcs au Sud n'ont pas contribué aux projets en termes financiers. On peut toutefois citer quelques exceptions concernant les communautés locales impliquées, qui se sont parfois fortement mobilisées. Par exemple, dans le cas du dernier projet développé par le Parc *Alpi Marittime* à partir de 2003, l'association de Maasaï et Meru de Mkuru en Tanzanie chargée de la gestion des activités de tourisme responsable, le *Mkuru Safari Camel Group*, a financièrement contribué au projet grâce aux bénéfices réalisés avec les précédentes activités mises en œuvre par l'intervention du parc piémontais [11].

Selon les personnes interviewées, la recherche et la création des partenariats entre égales, fixent les conditions pour éviter les asymétries fondamentales qui président aux relations entre donateurs et receveurs de l'aide en général.

LE CONTENU DES PARTENARIATS: ENTRE PRATIQUES DE TERRITORIALITE COMPAREES ET RECHERCHE DE RECIPROCITE'

L'analyse des processus révèle qu'à travers les activités de coopération décentralisée, les parcs piémontais ont réussi à mobiliser bon nombre d'acteurs appartenant au territoire. Parmi eux, citons les collectivités locales, les universités et les instituts de recherche, les ONG, les écoles, des associations locales, les associations de migrants et de particuliers, soit au total un engagement de 88 groupes ou institutions du territoire piémontais. Sous certains aspects, il émerge une connotation territoriale spécifique de l'expérience, liée au concept de territoire vécu par les aires protégées et leur rôle dans le contexte d'appartenance.

Les parcs sont des organismes qui naissent par définition avec un lien étroit avec le territoire d'appartenance et de compétence, mais sont peu voués à des activités à caractère international ou du moins de coopération. Quand nous leur avons demandé quelles étaient les motivations à l'origine de leur participation à des processus de coopération décentralisée, ils se sont révélés porteurs d'une réflexion significative, qui a peu à peu mûri dans le temps avec la reconnaissance progressive et l'appropriation de ces activités de coopération comme des fonctions propres à les parcs, en qualité des acteurs institutionnelles.

Bien que les 13 parcs examinés aient eu la possibilité de s'exprimer librement à ce propos, ils ont fourni des réponses très similaires les unes des autres. Ces dernières se différencient seulement par le poids relatif attribué à tel ou tel aspect de la coopération décentralisée. Ces aspects ont été regroupés en 3 catégories. La plupart des parcs (5/13) se réfèrent à la coopération décentralisée comme à une activité qui permet d'obtenir un renforcement réciproque de type institutionnel. D'autres (4/13) insistent sur les avantages de type relationnel, d'autres encore (4/13) réservent une attention particulière à la possibilité de développement pour le bénéficiaire du projet. Dans ce dernier cas semble prévaloir une vision plus unidirectionnelle par rapport à la bidirectionnalité implicite liée à l'échange d'expériences ou à la création de relations avec un partenaire institutionnellement similaire, mais qui se distingue par sa position dans un autre contexte territorial, duquel dérivent des priorités et des exigences de développement différentes. La réciprocité est à chaque fois présentée comme un enjeu important. On attend également de la relation de coopération entre les acteurs de deux territoires qu'elle contribue à un renforcement institutionnel des parcs piémontais eux-mêmes. Paradoxalement, pour nombre de personnes interviewées, la présence d'un objectif placé hors du territoire d'appartenance simplifie et renforce la cohésion des relations au sein de leur propre système. L'expérience de coopération décentralisée a notamment favorisé la valorisation des activités en matière d'éducation et de sensibilisation à l'environnement de l'aire protégée réalisées au Nord (par exemple à travers le projet "Parco chiama Parco") ou de la Région elle-même (à travers

le projet cofinancé par la Commission européenne "Des Alpes au Sahel" [11], où le réseau essaie de s'élargir et comprend parmi les partenaires du projet la région française Rhône-Alpes).

La présence d'une recherche et d'une présence effective de réciprocité est également confirmée.

Les déclarations des opérateurs des parcs à propos des contenus du rapport apportés par le partenaire du Sud dans la relation de partenariat mettent en évidence le rôle central des relations personnelles qui se créent autour de la réalisation des projets. Ces rapports de nature plutôt personnelle, et pas seulement institutionnelle, deviennent un véhicule de connaissance d'une réalité différente, qui représente surtout une ressource du point de vue de l'enrichissement culturel, et créent un terrain de partage et de réciprocité entre les acteurs du réseau qui, bien qu'appartenant à des contextes territoriaux différents, s'occupent des mêmes thèmes, à partir de compétences semblables.

Ensuite, lors des entretiens, nous avons essayé d'entrer plus dans le détail pour explorer ce que signifie «faire de la coopération décentralisée» pour un Parc. Les réponses se sont concentrées sur deux aspects qui concernent, d'une part, l'objectif général d'harmoniser les exigences d'une aire protégée avec celles des populations qui vivent dans les territoires limitrophes, et d'autre part, l'objectif plus spécifique (et dans un certain sens plus technique) concernant l'apport que peut représenter de l'intervention d'un organisme comme un Parc dans le cadre d'un projet. Les deux réponses sur ces deux aspects semblent complémentaires car elles concernent à la fois le domaine et les modalités d'intervention des parcs comme institutions de coopération décentralisée. Elles partent de la définition et de la vision de ce qu'est la territorialité et la compétence d'une Autorité de Parc dans le système piémontais, pour s'étendre à la compréhension des objectifs de gestion des aires protégées partenaires situées dans les pays en voie de développement, évoluant dans une collaboration avec les communautés locales.

SUPPORT PAR LE TERRITOIR ET SUPPORT DU TERRITOIRE

Bien que le rapport qui constitue le partenariat soit caractérisé par un lien fort, à travers la réalisation de microprojets dans une logique «d'approche programme» [12] le rôle de support joué par les acteurs du contexte territorial et par les compétences mises en jeu par ces derniers, non seulement dans le contexte au Sud, mais aussi, comme nous avons pu l'observer au cours de la recherche, dans la gestion des dynamiques de la coopération décentralisée au Nord, a été et continue d'être fondamental. En effet, il faut rappeler que les acteurs engagés dans des interventions de coopération décentralisée entre aires protégées ne sont pas des "coopérants de profession" mais des acteurs qui opèrent dans un autre secteur. Si, d'un côté, cela favorise potentiellement une mobilisation de compétences techniques nécessaires, notamment en matière de planification et de sauvegarde de l'environnement, d'un autre côté cela signifie, pour de nombreux acteurs, embrasser le monde de la coopération de manière accidentelle, avec une grande motivation personnelle, mais avec un manque d'expérience et de capacité d'analyse des contextes d'intervention qui peut soulever bien des difficultés dans la gestion des projets et les rapports avec les partenaires du Sud.

Coordonner les relations entre les participants du projet au Nord tout en stimulant le partenariat avec la communauté partenaire au Sud requiert une dépense considérable aussi bien en termes de temps que de ressources financières. En effet, créer des "réseaux de projets" signifie investir dans la construction de rapports de confiance, en se confrontant avec des positions et des exigences qui reflètent souvent histories et contextes Ainsi, si le temps et les financements font défaut, si les projets sont constitués de micro interventions et si les rapports entre partenaires sont discontinus, il n'est pas rare que la constitution de réseaux locaux se réduise à l'engagement formel de certains acteurs, limité aux phases de définition du projet.

Le temps à consacrer à la connaissance du contexte d'intervention au Sud, à l'approfondissement des rapports avec le partenaire, à la définition conjointe des projets au Nord comme au Sud, est souvent soustrait à la réalisation d'autres activités. Les interventions en sont d'autant plus pénalisées que les organismes impliqués sont de petite taille, comme c'est le cas des parcs en question. Le partenariat risque dans certains cas de se réduire à des rencontres formelles et à des échanges de visites entre délégations partenaires, voire à de brèves missions, que les acteurs concernés sont les premiers à considérer comme inappropriées pour acquérir une connaissance réciproque adéquate et garantir un suivi effectif des interventions et un accompagnement progressif du partenariat. La consolidation d'un rapport continu et de confiance entre partenaires, le partage progressif de codes communicatifs et de pratiques de projet, l'apprentissage à partir des expériences vécues et l'accompagnement de "coopérants de profession" se sont avérés des aspects importants pour la bonne réussite des partenariats analysés.

Dans notre cas spécifique, un rôle de tout premier ordre a été joué par les ONG du territoire du partenaire du Nord, notamment le Consortium des ONG piémontaises (COP) pour les parcs piémontais qui coopèrent avec le Sénégal et le Burkina Faso. Ce rôle peut s'expliquer à travers toute une série de considérations qui se réfèrent à un rôle plus vaste joué par la coopération non gouvernementale dans les processus de coopération au développement [13] [14]. Premièrement, les ONG représentent des acteurs qui ont une expérience consolidée aussi bien dans le contexte du Piémont elles sont donc en mesure de répondre aux conditions de mise en œuvre de la coopération décentralisée. Deuxièmement, l'enracinement et l'expérience offrent justement des garanties par rapport à la réalisation des interventions selon des modalités et des délais prévus, assurant ainsi une visibilité positive à l'organisme financier qui doit répondre de son action vis-à-vis des contribuables. Cependant, dans une stratégie d'autoreproduction, pour assurer

leur survie et le maintien des emplois, le rôle des ONG peut dans certaines occasions empêcher de fait l'engagement dans les projets d'autres acteurs qui ne sont en mesure d'offrir les mêmes garanties [15].

De plus, l'intervention des ONG peut réduire l'engagement actif de l'organisme du Nord à celui de promoteur/financier d'interventions, au risque de limiter leur implication effective dans les partenariats.

En ce qui concerne les cas étudiés, les aires protégées piémontaises semblent être parvenues à garder un rôle autonome et actif dans les projets, en valorisant positivement le support fourni par les ONG. La présence et la coordination du COP ont été particulièrement importantes pour soutenir, faciliter et maintenir vivant l'engagement du réseau des parcs piémontais et des autres sujets impliqués. Il s'agit d'un cas où la valorisation d'expériences et de compétences déjà présentes sur le territoire est devenue une ressource mise à disposition du réseau et garante de son fonctionnement. Par ailleurs, il faut rappeler la volonté politique de la Région de promouvoir la coopération décentralisée entre aires protégées. Le choix d'insérer les activités de coopération coordonnées à leur tour par le Secteur des Aires protégées dans le cadre d'une ligne spécifique de financement régional, a jeté les bases de la création du réseau qui est né, au fil des années, de ces partenariats, notamment dans le Piémont. Pour certains parcs, cette expérience a représenté la première occasion de coopération mais aussi de collaboration avec des collègues du territoire.

CONCLUSIONS

La littérature scientifique et le vaste débat au sein du monde des "spécialistes de la coopération" a souligné le fait que l'un des points forts de la coopération décentralisée réside dans sa capacité de mobilisation territoriale, dans ce qui a été défini comme "valeur ajoutée territoriale" par rapport à d'autres formes de coopération, surtout au Sud [14]. L'analyse de la coopération décentralisée des aires protégées piémontaises nous révèle qu'il est possible d'identifier une valeur ajoutée territoriale à partir des dynamiques et des retombées de ces processus également au Nord. Il suffit de penser, comme l'on l'a vu, aux 80 acteurs (institutions publiques et organisations diverses) du territoire piémontais, en plus des parcs, qui ont été impliqués pendant ces années d'expérience (en considérant aussi les parcs de l'Amérique Latine et les autres parcs en Afrique). Il s'agit là d'une donnée qui peut surprendre les "spécialistes" eux-mêmes. Mais cette réflexion ne veut certes pas s'arrêter aux chiffres des acteurs impliqués. Notamment au Nord, cette particularité et cette richesse de la coopération décentralisée ne sont pas toujours perçues en termes absolus et donc considérées comme une valeur en soi. Dans son caractère intrinsèque de fragmentation, de dispersion, de maigre coordination, le risque est de perdre la signification, les contenus et les retombées offertes par ces relations. Il devient donc particulièrement important de faire émerger et d'analyser de manière critique ce tissu relationnel qui représente à la fois une richesse et une potentialité (pour les raisons indiquées ci-dessus).

Dans ce contexte et en adoptant une perspective partielle dans la tentative de distinguer les motivations et des retombées territoriales, exprimée par et dans le système Nord, les caractères saillants de la coopération des aires protégées piémontaises peuvent être synthétisés dans les points suivants [16]:

- un processus d'origine territoriale; il s'agit d'un processus qui s'est développé à partir de la dynamique du territoire et qui a impliqué, au cours des années, un nombre croissant d'acteurs (parcs et autres);
- un contenu territorial; il s'agit d'un processus visant à valoriser l'ensemble des réseaux sociaux, culturels et professionnels qui forment la communauté au Nord et les compétences acquises au sein de celle-ci;
- des objectifs territoriaux; ce processus se fixe comme objectif un développement plus équilibré du territoire de l'aire protégée au Sud (enracinement et légitimation), à partir de la vision ce qu'est la mission des parcs dans le contexte piémontais;
- une absence de correspondance institutionnelle stricte au Sud, alors qu'elle l'est devenue dans le système au Nord ; le processus a vu l'engagement d'organismes préposés à la conservation de manière non exclusive ; les communautés riveraines de l'aire protégée en ont non seulement été bénéficiaires, mais dans certains cas elles sont devenues partenaires de projet. Dans certains partenariats, la coopération décentralisée a pris une dimension "locale" sur son versant Nord, en concentrant ses contributions en faveur d'acteurs locaux piémontais engagés de manière stable au Sud (par exemple des missionnaires);
- la présence d'un system de coordination régional entre les parcs; le rôle de la Région Piémont a été déterminant dans la mobilisation du processus, à partir de possibilités latentes liées à un programme régional (opportunité institutionnelle); la collaboration du Consortium des ONG piémontaises l'a relayé. Toutefois, la gestion des projets de coopération décentralisée au sein des parcs n'est pas sujette à des influences politiques; l'attribution des ressources varie d'un parc à l'autre, mais n'est pas conditionné par des facteurs politiques. Elle tient largement à la motivation personnelle des acteurs impliqués;
- des retombées positives au Nord; le processus favorise la concertation et la coordination dans la gestion du système des aires protégées au Piémont et la valorisation des activités d'éducation et de sensibilisation à l'environnement de l'aire protégée réalisée au Nord;
- un processus multi-acteurs et multi-niveaux; on observe une composante collective publique-privée des relations et des réseaux territoriaux aux côtés d'une composante individuelle de chaque acteur de la coopération décentralisée (institutionnelle-personnelle/solidaire);

- un moteur de développement local; elle permet non seulement d'exporter de la valeur économique à partir des ressources locales dont l'utilisation n'endommage pas les habitants et les producteurs locaux, mais aussi d'importer un capital de connaissances de nature économique, culturelle, sociale et environnementale, qui permet de valoriser l'enjeu initial, afin que ce processus devienne un laboratoire de réciprocité.

En effet, à travers la coopération décentralisée peuvent se développer des relations par la création de nouveaux réseaux transversaux ou la naissance de nouveaux carrefours au sein de systèmes relationnels préexistants. De plus, à travers les relations permises par la coopération décentralisée, l'aire protégée est potentiellement en mesure de consolider des rapports existants entre acteurs du niveau local (comme les collectivités locales ou les associations de base) ou d'en développer de nouvelles, pouvant ainsi jouer un rôle dans les dynamiques du développement local.

La valorisation de ces dynamiques – et, si possible, une tentative pour le quantification - surtout en temps de crise de l'aide e des contraintes économiques des collectivités locales, qui affectent aussi la Région Piémont, pourrait certainement être un bon argument pour continuer à soutenir la coopération décentralisée et son effet boomerang.

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ENTRE THEORIE ET PRATIQUE: UNIVERSITÉ DE TURIN ET COOPÉRATION DÉCENTRALISÉE PIÉMONTAISE QUINZE ANS DE RECHERCHE DANS LE DOMAINE DES DÉCHETS

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ABSTRACT

À partir des années 1940, depuis que la coopération est rentrée dans les discours politiques nationaux et internationaux, les modalités d'implémentations des interventions réalisées ont été plusieurs, ainsi que plusieurs ont été les acteurs engagés dans le jeu de la coopération. Dans ce contexte, la soi-disant «crise de la coopération» a été le résultat de l'incapacité de comprendre en profondeur les mécanismes qui définissent les liens entre les sociétés locales et leur territoire. Par conséquence, il faudrait projeter des interventions de coopération en s'efforçant de saisir les différentes géographies qui sont présentes sur le territoire des projets, pour favoriser sans bouleverser les stratégies de sa gestion.
Sur la base d'un parcours de quinze ans de recherches, cet article veut présenter l'importance du rôle de l'Université de Turin dans une collaboration toujours plus forte entre recherche académique et interventions de coopération décentralisée dans le domaine des déchets, en soulignant la nécessité de comprendre les territoires, en tant que destinataires des interventions de la coopération, ses acteurs et leurs relations, ses nécessités et désirs, ses langages et significations.

INTRODUCTION

À partir des années 1990, la coopération décentralisée piémontaise et les ONG du territoire ont fixées toutes les deux leurs attentions sur la thématique des déchets dans les pays Africains, en particulier à partir de l'initiative « *Da rifiuto a risorsa* »[1] (De déchets à ressource). Ce projet a été réalisé au sein du «Programme pour la sécurité alimentaire et la lutte contre la pauvreté en Afrique sub-saharienne», cofinancé par la Région Piémont et lancé en 1997 par la Mairie de Turin. Cette initiative, née comme projet d'échanges scolastiques entre sept écoles secondaires du Burkina Faso, du Sénégal et de l'Italie, a été progressivement étendue à un réseau d'acteurs plus vaste (ONG turinoises - Lvia, Cisv e Mais; villes de Turin et de Chieri en Italie, villes de Louga, Parcelles Assainies et Mbour au Sénégal, villes de Ouagadougou et Tenkodogo au Burkina Faso; Université de Turin et Université de Saint Louis; AMIAT - *Azienda Multiservizi Igiene Ambientale Torino S.p.A* – qui s'occupe de la gestion des déchets dans la ville de Turin). À partir du 2001 en particulier, cette initiative a mis l'accent sur la question des déchets, identifiée comme problématique collective capable d'impliquer à la fois les villes du Nord comme celles du Sud du monde: l'idée a été celle de construire un réseau d'acteurs dans les différents territoires qui puissent élaborer des plans d'action et répandre des bonnes pratiques pour renforcer la participation locale.

Dans le projet, la gestion des déchets a été abordée non seulement en termes purement techniques, mais en tant que problématique qui implique l'ensemble des citoyens. En conséquence, on a compris la nécessité de parvenir à un changement culturel face aux déchets: c'est-à-dire, «Des déchets aux ressources». Ce thème a été discuté par les étudiants, les associations, les administrateurs locaux, les chercheurs, les techniciens de déchets: une pluralité d'acteurs qui a stimulé le dialogue et le débat, dans une confrontation dynamique qui a permis de tisser des réseaux entre des territoires lointains, qui ont trouvé des solutions spécifiques pour des problèmes communs.

Quelle est la raison de cet intérêt dans le domaine des déchets par la coopération décentralisée? Quel est son rôle, son sens, quelles sont les opportunités mais aussi les menaces qui peuvent caractériser des interventions au sujet des politiques publiques dans le pays Africains et, spécifiquement, dans la gestion des déchets? Le présent papier a pour vocation de répondre à ceux questions, en présentant, dans le premier paragraphe, soit le potentiel et la rationalité des interventions de la coopération dans la gestion des déchets soit ses risques. Dans la seconde partie, ces questions ont été appliquées à l'étude de cas de Ouidah, une petite ville dans le sud de la République du Bénin où, entre 2000 et 2011, plusieurs interventions de coopération se sont succédées dans le domaine des déchets.

[1] Pour plus d'information, consulter E. Bignante, K. Bouc, S. Guida, (Eds), Rifiuti urbani e sviluppo locale. Itinerari di cooperazione decentrata tra il Piemonte e il Sahel, GESP, Perugia, 2005.

GESTION DES DECHETS ET COOPERATION DECENTRALISEE: SENS, OPPORTUNITES ET MENACES

Gestion des déchets et Objectifs du Millénaire

Le premier aspect clé est lié à la motivation des interventions: quelle importance peut avoir un projet de coopération au sujet de la gestion des déchets dans des contextes caractérisés par une très forte pauvreté et des fortes inégalités économiques et sociales?

Il faut éclaircir que la gestion des déchets ne met pas en cause seulement des questions de nature esthétique, avec des images des décharges sauvages à ciel ouvert qui brûlent en plein air aux périphéries des villes des pays Africains. En effet, si nous croyons encore valables les Objectifs du Millénaire, au moins dans leurs principes, nous pouvons mettre en évidence une pluralité de connexions entre la réalisation de ces derniers et la gestion des déchets, au-delà du lien intuitif avec l'Objectif de la préservation de l'environnement et de la réduction de l'exploitation des ressources.

Par exemple, en rappelant le premier Objectif, celui d'éliminer l'extrême pauvreté et la faim, nous pouvons affirmer que la gestion des déchets offre des possibilités d'emploi à différents niveaux, du nettoyage des rues au management de l'activité, ainsi que toutes les activités liées au recyclage des matériaux utiles. Ou encore, en référence au troisième Objectif, celui de promouvoir l'égalité des sexes et l'autonomisation des femmes, souvent les femmes sont exclues du processus de prise de décision dans leur communauté ; toutefois, en même temps, les femmes sont souvent impliqués davantage que les hommes dans l'intérêt de leur communauté locale et dans la préservation des conditions environnementales entourant leurs familles, et elles tendent à être beaucoup plus efficace dans la fourniture des services pour la collecte des déchets au sein de leurs communautés. Ainsi, la participation des femmes dans les activités qui sont directement liées aux intérêts et aux besoins de la communauté peut représenter un outil pour promouvoir leur autonomisation. Encore, nous pouvons définir un autre lien avec le quatrième Objectif (celui de réduire la mortalité infantile et post-infantile) si nous considérons que la dysenterie est la maladie qui provoque chaque année le plus grand nombre de décès chez les enfants de moins de cinq ans dans les Pays en Développement ; et bien sûr, la présence de décharges à ciel ouvert est directement impliquée dans la propagation de cette plaie infantile, puisque les mouches, vecteurs de la maladie, se reproduisent facilement dans les tas d'ordures en décomposition dans les rues des villes ou dans les cours d'eau [1].

Gestion des déchets et coopération décentralisée

Ayant mis en évidence les motivations des interventions au sujet des déchets, en résumé liées à l'amélioration de la qualité de vie dans les villes des pays Africains, la question suivante est liée au rôle et au potentiel de la coopération décentralisée dans le cadre de leurs gestion.

En premier lieu, il faut tirer au claire que une gestion durable des déchets doit impliquer entièrement soit la population que les acteurs privées, ainsi que les institutions locales, selon les principes de la gouvernance urbaine intégrée, caractérisée par des partenariats entre les secteurs public, privé, la société civile et la population, dans le but d'offrir une gestion des déchets efficace [2].

Sur la base de cette logique, il est possible attribuer un sens additionnel au lien entre gestion des déchets et coopération décentralisée: en effet, soit la rationalité de la gouvernance soit celle de la coopération décentralisée sont liées à la structuration des réseaux dans le territoire, en créant des partenariats entre la variété des acteurs potentiels ; dans le cas de la coopération, il s'agit de créer des réseaux entre le Nord et le Sud du monde, entre milieux urbains qui, bien que différents, agissent dans le but commun de rendre leurs communautés protagonistes de l'amélioration de leurs conditions de vie.

En effet, bien que partageant les objectifs généraux de la coopération au développement, il y a des points clé qui distinguent la coopération décentralisée d'autres formes d'intervention: l'instauration des formes de partenariat entre communautés locales impliquant l'ensemble du système territorial; la réciprocité des intérêts, également en termes d'échange continu et de communication entre plusieurs acteurs; la participation pleine des communautés locales et des population, dans une optique de participation par le bas; l'idée du local comme niveau d'échelle le plus approprié auquel se référer pour identifier besoins et priorités; la promotion des capacités, des compétences et des ressources territoriales, dans le but de permettre l'appropriation des projets et la prise des responsabilités par les acteurs impliqués; le dialogue durable, lié à favoriser l'apprentissage mutuel et continue des connaissances et expériences.

À travers la coopération décentralisée on ne veut pas simplement définir et réaliser des projets isolés dans les pays Africains, mais contribuer au changement de chaque acteur impliqué, en favorisant un processus de décentralisation et démocratisation à travers la participation active des institutions publiques locales et de la société civile. Le but est celui de créer des formes de complémentarité, de coordination et des collaborations qui valorisent les ressources et les connaissances de chaque participant, soit du Nord soit du Sud du monde. Ce rapport d'échange continu porte à la création des réseaux internationaux qui permettent l'intégration des groupes marginaux en partenariats locaux, donc des partenariats entre territoires [3]. Conséquemment, ce qui change ne sont pas les

objectifs, mais l'approche. Il ne s'agit plus de flux d'aide unilatérales, mais d'interaction et d'apprentissage mutuel entre les partenaires impliqués, en se référant aux sujets donateurs aussi bien qu'aux sujets bénéficiaires.

Risques et menaces des interventions

Quand on analyse les interventions dans les pays Africains, il ne faut jamais sous-estimer les menaces et risques, liés surtout à la capacité des sujets intervenant de lire la territorialité des milieux destinataires des projets. En effet, à partir des années 1940, depuis que la coopération est rentrée dans les discours politiques nationaux et internationaux, les modalités d'implémentations des interventions réalisées ont été plusieurs, ainsi que plusieurs ont été les acteurs engagés dans le jeu de la coopération. Dans un contexte jusqu'aujourd'hui ainsi caractérisé, une réflexion effective sur les stratégies d'interventions qui se sont succédées a manqué, malgré la conscience des profondes inégalités entre le Nord et le Sud du monde. En effet, à partir des années 1950 et 1960, des approches souvent opposées ont dessiné les lignes des interventions, en privilégiant tantôt des influences de nature technique, tantôt de nature économique, idéologique ou humanitaire. «Se sont à leur tour opposés, ajointés, alternés les interventions planifiées de nature marxiste, les politiques des grandes réalisations, la philosophie des micro-projets, des expériences isolées, les stratégies rigoureusement économiques-financières, la période des grands travaux publics et le retour à l'engagement du secteur privé, le tout en versant un fleuve de ressources financières souvent desséché au premier contact avec la réalité territoriale des zones d'intervention.» [4].

De plus, le manque des résultats réels malgré les efforts importants a conduit à ce qui a été défini « la crise de la coopération » des années 1980 (Minca C., 1994), liée à certains éléments clé. En premier lieu, l'inadéquation des outils techniques et des modèles de style occidental a été identifiée comme la cause majeure; en effet, ces outils ont été appliqués sur des contextes fondés sur des «territorialités autocentrés extrêmement vulnérables, ou au contraire peu perméables» [5], qui ont souvent annulé les effets positifs des projets, en favorisant la prolifération des soi-disant cathédrales dans le désert[2]. Une autre cause de la crise de la coopération est liée à l'incapacité d'introduire les interventions dans un cadre théorique solide mais, en même temps, capable de s'adapter aux diversités des cas. Par exemple, les programmes d'ajustement structurel ont impliqué l'utilisation des modèles standardisés, déliés des considérations sociaux et territoriaux capables de considérer les particularités locales: il s'agissait de programmes a-territoriaux mais qui pesaient fortement sur les territoires de destination.

C'est alors que toutes les interventions 'a-territoriales'[3] de coopération au développement, ainsi que la recherche des technologies qui se sont démontrées inappropriées ont été le résultat de l'incapacité de comprendre en profondeur ces mécanismes qui définissent les liens entre les sociétés locales et leur territoire. Par conséquence, il faudrait projeter des interventions de coopération en s'efforçant de saisir les différentes géographies qui sont présentes sur le territoire d'un projet, pour favoriser sans bouleverser les stratégies de sa gestion. Donc, la nécessité d'une collaboration toujours plus forte entre recherche académique et interventions sur le terrain devient évidente: «Les *pratictioners* reconnaissent d'avoir besoin de sortir de la – présumée – autoréférence du monde de la coopération pour puiser la connaissance produite par le monde académique ; les chercheurs reconnaissent d'avoir besoin de sortir de la – présumée – autoréférence du monde académique, pour traduire en actions les résultats des propres recherches, en collaboration avec qui travaille de plus longtemps sur le terrain dans l'actuation des politiques de coopération au développement.» [8]. Il s'agit alors de promouvoir des interventions *bottom-up* qui, soutenues par la recherche participative, permettent de donner une impulsion à la production des processus de territorialisation autocentrés. Le début de tous projets dans les territoires du Sud du monde devrait être celui de «apprendre sur les territoires locaux [...] la reconnaissance réciproque entre acteurs, en encourageant l'émersion des nécessités et des désirs, en activant les connaissances, les langages et les sens, en identifiant les ressources et les moyens existantes et mobilisables, en protégeant les biens territoriaux (sociaux, politiques, environnementaux), en rassemblant les garanties demandées et les contraintes perçus : en lisant la territorialité» [9].

En souhaitant une plus forte collaboration entre le monde de la recherche et celui de la coopération, on propose un «terrain commun» d'action entre deux différents perspectives: celle des recherches théoriques, sur la notion de développement, de transformation sociale et sur le monde de la coopération dans le domaine de la doctrine de l'aide; et celle de l'élaboration et implémentation des stratégies d'interventions de la coopération, pour promouvoir le développement dans ces plusieurs acceptions, en se référant aux méthodologies participatives, à travers lesquelles les populations bénéficiaires sont impliquées dans tous les phases du cycle du projet [10].

Ce problème peut être bien présenté en référence au cas de Ouidah, une petite ville dans le sud du Bénin, caractérisée, d'un côté, par une croissance exponentielle de la population et une forte urbanisation, et, de l'autre côté,

[2] Minca se réfère à la théorie de la territorialisation du géographe italien Angelo Turco, qui parle de territorialisation autocentrée en relation aux processus pour lesquels « la culture qui s'exprime en tant qu'agir territorial est fabriquée, et en tous cas gouvernée, par des acteurs ou des groupes qui se reconnaissent comme partie intégrante d'un corps social unitaire. » [6]. Alors, la territorialisation autocentrée possède les caractères de la culture à la quelle fait référence et est partie de ses stratégies de reproduction. Par contre, il parle de territorialisation eterocentrée quand il y a « une rationalité territorialisant qui exprime et soutient une rationalité sociale mûrie ailleurs, c'est-à-dire au-delà du contexte cultural et spatial de la société qui on est en train d'observer » [7]. Conséquemment, la logique qui soutient cette territorialisation n'est pas orientée à la reproduction de la société dans laquelle elle se réalise, mais de laquelle qui la produit.

[3] Avec cette définition, on veut designer tous ces interventions et programmes qui ont impliqués l'utilisation de modèles standardisés, déconnectés de considérations sociales et territoriales relatives aux particularités locales, mais qui ont fortement affectés les territoires de destination.

par l'inefficacité de l'intervention publique dans la gestion des déchets; ici, de 2000 à 2011, quatre initiatives de coopération décentralisée, gérées par la ONG CISV[4] et financées par la Région Piémont, ont été réalisée, orientées vers la création d'une filière des déchets, dans le but d'améliorer les conditions de vie du milieu urbain.

LE CAS DE LA VILLE DE OUIDAH, AU BENIN[5]

Ouidah : entre urbanisation, pauvreté et décentralisation administrative

Située à 45 km à l'est de Cotonou, dans le département de l'Atlantique, Ouidah s'étende sur une superficie de 364 km², et compte une population totale de 76.555 habitants qui, selon une étude de l'INSAE [12], continuera de croître dans les années: en effet, elle a estimé une croissance de la population du 144% du 2002 au 2039. Au même temps, cette croissance a impliqué une très forte tendance à l'urbanisation, lors que les arrondissements urbains concentrent la moitié de la population de la Commune sur moins d'un cinquième de la superficie. Il se révèle donc évident qu'un tel rapide processus d'urbanisation nécessite l'implémentation de politiques urbaines liées à répondre aux instances d'une population toujours croissante. En plus, cette exigence se reporte aussi aux conditions de vie de la population: si le Bénin se trouve à la 167ème position sur 187dans le *ranking* de l'UNDP en termes de développement humain, la ville d'Ouidah même présente de données plutôt inquiétantes: si on considère l'indicateur de la pauvreté monétaire adopté par l'INSAE[6] [13], en 2011 le 54,03% de la population de Ouidah se trouvait au-dessous de la ligne de pauvreté, un pourcentage bien inférieur à la moyenne du département (39,01%).

Et si ce contexte, avec sa vulnérabilité, nécessite de l'implémentation de politiques publiques urbaines, de l'autre côté il doit faire face aux difficultés croissantes enregistrées par les Municipalités en termes de prestation des services publiques. En effet, le processus de décentralisation administrative, réalisé à partir des années 1990 à la suite des programmes d'ajustement structurel du FMI adoptés pour réduire la dette publique (1989-1991; 1992-1994; 1995-1997), a amené, d'un côté, à l'augmentation des devoirs des Communes et, de l'autre côté, à un manque de ressources financières octroyées par l'État aux Communes mêmes. En effet, à partir du 1997, le cadre administratif du Pays a été entièrement réformé, en le structurant hiérarchiquement en Départements, Municipalités, arrondissements, villages ou quartiers de ville. Conséquemment, les devoirs des différents niveaux ont été parement reformés: en particulier, les Municipalités sont responsables de l'administration du territoire, avec la définition de programmes visant à assurer la protection économique, social, sanitaire, culturel et scientifique et de l'environnement; de toute évidence, il s'agit d'une série de domaines politiques très larges, en touchant tous les aspects de vie d'un territoire[7]. Toutefois, comme dans d'autres villes, le chevauchement de toutes ces tâches a laissé la ville d'Ouidah dépourvue des fonds pour répondre à ses devoirs [14].

En bref, la croissance de la population, l'augmentation de l'urbanisation et le processus de décentralisation administrative ont tous contribué à la création d'une situation de dégradation dans la ville, en particulier par rapport aux conditions hygiénique-sanitaires et environnementales. Face à cette situation, la gestion durable des déchets a constitué une priorité pour le la ville de Ouidah. C'est alors dans cette dynamique que plusieurs acteurs de la société civile ont endossé un rôle actif dans leur communauté, en concentrant leurs efforts sur la promotion des services à la population pour contribuer à l'amélioration du niveau de vie et santé des villes et, conséquemment, à leur développement. Grâce à l'appui de l'ONG CISV, quatre associations locales (Action Plus, GATOM, IRADM, Aywou), au fil du temps ont pris en charge officiellement la gestion des déchets à Ouidah, en constituant le consortium USIRTO (Union des Structures Intervenant dans le Ramassage et le Traitement des Ordures).

USIRTO et la filière des déchets dans la ville de Ouidah : les changements dans le temps

Pendant les interventions, en particulier en 2006, une étude réalisée par Fabiana Di Lorenzo, étudiante de l'Université de Turin, avait montré que, malgré la création d'une chaîne de collecte et d'élimination des déchets, avec la participation de quatre associations locales impliquées dans la collecte, réunies dans un consortium, USIRTO, engagé dans la séparation des déchets (entre composante organique pour la production compost et composante non récupérable pour la décharge), il y avait encore deux problèmes majeurs qui menaçaient d'annuler les résultats obtenus. D'une part, une partie de la population continuait à jeter les déchets dans des décharges illégales. D'autre

[4] La CISV (*Comunità Impegno Servizio Volontariato*), est une association communautaire, à but non lucratif, laïque et indépendante, créée en 1961 et engagée dans la lutte contre la pauvreté et en faveur des droits de l'homme. En tant qu'organisation non gouvernementale (ONG), elle réalise des projets de coopération internationale avec l'objectif de favoriser l'auto-développement des communautés locales comme soutien aux organisations paysannes et à la société civile. Elle est reconnue par le Ministère italien des Affaires Etrangères et par l'Union Européenne.

[5] Les informations présentées dans ce paragraphe sont issues des mémoires de maîtrise de l'auteur [11].

[6] L'INSAE analyse la pauvreté monétaire en termes d'incidence globale de la pauvreté, c'est-à-dire le pourcentage de population qui ne réussit pas à couvrir ses exigences alimentaires et non alimentaires, représenté par le seuil de pauvreté, égal à 120.839 FCFA par an et par habitant en 2011 (environ 235$ par an).

[7] Pour ce qui concerne la gestion des déchets en particulier, les Municipalités sont responsables d'assurer la fourniture et la distribution d'eau potable, la collecte et la gestion des déchets solides ménagères et industriels, la collecte et le traitement des déchets liquides, la gestion du réseau d'eau pour l'évacuation des eaux usées et des eaux pluviales, et toutes les autres tâches pour assurer l'assainissement et la salubrité de la ville (*Loi n°97-029 du 15 janvier 1999, portant Organisation des Communes,* art 3).

part, un sujet n'avait pas été inclus dans la stratégie d'intervention, les artisans récupérateurs, à savoir la partie du secteur informel engagée dans la valorisation des déchets. [15]

L'étude de Di Lorenzo a montré que le premier problème était lié au fait que la population continuait à percevoir les déchets en termes de rebuts, de problèmes à résoudre. Par rapport au deuxième problème, le manque de considération des artisans était lié au manque de considération des stratégies précédentes de gestion des déchets, celles locales, qui accordait une grande importance aux activités de récupération gérées par le secteur informel. Il s'agit notamment de ferblantiers, qui fabriquent des plats destinés aux fours en récupérant des canettes; de chaudronniers, qui récupèrent l'aluminium pour fabriquer des casseroles; de forgerons, qui construisent des outils de travail en utilisant les carrosseries des voitures ; ainsi que de cordonniers, qui récupèrent des pneus pour fabriquer des sandales, ou de *Gohoto*, à savoir groupement de femmes récupératrices de bouteilles. En toute évidence, il s'agit d'activités qui ne peuvent pas être considérées simplement comme marginales, secondaires ou informelles, mais elles sont des véritables sources de revenus pour une partie significative de la population de Ouidah, et fondamentales pour «compléter» la filière de façon productive.

Cependant, cinq ans plus tard, acquis ces problèmes dans la logique des interventions de coopération, il y avait eu des transformations importantes. Tout d'abord, en ce qui concerne la perception des déchets par la population: si aux yeux d'un technicien cet aspect peut paraître sans aucune relevance, en réalité il revêt une importance fondamentale cependant, l'attribution d'un signification de rebuts plutôt que de ressources aux déchets implique une approche à leur égard totalement différent (par exemple, d'enfouissement plutôt que de mise en valeur). Dans le cas d'Ouidah, il a été constaté un changement radical dans l'approche aux déchets, qui ne sont plus considérés du point de vue de «problème» mais purement en termes de «ressource», à la fois en termes d'emploi (avec des possibilités travail fournis soit par les quatre associations locales soit par le consortium, qui pendant la recherche embauchait cinquante employés à son cœur, dont 10% étaient des femmes), ainsi que pour la mise en valeur (avec la production de compost utilisé dans les activités agricole locaux) ou pour le recyclage (par les artisans récupérateurs).

C'est alors que dans la ville d'Ouidah, la gestion des déchets s'est développée au fil du temps comme une véritable filière: en effet, en naissant comme activité de collecte porte-à-porte des déchets destinés à la décharge finale, aujourd'hui elle est structurée et développée sur plusieurs étapes (Figure 1).

D'abord, les déchets sont ramassés et enlevés par les lieux de production (habitations, bureaux, écoles, rues et autres lieux publiques) avec charrettes métalliques traînées par les charretiers des quatre ONG et associations locales, en relation au plan de zonage des dix arrondissements de Ouidah, stipulé chaque année entre les quatre associations, le consortium USIRTO et la Mairie de Ouidah. Cette première phase est déroulée en autonomie par chaque association/ONG sur les arrondissements relevant de sa compétence, en employant son personnel et en servant les structures abonnées au service[8]. Ensuite, les déchets sont amenés aux trois points de regroupement construits au sein de la ville, gérés par le consortium USIRTO dans son ensemble. Dans les points de regroupement, les employés de USIRTO, munis de gants et de cache-nez, trient manuellement les déchets entre: a) matière organique, destinée à la valorisation à travers la production du compost chez les fermes d'Action Plus et d'Aywou, et utilisée par les maraîchers dans leurs activités agricoles; b) déchets réutilisables ou recyclables (plastique, aluminium, carrosseries des voitures, pneus, ...), vendus aux artisans récupérateurs de la ville; c) déchets solides non recyclables, acheminés vers la décharge finale d'Ouessé.

On peut donc constater que, grâce aux interventions réalisées par la CISV, la gestion des déchets dans la ville de Ouidah est aujourd'hui organisée en terme de filière, où les concepts de Récupération, Réutilisation, Recyclage, mais aussi Valorisation, sont éléments essentiels du cycle des déchets, pleinement entrés dans la conscience des acteurs engagés et de la population, grâce aussi à l'organisation de journées de sensibilisation et formation dans le domaine de l'assainissement par la CISV et USIRTO en commun.

D'autres transformations ont eu lieu au niveau du management de la filière et de la gestion des déchets où, au-delà de la création du consortium USIRTO et la mise en réseau des ONG locales, a permis de structurer des réseaux durables au niveau local. En effet, l'expérience de Ouidah représente un exemple évident de gestion pluri-actorielle des services urbaines, qui implique la participation de plusieurs acteurs (Figure 2).

En premier lieu, le consortium USIRTO représente l'acteur central de la filière, qui est engagé entièrement dans la gestion des déchets, en poursuivant le but d'améliorer le niveau de vie de la population d'Ouidah grâce à une gestion du service adéquate et efficiente, et qui favorise la participation active de la population dans le ménagement des déchets.

D'autre part, un rôle indispensable est joué par les quatre association locales, lesquelles constituent le consortium et, au-delà de leur participation dans la gestion des déchets, déroulent d'autres activités qui visent à améliorer les conditions de vie de la population, en particulier gérant des interventions dans les domaines sanitaire, scolastique et de tutelle environnementale; en plus, les ONG Action Plus et Aywou promeuvent la valorisation des déchets dans leurs fermes à travers la production du compost. En particulier, dans la ferme d'Action Plus, entre 2010 et 2011 USIRTO et la CISV ont organisé des cycles de formation dans le domaine de l'entrepreneuriat agricole et le compostage destinés à 33 jeunes en situation démunie. Ces cycles étaient liés à favoriser la capitalisation des connaissances et compétences dans le domaine de la valorisation des déchets et de la revalorisation des activités agricoles, compte tenu du fait que la zone de Ouidah est caractérisée par un terrain très favorable à l'agriculture. Ces

[8] La collecte des déchets est réalisée en correspondance des habitations ou structures abonnés au service, en relation à la dimension de la structure; le tarif moyen mensuel est de 1000 FCFA, tandis que le tarif minimum est de 500 FCFA.

activités ont eu pour but celui de relancer l'emploi des jeunes sur le territoire, en évitant ainsi la forte émigration des jeunes vers la ville de Cotonou, beaucoup plus développée économiquement.

Fig. 1 - La filière des déchets à Ouidah.

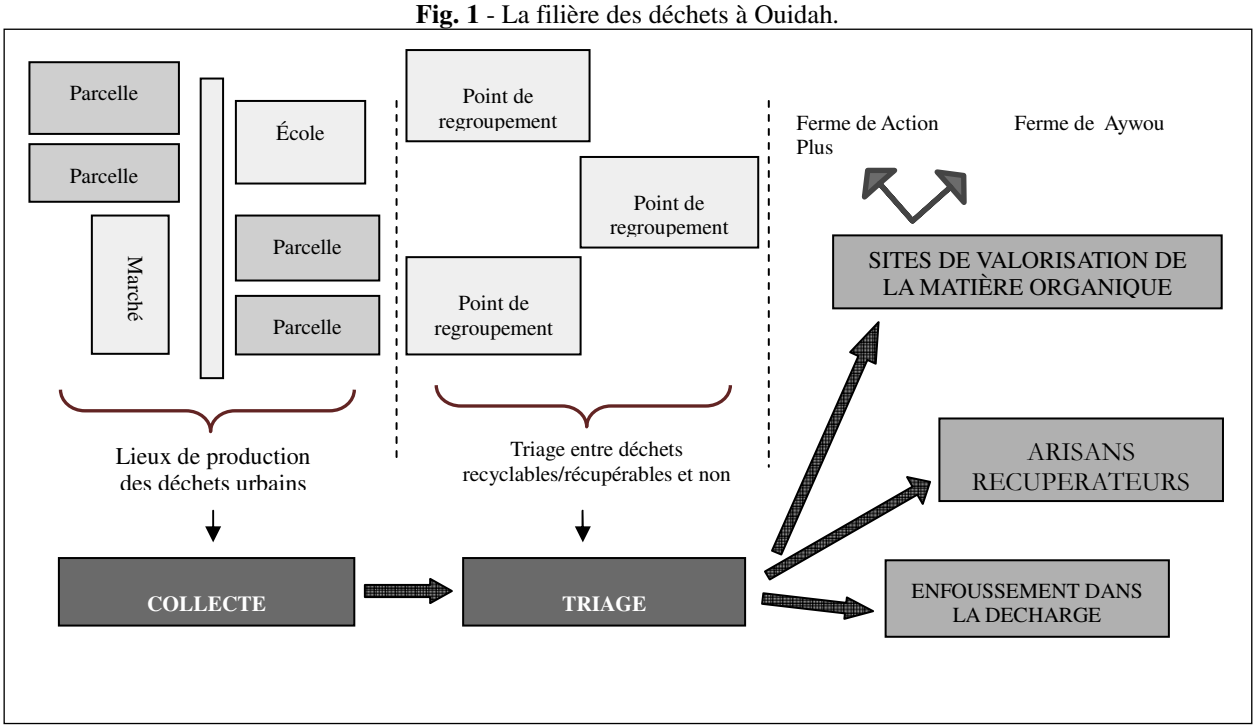
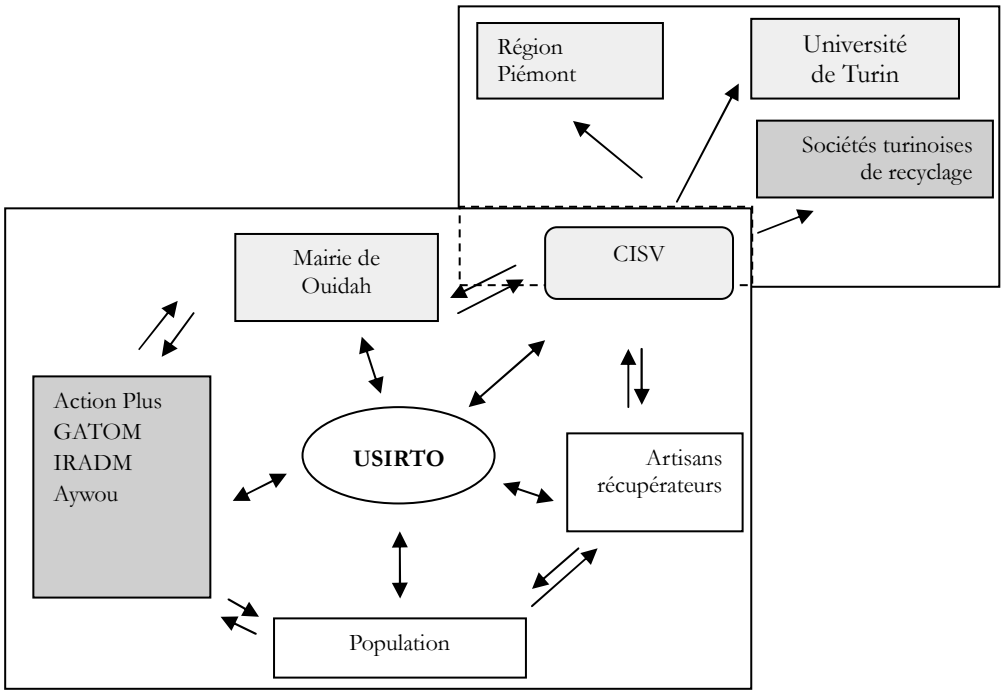


Fig. 2 - Les acteurs locaux et internationaux engagés dans les projets.



Ensuite, un autre acteur clé de la filière est aujourd'hui la Mairie de Ouidah ; en effet, depuis 2008, la Mairie a reconnu officiellement USIRTO comme partenaire privilégié dans le ménagement du service; en particulier, sur la base d'une convention, stipulée pour la première fois en 2008 et rénovée chaque année, les obligations de la Mairie sont ces d'assurer à USIRTO un soutien économique en relation aux disponibilités financières municipales, et de veiller à ce que les engagements du consortium soient tenus, en contrôlant l'état des travaux et en analysant périodiquement les performances d'USIRTO.

Les artisans récupérateurs de la ville constituent désormais un autre acteur de la filière des déchets, car ils récupèrent verre, plastique et d'autres matériaux par les points de récupération pour en fabriquer des nouveaux outils; en ce faisant, ils contribuent à «compléter» le cycle des déchets de façon productive.

Encore, l'ONG CISV a joué un rôle fondamental pendant les années d'intervention, pas seulement pour la contribution financière liée aux projets de coopération décentralisée piémontaise. Au fil du temps, la CISV a constitué une sorte de lien entre le territoire de Ouidah et celui de Turin, en agissant comme intermédiaire pendant la réalisation des projets entre les acteurs béninois précédemment cités et ces italiens. Il s'agit de la Région Piémont, en tant que bailleur des interventions de coopération décentralisée; de certaines entreprises turinoises qui gèrent des activités de recyclage des déchets et de production du compost dans la province italienne, qui ont participé à d'expériences d'échange pendant les années des projets (par exemple, la société GAIA s.p.a.); de l'Université de Turin, engagée depuis des années dans plusieurs projets de recherche dans le domaine de la gestion des déchets dans les pays du Sud du monde. Pour ce qui concerne l'Université en particulier, elle a joué un rôle fondamental, grâce aux recherches réalisées par les chercheurs et les étudiants impliqués dans les projets pendant dix ans: en effet, comme on a souligné, elle a contribué en termes de soutien à la CISV pour une meilleure compréhension du territoire, de ses acteurs, des relations entre eux, des points de force et de faiblesse du contexte dont le projet a été réalisé, et de ses transformations pendant le temps.

CONCLUSIONS

La structuration de la filière de Ouidah, avec ses acteurs, devient explicative du passage d'une approche technique-administrative - centralisée, avec des monopoles publics-privé, caractérisée par l'application de technologies souvent inappropriées aux territoires de référence, et qui fait face aux déchets en termes de problématique à éliminer - aux formes de gouvernance locale, où on expérimente l'intégration entre objectifs d'efficience économique, de tutelle environnementale et d'*empowerment* des capacités locales - caractérisées par la pleine participation des *stakeholders* impliqués, l'adoption d'une approche de filière aux déchets, vus en termes de ressources [16]. En particulier, l'enracinement social et territorial des sujets promoteurs et leur capacité à développer des réseaux de relation avec des acteurs publics, privés et avec la population, a représenté la clé de la réussite du projet. En d'autres termes, c'est la capacité à s'ouvrir et à interpréter les demandes en termes de gestion des déchets de la part du territoire qui détermine la valeur ajoutée que le projet a offert à la ville.

Toutefois, il faut toujours considérer que, quand on parle des interventions, on considère toujours des projets nés au sein des programmes de coopération, et ainsi conçus, organisés et promus par des acteurs extérieurs aux territoires destinataires des interventions, porteurs des logiques qui, quoique partagées par les acteurs locaux, reflètent toutefois une idée et un projet de territoire différent, une autre territorialité. C'est alors que, en général, les interventions de la coopération peuvent conduire à des territorialisations eterocentrées, c'est-à-dire des territorialisations qui se produisent quand il y a «une rationalité territorialisant qui exprime et soutient une rationalité sociale mûrie ailleurs, au-delà du contexte cultural et spatial de la société qui on est en train d'observer» [17].

Conséquemment, c'est face à ce risque que le rôle de l'Université, et de la recherche en général, devient central : tel qu'indiqué dans le premier paragraphe, si le début de tous projets dans les territoires du Sud du monde devrait être celui de «lire la territorialité», les chercheurs ont la tâche de comprendre le territoire, ses acteurs et leurs relations, ses nécessités et désirs, ses langages et sens. C'est alors que «une logique externe peut être aussi porteuse de nouvelles opportunités pour le territoire, dans une perspective de logique autocentrée et pertinente, si ces opportunités sont filtrés à travers un système de règles qui les tiennent en compte, tout en préservant le caractère préexistent du territoire.» [18].

NOMENCLATURE

ONG	Organisation Non Gouvernementale
LVIA	Lay Volunteers International Association
CISV	Comunità Impegno Servizio e Volontariato
MAIS	Movimento per l'Autosviluppo, l'Interscambio e la Solidarietà
INSAE	Institut National de la Statistique et de l'Analyse Economique
PNUD	Programme des Nations Unies pour le Développement
FMI	Fonds Monétaire International
GATOM	Groupe d'Assainissement et Traitement des Ordures Ménagers
IRADM	Initiative pour la Recherche et les Actions du Développement Mondial
AYIWOU	Mot en langue Fon, qui signifie « agir avec conscience »
USIRTO	Union des Structures Intervenant dans le Ramassage et le Traitement des Ordures
FCFA	Franc de la Communauté Financière Africaine

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COMPETENCES ET PRATIQUE DE COOPERATION INTERNATIONALE EN SENEGAL SUR LA ROUTE DES TALIBES

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ABSTRACT

La présente contribution s'inscrit dans le débat sur les démarches et sur les acteurs qui renforcent la culture et l'efficacité de la coopération et ramène l'analyse d'un parcours développé à Malika (Sénégal) par l'Association Renken Onlus et plusieurs collaborateurs locaux sut le thème des enfants de la rue talibés (élèves des écoles coraniques).
La recherche, conduite entre Décembre 2011 et Août 2013, a prévu:

- l'analyse du contexte physique et social des *daaras* (écoles coraniques) et des *routes des talibés*;
- l'observation participante des échanges entre les acteurs coopérants sur le thème des enfants qui mendient à Malika durant les rencontres de coordination et au cours des activités;
- la rédaction de notes ethnographiques sur les interprétations fournies par les gens avec des comptes rendu linguistiques formels et informels;
- la relecture des verbaux des assemblées et des dossiers des projets avec les sujets impliqués.

Cinquante sujets ont été inclus dans le procès de conception et de développement de l'initiative et dans la recherche: les coordinateurs du projet *Talibé*, les bénévoles italiens et sénégalais de l'Association Renken, les maîtres coraniques des écoles et les représentants des groupes et des collectivités locales de Malika.
Une enquête a été conduite sur les compétences qui ont accompagné le procès opératif et la transformation réciproque des sujets parmi lesquelles émergent les compétences de médiation (communication, écoute, empathie, gestion des conflits, résilience) et les compétences d'organisation (projets, définition et partage des objectifs, gestion des espaces, des temps et des ressources humaines, créativité).
Les observations ont amené à une discussion sur le sens et sur l'interprétation locale de la pratique de coopération, du travail de réseau, des stratégies d'*empowerment* et de la conception dialogique et ont amené à intéressantes conclusions sur la dimension relationnelle des initiatives de coopération internationale.

CONTEXTE DU PROJET DE RECHERCHE

Les écoles coraniques et la figure du *talibé*

Présente dans tout le territoire national, une myriade d'écoles coraniques est active - *daaras* - (non censée ni réglementée par l'Etat) et directe à la mémorisation des vers du livre sacré. Elles sont les traditionnelles structures éducatives musulmanes et ont représenté le premier système scolaire rependu du pays [1].

Destinée à former de bons musulmans, l'école coranique trouve sa légitimité dans la foi et s'appui presque exclusivement sur la mémoire, la ritualité, le rythme des prières.

Exclues du système officiel, les écoles coraniques surgissent sans control sur tout le territoire sénégalais. Dans les dernières années, en Sénégal la progression numérique des écoles coraniques a perdu le crédit aux yeux des musulmans à cause de la dégénération de l'enseignement et à cause de l'accumulation des richesses et de l'abus du pouvoir de quelques enseignants. Le marabout, maître et guide de l'école coranique, ne perçoit pas le salaire parce que sa mission est vue comme partie intégrante des obligations religieux et sociales; pour cela, pour garantir sa propre survivance et celle de ses élèves a le droit, selon la tradition, de les engager dans le travail des champs, dans travaux domestiques ou de les envoyer à mendier. Pour différentes raisons les écoles gérées par maîtres sans aucune compétence dans le milieu de l'enseignement se diffusent depuis quelques décennies avec comme seul objectif celui de gagner en obligeant les enfants à mendier.

Ils n'existent pas des statistiques sures et fiables sur le nombre d'enfants *talibé* en Sénégal, mais il s'agit de centaines de milliers de mineurs qui mendient sur les routes du pays. Selon l'UNICEF [2] et l'Human Right Watch [3] les enfants de rue sont au moins 100000 et la plus grande partie est composée par les "étudiants du Coran" soumis à des conditions d'esclavage et obligés à mendier dans les écoles coraniques. Les *talibé* conduisent un rythme de vie non naturel et forcé, ils se réveillent tous les jours avant l'aube pour faire des exercices de mémoire et les prières du matin ;

ils mendient pour au moins six heures par jour en différentes tranches, retournant chaque fois pour reprendre l'étude et pour donner au maître la somme journalière tirée au nom des valeurs musulmans de charité et humilité. Beaucoup de *talibé* dorment par terre les uns à côté des autres, ils n'ont pas de vêtements propres et ne reçoivent pas les soins médicaux de base dont ils auraient besoin. Ils reçoivent un enseignement limité à l'apprentissage par cœur des vers coraniques, et ne sont pas préparés à la future vie d'adultes en société.

La presque totalité des talibés est originaire des régions périphériques et rurales du Sénégal ou des Etats qui confinent avec lui, séparés de la famille et des villages d'origine, les talibés victimes de tracte sont obligés à vivre en conditions insalubres, dans la pauvreté, ils sont malades, ils mangent mal, ils sont l'objet de sévices physiques et psychologiques s'ils ne rejoignent pas le chiffre journalier en mendiant et ils risquent d'être victimes d'accidents sur la route, d'enlèvement, de pédophilie.

En analysant les conditions de vie des enfants dans des différentes écoles coraniques de Malika nous avons identifié des droits ratifiés par la Convention des Nations Unies relative aux droits de l'enfant du 1989 qui sont frappés et vexés directement et indirectement par la condition de mendiants forcés des enfants *talibé* en Sénégal. On va rappeler:

- le droit de l'enfant de préserver son identité, la nationalité, le nome et les relations familières reconnues par la loi, sans ingérences illégales (art. 8);
- la tutelle de la partie de l'état pour empêcher les déplacements et les non-retours illicite des enfants à l'extérieur (art.11);
- le droit à la liberté d'expression, de conscience, de pensée et de religion (art.13 e 14);
- la tutelle de l'enfant contre chaque forme de violence, outrage ou brutalités physiques et mentales, d'abandonne ou de négligence, de mauvais traitements ou d'exploitation (art.19);
- le droit au repos e tau temps libre (art.31);
- le droit à ne pas être victimes d'exploitation économique et à ne pas exercer un travail dangereux qui nuit à l'éducation e tau développement de l'enfant (art. 32);
- la tutelle de toutes les formes d'enlèvement, vente et tracte (art.35);
- le droit à être protégé de toutes les formes d'exploitation (art. 36).

Evidemment il n'y a pas un lien intrinsèque entre l'enseignement coranique d'un coté et, de l'autre coté, le fait que les enfants mendient et ont des conditions de vie misérables. Les *daaras* ont été crées il y a des siècles et le fait de mendier a toujours joué un rôle modeste dans le financement de leur gestion et dans l'enseignement de l'humilité aux enfants. Cependant aujourd'hui le phénomène de la mendicité forcée dans la daara est diffusé et en cours d'expansion et les causes sont nombreuses et complexes. Les plus importantes [4]:

- la pauvreté des parents qui ne peuvent supporter le payement des taxes scolaires;
- la pauvreté des maitres et au même temps la volonté de quelqu'un entre eux de s'enrichir;
- l'influence politique et culturelle des maitres du Coran en Sénégal;
- la volonté des familles que leurs enfants apprennent les valeurs de l'Islam;
- l'obligation religieuse et culturelle de l'aumône;
- l'inaccessibilité et l'insuffisante présence de l'école publique et l'absence à son intérieur de l'enseignement religieux;
- l'action inefficace du gouvernement et des institutions locales dans la protection des enfants talibés des abus, dans la protection de leurs droits et dans la réglementation de la conduite des maitres du Coran et la gestion des écoles.

Fig. 1 - Les étudiants de la daara de Malika, qui ont donné naissance au projet *Talibé* Renken en 2009.

LE PROJET TALIBE DE L'ASSOCIATION RENKEN

Le Projet Talibé est né pour développer et soutenir les interventions de formation et de sensibilisation envers les habitants de la commune de Malika pour prévenir et réduire la mendicité des enfants Talibé.

Le projet est caractérisé par différentes aires d'action:

- une grande campagne de sensibilisation développée à coté des associations du territoire et de la commune de Malika ;
- la requalification et le soutien de certaines écoles coraniques présentes à Malika avec des actions de rénovation, avec des cours d'alphabétisation en français et avec le soutien sanitaire pour les enfants du *daara* ;
- l'ouverture du centre d'écoute et d'accueil pour les talibés qui mendient dans les rues de Malika où ils peuvent être accueillis, soignés, protégés pendant la journée.

Finalités et objectifs

L'association Renken avec ses partenaires, afin de contribuer à la lutte contre la mendicité et contre l'analphabétisme, s'est mise les objectifs suivants:

- mettre en place un réseau d'operateurs, des institutions et des associations locales qui opèrent à Malika contre la mendicité forcée des enfants;
- améliorer la qualité de l'offre formative franco-arabe du quartier et la rendre majoritairement accessible pour répondre aux besoins que les familles expriment en envoyant les enfants dans les écoles coraniques traditionnelles ;
- créer un lieu qui assure les conditions essentielles pour la protection et pour la santé des enfants de la rue de Malika ;
- accompagner la croissance des talibés avec des interventions éducatives et des parcours de formation.

Fig. 2 - Le centre d'écoute pour les enfants de la rue Renken -UNESCO inauguré au mois de Novembre 2012.

LES SUJETS IMPLIQUES

Le projet a vu participer aux activités une pluralité d'acteurs.

En premier lieu, 15 volontaires italiens de l'Association de coopération et solidarité internationale Renken. Renken Onlus, indépendante et pas confessionnelle, née en Octobre 2006, poussée par les valeurs de solidarité et d'amitié, a

entrepris l'idée et la réalisation du projet *Talibé*. L'association (dont le nom dans le langage djola, signifie «ris!») est composée de jeunes qui mettent à disposition leurs compétences pour conduire les activités de l'association afin de promouvoir et soutenir les droits des enfants, des jeunes et des femmes et de favoriser leur accès à l'assistance sanitaire, à l'éducation et à la formation. Les sujets impliqués dans la recherche sont des femmes et des hommes entre 25 et 35 ans qui habitent dans la province de Turin et qui participent activement aux activités associatives en Italie et à Malika.

En deuxième lieu, 15 volontaires de l'Association Renken Sénégal impliqués dans le projet, chargés des initiatives éducatives de proximité des daara du territoire de Malika, du rapprochement des enfants et dans la gestion du centre d'écoute.

En troisième lieu, 20 collaborateurs locaux liés aux institutions, aux association et au réseau du territoire comme les volontaires du Club UNESCO CRE de la rue de la Plage (qui ont accueilli les activités du centre d'accueil pou talibé et qui ont participé à la création des cours d'alphabétisation pour les enfants), les entraineurs de l'AS Malika (qui ont intégré le projet de l'animation sportive), les Maitres du Coran de la Mairie , le maire et ses collaborateurs, les femmes de la Fédération de femmes , les scouts.

LA QUESTION DE LA RECHERCHE

Nos observations se sont concentrées pour cette contribution sur les compétences qui ont accompagné à Malika les acteurs de la coopération dans le projet et dans le processus de réalisation des initiatives pour les enfants *talibés* de Décembre 2011 à Janvier 2012.

Quelles compétences ont permis la collaboration entre les différents sujets impliqués? Quelles compétences ont accompagné la pratique du travail du réseau, les stratégies d'empowerment, la conception du dialogue? Quelles compétences ont favorisé la transformation réciproque et le développement de la dimension relationnelle dans les projets de coopération décentrée développés sur le thème des talibés à Malika?

Suivant Milani [5] la compétence se trace avec les caractères hétérogènes mais bien définis:

- son *dynamique* et *évolution* comme tendance à rester ouverte aux contributions de la science mais aux apports et à la confrontation sur le terrain (…);
- la *processualité* (…);
- le *caractère cognitif* puisque demande, pour être mis en œuvre, une interprétation qui n'est pas le fruit d'une lecture individuelle exaspéré, mais il est le résultat *d'une construction* (…);
- le *trait sociale* (…);
- la *contextualité* (…);
- sa *complexité* qui permet de discuter d'une notion *stratifiée et polyédrique.*

La notion de compétence – suivant Wittorski [6] – se situe à l'intersection des domaines de la biographie, de l'expérience professionnelle et de la formation du sujet. Les compétences se produisent et se transforment dans ces trois champs: d'un coté la socialisation, l'histoire de vie du sujet, le parcours personnel auquel il a du faire face pendant sa croissance, les personnes qu'il a rencontré et tout ce qu'il a appris, les stratégies de *problem solving* qu'il a acquis, le courant professionnel auquel il s'est lié; et finalement sa formation et ses connaissances théoriques et pratiqués accumulées.

La compétence ne peut jamais être considérée une phase, mais elle représente un processus, elle n'est pas statique mais en évolution continue, elle peut changer *in itinere* et elle n'a jamais été une entité appart. Pour cela, notre analyse n'a pas recherché une enquête exhaustive de toutes les compétences nécessaires à la réalisation d'un projet de coopération, mais elle a ciblé l'enregistrement de ce qu'il est né dans les périodes de notre observation dans les relations spécifiques passées entre les sujets participant au projet Talibé à Malika**.**

METHODOLOGIE ET METHODES

Notre contribution est le fruit de trois périodes d'observation et de participation déroulés à Malika entre Décembre 2011 et Janvier 2012, dans le mois de Novembre 2012 et pendant Aout 2013 et de deux années de *monitoring* du projet Talibé de l'Association Renken Onlus.

Durant la première période au Sénégal nous avons eu la possibilité de suivre de prés les premières actions du Projet Talibé à Malika, en développant des journées d'observation dans les écoles coraniques et franco-arabes de la Mairie, assistant aux cours d'alphabétisation à l'intérieur d'une *daara* et aux visites de proximité des volontaires. Entre Décembre 2011 et Janvier 2012, suite à ces observations et les rencontres avec les volontaires, les enseignants, les familles du quartier, la volonté d'élargir le projet s'est renforcée et s'est tourné vers les enfants de la rue, augmentant les actions de sensibilisation et de modernisation des écoles franco-arabe de la zone et ouvrant un centre diurne d'écoute et d'accueil. Les rencontres ont commencé avec les représentants des associations du territoire et des institutions locales

(le maire de Pikine, le responsable de l'aire sociale du DAAS di Pikine) et les visites à certains projets de succès présents sur le territoire, qui nous ont conduits à vivre et observer le cœur de cette réalisation.

Dans le mois de Novembre 2012, grâce à la bourse Uni.Coo de l'Université de Turin, nous avons participé à l'ouverture du Centre d'écoute et d'accueil Renken pour les enfants de la rue à Malika au sein du CRE UNESCO de la Rue de la Plage. Cette période a permis d'observer les actions de sensibilisation à l'intérieur de la daara di Malika pour impliquer les enfants dans les activités et obtenir le consentement de leur responsables; mettre en place la période de programmation et d'essai du centre d'écoute et permettre l'identification entre les volontaires des référents pour les actions d'alphabétisation et de formation, des responsables de l'animation, des activités sportives, de la gestion de l'hygiène, des médiateurs pour les rapports avec les marabout (maitres coraniques). Au mois d'Aout 2013 et pendant la longue période de monitoring à distance nous avons pu suivre le développement des activités dans le petite et moyenne période , enregistrer les moments critiques et les tentatives de résolution des conflits internes de l'équipe et les stratégies de *problem solving* mises en place par le groupe pour faire face aux urgences, émergences et difficultés. La contribution suivante a été donc élaborée grâce à l'observation des échanges entre les acteurs coopérant sur le thème de la mendicité des enfants à Malika pendant les rencontres de réalisation, de programmation et de coordination et pendant les activités.

De Décembre 2011 à Aout 2013 notre participation aux activités associatives concernant le thème des talibés a été accompagnée par la rédaction de notes ethnographiques sur le vécu et sur les interprétations fournies par les personnes avec des comptes rendu linguistiques formels et informels.

Un autre apport a été fourni suite à la relecture des échanges épistolaires (e-mail), des verbaux des réunions et des fascicules des projets concernant les objectifs fixés pour chaque phase, les listes des actions et des matériaux nécessaires, les convention de partenariat et les contrat individuels de volontariat et de collaboration.

RESULTATS

En ce qui concerne les résultats de notre parcours d'analyse entre Italie et Sénégal nous soulignons le rôle joué sur le plan individuel et sur le plan collectif par deux groupes de compétences qui se sont révélés indispensables:

- les *compétences de médiation* qui mettent les bases pour la coopération, pour la création de partenariats et pour la condivision de projets et pratiques;
- les *capacités organisatrices* fondamentales pour la réalisation , le développement et la coordination des projets et des campagnes de sensibilisation.

Parmi les compétences de médiation il y a la disposition au dialogue et à la recherche d'une synthèse, l'empathie, les compétences de gestion des conflits. Chaque acteur impliqué dans le projet a du montrer de bonnes capacités d'observation et d'écoute, a du mettre en place son intentionnalité, sa détermination et au même temps il a du se montrer flexible et ouvert au changement.

D'un point de vue de l'organisation**,** les operateurs italiens et sénégalais ont exploité dans la meilleure façon leur esprits prépositif et créatif (toujours accompagné par un fort sens de la réalité) , ont développé une capacité d'analyses des situation, des objectifs, des modalités de partage des pratiques opératives et de l'identification des ressources ciblées à la définition d'un plan pour la résolution des problèmes. Tous ensemble ont montré une grande force de volonté et au même temps la disponibilité au changement, à l'échange, au marchandage, en s'enrichissant à travers les lectures divergentes de la situation effectuées par les différents sujets avec un esprit critique et une ouverture mentale.

Les compétences relationnelles (écoute, dialogue, compréhension, empathie, médiation, ouverture à l'échange, résilience) ont été rapprochées de celles pour l'organisation (conception du projet, analyse, définition des objectifs, des espaces et des temps, créativité). La fantaisie, la réalisation, les intuitions, les différentes cultures et les connaissances complémentaires ont permis à l'équipe mixte d'être innovatrice et ouverte, prête au changement, mais aussi efficace dans la réponse à la communauté à laquelle les services sont tournés. Le fonctionnement de l'association est contraint par le développement des compétences qui permettent la collaboration, le partage et l'organisation démocratique et coordonné: des liants solides et de participation entre les membres du groupe permettent un échange de connaissances, d'expériences, de perceptions et de représentations se sont crées. Le groupe est vu comme une source d'alternatives: il permet aux différents regards d'évaluer avec plus de clarté les situations avec une observation plus profonde qui va bien avec une conception éducative. La valeur est le résultat de la somme des compétences qui peuvent contribuer à la création et à la poursuite de projets ou à la résolution des problèmes, de l'hétérogénéité des expériences et de la possibilité de confrontation entre elles ainsi que de la mise en place en réseau de la connaissance.

Les compétences indiquées précédemment (et dans la table 1) sont retenues, dans la dernière analyse, indispensable à une conception du projet sociale et éducative de type coopératif. Elles ont permis le dépassement des situations critiques et de la gestion d'urgences et d'émergences sur le terrain pendant le processus opératif. Elles ont permis de maintenir ouvert l'échange entre les acteurs en jeu et de maintenir vive la transformation réciproque en mettant en discussion et donc en rénovant continuellement la pratique de la coopération internationale.

Tab. 1 - Les compétences en synthèse.

Compétences communes à tous les operateurs	Communication	Connaissance d'une langue pont, gestion des canaux de communication à disposition, capacité d'implication.
Compétences des coordinateurs du projet	Mise en place du projet	Capacité d'agir dans un horizon de sens en partant de la dimension axiologique pour arriver aux objectifs concrets et aux stratégies opératives.
	Analyse des ressources	Configurer tous les éléments présents sur le champ, identifier les compétences des personnes impliquées, rechercher les points de force et les manques du territoire.
	Gestion des espaces et du temps	Conscience du changement, du devenir et de la durée des phénomènes que le projet déclenche, la gestion des espaces en relation à la perception locale des distances qui séparent et rapprochent les personnes.
	Depassement des frontieres	Capacité de dépasser les frontières réelles et vivre dans les frontières de la réciprocité à travers la reconnaissance de l'autre dans sa totalité et dans ses fragilités, capacité et richesses.
Compétences des volontaires italiens et sénégalais de l'Association et des collaborateurs locaux	Empatie	Capacité d'accueillir et accepter l'autre, comprendre a réalité, et y s'identifier.
	Dialogue	Disponibilité à se mettre en discussion, à s'ouvrir à de nouvelles propositions, à se confronter. Capacité à mediatiser les conflits.
	Creativité	Possibilité d'agir avec fluidité, flexibilité, originalité et élaboration dans un nouvel contexte en combinant les éléments présents dans le terrain et maintenant un haut niveau d'internationalité.
	Resilience	Capacité de résister aux frustrations et de faire face aux différentes situations contraires mettant en jeu les ressources nécessaires.
Compétences des observateurs privilèges impliqués (représentant des associations, réseau et institutions locales)	Ecoute et participation	Ecoute attentif et actif, disponibilité à comprendre de nouveaux horizons de sens et possibilité de contribuer au développement des projets.
	Mediation	Capacité de médiatiser les conflits et d'introduire des idées et des objectifs de développement dans la population.
	Gestion des ressources locales	Connaissance du territoire et des compétences des personnes, de l'espace disponible. Capacité à mobiliser des ressources, de créer des liens et des partenariats.

CONCLUSIONS, LIMITES ET POINTS DE FORCE

La participation aux activités de l'Association Renken nous a permis d'observer deux ans de mise en place du projet eu monitoring et de participer à certaines périodes de pratique sur le terrain dans le cadre du Projet Talibé. Cela nous a conduit à certaines conclusions concernant les compétences qui accompagnent le processus opératif, le développement des partenariats et le travail du réseau. Nous avons enregistré l'importance des compétences de médiation et d'organisation dans le milieu associatif et la centralité d'un style dialogique qui permet d'accompagner la mise en place et la réalisation d'actions internationales. L'importance de la co-intentionnalité a été remarquée lors de nos relecture, dans une dimension d'échange, de négociation, d'ouverture de l'entière équipe, prête à accueillir les compétences et les ressources des autres, à accepter la partialité des ses propres idées et des ses propres paroles. Beaucoup de moments de crises pendant notre période d'observation ont été dépassés avec une approche non invasive et non caritative, à travers des stratégies de *empowerment*, en développant toutes les attitudes capables de mobiliser les ressources de la communauté, d'augmenter les connexions entre les organisations et les agences présentes sur le territoire et de faciliter le développement d'une collectivité compétente.

Cette contribution ne termine pas avec un parcours de recherche complet, mais elle reflète la synthese d'une phase préliminaire d'observation et d'étude du cas, qui sera suivie par une collecte de données plus amples à travers *focus group* et entretiennes semi structurées. Les limites évidentes relevées dans l'échantillon et dans la méthodologie de recherche peuvent donc être reportés à la nature des actions décrites précédemment comme premières étapes d'un plus grand projet.

Quand même, nous estimons cette première contribution comme précieuse. Tour d'abord parce que elle offre un regard attentif sur les dynamiques d'exploitation et de violation des droits développés à l'intérieur des écoles coraniques sénégalaises dans les derniers décennies. Ensuivre car la recherche a permis une première analyse des compétences qui ont accompagné la dimension relationnelle de cette initiative, permettant d'ajouter une voix au débat actuel sur la pratique et sur les acteurs qui renforcent la culture et l'efficacité de la coopération.

NOMENCLATURE

Daara	Structure traditionnelle éducative musulmane présent en Sénégal avant la colonisation française et représentant le premier système scolaire diffusé du pays. Destinée à former de bons musulmans, l'école coranique trouve sa propre légitimité dans la foie de la personne et se base exclusivement sur a mémoire, la ritualisation, la scansion du rythme des prières.
Marabout	Maitre et guide de l'école coranique , pratique de l'enseignement grâce à la collaboration des disciples du niveau supérieur. Elle ne perçoit pas le salaire acra sa mission est vue comme partie intégrante des obligation religieux et sociales ; pour cela afin de garantir sa propre survie et de ses élevés a droit, selon la tradition, de les occuper dans le travail dans les champs, dans les travaux domestiques ou les envoyer à la mendicité.
Talibé	Etudiants du Coran affiliés à une école coranique et confiés sous la tutelle d'un enseignant.

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DECENTRALISED COOPERATION AS A POLICY FOR LOCAL CHANGE AND INTERNATIONAL PARTNERSHIP: THE EXPERIENCE OF TRENTINO IN THE BALKANS AND IN MOZAMBIQUE

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ABSTRACT

Local Authorities have assumed an innovative role in international relations and in particular in development cooperation. The literature available identifies among the main features of decentralised cooperation the leading role of LAs, the involvement of different types of actors in both territories and the establishment of relationships between actors of distant communities/territories based on mutual exchange/learning and ultimately on reciprocity. The study focuses on the decentralised cooperation policy implemented since the late nineties by Trentino in three municipalities in the Balkans and in a rural district in Mozambique, which is currently still on-going. Aim of the research is to assess whether the ambitious assumptions of decentralised cooperation policies have been put into practise and to what extent. The paper draws attention on how local authorities and non-state-actors interact in defining decentralised cooperation policies, setting priorities and implementing programmes. In particular the paper analyses the evolution of the ambitious objectives set within the four case studies, the extent to which priorities were set in a spontaneous way, often not explicit, and how they changed over time, influenced by the ideals motivating each organisation involved. The research shows also that while most of the criteria commonly adopted for defining decentralised cooperation were put into practice, the concept of mutual exchange remained less operational within programmes and projects. The research identifies exceptions in those cases when the actors developed professional interest in establishing a partnership with local counterparts.

INTRODUCTION

Since the early nineties decentralized cooperation (DC) has become increasingly relevant at international level as an approach to development which can encourage and support democratic and decentralised governance, can propose an idea and practice of international cooperation less focused on the paradigm of aid and more inclined to promoting relations and the mutual interests of the local communities that, though living in far-apart places, are facing the same challenges of globalization and post-modernity.

DC lacks to date a definition unanimously accepted. Based on the literature available the goal of DC is the promotion of sustainable local development through strengthening the capacities of local actors and its main characteristics are: 1. the leading role played by LAs; 2. the involvement of different types of actors in both territories (LAs, NGOs, schools, associations, universities, business, …); 3. the direct responsibility of "recipient communities" in setting priorities and implementing the actions; 4. the presence of mutual exchange/learning and ultimately to reciprocity (mutual benefits) [1][2][3].

The reasons leading to the spread of decentralised cooperation can be found within and outside the development cooperation sector. The process of decentralisation that has taken place in the last 30 years in many developing countries has increased the devolution of political and economic power to local governments. Moreover, since the late eighties local authorities began to play an increasing role in international relations and in particular in international development. The European Union has assumed a leading role in this process and the main milestones of the process were the IV Lomé convention in 1989, the European Charter of Local Self-Government in 1985 (first and unique international legal instrument ensuring the principle of decentralization), the European Urban Charter in 1992 and the Council Regulation on decentralised cooperation in 1998. Since 2007, when the EC development cooperation programme *Non-State Actors – Local Authorities* was launched, the EC has written two communications promoting the role of local authorities in development cooperation: *Local Authorities actors for development* in 2008 and *Empowering Local Authorities in partner countries for enhanced governance and more effective development outcomes* in May 2013. In 2008 it also contributed to the establishment of *Platforma*, a network of European local authorities aiming at increasing the political recognition of their activities in development cooperation and promoting decentralised cooperation programmes.

This research contributes to the literature on decentralised cooperation policies and practices. It aims at analysing if, how and to what extent DC initiatives promoted by Trentino in the Balkans and in Mozambique were able to comply

with the characteristics commonly associated to DC in terms of mutual exchange and transformation.

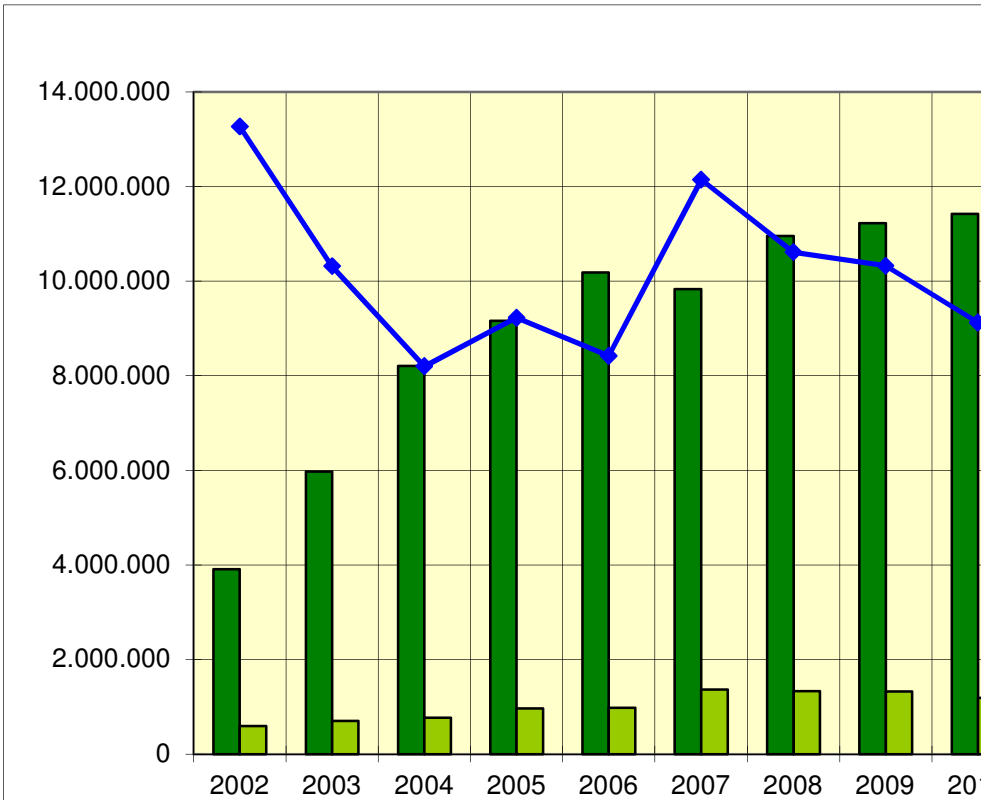
This work gives a contribution to a research area with low and scarce studies despite the large number of operations implemented by local authorities and the policies developed by international agencies and donors. On the one side, there is limited scientific research on the increasing role of cities in a globalised world, and in particular on key issues such as city diplomacy and city role in global governance [4][5]. On the other side, the research available is on the issue of cities twinning (City 2 City cooperation, C2C) focusing on city units with high density urban issues [6][7][8]. Limited studies are available on "non city" territorial units like Trentino, a mountain region with low population density, scattered settlements, need for coordination of different levels of local authorities and high value of natural capital.

CONTEXT

Trentino is an Italian autonomous province with one of the highest per-capita income and public expenditure at national level. As a result of its special autonomy status, the local government is responsible for all public sectors except defence, justice and (most of) foreign policy. Over the last 15 years, which is the life span of the DC programmes hereby analysed, Trentino experienced high political stability and continuity (moderate left coalition). Trentino is highly committed to international development due to its historical background and in particular a high rate of migration from Trentino in the late nineteenth and first half of twentieth century, the strong presence of the Catholic Church and high number of missionaries who kept strong ties with their communities of origin in Trentino and lastly the widespread presence of social enterprises (cooperatives) which are commonly seen as the socio-economic mechanism which has promoted the exit from poverty in Trentino in the last 50-60 years. Cooperatives in Trentino are very active in different fields particularly agriculture, credit, commercial distribution and social services. Their presence in almost all economic sectors makes Trentino a "cooperative district" like few others in the world.

On a national level, the Province of Trento paved the way for DC adopting in 1988 its own legislation on the matter. Thus, international cooperation has represented one of the areas in which Trentino tested its autonomy. Since the early nineties it has invested a significant and growing share of economic resources in international cooperation (see Fig. 1). According to the law of 2005, the Province is committed to allocating at least 0.25% of its budget to the field of international cooperation. Trentino has invested in international development an increasing amount of funds reaching a yearly contribution of about 11 million Euro over the last 5 years. Growth was observed also in the number of associations supported financially by the Province in the last twenty years and in the workforce of the provincial office in charge of international cooperation.

Fig. 1 - Trentino provincial funding to development cooperation sector.



Source: Autonomous Province of Trento. Data analysis TCIC.

CASE STUDY

The research studies four experiences of DC promoted by Trentino together with the municipalities of Prijedor (Bosnia Herzegovina), Peja/Pec (Kosovo), Kraljevo (Serbia) and the district of Caia (Mozambique). In Trentino these programmes take the name of *cooperation between communities*, in order to stress the relationship dimension of the cooperation and in particular the involvement of different actors in each community/territory involved (see Fig. 2).

Fig. 2 - The five territories where Trentino Con has taken place.

These four programmes have involved five territories: besides the four "elsewhere" territories they have worked to facilitate a process of exchange between the four "elsewhere" and the "here", i.e. Trentino. Long-term multi-sectoral programmes with a strong focus on building the capacity of local partners have been developed in the four "elsewhere" territories while in Trentino local authorities and civil society organisations have been involved in local partnerships and networks. The research brings together the four experiences and analyses each of them separately and jointly, as the outcome of a single DC local policy characterised by a high level of creativity and experimentation and that constitute a learning environment of approximately 50 cumulative years (see Tab. 1). In fact, if we add the duration of each process the following numbers are reached. In order to describe the complexity and layers of these experiences, in the research the following lexicon is adopted: the Trentino DC policy, composed of four programmes (Trentino with Prijedor, Trentino with Kosovo, Trentino with Mozambique and Trentino with Kraljevo) is addressed as "Trentino with".

Tab. 1 - Timeframe of each programme of "Trentino with".

Programme	**Timeframe covering birth and development**	**Length (years)**
Trentino with Prijedor	1996 – 2012	17
Trentino with Kosovo	1999 – 2011	13
Trentino with Mozambique	2000 – 2012	13
Trentino with Kraljevo	2001 – 2011	11
Total		**54**

The programmes have been implemented on behalf of the Province by four civil society organisations based in Trentino; they have developed specific identities and features while at the same time sharing some common principles being rooted in the same territory.

The research focused on something highly intangible and not something tangible like assessing projects and evaluating results. It has been an opportunity to evaluate a decentralised cooperation policy and particularly to

document the historical evolution of these programmes going from personal fragment stories and interpretations to a common platform of knowledge. This research represents an opportunity to have an open door research laboratory on decentralized cooperation; a way to undertake evaluative research based on case studies and real situations, so as to get, as added-value, an assessment focused not so much on the results but on the process and dynamics of communication that it manages to activate [9][10][11][12].

METHODOLOGY

The research took place in 2011 and 2012 and was structured around two stages. Given the lack of a systematic collection and organization of information, the first one was focused on the reconstruction of the historical evolution of the four experiences highlighting the main stages and milestones. This first stage was regarded as fundamental in order to understand the current situation. The second stage focused on a more in-depth analysis and evaluation of the experiences. Therefore, the first stage consisted in the collection and reading of documentation, in meetings and interviews with the major actors and in field visits. 34 focus group were organized as well as 70 semi-structured interviews in Trentino and 131 during field visits in Mozambique and in the Balkans. The second stage focused on major questions that were not set a priori by the research team but identified in the course of the study and in dialogue with the stakeholders according to the criterion of self-relevance, that is to say the most frequent and prominent topics emerging from active exchanges between the stakeholders. The topics over which the research was developed are: 1. the organisational arrangements, 2. The evolution and coherence of the system of objectives, 3. the partnerships and relationships between distant territories, 4. the roles played by Trentino provincial authority.

The methodological approach chosen for the research focused on facilitating learning for the stakeholders involved rather than assessing the results of the projects. In line with this research approach a participatory approach was adopted, conscious of the fact that learning happens during an evaluation process and not only from an evaluation report [13]. A challenge faced in the implementation of the research was therefore to keep a balance between structuring the process (defining the research scope, the evaluation questions, the methodology and tools) while at the same time maintaining the flexibility required by an approach focused on participation and learning: definition of a MoU, ToR, overall methodological note, data collection tools vs. on-going redefinition and fine tuning of the methodology and tools during the evaluation process [14][15].

OBJECTIVES AND PRIORITIES

“Trentino with” is characterised by a complex system of ambitious objectives: 1. promoting collaboration between international development actors in Trentino so they could influence and create synergies between each other, enhance the impact of the projects of single associations and focus their effort in limited geographical areas; 2. facilitate the involvement of Trentino territory and especially of civil society in international development activities; 3. create relationships between Trentino and the partner territories; 4. implementation of multi sector and long term programmes in Bosnia, Kosovo, Mozambique and Serbia; 5. contribute to building a culture of solidarity and openness (attention) to the values of the “other” in Trentino.

The research shows high degree of the correspondence between these objectives of “Trentino with” and the objectives of the provincial government regarding international cooperation. The analysis suggests that a relationship of trust and an intense dialogue between the local authority and the civil society was established and led to the definition of the priorities of “Trentino with” through a process of cross-fertilisation. These experiences, subsequently adopted by the provincial law on international cooperation, were developing in synchronism (often implicit) with the provincial debate on local development[1] and with that on decentralised cooperation [16].

In the evolution of the objectives of “Trentino with” we can identify some common phases that despite differences of denomination can lead us to codify a process. First there is an explorative phase that, depending on the experiences, is called “pretext projects” (Kosovo) or “tip toe entrance” (Mozambique). This phase is about starting projects that are coherent with the knowledge of the territory and implementing activities that reflect the logics of the territories rather than those of the organisation. This initial explorative phase is then followed by the proliferation of objectives: a better knowledge of the territory and the development of a network allows for the opportunity to work in different sectors in an experimental way. There is a testing of the adequacy of the interventions and the stability and capacity of local organisations. Subsequently there is a focusing and consolidation of actions on some priority areas.

Implementing complex and long term programmes requires the ability of putting together strategic visions, ever-moving future scenarios, updated analysis of variable contexts. The four experiences analysed did not define nor adopt

[1] It is worth pointing out that between the nineties and the first years of 2000 Trentino saw the development of a series of local development policies that facilitated the debate within civil society on concepts like territory and the role of communities in local development. These are the years when the Province, in an innovative way both in Italy and in Europe, elaborated a first set of indicators for sustainable development and an official policy on sustainable development (2000). Also in these years the Territorial Pacts and the revision of the Provincial Urban Plan (2003) were started. These policies shared with “Trentino with” the same discourse, key words and approaches even though such potential exchanges and synergies were not formalised.

any master plan or strategic plan defining long term goals (ten years), proposed different scenarios, identified priorities and compared alternatives. There was not a technical contribution, an incentive on the importance of adopting such instruments. The provincial government gave a lot of flexibility which did not help to focus on the importance of developing long term planning. The four experiences worked on two different levels: one, of the principles, and the other of short and middle term activities. A bridge was not built between these two different levels and therefore different parts of the organisations, in different moments, filled or abandoned the conceptual space for strategic planning. It is important to point out that since 2012 "Trentino with" has activated strategic planning processes (three year programmes).

The awareness of working in contexts where the conditions are not predictable, even in the short term, requires particular sensitivity when defining strategic plans with a medium and long term perspective. It is necessary to be flexible when identifying actions in order to make them feasible and to adapt them to a changing context, if necessary. The context of intervention therefore deeply influences the type of planning developed by the four experiences. A more structured planning can fit into an existing system, like in the case of Trentino with Mozambique where, in spite of the limits of the decentralisation process, there were clear connections at different geographical levels with political priorities as well as with existing LAs. The programme in Mozambique can work to consolidate two administrative levels: district and province, contributing also to their strengthening, to dialogue between existing institutions, to the decentralisation process and to the involvement of civil society. In the case of the Balkans the institutional context did not facilitate this consolidation and led the three experiences to keep a high level of flexibility in their approaches. Priority is given to the support of civil society in the post-conflict transition, the building of local authorities (Prijedor and Peja/Pec) and the need to develop a dialogue between local administration and civil society (Kraljevo).

The ambitious goals set by "Trentino with" were not in contradiction to each other but were not automatically synergistic. Creating a network of Trentino's actors, establishing long lasting relationships with an "elsewhere" territory and implementing complex multi-sector programmes are three objectives that cannot be pursued at the same time and effectively with a single instrument and with a single organisational choice. The research highlights that the objectives that had higher priority were those linked to the programmes implemented in the "elsewhere" territory rather than in Trentino. Contrary to the analysis of the organisational arrangements that shows how more attention was focused on organising the participation in Trentino, the analysis of the objectives shows an attention and interest shift towards the "elsewhere" territories. This peculiarity of the objectives can be observed in all the experiences and shows little coherence with the principles of decentralised cooperation (between communities) which requires a significant role in the mobilisation of the Trentino territory.

Participation in "Trentino with"

In terms of organizational arrangements the research highlighted a shift in all experiences from an initial confederal model (*Tavolo* or *Roundtable*) towards consortium-like organisational solutions. These solutions, in an attempt to adapt participation, coordination and effectiveness, have in reality increasingly tended to strengthen the ability to act with respect to the dynamics of participation. It should be recognised that rather than a limitation of space for participation, a progressive weakening and spontaneous exhaustion of said participation is observed with the passage of time. According to a link not necessarily of causal relationship, this corresponds to the evolution towards a more structured organizational arrangement that we defined as consortium model. The organisational model of a consortium was particularly suited to the management of complex, long-term multi-sector programmes. However, it has shown limitations in its ability to promote the effective sharing of a programme developed in a collegial and synergistic manner by a variety of Trentino actors. Consortium arrangements mostly have a limited membership base. The participation and the involvement of a larger number of actors then is facilitated by the creation of local networks and working groups that hover around the associations even if they are not directly part of them.

The reasons that have led to a progressive weakening of the confederal organizational arrangement are due to the following: 1. the ceasing of the emergency (in the case of Kosovo); 2. the increase in complexity of the action; 3. the perception of a removal and reduction of the active role of the Province of Trento, particularly in cases where it had played a key role in launching the operations (Mozambique and Kosovo); 4. the evolution and weakening of the Roundtables' functions corresponding to the process of moving to the "consortium" model with the creation of second level associations; 5. specialisation and selectivity of projects: some members of the Roundtables find it difficult to identify a "useful" place within the programme.

In all cases there is a network of actors that revolves around the "consortium" (second level) association which serves to coordinate the network. In the Balkan experiences the second level associations initiate and manage Trentino based local networks with a planning and operational connotation that facilitate the mobilisation of local skills and expertise relevant to the projects. In the case of Mozambique the network is structured primarily through thematic working groups related to the areas of intervention. In both cases, the reasons that lead entities of the Trentino region to participate in groups and / or a network are diverse; they are generally linked to an interest of a professional nature, the willingness to know the "other" and engage in an exchange with similar counterparts. Compared to the network, participation in working groups theoretically requires a greater commitment: the participant from Trentino is, in fact, placed in a group that tends to need a greater investment in terms of both time and capacity to mediate and negotiate with the other members of the group.

The motivations that underpinned the participation of Trentino based public and civil society actors changed over time. In the beginning the reasons why actors from Trentino came into contact with counterparts from the "other" territories were generally connected to the desire to share values, test approaches to international cooperation, respond to humanitarian crisis situations or know and engage in an "other" context. With time, the impetus that led to the consolidation of these relations took a more definite and at the same time more solid shape: professional reasons with the ambition to trigger stronger and lasting relationships come into play and become prevalent. The participation of entities from Trentino was most effective in cases where there is a professional interest and / or a clear benefit to participate in the programme and establish a relationship with people in the countries in which such a programme operates. Some examples are the University of Trento, social cooperatives, museums, rural banks. In cases when the interest went hand in hand with the identification of concrete opportunities for collaboration on specific activities or projects, an element of reciprocity tended to be present since the interaction was of benefit to both the organisations from Trentino and to those in the partner countries and this offered more guarantees in terms of sustainability and persistence over time of newly established relationships. Where the interest and usefulness to the organisations from Trentino were weaker, it was more difficult to maintain high participation and sustain the relationship between counterparts over time. In the four experiences, however, the participation of actors from Trentino in the programmes and especially the maintenance of relationships with counterparts in partner countries are still dependent on the presence of the Trentino based second level associations and the role they play in terms of facilitating interaction with particular aspects of the programmes and therefore with counterparts "elsewhere".

In summary, with regard to participation, from the study the following characteristics of "Trentino with" emerged: 1. participation is more effective and lasting when it comes from active involvement in specific projects. If the participation starts instead from a stimulus of an institutional nature which does not lead to concrete applications it is likely to be of short time duration; 2. with time a transition occurs from participation in the entire programme to involvement of a professional nature by stakeholders interested in providing a technical contribution to individual projects relevant to their areas of expertise (through the network and working groups).

Priorities of "Trentino with"

The research identified three key factors contributing to the priority assigned to each objective of "Trentino with". The initial motivations at the starting of each programme influenced its design first and subsequently the priorities that were given in term of objectives to pursue. While all four experiences tried to pursue all the five objectives highlighted, the genesis determined that the programme in Mozambique started in the context of the decentralised cooperation component of UNOPS Programme and gave priority to the activities conducted in Caia. The multi sector programme achieved significant results in terms of innovative and effective projects such as the urban and district land use planning, opening of a rural bank and the establishment of a farm and an agro zootechnical school included in the formal education system providing professional education to young people and training to local farmers. The programme in Kosovo started in order to ensure coordination of the Trentino NGOs interested in working in Kosovo at the end of the war and it maintained a strong focus on coordination. The main cross fertilisation among member NGOs was conducted in the field of conflict resolution, which became a cross cutting issue present in all projects of Trentino with Kossovo. The programmes in Bosnia and Serbia, though started in very different contexts, were initiated by the Trentino peace movement and maintained over the years a political approach achieving significant results in terms of strengthening civil society in Prijedor and Kraljevo, facilitating the involvement of Trentino civil society and public authorities and creating relationships between them and counterparts in Bosnia and Serbia (example: twining between Trento and Prijedor municipalities, twining between Trentino and Kraljevo nursing homes).

The second factor contributing to the priority assigned to each objective was the decision to focus on a limited geographical area, which had a significant influence in terms of the achievement of results. Basically all programmes since the beginning chose to work in a district or a municipality. Choosing to work in a limited geographical area for a sustained number of years allowed for the strengthening of the relationships between territories (both formal and informal) and for greater effects and impact in partner territories and in Trentino. In recent years while maintaining the primary focus on Caia, Kraljevo, Peja Pec and Prijedor, the civil society organisations implementing the programmes have started to widen the geographical focus initiating activities in neighbouring districts and in other areas.

The third factor has been the decision to work in post conflict and fragile contexts which presented both opportunities and challenges. Trentino DC worked in the complex transition from post conflict reconstruction to local development, playing a role in terms of processes of institution building at different levels. This allowed for the development of expertise in working in such fragile contexts. In Mozambique in the context of a discontinuous but nonetheless present process of decentralisation, Trentino gave priority since the start of the programme to the interaction with the local government and played a significant role in terms of accompaniment of the local authorities and of strengthening the capacity of the administration and its different departments. In Kosovo and Bosnia, on the other hand, at the start of the programmes local authorities were either not present (in Kosovo there was a UN interim administration) or complicit in war crimes (Bosnia) and therefore Trentino gave priority first to supporting the birth and strengthening of local civil society and only when the conditions for the interaction with new local authorities were mature did it begin to interact with them and support them in their role of governing authorities of a territory. At the same time working in such fragile and unstructured contexts presented challenges in terms of pursuing and achieving

some objectives, in particular those related to the creation of relationships and partnerships between homologous actors based on reciprocity. Working in contexts where both local authorities and civil society were very weak did not facilitate the identification of common grounds on which to create and sustain partnerships between Trentino based actors and counterparts in the partnership territories. Many of the relationships established were essentially about the Trentino based actors sharing their expertise and providing technical support to the counterparts in the partner territories; the flow in the other direction though present in some cases was in general less evident.

The study of the objectives of "Trentino with" shows several examples of achieved goals even when they were not always specifically predetermined. This led to the accomplishment of important results although the process or the result had not been previously planned, highlighted and communicated. It is a set of experiences based on several implicit elements that could operate on the one hand because of the flexibility at different levels and in different contexts and on the other hand because of the creation of open meeting places and learning environments that allowed for the experimentation of innovative practices [17]. The organisational structure of the experience in Mozambique presents constant characteristics from its start until today, while the experiences in the Balkans, with different intensity between each other, presented more significant changes in their structure and in their organisation. The most evident case is the Kosovo one. The organisations that represent themselves as actors in constant change, capable of adapting to external variation and at the same time to promote learning, can be described as learning organisations. This concept of "organisation able to learn" is associated with organisations that constantly change and promote learning for their members [18]. The Balkan experiences are attributable to this type of organisations, characterised by a strong predisposition to change. However the study highlighted limited reflection on the change processes and consequently a limited ability to capitalise/build on matured experiences. Two possible explanations of this approach have been pointed out: on the one hand the difficulty of the operational roles to abstract from urgent and contingent matters, and on the other hand a very marginal role or a discontinuous presence of those who should have a strategic role (Roundtables, Boards, Presidents). The experimentation happens therefore mainly outside of a "context of sedimentation of experimentation" which would allow the systematization of what was planned, elaborated and realised.

OPEN ISSUES

The system of cooperation between communities has generated the belief that there must be an almost "symmetrical" correspondence: here → there vs. there → here. The research shows that the focus is mainly on the dynamics here → there. The four programmes, in fact, give priority to the development of organisational forms and tools in Trentino and establish a system of objectives focused on operations in partner countries. The concept of there → here was addressed much less over time, presuming or taking for granted the possibility of having "something" flowing towards Trentino, which would have maintained an active participation and substantiated the principle of reciprocity placed at the centre of the system of "co-operation between communities". It is about a "something", still not well defined, which requires further analysis, starting from practice, of the theoretical dimension of reciprocity in cooperation between communities.

The research analysed the roles the Province of Trento played over time in "Trentino with" in respect to six key areas that characterise the relationship between the Province and the DC programmes: participation, political-institutional support, funding, definition of procedural and management aspects, technical assistance and provision of expertise, provincial coordination. From the research emerges the opportunity to re-open the reflection and the debate on which could be the most appropriate roles for the PAT in "Trentino with" and more in general in the context of decentralised cooperation.

The research identifies constraints within the provincial administration which limited its possibility to provide technical assistance. On the one hand, as it is the case among Italian local authorities, the Province does not have in the international solidarity office staff with specific thematic-sector skills and did not develop sector policies and strategies in international cooperation. On the other hand, the availability of personnel of other offices and services is limited because of restrictions linked to employees' contracts. These restrictions significantly limit the participation of local administration personnel in decentralized cooperation initiatives like "Trentino with". The analysis did not go into the details of these restrictions and observed that if Trentino wants to overcome these obstacles and make available to international cooperation the expertise that it has developed, also thanks to its autonomous situation, it should try to adopt organisational schemes that are compatible with the national legislation and that are able to facilitate interaction between public and private (local authorities and associations).

The financial commitment from the Province to "Trentino with" has been significant, continuous in time (over 12.7 million from 1998 to 2012) and it has given the possibility to implement complex programmes that have achieved significant results and that distinguish Trentino DC on national and international levels. These programmes are not self-reliant economically and therefore require support by the LAs. The current economic situation implies a decreasing amount of funds allocated to the sector, therefore representing a challenge for the sustainability of the programmes analysed. A dialogue has begun between the Province and the civil society organisations implementing the programmes to define the next phase of cooperation. It is important that this next phase is defined in such a way so as to ensure that a gradual reduction in the financial support of the Province facilitates the consolidation of the results achieved and the sustainability of the services.

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WHICH FUTURE FOR A POLICY OF ITALIAN TERRITORIAL COOPERATION INTEGRATED WITH THE WESTERN BALKAN COUNTRIES?[1]

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INTRODUCTION

Italian foreign policy towards the Western Balkan countries strongly supports their process of integration within the European Union (EU). There are numerous initiatives aimed at this, in the fields of political, territorial, development and economic cooperation.

In the field of the political cooperation reference has to be made to the Adriatic Ionian Initiative (AII) and the Central European Initiative (CEI)[2]. Regarding the territorial cooperation, it is about the achievement of the third objective of the EU social cohesion policy connected to the enlargement policy through programs of cross border cooperation at transnational and bilateral levels (IPA and CBC programs[3]). The Italian cooperation for development is the traditional form of contribution to socio-economic integration of the Western Balkan countries[4], after the phases of humanitarian aid and of peace building, it has supported investments in infrastructure, in small and medium businesses and in social inclusion, with particular regards to the resettlement of refugees. The economic cooperation regards the various forms of support to trade and to the Italian investment in the area.

These various modes of cooperation, complementary between themselves, have been coordinated in an integrated approach with the Italian law 84/01 "Disposition for Italian participation in the stabilization, reconstruction and development of the Balkan area countries". A law however that only worked for a few years after which it was no longer financed. This is in order to signal right from the beginning that just like the various initiatives, the various cooperations, lack, still today, in 2013, of a common programming at national level, in the framework of a general overview tied to the objective of European integration.

In the case of development cooperation, an important role is carried out by the local authorities and civil society organizations through the so-called decentralized cooperation. The SeeNet[5] program, from which this policy paper draws cue and support, was an attempt of putting on a network of many local initiatives undertaken from various local authorities (regions, province and town halls) and organizations, on some thematic lines of participation: economic, social, environmental and institutional.

The actors of the decentralized cooperation are, practically, the same ones involved in the territorial cooperation. In effect, the development cooperation in the Balkan area completely overlaps with the enlargement policy of the EU. That means that the prospect of integration is the objective and the principle engine in the relationship between Italy and the Western Balkan countries.

THE CRISIS OF EUROPEAN INTEGRATION AND THE WESTERN BALKAN COUNTRIES

If the prospect of the EU enlargement cannot be disregarded, then the future of the territorial and development cooperation, and in general of the Italian policy must be considered within the context of the actual financial, economic, social and political crisis that Europe is experiencing. The crisis represents a period of caesura of great weight in order to understand which scenarios will open for the future: from the most catastrophic of an arrest and recess of integration, to one of a slowing down and relative weakening of the adhesion, to one of re-launch of the prospects in a more or less differentiated way.

The crisis is deepening and widening the so-called "fatigues" of the enlargement[6]. The first fatigue obviously refers

[1] The paper has been produced in the framework of the Seenet programme: a trans-local network for the cooperation between Italy and South East Europe. Horizontal Action C – Research; and of the Euborderregions project supported by the 7th Framework Programme of the European Commission (http://www.euborderregions.eu/).

[2] See here for AII and CEI: (http://www.esteri.it/MAE/EN/Politica_Estera/Aree_Geografiche/Europa/OOII/IAI.htm?LANG=EN); and (http://www.aii-ps.org/) and here for CEI: (http://www.esteri.it/MAE/EN/Politica_Estera/Aree_Geografiche/Europa/OOII/INCE.htm?LANG=EN) and (http://www.cei.int/).

[3] IPA is the EU instrument for the adhesion of the candidate and pre-candidate countries (Instrument for Pre-Accession Assistance), and the CBC (cross border cooperation) is the component aimed at favoring the overcoming of divisions in national borders.

[4] See here: (http://www.cooperazioneallosviluppo.esteri.it/pdgcs/italiano/iniziative/Europa.asp).

[5] For a description and to view the materials produced see here (http://www.SeeNet.org/); and for CeSPI research reports (http://www.cespi.it/seenet.html).

[6] Panagiotou Ritsa, The impact of the economic crisis on the Western Balkan countries and their EU accession prospects, EUI working papers, RSCAS 2012/64, Robert Schuman Center for Advanced Studies, 2012. For a description of the problems of enlargement please see the research reports realized by CeSPI for the program SeeNet: An overview on governance for local development in SeeNet territories, First research report,

to the fact that in a context of reduction of the public (and private) resources, it is difficult to increase the political commitment towards the enlargement. The negotiation of the new EU budget for the period 2014-2020 has partially reduced, with respect to how much the European Commission proposed and to the previous period, the resources dedicated to favour the adhesion of the candidate and pre-candidate countries.

Another fatigue highlighted is that of the absorption, that is of the difficulty of the candidate and pre-candidate countries to proceed in the reforms necessary in order to respond to the *acquis communautaire*. With the crisis there is a greater attention on the part of the European Commission to scrutinize the reform processes, while on the part of Western Balkan countries there is a greater difficulty to implement them, above all if they ask for reductions in public expenses and institutional restructuring in a crisis context.

But, the most important fatigue regards the enlargement per se, the political outlook of the EU member states that, in a crisis context, is scarred by new conflicts and divisions, that echo in less attention towards the enlargement or, worse, in the procrastination of the adhesion, because first of all it becomes necessary to recompose the deepening framework of the EU, in order to face the inner problems.

Also in terms of public opinion, and therefore of political consensus, the crisis puts the integration process at risk because a division has occurred between countries of North and South Europe, between the virtuous countries and the so-called PIGS[7] (PIIGS with the inclusion of Italy). The diversities are lived like divisions, and give place to a fresh outbreak of nationalism and xenophobia, against the fundamental rights of the EU citizens. Leading to a crisis of democracy, and to distrust in its institutions. In all this the Western Balkans countries are also involved, because on one side they could be included in PIIGS, and on the other, they themselves, fear a EU "stepmother", that together with the European Central Bank and the International Monetary Fund (the Troika), impose austerity measures without development prospects, as highlighted in the case of their neighbour Greece and then with Cyprus.

In addition to this, strongly nationalistic positions between the populations, inter-ethnic tensions, the élite interested in maintaining the autocracy, continue to persist in the various Western Balkan countries. The European integration processes are not progressive and unilinear, but they show delays, downfalls, returns, crisis. For example the case of Macedonia that, if in 2005 was considered a success for overcoming inter-ethnic problems, today instead suffers a deeply divided society and the lack of positive political dialogue[8].

The crisis marks however a deeper crisis of the integration and development model supported by the EU. A model that does not manage to respond to one of the basic objectives of the EU itself and to the promise of enlargement, that is to say the progressive convergence of all the territories and for all the citizens, to a homogenous level of well-being and access to their rights. The credibility of the convergence narrative and the success of integration of countries such as Greece, has been brought back into discussion with the crisis[9].

If this model has its gaps, between the first to worry should really be the Western Balkan Countries because they are the periphery of the periphery[10]. With the transition to a market economy, the Balkan countries have progressively increased their dependency on Western Europe. The economic integration works in two ways: in a positive way when the European motor stimulates greater commerce and flows of capital, but in a negative way when entangled in the crisis it increases deficits and debt. In this last case the process can turn out to be reversible, leading to disintegration.

According to the European Bank for the Reconstruction and Development the countries of this area are facing difficulty and very serious risks, "currently there are no internal or external growth motors", "it is more and more recognized that the region will have to rely on their own resources and on an important agenda of reforms, if it wants to move onto a path of sustainable growth"[11].

Since 2008 moderate poverty has increased from 22 to 26% in 2012, just like the inequality, signalling how the crisis has hit the lower-middle classes harder. The situation of unemployment is serious hitting the young people above all, generally graduates, with record rates in Bosnia-Herzegovina, Serbia and Macedonia (more than 50%)[12], while the unemployment total is attested on an average of 22% against that of the EU of 11%[13].

There is the danger that the Western Balkans, but above all some of its countries, the weaker ones like Kosovo, Bosnia-Herzegovina but also Albania, just like some territories of Italy, follow a path of super-periphery founded on low skill productive specializations (low-skill path) (see figure 1) and therefore with poorer societies[14].

In spite of that, the process of the enlargement continues with some important successes. Between these in the first

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CeSPI, November 2010 (http://www.cespi.it/SeeNet/introduzione.pdf); The Euro-Crisis, the Western Balkan countries and enlargement perspectives, Fourth research report, CeSPI, March 2013 (http://www.cespi.it/SeeNet/seenet%204/1%20cespi%204rep_1_.pdf).

[7] The PIGS are: Portugal, Ireland, Greece, Spain.

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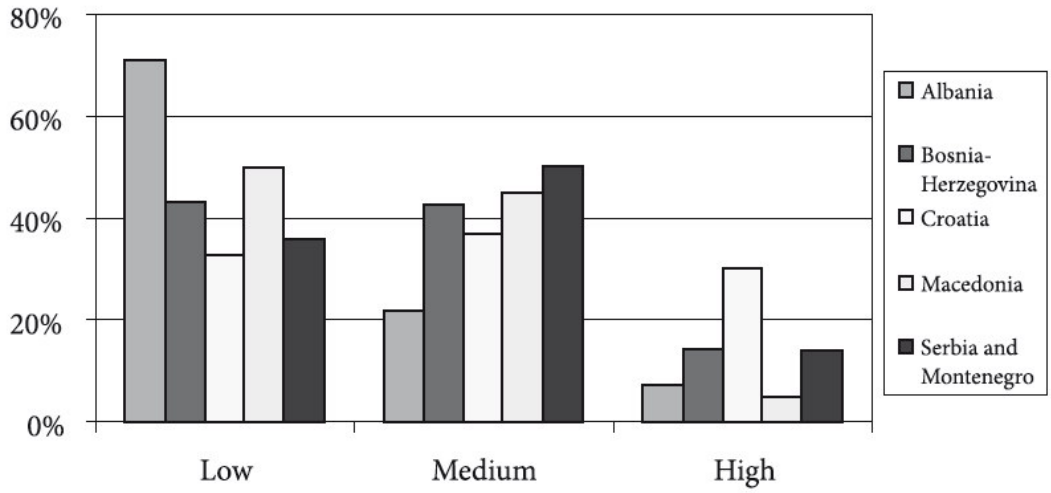
place the entrance of Croatia into the EU in July 2013, the start of negotiations for the agreement of adhesion of Serbia as a result of the positive dialogue with Kosovo, thanks to the mediation of the high representative of the EU, Catherine Ashton, the opening of the Schengen borders to the mobility of the people without the need of a visa[15]. A path therefore exists that, even through great difficulties, continues and on which to relaunch new prospects of cooperation.

Fig. 1 - Exports of the Western Balkan countries towards the EU-25 per skill level, 2003.



Source: Eurostat.

WHICH NEW MODELS OF INTEGRATION?

If the actual model is passing a structural crisis, because it highlights "fault lines"[16], which guidelines can be followed in order to resume the road of integration for the Western Balkan countries and for countries "at risk" like Italy, and above all for Southern Italy?

The criticisms against the adoption of the austerity policies, which risk even further undermining the prospects of integration and social inclusion, are numerous. In the same European Council summits they continue to try to find a laborious compromise between the demands to get the finance in order and the requirement to face the increasing unemployment. The Growth Compact has been placed side by side the Fiscal Compact. But the signals of an upturn continue to be weak, while the disaffection of the public opinion, inner and external, towards the EU grows.

In the analyses and proposals it seems one way out prevails. The EU crisis and particularly of the Euro zone is due to a structural imbalance between the strong Germanic model oriented towards exports that produces surplus, and the countries in trade deficit and in continuous need of the flow of resources. It is underlined how the responsibilities should be shared between debtors and creditors in a prospect of re-balance and convergence in the medium-long period. The austerity policies are short-sighted and risk killing the patient. It is necessary to instead support the structural transformations in order to correct the fundamental imbalance of productive capacity, the differences of productivity, favoring the catching up of the more underdeveloped economies, through investments and innovations on the quality of productions along a path oriented towards *high skills*. It is necessary therefore to relaunch the Strategy 2020 and specifically at a territorial level investing on the *smart specializations*[17], so as to favour absolute and comparative advantages of the various territories, and a greater and better interdependence between them. This policy should be worth a lot to Italy, and above all Southern Italy, as much as to the EU adhesion candidates, in order to come out from their super periphery, and in order to resume the convergence path.

This process should moreover deal with the race to the bottom in the competition between territories in order to attract foreign investments, which cause delocalization processes and risk putting one country against the other neighbouring countries. The case of the FIAT investment to Kragujevac in Serbia is clear, derived in great part from the

[15] Fouéré, 2013, op. cit.

[16] For the Fault Lines please see the analysis of Raghuram G. Rajan, "Financial Earthquakes. How the hidden fractures still threaten the global economy", Einaudi, 2012. According to this author, Fault Lines include trade imbalances between countries, originating from non sustainable growth patterns at the level of the international financial system. This is also the case of the European crisis between countries in structural deficit and surplus (Germany in particular), which also involves the countries of the Western Balkans.

[17] For an explanation on the smart specialization strategy please see the European Commission Fact Sheet (European Commission, Fact Sheet: Regional Innovation Strategies for Smart Specialization, Directorate General Regional Policy, Policy coordination), the dedicated site: (http://s3platform.jrc.ec.europa.eu/home;jsessionid=LNzXSJYXchjW1YLZns0dXDlSZwYWgq2g1TGNLGVy2nvrykl3MDF0!-248139239!1377065111039); and the related guide: European Commission, Guide to Research and Innovation Strategies for Smart Specialization (RIS 3), May 2012.

State Aid as well as from the lesser labour costs, against the closing of the Termini Imerese plant[18] and the stalling of Mirafiori[19]. The competition between countries and territories can turn out as a zero-sum game, except for those that must however truly draw some advantage in order to remain competitive at an international level, such as the multinationals. The need for a harmonization of processes and interests between territories demands a transnational strategy. The EU should truly respond to these problems.

The integration model therefore calls for more solidarity between the member states and the EU adhesion candidates, in order to face the structural imbalance, as much as a greater cooperation and subsidiarity, so that there is the possibility to identify the various specializations and opportunities for a diversified and more balanced interdependence. This requires a sharing of the responsibilities, in order to create work and to give a new start to democracy and the pro-European ideal. The Western Balkan countries should be involved in this process, tying closely the IPA funds to Strategy 2020, and clearly showing its effects on people's lives (*people first*)[20]. And this is already partially happening with the definition of the South East Europe 2020 strategy (SEE 2020)[21].

All of this presupposes a common vision that rests on a social market economy oriented by competitiveness. But, does this vision allow spaces for various models of development and local welfare? Is a Europe opened to the diversities beyond the single standard model or the feared germanization possible? A Europe that recognizes the free choice of different lifestyles, different speeds, and therefore differentiated integration? These profound questions come from various critical perspectives, from the de-growth to liberalism, nationalism, or to regionalism and transnationalism.

Regarding differentiated integration, it is interesting to remember, with particular reference to the issue of the enlargement, the analysis by Jan Zielonka on the nature of an enlarged Europe, that is interpreted as a new form of emergent Medievalism. This because it is exactly the diversity between the territories and the countries, the presence of important minorities, the abundance of different forms of governance, economic structures and cultural identities, that contrasts with the creation of a EU based on the Westphalia state model, while instead it requires a great flexibility and a "high degree of superimpositions between territorial and functional borders." A model of plurilateral, multilevel and multicentered governance turns out to be more adapted to the European reality[22].

On the other hand with the crisis the necessity to strengthen integration has emerged, the union of rules and institutions in order to govern finance, both private and public, taxation and spending, with more effectiveness, above all with reference to the Euro zone. Alongside this greater financial and fiscal integration, also the political one should be supported in order to bridge the democratic deficit, the existing differences between the Europe of the Markets and the Europe of the People.

That makes the constant tension in the EU between deepening and enlargement, between conformity and differentiation to once again emerge, and therefore the design of a multi-speed EU with concentric circles from a strong, increasingly German core to the virtuous Nordic peripheries to the Mediterranean ones. The Western Balkans are involved in this tension as is Italy in its various territorial conformation, from the regions mainly convergent with the European heart to the more marginal and peripheral ones of Southern Italy.

The indication, in a short and schematic way, of some of the main issues that question an eventual relaunch of the prospect of European integration for the Western Balkans, but also for the same Italian territories, is important in order politically place the analysis of the cooperation, with particular reference to the decentralized and territorial one. What are the roles that these cooperations should carry out? Within which perspective? For the promotion of the diversities and for a "people first" cooperation? Or for greater conformity directed at the recovery of international competitiveness? Or for a dynamic equilibrium between the two, or other, perspectives?

CAPITALIZE DECENTRALIZED AND TERRITORIAL COOPERATION AND THE QUALITATIVE LEAP IN THE POLITICAL DEBATE ON EUROPEAN INTEGRATION

In the last 10 years the Italian cooperation has tried to support the process of European integration of the Western Balkans. In particular, development cooperation, among which the decentralized one, and territorial cooperation, have financed numerous projects to contribute in reducing the wealth gap. Beyond the single projects it has also been tried to adopt a systemic approach, in which the various actors shared a common programming, complementing social, economic and environmental initiatives. CeSPI has been able to analyze, through appraisals of strategic characters, three meaningful experiences of this type: the realization of the art.7 of law 84/01[23]; the support program for regional

[18](http://www.strumentires.com/index.php?option=com_content&view=article&id=128:fiat-da-termini-imerese-a-kragujevac-e-ritorno&catid=4:economia-siciliana&Itemid=12).

[19] (http://www.huffingtonpost.it/2013/07/08/fiat-stabilimento-kraguevac-in-serbia_n_3560857.html).

[20] Balfour Rosa and Corina Stratulat, Between engagement and cold feet: ten years of the EU in the Western Balkans, in Eviola Prifti, The European Future of the Western Balkans, Thessaloniki@10 (2003-2013), European Union Institute for Security Studies, 2013.

[21] Please see the fifth CeSPI report for the SeeNet program and the document of the Regional Cooperation Council, South East Europe 2020: Mapping Convergence and Promoting Growth, Background paper, February 2013. And see "RCC to present South East Europe 2020 strategy for creating 1 million jobs in the region": (http://www.rcc.int/press/0/222/rcc-to-present-south-east-europe-2020-strategy-for-creating-1-million-jobs-in-the-region).

[22] Jan Zielonka, Europe as Empire. The nature of the enlarged European Union, Oxford University Press, 2006.

[23] Andrea Stocchiero (edited by), Italy-Balkans Territorial Partnerships. Strategic appraisal of the decentralized cooperation supported by art.7 of law

cooperation in the Mediterranean and the Balkans put into effect through the Framework Program Agreements (FPA)[24], and the SeeNet program. From these analysis various indications are emerged. Here we are reminded of various positive aspects but also diverse criticalities which serve to nourish a debate that takes into account the previous issues.

In all three experiences good results have been recognised in terms of networking of actors, where the regions have carried out a central role of coordination under the direction of the national ministries. The projects have been part of a progressive accumulation of relations and acquaintances with the local partners. A transnational social capital is then structured, a strengthening of long term partnerships between local administrations, civil society organizations, intermediary institutions, in short between territories. The long term partnerships between territories have given greater sustainability to the change process, which however depends fundamentally on the level of ownership of the local partner.

Moreover the importance of the partnership results from various cooperation appraisals. For example here we can reference the Paula Pickering study that, reviewing the appraisals carried out from various cooperations, emphasizes that "forging a genuine international-domestic partnership in which domestic officials helped to determine the policy agenda and took jointly reform initiatives would improve the community impact of reforms."[25] And it highlights that the more genuine partnerships, where the locals indeed have a more central role and are beneficiaries of the cooperation, are those formed with nongovernmental organizations and local authorities, rather than with large international organisms and their commission agents.

Through the projects, the relations, the partnerships, it has been possible to develop local development models, where the territory and its actors are central. The theory of the change that supports the undertaken initiatives refers to the territorial approach to development, the concept of territorial cohesion, and to the processes of decentralization of the democratic power[26]. Above all comes the evaluation of the endogenous capital, of the partnerships and the local knowledge, in search of a balance between a broad base growth of productivity and income through chains and networks of small and medium businesses, its redistribution with new models of welfare mix, and environmental safeguard in order to guarantee the long term reproducibility. This approach (see also the theory of "place-based" change or of "local economic development" (LED)[27] or "area-based" in the case of the rural development[28]) endorses the territorial potential and the diversities between territories, it's not closed and localistic but it is open to exchange with external actors and other territories. An exchange careful not to create dependency but a symmetrical, as much as possible, interdependence. Here we can make reference to the concept of cooperative internationalization, where the commerce and the foreign investment are not of a merely "extractive" and exploitation character, without considering fair standards of work and environmental protection, but they result compatible with the growth of a diffuse and social economy. Trying to settle the unavoidable tensions between international competition, social cohesion and solidarity between territories, and environmental sustainability.

But, at the foundation of this approach, there are assumptions to which weak and underrepresented conditions correspond. According to the critique of Will Bartlett "institutions of local governance are weak in the Western Balkans and there are few examples of functioning policy networks which could mobilize endogenous development potential at a local level, outside the capital cities."[29]. The decentralization processes have in some cases divided the distribution of the competences too much, without distributing resources and recreating adequate administrative capabilities.

This analysis is in part supported also by the case studies conducted by CeSPI in the SeeNet program where some situations of insufficient capabilities, separation and absence of multilevel dialogue have been identified, in particular in Bosnia-Herzegovina, Kosovo, and partially in Albania and Montenegro. On the other hand there are other cases, like for the Istria Region in Croatia and the Vojvodina Province in Serbia, where the vertical collaboration between central government and local authorities is relatively good, and where the latter have acquired an optimal administrative capability that allows them access to international networks and resources[30]. Bartlett's evaluation therefore needs to be reshaped and reconsidered depending on the context. It is certain that the Western Balkan scenario, beyond presenting itself "randomly", displays some situations of great difficulty for a possible territorial approach to development, like in Bosnia-Herzegovina and Kosovo; difficulty that depends in a substantial way on issues of political, nationalistic and

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84/01 - MAE Line, Foreign Ministry, Prime Minister's Office, Marche Region, OICS and CeSPI, 2007.

[24] Marco Zupi (edited by), Strategic appraisal relationship of the support program for regional cooperation in the Mediterranean and the Balkans, Executive summary, CeSPI, 2012.

[25] Paula M. Pickering, Assessing International aid for local governance in the Western Balkans, College of William and Mary, in Democratization, Volume 17, Issue 5, Taylor and Francis Onine, 2010; and downloadable from (http://www.wm.edu/as/government/documents/Assessing%20International%20Aid%20For%20Govt%20Dept.pdf).

[26] For an analysis of the approach of the EU to territorial cohesion please see: Raffaella Coletti, Territorial Cohesion: definition of the concept and implications for territorial cooperation, Third research report, CeSPI, January 2012.

[27] Numerous conceptual and public initiatives on LED variables exist, between the most important for their influence on cooperation, those of the World Bank (http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/EXTLED/0,,contentMDK:20185186~menuPK:399161~pagePK:148956~piPK:216618~theSitePK:341139,00.html); and of the OECD are remembered (http://www.oecd.org/cfe/leed/).

[28] Please see the Regional Rural Development Standing Working Group example (http://www.seerural.org/).

[29] Bartlett, 2009, Op. Cit.

[30] Please see: Raffaella Coletti in collaboration with Andrea Stocchiero, Decentralization and local development in Western Balkans: convergences and divergences among different contexts, Second research report, CeSPI, June 2011.

ethnic order.

The creation of the necessary conditions and change processes, that follow the "place-based" approach, requires a great deal of time. External assistance can stimulate and accompany, but it's difficult that it can provoke the change, if it is not established on the ownership of the local actors and if it is not at least contrasted by superior levels exercising power. At the same time, the long times of the LED contrast the short times of finance and market dynamic requirements, which favour instead the polarization of the resources in the capitals and some intermediate centers functional to the *export-oriented* model and foreign investments. "The dual process of transition and access to the EU has radically altered the spatial organization of the economy, leading to combined cases of economic decline, increase of the inequality and polarization. A great concentration of physical and human capital in the main urban centers, together with a great tendency towards de-industrialization in the periphery and the collapse of business spaces (…) has created urgent problems of local development and spatial cohesion"[31].

The experience of decentralized and territorial cooperation partially confirms this analysis. Many projects are focused on the creation of networks and above all on of capability building actions. The evaluation from the local partners themselves is positive: the technical assistance, the training and the exchange of good practices are essential in order to learn the know-how necessary to undertake activities for the local, institutional, social, economic, environmental, development. The issue is that, to this necessary action of strengthening abilities, a suitable effective change does not correspond, the end results (increase in social and economic well-being thanks to the services implemented) are not being met, or in an insufficient or difficultly replicable way, the times are long, and the performance is insufficient. A common problem is that of the so-called mainstreaming (integration) of good practices in the plans of local development, normative amendments, authorities budgets, the routines of the bureaucracies, the strategies and the daily management of the local actors. This, while at local level the citizens ask for concrete changes, a visible social and economic impact, effective investments in welfare and creation of occupation.

Until now a weak consideration has been experienced, a nonexistent capitalization, on the limits of these models and this cooperation, and particularly on the coherence between the adoption of the territorial approach to development and the Western Balkan national policies of international competitiveness established on the *export-oriented* model and of attraction of foreign investments. There is the need for the discussion on the programs of cooperation and their feasibility, pertinent to local contexts, sharing with the local partner, sustainability and effectiveness to be brought to a political level. Otherwise, the decentralized and territorial cooperation risks being only an experience of sharing of an ineffective approach both for political and for intrinsic reasons. The analysis of art.7 of law 84/01 had in fact already highlighted how the cooperation was established more on the offer of given practices rather than on the application and choice of local partners in order to understand which eventual hybridizations are possible.

The consideration on the decentralization processes underway in the various Western Balkan countries (just as "federalism" in Italy), on their positive and negative aspects should be very important. This, above all, because decentralization is an issue of great political emphasis assuming a division of powers between diverse administrative levels, between territories and also between various actors, being potentially functional to nationalistic and ethnic interests, processes of secession and reconfiguration of the borders, or being able to be a neo-liberal form of strategy in order to favour the privatization of public assets. According to some authors decentralization risks worsening the ethnic divisions, worsen the conditions of the minorities or marginalize them, and to be potentially contrary to democratic requirement of the balance between the powers[32]. The problem is not only of the western Balkans: the case of the independence of Kosovo has highlighted in fact how there are member states within the EU that have not recognized it because it can be connected to their national issues.

Decentralization therefore brings us back to the question of the local and national development models in the European political framework of reference for the adhesion. An informed public debate should be opened, capitalizing the experiences of territorial and decentralized cooperation, and moving from a project level to a political one. The debate would have to be oriented to discuss the issues of local development and decentralization, and of the requirements of the partnerships in the enlargement process framework.

THE OPPORTUNITY OF THE EU STRATEGY FOR THE ADRIATIC-IONIAN MACRO REGION

The enlargement of the EU towards the countries of oriental Europe, moving the borders, has resulted in the adoption of adhesion and neighbourhood policies. Therefore a new geopolitics has been created that has opened opportunities of relations and integration with countries previously "distant" and even rival due to the iron curtain and the Cold War between the western bloc and the eastern bloc.

In this new geopolitical a greater attention is also being asserted towards the territorial aspects for which integration does not happen only through politics between States but it involves the relationships between adjacent territories and that belong to a same geographic area and, just for this, introduce common challenges and opportunities. Due to this

[31] Monastiriotis V. e Petrakos G., *Local sustainable development and spatial cohesion in the post-transition Balkans: in search of a developmental model,* GreeSE Paper n. 29, Hellenic Observatory Papers on Greece and South East Europe, LSE 2009; cited in the third CeSPI research report for SeeNet.

[32] Please see the second CeSPI report for SeeNet on decentralization, in particular page 26.

numerous CBC programs have been started, diverse Euro regions have been established, and the new strategies of the EU for the macro regions were born. In 2009 the strategy for the Baltic macro region was established, and in 2011 the one for the Danube area[33].

At the same time an important Italian diplomatic action has been deployed that brought the European Council of December 2012 to the decision of giving the Commission the mandate for the creation of the strategy for the Adriatic-Ionian macro region[34], between whose salient characteristics involve the western Balkan countries (except Macedonian)[35]. The strategy should be adopted during the Italian semester of EU presidency in 2014. It can represent therefore a relaunch opportunity for Italian cooperation and foreign policy with the western Balkans. The various cooperations interwoven in the area should refer to this, having to bring to adoption an integrated Action plan where diverse programs and funds are coordinated and aligned. In this regards it is important to remember what the main characteristics are and the added value of the strategy.

The Commission has clarified that the macro regional strategies are a new transnational instrument in order to favor European integration. They should support the progressive convergence in the EU of the various territories. A convergence that is made strong by the territorial diversities, of their different patrimonies. A transnational strategy different from the traditional cooperation aimed, above all, at the sub-national local autonomies, in particular the regions, pertaining to a same geographic area, because it involves primarily the national governments but maintaining a multi-level approach, that therefore continues to foresee the link with the sub-national authorities.

The strategies adopt a functional territorial approach. The strategies are functional in reaching objectives such as environmental protection, the social and economic development of a geographic area that introduces common challenges and opportunities. Their functionality characterizes the geographic spaces to involve, that don't have to correspond to geographic units established at a political-administrative level. And that can therefore also go beyond the frontiers of the EU, extending to the EU adhesion candidates and neighbouring countries. The boundaries of macro-regional area are variable depending on the functionality taken into consideration.

For example, if on the one hand the protection of the Baltic Sea involves first of all the territories that surround it (but also those of the tributaries), on the other hand, the development of research and innovation for small and medium-sized enterprises of the wood industry includes technology centers and SME networks, which can be found in geographic locations distant from each other while belonging to the same area.

The strategies, as a political instrument, are characterized by "three noes": they are not fixed by rules, do not rely on ad hoc institutions, do not have their own funds. It then presents a paradox that should be the added value of macro regional strategies: on the one hand these three noes appear to greatly limit the freedom of action of strategies, it seems almost that they define their irrelevance; on the other hand, just as a result of these limitations, the strategies should be based on their ability to integrate the norms, institutions and funds that already exist in a common transnational framework. The effort that is required is therefore primarily of political will on the part of the diverse actors, starting from national ones.

In this way it seems to establish a new form of governance in the EU framework that lies between that of the EU and that of the individual member states, transnational, open to the multi-level participation of sub-national authorities. The transnational level corresponds to large scale geographical areas, which refer to natural characterizations, such as seas and reservoirs. A governance that therefore has a spatial specificity, however relatively variable as written above, in literature these areas are called "*soft spaces*"; and that provides itself a light, flexible and multi-level institutional organization, establishing itself as a "*soft institution*". It is a new form of governance that responds to the attributes specified by Zielonka, because it is multi-centered, multi-leveled and transnational, with "*soft borders*". Macro regional strategies are therefore a way to combine the spatial diversity with the construction of the EU. It 'a way to recover the democratic deficit through participation methods complementary to those of a traditional representative character. The strategies are in fact based on consultation processes and the active participation of various actors in defining the action plans and in their implementation.

The experience of the Baltic and Danube macro regions highlight some difficulties however, especially with reference to the multi-level governance and effective participation of the citizens. The Commission's report on the implementation of the Baltic strategy[36] in fact indicates the need for greater involvement of the citizens and better multi-level governance ("groups of key actors, such as regional and local authorities, NGOs and the private sector should be involved"), as well as greater political commitment to align funds and issues with respect to the 2020 Strategy, and a strengthening of institutional coordination (in particular priority area coordinators and their steering groups). These indications are aimed towards paying greater attention to informed public debate (also see the need to define indicators to measure the results of the initiatives) and the study of the comparison of development models or better of transformation process and territories.

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[33] See: http://www.balticsea-region-strategy.eu/pages/what-is-the-eusbsr and http://ec.europa.eu/regional_policy/cooperate/danube/index_en.cfm#2 and http://www.danube-region.eu/.

[34] See: http://ec.europa.eu/regional_policy/cooperate/adriat_Ionian/index_en.cfm.

[35] For the description of the Adriatic-Ionian macro region creation process and the relevance of the new macro regional strategies in the territorial cohesion policy please see, respectively, the second and third CeSPI research report for, as well as the papers by Stocchiero and Cugusi downloadable from the CeSPI website.

[36] European Commission, Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, on the Implementation of the EU Strategy for the Baltic Sea Region, COM(2011) 381 final, Brussels, 22.6.2011.

With the Adriatic-Ionian macro-regional strategy, the integrated approach**,** already experimented in part by the Italian experiences with art.7 Law 84/01 for the reconstruction of the Western Balkans, the FPA for regional cooperation for development in the Mediterranean and SeeNet for local sustainable development can also be reaffirmed. The occasion of the preparation of the Italian Presidency of the EU in 2014 is an important window of opportunity to build the strategy capitalizing on what has been done.

Nevertheless, a danger is obvious, namely that the qualitative leap required to adopt a real integrate approach, is too demanding in a crisis situation, the organizational conditions are very challenging in the face of scarcity of resources, and this above all in respect to the situation and the capability of the Western Balkan countries. It is therefore more likely that the definition of the macro-regional strategy action plan is limited to a negotiation of the different national and regional interests, identifying some minimum common denominators such as priorities for action. To date (July 2013) the informal draft of the Action Plan identifies two horizontal priorities (research and innovation, and SMEs development) and four vertical priorities (transport and energy infrastructure and connections, environment and natural resources' management, blue economy and regional attractiveness).

Faced with this situation, a stronger effort is needed of the Italian government, as well as the different actors involved, and the formation of a governing body open to local authorities and civil society organizations willing to invest. The relevant partnership should refer not so much to the general requirements of representativeness, but rather the quality and capacity of the actors, of practical experience on the ground. From this point of view, the actors of the SeeNet program can find a way to contribute to the debate, bringing results and prospects of integration.

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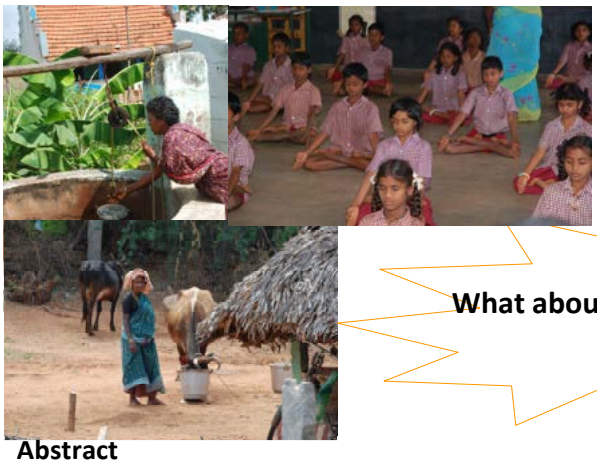
Is India really so small???

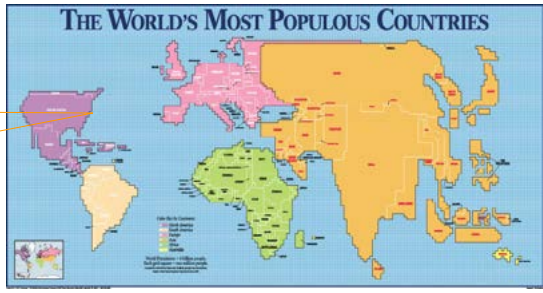
To look at development from a gandhian perspective.

Cultural exchanges, educational opportunities and twinships between schools

Elena Camino, Maria Ferrando, Maria Elena Bo
IRIS e Gruppo ASSEFA Torino



What about changing frame of mind?



Abstract

Since 1968 exchanges of loving mutual support take place between two realities geographically far away, and culturally and socially deeply different: the ASSEFA Group of Torino and the Indian NGO ASSEFA (Association for Sarva Seva Farms). Exchanges of documents and mutual visits have offered to the italian partners the opportunity to be witnesses of the achievement of a gandhian development model, inspired by concepts as sarvodaya, swadeshi, swaraj, nonviolence, antyodaya.

Twinships between schools carried out over thirty years allowed italian students of primary and secondary level to come in touch with a context that is not only culturally different, but testifies the possibility of a 'development' based on cooperation, empathy, reverence for nature and respect for the environment. Meanwhile students of the indian villages felt appreciated and developed greater confidence in themselves.

Aims of the twinship

✓Italian students – with the help of their teachers – may succeed in challenging the idea that western society is more 'developed' and leads other cultures towards 'progress'. Moreover they may learn to respect and appreciate world views and cultural frames different from theirs.

✓Students of ASSEFA villages have a precious opportunity to increase their self-esteem, as they get in touch with peers who appreciate and respect them. Moreover they deepen they knowledge about world issues and other civilizations.

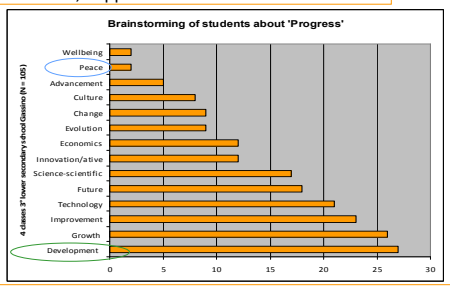
Methodological approach

The opportunity was offered to start a twinship with no rules except the willingness of teachers to learn about ASSEFA movement and gandhian thought, and to promote a respectful dialogue among peers.

Continuous feedback and reflection of the research group was carried on, based on the exchanged documents, the meetings with italian teachers, the dialogue with indian ASSEFA staff, the reading of the relevant literature on India and on 'nonviolent and sustainable education.

Brainstorming of some italian teachers about 'progress'

✓development, freedom, respect
✓civility, culture, peace
✓well-being, improvement, happiness



Achieved Results

The twinship experience achieves a higher educational value when integrated within an interdisciplinary and multicultural program.

Italian students enjoy the experience and show great motivation in preparing the material to be sent to Indian friends.

The perception and evaluation of the 'differences' by students is heavily influenced by the awareness of the teachers.

To keep the future open to all potentials, alternatives and dissenting possibilities, it is necessary to envisage alternative futures from different civilisational and cultural perspectives (Ziauddin Sardar)

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A safe place for the victims of domestic violence: support to autonomy and development of local resources in the Balkans area (since 2006)

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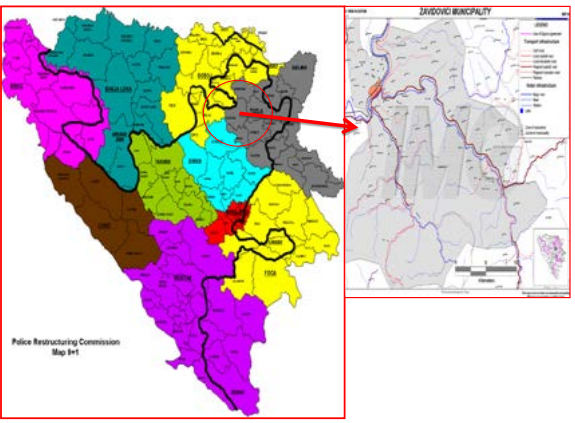
Dipartimento di Giurisprudenza e Scienze Politiche, Economiche e Sociali, Università del Piemonte Orientale "Amedeo Avogadro", Alessandria



The project fulfilled in Zavidovići, a central Bosnia Herzegovina town, has developed initiatives to support the victims of domestic violence and to face a culture which originates and legitimates violence itself.

During the last six years, a local network (several schools and associations, Dom Kulture, the Health House) and a Bosnian association - *Sigurno Mjesto* - were created through a program of decentralized cooperation in which several Italian and Bosnian institutions have been involved as partners.

The Department

- **realized an exploratory field action-research on access to basic services of the Zavidovići Local Communities (young local researchers were formed as interviewers and data collectors)**
- **backed and monitored the planning and the implementation of the preventing and training activities (workshops, focus groups, etc.) in Italy and in Bosnia Herzegovina.**

Reasons of the intervention

Lack of direct experience on these forms of social tutoring.

Need to build specific competence for a direct relationship with the victims.

Need of spaces to apply and verify work models and competences.

2012. Specific outcomes in Bosnia Herzegovina	**… and in Italy**
○ **prevention:** analysis of the gender relationships through diversified actions, according to methods and to target groups ○ **support**: intensifying tutoring activities for the victims of domestic violence referring to the association ○ **support**: resources activated to get a partial economic autonomy to some women victims of domestic violence ○ **interaction**: development of local and international territorial networks to keep opportunities of exchange and training. Widening of the intervention to the rural areas	○ **enhance competences of the Italian operators: c**ritical analisys and evaluation of the Italian social work model, improvement of the skills to undertake and manage complex social ambience ○ **development and consolidation:** direct relationship between Social Services of Alba and of Zavidovići and between *Sigurno Mjesto* and the Italian associations

Methodological approach: • Experts identified by Università del Piemonte Orientale, by Ser.T Alba Bra and by local trainers carried on tutoring activities for the members of Bosnian association • Social workers and members of local associations participated to official and technical missions in Bosnia Herzegovina to grant a direct bi-national relationship.

An intervention model: the experience has produced an efficient work model which, through the synergy of different involved subjects, with different roles and in different stages, allows to activate long lasting processes supported by periodical micro-actions.

For more information:
Adl: Associazione "Ambasciata della Democrazia Locale a Zavidovići" O.n.l.u.s www.lda-zavidovici.org
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FUND FOR COOPERATION AND KNOWLEDGE

Andrea Pichelli
University of Pavia - International Relations Office

Abstract

The University of Pavia (UNIPV) launched the 'Fund for Cooperation and Knowledge' in 2009. The Fund was intended to finance scholarships for students of Developing Countries wishing to study in Pavia and for students of UNIPV aiming at spending some months in a Developing Country to study, to carry on researches, or to do an internship. The Fund and the selection of the students are managed by a Joint Committee composed by students, professors and administrative staff of UNIPV. Resources for the Fund come from UNIPV and from its students, who pay each year 2 Euros together with the tuition fees.

Achieved Results

Since 2009, 32 students from Developing Countries and 52 UNIPV students received a scholarship.

Objectives

Increasing student mobility to/from Pavia University and to/from Developing Countries; giving students the chance to have an experience abroad, to improve their skills and to widen their knowledge; strengthening university cooperation with Developing Countries.

Methodological approach

Candidates awarded with a scholarship are selected by the Joint Committee, who examine their application and evaluate their CV and academic skills. Selected UNIPV students go through an interview too.

Conclusion

After four editions, it is clear that the idea of the Fund works and it is a kind of scholarship programme which could be implemented in other Italian universities too.

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MULTIDISCIPLINARY AND INTERDISCIPLINARY SKILLS AT THE SERVICE OF DEVELOPMENT COOPERATION: THE ACTIVITY OF THE CISAO OF THE UNIVERSITY OF TURIN

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Abstract

The CISAO (Interdepartmental Centre of Research and Scientific and Technical Cooperation with Sahelian and West African Countries), that includes internal and external staff of the University of Turin, professionals and experts, holds together multidisciplinary and integrated expertise with the task of facilitating and coordinating **educational and scientific exchanges** with similar institutions in **West Africa** and in the **Sahel**, in particular. The concerned countries are **Benin**, **Burkina Faso**, **Cape Verde**, **Mali**, **Niger**, **Senegal**.
Institutionalized in 2004, the CISAO was established since 2000 by a group called "Uni-Sahel" which grouped together researchers with common interests of investigations and cooperation with the Sahel, which over the years have woven intense relationships with African counterparts.

Objectives

Main objectives: food security promotion, extreme hunger and poverty reduction.
Specific objectives: improvement and sustainable management of natural resources, animal and vegetal productions, with environment and biodiversity preservation; knowledge sharing and appropriate technologies; institution of north-south and south-south networks.

Achieved results

- Establishment of a **network** in which researchers from different scientific fields, such as economists, sociologists, anthropologists, geographers, geologists, agronomists, veterinarians, etc… can meet and share their experiences, even with the support of the Piedmont Region, which promoted decentralized cooperation initiatives through the program "Food security and fight against poverty", since 1997.
- Improvement of **actions** in 4 main strands, concerning animal and vegetal productions, energy facilities and socio-economic and educational issues.

The results of the activities are exposed during **congress** with the participation of Italian and Sahelian academics:

NIGER: dairy Kouri cattle farmers

MALI: horticulture practices

NIGER: sellers of traditionally produced honey

MALI: training of solar cookers technicians

Methodological approach

In relation to the approach proposed by the Piedmont Region, many actions have been promoted, sharing expertises in different fields and a close cooperation with similar institutions, involving also civil society, for the promotion of a mutual cultural enrichment and to create the conditions for self-sufficiency of the involved countries.

Recent projects with the participation of CISAO

IAO/GENDER (Istituto Agronomico per l'Oltremare
http://www.iao.florence.it/

4CITIES4DEV (Comune di Torino – Slow Food)
http://www.4cities4dev.eu/

Conclusion

In recent years, there has also been attempted to merge some interventions according to the issues explored and the countries and partners involved to make more effective the actions planned and carried out. This new method stimulates the search for greater interdisciplinarity and an integrated approach to the issues and problems and will be applied in the project RUSSADE (**ACP – EU Edulink program)** that involves a group of researchers of CISAO.

AGRICULTURE IN DEVELOPING COUNTRIES BETWEEN LOCAL RURAL DEVELOPMENT POLICIES AND INTERNATIONAL MODELS OF "LAND GRABBING"

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The papers presented in this panel focus on large-scale acquisitions of lands for agricultural or agriculture-related uses in developing countries. 'Land grabbing' is an issue that cuts across all these papers, as they try to shed more light on a controversial phenomenon that has attracted considerable attention in recent years. Each paper addresses the issue from a different disciplinary angle, offering a different analytical perspective.

More in general, the papers build on the ongoing debate – which sees the active participation of academic scholars, international development agencies and civil society's representatives – on agriculture and rural development in developing countries. This debate touches upon focuses on a number of key issues. First, the role of agriculture that, although long neglected by public policies, can be an engine for development and economic growth. Secondly, the need for greater support for small-scale producers, increasing their productivity and strengthening their focus on the global market. Thirdly, the need to solve all the issues concerning land property/access, especially with regard to women, and local population's customary land rights.

These issues have a profound impact on food security, which is threatened by global phenomena that put in jeopardy the survival of people living in the poorest areas of the world (Sub-Saharan Africa is one of the most hit areas). These countries host large-scale land investments by other States and transnational or local private actors, driven by many factors such as raw materials and food rising prices, growing demand for biofuels and timber, mineral extraction, speculation and so on. The data and evidence available are still scanty and often contradictory, but it appears that in the majority of cases land deals can be considered as a form of land grabbing rather than land investments. They reproduce, under new clothes, old solutions that have already showed their inability to provide any meaningful response to food scarcity. These solutions are primarily geared toward gaining control over strategic natural resources and they are, thus, inconsistent with the cooperation paradigm. Therefore, an intense debate has developed on their efficacy as a way to promote development in the host countries.

This panel aims at contributing to the debate on the developmental role of agriculture and large-scale land acquisitions, by adopting a multidisciplinary approach and combining micro and macro analysis that take into account both the local and the global dimensions.

The paper of Hans Holmén seeks to shed more light on the notion of 'land grabbing', by challenging some commonly-held convictions about the scale of phenomenon, its causes and consequences. In so doing, it starts from observing the huge surge in attention that characterized the phenomenon in recent years. Quite surprisingly, this surge rests on an uncertain definition of the phenomenon, as the notion of 'land grabbing' is often used to describe a diverse array of situations just to hit the headlines. Furthermore, the paper highlight the lack of reliable data on the magnitude of land acquisitions, as estimates about land grabbing tend to diverge one from another in a quite sensitive manner. Lastly, the author critically points to the 'politicization' of the analysis on land grabbing, which often lead to overemphasize the role of foreign enterprises and States in this sector, as well as inflate the impact of the phenomenon on the population. This is not to deny that land deals may constitute a problem in some cases. However, this phenomenon need to be better assessed and to be placed in a much wider context, taking into account all the problems that affect agriculture in Africa. Low productivity is the main one, at least according to Holmén's paper. African governments have a huge responsibility in this regard, as their policies have been often misdirected and ineffective. The role of African governments has been much discussed during the panel, as many participants argued with Holmén's position that this emphasis on foreignization tends to obscure the active involvement of African élites in the adoption of land policies that are far from serving the public interest.

The paper of Davide Cirillo offers a different perspective on the definition of the phenomenon, by trying to locate land acquisition on a continuum between a development opportunity, on the one end, and land grabbing, on the other. In so doing, it highlights, as done by Holmén, the lack of reliable sources and data. In any case, it tries to define land grabbing by seeking to go beyond the dichotomy cost-opportunity that lies at the core of the definition elaborated by many international institutions. To this end, he relies on the concept of 'food regime' elaborated by McMichael, which tries to explain the strategic role of agriculture by making reference to specific power configurations. Moving from these theoretical premises, the paper examines the neo-liberal approach, highlighting its contradictions and its negative impact on the sustainability of the land regime. The second part of the paper looks at the role of transnational peasants' movements and other civil society's organization in shaping and resisting this phenomenon. The analysis focuses on the evolution and main features of Via Campesina, which has been created in 1993 to bring together several instances of resistance against the commodification of food. Moreover, it also looks at the *International Planning Committee on Food Sovereignty*, which is a network composed by transnational peasant movements, agricultural commercial entities and NGOs.

The paper of Stefano Montaldo keeps the attention on the actors that participate to what may loosely be defined as land governance, by approaching the issue from an international law perspective. In particular, the analysis takes into consideration the attempts by some international actors, such as international organizations or other informal *fora*, to establish a more coherent legal framework governing large-scale land acquisitions. The paper looks at FAO, which has been actively involved in trying to establish a more coherent international legal framework for land since the *World Conference on Agrarian Reform* held in Rome in 1979. More recently, it has adopted the *Voluntary Guidelines on the responsible governance of tenure of land, fisheries and forests*, a non-binding document that should represent a framework for natural resources-related policies. The World Bank has adopted an equally active stance on the matter and in 2003 it has contributed to the launch of the so-called *Equator Principles*. This instrument is defined as a credit risk management framework for determining, assessing, and managing environmental and social risk in project finance transactions. The 2012 reform of the Principles has led to the insertion of a specific reference to land access and, in particular, one of the Principles recognizes the impact of land acquisitions of local communities. The paper also takes into consideration the *Roundtable on sustainable biofuels*, which is a platform composed by UN agencies, oil companies and other multinational enterprises. The initiative has a voluntary character and it should contribute to the adoption of more socially-sensitive policies by the actors involved. Voluntarism, and the lack of credible enforcement mechanisms, is the issue that took the centre stage during the debate. This feature, which is common to most of the initiatives taken at international level so far, is one of the main causes of the perceived inadequacy of the response offered to the phenomenon of land grabbing and to the threats it poses to food security.

The third paper, by Astrig Tasgian, focuses on the case of Mali, by building on the results of a field survey in the region of Ségou. The paper starts from the assumption that the agricultural sector is crucial for economic growth and development and it purports to assess the socio-economic impact of large-scale land investments in this regard. To do so, it considers the experience of large-scale acquisitions in an irrigable zone of one million hectares in the inlands of the delta of the Niger River after the call issued by the Malian Government in 2005, under pressure from various international organizations, to attract big investors in the region. The results of the call are far from satisfactory, as the field survey reveals that large-scale investments have had an overall negative impact, by failing to live up to the expectations. The reasons for such a poor performance are manifold and touch upon several different aspects. For instance, the paper highlights that the principles for sustainable agricultural investment elaborated by FAO and the World Bank, and analyzed above by Stefano Montaldo, have been disregarded. At the end of her work, Astrig Tasgian puts forward a number of suggestions that may help to devise and implement more effective land acquisition projects.

The last paper, by Raffaele Bertini, offers yet another perspective on the phenomenon, by depicting land grabbing as a strategic game. This work complements the papers seen above, by providing a simplified analytical framework to assess the behavior of different actors in a complex situation. The paper takes into consideration three players – the investor, the receiving State and local communities – and it takes into account the institutional framework where the players act, by distinguishing between formal and informal institutions. The paper considers three levels of play, by presenting them in term of the reached equilibriums.

THE ROLE OF AFRICAN GOVERNMENTS IN THE LAND GRABBING BUSINESS

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ABSTRACT

During the last few years the number of publications on the theme of "land grabbing" has virtually exploded. The phenomenon – i.e. the appropriation of (mostly) agricultural land by the powerful, with subsequent dispossession and dislocation of the poor and powerless is real. Reports about land grabbing tend to follow a rather stereotyped pattern saying that the phenomenon is immense, that Africa is the main target and that the continent is under heavy attack by greedy outsiders in a neo-colonial struggle for land. However, a careful reading of land grabbing literature reveals that while this message fits well certain prefabricated "explanatory" models, it may be misleading. Contrary to this privileged explanation, the magnitude of land grabbing may be exaggerated, drivers behind it tend to be others than those repeatedly mentioned, and the principal agents domestic elites rather than outsiders. Hence, the issue needs to be tackled in a way quite different from what is most often proposed.

A CONTROVERSIAL ISSUE

Recent years have seen a veritable explosion of writings about "land grabbing". From having been virtually unheard of ten years ago, a search on Google in August 2013 gave more than 36 million hits! To many, this a welcome attention, not least because land grabbing is seen to have far-reaching – even disastrous – consequences for those who lose or risk losing access to basic life-sustaining resources on which they depend. This paper is based on a thorough scrutiny of this mass of recent writings about "land grabbing". Crisis narratives are commonplace. While there is reason to be concerned about the meaning, magnitude and consequences of land grabbing, much of what is being published is less clarifying than the issue deserves. In part this is because while "land grabbing" often fits certain ready-made agendas and apparently is "effective in activist terminology" [1] much is written before proper investigations have been made. Hence, many assertions have been based on assumptions rather than facts and much is agitating rather than analytical. This is the case whether we speak of the meaning of the concept, its drivers, magnitude, consequences, or its principal actors.

By "land grabbing" I here understand enclosure or privatization of commons. Implicit in much writing about land grabbing is that is illegal. Generally, this is a misunderstanding. Contemporary land acquisitions in Africa are in the form of lease contracts, generally between the leaser and the state. Hence, they are legal. Whether enclosure of the commons also is legitimate is, however, debatable [2]. In its simplest form, it means a "concentration of decision-making about how land is to be used [3]. Consequently, someone has to lose access to land or influence over its use. In Africa that would be the semi-subsistence oriented smallholder peasant. This has triggered massive campaigns against land grabbing. Ambiental & UNDC define it as "crafty or violent appropriation of something which is legitimately owned by someone else" [4]. Echoing the words of 19th century utopian socialist Prudhon ("property is theft"), the Via Campesina says it is "nothing short of theft" – which the popularized phrase also implies [5]. Less critical voices speak of "acquisitions" or "large-scale investments in land" [6] [7] which by many are seen as necessary for modernizing African agriculture, [e.g. 8]. Land grabbing is frequently also seen to represent a "capitalist restructuring of global agriculture" [9] and there also appears to be a near-consensus that it is mainly foreigners who acquire land in the global south, particularly in Africa. Hence, land grabbing has been labeled "foreignization of land" [10] and likened to a neo-colonial scramble for Africa [11] [12] [13]. In an environment where private land-titles are rare and the common farm-size is one hectare or less, the transfer of use-rights from the many to a few – especially if these are foreigners – is bound to arouse protests, not least because it is assumed to have severe social consequences.

Behind this apparently new-found and allegedly northern appetite for southern lands are usually mentioned the three combined elements of food, fuel and financial crises from 2008/9 and onwards. Declining investment opportunities in the global north together with internationally rising food prices and demand for bio-fuels are commonly presented as the driving forces behind land grabbing. In some cases, the intention behind land acquisitions is obviously to produce something (bio-fuels for export to Europe, for example) whereas in other cases mere speculation is believed to be a prominent driving force (cheap lease contracts now that can be sold profitably at a later stage when the investment market 'normalizes'). This, allegedly, leads to a situation where large amounts of African farmland are taken over by 'investors' who have neither knowledge about nor interest in farming. Such 'investments' are unlikely to have any developmental effects. Also, is frequently mentioned, populous 'emerging economies' like China, India and Arab Gulf states with high demand for food but limited opportunities to produce it at home. They, therefore, opt for 'off-

shore' production in order to escape the volatile world market [14] [15] [16]. Also here investments represent resource-mining and are geared to satisfy external demands, not towards African needs. Others object that foreign governments are only minor investors and that the major culprits are financial institutions, international agribusiness and transnational corporations [17] [18] [19] [20]. Foreignization it is, nevertheless.

Reading about land grabbing, one easily gets the impression that Africa is under heavy attack from a large number of external real or potential grabbers. Djurfeldt, thus, writes about "an epidemic of land deals" [2]. Some writers, however, claim that the grabbers are few [20]. They "operate out of the big financial centers of the world and often get together at farmland investors meetings" (ibid). This, it is further maintained, is done with the consent of the G8, the World Bank and the EU. While northern governments and IFIs are not directly involved, their policies "play a crucial role in supporting agribusiness-led acquisitions" [19]. Hence, land grabbing is often depicted, not only as a northern project, but more or less explicitly as a conspiracy.

This is all the more serious as the magnitude of land grabbing is widely believed to be enormous. Oxfam thus claims that, on a global scale, "in the past decade an area of land eight times the size of the UK has been sold off as land sales rapidly increase" [16]. Africa, it is claimed, receives more than half of all foreign investments in land [21]. Hence, it has lost "millions of hectares" to outside grabbers [22]. Estimations vary about the African land area affected. Oxfam claims that, in the last ten years, an area "almost the size of Germany" has been acquired by foreigners [23]. The Oakland Institute asserts that "*in 2009 alone* … an area the size of France was purchased or leased in Africa" [18] (emphasis added). Implicit in such claims is also that Africa presently is flooded with FDI aimed for land purchases or leases.

Critics claim "foreign countries and companies and wealthy foreigners are rapidly taking over the productive lands in Africa and turning Africans into refugees and slave laborers in their own homeland" [24]. Not surprisingly, the numbers of adversely affected people are presented as enormous, with millions of African smallholder farmers being evicted, cheated on compensations and losing access to vital sources of livelihood [25] [26] [27]. Some ask whether this means "the end of the African farmer" [28]. Others go a few steps further and envision a future where smallholders either must migrate to city-slums or eke out a meager living "on tribal communal 'holding grounds', akin to the Bantustans of the apartheid period of South African history" [29]. We should ask ourselves whether this is a realistic assumption.

In fact, we must ask ourselves whether the above sketched message is realistic at all. For one thing, the land grabbing issue is permeated by a multitude of uncertainties. Hence, quite different stories can be told. Below, a different perspective will be briefly presented, based in part on the same sources as those used above but supplemented with information that alarmists tend to overlook.

UNCERTAINTIES

Due in part to its recent 'discovery', the phenomenon of land grabbing suffers from a lack of empirically reliable foundations and methodological discrepancies which has allowed a wide range of interpretations, assumptions and speculations. Hence, it has been possible to squeeze tales of land grabbing into prefabricated theoretical straight-jackets and give it ideologically suitable 'explanations'. The political role of land grabbing 'research' is often apparent and sometimes explicit. The campaigning – and often referenced – organization GRAIN, for example, recently declared "Let us state this plainly: GRAIN's aim is not to do neutral research" [13]. Not surprisingly, the term 'land grabbing' often obscures more than it reveals [1]. Still, after five years of intensive publishing about land grabbing, the question "what is a 'land grab'?" remains unresolved [30]. Below, an effort is made to remedy preferential biases by offering a different – not opposite but complementary – perspective on the debated issue. But first, some words about uncertainties.

First hand information about land grabbing is hard to come by. Data are fragmentary [31] and statements are often based on assumptions and shaky foundations [32] – "different sources report different figures for the same land deal" [22]. Even if the number of field research has increased, "most reports offer very few insights into overall impacts, either positive or negative" [30]. Statements about the magnitude of land grabbing tend to be highly inflated. For example, Deininger et al found that actual farming had started on only 20 percent of the announced deals [7]. In Mali, Cotula found that only ten percent of intended deals led to actual leases [19]. This is because what is reported is often intended deals and/or expressions of interest, not completed contracts. Moreover, in reports about land grabbing, multiple interpretations of what a 'grab' is make generalizations difficult [30]. While there are (questionable) figures available about acreage transferred, "very little is known about the terms of the land deals" [19]. Their consequences may therefore differ widely.

Hence, "the actual impacts on the ground of many recent projects still remain to be seen" [14]. Nevertheless, because the term "land grabbing" sounds inherently harmful, we are warned that land deals imply a "*potential* competition with other important land uses" [33] and about "*possible* negative impacts" of land investments [34] [7]. Others are more certain about magnitude and consequences. Hence, it has been suggested that land deals are "*likely* to lead to massive enclosure and dispossession" [36]. The NGO Friends of the Earth asserts that "all sizes and types of land *will* be taken by TNCs, there will be no place for peasants" [37]. While such worries may be well-founded, alarmists may deplore findings of only "limited … evidence of evictions" [21]. Often, such stories have, "at best been

supported by anecdotal evidence, and at worst, been speculative" [36].

AN ALTERNATIVE STORY

The frequently presented view, that Africa is besieged by greedy foreigners eager to lay their hands on as much land as possible, bears little resemblance with reality. So far, foreign investments in land have been limited. For external investors, Africa has long been deemed a high-risk environment due *inter alia* to political instability, lack of infrastructure, undeveloped markets and low purchasing power [37]. The assumption that the "global rush for land" has changed this [38] appears to be ill-founded. Our knowledge about FDI in agriculture is limited and even less is known about FDI in Africa [39]. Some figures are available, however. In 2011, the continent's share of total FDI was a mere 2.8 percent and of this only one-seventh was in the primary sector, primarily oil, gas and minerals whereas agriculture is hardly mentioned [40] [41] [39].

But it is not only foreigners who have been hesitant about investing in Africa. Mafeje notes: "[r]uling African elites accumulate a great deal of ill-gotten revenues but are not noted for their propensity to invest. At the other extreme, African small producers, contrary to neoclassical assumptions, save but do not mobilize their savings. Instead, they keep them as assurance against hard times" [42]. For various reasons, Africa has long suffered from an investment deficit [43].

One reason could be lack of land titles. Customary access to land is permeated by overlapping rights and a plurality of systems and institutions which leave room for contested claims and corrupt practices [44]. This makes investments in land a risky undertaking. Also, about half the population lives under the poverty line [45] and even if they would, their capacity to invest is extremely limited. Contributing factors are corruption and the inability of many governments to protect citizens' rights [46] [47].

At the same time, agriculture is home to some 70 percent of the labor force but productivity is low, population growth is rapid, and farm sizes have been shrinking for decades [48]. Africa definitely needs investments in agriculture. But if domestic propensity to invest is low, where would investments come from? From abroad, there are few other options. But also foreigners have shown a lack of enthusiasm in this matter.

They apparently need encouragement. Thus, African governments, rather than being the hesitant target for (and victims of) powerful foreigners encroaching upon African soil, are actively inviting foreigners to bring much sought for capital to the continent. Hence, contrary to widespread beliefs, "in many cases it is not a global 'land grab' driven by the private sector, but a supply-driven process in which governments are playing an active role" [49]. Governments actively compete for investors [71] and offer them lease contracts on highly preferential terms [50], for example zero or next to zero lease costs.

In general, this policy has apparently not been successful. Most writings on land grabbing in Africa give the impression that this is a continent-wide phenomenon. Reality tells a different story. Two-thirds of all registered land deals are found in only seven countries [33]. As mentioned above, incoming FDI is less than expected. And estimations indicate that only some ten to twenty percent of intended deals actually materialize into on-the-ground investments – in spite of the preferential terms offered. Africa is still perceived as a high-risk environment. Some would-be investors obviously are deterred by unexpected difficulties of creating and running plantations in complex contexts [21]. The low or zero lease fees offered are motivated by the expectation that those who acquire land also invest in land clearance, soil preparation, build infrastructure (roads, electricity, irrigation), etc. – not only on the land directly farmed but also for the benefit of local communities. When potential investors realize how high such additional costs will be and how slow returns on money spent, they back off [51].

Apart from actively trying to attract foreign investors, African governments are key players in land grabbing also in other ways. Land in Africa is usually not under private ownership. Various 'communal' systems dominate and the state has assumed the role as custodian but direct power over land-use normally rest with traditional institutions and local chiefs. People enjoy varying and overlapping use rights but seldom own the land they farm.[1] In order to make large land leases possible, land usually has to be transferred from communal to state land. Hence, potential foreign investors must make contracts with the state. On the one hand, this leaves ample room for corrupt practices. On the other hand, governments must first "grab" – i.e. confiscate – communal land before lease deals with foreigners can be signed.

Not only the 'state' but domestic elites at all levels – governments, politicians, public servants and local chiefs – are active grabbers also in other respects. Deininger et al found that domestic investors are more prevalent than foreign ones [7]. Also Mosley found that, in Ethiopia, domestically sourced projects out-numbered foreign projects [52].[2] Domestic elites in a number of countries grab land and enrich themselves by registering former communal land as their own private property and by turning previously 'free' peasants into migrants, tenants or sharecroppers [53] [54] [55] [56]. It is no coincidence that the largest landowner in Kenya is the Kenyatta family [57].

On the one hand, this reflects the greed of the political elites. On the other it also reflects the "longstanding and ongoing struggles between chiefs and states" [48] [58]. Competition over land and land-use in Africa has many dimensions. In Africa, nation-building is still an unfinished project [59]. And nation-building is in large degree a matter

[1] Whereas citizens can obtain private land titles (but seldom do), foreigners cannot own land. Hence, they must lease.
[2] However, since foreigners acquire larger land areas, it is still to some extent motivated to talk about foreignization.

of control over land [58]. In general the state's outreach in rural areas is limited and African politics continue to be governed by the logic of patronage [60]. Hence, access to land has been – and still is – a "major instrument of patronage favoring the political elite" [48]. It is thus not only foreigners who acquire land at (seemingly) heavily discounted prices. Patronage is a sign both of the weakness and of the fragile legitimacy of African governments.

This fragility and the as yet unresolved conflict over authority have been accentuated by recent misfiring attempts to attract foreign investments in land. One such confrontation occurred in Mali in 2011. An alliance of "peasants and indigenous people" challenged the Malian government's decision to lease 800.000 hectares to foreign investors, pointing out that "communities had occupied land for generations; how could a Mali state which had 'only existed since the 1960s' claim sovereignty?" [61]. Similarly, in 2009, the government in Madagascar provoked mass protests and was actually toppled after having, in the previous year, attempted to lease 1.3 million hectares of farmland to the South Korean company Daewoo logistics [62].

These examples show that there are risks involved, not only for the leaser but also for the provider – at least when deals are large-scale. This, to judge from the literature, has not discouraged governments from searching external solutions. It is sometimes argued that African politicians (and donors) "hold a widespread belief that large-scale plantations are needed to 'modernize' agriculture" [50] [19] [2] and therefore flirt with transnational agribusiness. As suggested elsewhere [56], we do not know what African politicians believe. A more based explanation, that better reflects a stern reality, would be that they believe they have no other choice. With widespread rural poverty, hunger riots and after decades of being squeezed economically and having been rolled back under structural adjustment, and with considerably reduced development aid since the 1990s – especially for agriculture – governments apparently see no other options.

SUMMING UP SO FAR

Our understanding of the issue of "land grabbing" remains incomplete. The issue is much more complex than most writings account for. Above, I have suggested that the drivers behind land grabbing in Africa are others than those most commonly mentioned (population prospects, rural poverty and limited domestic investment potential rather than contemporary global food- fuel and financial crises). The recent food- fuel and financial crises may have aroused an interest among northern companies to look elsewhere for resources and investment opportunities. However, the magnitude of "land grabbing" appears to be exaggerated in most writings (inflow of FDI apparently insignificant, limited geographical spread, only a small share of intended deals actually materialize as on-the-ground investments). Even though local inhabitants sometimes suffer from dispossessions and unfulfilled promises, and even though some foreign investors perform in less than desirable ways, worries about negative consequences of foreign investments in land seem to be exaggerated as well (only few cases of evictions found). In most cases, the actual impact remains to be seen. And I contend that the principal actors are not those that they were supposed to be. In my interpretation, the prime grabbers (the principal agents) are African governments – not external actors – who register communal land as state land and then use it for self-enrichment, for patronage purposes and/or to attract foreign investors (so far with limited success).

It can, of course, be argued that there is a conspiracy after all. By way of aid-conditionalities and other arm twisting measures, the World Bank, the WTO and donors have forced African governments to put in place legislation that opens borders for foreign investors, thereby preparing the ground for massive invasion of transnational agribusiness [17] [15] [18] [16] [56]. But, as indicated above, we are not there yet.

Different stories can thus be told. Notwithstanding the role played by transnational agribusiness, tales of a massive onslaught on Africa from outside are too simplistic. It is therefore sobering that "the crucial mediating role played by the host state and domestic elites" [63] are increasingly being acknowledged. The often mediated claims that contemporary land grabbing leads to new inequalities likewise needs to be nuanced. Sometimes they do but on many occasions it seems rather to be the case that "pre-existing domestic inequality conditions the outcomes of these deals" (ibid). This, however, is not to say that all is well. While debates about land grabbing may become more realistic and less ideologically biased, crucial real-life problems remain unsolved.

AN UNSOLVED DILEMMA

Africa needs to boost agricultural productivity. Estimates claim that sub-Saharan Africa only realizes 20 percent of its potential production [35]. Boosting productivity cannot be done without investments. We are back at square one. With insufficient tax-base [64], low domestic propensity to invest, and with a "hostility of African governments to domestic capital" [43], only foreign capital remains…

But even if investments can be mobilized, the question remains: what kind of agriculture will it promote – mechanized or labor-intensive, big farming or peasant-based? Transnational corporations tend to prefer big units where they can benefit from economies of scale. This has also been suggested as a solution to Africa's persistent inability feed itself [8]. However, there is little evidence to back up the idea that large-scale plantations would be a solution in Africa [50]. Deininger and Beyerlee remark: "If property rights are well defined, technology is available, markets work well,

and nonfarm sectors lead economic growth and employment generation, investment in large-scale farming can lead to positive social outcomes" [35]. In most of rural Africa, all this is missing.

Instead, a policy based on smallholders has been suggested [51] [65] [2] [66]. This is easier said than done. Previous attempts to promote smallholder agriculture in Africa have not been successful. They led to 'spurts of production' [66] but were not sustainable. The same non-availabilities as those hampering large-scale farming also negatively impact on a development policy from below. Moreover, African governments often do not hold smallholders in high esteem. For example, the Malawi Ministry of Agriculture has accused peasants for "not taking farming seriously" and recommends smallholders to "look at farming as a business and not just as a hobby" [67]. Some African governments have recently become more active in promoting rural and agricultural development. However, these policies have not been smallholder based [68]. Instead, politicians have opted for external solutions.

Promoting smallholder agriculture – and basing development on domestic resources – sounds immediately appealing. I use to be in favor. But how small can smallholdings become before it is useless to support them? Whichever strategy donors, governments and investors opt for, "[a]n important policy question is how the current generation of adults in the high population density areas with one hectare of land or less are going to subdivide their land among their children when they reach their old age … and whether farming can still provide a viable livelihood for those remaining on the land" [48].

Against this background, to define 'land grabbing' as "controlling a scale of land which is disproportionate in size in comparison to average holdings in the region" [3] [14], is plain nonsense. African farms obviously need to become larger – and therefore fewer – and many contemporary smallholders will, in time, have to abandon agriculture and seek other sources of livelihood. A perhaps unwelcome reminder is further that the enclosures in 18th century England were not only an important part of industrialization and modern development. Some contend they were a precondition.

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THE COMMODITIZATION OF COMMONS: THE ROLE OF CIVIL SOCIETY AND ACADEMIC ORGANIZATIONS IN GLOBAL LAND GRABBING

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ABSTRACT

Traditional societies always treated land as a common good, a fundamental resource. Land is related to almost all the productive activities vital to human livelihood. Thus the peasant and the dynamics of agrarian change become subjects of reflections and studies. It is necessary to include the figure of peasants and the agrarian question to carry out a spatial analysis linked to land. Nowadays, in the context of neoliberalism, land represents a key asset. It is facing a commoditization process due to global dynamics of capital accumulation. By analyzing theoretical and methodological issues, the present article aims firstly to ontologically present land grab and land acquisitions. By deconstructing the dichotomist cost-opportunity approach used by mainstream institutions and scholars the paper aims to answer the question posed by them. Secondly, in line with the McMichael food regime theory I point out that the current increase of land acquisitions during the last years is neither a new nor an isolated phenomena. Rather it is an uncontrolled acceleration of the historical process of commoditization and accumulation of the commons reshaping the global geography of capitalism. Thirdly, the article presents the effectiveness of the *human right based approach* used as framework by transnational agrarian movements and civil society organizations coordinating their interdependent global – local action. They propose an alternative to market economy based on the Food Sovereignty principle. Finally, according to the Italian territorialist school, I argue some remarks highlighting the negative impact of land acquisitions as growing processes of tenure concentrations and the competitive global territoriality of transnational agrarian movements using the *human right based approach* as a mediator to challenge the neoliberal globalization hegemony.

INTRODUCTION

Traditional societies always treated land as a common good, a fundamental resource. Land was considered a continuity symbol which linked clans to their ancestors. To preserve it has been their priority to guarantee social and environmental sustainability [1] [2].

Generally, a fundamental value has been attributed to land, related to almost all the productive activities crucial to human livelihood. Moreover, the figure of the peasant is emblematic because it not only symbolizes the bond between man and land, but it has always survived through the centuries in spite of tremendous industrial innovations. Products of agricultural work, and in particular foods, become elements of expression laden with cultural and identity-making factors. Thus, the peasant and the dynamics of agrarian change emerge as subjects of reflections and studies, protagonists of the narrative related to the rural field. Therefore it is necessary to include the figure of peasants and the agrarian question to carry out a spatial analysis linked to land (land management, land tenure system and land use changes).

Nowadays, in the context of the neoliberal model, land represents a key asset. Like other resources, it is facing an increasing commoditization process due to several players committed in capital accumulation. Indeed, in recent years a new wave of investments in land by states, companies, and investments and pension funds targeted not only the Global South – which captures the attention of the literature and the activists – but almost the whole world.

The escalation of these acquisitions was firstly reported in terms of *land grab* by Grain's Report *Seized* [3], where the appendix contained a list of one hundred cases. Events confirmed the organization's complaint since that same year the Daewoo case took place in Madagascar: an acquisition attempt that has had serious consequences not only on the internal political level of the African country but also on a global scale. This case was reported by different newspapers [4];[5], who started describing the event in terms of neocolonialism and agro-imperialism. The term *land grab* was then absorbed in a mainstream trend. It was gradually depoliticized into a dialogue about development and the valuable opportunities of land acquisitions in the appreciation of the industrial large scale agriculture [6]. Even the main international institutions have studied the subject by introducing the most neutral phrase *land acquisitions* and discussing it in terms of cost opportunity, as expressed by the question: "Are the large-scale land acquisitions a risk or an opportunity for local populations?" [7] [8]. The academic community has started investigating the phenomenon

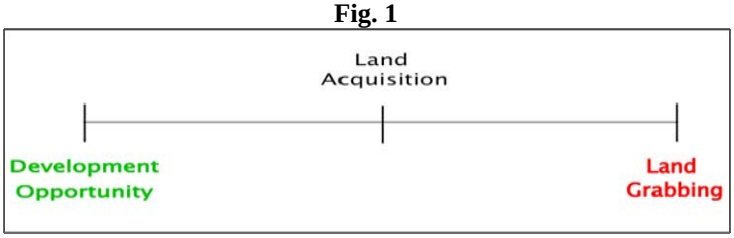
through a variety of multi-disciplinary approaches[1] with the intent of clarifying the dynamics, relationships and causality related to land acquisitions, encountering a number of issues that will be the subject of the next paragraph.

THEORETICAL AND METHODOLOGICAL ISSUES: DEFINING AND RECORDING LAND GRAB AND LAND ACQUISITION.

Some methodological and epistemological issues emerge in studying land grab, both on the practical and the theoretical level, which could make research rather difficult. During the last years, after a thriving development of specialized literature, the scientific debate is questioning some issues related to this set of problems, some of which will be analyzed in this paper. As mentioned in a previous essay, the first key issue – of ontological nature – results from the lack of *consensus* on the definition of land grab [9]. Although this issue could enrich the debate, it also makes difficult data collection and comparisons - already complicated by the lack of transparency and availability of information in the field as well as by the lack of standard criteria for classifying and reporting the acquisitions [10].

Is it really possible to define as land grab all investments in agriculture involving land acquisitions? Which determinants allow us to do this? In response to these issues, we should start from the question posed by the international institutions' reports [11] [12], that is if land investments are a risk or a development opportunity. Considering the land acquisition and its *continuum* – from "land grab" to "development opportunity" (fig.1) - what kind of parameters should we consider to place the land acquisition? Looking at the figure, on the one hand, given the substantial amount of studies about local development, it will be quite easy to understand criteria usable for the evaluation of an investment project; on the other hand, it will be necessary to establish some specific criteria about the land grabbing, before proceeding.

Fig. 1



With reference to the analysis of both the current academic literature and the international institutions' and organizations' reports, it was decided to use the term 'external actor (outside local community)' to define the agent, since the acquisitions are often carried out not only by foreign entities but also by domestic entities – sometimes these are companies or funds made *ad hoc* in order to elude rules or inquiry. According to the parameters, it is useless to refer to quantitative data (for example, the size of the estate), while qualitative criteria are preferable[2]. Therefore, it is possible to refer to the transnational peasant movements' actions oriented towards the so called *human right based approach* - introduction of their claims on the basis of the international law -: the right to the land becomes essential within human rights together with fairness and transparency thanks to the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests* [13]. Along with other contributions, such us La Via Campesina's Act Proceeding in Mali [14] and the Tirana Declaration [15], they give the possibility to formulate the following definition:

> *Land Grab are all the investments and acquisitions of land made by external players (outside local community) belonging to private/public sector (firms, states, investments and pension funds, state owned enterprises) focusing on the Global South during the last years. Such deals happen with a lack of transparency and in violation of the human rights of local populations excluded, marginalized by the negotiation process and sometimes even evicted with violence. Land ownership is transferred by means of various transactions forms (grant, lease or purchase) and for long period of time (from 50 up to 99 years).*

Far from being exhaustive, this definition would be a starting point in stimulating the academic debate. Hoping to see it criticized, integrated and enriched, to get to a definition with a broad consensus is desired, which could facilitate the identification and census of the records[3]. At this point, it is possible to argue that the term land acquisition could be

[1] For further information on the international debate, see Borras et al 2012 and Cirillo 2012.

[2] According to land grabbing and land acquisition studies, qualitative criteria are mainly used into the advocacy organizations' reports, but they become a reference for academic researches by reflex (see Rulli et al.[16], who refers to 200 hectares as parameter to define the *land grab*, with reference to the ILC's criterion to define the large-scale acquisition). A spatial criterion only referred to the large-scale would be easily eluded and it could reduce the attention or just create some tangles which should be gradually restricted. Moreover, it seems more appropriate to pay attention to the modalities and the dynamics behind these processes.

[3] It is necessary to point out that during the International Academic Conference on Global Land Grabbing II, organized by the Land Deals Politics Initiative (LDPI) at the Cornell University, 17th–19th October 2012 it emerged that the problematic nature of the definition is related to its ideological characterization. The term *land rush* has been indicated as the most appropriate despite the activists keep on preferring the term land grab [17].

referred to the act, while land grab is the way these actions could be managed if certain rights or conditions are not respected.

The definition proposed allows to introduce the second methodological problem of epistemological nature, which is the inadequate data availability caused by the difficulties of data retrieval and classification. This aspect needs a careful consideration on the direction that the research should take about it. In the last years' debate on land acquisitions and land grab, the numbers have great relevance. There are huge economic and political interests at stake and the millions hectares reported are useful in media communications and in political debates at all scales [20]. How do scholars have to proceed, in this regard, in the scientific field? Who posted this data? Have they been verified? How? Do they represent the main factor toward addressing the research?

These sources are characterized by a level of unreliability that affects their use for academic and scientific studies. Recent research on land acquisitions indeed refer to enormous amounts of hectares dealt without paying particular attention to empirical evidence or consideration of the scale rather than of the area [21].

At the moment almost all the quantitative data come from reports provided by investors [22] or from the newspapers whose aim is to grab credits [23].

Without a doubt we are facing an accumulation process that often passes through the eviction and expropriation of local communities; however, the publication of quantitative data could have different strategic aims depending on who collects, uses, and divulges them. Moreover, ambiguous and unreliable data could not only reduce the activists' and researchers' legitimacy and credibility, but also divert the attention from less publicized cases, players and social dynamics put at risk by the effects of this phenomenon [24]. A methodological discussion on these evidences should go beyond the big numbers and *dataset* and set a critical reflection on what it is reported, published and on which references and methods [25]. References should be always verified and be subject to a reflection, considering that:

> *Every dataset has an implicit epistemology behind it. Different kinds of datasets are created for different administrative, bureaucratic, political or other purposes and always contain systematic biases […] Who created it and why? What were the circumstances and context of its production? What accounts for its preservation, its location in an archive or its diffusion? What does it say and what are its silences? […] one might interrogate in these ways sources as diverse as the articles in the business press that often constitute the first reports on particular grabs, or the crowd sourcing reports that lead investigators to highlight new grabs or to 'verify' unconfirmed reports.* [26]

FROM *FOOD* TO *LAND REGIME*? A *LAND GRAB* ONTOLOGICAL ANALYSIS.

Drivers of this new land rush have been usually related to temporary events of the last years (food and oil prices hikes, energy substitution and emission reduction policies, global economic crises, investments diversification). In many instances it has been studied from a perspective that, in addition to not allowing the full understanding of its meaning, can offer neither an interpretative paradigm nor an exhaustive explanation for a critical analysis. In the light of a deeper study, and by observing the phenomenon from a wider perspective, we can try to deconstruct the debate on land grab and land acquisition releasing it from the dichotomy risk-opportunity introduced by the international institutions, typical of a neoliberal logic. In this way it is possible to identify those elements that relate the land rush and the modality of grabbing not only to some historical events but also to the dynamics of agrarian changes both on the global and the local scale.

Thus, new causality could emerge, linked to the economic policies of the current hegemonic market model. The land rush could be considered as the acceleration of ongoing processes but with new players and manners which have contributed to the redefinition of the historical geography of capitalism.

As stated before, a reflection on the land rush, without considering the terms in which it leads to reformulate the agrarian question, is unavoidable. From an economic and social point of view, land deals could be connected to the alienation of the workers from their means of production that turn the social instruments of subsistence into capital and the workers into wage laborers; to be more precise, land deals could be connected to construct of primitive accumulation [27]. According to the eurocentered Marxist theory, focused on the land exclusion process related to the enclosures phenomenon in Great Britain [28], the primitive accumulation was linked to that historical-geographical period; consequently, it was considered as the leading process of the extended reproduction, from which it would be replaced at a later stage [29]. The geographer David Harvey [30] revisits the Marxist concept. He points out that primitive accumulation practices persist also in historical and geographical context different from the one analyzed by Marx and keep on characterizing the long historical geography of capitalism not only as a primitive process. Harvey introduces the concept of "accumulation by dispossession" for the "primitive" one, in order to shift the attention to its coercive – and sometimes violent – ways.

Considering land acquisitions as a kind of accumulation by dispossession, we can relate these, on the historical level, not only to phenomena such as the British enclosures but also to the big colonial plantations, and put them on the

However, land rush could define a tendency which could be barely adapted to a specific case that could happen throughout the course of this tendency but which could not be classified and distinguished in that way. For further information about this debate, see Borras et al. [18] , Li [19].

time axis that examines the commoditization process and the privatization of resources such as water and land indeed (*enclosing the commons*). In White et al. [31] and Catherine Corson's studies [32], who analyses the land acquisitions in Madagascar, they are defined as the new enclosures. Therefore, it is possible to state that land acquisitions, as commoditization and accumulation processes, are strictly related to the contemporary rural crisis. Indeed, it is interesting to note that the majority of starved people in the world are not urban consumers and buyers of food, but peasants who produce and sell agricultural products. Their number is not a legacy of the past but the result of a process that is leading to poverty hundreds of millions of farmers deprived of land [33].

The McMichael's concept of *food regime*[4] [34] could be useful in this analysis because it allow us to connect all this phenomena. McMicheal studied food system focusing on the strategic role of agriculture and food in the capitalistic global economy development and in relation to specific configurations of geopolitical power. Thanks to its historical analytical approach, the food regime theory allows us not only to identify different phases of capital accumulation. It also allows us to figure out how transnational peasants organizations reacted and thus reshaped the agrarian question in all these periods. They established indeed a political discussion space and proposed an alternative modernity.

According to neoliberal view, one principal issue in agricultural and land tenure system policies was the central role of the state. It caused market distortions like uncertainties in formal property right and agricultural investments. On this basis the needs for more formal private property right has been justified. Another element of failure was related to land acquisitions ways. At that time it was characterized by coercive expropriation and resisted by landlords. The neoliberal model identified in the 'free market forces' the fundamental mechanism to redistribution of land resources through a process of privatization and decentralization. In order to do that, barriers posed by a state centred approach should be eradicated and landlord resistance should be avoided [35].

While the '80s, which were characterized by the introduction of the structural adjustment funds and by the disillusionment of the agriculture as driving force of the development, experienced a total carelessness about land tenure reforms [36]; at the beginning of the 90s the so-called Market Led Agrarian Reforms (MLAR) started to gain attention as an alternative to the state centred approach. Such reforms became part of the neoliberal paradigm which identified the economic growth and the global market economy as the unfailing vehicle to prosperity. The MLARs were largely promoted by the International Financial Institutions and in particular by the World Bank, aiming to globally implement policies of formal private land property rights and voluntary transactions between willing sellers and willing buyers. Nevertheless empirical evidences from countries which accepted to try to adopt such a framework showed that these policies were not able to face the political power of great landlords. They not only fostered land concentration and social disorder, but unlikely could encounter the needs of and of local population and landless peasants [37] [38].

Finally, I argue the current increasing of land acquisitions during the last years is neither a new nor an isolated phenomena. Rather it is an uncontrolled acceleration of the historical process of commoditization and accumulation of the commons reshaping the global geography of capitalism. Such a MLARs implementation in a changing global geopolitical scenario, which is facing a systemic crisis let to consider the beginning of a new phase of the global neoliberal agenda that could be defined as *the land regime.* McMichael himself [39] some years ago questioned about the effects of food prices hikes catapulting the whole world toward a *post food surplus era* [40] through a food scarcity socially constructed, and commented as follow:

> *As an expression of food regime restructuring, the land grab reveals a new threshold in the conversion of farming and farm land into a source of food, feed, agrofuels and general biomass to serve the needs of a (minority) global class of consumers distributed across an increasingly multi-centric global food system.* [41]

The scholar highlighted new elements from the past accumulation processes like the energetic and carbon emissions reduction questions. Nevertheless it is necessary to complement this reference by adding the speculation to the analysis. In many cases land acquisitions do not involve any productive activity nor generate labour. Land is often acquired by taking advantage of lower prices and scarcely defined governances, counting on a future price increase. Such a strategy indeed is used as an investments portfolio diversification by financial players. This new phase and acceleration in land concentration are characterized by deep technological innovations which allow huge flows of financial capital to move all around the world without any precedent in history. Volumes of financial economy largely exceeded the real economy. The land rush may be considered as a way to convert this overaccumulated unreal capital into a real one. All these elements impact on agrarian question today:

> *The land-grab is forcing us to reformulate the agrarian question once again, this time "not only as a food question, but as a food and energy question", with agriculture positioned on both ends of the energetic equation.* [43]

[4] According to the *food regime* the following phases can be identified. Firstly, a state-centric period between the XIV and the XX centuries. It carried on around the Second World War. Such a period of economic nationalism was characterized by industrial capitalism and its resulting global reorganization of land tenures and property rights and by a struggle to a colonial global land grab [42]. In the aftermath, mercantilism and cold war have been trends of the postwar developmentalist interlude. During this period both blocks did state collectivization and reforms resulting in expropriations. A huge number of people moved away from rural to urban areas increasing proletariat. Since '80s/'90s the economic nationalism was replaced by the neoliberal globalization project. Such a phase of *corporate food regime* is characterized by an increasingly reduced state presence in agriculture and a consequent privatization. The transnational corporations supremacy push toward market oriented land tenure reforms.

Nevertheless, during the '90s the effects of the neoliberal model rise and the MLARs have already been noticed by peasants. They started a grassroots movement at global scale which played - and still plays - a fundamental role by opposing, studying and denouncing land grab and land acquisitions. Such a movement will be object of the following section.

THE ROLE OF TRANSNATIONAL AGRARIAN MOVEMENTS (TAM) AND CIVIL SOCIETY ORGANIZATIONS (CSOS)

As showed in the previous sections, the new land rush and land grab are some relevant symptoms of the neoliberal globalization process. In line with several studies, it is possible to argue that during the last twenty years nation states in developing countries have been transformed by some dynamics: globalization, partial decentralization and increasingly privatization [44] [45] [46]. Such pressures on the one hand reshaped linkages between different scales -global, national and local- making them more interconnected; on the other hand they restructured terms on which people accept or resist to global neoliberal political economies (Borras 2008). Moreover these changes did not save the agricultural sector and have been challenged by many organizations and movements been transformed as well [47]. On the one hand they have been pushed to further localize – as an answer to decentralization-, on the other hand they organized toward a higher level of internationalization -in response to globalization - [48].

For rural populations to defend their access to land is relevant. It has been crucial indeed in encouraging a strong mobilization. They organized in network and coalitions from a local to a global scale going through the breach opened by systemic crisis (food, financial, energetic and climatic). Such a resistance let them call into question the hegemonic economic paradigm at a level without any precedent. In the last twenty-five years indeed peasant movements and civil society organizations (CSOs) have been able to open and occupy a political space in the global institutional arena. They finally had a voice in the decision making process about governances in food and agriculture by proposing their alternative in terms of the so called Food Sovereignty principle [49]. Borras [50] studying Transnational Agrarian Movements (TAM) like La Via Campesina defined such a space as new – due to a previous lack of representation in institutional meetings open only to officially recognized NGO and rich agricultures representatives- and distinct - because it has been defined, occupied and used by and for poor peasants and all players related to land-. Such a space anyway needs to be continuously defended, increased and redefined.

Why and how TAM have been able to succeed in their advocacy where others failed? Harvey [51] analysing social movement resisting neoliberal globalization classified them in movements against accumulation by dispossession – opposing to primitive accumulation dividing peasants from their land- and movements against extended reproduction - resisting against exploitation of wage labour and the conditions defining social salary. The author highlighted the practical and theoretical urgency to find an organic connection between these two forms. McMichael [52] pointed out how the politics of La Via Campesina unifies these two components:

> *Arguably, Vía Campesina's politics unites these resistances, organically, in linking the accelerated movement of food with the accelerated dispossession of the peasantry. Neoliberal industrialization of agriculture on a world scale simultaneously generates casual labour and reduces capital's wage costs.*
> *Vía Campesina dereifies the euphemism of 'free trade', revealing its corporate/state origins and its unequal and devastating consequences. Further, to show that the expanded reproduction of capital depends upon the generation of an expendable global wage-labour force, also shows that corporate agriculture, as such, is not simply about producing cheap food, it is also about securing new conditions for accumulation by lowering the cost of labour worldwide. It is in this sense that agriculture is central to the solution.*
> *In building an organic link between movements against dispossession and against the relations of expanded reproduction, Vía Campesina importunes us to recognize that accumulation is […] about dispossessing alternative practices and foreclosing options for alternative futures. In particular, the ontology of capitalist modernity, […] rules out a place for peasants, physically expelling them from the land, and epistemologically removing them from history. Conversely, the ontology of the food sovereignty movement critiques the reductionism and false promises of neoliberalism, positing a practice and a future beyond the liberal development subject, and the science of profit. This emerging ontology is grounded in a process of revaluing agriculture, rurality and food as essential to general social and ecological sustainability, beginning with a recharged peasantry.*

Among the reasons which touched off the emergence of La Via Campesina in 1993 indeed it is possible to recognize the establishment of the World Trade Organization (WTO) and the acknowledgement that agricultural policies will be decided globally. It became crucial for peasants to be able to defend their interests in the institutional arena at that scale. It is useful to notice that in all debates and negotiations about agricultural policies inside international institutions the voice of peasant movements never pronounced any judgement. They have always been absent. Paul Nicholson, European represent of La Via Campesina *International Coordinating Committee* confirmed such an absence by affirming "The principal reason of the existence of La Via Campesina is to be that voice to the creation of a more just society [53]". In fact the presence of non-state actors at the first *World Conference on Agrarian*

Reform and Rural Development, held in Rome in 1979, has been limited only to international officially recognized NGO and specifically to the *'International Federation of Agricultural Producers* (IFAP)[5]. Nevertheless IFAP was only representing the interests of large scale market oriented agricultures [57]. The official debut of La Via Campesina in the international political arena was in 1996 at the Forum of Civil Society held in conjunction with *World Food Summit* organized by FAO. On that occasion La Via Campesina started to lay the foundation for what internationally has been known as its most important international campaign: the declaration of the *Food Sovereignty*[6] principle. The Food Sovereignty indeed was not only the key concept of the *Global Campaign on Agrarian Reform (GCAR)* launched in 1999 in opposition to MLARs, but the centre of the alternative model proposed by the most part of TAM using the so called *Human Rights Based Approach*. A common significance of the concept of 'land' indeed has developed inside GCAR during the years and it has finally been deeply connected with the right to food. In fact in the Food First International and Action Network (FIAN)'s view the right to land represent the fundamental precondition to the right to food. FIAN's allied with La Via Campesina in 1999. It actively worked with the movement about GCAR development and promotion. The aggressive promotion of MLAR by the WB has thus actively contributed to strengthen such broadly shared right oriented meaning significance of land.

Although several differences in terms of ideology and classes, almost all activists of La Via Campesina agree on the idea that 'land is crucial for peasant survival'. Nevertheless, the effective control of resources has always been monopolized by landlords and this shows the need to redistribute land to landless peasants. MLAR will not be able to do that, on the contrary it risks to frustrate any effort [60]. Such a strong opposition to MLAR constituted a key element facilitating not only the acknowledgement of a common principle but even the progressive affirmation of GCAR. At the same way, identification of WB – main MLAR financer and promoter - as a common opponent helped to face such high diversities inside La Via Campesina [61].

The innovation of the approach used by the movement lies not only in the connection between food and land with human rights, but also in the introduction of an alternative model of rights: the collective dimension above the individualistic one -prerogative of the utilitarian neoliberal model-. In the movements' view indeed problems in governance related to food and agriculture should be considered at all scales as they are interdependent.

The need to develop and to implement such a strategy led to the establishment of another organization: the *International Planning Committee on Food Sovereignty* (IPC). Such a broad network grouping not only TAM as La Via Campesina but also commercial agricultural unions and other NGOs – member at the same time of other organizations as the International Land Cohalition (ILC) - count around 500 rural organizations all around the world. IPC consist of a space of representation and comparison for millions of food producers. Although as other movements and organizations it has inevitably to face strong internal ideological and class differences of the several members, IPC is a platform allowing active participation to decision making processes about food and agricultural policies through facilitations between NGO and peasant movements and international institutions as FAO [62]. Since 2003 IPC assisted participation of more than 2000 small scale food producers and indigenous populations representatives in FAO conferences. IPC served as mouthpiece of the will of an alternative model to free market and agribusiness [63]. Finally it led an ideological diversification in this political space [64].

A first interaction opportunity with international institutions arrived in March 2006 during the *Conference on Agrarian Reform and Rural Development* (ICARRD). The IPC refused to participate at the official conference and preferred a parallel civil society forum with opportunity to interact with official deliberations. During that conference the right to land and its importance - not only in economical but also in cultural socio-political and historical terms- have been officially recognized [65]. The final ICARRD declaration was the base for the FAO's initiative launched in 2009. The main aim was the development of a practical code of conduct for governments to improve governance on natural resources according to the shared recognition that clear tenure systems and fair access to land, fishery and forests are crucial to reach food security and the right to food. Thanks to an inclusive process with strong participation of international organizations and peasant movements to a long series of meetings, the civil society elaborated its proposal presented and negotiated with member states. The result has been the document *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests* ratified and came into force in 2012. Despite being voluntary the code clearly refers to some human right obligations and links them to natural resources. Moreover it contains a guide section about the practical implementation. Arguably the *Voluntary Guidelines* have some weaknesses.

Firstly they did not obtain inclusion of water as a resource linked to land, secondly they have been too weak in giving priority to small scale food producers and finally to protect indigenous populations – although they are already recognized by others international codes; nevertheless the *Voluntary Guidelines* doubtless represent an almost unheard-

[5] L'IFAP is one of the oldest transnational agrarian movements. It has been founded in 1946 by commercial oriented associations of agricultures mostly from industrialized countries which led the organization up to 2008. IFAP became the agricultural sector principal organization and obtained the status of official representative during international intergovernmental institutions meetings [54]. IFAP policy is almost related to the interests of its most economic powerful members [55]. In IFAP's view neoliberalism is an opportunity and it always approved it [56].

[6] The *Food Sovereignty* principle first appearance was during the '80s in Central America. It was the answer to the structural adjustment programs which cancelled public support to agriculture and included food imports from the United States. At that time food sovereignty was mainly though as 'national food security' and linked to the right to continue produce locally [58]. *Food Sovereignty* has been internationally stated in 1996 at the NGO forum of the *World Food Summit* as: "the right of every nation to preserve and develop its own capacity to produce food in regards of cultural and productive diversity [59]. The principle evolved during the following years and lies today on 6 pillars as stated in the 2007 "Nyéléni Declaration" for more info: http://www.foodsovereignty.org/FOOTER/Highlights.aspx.

of step forward not only in the application of the *human rights based approach* but also in making good use of circumstances and results of the collective struggle.

FINAL REMARKS

In the present paper we highlighted some methodological and theoretical issues emerging while studying the recent land rush and land grab. It is possible now to try to answer the upcoming questions raised by the close examination done in this text.

By deconstructing the land grab and land acquisitions discourse - which, as previously pointed out, a neoliberal trend has gradually de-politicized and brought on a dichotomist cost/opportunity level -, it has been possible to highlight the social dynamics presiding over the changes in land use pertaining to the phenomenon in point. Focusing on spatial analysis it is possible to recognize this wave of land acquisitions as the effects of a neoliberal political economy at a global scale. From a geographic perspective, such land use changes could be considered as what Turco [66] defines widespread deterritorialization and reterritorialization processes. In land acquisition processes territory is structured by a growing privatization and reified by a intensive use or speculation on land. Moreover I also pointed out that by assuming the definition of land grab proposed in the first section, it would be possible to distinguish it from land acquisitions and consider it as a way they are done. Finally I argue that land acquisitions are processes of commoditization and progressive resources accumulation. Land deals are often realized by means of predatory practices which lead us to talk about grab which in turn could degenerate in conflicts. Anyway, may they be acquisitions, or may they present features of land grabbing, the increasingly land tenure concentration toward a reduced number of owners implies a growing competition which collides with concepts like cooperation, sustainable development and common good, but will profit few people at the expense of many. *Rebus sic stantibus*, I argue that land acquisitions could neither be useful to achieve target like poverty eradication and food security nor be considered a development opportunity. According to a critical approach to neolibelarism, land acquisitions should be avoided because they are part of this unsustainable economic model. Such a model in fact considers economy as absolute: free from any tie with social and environmental spheres. On the contrary, these three aspects should never be neither divided nor differentiated. They are part of a whole and can't be separated in any kind of political economy or territorial planning analysis aiming to achieve sustainability.

In this background TAM and other kind of CSOs try to resist to what Raffestin [67] would define neoliberal exclusive territoriality[7] by reshaping capitalism geography through the achievement of a new territoriality using the human right based approach as main mediator to reduce relations asymmetry in the global political arena. TAMs in fact chose to propose their alternative to the 'market' basing on the food sovereignty principle which considers land and food as fundamental rights. The achievement of the *Voluntary Guidelines* represent an unprecedented turning point. It was not the conclusion but the beginning toward the establishment of a new *modus operandi* in decision making processes related to global policies. Moreover, despite maybe not being the most effective one, it demonstrated that an alternative perspective to market economy is possible. The political space once opened, should be continuously renegotiated and redefined in order to face internal and external issues due to the strong heterogeneity which characterizes TAM and CSO.

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LARGE-SCALE LAND ACQUISITIONS AND FOREIGN DIRECT INVESTMENTS: A CHALLENGE FOR INTERNATIONAL LAW

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ABSTRACT

Foreign acquisitions of land for agricultural use in developing countries caught the increasing attention of the international community in the last years. Several factors such as the generally large size of the deals, the lack of transparency and incompleteness of contracts and the risk for local communities' rights led to fears of land grabbing. Indeed, large-scale land allocations mainly affect high-value lands, due to their agricultural production capacities or to the availability of abundant waters for irrigation. After the season of nationalizations boosted by the decolonization process, this modern rush to the conquest of foreign agricultural lands is often led by private actors, namely multinational companies, which on their part benefit from the support of some governments fostering international direct investments in farmable lands. As far as the legal perspective is concerned, large-scale land acquisitions raise remarkable questions on the need for a tougher regulation of multinational companies' activity, as well as on the role that international institutions and civil society are (or should be) called to play. To this regard, the paper briefly analyses recent agricultural land acquisition trends, then focusing on the main reactions to this phenomenon and to its shortcomings. In particular, the paper aims at considering the efforts that international actors have put in place in order to set up principles and guidelines allowing for a proper balance between foreign investors' interests and local needs. To this regard, the analysis is centred on three aspects: the effectiveness of multinational companies' self-regulatory solutions; the role of international law instruments; the debate on the adoption of an international code on large-scale land acquisitions: the analysis highlights the absence of specific binding *ad hoc* international instruments, thereby claiming for the adoption of hard-law rules to properly address the phenomenon.

INTRODUCTORY REMARKS: BACKGROUND AND INCIDENCE OF LARGE-SCALE LAND ACQUISITIONS

As a complex global phenomenon, land grabbing raises several and highly debated economic, sociological and political questions, which would require an extensive and continuous study. The analysis proposed in the present brief paper is therefore limited to some rapid glances to a selection of issues that large-scale land acquisitions pose on the international stage [1].

The last few years have been characterized by a surge of interest in foreign acquisitions of land in developing countries. This trend led to fears of land grabbing, especially because of the generally large size of the deals, the lack of transparency and completeness of contracts and the peculiar features of the lands at stake. Indeed, large-scale land allocations mainly affect high-value assets, due their high agricultural production capacities or to the availability of abundant waters for irrigation. Land acquisitions involve both private multinational companies and foreign governments and have to be defined broadly, including purchase of ownership rights as well as use rights, e.g. through leases or concessions.

Taking the sociologist Sigmund Bauman's words, land grabbing has been described as a liquid phenomenon [2], which takes different shapes depending on the geographical areas and is further modelled in various forms by the interests of the subjects involved, such as food production and supply or biofuel processing [3].

Some notes on the factual background of large-scale land acquisitions can be useful to understand the importance and the incidence of the subject under consideration. As a matter of fact, the convergence of different global crises - namely the enduring financial earthquake, the 2007-2008 food prices crisis, the increasing need for sources of energy and the environmental detrimental consequences of climate change - in recent years has contributed to the revaluation of land and to the subsequent rush to control extensive areas in developing countries.

Productive lands are therefore targets for international investments, but this trend has to be paired with the situation of local communities and balanced with their needs. In fact, according to FAO reports [4], the incidence of future population increase is expected to affect mainly developing countries, where the majority of world rural poor live. Moreover, in order to meet the world growing needs - primarily rooted in developing countries - food production would have to double by 2050. FAO also estimated that an additional 120 million hectares - an area twice the size of France or one-third that of India - will be needed to support this growth in food production, without considering the compensation required for what are certain to be losses resulting from unsustainable forms of agricultural production and the losses of

agricultural soils destined to urban sprawl [5]. Almost paradoxically, the impetuous rush to farmable lands is a process of re-territorialization, but generates de-territorialization, since host States surrender them to foreign investors [6].

In this context, the collection of precise and comprehensive data is hampered by several factors, such as the variety of the actors on the stage and of the areas at stake. The absence of an overall official record on the volume of cross-border large-scale deals has been partially obviated by journalistic inquiries [7] and by the studies developed by NGOs and international organizations in the last years. According to an estimate from the International Food Policy Research Institute (IFPRI), between 15 and 20 million hectares of farmland in developing countries were subject of transactions or negotiations involving foreign investors as from 2006 to 2011, an area which equals to a fifth of all the farmland of the European Union. More recently, Oxfam estimated that downright 227 million hectares of agricultural areas in a way or another changed hands in the last decade [8]. Still, these impressive data show huge variations and lack a clear and objective scientific basis, so that it is very hard to assess the true range of the phenomenon.

Among the main target areas, sub-Saharan African countries, Latin America, South-Eastern Asia and Caucasian States attract the most significant amount of foreign investments. Remarkable examples are the Democratic Republic of Congo, where China has acquired extensive areas in order to establish the world largest oil palm plantation, and Sudan, where huge extensions of farmable lands have been acquired or leased by South Korea, The United Arab Emirates and Egypt.

In principle, this trend presents interesting opportunities. Indeed, in the last decades, despite its economic and social potentialities, agriculture proved to be quite a neglected subject, failing to attract foreign direct investments and lacking comprehensive and far-reaching policies and reforms [9]. Injection of increasing investments by multinational corporations and foreign governments could derive in employment, transfer of technologies, increased public revenues, improved processing chains, more affordable prices, less dependence on international markets and their fluctuations to meet local and foreign communities' food supply needs.

At the same time, however, several possible shortcomings and risks can be identified, in terms of abuse of power by foreign investors or infringement of local communities' fundamental right to property and the access to adequate quantity and quality of foodstuff and freshwaters. The current wave of investments often takes place in contexts where local communities have insecure land rights and are therefore vulnerable to dispossession. Such risks are often exacerbated by the economic and political feebleness of target countries [10].

SHAPING A NEW WORLD ORDER: LAND GRABBING, INTERNATIONAL GOVERNANCE AND THE ACTORS ON THE STAGE

Land grabs today are influenced by past practices and historical legacies. They exhibit continuities from the past, but also diverge in significant ways and are riddled with contradictions and tensions. The emerging approach of investors to foreign farmable lands, in fact, recalls the early involvement of multinational companies in developing countries' agriculture during colonialism [11]: at that time, international investors sought the internalization of land assets, through forms of direct control over vast areas, mainly exploited for exportation purposes. This solution allowed for neutralized negotiation costs and for stable and secured food supply, which current investors on many occasions pursue as well.

After the Second World War, however, the decolonization process boosted an opposite trend, resulting in massive expropriations and nationalizations [12]. The current scenario, above briefly outlined, is now favouring the resort to the early schemes, with some peculiar features [13]. First of all, unlike in the past, land grabbing occurs in independent States, which to a different extent exercise their sovereign powers on their territories. Secondly, investors nowadays come from very different parts of the world, being Arab Gulf States, China and South Korea particularly active in this field. Thirdly, the priority of the actors on the stage is to seek for new resources to be exploited, while in the past multinational companies aimed at gaining access to new markets. Finally, the current scenario represents a large-scale and long-term process, which appears to involve higher amounts of lands than past experiences [14].

In this context, the described transboundary process goes through multiple layers of international governance mechanisms, where a constellation of public and private actors is involved.

Before considering the international scenario, it is worth briefly focusing on the traditional concept of land governance at national level. Indeed, both the international and local dimensions are opposite but complementary elements of the same phenomenon, considered from radically different perspectives.

From a general point of view, land governance traditionally refers to the rules, processes and structures through which decisions are made about the use of and control over land, the manner in which the decisions are implemented and enforced, and how competing interests in land are managed [15]. Good governance in land therefore implies the principles of universality of tenure security, equitable participation, adherence to the rule of law, sustainability, effectiveness and efficiency in the administration of land. Also, due to the extremely different local legal traditions in land tenure, it often implies the protection of land customary rights, since traditional tenure, vested in family, community or tribe, is widely accepted in many developing countries [16]. Indeed, considering that land constitutes a source of livelihoods and social security, rights concerning its use, control and transfer are not purely technical issues. Land rights are closely interlinked with the identity, history and culture of communities, a factor which makes land reforms a highly sensitive issue [17]. National land governance is deeply intertwined with the phenomenon of large-

scale crossborder farmland deals. In fact, anywhere land tenure and land administration are not effective and formalized, individuals suffer from the risk of dispossession, so that the intervention of foreign investors may negatively affect entire local communities.

On the contrary, documented rights and proper land administration offer to holders the possibility to enact legal remedies and to see their rights being upheld by a court, or even to become negotiators in the deals concerning their lands. To this regard, the World Bank estimates that, across Africa, only between 2 and 10% of the land, mainly urban, is held under formal land tenure and the extent to which national legal frameworks protect local land claims is variable but often limited. The World Bank itself concludes that countries with poorer records of formally recognized rural land tenure have attracted greater interest [18]. This is why the rising awareness on the international phenomenon of land grabbing led several developing countries to revise and reform local land planning and tenure laws, as well as their bilateral/multilateral trade, investment, and development cooperation agreements, in order to either facilitate [19] or limit land deals promoted by foreign investors and their effects on local populations [21]. Ultimately, from a national point of view, the possibility to benefit from the opportunities of economic development brought by foreign land investments highly depends on governments' capacity to guide them in the interest of their populations, for instance as far as the terms and conditions of the contracts and the supervision of their effective implementation. However, according to several scholars, both government capacity and the transparency and completeness of contracts for these recent large land deals are very problematic [22].

At global level, the notion of international governance usually refers to all the hard or - more often - soft procedures, mechanisms and institutional arrangements which the various actors involved put in place to address crossborder issues. To this respect, land grabbing is causing a major shift in the perception of natural resources, from elements under national sovereignty to meet individual and collective essential needs to commodities for the global market. Such change involves new balances at global level, which the international community, thanks to the early efforts of the FAO UN Agency, has been trying to address as from the late seventies. That early commitment was the first step of a longer path, which is worth briefly resuming and which led to an increasing awareness on land-related issues on the supranational stage.

In fact, the first attempts to establish formal international governance for land occurred on the occasion of the FAO World Conference on Agrarian Reform and Rural Development (WCARRD), which was held in Rome in 1979. The conference was intended to set up an international legal and institutional framework to foster rural development and land reforms, especially in developing countries [23]. However, the objectives underpinned during the Conference were soon abandoned, mainly due to the lack of political support and to the strong faith in industrialization as a motor for development.

During the nineties, the issue of agricultural lands management was listed among the key-issues to be dealt with by the Bretton Woods international organizations, and in particular by the World Bank, which, from then on, played a continuous and active role in this field. The market-led reform process upheld by the World Bank was soon flanked – or, better, opposed - by civil society commitment, claiming for justice-oriented redistributive land policies. The main outcome of this rising awareness was the Global Campaign for Agrarian Reform, promoted by the international peasant movement Via Campesina [24], which was intended to call for comprehensive agrarian reforms at the global level. In 2006, this initiative eventually led FAO to convene in Porto Alegre, in Brazil, another International Conference on Agrarian Reform and Rural Development (ICARRD). The representatives of the States and civil society organizations gathering in Porto Alegre stressed the importance of collective rights and acknowledged of the multi-faceted social dimension of land as leading principles for the next steps to be taken. The ICARRD paved the way for a season of reforms towards a more attentive approach to land deals of foreign investors in developing countries and an improved regime of land tenure in those areas [25]. In particular, the newly favourable environment brought to the adoption of the World Bank Principles for Responsible Agricultural Investments (PRAI), to incisive revisions of the 1998 Equator Principles on the proper management of the projects finance by the World Bank and to the early debate on FAO Voluntary Guidelines on Land Tenure. Moreover, the 2008 food crisis imposed the adoption of several initiatives by other supranational actors, such as the G8, the G20 Forums and the Doha World Economic Forum, the former launching a New Alliance for Food Security and Nutrition [26]. In the meanwhile, civil society and NGOs have been spreading awareness on the possible shortcomings of the current wave of crossborder investments in agricultural lands.

In general terms, this entangled scenario marks some significant changes in the world order, which can be summed up in the concepts of multipolarity and fragmentation. Indeed, land grabbing is a key-example of the emergence of new protagonists on the international stage, willing and able to flank and even overcome traditional sovereign States. First of all, the phenomenon under consideration marks the transition to a new political and economic balance, mainly due to the raise of the BRICs and the strengthened influence of new OECD countries, such as South Korea and Arab Gulf States. Multipolarity and fragmentation are also testified by the shift of authority from States to an increasing number of international organizations [27], often highly specialized and endowed with significant political or even deliberative powers. As far as the policies on arable lands are concerned, a key-role is played by the World Bank, whose development strategy supports large-scale investments, the FAO and the UN Committee on World Food Security (CWFS), which carried out several studies on the subject and adopted important soft-law international instruments. Another remarkable calibration of traditional balances regards the role of private actors in global land governance: NGOs, transnational business lobbies, multinational companies, media and several other subjects take active part in this mechanism, often supporting opposing interests [28]. On the one hand, on many occasions, they are involved as

stakeholders in State projects and practices; on the other hand, they often launch their own initiatives, which can be of a great significance for the evolution of large-scale land deals. The first case can be exemplified by referring to the International Standards Organization (ISO), a formerly public network of national bodies which adopts common global technical standards often able to influence and orient national and international regulatory choices or judicial decision-making [29]. The second can be represented by self-imposed codes of conduct, which sometimes multinational companies adopt in order to orient their investment campaigns and to highlight to consumers and to the public opinion their efforts to avoid any violation of local communities rights through their activity [30].

Many further examples could be listed, but it is worth considering more in-depth some of the outcomes of the described multipolar and fragmented global land governance, namely the main soft law and hard law instruments concerning investments in land and land-related rights.

THE WORLD BANK PRINCIPLES FOR RESPONSIBLE AGRICULTURAL INVESTMENTS (PRAI) AND THE EQUATOR PRINCIPLES (EPS)

Many large-scale investment projects are made possible thanks to long-term loans or insurance and financial guarantees, often provided by banks and international financial institutions. In the past decades, many of these projects were put under scrutiny by the international community, due to the detrimental effects that their implementation had on the environment and to the massive human rights violations that some of them caused. This is the main reason why in 1998 the World Bank adopted the Safeguard Policies and Performance Standards. Such set of standards was aimed at selecting the projects to be financed by the World Bank and its subsidiary - the International Financial Corporation (IFC) - thus trying to avoid any adverse consequence. This initiative was welcomed by the international community, but its effects were formally confined to the projects financed by that international organization [31].

However, the Safeguard Policies paved the way for more extensive and effective instruments and worked as examples for all public and private financial actors. As a matter of fact, in 2002, nine international banks and the IFC started to negotiate the adoption of a more comprehensive document, which was launched in 2003 under the name of Equator Principles (EPs) [32]. The content of the EPs highly reflected the 1998 World Bank Performance Standards and was later on updated in 2006 and 2012.

According to the preamble of the Principles, the EPs are to be defined as a credit risk management framework for determining, assessing, and managing environmental and social risk in project finance transactions. Accordingly, the main objective of the Principles is to ensure that large-scale projects and their implementation meet specified social and environmental requirements, thereby reducing the risk of operations in developing and non-high income OECD countries where adequate state regulation is not in place [33].

The EPs apply to all projects whose capital cost exceeds 10 million US dollars and which are promoted by any of the 77 financial institutions that nowadays adhere to them. The actual number of EP-compliant debt offerings is in fact significantly higher than the formal number of participant institutions, because the EPs apply to all loans involving one of them among multiple non-member parties [34].

From a formal point of view, the EPs system is an international private association, headed by a steering committee composed by 13 elected members, which oversees the development of the Principles and issues periodical guidelines. Even if the daily implementation of the Principles is left to each member individually, every year a report on financed projects is published, in order to underline best practices and align the waves of investments to the EPs.

At present, the core Principles are ten and include the review and update of social and environmental risks; a social and environmental impact assessment for every project; the development of management plans to address assessed risks; the independent review of projects and risk assessments; grievance mechanisms that ensure the good social and environmental performance of the project; compliance with host country laws and regular reporting to local authorities.

EPs are increasingly relevant for land grabbing, since most of the investments in this field are long-term and large-scale loans, requiring project financing and multiple international investors, cases which the EPs primarily address. Moreover, on the occasion of the 2012 reform of the Principles, the members agreed to insert specific references to land uses and access. In particular, Performance Standard 5 on land acquisitions and involuntary resettlement recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land. Involuntary resettlement therefore has to be in principle avoided and in case it proves to be unavoidable it should be minimized through carefully planned and implemented economic and asocial measures, capable of mitigating its impact. Performance Standard 7 on indigenous peoples and natural resources subject to traditional ownership or under customary use imposes the principle of free, prior and informed consent of local communities involved on projects with potential significant adverse impacts on their lives; instead, Performance Standard 8 focuses on the need to protect the cultural heritage of the areas at stake.

Some authors criticize the EPs, since they never take a truly restrictive stance on potentially dangerous projects, instead applying mitigation, compensation and negotiation strategies to reduce the negative repercussions [35]. Others criticize the vagueness of the Principles and the extensive discretionary power conferred to each member in the operation of the system, which lacks a clear and strict guidance. Moreover, from a substantive perspective and despite the high-sounding goals of the Principles, the system lacks transparency and disclosure requirements, so that its external accountability is weak. At the same time, members are in most cases market operators, which are inevitably more

attentive to their clients' interests than civil society or local communities claims [36].

In conclusion, the EPs mingle the efforts put in place by international financial institutions and the search for increasing reliability by financial operators, but are to a large extent deprived of the necessary tools and instruments to effectively and individually bind each adhering member.

THE FAO VOLUNTARY GUIDELINES ON THE RESPONSIBLE GOVERNANCE OF TENURE OF LAND, FISHERIES AND FORESTS

As already mentioned, in 2006 many FAO members gathering at the ICARRD agreed on the need to put in place adequate efforts to ensure secure and sustainable access to land and other natural resources, as an elective means to fight against widespread rural poverty. In particular, the final acts of the ICARRD stressed the importance of an improved land tenure, in order to formalize and clarify existing land rights.

In 2009, stemming from this shared commitment and inspired by the similar experience of the 2004 Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security, the FAO launched the negotiations for the adoption of Voluntary Guidelines on land and other natural resources tenure.

The negotiation process took more than three years and was highly participatory, since it involved several public and private stakeholders at national, regional and global level. In particular, negotiations took several subsequent steps, at each stage of which the drafts of the final Guidelines were publicly submitted to any interested actor, for proposals of alternative formulations or amendments. The text was finally adopted by the CWFS during a special session, in May 2012, as a comprehensive guide to governments to improve land, forests and fisheries governance [37].

As the official title suggests, the Voluntary Guidelines are not intended to establish new legally binding obligations, nor replace existing international treaties and principles. However, they explicitly and continuously refer to existing binding international human rights obligations and provide interpretation and guidance on how to implement these obligations in the specific field of land and further scarce natural resources.

The document constitutes a framework for natural resources-related policies and is divided into seven parts: responsible governance of tenure; the legal recognition and allocation of tenure rights; transfers and other changes to tenure rights, such as restitution and redistributive reforms; administration of tenure; responses to climate change, natural disasters, conflicts and other emergencies; the promotion, implementation, monitoring, and evaluation of the Guidelines [38].

Despite the ambition to adopt a comprehensive document, given the fact that land and natural resource tenure issues vary considerably across the world, each part of the document does not apply in the same way to every State. This also derives from the principle of common but differentiated responsibilities, a cornerstone of international environmental law, according to which developed States bear major burdens in the international pursuit of sustainable development, due to the high pressure that their societies place on the global environment. An essential aspect of the implementation process proposed by the Guidelines is the setting up of national roundtables and platforms for dialogue with the stakeholders. These *fora* are intended to identify the main problems and possible solutions when implementing the Voluntary Guidelines at the national level. At the global level, the Guidelines are an accepted standard set by the CWFS in the field of food security and nutrition, so that all relevant UN agencies are asked to support their implementation [39].

As to monitoring processes on the global situation, States and other CWFS participants are currently discussing the potential design of a CWFS-based monitoring mechanism, with several proposals under consideration. One option is an independent body endowed with the duty to record progress in improving governance of tenure; according to a second option, States would present reports on their efforts to implement the Voluntary Guidelines, that would be peer-reviewed by other CFS participants.

THE ROUNDTABLE ON SUSTAINABLE BIOFUELS (RSB)

The RSB was established in 2007 as a reaction to the widespread criticism on the sustainability of extensive production of biofuels. Besides environmental concerns, the economic and social impact of biofuel projects poses severe challenges, mainly due to the vast areas needed, the adverse effects on wildlife habitat and local food production and the insufficient impact on local employment rates [40]. The RSB is a platform which highly reflects the multipolar and fragmented essence of global land governance, since it involves multinational companies, organizations from civil society and public actors interested in the field at stake. Among the others, the World Wide Fund for Nature (WWF), the United Nations Environment Program (UNEP), Royal Dutch Shell, British Petroleum, Toyota and several national governments are actively involved in the Roundtable, whose main goals are to establish criteria for sustainable biofuel production and a voluntary certification scheme for produced and processed biofuels based on these criteria.

The participation in the RSB decision-making and revision process is organized in a chamber system. The core deliberative power is conferred to the steering committee, an elective body, to which applications to join the platform have to be addressed. Candidate stakeholders can apply to join one of seven chambers, depending on their legal nature:

farmers and growers of biofuel feedstock; industrial biofuel producers; retail/blenders, transportation industry, bank/investors; rights-based NGOs and trade unions; rural development or food security organizations and smallholder farmer or indigenous people organizations; environment conservation and climate change organizations; and intergovernmental organizations, specialist agencies, governments. The Roundtable adopted twelve principles and criteria for sustainable biofuel production, such as legality, respect for land and labor rights, decrease of greenhouse gas emissions, local food security, conservation of biodiversity, protection of soil and freshwaters quality and availability, minimization of air pollution. Some of these standards and principles have been specifically applied to projects of acquisition of extensive agricultural areas, to grow crops for biofuel processing.

Despite its soft-law nature, the RSB principles were adopted taking into account the existing international legislation on biofuel production and their formulation is much more stringent than other similar instruments. For instance, according to principle 12 on land rights, no involuntary resettlement shall be allowed for biofuel operations and also in cases of unresolved land tenure disputes biofuel operations shall not be approved. One of the core- aspects of the Roundtable is a system of certification, a complex process through which interested stakeholders obtain from an independent third party the issuing of a certificate to confirm the respect of every RSB principle and standard. However, the reliability of this certification system is under criticism, mainly due to the lack of transparency of the evaluation process [41].

NATURAL RESOURCES GRABBING AND FUNDAMENTAL RIGHTS: INTERNATIONAL SOURCES ON THE RIGHT TO FOOD AND WATER

In June 2009, Olivier De Schutter, the UN Special Rapporteur on the right to food, issued a report on a set of principles to address 'the human rights challenge' of large-scale acquisitions and leases of land. The document highly reflected the ongoing scholarly and social debate on the legal status of the right to individual access to adequate quality and quantity of food and freshwater resources [42]. In the context of further initiatives at global level, such as the adoption of guidelines on land policies and governance by international and regional organizations, which the principles fostered, the report was intended to ensure that negotiations leading to land acquisitions and leases complied with a number of procedural requirements, including the informed participation of local communities. They also sought to ensure that such transactions should allow for adequate benefit-sharing, and should under no circumstance trump the human rights obligations of States. To this regard, the document is the result of the independent work of the Special Rapporteur and did not undertake an international negotiation process, but they can be seen as summarizing and aggregating the relevant and applicable existing human rights obligations of States. In this perspective, they differ from other soft-law instruments such as the CWFS guidelines, since they do not provide for new implementation mechanisms and are limited to the indication of the (in general pre-existing) international obligations of the States.

The report puts forward several proposals on four main human rights focuses: the right to food; the rights of local communities, with a particular accent on self-determination; the right of indigenous peoples; the right to social and economic development of land users and agricultural workers.

As far as the right to food is concerned, the international legal background clearly binds each State to ensure sufficient, nutritionally adequate, and safe food to anyone under its jurisdiction. According to article 11 of the International Covenant on Economic, Social and Cultural Rights, this obligation entails the access to the minimum essential food, so that everyone can be free from hunger. The State is also obliged to refrain from infringing on the ability of individuals and groups to feed themselves, where such an ability exists, and to prevent third parties from encroaching on that ability. As a third aspect, the State is called upon to actively strengthen the ability of individuals to feed themselves.

According to many authors, similar obligations refer to freshwater resources, despite no international binding provision expressly acknowledging the right to water can be detected so far. To this regard, the UN Under-Commission on Human Rights remarked in the Preamble of the Resolution 2002/6 "*the urgent and persistent need for increased attention and commitment by all decision-makers to the right of everyone to drinking water supply and sanitation*". At the same time, the UN Committee on Economic, Social and Cultural Rights launched the General Comment No. 15, wholly devoted to the right to water, according to which States are under the duty to adopt all the measures necessary to grant the access to water resources without any kind of discrimination: "*States have a constant and continuing duty to move as expeditiously and effectively as possible towards the full realization of the right to water*".

Grounds for a possible right to water could be found out among the several inter-state rights and duties concerning environment and shared natural resources, the largest part of which was mentioned in the UN Convention on Non-Navigational Uses of International Rivers and Lakes [43]. A notable contribution comes from several conventions on the duties of States with reference to particularly "weak categories" of people: while asserting the rights to life and health, they often mention the importance of sufficient quantity and quality of water resources. For instance, article 14, paragraph 2, of the UN Convention on Elimination of Discriminations against Women (1979) declares that every woman would have to benefit from adequate standards of living, there included the water supply for domestic and hygienic uses. A similar provision can be found in the UN Convention on the Rights of the Child as well, thanks to which States are bound to the protection of children's health, even by the means of the higher quality of freshwaters they consume (article 24, paragraph 2). Other potentially relevant instruments are those regulating armed conflicts,

which entails the necessity to protect civilians, to discipline occupied areas and prisoners of war's treatment. Among the others, a special attention can be devoted to the Geneva Convention relative to the Protection of Civilian Persons in Time of War, which prohibits to attack or damage any kind of facility necessary to civilians' survival, such as water distribution networks and sewage treatment facilities.

As to land users and indigenous peoples' rights, the report highlights the importance of the principle of self-determination, as described in article 1, paragraph 2, of both the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights, according to which all peoples are entitled to freely dispose of their natural wealth and resources and may not be deprived of its own means of subsistence.

To this respect, the document first of all focuses on the possible adverse effects of land evictions, quite a spread and neglected problem in many developing countries. As clarified in general comment No. 7 (1997) of the Committee on Economic, Social and Cultural Rights on the right to adequate housing (article 11, paragraph 1 of the Covenant), the protection against forced unlawful evictions is a component of the right to an adequate standard of living. The document makes reference to the 2007 UN Special Rapporteur on the right to adequate housing, according to which evictions must be authorized by law only in exceptional situations, when mandatory general interests have to be pursued, and in any case they have to be regulated so as to ensure full and fair compensation and rehabilitation.

Moreover, access to land for indigenous peoples has been given specific forms of protection under international law. Articles 13 to 19 of ILO Convention No. 169 (1989) concerning Indigenous and Tribal Peoples in Independent Countries relate to land rights. Under article 8, paragraph 2 (b), of the United Nations Declaration on the Rights of Indigenous Peoples, "States shall provide effective mechanisms for prevention of, and redress for, … any action which has the aim or effect of dispossessing [indigenous peoples] of their lands, territories or resources." Article 10 of the Declaration guarantees the right not to be forcibly removed from their lands or territories, and no relocation shall take place without their free, prior and informed consent and after agreement on just and fair compensation and, where possible, with the option of return. Articles 25 and 26 of the Declaration, in addition, recognize the distinctive spiritual relationship of indigenous peoples with their traditionally owned or otherwise occupied and used lands, and that they have the right to own, use, develop and control these lands. States must therefore give legal recognition and protection to these lands, territories and resources, with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned. Furthermore, article 32 of the Declaration embodies the principle of good faith, free, prior and informed consent, which the Special Rapporteur includes in his report as an essential requirement for any large-scale land deal.

In conclusion, in order to address such challenges, Principle 1 suggests the negotiations leading to investment agreements be conducted in a fully transparent manner, and with the participation of the local communities whose access to land and other productive resources may be affected as a result of the investment agreement. In considering whether or not to conclude an agreement with an investor, the host government should always balance the advantages of entering into such an agreement against the opportunity costs involved, in particular when other uses could be made of the land available, which could be more conducive to the long-term needs of the local population concerned and the full realization of their human rights.

CONCLUDING REMARKS.

The proposed brief analysis leads some conclusive remarks, which are intended to search for some common trends in the fragmented and multipolar phenomenon of land grabbing, through the eyes of a traditionalist legal observer. Indeed, we would like to apply to the several efforts to face agricultural lands acquisitions-related challenges the views expressed by Carl Schmitt in his well-known 1942 essay *Land und Meer*. In his book, Schmitt travels through the history of humanity, searching for the core it is based on and trying to link the key-concepts of land and space to the fundamental rules of any legal order. According to Schmitt, the essence of a legal order lays on territorial borders and on the involvement of a certain portion of land. The reason for this assertion comes from the ancient Greek noun "*nomos*", which appears to be rooted on the verb "*neimen*", whose meaning is recalled by the German verb "*nehmen*", standing for "to conquer, to appropriate". As a consequence, "*nomos*" first of all should be linked to the concepts of "conquest and appropriation". More specifically, the ancient Greek verb "*neimen*" has three main meanings: to appropriate, to divide and split each portion and, finally, to graze. The third meaning, in particular, entails the use, farming and productivity of the conquered lands, eventually till their consumption. Any passage from one phase to the other of this chain of appropriation, in Schmitt's prophetic view, is caused by the change of global political balances and the subsequent rush to the conquest of new lands to be partitioned, ruled and exploited. Such traditional and land-centred vision of legal orders appears to be a good description of the current rush to new lands and helps to clarify some points on the role which law is asked to play in such a highly controversial and politically influenced context. First of all, due to the particular economic and social conditions of host States, national legal orders appear to be inadequate to provide sufficient protection to local communities and their interests and needs. The imbalances between the actors on the stage must be addressed by international human rights law and international trade and foreign investments law. To this regard, on the one hand, the mechanisms of agricultural lands global governance benefit from the active participation of each category of stakeholders, ranging from multinational corporations to civil society and international organizations. Such complex network reflects the multitude of the soft-law instruments aimed at orienting the behaviour

of foreign public and private investors. On the other hand, this paradigm is neither universally accepted nor effective, since the references to internationally recognized fundamental rights are most of times deprived of any true enforcement mechanism. Therefore, compliance with guidelines, codes of conduct and self-imposed principles is left to the sole responsibility of investors, while local land owners and users have no effective additional remedies to resort to in case of violation of their rights.

NOMENCLATURE

BRICs	Brazil, Russia, India, China
CWFS	Committee on World Food Security
EPs	Equator Principles
FAO	Food and Agriculture Organization of the United Nations
ICARRD	International Conference on Agrarian Reform and Rural Development
IFC	International Financial Corporation
ILO	International Labour Organization
ISO	International Standardization Organization
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
PRAI	Principles for Responsible Agricultural Investments
RSB	Roundtable on Sustainable Biofuels
UN	United Nations
WCARRD	World Conference on Agrarian Reform and Rural Development
WTO	World Trade Organization

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THE SOCIO-ECONOMIC IMPACT OF LARGE-SCALE LAND INVESTMENTS: THE CASE OF MALI

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ABSTRACT

Starting from the assumption that the agricultural sector, long neglected by development models and policies, is crucial for economic growth and development, the paper intends to contribute to the debate on the efficacy of large-scale land investments as a way to promote rural development. Based on the results of a field survey conducted in Mali in the area managed by the Office du Niger in the region of Ségou on 5 case studies of large-scale land investments by national and foreign investors, the paper aims at estimating the impacts of these projects on local populations. Despite the limits indicated in the methodology, the survey suggests some conclusions: weak creation of temporary and low paid jobs, deterioration of livelihoods of affected population as a result of the loss of land and land resources and the absence of adequate compensation, reduced economic independence of expropriated women farmers, environmental harm (destruction of trees, risks of water grabbing by large investors and of biodiversity loss), lack of transparency and consultation with affected communities, insufficient coordination between various levels of government and inadequate monitoring by the authorities of land investments' realization.

INTRODUCTION

Agriculture has been long neglected by development models (starting from the Lewis model in the late 1950s where capital accumulation had to take place in the industrial sector and the agricultural sector was conceived as a pure provider of labour) and by public policies. First of all, the development strategies of most developing countries have followed the Lewis model and, secondly, after the debt crisis of the 1980s the structural adjustment programs imposed on indebted countries have forced them to implement tight fiscal policies with cuts of all subsidies to agricultural inputs (seeds and fertilizers) and liberalization policies that dismantled the state marketing boards (which supplied smallholders with inputs and guaranteed them safe markets even if at low prices) in favour of private commercialization systems. However, since 2005 there has been a growing interest in investing in agriculture in developing countries and the attractiveness of land as an economic resource has increased. Most of these land investments by national and foreign actors are large-scale and are driven by various factors, such as: a) rising food prices in 2007 and 2008, due to little investment in agriculture for decades, low public food stocks, and growing food demand by emerging countries such as China and India, because of population and economic growth (which induces a change in the diet), b) the ensuing food security concerns of food importing countries with a limited amount of arable land, such as the Gulf States, South Korea, etc., that pushed them to outsource food production in developing countries, c) increasing demand for biofuel production (due to the rise in oil prices and the developed countries' policies to reduce greenhouse gas emissions associated with fossil fuels), timber and mineral extraction, d) land speculation due to expectations of rising land values and financial speculation (after the collapse of the U.S. housing and subprime mortgages bubbles in 2007- 2008 investment funds and hedge funds shifted a vast amount of money into the land market and future contracts for food commodities), etc. According to the Land Matrix data coordinated by the International Land Coalition, Africa, erroneously perceived as a region abundant in unused land, is the main target of these investments [1].

Starting from the assumption that the agricultural sector is crucial for economic growth and development, the present paper aims at contributing to the debate on the efficacy of large-scale land investments as a way to promote rural development. The debate is very intense (see among others [2-6]) and is often biased by ideological standpoints and conflicting models for agricultural development, due to the scarcity of data and evidence. This paper analyses the results of a field research conducted in Mali in the region of Ségou on 5 case studies of large-scale land investments by national and foreign investors. Section 2 examines the state of large-scale land deals in Mali and its legal domestic environment. Section 3 describes the methodology of the survey, while section 4 discusses the main impacts of the five case study large-scale investments. Finally, section 5 presents the conclusions of the study and some policy recommendations.

THE STATE OF LARGE-SCALE LAND DEALS AND LAND GOVERNANCE IN MALI

In Mali most of the large-scale land acquisitions have taken place in the irrigable zone managed by the Office du Niger (ON), with the headquarters in the town of Ségou. Officially established in 1932 under French colonial rule to develop export crops such as cotton, needed by French textile industry, and rice for Western Africa, the ON was restructured in 1994 as a semi-autonomous government agency with authority over more than one million hectares of irrigable land in the inland delta of the Niger River from the Markala dam, inaugurated in 1947, up to Mopti and beyond. The zone population can be estimated at about half a million people and the number of small-scale family farms at over 30,000. Traditionally, with respect to the irrigated land, the ON has given a *contrat d'exploitation* for one renewable year to smallholder farmers who do not pay a rent but only a water fee (*redevance eau*) of 65,300 fcfa/ha/season. The *contrat d'exploitation* can become a safer *permis d'exploitation agricole* if the farmer is punctual with the water fee payments. The access to the not yet irrigated (non *aménagée*) land, starting from 10 hectares, takes place through ordinary and emphyteutic leases (*bail*) for 30 and 50 years respectively, renewable as many times as the two parties agree to.

In 2005 there was a call from the Malian government to big investors to invest in the ON area which has "a gravity-fed irrigation potential unique in the world". The main reasons behind the call are the following: 1. To increase the pace of investment and extend the irrigation system in the area (due to shortage of public funds, the ON has managed to develop (*aménager*) only 100,000 ha out of a potential of 1,4 million hectares); 2. To increase rice productivity in the area, thanks to the introduction of modern technology (demographic growth has reduced the average size of the plots to 0.5-2 ha for a family of 11 members and, as a consequence, the average yield of paddy rice is of only 3.5-4 tons per hectare and the annual rice production of the area is insufficient – about 600,000 tons, i.e. half of total domestic production; 3. The pressures from multilateral organizations, like the World Bank, to open up to the private sector and foreign direct investments, starting from the structural adjustment programs in the 1980s to the IDA's Growth Support Project for Mali of 36 million $ in 2005 extended until 2012 "to create the conditions for increased private sector investment": the Malian Investment Promotion Agency (API) was created in 2005 as a "one-stop-shop" for business creation; 4. The political ambitions of the Malian government to modernize agriculture: Mali aims at becoming self-sufficient, and even exporter, in rice and sugar; in 2007 President Amadou Toumani Touré, during the Presidential election campaign, was emphasizing the improvement of primary production, with a predominant role of the private sector and the promotion of foreign investments in the agro-industry sector.

As a result of the call, there was a surge in large-scale land acquisitions, especially in 2008-2010. However, their estimate is rather problematic, due to the lack of transparency and the fact that the contracts of lease are not available to the public. On the basis of the documents collected (see among others [7] and [8]) and the meetings held during the research, the total land area allocated to national and foreign investors, as of March 2012, can be estimated at around 860,000 hectares, of which 70,000 and 500,000 by the ON respectively as leases and provisional *lettre d'accord de principe* (that will become a lease after approval of the necessary environmental and social impact studies) and 290,000 directly by the Malian state through a *convention* (signed between two states and preceding the signature of a lease, under condition of the realization by the investor of the feasibility studies).The number of domestic investors is greater than that of foreign ones, but over 50% of the allocated area is controlled by foreigners, due to the much larger size of their project land. Foreign investors are from various countries (Libya, China, U.S., South Africa, Saudi Arabia, France, U.K., Canada, West African countries). With respect to the main investment purposes, it can be estimated that 50% of allocations are for rice production, sometimes combined with horticulture in the dry season and livestock, 8.5% for sugar cane, 1% for wheat and 40% for biofuel production (including 7% for jatropha).

It is important to notice that the largest land allocations to foreign investors or to foreign-Malian state partnerships have been approved so far not by the ON as a lease but in Bamako by various state authorities (President, Ministry of Agriculture, Ministry of Industry and trade, Ministry in charge of the Office du Niger, Ministry of Housing, land issues and urban planning) in the form of a *convention.* This allows the investors to obtain special advantages (fiscal incentives, exemptions from duties, privileges in the access to and costs of water, and in the land utilization), which are sometimes greater than those envisaged by the Investment Code of Mali and which are not available to domestic investors. However, due to the lack of communication and coordination among the different Ministries and between them and the ON, the allocated land area is much larger than the national objectives set out in the *Schéma Directeur de Développement pour la Zone de l'Office du Niger* in 2004 (120,000 ha of additional development by the year 2020) [9].

According to the Vice-Director of the ON, Boubacar Sow, the ON has decided to slow down future concession of leases, due to the low implementation of the projects so far approved (only 15,000 ha have been put into production) and probably also because of the protests by local communities and the mobilization of local and international civil society organizations.

Land policy and tenure

Land tenure in Mali is very complex and pervaded by ambiguities, consisting of modern law (*Code Domanial et Foncier* and other codes as well as the *Loi d'Orientation Agricole* of 2006), which essentially confers ownership of the land to the state, and customary rights in which traditional chiefs manage the land and its use [10]. There is no security of tenure for smallholders. Although the Constitution states that "la terre est à celui qui la met en valeur" and the *Code*

Domanial et Foncier recognizes customary rights, they are only use rights and the state has the right to expropriate, with compensation, for reasons of common public interest. In case of compensation, usually what is compensated is not the land but only constructions, trees, crops, etc. Women farmers have the most difficult access to land and are not entitled to inherit land. A holder of a customary right can obtain a formal land title only through a long and expensive procedure.

METHODOLOGY

Case studies

To analyze the socio-economic impacts of large-scale land acquisitions, the following case studies were selected:

1. COVEC, a Chinese company of the construction sector, which in 1998 obtained in M'Bewani a lease of 1,050 ha to experiment high-yielding seeds in food crops and modern methods of production. The area has been developed but the initial objective has been abandoned and COVEC sublets plots to small rice producers. They pay a rent of 75,000 fcfa/ha/season including the cost of water, as against the 65,300 fcfa for the water fee paid by the farmers who cultivate rice on the ON land. Only one family lost land as a result of the COVEC project and thus the farmers' associations do not consider it a case of land grabbing.
2. N'Sukala, a partnership between the Malian government (40%) and the Chinese. The Sukala company from the '60s has invested in the production of sugar cane (10,000 ha) with hired labour and in two sugar factories. A third factory is opening in M'Bewani zone and in 2009 N'Sukala has signed a *convention* (which will become a lease when the feasibility studies have been completed) for 50 yrs. to cultivate sugar cane on other 18,300 ha. It has negotiated a water fee of only 2,038 billion fcfa for 50 yrs, i.e. about 2,000 fcfa/ha/2 seasons, which is half of what the local producers pay. This investment will cause to many old villages the loss of the land where millet has traditionally been cultivated.
3. Sosumar (Societé Sucrière de Markala), a public-private partnership: the Malian government found a strategic private partner, the South-African Illovo Holdings Ltd. (70% of the capital) and a financial partner (African Development Bank). It is a *convention*, on the way to become a lease, on 39,000 ha, of which 20,000 ha for sugar cane cultivation to produce sugar (to secure self-sufficiency) and ethanol. Because of the Malian government's pressures, only 60% of the land will be cultivated by wage labourers, while 40% will be allocated to smallholders who will produce under an outgrower scheme. The state has granted for the water fee a flat rate of only 2,050 billion fcfa for 50 years. The project has been delayed by financial difficulties and the resistance of the population of 30-40 villages in the communes of Sansanding and Sibila (whose mayors support the project) who will lose the land on which they have cultivated millet for centuries. It is not ON land, but customary land. So far there is only an experimental field of 140 ha to test sugar cane varieties.
4. Complexe Agropastoral Industrial (CAI), part of the Group Moulin Moderne du Mali of the rich Malian businessman Modibo Keita. On 31 May 2010 it obtained a 30 years renewable lease of 7,400 ha in the M'Bewani zone to produce mainly wheat. Land was granted free by the government and the water charge is 2,470 fcfa/ha/year for spraying and 67,000 fcfa/ha/year for gravity irrigation. So far, some secondary canals starting from the ON primary canal have been dug and 250 ha have been developed (3 large plots each with a center pivot for spray irrigation) and wheat, maize, potatoes and rice have been produced. Also buildings for the offices of the management and technical staff and for storage have already been constructed. A total of one billion fcfa has been invested so far. L'*aménagement* has subtracted land for centuries cultivated with millet by the villagers of Diado, Sanamadougou Bamana and Sanamadougou Marka.
5. Malibya, subsidiary of the sovereign fund Libya Africa Investment Portfolio, in 2008 obtained through a *convention* 100,000 ha for 50 renewable years for production of hybrid rice, livestock and tomato processing for the regional market and for exports to Lybia. Land is granted free by the Malian government who will also finance the compensation to the affected population, and the water is charged at the same rate as CAI and can be used "without restriction" from June to December, while from January to May, when the river is low, less water intensive crops should be cultivated. Furthermore, Malibya will benefit of generous tax breaks and exemptions from duties. There has already been the construction in 2 years of a road and an irrigation canal, 40 Km long and 100 meters wide, that has caused massive destruction (see paragraphs on loss of land, trees and houses).

Methods of the field survey

The research conducted in Mali in January-February 2012 is based on the following methods: a) collection of documents and reports; b) meetings with key informants; c) collective (focus groups) and individual interviews to a sample of the population affected by large-scale land acquisitions; d) observation of project areas and of how people live in the villages.

In Bamako I had discussions with agricultural specialists in research institutes, with Adama Coulibaly, *conseiller*

téchnique in the Ministry of Agriculture, with Souleymane Sidibé, *chargé de mission* in the *Ministère Délégué auprès du Premier Ministre Chargé du Développement Intégré de la Zone Office du Niger* (who talked about the prospects of foreign and national land investments in Mali), with the national coordinator of AOPP (Association of Professional Smallholder Organizations), M. Bréhima Dembélé, and its land specialists and with Chantal Jacovetti, coordinator of CNOP/LaVia Campesina. In Ségou I discussed the main research issues with prof. Souleymane Kouyaté, agricultural economist and vice-rector of the University of Ségou and with prof. Aliou Badara Ba, agronomist. I also had several meetings at the ON with the vice-Director, Boubacar Sow, and with Bakui Koné, *chef de service de l'Amenagement et Gestion du Foncier*, and I interviewed Amadou Ouedrago, accountant of the Complexe Agropastoral (CAI) and Henri Coulibaly, coordinator of AOPP in Ségou region. In Niono I discussed with representatives of the trade-union SEXAGON (Union of Agricultural Operators in the Office du Niger) and with Yacouba Coulibaly, Director of the research institute Nyeta Conseils. In Kolongo I benefited from the talks with Charlotte Sama, militant of SEXAGON and President of the association Sigitèmason whose members are women who lost land as a result of the Malibya project.

I organized 9 focus groups with village chiefs and elders and representatives of the affected households in the following villages: Sissako, Welendiatigila, Sansanding, Goma Koro, Ouela, Diado, Sanamadougou Bamana and Sanamadougou Marka.

The individual interviews were conducted in 13 villages in the region of Ségou. The total number of interviews to people affected by the large land projects is 42 (20 to women). The sample is small because of financial, logistic and time constraints, but it was carefully chosen using the stratified sampling method, where the stratums are males and females, different types of cultivation and the various villages of the case studies. The lists of farmers, from which the sample was randomly selected for each stratum, was provided by village chiefs and local farmers' organizations. In a few cases, it was necessary to use snowball sampling.

It was decided to give an important representation in the sample to women, since they are a particularly poor and vulnerable group. Being discriminated in the access to land, it is very difficult for them to acquire new land if they are expropriated and they are likely to benefit less from possible new jobs created by the projects, due to gender inequalities in the local community and their exclusion from decision-making processes. The case studies Malibya, CAI and COVEC are more represented in the sample, because these projects are the most advanced in the realisation phase.

The survey has utilised a semi-structured questionnaire divided into 3 sections: a) socio-demographic characteristics of the farmer interviewed and of his/her family, b) characteristics of his/her productive activity before and after the large investor's intervention (n° of hectares and type of crops cultivated, n° of months of production and of persons involved, land tenure system, total quantity produced for each crop and % sold, inputs and tools used, unit price for each crop, total costs, revenues and profit per hectare or season, assets owned, place of marketing), c) characteristics and total impact of the investor's investment (level of information, consultation and compensation of the local population, jobs and infrastructure created, productive and environmental losses).

Difficulties and limitations of the field survey

The research was made particularly difficult by the fact that land acquisitions by large investors is a very sensitive topic at the political level in Mali. I found little collaboration from the ON officials, who feel under siege by international pressure groups and tend to view any foreign researcher as a dangerous no-global activist. It is a subject characterized by ideological positions: both the authorities and the big investors, on one side, and the affected small farmers, on the other side, tend to make their points of view too extreme, the former amplifying the possible benefits of the projects and the latter exaggerating their pre-intervention situation. Therefore, it was not easy to evaluate the conflicting information received.

The evaluation of the results is partially biased by the fact that the negative impacts of large-scale investments are concentrated in the early stage of implementation while potential benefits might materialise only in the long term. The case projects analysed are still in the initial stages with little or zero production.

RESULTS OF THE FIELD SURVEY AND DISCUSSION

Characteristics of the sample

The average age of the people interviewed is 51 years (83% of them are more than 40 years old); 81% of them are illiterate and on average they have 6 children, of whom 2 went to school. Their main activities were millet production (33.3%), rice production (9.5%), both rice and millet production (21.4%), horticulture (28.6%) and wage labour for investors (7.1%); 46% of them had a secondary activity (such as fishing, petty trade, de-husking and milling, tailoring or, in the case of women, working free on the husband's field). The major part of millet production is for family consumption, while most of rice production is sold to cover water fees, fertilizer costs and family expenses. Fruit and vegetables are partly sold in the market and partly consumed by the family. The average number of people working on the farm is 7, all family members. Given the small size of the plots (on average 2.5 ha per household), the average yield per hectare of the rice producers interviewed is of only of 4 tons per ha (as against the 6 t/ha indicated by the vice-

Director of the ON as average yield). Their average profit is of 400,000 fcfa/ha/season. For millet the average yield of my sample is very low (0.32 t/ha), notwithstanding the large size of the plots.

Negative impacts of large-scale land investments

Loss of land

Out of 42 persons interviewed, 76% have been already dispossessed of some land, while others are going to lose it in the near future. The farmers who have been traditionally cultivating millet have experienced the largest loss of land in terms of number of hectares (on average 29.9 ha), but the women producing fruit and vegetables are the most affected, if the loss is measured as a percentage of the land held before the project intervention (they have lost 93.8% of their original land) (table 1). The majority of our sample have been expropriated either by the CAI project (11 persons) or by the Malibya one (19 persons). The land lost in some cases (28.6% of the sample) belongs to the ON (like the land taken away from the women of Kolongo) but in most cases (71.4%) is customary land, that has belonged for centuries to villages 800 years old and is not irrigated by ON canals. On this land millet is cultivated in the rainy season. This second case applies to the village of Sanamadougou Bamana - where 2,000 ha have been already appropriated by the CAI project and many more will be in the future-, the villages of Diado and Sanamadougou Marka-also affected by CAI-, all the villages outside Kolongo affected by the Malibya project, and the 30-40 villages in the communes of Sansanding and Sibila that have started an association - Association des villages de Sana (ADVS) - to fight against the Sosumar project.

Tab. 1 - Average and median number of hectares lost and in % of the hectares held before the large-scale investors intervention by type of crop and by case study.

Type of crop	Case study	Average n. ha lost	Median n. ha lost	Average n. ha lost as % of ha originally possessed
Millet	CAI	30.0	30.0	89.1
	COVEC	11.0	11.0	100.0
	MALIBYA	30.6	20.0	78.7
	SOSUMAR	42.0	42.0	100.0
	Total	29.9	30.0	86.6
Fruit and vegetables	MALIBYA	0.73	0.75	93.8
Total	CAI	30.0	30.0	89.1
	COVEC	11.0	11.0	100.0
	MALIBYA	11.7	0.75	88.2
	SOSUMAR	42.0	42.0	100.0
	Total	18.9	18.5	89.3

The village chiefs and the populations argue that customary rights are recognized by the Constitution and the *Loi d'Orientation Agricole* and that the authorities cannot justify the land expropriation on the basis of reasons of public interest, since the investment projects are private. In reality, this is true in the CAI case while the Sosumar project is a public-private partnership. Furthermore, ON officials argue that the state mission of modernizing agriculture is in the public interest.

Loss of trees

The *aménagement* (development) works cleared the land of all the trees, so that modern mechanized techniques of cultivation and irrigation could be applied. In the case of the CAI project this resulted in the eradication of more than 1,000 trees (baobab, neré, karité, balanzan and tamarind), in some cases sacred, with a high economic and environmental value. They had contributed to family food security and were an important economic resource for the women, since from their leaves, fruits and nuts it was possible to obtain valuable goods such as oils, condiments, medicines, fuel wood, etc. In the case of Malibya investment, the construction of the 40 km long irrigation canal and adjacent road resulted in the destruction of the gardens of women farmers, who lost all their harvest and source of livelihood. The 12 affected women of our sample have experienced a loss of fruit trees (mango, guava, papaya, tamarind, palm, lemon, banana, custard apple, baobab, karité, balanzan) ranging between 230 and 10 per woman, with an average of 64 trees. In some cases the trees had belonged to the woman's father, before his death. Their average income from the sale of fruit and vegetables had been 370,000 fcfa per year.

Loss of houses, obstruction of transhumance trails

The Malibya investors, who had been granted by the state land defined in the *convention* as *"libre, vacante et sans maitre"*, in building the canal and road did not take into account the presence of populations along the project perimeter, so that many houses and even a cemetery were destroyed by bulldozers in Kolongo. This commune was cut in half and no bridge was built. Traditional animal trails and grazing areas were obstructed, as the *Plan d'aménagement des espaces agropastoraux* prepared by local authorities was not considered, and alternative trails for the animals were

not prepared. Also the Sosumar project will block transhumance routes.

Cultural loss

The large-scale land investments analyzed in this study threaten the traditional culture and diet of millet, which has been cultivated and eaten for centuries in the villages I visited. Although the yield is low, the farmers who had been producing millet claimed that, before being expropriated of their land by the investor, the harvest had guaranteed food security to an extended family (they were eating 2-3 times a day) and could even sell part of the production to cover taxes and family expenses. Millet cultivation has the advantage of being very sustainable for the fragile local environment and its costs of production are low (no need to pay for seeds, fertilizers or water). It can grow in dry poor soil. The opinions of the rural specialists I met in Mali are divergent: some of them declared that rice, maize and potatoes cultivation should be preferred to millet due to the much higher yields, others that Mali should not make the mistake of India, that after abandoning millet for the green revolution crops (such as rice and maize) now suffers from water shortage. In any case, all the small farmers interviewed reaffirmed emphatically that they and their children wanted to continue to cultivate millet as their ancestors had done and that they would refuse to cultivate sugar cane, since it was not part of their tradition and could not be eaten. They showed a strong attachment to their traditional millet diet (even those who were cultivating rice, after losing the millet land, were selling rice to be able to buy millet and continue with their diet). As a village chief explained to me, “mil est bon pour la consommation et riz pour la vente”. According to them, the diet based on millet is cheap: millet can be pounded manually in the villages and the accompanying sauce uses freely available baobab leaves, while the rice sauce needs more expensive ingredients, like tomatoes, onions, meat or fish.

Furthermore, the possible resettlement of villages 800-900 years old, like Sanamadougou Bamana or Goma Koro, where the ancestors are buried, the sacred trees, the animist shrines with the fetishes and the chiefs’ old palaces are located, produces serious wounds to traditions.

Threats to human rights and to village cohesion

To weaken the resistance of the community to the project, CAI investor used threats, the police, the judiciary system, bribes and the creation of divisions. As I was told during the focus group in Sanamadougou Bamana, 120 gendarmes on 18 June 2010 attacked the villagers who were protesting for the cutting of their trees, beating also old people and two pregnant women, one of whom later miscarried. About 35 people, including 14 women, were arrested, most of whom released without charge after 2-5 months. With respect to my sample, 3 smallholders from Sanamadougou Bamana had been in prison for 2 months (one of them accused of being the revolt leader), one had been summoned 3 times by the police for cultivating expropriated land and a farmer from Sansanding protesting against the Sosumar project had been imprisoned for 1 month.

The CAI investment created divisions and tensions between nearby villages and even within the same village: the villages of Diado (17 households of up to 100 members each) and Sanamadougou Marka (31 households) and 7 households out of a total of 120 in Sanamadougou Bamana accepted an agreement with the investor, obtaining gifts such as de-husking machines, motorcycles and even soccer balls and shirts for the youth, compensations in nature (1 ha to produce rice in exchange for 10 ha where millet was cultivated), money or access to credit and temporary jobs for the sons in the construction works (about 40,000 fcfa/month for a year) and for the women in the fields (about 1,000 fcfa/day). The other families in the village declared to me that they were ready to fight until death for their land and customary rights.

Environmental impacts

On the basis of my investigation, it appears that, contrary to the required procedure, large-scale investors started developing the land immediately after acquiring it and before completing the necessary environmental impact study. This can explain the tremendous destruction of valuable trees. For the future the main worries concern the impact of large land deals on water resources. Considering that in the dry season the water level of the Niger river is already low, that climate change will worsen the situation, that the large investors have been granted priority in water access by the state (without consultation with ON agents and consideration for the *Schéma Directeur de Développement Intégré de la Zone Office du Niger*) and that a large area of future investments will be dedicated to the cultivation 12 months a year of a very water intensive crop like sugar cane, there is the danger of scarcity of water for the small producers especially for the second harvest during the dry season [11]. The ON officials interviewed argued that it will be necessary to reduce the present large loss of water in secondary and tertiary canals, extend the use of more efficient methods of irrigation, such as spraying, and cultivate in the dry season less water intensive crops.

Furthermore, the increased utilization of fertilizers and pesticides might cause water pollution and the transformation process from sugar cane to ethanol will use and pollute large quantities of water [12]. Finally, there is the risk that biodiversity will be eroded by the introduction of monoculture by N’Sukala and Sosumar projects and of imported (mainly from China) hybrid rice varieties in Malybia, COVEC and CAI projects. Smallholder associations believe that the use of hybrid seeds will extend to small farmers who now often produce their own seeds, increasing their dependency on imported seeds and their debts [13]. There is also the risk that local millet biodiversity sustained through local knowledge will disappear.

Positive impacts on employment, infrastructure and production

The impact on job creation is so far small, because large-scale land investments in Mali are still in the early stage of realization. According to the accountant, CAI project had created 290-300 jobs. I interviewed a young man with two wives and two children, working in the Sukala sugar cane factory and earning 36,000 fcfa/month for 10 months a year. He seemed quite satisfied with his job, but he could count on his father's and brother's production for his family food needs. The expropriated millet producers told me that they did not want to become wage workers, claiming that they used to earn much more than 36,000 fcfa/month and that such a wage was not enough to nourish a family of 4-5 people. Nor they wanted to produce sugar cane under an outgrower scheme that would make them dependent on the price fixed by the sugar factory and force them to buy food. I also interviewed some women working for 3 months in CAI fields in transplanting and weeding (about 1,000 fcfa /day). They were working as well on the family field.

The canals and roads built have so far benefited exclusively the investors. There was a limited positive impact on social infrastructure in the CAI project (see next par.). Four respondents had been able to increase rice production thanks to the access to the land that COVEC had irrigated.

Compensation for communities

From our study findings either there was no compensation for the population whose land was taken, because their customary rights were not recognized or the compensation was delayed or it was inadequate to restore the previous standard of living. It was never discussed with the population. Also, it is not clear whether the compensation payments should be financed by the state or by the investor. The ON told me that it is at the investor's charge. In practice it varies case by case. In the Malibya and Sosumar projects it should be the Malian state that pays the compensation in exchange for the investments made (canal, road, sugar factory), while in the N'Sukala case the *convention* states that it is the responsibility of the Chinese investor. About 40% of the sample respondents had received a compensation. The smallholder producers expropriated by Sosumar seven years ago began receiving a compensation only after three years (50,000 fcfa/ha/year which is barely enough to feed with millet a family of 10 persons for three months). The villages outside Kolongo affected by Malibya investment were not compensated, while in Kolongo the commune, supporting the project, had distributed compensation payments for the loss of trees and houses in an arbitrary way ("*selon leur visage*", as a woman said), often based on patronage, favouring its supporters. All the Kolongo affected women in my sample had received compensation payments, ranging between 40,000 and 641,000 fcfa (on average 253,250 fcfa per woman). These payments did not even cover the income that the women were receiving from the fruit trees in one year and were certainly insufficient for investment in a new activity (only one woman used the compensation to rent a plot for rice and another one to start rice trading); in most cases they had been used to feed the family. As a sign of their inferior status, the women farmers reported that a male family member (husband, son, brother) had gone to the commune to receive the compensation.

In the case of CAI project, only few households accepted the unfair exchange of 1 ha of irrigated land to produce rice for 10 ha where millet was cultivated (see par. on threats to human rights and village cohesion). According to the farmers opposing the project, even the ON vice-director had told them that the exchange should be 3 ha of rice land for 10 ha of millet land. With respect to cash compensation, the company accountant claimed that payments of 100,000 fcfa per hectare of expropriated land were given to affected households, for a total of 20 million fcfa. However, it appears from my survey that only the 7 households of Sanamadougou Bamana were compensated. In fact, the village chief of Diado maintained that the village had so far received only a total of 10 ha to produce rice and had renounced cash compensation, being satisfied with the jobs created by the investment for their young people. The investor had promised to develop some plots where women could grow vegetables. In Sanamadougou Marka they had not yet received cash payments. As part of the compensation package, a school, a health center and a cereal bank were being built or planned in Diado and Sanamadougou Marka. The CAI accountant also pointed out that there was a compensation in trees, since every week more than 1,000 eucalyptus trees were planted together with fruit trees. However, as the villagers argued, this could not be classified as compensation, being an investment in timber production that would benefit the investor and certainly not the local community.

Lack of transparency and of consultation, corruption, false promises

From my focus group and individual interviews it results that communities living on the land leased were not informed of the details of the projects nor asked for their consent and had not been shown any environmental and social impact study. Although ON officials claimed that local communities had been widely consulted, according to the villagers interviewed they simply had been visited in the village by a representative of the ON or of the investor or of local authorities who had announced: "the state is taking back his belongings, his property" or **"** this investor will work on your land", etc. Only 19% of the sample respondents (from the two villages in favour of CAI project and from the ones affected by COVEC) admitted some consultation.

As examples of corruption, I was told that in the Sosumar case the investor gained the support of the mayors of Sansanding and Sibila by financing their electoral campaign and that part of the compensation payments for the Kolongo affected farmers were appropriated by the mayor.

Furthermore, it was reported that ON officials or the investor (especially in CAI case) made promises of compensation or of alternative plots for rice and vegetables production that were not kept.

Impact on livelihoods

The survey tried to look at how producers' lives and livelihoods had changed after the investors' intervention. For 72.5% of the respondents there was a deterioration of livelihoods as a result of the loss of land and land resources and the absence of adequate compensation, for 15% no change and for only 12.5% an improvement (thanks to COVEC project or a job at the sugar factory). Out of the few respondents who could quantify the loss of income, 33% had experienced an income reduction of 80-90% (the average was 56%). Thus, in most cases, the large-scale land investments produced food insecurity: the affected people, who all claimed not to have experienced it before, were nourishing themselves much worse, due to the impossibility to exercise their traditional income-generating activities and to the large size of their household (15 members on average, with the median value at 10). They were surviving thanks to "*entraide*", help of relatives and not yet affected villagers, cultivating small plots of relatives land in far away villages or renting a small parcel to grow rice or vegetables. Some of the affected Kolongo women were trying to survive collecting wood, washing clothes or pounding millet in other people's homes. All Kolongo women, after losing the income from the fruit trees, had experienced a reduction in economic independence from their husband and were often obliged to cultivate onions on a small plot of their husband's land.

CONCLUSIONS AND RECOMMENDATIONS

The findings discussed above suggest some conclusions that must be treated with caution, due to the low realization stage of the investments and the fact that it is difficult to evaluate at a single time point projects evolving over time. First of all, the increase in land deals in the ON zone has certainly been excessive (even if a lot of them are still provisional allocations) and the "principles for responsible agricultural investment" [2] [12] formulated by FAO, IFAD and World Bank have not been respected.

Customary land rights have been ignored. Land acquisitions were not negotiated with local communities. Investors could exploit the ignorance of village chiefs and populations, due to the secrecy of the land alienation process and the asymmetry of power between the two opposite sides, particularly considering that local authorities usually supported the large investors. The large-scale deals were often negotiated at central level directly by Malian and foreign ministers or heads of state. The lack of transparency and of participation of local communities increase the risk of corruption and of appropriation of part of the project's benefits by the national and local political class at the expense of poor farmers. It was alleged by sample respondents that behind CAI project there was President Amadou Toumani Touré himself.

Second, the most dangerous potential impact of large-scale land acquisitions in the ON zone is water grabbing by large investors with environmental and food security consequences, especially if a large area is devoted to a non food crop like sugar cane and if part of the food crops is going to be exported (Malibya and Sosumar cases).

Third, the positive impact on employment is likely to be limited, because they are capital intensive investments. They tend to be more labour intensive in the initial phase of construction works and become increasingly mechanized later on. There is also the risk that part of the labour will come from outside, as in the past in the ON area starting from the colonial period. In any case, a monthly wage of 36,000-40,000 fcfa can be a useful addition to family income if it is earned by a son or a wife while the rest of the family continue to cultivate their land, but cannot be the only source of income of a large family.

Fourth, the project affected people showed an attitude of refusal to change and a great will to fight "until death" against large-scale land projects. They perceived their user rights as legitimate despite the lack of formal property titles. With the help of farmer organizations and civil society groups, they filed petitions to the prefect, the governor, the Minister of Agriculture, members of the National Assembly. In November 2010 Kolongo forum was held to discuss land grabbing and in February 2012 they took their case to Markala court against Sosumar and CAI projects. ON officials, during our meetings, minimized these protests, claiming that they were instigated by old conservative village chiefs or by villagers now living in Bamako and that in the future the farmers will appreciate the benefits received by the projects. However, the protest movement has been successful against Sosumar project (with the withdrawal on June 2012 of the main shareholder, the South African sugar giant Illovo, due also to financial difficulties and the political-military situation in Mali), while the trial against Modibo Keita is slowly going on at Markala court.

Finally, the implementation of land acquisitions has been characterized by many failures: lack of coordination between authorities at the micro, local, regional and national level, inadequate monitoring of the process by the ON or collusion with investors. In many cases the investors started development works before the approval of the environmental and social impact study or on a land different from the one assigned by the deal.

Based on these considerations, the following recommendations can be suggested:

- there should be a careful selection of the investors, taking into account their technical and financial capacities, in order to reduce the amount of approved but not implemented investments.
- Authorities and public administration must be able to negotiate a contract that maximizes the investment

benefits for the country and local community. Lease contracts tend to be very short and simple (I managed to see two of them). On the contrary, the lease contract should clearly indicate the type of production, its impact on water and food sovereignty, minimum requirements for job and infrastructure creation; it should take into account the investment impact on the population living on the allocated land, indicating the investor's obligations with respect to compensation.

- Mechanism to monitor and enforce investor's compliance with the contract clauses should be developed.
- Civil society and producers' associations can educate communities on their rights and provide assistance in negotiation and monitoring of the projects.
- A potential role in regulating large investments can be played by the codes of conduct for land deals, proposed by international organizations. While their enforcement is problematic [14], they might offer useful guidelines to governments and investors and some investors might have a self interest in respecting self-imposed codes of corporate social responsibility to avoid conflicts with local populations that harm the investment.
- Land governance must be improved. Collective registration of community lands can be a tool for protecting existing local land rights. Processes for land acquisition should be transparent.
- The Malian state must invest part of the revenues from the mining sector in the modernization of household farming through appropriate public support (temporary subsidized access to good quality seeds and fertilizers, access to credit, improved equipment, storage facilities and extension services, strengthening of farmer organizations to support crop marketing, appropriate pricing policies with respect to inputs and output, consolidation of land plots to reach a minimum size of 5 ha per family farm), in order to raise smallholders' productivity.
- In the ON zone the peaceful, and possibly fruitful, coexistence of family farms and large-scale investors, which is probably inevitable due to the insufficiency of public funds for the irrigation works, must be assured by a precise agro-ecological zoning, taking into account soil, water and social constraints. A limit to the size of large farms should probably be set and the small farmers must feel secure in their investments. The farmer trade-union SEXAGON intends to reach an agreement with the ON, according to which a more secure contract (a type of lease) can be given also to a smallholder, if, alone or in association with others, he contributes to part of the *aménagement* costs, which amount to 4 million fcfa per hectare.

This set of policy recommendations aims at ensuring that large-scale land investments present an opportunity to stimulate local development and not at the expense of existing smallholders.

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LAND GRABBING AS A STRATEGIC GAME: A THREE LEVEL APPROACH

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ABSTRACT

Large land acquisitions in poor and developing countries implemented by international investors can be considered as a strategic game where involved actors – three are considered in this stylized model - act in a framework where several factors are presents. This paper aims at looking at this phenomenon in a simplified way with some special focus on the most relevant and central issues. Moreover, this paper considers the possible instruments to explain the large land acquisitions in SSA countries by international investors through a strategic game model. The game strategy – even if used as a narration of the analyzed phenomenon - is a new and, in our opinion, interesting method to explain the large land acquisition in developing countries because of some of the most relevant characteristics of this complex phenomenon considered in this game. Three actors- two player acting in each level-, payoffs of the game, a framework wherein the process is implemented and many other characteristics reported in the following parts of the model are the most relevant issues studies in this three-level games. The structure of the paper starts with the theoretical points and its main implementations of this model in social and international economic issues. The second part presents the three level model. In the entire paper, some further issues are presented in order to observe the main characteristics presented in each level in particular the commons - land and water resources –, general rules in the players behavior and the institutional framework.

INTRODUCTION

Large land acquisitions in poor and developing countries implemented by international investors can be considered as a strategic game where involved actors act in a framework where several factors are presents. This paper aims at look at this phenomenon in a simplified way with some special focus on some of the most relevant issues. The process of increasing investments in land by international investors in developing countries as reported in the large literature on this during the last years takes into account all the issues related to this rising phenomenon from the international to the local policies and conditions in terms of natural resources availability. From the theoretical point of view, this model is based on the theoretical approach reported in a recent paper [1]. The paper supposes the existence of a two step equilibrium where there are two institutional frameworks based on the levels analyzed in this scenario. A sort of two level analysis is implemented in the paper of Gambetta, Origgi while some further steps, can be done in order to implement a further step in analyzing the phenomenon studied in this paper. This step can represent a new approach in implementing the analysis of the phenomenon of large land acquisitions and to give further developments of the debate on the LL equilibrium. This paper aims to use the models reported in Gambetta Origgi to explain the phenomenon of large land acquisition and to develop some points of the considered paper.

STRATEGIC GAME BACKGROUNDS AND MODEL HYPOTHESES

The strategic game implemented in the following sections is a 2X2 game [2] played simultaneously by the actors that are considered central in the process of large land acquisition and the frame wherein this game takes place and in particular the institutional frameworks at international and local level [3]. Moreover, some relevant concepts taken from the literature relative to the game theory in particular the contribution reported in Gambetta Origgi is considered in the model implementation.

The players in the three levels considered in the model are:

- **I** is the investor and it is an international company operating in the international market, producing, selling and buying in several countries and with the headquarter generally in a developed or emerging country, the international company aims at producing agricultural goods in the receiving country in order to invest resources in the same or in a different branch of the company;
- **R** is a receiving country in a poor continent, for instance Sub Sahara Africa, that wanted to attract international investors especially in rural areas generally underdeveloped and lacking in investments, this country is generally a poor and unstable country;

- **P** considers the receiving country people and local communities that is the direct recipient of the international investment and it is linked to the local and national economic and political authorities and they represent all the players acting in the local and regional framework.

Another important aspect to take into account is the institutional frameworks wherein the players act in a contest of rules, regulations and institutional structures in the international, national and local systems. These frames are summed below:

- **Formal institutions**: this system collects all the international and domestic rules, regulations and structures leading the behavior of actors in large parts of their actions,
- **Informal institutions**: they are a group of behaviors, rules, relationships and common laws leading the behaviors of individual and collective actors.

The three actors presented above play in three levels and the following sections present each one in details. The three levels are briefly resumed below:

- **First Level**: the two actors R and I are involved in a cooperative game within a formal institutional systems,
- **Second Level**: the two actors R and I reach a LL equilibrium within an informal institutional framework and a series of norms,
- **Third Level**: two actors I and P can be considered as a hegemonic equilibrium and within a frame of the asymmetry power between the R and the local population. This actor is forced to implement the largest efforts for the project effective realization in a classical hegemony game.

At the end of the introduction, it is important to explain the payoffs at the end of the game and of the final equilibrium reported at the end of the three levels. Each player has its own interests and outcomes derived from the implementation of the project and the payoffs reported in the table reflect this interests and expected outcomes.

FIRST LEVEL: SECOND BEST GAME SOLUTION

In the first level of the game each actor - player I and R - involved in the bargaining process declares to implement all its efforts to reach the best results for the receiving country people and for the resources exploitations in the receiving countries and for the maximization of its gains where the involved part in the bargaining process would gain the higher results with cooperation than adopting free riding behaviors. The players act in a formal international and national framework and rules and, moreover, the national authorities care to the domestic audience. Investor and receiving country declare to implement the maximum of their efforts to obtain the best results for both and for the receiving country, while, as second step they change their real behavior in adopting practices and actions to maximize its own gains with a free rider approach with the emergence of a LL equilibrium. This result can be considered a second best in the game structure at this stage of the process within a two players and two levels game showing that the actors in pursuing their interest reduce the potential benefits of the investment in land by international companies.

Fig. 1 - First Level Game.

	Player R	
Player I	C	D
C	1,4	2, 2
D	4,1	3,3

In the scheme proposed above, the final result shows how H declaration is replaced by the effective behavior of the players. The final equilibrium represents a situation where each player gains three instead of four if they would adopt a free riding behavior with which they would have gained 4 and the other 1 for player I and 2 and 2 for the receiving country. Moreover, with a HH behavior I would gain only 1 while player R would gain 4 in the bargaining process. There is a common convenience in declaring to implement the maximum of efforts in implementing the project in the interested contests and the possible explanation of these behaviors are reported in the previous sections as the L norms and the H declarations. Player I is interested in implementing less efforts is in the project implementation and this can be easily observed in several real case where the investor does not respect the contract points. They are linked to the respect of the local communities' rights, job creation, infrastructures constructions especially those related to the social services as schools, hospitals, streets and other physical infrastructures and the respect of the exploitation limits of natural resources in the project implementation and in other several issues. The international investor is supposed to be not interested in respecting the signed contract and in the respect of local communities' interests and on the well being of these people and on the environment and natural resources in the receiving country. One important point in the entire model but especially in this level is the timing of the contract that is generally not an acquisition but a deal for a short or

medium period from 33 to 99 years. This fact reduces, especially for shorter times, the efforts of the international investor that aims at looking at the largest investment gains through the exploitation of the local resources and to produce the largest gains of this project. On the other hand, the R player has several interests in declaring to implement its largest efforts to create a positive environment for the investments and all the conditions from a social, political and economical point of view for the best environment in receiving international investments. Despite this, receiving country is generally not capable to reduce the contrasts with the local population; to build the necessary material and not material structures for the best results of the investments therefore a D approach can be expected.

SECOND LEVEL: LL GAME

The model presented at this level is based on the L norm that has been presented in the previous section. Given the characteristics of the informal institutional systems that is central in this level of analysis, the equilibrium reported below is a "double defeat" - DD - where both actors choice their D with less efforts implemented in the process. This behavior by both the players is due to the mutual convenience in acting in the conviction of the L choice reported below. Despite the expected choices, the players adopt a LL solution instead of a classical LH strategy. This can be considered as a 'paradox' where each player seems to reduce its gains by choosing the defeat strategy of the other instead to look for the other cooperation strategy. The expected prevalence in terms of each player gains is not effective given the conditions analyzed at this level and the two players choice their effective first best solution that is based on the LL solution. This can be considered as a solution driving to the stall in the worst situations where both the players adopt a low profile approach in order to gain as more as possible from the bargaining process. The LL solution can be explained only from the existence of informal rules driving towards this equilibrium and furthermore to the existence of other levels in this simultaneous game making us able to explain these unexpected results [4].

Fig. 2 - Second Level Game – LL.

	Player R	
Player I	C	D
C	2,2	1,3
D	3,1	4,4

The land acquisitions in certain unaffordable and corruptible countries are related to the institutions that can be considered as informal in terms of classical definitions of formal- written law, common law, constitutions and the other forms of respected and formal rules- that regulates the public and private affairs in the social, political and economic spheres and of informal law that can be collect all the rules leading the behavior of domestic and international players not considered in the formal law and commonly acting in several areas. Gambetta, Origgi paper poses the so-called L norms as the groups of political, social and economic factors that aim at reduce the possible availability of choices as H for the players in the game considered. In the model proposed by the two authors, moreover, some groups of social norms acting in this way nine possible explanations and justifications of the LL equilibrium. In this Section, in order to observe the possible explanations of the reaching the reported results in the game equilibrium the focus of our analysis is in on the systems of informal institutions leading the behaviors of the involved actors. Political, economic, cultural and historical linkages are at the base of the analyzed phenomenon and this informal link gives the dimension of the phenomenon where the L norms or informal norms prevail in the game solution. An international investor interested in acquiring land to produce agricultural good to be imported in the global market can implement some investment strategy as corruption to obtain the necessary land overturning the official and formal law where naturally this "investment strategy" is punished. On the other hand, country R creates the conditions to attract international investments by reducing the law contingency in the exploitation resources creating a sort of *vulnus* in the formal system and can be considered another example of overturning of formal law. These examples of 'tacit' pact between the two players in order to reduce the space to H choice and make the situation to mutual convenience for them to reach the equilibrium.

THIRD LEVEL: HEGEMONY GAME

The third level of the analysis is the last step in the model implementation and it can be considered as the base of the model solution. In this level of the analysis, the most important factor to observe is the introduction of the asymmetry of power between the two actors. The analyzed phenomenon has to be considered in the real frames of the existence of asymmetric relationships between the involved actors - player I and P - and the different positions that these actors have in several aspects of the analyzed phenomenon and especially in the bargaining process for the large land acquisition. Moreover, different levels of asymmetry of powers exist and are briefly reported in this section. The first one is the relationship in the bargaining process between investor company and the receiving country as a whole considered with the political and economical elites – those supposed to be the counterpart in the acquisition process in

the previous steps - and the local populations living in the areas- playing in this level of the game. This kind of relationship is supposed to be a symmetric in the two first levels of the analysis while it can be observed in the effective phenomenon that the international investors and a poor and investment lacking country is an asymmetric one where the first player has the economical and economical power to impose its decisions to the receiving country considered as a whole and especially as local communities. Moreover, in the domestic relationship there is another important level of power asymmetry that can be easily represented by the behavior of a central political and economical elites that decided to invest in the acquisition of a large land area and the local population and communities and the local interested areas in terms of natural resources considered as commons that is not considered in this model.

To sum up: the first player is the international investor company that can be considered as the dominant player in the strategic asymmetric game. This player can impose its decision to the other player and the asymmetric game drive to an equilibrium that is more favorable to this player. The second player is the local population touched by the land deals but it can be considered all the parts of the social, economical and political lives of these communities and the local area environment. From the strategic point of view, this player dominates the other because they do not any power to reduce the expected decisions on its land and it has moreover to implement all the efforts to final project realization. This level of the analysis can be considered as a sort of formalization of the “Zamagni Paradox” presented in the Gambetta Origgi 2012 because the local population- player P- is compared to the black slave that have to implement all the efforts for the real effectiveness of the project.

In the next figure the hegemony game is reported and in the next Section the final equilibrium of the strategic game to explain the phenomenon of large land investments in developing countries during the last decade.

Fig. 3 - Third Level - Hegemony Game.

	Player P	
Player I	C	D
C	3,4	2, 3
D	**4, 2**	1, 1

All in all, the presented model is the last step of the analysis and in particular of the model and in this model there are the model solutions. This level shows how the previous levels can find their equilibrium and the model presented in this section showing that the there are several aspects in the narration of the large land acquisitions that have to be analyzed as the asymmetry of powers between the interested actors and players of this strategic game.

MODEL LEVELS INTEGRATED IN A FINAL MODEL

This final equilibrium of the process is a second interesting part of the model considered in terms of the general results of the model and represents moreover the final attempt to categorize the different steps of the general theoretical model reported in this section. In order to observe the integrated results, some authors implemented a series of integration techniques as the one reported in Inohara, Takashi, Nagano [5] 1997 that shows how several games and hyper games can be integrated in a single model with added gains and results. The first two levels are integrated in a single game and the third game in order to use the integration as used in the paper cited above.

The final model results can be represented with a possible example applicable in this case considering an international and powerful company acting in the international market. On the other hand, the receiving country as a whole with the ruling classes in terms of political, economical and social elites and the local populations that have to take all the bad consequences of the project implementations. The international investor adopts a three level equilibrium choosing an L strategy in the first level declaring to implement all its efforts to implement a project in agricultural areas to produce goods to import these products. Moreover, all the relative positive outcomes as buildings and physical infrastructures that can be useful for the local populations and for the receiving country that can reduce its gaps in the agricultural investment gap and in external balance for the incoming investments in dollars. In the second step the international company acquiring land effectively does not implement large investments and moving in an informal framework the same behavior is expected by the receiving countries authority that plays at the level and choice the same behavior. In the third level the international investor can utilize all its power and reducing its efforts and the largest part of the efforts to implement the investment in land. This situation is the most profitable for the international investor to obtain all the gains of the project implementation. On the other hand, the receiving country faces to different aspects of the acquisition or dealing land areas in terms of the positive and negative consequences of the this fact. In the first step, the second best equilibrium represents a good position for the receiving country that can exploit the positive consequences of the bargaining process especially in terms of the investments that the international company has to implement to reach its targets and the amount of positive effects of the investment in terms of the reduction of external balance gap, the building of some infrastructures as streets, railroads and other functional to the investment implementation. In the second level and the equilibrium at the end of the two first games, the receiving country seems to prefer to play L in both the games. The second game gives the largest gains to the receiving country and, even if the informal institutional framework make easier the free riding behaviors of both the players, the final LL equilibrium is

the first best solution where the player acts reducing its efforts to implement the investment knowing the behavior of the international investor. The third level reproduces the real situation on the ground and all the efforts of the project implementation are on the shoulders of the receiving countries and, in particular, on the local populations and communities. They are forced to leave their lands and their lives in terms of economic and social environments and moreover they have to face to shortages give by this new condition. On the other hand, these solutions give us the opportunity to analyze the phenomenon. All in all, the entire narration of the phenomenon is reported and it is interesting to observe the entire model gains measuring all the levels considered and reported in the previous sections.

This last table below represents the final results of all the game played above and the final results showing the equilibrium considered in the three presented levels. The final equilibrium is a DDC, where according to the narration presented above, player I - international investor - defeats in the three games while R and P defeat and cooperate respectively. I gains the maximum from this set of strategy and the same can be said for what concerns R while for P the final equilibrium is the worst position and results where it has to implement the main efforts in the project implementation.

Tab. 4 - Integration of Levels.

		Player P				
		C			D	
	Pl. R	C	D		C	D
Player I	C, D	7, 6, 2	7,5, 2	C, D	4, 6,1	4 ,5,1
	D, C	10, 2, 4	10,7, 4	D, C	9, 2, 3	9 ,7 ,3
	D,D	11, 2, 2	**11, 7, 2**	D,D	8, 2,1	8, 7 ,1
	C, C	6, 6, 4	8, 5, 4	C, C	5, 6 ,3	5 ,5 ,3

CONCLUSIONS

This paper presents a theoretical approach of the phenomenon of large land investments by international companies in developing and poor countries rich in terms of natural resources. This theoretical model implemented to study this phenomenon is based on the paper presented by Gambetta Origgi in 2012 and, more generally, on the rational choice approach and especially on the three level model that is a sort of extension of the cited paper. The model presents some interesting peculiarities relative to the phenomenon analyzed and some aspects of the phenomenon relative to the conditions presents in the receiving countries and the international scenario as the institutional systems and on the commons as land and water resources. Another important issue to be considered relative to natural resources exploitation is the timing of the investments that is linked to the choices implemented by the different players. The first player is the international investor in land that where this can be a transnational company and other public and private companies and, as the other player, acts to maximize the gains of their strategies and choices. The second player is a poor or developing country generally a Sub Saharan African country aiming at receiving investments in its agricultural sector generally lacking in the agricultural sector. The two players act in different frames both formal and informal institutional systems and in the first two levels they have the same power in relative terms. In the third level, a hegemonic power is presented by the role played by the international investor that has the economic and political power while in the side there is the receiving country in the presence of local population and communities. The models are presented especially in terms of the reached equilibriums:

- first level: the receiving country is a classical developing country especially a Sub Saharan African country with a large amount of resources in terms of natural resources and with a series of lacks in the rural areas especially in the agricultural sectors. The second player is an international company acting in the global market of agricultural and interested in acquiring large arable land areas in order to produce agricultural items to be sold in the international markets. Given their characteristics, they declare to implement all their efforts to reach the best gains from each player's point of view but they act differently. The final equilibrium in this step is the defeat-defeat game that is due to behavior of the two players acting in order to optimize their gains. The institutional framework where the two players act in a formal frame where international and local rules and codes.
- Second level: the same two actors act in an informal framework and exploit all the resources that are available for them and make the minimum efforts and expect that the other player make them and cover with the efforts implemented in the game. This step final equilibrium is a typical LL equilibrium as that presented in the Gambetta Origgi paper where both the players implement their minimum efforts to reach their results that give the optimum results for both in the second steps of this game step.

- Third level: in this last step of the model implementation, some different considerations have to be done especially in terms of the power and strategic relationship between the receiving country and international investor are presented and analyzed. In the previous steps there was a peer relationship between the players with a special regards to the decision of project implementation and on the efforts considered in that. At this respect, a sort of hegemony by the powerful actor- namely the international company acquiring land in the poor and institutional fragile SSA country- play a sort of golden share of the game through different aspects of the relationship as the financial, economical and political power utilized by this player in the attempt to take the largest as possible gains from the project implementation.

This model, with the opportune modifications and developments, can be applied in different situations where two or more actors have the same targets than those observed in this case and where some power relationships are reported. Some interesting cases can be those similar relative to the acquisitions of land or other natural resources by an actor - international or domestic - in a hegemonic conditions face to the bargaining partner as the investment receiving parts. Other cases can be find into several historical and actual situations especially in the post colonial areas in many former colonies in large part of the so-called developing world [6]. In the end, this model can be an instrument to try to observe the behavior of international investors in land and it can be useful for the explanation of the phenomenon.

NOMENCLATURE

LL	low-low
DD	defeat- defeat

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AGRO-BIODIVERSITY AND DIVERSIFIED AGRI-LIVESTOCK SYSTEMS

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Panel 3.2 on "AGRO-BIODIVERSITY AND DIVERSIFIED AGRI-LIVESTOCK SYSTEMS" moves from some considerations about the interconnections among agriculture, rural development strategies and urban and peri-urban areas expansion.

Agriculture uses a third of the planet's surface and is the main activity for most of the world's population. The different farming systems, indigenous people and local communities have been, since a long time, the guardians of a large part of the Earth's resources. We must not forget that all the natural resources from which the agriculture depends need continuous care and that its sustainability is increasingly called into question.

To analyze the rural world, it is possible to use the categorisation of agricultural system made by Vorley [1] in 2001:

- "Rural World 1": the "commercials farmers", or the entrepreneurs belong to this category. It is a minority group of producers with large plots of land and availability of financial resources, that produces for the market and are connected into the global agrifood economy. They have often benefited from government subsidies and other forms of credit facilitations.
- "Rural World 2": this category includes the "traditionalists", or small/medium landowners. In addition to the production for family consumption, they are able to devote even a small part of their production to the market. Normally they owns property rights on their land and they are often organized in associative forms [2].
- "Rural World 3": here are included small landowners who live in conditions of subsistence and whose production often fails to satisfy family consumption needs. They live in conditions of absolute precariousness and fragility, they are often prone to emigrate and have little rights and minimum income.

Dealing with the context of developing countries, Lovisolo [3] has recently suggested to add the category of the "survivors", namely farmers with no access to land and forced to offer their workforce to others. Among them malnutrition is widespread and emigration is the only alternative.

It is not a novelty that essentially poverty is a rural phenomenon: "70% of the billion and a half people in the world live in conditions of absolute poverty - with less than $ 1.25 a day - in fact resides in rural areas and is concentrated in some Asian countries and particularly in sub-Saharan Africa" [4]. The persistence and concentration of poverty in rural areas are therefore highly crucial issues where it is necessary to intervene with development strategies targeted to the rural sphere.

This critical situation is caused by several factors, as the lack of access to production means and resources for most of rural communities and the replacement of the pre-existing agro-ecological systems with the industrialized ones.

Agro-ecosystems simplification results in loss of biodiversity and in the consequent decreased provision of ecosystem services, which are essential inputs for agriculture and for society.

Besides, the oligopoly of production factors leaded by corporations, the inability of small farmers to compete in the global market and the difficulty of accessing to land results in many countries in a patchy distribution of resources, high rates of poverty, but even the loss of safety on production and availability of food/currency.

All these considerations identify a local and global framework where is compelling to find solutions that ensure the availability of food in the present as in the future through the implementation of more sustainable, fairer and safer production systems. Dealing with these issues, we are forced also to deal with the conservation and use of biodiversity.

In developing countries rural communities have been often the engine of indigenous biodiversity conservation thanks to everyday use of local species for food and other purposes. It is so important to maintain and enhance the role of local species and breeds in the definition of sustainable agricultural systems, where biodiversity can play also a role also in the cultural identification of the communities.

To examine more in depth these topics, we started with the work by Prof. Sottile of the Department of Production Science and Agri-Environment of the University of Palermo titled CULTURAL IDENTITY AND CONSERVATION OF INDIGENOUS AND NATIVE DIVERSITY which highlights the need in Africa, to know and valorise local species. We meet the same need in the paper LOCAL FRUITS AND NUTS AS A TOOL FOR THE DEVELOPMENT OF AFGHANISTAN where Prof. Giordani of the Department of Production Science and Agri-Environment, University of Florence, presents the excellent results of the Perennial Horticulture Development Project - Afghanistan (Phdp) (www.afghanhorticulture.org) funded by the EC EuropeAid Program (2006). Dr. Fiorito with ANALYSIS OF THE SUSTAINABILITY OF THE SLOW FOOD MUSHUNU CHICKEN PRESIDIUM IN KENYA introduces a case study where the exploitation of a local breed of chicken provides short time excellent results from the point of view of social

environmental and economic sustainability in a system of small-scale farming. The paper THE ROLE OF DIVERSITY AND DIVERSIFICATION FOR RESILIENT AGRICULTURAL SYSTEMS of Dr. Tecco of the Department of Agricultural Sciences, Forest and Food Sciences of University of Turin, underlines the links between biodiversity and resilience and the challenging option of using resilience as an approach for managing the system especially for cooperation development projects that operate in various ways to safeguard and promote biodiversity. Finally, during the Congress, Dr. Turco of the NGO Mais reports the experience of the Coordination of farmers in Piedmont (Coordinamento Contadino Piemontese - http://coordinamentocontadinopiemontese.noblogs.org/) and its experience in the promotion of values and practices of small scale farming in Piedmont as a form of a differentiated agricultural systems.

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CULTURAL IDENTITY AND CONSERVATION OF INDIGENOUS AND NATIVE DIVERSITY

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ABSTRACT

The economic development of rural areas has rarely followed that of urban centres, with greater evidence of this in developing countries where the outlying communities have remained considerably more remote from the systems of cultural and economic growth. Even if this has had negative repercussions in terms of social equilibrium within the various countries, from a strictly agronomic point of view it has often resulted in the natural conservation of indigenous and native biodiversity. This has been affected by the natural and daily use of local plant extracts both for nutritional purposes and for a variety of other reasons. The exchange of genetic material between one community and another, often a sign of respect and friendship, has helped to increase plant diversity and to enhance its role in the everyday diet of rural populations.
Any activity aimed at conserving biodiversity cannot disregard the fact that native plant species (and even more indigenous species) now play a vital role in the cultural identity of rural communities, and that making such communities aware of this precious asset can also play a strategic part in the idea of promoting biological diversity as a way of developing local economies. Such evidence clearly emerged through the various activities conducted in the context of the project, FAO GTF/RAF/426/ITA *Promoting Origin-linked Quality Products in Four Countries in West Africa*, financed by the Slow Food Foundation for Biodiversity Onlus. This project, conducted in 4 West African countries (Sierra Leone, Guinea Bissau, Senegal and Mali), aimed to carry out a study of these 4 states and draw up an inventory of the traditional plant and animal species, to examine the link between these and the diet of rural populations, and to assess the risks of genetic erosion by actions to safeguard the native biodiversity.

INTRODUCTION

In some developing countries with a greater incidence of native and indigenous plants and animals linked to the cultural and dietary customs of the local peoples, any approach to the study of biodiversity and the use of this in diet is bound to introduce a more complex view of the situation. Such a vision is linked to questions concerning the concept of land ownership, the right to exploit native resources, and the guarantee of access to such resources, especially if they provide a substantial part of the local people's sustenance [1]. The Convention on Biological Diversity (1992 CBD) has already defined certain specific roles for the contracting nations, ensuring that conservation of biodiversity is linked to the knowledge and practices of indigenous peoples and local communities, in particular the rural populations [2]. In this sense, also, the conservation approach is geared towards interventions which respect the traditional ways of life: important for the conservation and sustainable use of biological diversity, in the broad sense, but also more vital in promoting any sort of conservation activity with the approval and involvement of the possessors of this knowledge, and in producing a fair division of the benefits that can derive from the use of such knowledge and practices.

This approach is substantially more valid in countries where development has been obstructed by a variety of factors, and where local genetic resources, whatever their geographic origin, represent not only an important aspect of subsistence but also play a not inconsiderable role in the field of medicine and medicinal treatments. This is a matter, in this instance, of forms of traditional knowledge that the indigenous populations and the local communities guard with jealousy and respect, fearing that they are more likely to disappear through use than through possession. There have been various attempts to identify methods of protection, but their management, even prior to their implementation, has always been very difficult to apply, especially in the context of that constant play between tangible and intangible components which often come together in traditional knowledge [3].

The relationships between traditional knowledge and natural resources have been the subject of extensive study over many years, and the developments connected with the implementation of the CBD have also resulted in significantly different approaches to the management of genetic resources (or more commonly biodiversity), in relation to rights to exploit them either as food or as commercial products [4]. What emerges in a meaningful way is that the

preservation of plant biodiversity is a process which is fundamentally linked to its use by the peoples most generally in contact with it. This clearly has very significant implications for all those species, varieties, accessions, and ecotypes of general nutritional interest, and which over the course of time have come to play a consistent role in the daily diet. However, the same can also be said for all those plant resources which are of medicinal interest, and which have been employed by custom and tradition as the natural solution for everyday problems, especially in rural areas cut off from the economic development which has characterised zones of greater industrialisation, and with greater access to financial resources, over the last hundred years.

The approach offered by the project, FAO GTF/RAF/426/ITA *Promoting Origin-linked Quality Products in Four Countries in West Africa*, has taken on its own unique character in this respect. Starting from the assumption that there is a very significant risk of loss of plant diversity, especially in the area of agro-biodiversity (biodiversity connected to food and agriculture), it studied the role that many plant species (indigenous or simply native) still play in the daily lives of rural populations far from urban areas, evaluating the risk of their loss and adopting forms of sustainable promotion which directly involve the local populations.

The geographical area now recognised by the name of West Africa presents a series of specific characteristics which point to a reality unique in many respects [5]. There is clear evidence of a strong divide between the urban and rural areas, but also of significant geo-political turmoil, and this affects the development and growth of cultures that are very diverse, even if physically very close together [6].

Without entering into the merits of the various geo-political events, which nevertheless have had a significant impact, it is evident that the link between this part of the African continent and plant biodiversity is incredibly strong. There are many species which originated in West Africa [7], a surprisingly high number if one considers the relatively small size of the area when compared to the other main areas of plant origin and domestication around the world. African rice, in addition to African groundnuts, certain species of banana tree, sweet potatoes and many species of leaf and root vegetables, and so on, were all first identified in this zone [8]; and such species were subsequently diversified and selected by the local peoples in order to make them suitable for direct consumption, or for use as ingredients in traditional preparations.

In this respect, there is a body of absolutely tangible scientific evidence, not just in terms of the classic categorisations of *vegetative wild relatives* or ancestral species, but also through more accepted methods of botanical archaeology which demonstrate how many varieties belonging to species of sorghum, millet and rice do indeed date back thousands of years in terms of their presence, diffusion and use [9].Clearly, all this did not occur over the course of a few years, but is the result of an evolutionary process originating from a concentration of different climates to which such species were adaptable, and reaching us today through the excellent system of conservation of biodiversity to be found in everyday consumption.

It was the very variability of climates within this large geographical area which enabled the significant incidence of genetic diversification in these many different plant species. From the Sahel to the Atlantic Ocean, one passes through desert zones, arid zones, and fertile lands of fluvial origin, until finally reaching tropical forests. Here, there are a huge number of indigenous species which have prevailed as a result of their adaptability and their exploitation for nutritional and economic purposes. In alluding to the variations in climatic environments and agronomic and cultural factors, we are in fact referring to macro-areas which do not fall within the political borders which define the individual states [10].

The climatic areas and plant biodiversity

The *forest area* represents just a portion of the vast and varied rain forest system. The presence of a large variety of species with arboreal growth habit has led to many of these being widely cultivated. In Sierra Leone and Guinea Bissau, for example, palm oil, rubber from indigenous trees, cocoa, but also timber from various types of native tree, together with many other plant species, have played an essential role in the economic, cultural and social development of these areas.

The oil palm, for example, has always been a species of great indigenous interest for it oil and for cosmetics, obtainable by means of a rudimentary tree-tapping process. Traditional alcoholic beverages can be made from the trunk, and the leaves and fronds provide useful building materials and are primarily used for roofing houses. All these applications, therefore, account for the widespread use of this species in many West African countries. However, palm oil first became successful on an international scale with its export to Britain near the end of the 18th century, for its use first in industry and then in food production. Palm oil subsequently began to be exported to very many countries, attracting a lot of industrial concerns, and these ended by subverting the production techniques developed over many years by the indigenous populations. Not much remains of this original production, although some of the traditional palm groves have still been conserved. Here, you can still find a form of sustainable management which uses traditional cultural techniques and follows indigenous rules, both for the maintenance of the plantations and for the production of the palm oil. These areas represent just one example of what was once a form of production closely linked to the traditional cultivation of a species which was naturally and widely distributed throughout the forest zones of this large corner of the African continent. A similar story in some respects relates to the production of rubber from widely diffused native species. The peak of production follows, to some extent, the growth of the palm oil trade, at least until the end of the 19th century. However, there never existed formal plantations for the production of rubber: the local people just profited from a long period of commercial demand, collecting the product from the trees found spontaneously growing

around the forest.

Many of the areas where oil palms could be found, or trees from which to extract rubber, were heavily exploited during the period of greatest trade and remained partially deforested or at least much beaten down. It was precisely in these areas that the development of cocoa palms became possible, and there was an immediate increase in the number of these plantations. It was the introduction of cocoa, reaching West Africa in the second half of the 19th century, which significantly altered the agro-environmental landscape, with plantations growing in number and encroaching ever further into the rain forests. Amongst other, more minor species, meanwhile, there was also a culture of coffee growing, which played quite a significant role although never reaching the levels of cocoa or palm oil production. Nevertheless, apart from various scattered and not very widespread fruit trees (pineapples, bananas, mangos, etc.), it is the cola tree which represents the most important species in terms of the link between indigenous cultivation and the forest. Cola nuts, traditionally collected from the trees scattered around the forests, from Ivory Coast to Sierra Leone, still act as a strong link between local traditions and the sale of plant products. They are used generically as stimulants by the people of the savannah and those living closest to the desert areas and have always been restricted to a relatively local trade, without ever finding space on more distant markets. Due to this limited diffusion, the traditions related to the gathering and processing of cola nuts have continued up to today. This is mainly thanks to the constant activity of the women, who have helped to maintain interest in this purely indigenous product, even if only at a local level.

Finally, in the typical forest areas, can be found a small number of species more directly linked to the diet of the indigenous population: mainly types of tuber (cassava, yam, etc.), and some trees such as the plantain. What is striking above all is the capacity of the women to profit from a range of spontaneous species whose tubers or leaves offer significant nutritional characteristics (in some cases, also medicinal), and which have come to form part of the daily diet of rural communities living in villages on the fringes of the forest. These forest areas become a source of edible species which prevail over those typically related to commerce and trade, emphasising the importance of the use of spontaneous, indigenous forms of biodiversity for the purposes of daily sustenance. This is really the very best form of conservation. However, it is also clear that forest zone is of lesser importance in terms of the species used in everyday nutrition, especially compared to the savannah region, to which the forest gradually gives way.

The *savannah*, as we have noted, is not an area uniformly spread throughout West Africa. It begins as very fertile territory, especially when close to river basins, and extends towards the Sahel with a succession of pedoclimatic zones which range from the humid to the very arid. The types of indigenous species to be found in these environments vary radically, as do the systems of agriculture and different methods of cultivation. There is widespread livestock farming, while rice, in the form of a native variety related to *Oryzaglaberrima*, is grown throughout the area and represents the staple food of the local populations.

The savannah of West Africa, during the time from the 18th to the mid-19th century, contained within it a vast array of very different species, some of which played a crucial role in the rural economy of the age. One of the crops with the greatest tradition and firmest links to the rural culture of this area was therefore rice, and this region was known at the time as the "*rice-growing belt*": a zone stretching from Casamance in Senegal to as far as the Ivory Coast.

However, within the Savannah, the ever greater scarcity of water resources and the alternation between very dry and very wet seasons, has become a very important factor in the selection of species and cultures which over time have become well established and have become essential to the nutrition of the local populations, especially the rural communities. Despite the fact that the continuing industrialisation of agriculture in Sub-Saharan Africa has contributed to the ecological degradation and impoverishment of the territory, there nevertheless still exist certain characteristic species in this area from which the indigenous populations derive a large part of their income, as well as, more importantly, a large part of their nutritional needs and sustenance. Indeed, the cultivation of groundnuts has been consistently important in West Africa, with some significant specifications. Until colonial times, the cultivation of groundnuts involved native and indigenous species: the *Voandzeiasubterranea* also known as *Vignasubterranea*, and whose common name is *Bambara groundnut*, originated in West Africa, probably in northern Nigeria, where it was first established as a distinct species. It was only with the arrival of the American groundnut (with a completely different use and purpose) that the *Vigna* began to diminish in importance. However, it still remains an important, basic species, especially in rural areas with a prevalence of subsistence agriculture, and is closely linked to the preparation of traditional dishes. There is no doubt that this species, with its special nutritional and dietary characteristics, especially in terms of its content of protein and high-energy oleaginous fats, has been an essential element in the diet of indigenous people, from Senegal outwards: also because it is easy to store. There have been many ethnic groups involved in its production over the years, from the Wolof in Senegal to the Bambara in Mali, who cultivate groundnuts in their fields alongside the traditional millet or cotton. This provides these people with an important sort of agronomic and economic "flexibility", which at certain times proves vital in helping them to overcome specific hardships.

Indeed, the West African savannah is a concentrated area of production for millet, sorghum, maize and rice, which, almost exactly in this order of importance, have represented a productive system of agriculture as well as a basic nutritional system. To a lesser extent, durum wheat is also grown, but principally many and varied types of pulses. Since their growing season intersperses with that of cereals, they can be used to enrich the diet of the local people as well as helping to maintain the fertility of the soil by fixing nitrogen through their roots. It is, in any case, fascinating to observe the differentiation of species their variety according to the specific climatic conditions of the savannah. The alternating wet and dry seasons make it necessary to cultivate varieties with short growth cycles: varieties able to use the end of the dry season for germination and harvesting, and also capable of withstanding the limiting conditions

imposed by the aridity of the period which immediately follows. Where conditions have permitted small artisan systems to be established for water management and irrigation during the dry season, the cultivation of vegetables, tobacco and rice has proved to be extremely fertile and productive.

Rice has always played a fundamental role in Sub-Saharan Africa. Until the introduction of Asian rice (*Oryzasativa*), all the varieties spread through in Africa, and in the western part in particular, were descended from *Oryzaglaberrima*, a native, indigenous rice variety which provided the essential staple for the local populations. These varieties of rice were used for a multifaceted form of cultivation, from the classic paddies to rice fields on dry hillsides, and from areas with high salinity in the middle of mangrove swamps to the "floating" varieties, with their long stems and short growth cycles: proving in a definitive way the huge genetic variability of this plant and its great adaptability to environmental conditions.

Over the course of the decades, while Asiatic rice has come to dominate in peri-urban agriculture, due to its larger yield and consistency of production, the rural areas have consistently maintained their cultivation of *Oryzaglaberrima* and its different varieties managed by local farmers. Between the 1960s and 1970s, Porterés observed a considerable number of native African rice varieties, identifying just a few morphological differences between them, which were mainly related to the size and colour of the paddy. At the same time, he described their agronomic characteristics, emphasising, in particular, their high resistance to fluctuations in water level [11] [12].

In some rural villages, therefore, the native rice still plays an important role, and the few varieties that come down to us today have been maintained primarily because they are always grown together. Indeed, one very well-established tradition is that different varieties of rice with different characteristics should always be grown together in the same fields, as a way of guaranteeing production even in the event of unexpected adverse conditions which could affect any variety: a rare and also very efficient method of protecting and conserving biodiversity. This strategy is implemented largely due to the expert knowledge of the local women, who are able to distinguish the different cultivars just from the paddy, and therefore know how to create the right mixture at the time of sowing. Their choice, therefore, is based on different types of adaptation to the soil, or resistance to adverse conditions, and acts as a useful instrument which contributes to the movement of varieties from village to village. Indeed, these women exchange seed with the women of other villages so as to ensure the maximum morphological and agronomic diversity between the seed types they intend to sow [13].

The significant genetic erosion of native African rice largely took hold after the 1960s with the start of a real and prolonged period of drought, which, combined with a pronounced population increase, led to a need for rice imports. Apart from a few brief periods, average rainfall decreased by a third - and in some years even by half. It was therefore thought necessary to rely on varieties with very short growth cycles, which would not grow excessively high and would maximise yield in the shortest possible period. For this reason, Asiatic rice became increasingly widespread, while at the same time research programmes were launched by African and European institutions to try to develop consistent improvements to varieties by combining the genetic characteristics of *Oryzaglaberrima* with the high yield of *Oryzasativa*.

The role of women in the conservation of biodiversity

It is interesting to note how, in this context, the different roles of men and women are perfectly balanced: the men till the soil and sow the seeds, while the women harvest the crops, select the product, and maintain diversity by deciding what should be kept for the next sowing and in what proportions. Paradoxically, this part of the world has become one in which this sort of balance and form of relationship has assumed increasingly differentiated connotations. On the one hand, this form of equilibrium is still very much alive and rooted in the indigenous social culture of outlying rural communities: especially those remote from cities. But on the other hand, in many urban areas close to zones of expansion and colonial domination, this system of balance has profoundly changed, and women especially have lost the valuable and decision-making role which they have always traditionally played within the African family. This aspect alone helps to highlight how, and to what extent, colonialism helped to set in motion and then to consolidate a series of social and political changes, with a consequent impoverishment which has not yet been put into reverse, and with a succession of *coups d'état* and periods of political and economic volatility which have certainly not promoted social stability.

The indigenous peoples - and women in particular - have been the most significant victims. Their communities were the ones that best preserved the biodiversity: that biodiversity of which there was once an inexhaustible supply in West Africa. For all these reasons, the rural areas furthest from the cities and large centres of population have somehow managed to counteract this trend towards impoverishment. Indeed, they have assumed the role of guardians of a significant part of this native and indigenous heritage, and have become living proof of the traditional ways and knowledge: factors which have so often helped the indigenous peoples to overcome major problems in relation to sustenance, and to political and social issues.

The colonist, in fact, were never very accommodating to changes in their own customs, instead exerting heavy pressure on the local traditions by the importation of new species, new habits of consumption and new approaches to everyday nutrition and diet. Nevertheless, as in other parts of the world, and especially in developing countries, these African women remain the repositories of that essential knowledge on which the sustenance and nutrition of the whole nuclear family depends. The women know where to go in the forest, and how to collect the leaves, stems and roots of

plants. They know how to recognise them, and to cleanse them of any alkaloids or dangerous substances. They know how to mix them together to make a complete meal, or to provide the ingredients for a useful and nutritious dish. Indeed, apart from certain cultivated plants, wild herbs almost always form the basis of the most traditional African recipes.

THE PROJECT ACTIVITY

The implementation of the project, *Promoting Origin-Linked Quality Products in Four Countries*, has enabled the creation of a sizable inventory of the species, varieties and types of plants associated with the traditions of the local people; selecting as case studies 4 West African countries characterised by the great richness of their biodiversity. On the basis of knowledge of the region, and by building up a dialogue with the local people, it was possible to draw up a substantial inventory, which could be exploited by applying the special methodology developed by the Slow Food Foundation for Biodiversity. It was aimed at promoting those products related to traditional history and culture: products with a high organoleptic and nutritional value, of either native or indigenous origin, which were habitually collected by women and so handed down the generations.

Starting with these types of products, a process of investigation, assessment and selection was then carried out. This was aimed at establishing various projects to evaluate at least one product per country, and envisaged the direct involvement of small producers, local farmers, and expert women involved in the preservation of such knowledge. This could form the basis for a demonstration exercise for the rural populations, leading to the creation of small scale but very viable economic systems.

An evaluation process was established, aimed at exploring markets able to enhance the value of products originating from very particular areas, and a system was developed to promote knowledge of “local eating” in two parallel ways. This involved working firstly in the villages, to emphasise the importance of local foods, their consumption and nutritional benefits, lending added value to products once considered exclusively poor; and secondly in the large cities, where contact with local production risks becoming more and more sporadic, and loss of knowledge risks opening the door to increasing genetic erosion and loss of biodiversity.

The specific aims of the project can therefore be summarised as follows:

- to promote all initiatives aimed at the conservation of biodiversity and local traditions, by identifying those products associated with indigenous history and culture in 4 West African countries (Sierra Leone, Guinea Bissau, Senegal and Mali).
- To apply the evaluation system of the Slow Food Foundation for Biodiversity, using the criteria for various products and selecting those suitable for developing a Slow Food protection project in each of the 4 countries;
- To help develop a small-scale production organisation in relation to the local social and cultural hierarchies and structures, and to contribute at the same time to improving (where possible or necessary) the production techniques related to agronomy, health and hygiene, and also to the packaging of the final product.
- To promote and improve access to these products in local markets, within the individual countries involved, and on an international scale.
- To improve the knowledge of the local population with regard to native and indigenous products; to the importance of their consumption; to the link between their consumption and improvements in nutrition, the conservation of biodiversity and an increase in environmental sustainability, and, in short, all the befits which derive from these various interconnections.

The case studies – the 4 West African countries

It is difficult to speak exclusively of one or other of these countries without referring to the larger geographical zone (i.e. West Africa), since biological evolution is certainly not defined by political borders. Indeed, it is abundantly clear that the entire region has undergone a similar process of evolution in terms of the domestication of plants, the development of agriculture and the close relationships with local traditions in the rural areas. A study of the region reveals a strong link between dietary traditions, closely connected to a huge variety of products, including species from the vegetable plot, types of fruit, cereals, and especially pulses. Sweet peppers, tomatoes, aubergines, cucumbers, beans of every type, different forms of tuber, and species of tropical fruit-tree and palm-tree are all traditional features of the West African landscape. Many of these products are also linked to the distant past, both in terms of their cultivation in the different countries, and because of their associated use in preparing dishes of varying complexity, or in a range of processes after harvesting.

The obvious geographical isolation of the rural areas has certainly impeded economic and social development, but has also substantially helped to conserve an unparalleled cultural and agricultural heritage. One can still witness the preparation of so-called “poor” dishes; the result of the harvesting and combining of ingredients derived from wild species or traditionally cultivated plants. The skill of the village women in selecting wild plants for use in cooking is still a source of amazement today, and confirms the existence of a repository of extraordinarily valuable knowledge. This is an asset to be explored, studied and disseminated in order to help maintain a culture of local consumption: a

culture of sustainable consumption which encourages biodiversity and enhances the social fabric.

It therefore seems clear that in order to implement a process of reviving and enhancing plant and animal biodiversity – that same diversity that is ever more closely linked to local consumption in marginal areas - one must inevitably undertake a process of investigation, monitoring and cataloguing, of studying and researching the different plant species and varieties [14] [15]. It was from this perspective and with these specific objectives (as noted previously) that the present study was conducted, using certain specific activities which led to the identification of products with very strong links to their areas of origin: products of great prestige, characterised by a history firmly rooted in local traditions, and with significant connotations in regard to the nutrition and sustenance of the indigenous populations.

The methodology

The activity envisaged in the project, '*Promoting Origin-linked Quality Products in Four Countries*' (GTF/RAF/426/ITA), was divided up into a number of stages, entailing detailed bibliographical work, and a series of visits to the 4 countries involving many contacts with local personalities, farmers, small producers, shopkeepers and local officials. This method allowed the project team to identify and learn about various products of significant local interest in terms of food, including those which had been subjected to processing. According to the project plan, the evaluation of the various products had to be subject to a checking process, involving a series of criteria used by the Slow Food Foundation for Biodiversity in relation to the programme leading to the establishment of Presidiums.

In the context of this project, the process divided into four different phases:

- *Inventory*: The creation of a list of local products with related data sheets. This list was planned to be wide-ranging and thorough, and took account of information collected in situ; through interviews and meetings with small producers and inhabitants of rural villages, exchange of knowledge with people from various countries, and from institutions which carry out carry out cooperative activity and sharing of expertise at a local level. The information obtained was then put together with the evidence acquired from extensive bibliographical research, involving both the science of agronomy and sociological, archaeo-botanical and geopolitical aspects.
- *Selection:* This involved the list of criteria for creating a Slow Food Presidium. Each product identified was given an in-depth description and related data sheet, and then evaluated using the criteria established by Slow Food for accessing the Slow Food Presidium programme. This process helped to highlight the strengths and weaknesses of the product in terms of its potential for development and its contribution towards the conservation of local resources.
- *Presidium Project*: Together with all the local players involved, this entailed a process of development for those products which met the criteria for Slow Food Presidiums (http://www.slowfoodfoundation.com/presidia). This action plan began with an assessment of the potential of each individual product in terms of the safeguarding of cultural, social and natural resources, and also in relation to the economic development and involvement of consumers and of the Slow Movement network on the spot.

RESULTS

A data sheet was created for each of the local products identified, and this was used to evaluate possible successive action. In this way, an inventory was produced of about 50 traditional products from the 4 West African countries. These were products of either native or indigenous origin which have an important role to play in the agronomic, social and cultural life of these 4 countries. This list certainly does not exhaust the full potential of any of these countries, and it can be gradually expanded as the increase of the association's activities within the country leads to a spread of the Slow Food philosophy and a consequent highlighting of products of interest.

The inventory forms part of a clear strategy, whose aim is to develop a virtuous circle based on the promotion of good quality, traditional products. Each data sheet contains a large quantity of information in relation to the botanical identity of the product, with detailed facts regarding the origin and distribution of the particular species or variety. It also includes data in relation to its prevalent use and main characteristics in relation to food preparation, diffusion throughout the territory, possibilities for commercialisation, and all aspects of its nutritional value. Each product is then subjected to an evaluation process based on the selection criteria for the Slow Food Presidiums, to check whether it possesses the requirements to access the promotion stage, in line with a process already tested in many countries and every continent. This results in a selected list of products with suitable characteristics for the Slow Food programme (bottom-up type micro-interventions). This list can be included in priority series of interventions, enabling the identification of possible actions to propose to financers at the time when the Slow Food Foundation for Biodiversity is in a position to propose and set up new projects in developing countries.

The products chosen at the end of the evaluation phase are those which succeed in fulfilling all the criteria mentioned. The Somè Dogon Presidium products, which met these conditions, were not considered because they were already the subject of a Slow Food project following previous activity by the Foundation in West Africa. The **Cola of**

Sierra Leone, the **Palm oil of Guinea Bissau**, the **Salted millet couscous of Senegal** and the **Kattapasta of Mali** are, on the other hand, products which managed to fulfil all the necessary criteria of the rigorous selection process. These products, therefore, have now embarked on a process of development and promotion, calling for the full involvement of the small producers. They are products which have fulfilled all the conditions required for setting up a Slow Food Presidium, in relation to small-scale production, quality and good taste, sustainable systems of production and management, and risk of extinction for the product of production system. Each Presidium is equipped with production guidelines, drawn up by joint agreement during a moment of social interaction between the producers, who had the opportunity to present their various products at the Terra Madre 2012 international event.

CONCLUSIONS

As already noted, plant species in the rural areas have been able to maintain real diversification, somehow integrating the production of rice, maize and tubers as well as fruit and vegetable products, in addition to an increase in livestock and dairy farming. All this is partly related to farming enterprises developing next to family concerns, but without the presence of proper agro-food businesses.

In general, the agro-food market in West African countries lives in a state of constant antagonism between a timid defence of local production and small producers and a growing interest in importing products from abroad, both from other African countries and from the EU. In this way, various bodies and action groups have been established with a protectionist attitude to indigenous production, and these have been opposed and often impeded by those concerns which manage to import and distribute foreign products with considerable ease [16].

There is therefore a very conflicting situation: on the one hand, the increase in imports reduces the costs of food products, increasing their ready and constant availability, but also causing fierce competition, without any of the guarantees offered by local production. On the other hand, activities to protect and promote local products certainly cannot see any chance of success in the immediate future, but require a prolonged programme of information, research, and the sharing of experiences and skills. All of this must be directed towards reviving awareness in relation to the importance of a healthy, balanced diet, based on local products which require less energy input for their production, with a consequent increase in agronomic, social and economic sustainability.

In these social contexts, the opportunity to implement activities aimed at the conservation and promotion of biodiversity, as through the Slow Food Presidiums, seems to be of great importance not just for purposes of conservation, but also because it is by the diffusion of information about the consumption of indigenous plant products that one can more practically achieve the general aims of the rural communities [17].

The great pressure to which this biodiversity is subjected every day, quite apart from any connection to the period of European colonisation, depends heavily on an ever-growing demand for food, and the need to satisfy it within certain timescales and in sufficient quantities. Indeed, local production is not characterised by very high yields, but often (or rather, almost always) responds to the needs to resist constrictive climate conditions, and the ever-present threats of biotic or abiotic stress, while also demonstrating an unequalled nutritional capacity. A demonstration of this is the increasing activity in the field of genetic enhancement, which, independently of the methods employed or the parent strains used, has had a wide-reaching effect in quantitative terms, while also leading to an impoverishment in the nutritional potential of various foods and a growing risk of genetic erosion amongst plant species [18].

The work carried out by the project, '*Promoting Origin-Linked Quality Products in Four Countries*', was aimed at highlighting the approach of the Slow Food Foundation for Biodiversity with regard to local products and traditions, and the process of selecting and creating a Slow Food Presidium in an area as complex as the one under review in West Africa. The innovative aspect of the approach adopted by the Slow Food Foundation for Biodiversity consists in creating relationships which do not involve a one-way connection between the project developer and the beneficiary but which are instead circular systems. These are systems where everyone, by contributing to the creation of the activity, becomes one of its beneficiaries, and where even small producers become main players in enabling the success of the project. In such a context, there is no contradiction between the actions of the individual and of the community, for they both benefit from each other within a network of generally positive relationships. Indeed, sustainable production does not only benefit the individual who puts it into practice, but also the entire community who live with and consume these products. In the same way, being part of a community allows the individual producer who works, for example, in marginal areas, to overcome the restrictions imposed by physical isolation which made it hard for him to access and compete on the market. In view of these considerations, it is possible to underline certain key points in the model for the Slow Food Presidium Project, which has provided a means of integration and consolidation in both West Africa and other parts of the world:

- in varied parts of the world and with very different products, it has managed to apply the same basic operational formula, even though it had to adapt the specific action to the context involved;
- the implementation of these activities, like their support and control, is ensured by a cooperative structure on the spot, and by the presence of a community which shares the key values of the SF philosophy and which does not therefore require the presence of ex-patriot personnel on the ground;
- the Slow Food movement and the Terra Madre network promote the spread of their philosophy through the

creation of a relationship of circular exchange between the various individuals who form a part of it;
- there is continuity of the activity over time, in that the SF network allows an indefinite life and visibility for the project, with no determined end to the operation, in that it makes up an integral part of the SF system.

Using this approach, the movement has operated in West Africa, reaching the end of a process of evaluation which has allowed it to come into close contact with the rich legacy of native and indigenous plants which is still present and still used, although sometimes at grave risk of extinction due to the constant pressure of foreign products. The rural communities have managed to put up a strong defence, but now recognise the importance of projects able to give voice to their skills and knowledge, applied to the use of the biodiversity which they know how to value and recognise. Valuing and promoting this legacy through projects which put the indigenous people at centre stage and make them masters of the success of their enterprise, has also proved to be a winning formula in relation to preserving the agro-biodiversity still in existence today.

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LOCAL FRUITS AND NUTS AS A TOOL FOR THE DEVELOPMENT OF AFGHANISTAN

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ABSTRACT

The Perennial Horticulture Development Project – Afghanistan (www.afghanistanhorticulture.org) funded by the EC-EuropeAid Program since 2006, is supporting the Ministry of Agriculture, Irrigation and Livestock of Afghanistan in the sector of fruit culture, including the fruit tree nursery segment, through a process of collection and selection of local fruit varieties. The main goals are the strengthening of the perennial horticulture through the utilisation of mostly local and imported genetic resources and the development of a consistent private commercial nursery sector. About a thousand fruit varieties (of grape, almond, pomegranate, apricot, etc.), selected by local advisors across a wide area of Afghanistan were collected during the first phase of the project (2006-2010), propagated and planted in National Collections at six Perennial Horticulture Development Centres. The collected accessions are under morphological characterization and evaluation following standardized methods in order to choose the best ones and to allow their registration in a national list, hence contributing to their safeguard and protection. Many varieties are already being cultivated and are also being used for adaptive research in order to point out the best cultural practices (e.g. pruning, training). PHDP also provides capacity building at technical and institutional level, fosters the establishment of nursery sector associations and helps to provide international expertise for local staff in cooperation with local and foreign universities, and NGOs and other public and private companies working in Afghanistan are also involved. One of the most challenging tasks is to promote, tutor and bring to sustainability the Afghanistan National Nursery Growers Organization (ANNGO) and the apex Afghanistan National Horticulture Development Organization (ANHDO), mainly concerned with value chains.

FOREWORD

This paper aims at illustrating the activities of the Perennial Horticulture Development Project (PHDP) and placing them within the framework of the economic development of Afghanistan. The description of the project and the related considerations will be performed by keeping in mind the leading question of the Section "Rural development, natural resources and environment - 3.2 Agro-biodiversity and diversified agro-husbandry systems" of this Congress, which states "the integration between scientific and technological innovation and traditional knowledge and use of local genetic resources: how to promote capacity building and technological transfer taking into account these aspects?".

INSIGHT AFGHANISTAN

This section briefly describes the country's background and those aspects directly related to the PHDP activities, focused as they are on the development of fruit culture sector.

Historical, cultural and institutional background

The 5,000 year history of Afghanistan can be defined as a continuous overlapping of conquests and defeats by neighbouring countries and civilizations which have lead to a variegated and multiethnic nation. The current conflicts go back to 34 years, and have deeply affected people and their relationships both within and between ethnic groups. Even if the war had tragic effects in the countryside, the rural cultural heritage and social structure could stand these events better than towns, where, most of the governmental structures (e.g. Ministry of Agriculture and Universities) practically collapsed, leaving a void in the institutions demanded to manage and promote, for instance, agriculture, the leading sector of the economy of Afghanistan. The destruction of buildings was closely accompanied by the almost total annihilation of human resources, with a whole generation of people missing out on education and social and economic development. Another effect of the conflicts was, notwithstanding the wide *diaspora* of Afghan citizens, the isolation of this country towards the international community in most of sectors of public and private activities. Hence material rehabilitation and human capacity building are still a must in Afghanistan.

Environment and agriculture

Afghanistan has a surface of 652,230 km2, two thirds of which are represented by mountainous terrain and dry plains with little or no vegetation. Good statistics are impossible to come by, but of the total 65 million ha only 12% is ever cultivated, as most of the land is too mountainous to cultivate, and much of the rest of the land receives too little rainfall for rainfed crops. Of this approximately 8 million ha of cultivated land, only about 2 million ha is irrigable currently; although many irrigation schemes could be improved or extended. Water for irrigation is generally derived from precipitation as snow at high altitude in the winter. Where water courses are fed directly from melting snow, the irrigation capacity decreases during the summer as snow melts. More consistent aquifers are available from groundwater areas, and a limited number of dams were built going back as far as the 1950s. High mountain chains (e.g. the Hindu Kush) separate usually narrow valleys with specific microclimates, each one with diverse typical fruit varieties. In the central and northern parts of the country, the climate is harsh, with very cold winters and very hot, dry and in many areas windy summers. Nevertheless a wide range of temperate species are adapted to these conditions and are grown from 250 m up to 2-3,000 m above sea level. In southern areas, winters are milder, and in parts of eastern Afghanistan, which are on the edge of the areas influenced by the South Asian monsoon system, many citrus and similarly tender species can be grown. Over 75% of the Afghan people live in rural areas where agriculture is the primary activity and the agriculture sector contributes about half of the GDP of the country. The World Bank estimates that to enable faster economic growth and rural poverty reduction, agriculture needs to grow at least 5% per year over the next decade. This is a big challenge since technology, communication and transport, irrigation, and education are substantially deteriorated due to conflicts and lack of maintenance. Both public and private institutions lack the physical infrastructure, the necessary regulatory framework, and the skilled staff to build a modern and competitive agricultural sector.

Fruitculture

The strategic position of Afghanistan in the crossroad between western and eastern regions, which motivated the repeated conquests and re-conquests of that country by different civilizations, explains the presence and the wide diversification of most of temperate fruits species originated in Middle East, Central and Eastern Asia. Many historical and artistic records indicate a strong traditional linkage between the Afghan people and fruits (fresh and dried fruits, and nuts) [1]. For instance, Qasem Ebne Yousof Abunasre Herawi, in his “Guide to agriculture” of the XIV Century, quoted over 100 types of grapes for the area of Herat. Fruits trees are very often recalled in present literature; some nice examples related to pomegranate and pistachio trees can be found in the popular "The Kite Runner" [2] and "A Thousand Splendid Suns" [3] novels of Khaled Hosseini, while "I fichi rossi di Mazar" (*The Red Figs of Mazar*) is the title of a recent book by Mohammad HussainMohammadi [4]. An interesting Italian reference, where fruit trees are cited, is "Nel mare ci sono I coccodrilli – Storia vera di Enataiatollah Akbari" (*In the Sea There Are Crocodiles*) by Fabio Geda [5], based on the candid testament of the experiences faced by a young asylum-seeker from Nava (Afghanistan). These are sound proofs of how much fruits are a part of Afghans everyday life and how deeply they are linked to their cultural heritage. The “*bagh”* is the typically closed home garden where a wide range of species and varieties (often obtained directly by seed) are grown and from which many local varieties, composing the fruit germplasm of Afghanistan, came out. More specialized mono-specific orchards are also called *baghs* and they supply most of fruits and nuts, nevertheless also sparse trees in community areas are a valuable source of some nuts like pistachios and seldom "wild" pomegranates. Afghan consumers prefer very sweet, extremely low acidic and tasty fruits; high sugar content is a necessary condition for drying fruits, a very popular and traditional practice in Afghanistan, which is facilitated by very hot and very dry air during windy summer times. As a matter of fact, storing dried fruits and nuts represents a suitable strategy to overcome harsh winters with a natural and healthy source of energy in the rural areas. Fruits represent for the Afghan population a valuable product both for subsistence and profit. Fruit and nut production in 2011 reached 1,355,985 t [6]; the actual amount could be more, since the statistics on production are not always very reliable. The percentage of "fruit and nut production on total crop production" in Afghanistan is over 16%, which is quite high if compared to world average (about 11%), and lower than the proportion of Italy (about 30%), considered a typical fruit producing country. The following table 1 gives a picture of the species cultivated in Afghanistan and their relevance in the sector. Global fruit production yield in Afghanistan (6,7 t/ha) is about half of the Italian value; the most unbalanced situations are presented by apple production (the Afghan yield is about 15% of the Italian one) and then by peaches and nectarines (38%) and apricots (50%). These figures are evidencing problems in terms of fertility, production systems and cultural practices. Insofar as these yield figures are reliable, they are also influenced by the average age of the orchards, after a lot of orchard planting in the last few years. One aspect of major concern for fruit industry in many developing countries is related to the nursery system, the starting segment of fruit production chain. A strong impulse to top quality fruit production in developed countries of the last decades was the adoption of high quality propagation material, characterized by true-to-type genetic identity, clean phytosanitary status and high technological properties. Traceable propagation material (such as buds, cuttings and saplings) released by a nursery sector working under a certification-filiation scheme is a guarantee of quality for fruit growers. At this regards Figure 1 clearly illustrates the potential effect of the application of a nursery system based on traceability on the orchards of Afghanistan, characterised by poor quality, mixed and often un-indentified trees. The limited natural

resources and the high population growth rate (average of 3,2%, against 1,2% of world in the last ten years) of Afghanistan, impose to adopt innovative strategies in agriculture (and namely in fruit culture) in order to increase yields in general terms, and, at the same time, to improve the marketability of fresh and dried fruits, and nuts. At this regard, it is worth to notice that Afghanistan is a net exporter of grape and raisins (≈ 48,000 t in total), pomegranates (≈ 50,000 t), fresh and dried apricots (≈ 8,000 t in total), then dried fig, pistachios, etc. (FAOSTAT, 2013; Saeedi *et al*., 2011), while is a relatively strong importer of citrus (≈ 120,000 t). Increasing and improving production will answer to country's growing demand of fruits, will promote export and reduce import.

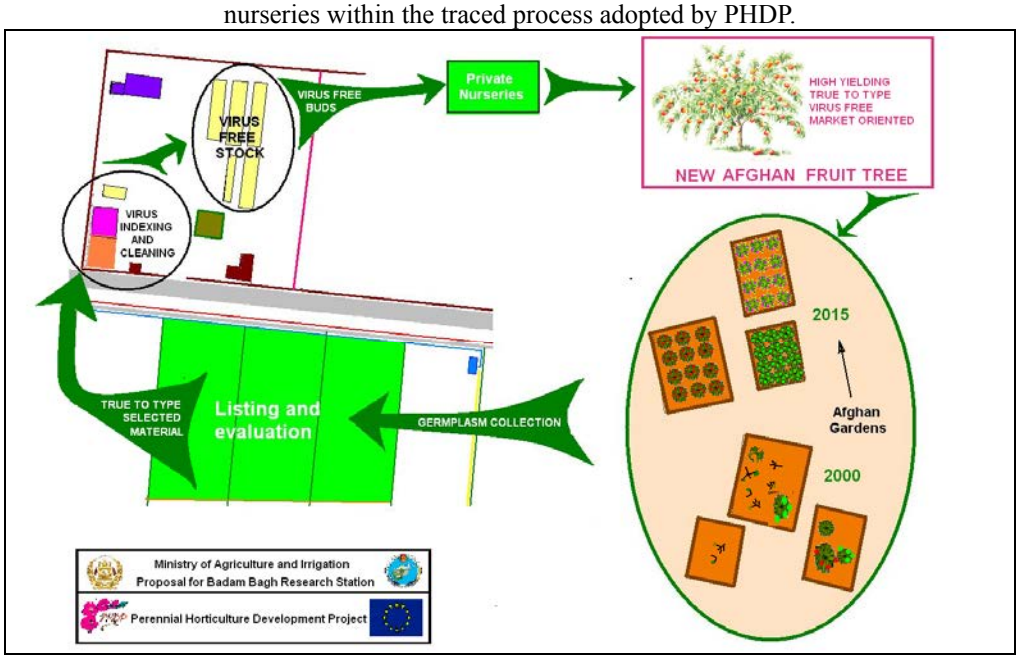
Science, technology and institutions

Each important town of Afghanistan has a university with a Faculty of Agriculture; the authors of this paper have direct contacts with the Faculties of Agriculture of Kabul, Herat, Nangarhar Kunduz and Mazar Universities. Unfortunately the universities greatly suffered the effects of conflicts, the organisation, content and quality of the courses are still far away from the international standards. The causes of this disparity are essentially the lack of financial support (also for physical re-building and payments of salaries) and, with some outstanding exceptions, a generalized very poor human capacity. As a consequence the development of basic and applied knowledge and technology is very poor. Universities in Afghanistan are not considered to have any research function. Similarly, public institutions devoted to manage, promote and develop agriculture (and namely perennial horticulture) need to be supported in order to foster their concrete and active rehabilitation and assume the role they are expected to have in society. As a matter of fact, the few regulations existing for agriculture (namely fruit culture) are not applied following standardised procedures and "certificates" are in many cases almost merely bureaucratic documents.

Tab. 1 - Fruit production of Afghanistan in 2011 (FAOSTAT, 2013; other sources).

Species	Amount (t)	Amount (%)	Species	Amount (t)	Amount (%)
Pomegranates	500000	36,9	Peaches and nectarines	13460	1,0
Grapes	411000	30,3	Oranges	7407	0,5
Almonds, with shell	60611	4,5	Pistachios (wild)	4203	0,3
Apples	59469	4,4	Pears	1596	0,1
Apricots	56043	4,1	Olives	1500	0,1
Plums and sloes	28406	2,1	Other fresh fruits	106946	7,9
Berries	24604	1,8	Other stone fruits	44713	3,3
Figs	19045	1,4	Other nuts	1649	0,1
Walnuts, with shell	13902	1,0	Other citrus	1431	0,1

Fig. 1 – From the traditional orchards of 2000 to the specialized orchards of 2015 established with saplings released by nurseries within the traced process adopted by PHDP.



THE PERENNIAL HORTICULTURE DEVELOPMENT PROJECT (PHDP)

Origin

In the 1990s, after the fall of the Soviet supported government in 1992, various projects supported the development of fruit tree nurseries and the introduction of many modern varieties of peach, plum, apple, almond, apricot, as well as rootstocks for apples. A leading figure in these efforts was Dr Abdul Wakil, one time Minister of Agriculture in the time of Zahir Shah, who led in the training of a large number of personnel in the basics of budding, grafting, orchard management and related skills. These trained people, mostly aged in their 50s by the time of the start of PHDP, were available to PHDP to staff the project and the NGO sub-projects. Other younger staff who had grown up and trained in Pakistan were also recruited.

The efforts included setting up mother stock nurseries and propagation of fruit trees at government research stations, which were managed by various NGOs for this purpose. This original concept of a limited number of key mother stock nurseries run on Ministry land informed the design of projects such as PHDP and also the World Bank (Emergency) Horticulture and Livestock Project (HLP), both starting in 2006.

Another initiative undertaken by PHDP that had never been done before, was the description of germplasm Physical collection of Afghan fruit germplasm was first done by PHDP from 2007. Some fruit germplasm collection done by FAO and ICARDA prior to 2006 was lost due to lack of records and lack of continuity in activities. A major centre of the germplasm description was in Ghazni, which has still not been accessed by the PHDP, due to security problems. This earlier work on germplasm description provided the PHDP with the possibility of recruiting one or other of the two persons with some experience in this work.

The FAO received a grant from Italian Cooperation for the restoration of the Afghan germplasm in 2002-2003. The project imported a range of apple, plum, peach-almond, quince (for pear), cherry rootstocks. These were planted in Kabul, Ghazni and Herat. By 2006, at the start of PHDP, the Ghazni materials were inaccessible, and the Kabul materials were denied to the project by the Head of Research at MAIL ("PHDP should bring in its own materials").

Following the funding of the FAO project by Italian Cooperation, the FAO staff approached the European Commission in regard to follow-on funding. The European Commission Delegation organised a feasibility study in 2004 focused on the development of the Ministry of Agriculture, restoration of the old mother stock nursery systems, with six nuclear stock nurseries, and some germplasm collection.

A report prepared during 2004 in Kabul identified the main subjects taken up by PHDP when it commenced in 2006. These main subjects included: a) *germplasm collection and nursery development;* b) *clean germplasm systems;* c) *provision of facilities for the development and testing of new varieties of and new growing systems of horticultural crops;* d) *training programmes for implementing agencies; training for senior extensionists/MAIL staff/farmers/traders; linkages between MAIL and universities;* e) *development of an integrated horticultural research and technology transfer system.*

During 2005, taking into account the Agriculture Master Plan [7], the objectives of PHDP were clearly defined in the overall scheme of a number of horticultural development projects. Basically, the actual design of the EC horticultural project was adapted to minimise the direct involvement of the MAIL in the production of fruit trees and in the development of mother nurseries, with the MAIL emphasizing to the maintenance of reference collections, research and extension production methods and regulation of the industry, backed up by appropriate analytical laboratories and an inspection and quarantine system.

Management and main objectives

In 2006 the European Commission-EuropeAid Program funded through a public/private consortium formed by IAK Agrar Consulting GmbH, AHT GmbH and the University of Florence-Italy the Perennial Horticulture Development Project (PHDP) (www.afghanhorticulture.org) in support to the Ministry of Agriculture, Irrigation and Livestock of Afghanistan (MAIL). A second phase is being supported by EC for the period 2010-2015 to a wider consortium (Agriconsulting SpA, Department of Agri-food and Environmental Science - University of Florence, Department of Agricultural Sciences - University of Bologna, Centro Attività Vivaistiche, Landell Mills UK) with the contract "Technical assistance to MAIL to strengthen the planting material and horticulture industry in Afghanistan (EuropeAid/129-320/C/SER/AF/2)". PHDP involved as an average four international permanent staff, ten short terms experts, and forty local staff, for about 150 man/months international and 630 man/months local staff. As stated in the project web pages “The specific objective of the project is to develop a demand oriented and export led perennial horticulture industry”. A major purpose of the project is to develop the nursery sector of this country in order to strengthen and to qualify fruit production. The main activities regard the establishment of a traced nursery system based on the propagation of true-to-type local varieties. The adopted steps can be summarized as follows: i) individuation of superior trees in productive orchards; ii) cataloguing and definition of the *in situ* National Collection; iii) propagation from the *in situ* original mother plants; iv) establishment of the *ex situ* National Collection; v) characterisation and evaluation; vi) foundation of traced mother stock nurseries (MSN). Such activity included also the establishment of six centres (the main one located at Badam Bagh - Kabul, the remainder in Herat, Jalalabad, Kandahar, Kunduz and Mazar-e-Sharif) and of a Laboratory of Biotechnology for plant indexing and micropropagation. PHDP workplan can be

distinguished into the following five components: 1. public and private sector institutional and regulatory reform; 2. national collection of fruit varieties and adaptive research; 3. nursery industry; 4. training and extension; 5. horizontal activities.

The concept underlying all the activities can be summarized with the call for a meeting with local nurseries and fruit-growers: *It is the intention of the PHDP to undertake various initiatives that create and develop a system that ensures the availability of the best possible planting material for the perennial horticulture industry in Afghanistan, and to ensure the long term sustainability of such a system owned by the private sector.*

Long term sustainability regards essentially the handover of the system built up by PHDP to the local staff of MAIL and of two organizations, the "Afghan National Horticulture Development Organization" (ANHDO) and the "Afghan National Nursery Growers Organization" (ANNGO) currently under temporary tutorship/supervision of international experts.

PHDP: MAIN RESULTS

PHDP has a quite long history; along the last 7 years relevant achievements were mixed to organizational problems in some cases due to safety issues, which threaten the positive development of specific tasks. The authors are describing here only some of the results more directly linked to the problematic backgrounds highlighted in the previous chapters.

The National Collection of Fruits and Nuts of Afghanistan

After the field surveys performed during 2006-2008, an *in situ* collection of over 850 accessions of different fruit species, selected by local staff with the participation of farmers holding the trees, was defined. The best and more "profitable" varieties were chosen together with fruit growers (who were recognized as “custodial” of the *in situ* selected accessions) to be propagated and planted in the 6 PHDP Centers in plots with mostly six replicates in the *ex situ* collections, which form the National Collection (NC). For each species, for security reasons, the NCs have been duplicated. The amount and location of collected accessions is reported in table 2. Most of the accessions were locally collected, with the exceptions of citrus, loquat and persimmon, donated by CRA-Centro di ricerca per l'agrumicoltura e le colture mediterranee - Acireale (Italy) and IVIA-Valencia (Spain), for which most of accessions have been imported since they were considered strategic for the development of fruit-growing especially in the area of Nangarhar valley (Jalalabad Province). Many varieties of cherry, peach, plum, apple and pear represent introductions in the last twenty years, or even more recently. Most apricots and almonds are of native varieties, and represent a valuable genetic resource not available elsewhere. Many grape and pomegranate varieties were also collected locally, but they are probably well represented in germplasm collections elsewhere, and many foreign varieties look to have more potential at first glance, due to lack of development of these species in Afghanistan. The NC represents the source of material to establish the Mother Stock Nurseries (MSNs) in different parts of the country. In 2009 the characterisation of accessions following standardized procedures (specific descriptor lists for each species) started and up to now around 70% of all collectable data have been gathered and input in a database by trained local staff. At present the description is going to completion and identification procedures started where necessary. Once this task will be finished, possibly also with the support of DNA fingerprinting, all the accessions will be registered by the MAIL of Afghanistan. The management and conservation of the NC will be in the hands of ANHDO (see next paragraph).

Tab. 2 - Amount of accessions in the National Collection of Fruits and Nuts of Afghanistan in the PHDP Centres.

Species	Kabul PHDP Centre	Kunduz PHDP Centre	Mazar PHDP Centre	Herat PHDP Centre	Kandahar PHDP Centre	Jalalabad PHDP Centre
Almond		98	100			
Apricot	125		118			
Cherry	26			28		
Peach				102	84	
Plum				77	75	
Apple	78	51				
Pear	42	50				
Grape				139	138	
Pomegranate					54	79
Fig					12	16
Loquat						12
Date Palm						6
Citrus						61
Total	271	199	218	346	363	101

The apricots of Afghanistan

A huge amount of different types has been gathered for each species. We report here some information on apricot, chosen as a representative case. Apricot varieties in Afghanistan are generally white fleshed (occasionally orange fleshed), generally sweet, with little or no acidity, frequently without "apricot" flavour (compared to Turkish or European/American types), but often with aromatic flavours like coconut, generally with non-bitter kernels, and generally self incompatible. The apricot types include the large fruited white fleshed types called Amiri, which are grown at higher altitudes, 2000 m +, are slow to come into bearing, and are represented by a small number of closely related varieties. PHDP has identified 15 Amiri accessions, which are similar in fruit and tree characters, and may represent many fewer varieties. The Amiri fruit is sweet, without apricot "taste", and can be dried to a pale golden colour with sulphuring. The dried fruit fetches high prices in Pakistan. The Amiri types replace all other apricots in the market once they start coming to the market. There are no early ripening Amiri varieties. Afghanistan also has several Shakarpara (meaning "a lot of sugar") types which are varieties where the small fruit is left to dry on the tree. There is no typical Shakarpara type tree among the many accessions in the PHDP collection. A third clearly identifiable type is the Saqi type, generally grown from seed only in the Bamyan province, and grown as large trees in pasture land. The fruit is used particularly for "chapanemak", where the seed is removed, and the apricot flesh is turned inside out before drying. The fruit are prepared and dried at home. The fruit is bright orange. The project collected four accessions from village trees to assess a best clone for multiplying by budding and grafting. Many other apricot varieties are available, but the names of accessions often refer to place of origin and relationships between varieties remain to be sorted.

The Laboratory of Biotechnology

A good example of capacity building is represented by the Laboratory of Biotechnology and its staff. During 2008, under the umbrella of PHDP, Aga Khan Foundation managed the project “Establishing Disease Indexing Services in Afghanistan”. The aim was to train the staff in Italy by the University of Florence, Bologna and by CAV, and to establish in Kabul a laboratory enabled to check the phytosanitary status of propagation material (namely the accessions of the NC and of Mother Stock Nurseries). Once built up the laboratory, the first step was to apply the standardized procedures to detect virus like diseases by ELISA tests, following the European Plant Protection Office standards. In time, some additional tasks were endorsed to this Laboratory (PCR based detection of disease and *in vitro* micropropagation). Among the most relevant results of such activity, it was assessed that no one of the accessions belonging to *Prunus* spp. resulted infected by Plum Pox Virus and that most of the material could be considered clean. This finding was useful to alert PHDP and MAIL, and indirectly all the international and local organisations importing plant material, in order to be accepted from abroad only virus tested certified propagation material. A special situation was afforded with citrus orchards, were Citrus Tristeza Virus was detected; these results were presented to the 22nd “International Conference on Virus and Other Transmissible Diseases of Fruit Crops” (Rome, June 3-8, 2012) by the staff of the laboratory and a related note was published [8].The Laboratory, unique of this kind in the area, is expected to perform phytosanitary and genetic analysis for public and private institutions. A similar record of internationalization is the participation of two field horticulturists to the II International Symposium on the Pomegranate (Madrid, 19-21 October 2011), presenting the status of Pomegranate industry and germplasm collection in Afghanistan [9].

ANNGO and ANHDO

PHDP developed a widespread network of public and private, local and international actors (NGOs, associations, nurseries, etc.) working in the nursery sector and in fruit-growing. As a result, it "covered" almost all the areas of Afghanistan involved in fruit production. For instance, the Afghan National Nursery Growers Association (ANNGO), partner with MAIL, ANHDO, PHDP2 and other organizations, represents 27 Nursery Growers Associations in 22 provinces; all the nursery members (more than 1,000) have voluntarily accepted the ANNGO regulatory system for planting material, so ensuring that the saplings sold to the fruit growers are true-to-type and traceable to Mother Stock Nurseries (MSNs) originated from the National Collection. Such material is constantly checked by the Laboratory of Biotechnology of Kabul. Business improvement and marketing promotion; sanitary controls; monitoring the quality of planting material; improvement of nursery techniques, production of clonal rootstocks; certification and inspection services including labeling of certified saplings; technical training and dissemination of innovations and publication of the catalogue of true-to-type saplings produced by NGA members, are the main services provided by ANNGO. In 2012/13 about 1.8 million of certified bud were sold to nurseries and 900.000 certified saplings were commercialized in Afghanistan and in neighboring countries. Figure 2 shows the distribution of MSNs and NGAs covered by ANNGO.

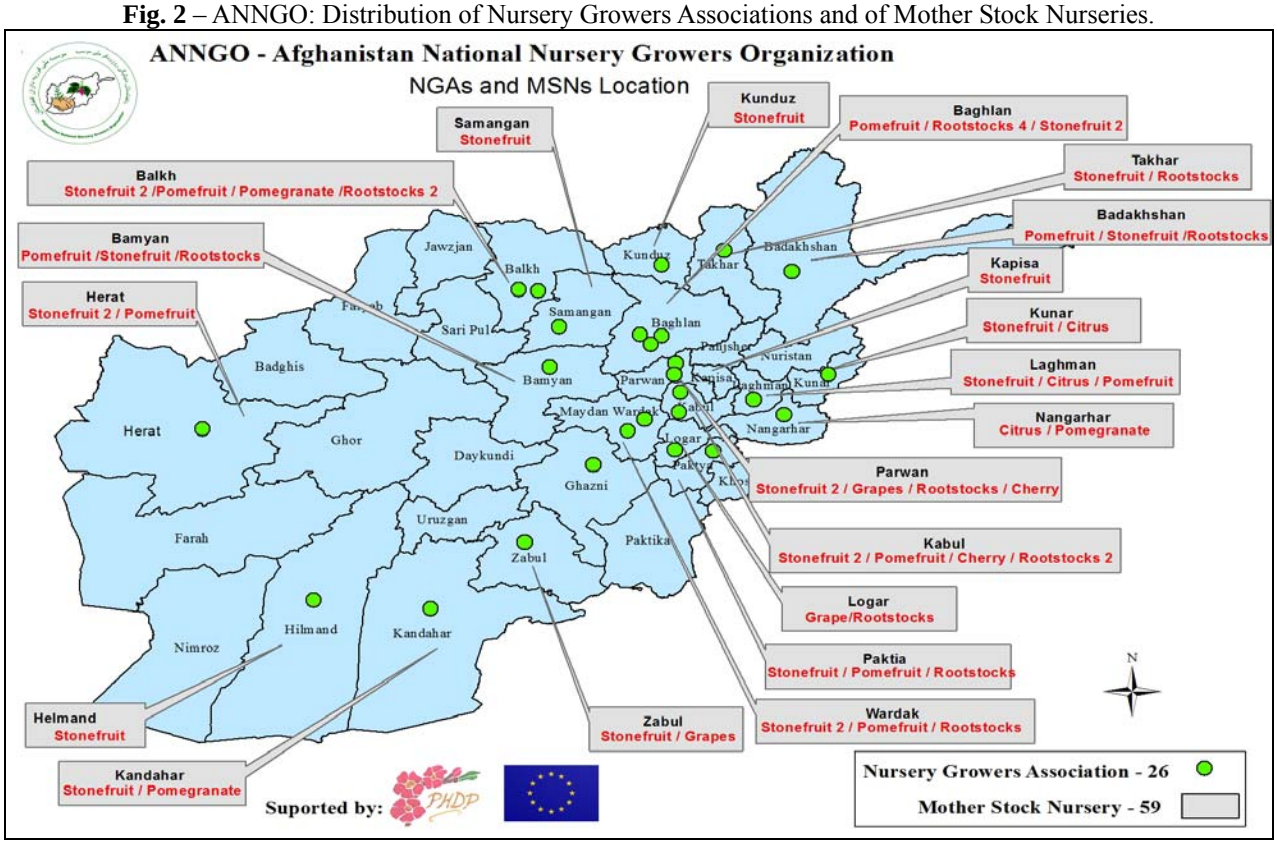
The other organization which is planned to give continuity to the activity done by PHDP I and II following the concept of sustainability, is the Afghanistan National Horticulture Development Organization (ANHDO), actually an NGO devoted to the development of a modern and sustainable horticulture in partnership with MAIL and private sector. ANHDO offer technical services for studies and surveys, training and capacity building, germplasm conservation, adaptive research, value chain studies, post-harvest technology and marketing. ANHDO is taking over the management of the National Collection and the 6 PHDP Centers in the MAIL research farms (which include also demonstration orchards, pomology laboratories and training rooms). ANDHO, with a grant from EC, is supporting the ongoing

transition of horticultural services from PHDP to MAIL.

Adaptive research

The facilities provided by PHDPs (pomology laboratories in each PHDP Center, demonstration orchards, capacity) allowed to plan and develop various adaptive research activities, considered basilar to the improvement of productivity and quality of fruit growing. In Table 3 the list of the adaptive research lines is reported. The results of some of these investigations are already applied, for instance in the design of almond and apricot orchards for the choice of inter-compatible varieties, since many of the Afghan varieties resulted self-sterile. This information is diffused also through the Catalogue released by ANNGO.

Fig. 2 – ANNGO: Distribution of Nursery Growers Associations and of Mother Stock Nurseries.



Tab. 3 - List of adaptive research lines launched by PHDPI and II and now being handed over to ANHDO.

1. Description and evaluation of varieties
2. Assessment of genetic potential and selection of national almond genotypes
3. Assessment of compatibility of national almond clones
4. Use of Afghan and imported germplasm to develop improved varieties of almond
5. Assessment of self-compatibility of national apricot clones
6. Use of Afghan and foreign clones to develop improved varieties of apricots
7. Assessment of self-compatibility of national plum clones, including crossing with Myrobalan
8. Fruit processing – sulphur drying of apricots
9. Monitoring of *Psilla pyri* on pear clones
10. Plant protection against pest
11. Soil management and quality of fruits
12. Grafting compatibility of pears clones

The adaptive research "Use of Afghan and imported germplasm to develop improved varieties of almond" is a clear and simple model of innovation applied to actual local resources. Most of local Afghan varieties of almond are very early flowering (a negative trait because of recurrent frost damage), paper shell (a good commercial characteristic in terms of kernel/shell ratio and de-shelling), typical in kernel shape (crescent type) and very appreciated for their taste. Indeed these are the most outstanding characteristics of the "Sattarbai" group, producing the most valued almonds in Afghanistan. The seeds resulted from the compatibility trials carried on with many local cultivars in 2008-2009 were planted and a first selection of F_1 seedlings was performed in 2012 by almond producers and retailers. The best F_1

seedlings will be re-checked and possibly released as new cultivars in near future. An improvement of this participative "breeding" activity is related to perform crosses between local (bringing high quality fruit traits) and international varieties characterized by late flowers, a trait which allows to escape spring frosts; from this set of seedlings it is expected to obtain new high quality, Afghan type and late flowering cultivars.

CONCLUSIVE CONSIDERATIONS

The pillars on which PHDP is founded cover a wide spectrum of activities, in accordance with the priorities acknowledged for the development of Afghan agriculture [10], related essentially the application of an innovative traceable propagation system to the local fruit germplasm, which is a relevant component of agrobiodiversity in Afghanistan. Fruit genetic resources are, furthermore, an actual and potential tool for the fair development of fruitculture, a strategic sector for this country. The selection and rational utilization of local varieties (both for direct fruit production and for breeding), their conservation and registration as national genetic resources, represents a way to protect this material from illegal appropriation and genetic erosion, but also a means to develop capacity building in both institutional and private sectors, and to promote indirect activities. Looking forward, some relevant items of the new scenarios of Afghan fruit industry to be addressed are quality standards for domestic and international markets, food safety regulations namely to export dried fruits and nuts, post-harvest management of soft fruits (being transport facilities and cold chain key factors), institutional support to these activities. Notwithstanding the goals achieved by the project, its further development will still need the support of international donors. Nevertheless a strong base for sustainability has been posed on local organizations; this represents an important step beyond total dependency.

ACKNOWLEDGEMENTS

As understandable, it is impossible to quote all the persons who directly or indirectly contributed to reach the results here described. During these years PHDPs had a normal turnover in both local and international people, to whom goes our appreciation for the collaboration and constant enthusiasm. We hope that each one of them, perhaps reading this paper, will feel the emotion of have been or being involved in something really special.

A special acknowledgement for the “distant” and silent work of the consultant agencies and other members of the partnership which never denied their help to solve sometimes almost “unsolvable” cases.

A particular appreciation is also due to the staff of the EC Delegation in Kabul, for trusting on this project, for its support and specially for giving the necessary continuity to it.

A special mention to the MAIL of Afghanistan the acceptance and the collaboration with the PHDP.

Last but not least, an almost inexpressible acknowledgement to all the collaborators from Afghanistan for their everyday patience, constructive obstinacy and permanent availability to join us; thanks to the Afghan farmers of the villages for having kept alive all the accessions collected by PHDP, jewels of the past and treasures for the future.

NOMENCLATURE

EC	European Commission
PHDP	Perennial Horticulture Development Project
MAIL	Ministry of Agriculture, Irrigation and Livestock - Afghanistan
NC	National Collection
ANNGO	Afghanistan National Nursery Growers Organization
ANDHO	Afghanistan National Horticulture Development Organization
NGA	Nursery Growers Associations
MSN	Mother Stock Nursery

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ANALYSIS OF THE SUSTAINABILITY OF SLOW FOOD MUSHUNU CHICKEN PRESIDIUM IN KENYA

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ABSTRACT

Rural development, the emergence of new alternative models of food production and consumption and their sustainability are today topics of great importance, which the world of Cooperation and Development reflect upon from different points of view. Within these issues, starting from the case study of the Slow Food mushunu chicken Presidium in Kenya, we present the results in terms of project's sustainability, carried out based on the SEAMETH methodology. The processing of data, coming from targeted interviews administered directly to the producers, is a useful tool for monitoring and evaluating the project, which provides a broader understanding of the Presidium, reconstructing a comprehensive framework able to measure the environmental, social and economic impact and implications.

INTRODUCTION

When we talk about Cooperation and Development, we cannot fail to talk about sustainability both as an end and as a means. In fact, sustainability has so far influenced the debate on Millennium Development Goals (MDGs) and, following the Rio +20 conference in 2012, this will become even more explicit and obvious through the decision to establish global targets not only for development but also for sustainable development (SDGs) [1]. It's also evident that coexistence can become a global goal, achievable only through an involvement based not on competition, but on a more widespread and shared cooperation for a coordinated management of the common resources of the planet, if we really want to understand sustainable development not just as compensation but in the terms of intra-generational equity and cooperation [2] [3].

The theme of sustainability also goes back to the technical management of Cooperation and Development projects, both as an end and as a means. The durability and reproducibility of the projects are some of the essential conditions that evaluate the results: equally, monitoring activity of variables and dimensions that make up the sustainability linked to the scopes of the project may contribute to the achievement of the objectives [4] [5]. However, monitoring the sustainability of a system is a long-term exercise in which qualitative indicators are also used not to exclude some essential characteristics of sustainability[1].

The SEAMETH methodology was born within this context, with the aim of providing a tool for the analysis and monitoring of projects whose aim is to achieve a multidimensional sustainability through the use of a grid of quantitative and qualitative indicators for the evaluation of the economic, agro- environmental and socio-cultural results [6]. In particular, this method has four potential uses [7]:

- assessing the sustainability of a project at time T (usually T0 is the start date of a project and T1 is the time of data collection);
- monitoring the progress, in terms of sustainability, during the development of a project;
- offering (to the beneficiaries and reference people of a project) a tool to better understand the logical framework of a project and evaluating the sustainability of single activities that contribute to achieving the final objectives;
- promoting dialogue and exchanges not only internal, but also within the institutional context external to the project.

CONTEXT ANALYSIS AND METHODOLOGY

The SEAMETH methodology, consisting of a grid of 51 indicators grouped by components related to three scales of social, environmental and economic sustainability (*Table 1*) [6] was applied to Slow Food mushunu chicken

[1] Technically, qualitative indicators may be imperfect, but the success of the evaluation lies not only in the indicators themselves, but also in the process of designing them and in the discussions among the various parties involved in their verification and necessary adjustments.

Presidium in Kenya as part of Fiorito bachelor thesis dissertation [8] that took into account the three Slow Food Presidia located in Molo and Njoro districts.[2]

The Slow Food association was founded in Italy in 1989 to promote the culture of food and to defense traditional food production and agriculture. Among the many activities carried out by Slow Food that engage local communities, the Presidia are fundamental: these are projects aimed at supporting small local production, breeds or plant varieties in danger of disappearing, protecting territories and recovering ancient traditions and techniques [9].

Tab. 1 - Sustainability evaluation: scales and components.

Socio-cultural scale	Agro-environmental scale	Economic scale
Use of the product	Biodiversity	Development
Internal relations	Territory	Efficiency
External relations	Animal breeding	
History, culture and tie to the territory	Energy	

The Slow Food Presidia are *"chains of animal or plants derived products from virtuous agricultural systems and small - scale breeding"* [6] in which sustainability, in all its three dimensions, is a fundamental objective. The research has therefore sought to reconstruct the production chain of Slow Food mushunu chicken Presidium with the aim of evaluating and monitoring the project. The data collection was carried out through administration of a questionnaire to a sample of ten producers, about one-third of the total members of the group: the interviews conducted were elaborated using the grid of sustainability indicators in order to define an overall assessment of the Presidium in terms of sustainability.

THE MUSHUNU CHICKEN PRESIDIUM

The Slow Food movement in Kenya is one of the most active in Africa. The activities in the country started in 2004 after the first edition of Terra Madre and over the years they have significantly developed in terms of projects implemented and number of members: currently there are five Slow Food Presidia and a network of approximately 200 family, school and community gardens. Among the five Presidia active in Kenya, the mushunu chicken Presidium, found in Molo in the South West Kenya, was established in 2009 to protect an endangered native breed, characterized by featherless neck, heavy body and a plumage that range from yellow to black and white.

The Presidium, which today counts a total of 32 producers that unite in Kihoto Self Help Group, was created to protect and promote this breed, unpopular to the local population due to threats posed by introduction of non-native breeds characterized by faster growth and greater resistance. The Presidium therefore aims at helping the group preserve, improve and enhance the breeding challenged by a number of factors, including the post-election violence that erupted in Kenya between 2007-2008 during which producers lost much of their animals.

RESULTS

In figure 1, it is possible to observe an overview of the results of the three scales of sustainability.

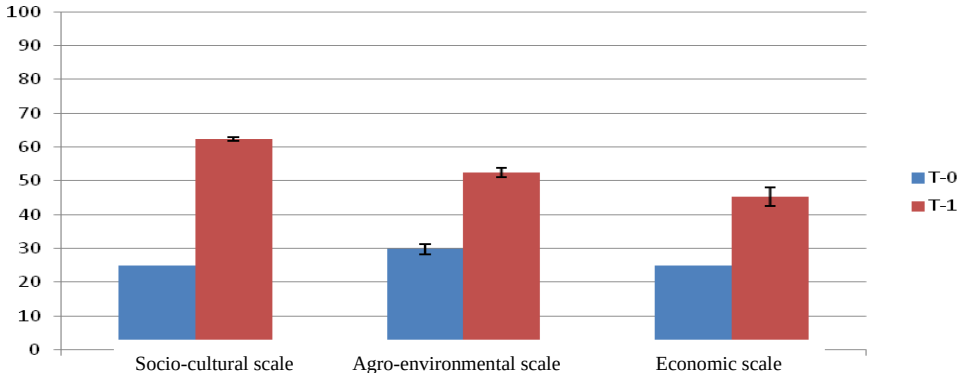

Fig. 1 - T0-T1 comparison of the three scales with weight 100. The maximum value of sustainability is 300

[2] The thesis aims at studying and analyzing three Slow Food Presidia of mushunu chicken, Lare pumpkin and Mau Forest dried nettles.

In general it is possible to observe a positive evolution of sustainability in all the three scales considered: a significant growth can mainly be noted on the socio-cultural scale (from 24.92 to 62.30), but also on the agro-environmental (from 29.79 to 52.4) and the economic scales (25 to 45.2.) However, it's necessary to conduct a more thorough analysis to understand how and where these results originated, giving more details of the sustainability scales taken into account.

Socio-cultural scale

As already noted, it is precisely in the socio-cultural context that the best results and most innovative elements can be observed with a positive evolution of sustainability for all the components considered (*Fig. 1*).

A positive growth of values has been observed in respect to the following components "History, culture, ties to the territory" and the one called "External relations". Thanks to the establishment of the Presidium and to the support from Slow Food, important progress has been observed in the relationship between the group and some external public and private institutions, local NGOs, the Ministry of Agriculture and various private entities. The relationship with the Slow Food network has also clearly improved both nationally and internationally. Within the network of Terra Madre food communities, the Presidium has been able to benefit significantly from exchanges with the Italian Valdarno chicken producers, a Slow Food Ark of Taste product: it has been an interesting exchange program and an important opportunity to develop some shared knowledge within the network of Terra Madre food communities, which has allowed an interaction between these two realities through exchange visits. These social aspects demonstrate the power of Slow Food network and the social and territorial cohesion, which characterizes and unites the Terra Madre food communities that operate in many different contexts around the world.

Still, on socio-cultural field, mushunu chicken Presidium has also helped in raising the producers awareness on the existing link between the product and the area, and about the cultural and traditional value that characterizes food. Finally more modest improvements were observed under the component "Product use", in consideration of the fact that although the organoleptic quality is generally improved, it has not yet been possible to work in the direction of implementing new conservation and processing techniques.

Agro-environmental scale

From the environmental point of view, although a general and positive evolution of values has been observed over time, these are less obvious improvements compared to the socio-cultural scale, due to the fact that the Presidium was already characterized by good performances in this field in the phase of boot design. Furthermore, the agro-environmental scale is generally the one that makes the growth record slower with changes observable over a longer span of time than the one, equal to only 3 years, taken into account in this research.

The Presidium has guaranteed an important contribution to the defense of biodiversity through the work carried out in the protection of a native breed and in order to prevent the introduction of non-local chicken hybrids: today in Kenya non-local chicken varieties are in fact getting popular because they are more resistant and characterized by a faster growth than the native breeds whose diffusion and breeding is therefore put at great risk.

Even compared to the territory, the contribution of the Presidium to the preservation of traditional cultivation practices as well as the environmental balance is really important

Under the heading of "Animal breeding" component, it was, however, observed that even before the establishment of the Presidium the producers reproduced the animals at family - home level and the chicken were free-ranged in open and wide spaces. The supplied feeds are based on foods that come almost entirely from local agricultural production. Yet in the field of "Energy", much remains to be done in order to introduce the producers to the use of renewable energy sources: it is necessary to note that the villages in which the Presidium producers live are not supplied with electricity and in general energy consumption is very low if not nonexistent.

Economic scale

The positive evolution of sustainability in the economic context is mainly attributable to the growth that has affected the "Development" component. In fact, following the birth of the Presidium, the number of birds per family/household has increased as well as spaces dedicated to them. Today the average number of birds per producer is about 10 (which varies considerably during the year).

The reduced growth of the "Efficiency" is instead brought about by a very poor market development. Since the establishment of the Presidium, it had not been possible to create new commercial channels: the product marketing still remains at a loco-regional level. The production is quantitatively still too low and a number of pitfalls and difficulties have affected the producers, e.g. adverse weather conditions and diseases: these are some of the reasons behind the failure of the Presidium. The use of incubators recently purchased by Slow Food Presidium is an opportunity for the future, capable of increasing production to reach the target market.

The aim of Slow Food is to help in the development of this product in terms of commercialization, promotion of food sovereignty and economic livelihood improvement.

CONCLUSIONS

The analysis method used in this work has made it possible to come up with a wide and varied understanding of the Presidium, reconstructing a complete picture able to measure the impact and implications of this project in terms of sustainability.

Looking at the graph on Figure 2, where a T0 - T-1 comparison of various components that belong to sustainability scales taken into account is presented, it is possible to make some general considerations in respect to the prospects that the future development of the Presidium is likely to face.

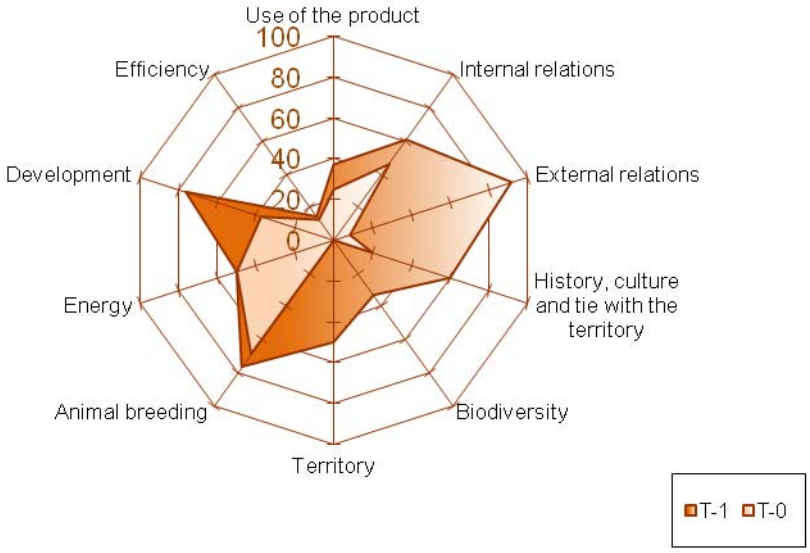

Fig. 2 - T-0 – T-1 comparison of various components that belong to the sustainability scales taken into account.

Compared to the first component "Product use", characterized by a very low increase of values at time T-1, it is possible to understand how important is to introduce new conservation and transformation techniques in order to expand the product use. Yet in the field of the "Biodiversity" and "Territory" which, although characterized by good growth between time T- 0 and T -1, still stood on low values, it is necessary to further promote the conservation of the rural landscape of which the Presidium is part of and to promote productive diversification. Still in the field of agro-environment scale, the need to introduce the use of renewable energy sources in the near future to promote the development of the Presidium and the general community involved has been highlighted. Finally, as part of the economic scale, looking at the poor growth of "Efficiency" it is possible to understand the need to support the future marketing goal of the product in order to promote the development of the project and the economic wellbeing of producers involved.

Taking into account the different dimensions of sustainability and their variation in this specific case of the mushunu chicken Presidium, the grid of indicators developed through practical application experience, now and in the future allows a feasibility study project and a study for monitoring the progress of planned actions to be implemented in the future: it may trigger a virtuous activity of data production, as well as a model for sustainability reporting.

In particular, the developed method has proven effective as a tool for:

- assessing the sustainability of the Presidium at time T (in this case T0 is 2009, the year in which the Presidium was established, and T1 is September 2012, the time of data collection);
- monitoring progress in terms of sustainability, during the development of the project;
- offering a tool that helps the producers and Presidium coordinators to better understand the concept of agriculture, especially sustainable farming, and evaluating the sustainability of their production in timely manner;
- promoting not only internal dialogue (between the Presidium producers), but also exchanges with external parties, on the concept of sustainable agriculture and the contribution that the Presidium can offer to this area.

In conclusion, in relation to the study and analysis carried out on Slow Food mushunu chicken Presidium, it was possible to observe good knowledge and territorial links that in this context characterizes the Slow Food network: in fact, an enhanced awareness was indeed found among the producers about the importance of local and traditional products like mushunu chickenas as well as a renewed pride and a renewed push to their production and consumption.

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THE ROLE OF DIVERSITY AND DIVERSIFICATION FOR RESILIENT AGRICULTURAL SYSTEMS

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ABSTRACT

Biodiversity is a unique and precious heritage: generic but also cultural, social and economic. Its drastic curtailment, however, puts at risk the survival of local farming systems, and this is even more so in fragile socio-economic contexts where it risks translating into conditions of food insecurity and poverty. From the elementary level of the gene, rising in complexity up to the ecosystem, it is therefore a central element in defining first the resistance and then the resilience of the system, and by the first term meaning the degree of resistance to a disruption that distances it from the initial state of equilibrium and by the second the capacity of a system to return to guaranteeing minimum standards following a disturbance, the capacity to get back on ones feet after a fall.
It seems to be crucial, then, at a time when cooperation development projects that operate in various ways to safeguard and promote biodiversity are far more numerous, to intervene to preserve and restore the local biodiversity in order to avert future problems, and even curb them ahead of time, using resilience as an approach for managing the system we are dealing with (natural or heavily affected by human activity). In any event, this is a passage that is not routine, which makes it necessary to look at the ecosystem, at its various components, both natural and human. In the light of these preliminary remarks, the article will analyse the potentiality for applying, also in the field of development cooperation, the theoretical approach including empirical methods and instruments represented by the Diversified Farming Systems DFS), where the starting point is diversity and diversification as functional elements in the construction of resilient farming systems.

INTRODUCTION

Biodiversity is central to defining a system's state of health. An ecosystem with species depletion, characterised by few individual species belonging to the most resilient groups, is more vulnerable and more subject to risks like desertification, colonisation by exotic species, an interruption in the supply of fundamental natural services, and food uncertainty, with serious consequences and repercussions especially in fragile socio-economic contexts. The management of the stresses is controlled by complex genetic systems, which involve the interaction of large gene systems and the connection of the plant/animal and its environment.

Biodiversity (from the gene, at the elementary level, increasing in complexity to the ecosystem) is therefore a key element in defining first the resistance and then the resilience of the system; by the first term we mean the degree of resistance to a disruption that distances it from its initial state of equilibrium, and by the second term the capacity of a system to return to guaranteeing minimum standards following a disturbance, the capacity to get back on ones feet after a fall.

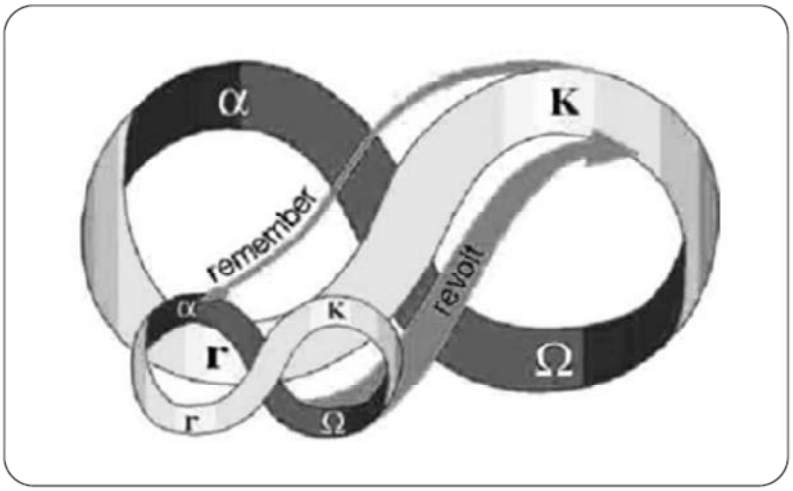
In the face of harvests lost because of the Brusone disease of rice, farmers in the Chinese province of Yunnah, who have adopted a farming system using different varieties of rice, registered an increase in production of up to 89 per cent. At the same time these farmers have conserved the traditional genetic diversity of the local varieties and reduced the use of fungicides [1] [2]. Also in Italy we have seen that a high level of genetic diversity provides greater protection against drought for wheat harvests [3].

It would seem crucial, then, to work to preserve or restore the local biodiversity to avoid problems in the future, and actually stem them ahead of time, using that same resilience to construct models/projects that allow us to successfully overcome future crises. In this sense, more than an objective, resilience is an approach for managing the system we are dealing with (natural or affected by human activity). Sensitivity regarding these issues is slowly growing; not surprisingly, the recent report of the High Level Panel on Global Sustainability, advocated by the Secretary General of the United Nations, Ban-Ki-Moon, in its title and contents takes up the concept of resilience: *Resilient People, Resilient Planet: A future worth choosing* [4].

This means using biodiversity and the richness of ecology to decide how to prevent hydrogeological instability, to manage the consequences of a catastrophic event like an earthquake or a pollutant spillage, how to manage a low impact disinfestation campaign on parasites, how to use local resources to stem an economic crisis, without disturbing

the general dynamic state, composed of various levels of equilibrium that are interspersed with adaptive cycles, within a perennial transient state. According to this thesis developed by C.S. Holling [5], populations and, by inference, ecosystems have more than one state of equilibrium, and following a disturbance often a different equilibrium to the previous one is restored and they depend on the influences of the states and dynamics that occur at the levels above and below the system itself [6] (*Fig.1*).

Fig. 1 - Relations between several phases and adaptive cycles [7].



In numerous development cooperation projects aimed at the conservation and sustainable use of the ecosystems and habitats containing a high degree of diversity, as well as the preservation of genome types and genes of social, scientific or economic importance and the fair division of the benefits deriving from the use of genetic resources, a genuine protection and valorisation of biological diversity can occur exclusively through inter-sectorial action, which looks at the ecosystem in all its diverse components, both natural and human.

For cooperation projects in the agronomic context, a particularly interesting approach in this direction is the theoretical framework of the Diversified Farming Systems (DFS), recently drawn up by a group of researchers at the University of Berkeley in California. These are models that agree upon the attention to local production, to farmers' knowledge and practices, to approaches capable of limiting the negative environmental externalities, whose goal is the improvement of the sustainability and resilience of farming systems, and thereby making a significant contribution to fundamental issues like food security and health [8].

BIODIVERSITY AS A STARTING POINT

The DFS model is innovative in that it goes further and reconstitutes in an original way the now abused concepts of sustainable, multi-functional and biological agriculture, in an attempt to create a common denominator through meeting minimum objectives from among the various approaches that seek to achieve farming that is capable of providing sufficient food and maintaining the ecosystem services for present and future generations, in an era of climate change, increasing energy costs, social unease, financial instability and growing environmental degradation. All this also in light of the diversity of the ecological, socio-economic, historic and political contexts in which farming systems developed and are still evolving.

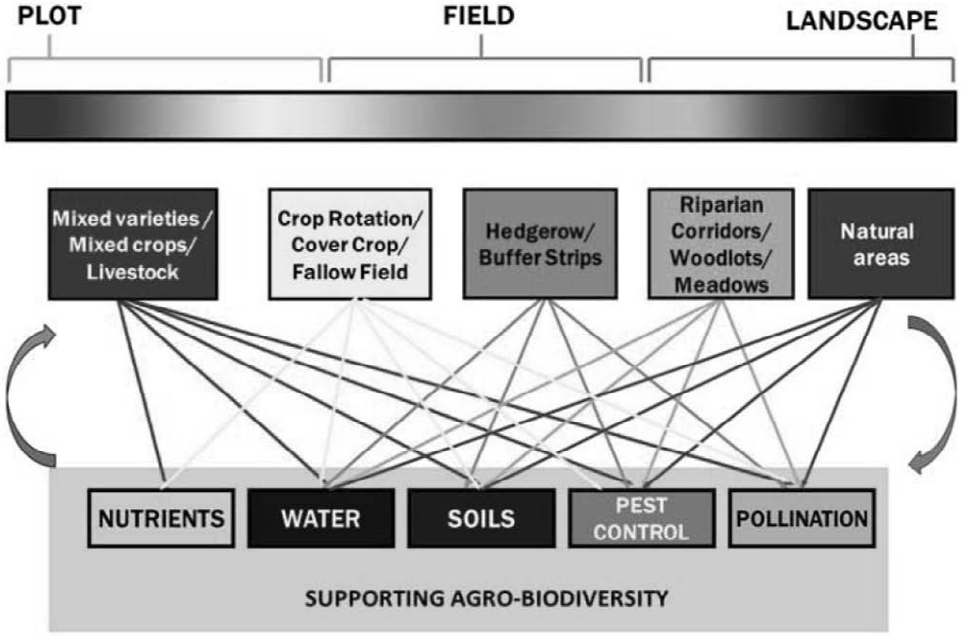
So, rather than starting with a vision from which a pre-defined model follows, the approach is that of operating on a series of attributes, which necessarily should possess a system that you want to define as sustainable for working on a strategy of farming production capable of inverting the negative externalities produced by erroneous farming technologies and about which an article published in the International Journal of Agricultural Sustainability [9] sought to draw some attention to, where the following main characteristics were identified:

- the employment of local varieties and breeds, so as to bring out the **genetic diversity** and improve adaptation to changing biotic and environmental conditions;
- avoid the unnecessary use of agrochemistry and other technologies that have a negative impact on the environment and on human health (like heavy machinery, transgenic farming, etc.);
- the efficient use of resources (nutrients, water, energy, etc.), the reduced use of non-renewable energy to limit dependence on production factors outside the company;
- the valorisation of agro-ecological principles and processes, like the cycle of nutrients, nitrogen fixation, biological control using the promotion of diversified farming production systems, and the agroecosystemic optimisation of **functional biodiversity**;

- innovation through recourse to human capital in the form of scientific knowledge and traditional and modern skills, and the promotion of appropriate innovation and technology networks thanks to the use of social capital and respect for cultural identity;
- the reduction of the ecological footprint of the production, distribution and consumption system, so as to reduce greenhouse gas emissions and keep pollution of the ground and water to a minimum;
- the promotion of practices that can increase the availability of drinking water, carbon sequestration, **the preservation of biodiversity**, soil and water;
- the capacity to adapt to change based on the possibility to respond quickly to disturbances, pursuing a balance between the capacity to adapt in the long term and short term efficiency;
- reinforcing the resilience of the farming system **by preserving the diversity of the agroecosystem**;
- the dynamic preservation of the socio-cultural legacy of the farming heritage, permitting social cohesion and a sense of pride and belonging, reducing migration.

These attributes often focus attention on biodiversity (highlighted in bold) as a crucial ingredient of the resilience of the agroecosystem. The approach of the DFS is positioned within these assumptions and identifies in diversity the starting point, including it intentionally and functionally in the various spatial (from field to landscape) and temporal scales of reference [8]. In this way, maintaining and preserving diversity assumes the function of a flywheel for maintenance and balance (intended in the dynamic sense) of the services of the input ecosystem of farming (soil fertility, control of pathogens, pollination, the efficient use of water resources).

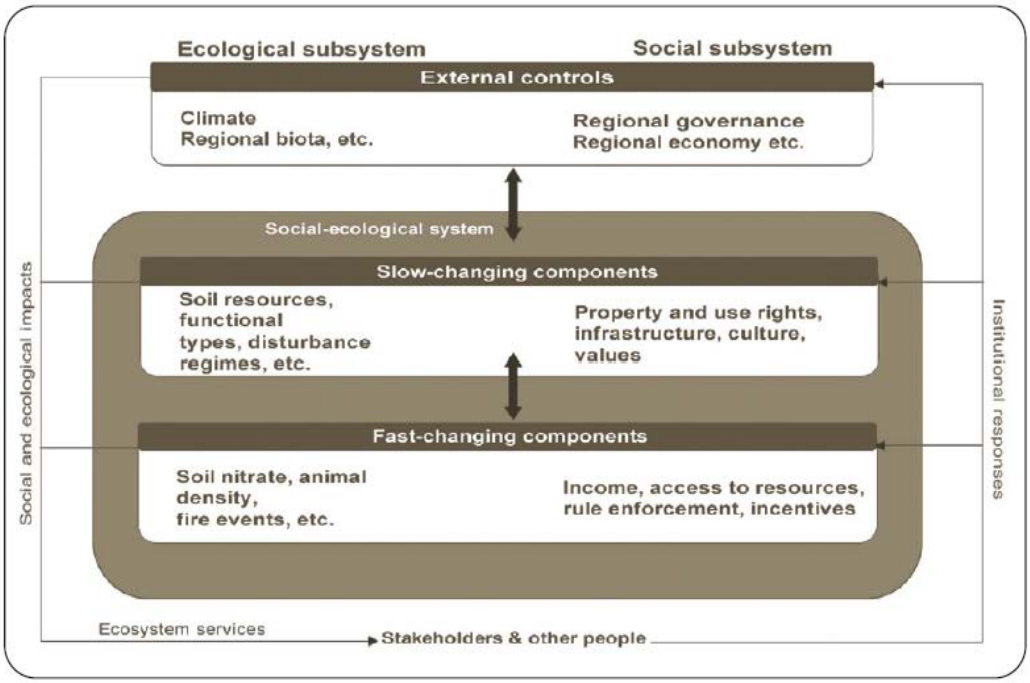
Fig. 2 - Conceptual model of a diversified farming model [8].



In this way, biodiversity is located within a strategy characterised by resilience as an approach and not as a mere end, the first functional unit of a complex system, where the role of the social component should not be undervalued. Recognising, according to one's view of human ecology [10], that ecosystems are heavily interconnected with the social fabric in which they exist, and that this is particularly so for farming as the result of the perennial connection between human societies and ecosystems, the result of a co-evolution between nature and culture (*Fig, 3*), particular importance is given to aspects like:

- the interdependence between social, economic and ecological systems;
- the social factors and processes that influence and maintain the processes of an economic nature;
- the social structures, values and hierarchies assigned to some identity markers like ethnic background, class and gender;
- the decision-making processes, the construction of alliances and governance.

Fig. 3 - Conceptual model of integration between ecological / social components in the ambit of a farming system [11].



THE POTENTIALITIES OF THE DFS APPROACH FOR DEVELOPMENT COOPERATION

Research in the field of the sustainability, the resilience, and the vulnerability of socio-ecological systems is becoming ever more important and is significant also for the political and economic sphere, and it is our hope that they can contaminate in a positive sense the world of development cooperation (research and practice). In this sense, we feel that the DFS approach has some potentialities and some points to reflect upon regarding the objectives of development cooperation. Once again, not as much as biological diversity, in that it is the object of cooperation projects and interventions, but the way in which we work on diversity, through an approach to resilience, to attain development objectives that necessarily have to take into consideration the reference socio-territorial context, in terms of institutional analysis.

In fact, knowledge of social institutions is crucial, namely the combination of regulations that human beings use to organise interactions of a repetitive and structured nature, including those within the family, the neighbourhood, in the market, in the factory, in church, of organisations and government at all levels [12] to understand how to deal with biodiversity so that it can generate a resilient system. This is the result of collective, long-term action, where the benefits and the positive externalities associated with the maintenance of the agro-biodiversity are evident to all.

It seems to be especially important how to integrate scientific knowledge and traditional and modern skills, and to promote innovation and technology networks suitable for the use of social capital and for respect for cultural identity within a process that includes diverse stakeholders including farmers, engineers, researchers, local governance, where the cooperation projects should stand as facilitators, where traditional knowledge can integrate with that deriving from scientific and technological innovation.

We can observe, then, in the DFS theoretical model a series of ideas that should be examined more closely through training and occasions for discussion in an academic context, through a necessarily interdisciplinary perspective and with operators of the cooperation sphere, especially regarding the potentiality of the DFS approach as a process for education, training and technology transfer that can better take into account the complexity and the diversity of the systems, in a context like that of cooperation projects, where cultural diversity is a fact, and which could, however, be a further value added.

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AGRICULTURE AND URBAN AND PERI-URBAN BREEDING

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There is evidence that livestock contribute to the livelihoods of approximately 70% of the World's poor and represent a crucial component of any strategy aimed at improving food security and reduce poverty. The demographic booming of the human population in the poor areas of the Planet lifts up the problem of food production, its access and distribution. Particularly in sub-Saharan Africa (SSA), data indicate that by 2025 the population will increase by nearly 800 million of new individuals, of which 55% will live in towns. The impressive demographic growth in developing countries (in some cases even +4% year) requires an overall increase of food production to assure the livelihood of human population. Some data (UNCHS, 1996) indicate that by 2030 the global urban population will reach 4.9 billion, and most of this increase will be in cities of the so-called developing countries. This is due to migration from rural to urban areas and rural settlements being incorporated into urban areas The quick urbanization not accompanied by a reasonable and equitable economic growth has led to urban poverty and food insecurity.

The agricultural development has been focused on rural areas to improve food production to supply the growing urban population. Recently, more focus is given to urban and peri-urban livestock production (UPUL) systems and peri-urban agriculture (PUA) directed towards the urban demand. In 1999, FAO estimated that 800 million urban residents worldwide were engaged in PUA. Generally the status of PUA and UPUL has changed from illegal to tolerated activities and to "new development strategy", although most resources are devoted to PUA rather than UPUL. Nevertheless, despite the scarce attention, PUA and UPUL have shown a continuous development, driven by the growing demand. Virtually all species can be bred within PUA and UPUL system: from large (cattle, water buffaloes) to small ruminants (sheep and goats), monogastric (poultry, pigs, rabbits) and unconventional or mini-livestock (agouti, guinea pigs).

The problem could be tackled by enhancing food production through the integration and the intensification of small scale agriculture-livestock production systems in urban and peri-urban areas. To make the system productive and sustainable, it should stand on four main pillars: i) animal feed supply integrated with the available local agro-industries; ii) raise livestock species to meet local preferences and needs of the inhabitants; iii) assure timely, balanced and continuous production, iv) improve animal health and ensure the adoption of bio-safety measures.

PUA and UPUL system has strengths and weaknesses: the most relevant strengths are represented by the proximity of the production sites to market areas which contribute to reduce transport costs, thus generating competitive prices. Moreover, raising livestock in urban and peri-urban areas offers the opportunity to re-use household waste, agro-industrial by-products residues from local food-markets and small-scale urban farmers. PUA and UPUL can contribute to enhance social security of vulnerable social groups of poor, e.g. female headed households, children, old people. In addition, PUA and UPUL can contribute to enhance the social security by contributing to retirement plans or sustain convertible assets to cover important expenditures such as school fees, health treatments etc..

On the other hand, breeding animals close to human settlements/agglomerations may generate the problem of feed competition and availability. Particularly when high quantities of feed is required for large livestock species such as cattle, which are usually zero-grazed. Limited feed availability also generates high labor input to seek for feed resources. Breeding in urban areas forces to apply specific management practices often unknown to many farmers, who usually tend to replicate traditional management schemes, not adapted to urban and peri-urban conditions. Ultimately an insufficient networking compared to rural areas and a lack of extension and provision services not tailored to urban and peri-urban circumstances represent undoubtedly a further weak point.

PRELIMINARY RESULTS ON THE DEVELOPMENT OF INNOVATIVE SITE-SPECIFIC INTEGRATED ANIMAL HEALTH PACKAGES FOR THE RURAL POOR

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ABSTRACT

In Sub Saharan Africa, milk production has constantly increased from early sixties till late eighties. However to fulfill the demand, production should increase by 4% per year, to reach 45 million tons/year by 2025, with a stronger growth in peri-urban areas [1]. Within a given production system, milk production is maximized when the genetic potential of a dairy cow is sustained by optimal management, including adequate feeding and absence or control of diseases affecting specifically the udder. It is estimated that the economic losses from mastitis in the peri-urban areas of Addis Ababa around 58 USD per cow/lactation[2]. The largest proportion (>60%) of mastitis is subclinical, with main causes identified as: poor housing, improper milking, elevated insect/vector burden at farm level [3]. In the East-African Highlands, local dairy market is mainly sustained by small-scale farms [4]. In Kenya, small-scale dairy often operating under highly intensified small-scale zero-grazing, furnishes 80-85% of the national milk production. Dairying contributes to increase income of poor rural households who depend on the production and trade of dairy products for their livelihood. In 2010, IFAD has funded a project "*Development of innovative site-specific integrated animal health packages for the rural poor*", implemented by FAO in collaboration among others with an International Research Centre (ICIPE, Kenya). Main project's goal is to develop animal health packages for managing and controlling animal diseases to improve food security and alleviate poverty. Zero-grazing dairy units are protected with net impregnated with an insecticide (synthetic pyrethroid) to reduce insect/vector burden. The results are encouraging indicating a reduction in mastitis cases by 50%, farmers knowledge and perception of mastitis risk highly increased (cows are checked for mastitis before purchase), and more clean and higher quality milk produced. There is general reduction of housefly population and also a decrease of human malaria morbidity due to reduced mosquito population, while there are no effects on helminthes and tick-borne diseases.

JUSTIFICATIONS AND INTRODUCTION

It is widely recognized that, throughout the developing world, livestock contribute to the livelihoods of roughly 70% of the world's poor, supporting farmers, consumers, traders and laborers. Furthermore, there is increasing demand for livestock products for the growing and more affluent populations of many developing countries, particularly in Africa, which offers new market opportunities for poor farmers in rural areas. Hence, success in raising small-farmer productivity leads to improvements in household food security, level of nutrition and income leading to poverty alleviation. However, livestock disease is a major constraint for increased, sustained animal productivity of small-farmers in vast areas of sub-Saharan Africa. A project to alleviate poverty and enhance food security at small scale farmers level is implemented in three countries Kenya, Ghana and Burkina Faso. Specifically the project aims to: i) develop prototype animal health packages in different livestock production systems; ii) tests their socio-economic through optimization adoption and dissemination; iii) enhance farmers, farmers' associations, NARES and PATTEC capacity building. In Kenya the project is implemented within the IFAD funded program SDCP, focused on peri-urban smallholder dairy farms. In Kenya many farmers have set up smallholder zero grazing dairy farms for the improvement of their livelihoods, this also support the revival of the milk and dairy subsector in the country. The husbandry structure is essentially based on stall feeding, where dairy cattle are confined and fed with a cut-and-carry fodder system. The zero grazing model for dairy production accrues farmers benefits, by pass the shortage of grazing land helps to enhance productivity of dairy cows and reduces the prevalence of diseases. The zero grazing systems among other advantages

allow to collect manure produced by cows to be used to improve soil fertility and also as a source of material for biogas production and are therefore an essential part of zero-grazing enterprises. On the other hand cattle handled in Zero Grazing Units and the waste pits associated with them attract flies and other nuisance insects which are highly debilitating to livestock, they bite animals, cause agitation, spread diseases and contribute to unsanitary conditions. Which also involve mechanical transfer of disease agents from flies to the animal host causing eye infections and mastitis amongst other diseases. To tackle the problem, LPNF deltamethrin treated nets of 1m height are deployed around the Zero Grazing Units. This paper describes the preliminary results obtained in Kenya by using LPNF which are evaluated in full zero-grazing units and in semi-zero grazing units.

MATERIAL AND METHODS

Two project sites were identified in Kisii and Bungoma Districts, Kenya (see Figure 1) where baseline data were collected, between the months of December 2010 to February 2011, with the scope to identify prevailing diseases and disease vectors/flies in the zero grazing units. After the baseline data collection, a total of 63 units and 176 animals were protected with LPNF nets (manufactured by Vestergaard Frandsen) of 1m height encircling the zero grazing unit. These LPNF are installed as follows: measure perimeter of zero-grazing unit or waste pit then cut the required length of LPNF from roll. The net is then nailed to bottom boards of the shed, stretch and nail to highest board of the shed. The bottom of the net is kept 10cm above the ground (see Figure 2). For this reporting period, the following activities were conducted: the protected units were monitored during the period between April 2011 to January 2012, in both sites. Kisii project site had 36 units, and the treatment was allocated as follows: 15 zero grazing units were PU with LPNF, 10 units have the LPNF around the waste/dung pits (WPP). In Kisii, additional 11 zero grazing units, where no PU, or WPP were in place and used as control CU. In Bungoma project site**,** 16 zero grazing units were PU and 11 used as controls, bringing to a total of 27 units. In Bungoma no WPP units have been protected with LPNF, as there are no large waste deposits. Monthly data sheets and farmer recording data sheets were used to collect data on milk production and malaria's morbidity in local villagers, and mosquitoes presence was determined in the households. Socio economic baseline data were also collected using a questionnaire.

Fig. 1 - FAO Project study sites.

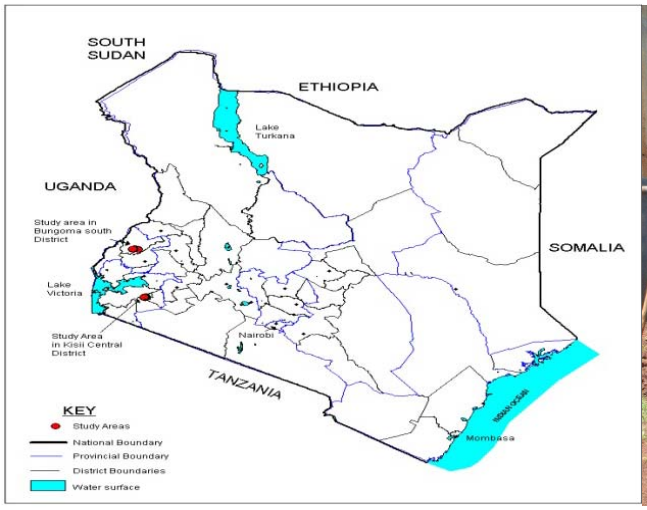


Fig. 2 - Livestock Protective Net fence.

After baseline data collection in both sites of Kisii and Bungoma, data were collected to determine the health status of the animals through: i) entomological and epidemiological data collection carried out on monthly basis assessing PCV, blood smear for haemoparasites, helminthes, coccidia and protozoa; ii) tick-borne diseases, like East Coast Fever (ECF) by *Theileria parva,* transmitted by *Rhipicephalus appendiculatus*; Anaplasmosis (*Anaplasma centrale* and *Anaplasma marginale)* and Babesiosis (*Babesia bigemina)* were investigated through blood smear examination. Mastitis were detected using CMT and milk was also collected and analyzed for brucellosis infection with RBT and bacterial identification. For entomological monitoring, thirteen units drawn using random computer numbers, were monitored on monthly basis, for three days using the NGU, CDC and the sticky traps. The selected units, monitored on monthly basis were as follows: 5 PU, 4 WPP, and 4 CU in Kisii. In Bungoma, 8 units were PU and 5 CU. The NGU and CDC trap were placed on each side of the zero grazing unit, outside the unit, and one sticky trap inside the unit for 3 days. The flies were identified, counted and stored in labelled vials after every 12 and 24 hrs for the CDC. The same data were collected after ten months of intervention with LPNF. Data were later analyzed in Stata SE, Stata Corp LP version 419.11.2.711. The T-test was used to compare the means for statistically difference. For fly catches, data was entered in Excel, FTDs were calculated and plotted. ANOVA tests were used in each set of data to determine if there was a significant difference between the treatments. The results from the questionnaire survey were coded, cleaned and

entered in SPSS for analysis.

RESULTS

Baseline data collection carried out before the LPNF deployment indicated 68% prevalence of mastitis, 30% *helminthiasis* and 25% TBDs. The large majority of mastitis detected was sub-clinical, though clinical mastitis has been reported by farmers. The overall average prevalence of mastitis after a period of ten months following intervention was as follows for Kisii: CU 49% (95% CI=37.481–61.179), PU 28% (95% CI=21.148–35.296) while WPP presented a rate of infection of 35% (95% CI=22.187–48.479). Significant differences in mastitis prevalence were observed between the CU and the PU (t=3.772, p=0.007) and also between the CU and the WPP (t=2.662, p=0.032). However, there was no difference between the PU and WPP. In Bungoma the overall mean prevalence was as follows: CU 36.4% (95% CI=20.198–52.658), and PU 40.1% (95% CI=21.519–58.765). There was no significant difference between the CU and the PU (t=-0.369, p=0.7242) in Bungoma. Monthly analysis for statistical differences across the treatments are shown in Table 1 for Kisii and Bungoma.

Tab. 1 - Monthly percentage (%) of animals with mastitis in zero grazed cattle in Kisii and Bungoma.

	Percentage (%) of prevalence of mastitis								
Treatment Kisii	Apr	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
CU	61a	29a	55a	47a	37a	63a	73a	50a	29a
PU	27ab	25a	38a	38ab	16a	20ab	42a	20a	29a
WPP	70b	33a	34a	10a	15a	40a	35a	40a	41a
Treatment	Percentage (%) Prevalence of mastitis								
Bungoma		Jun	Jul	Aug	Sept	Oct	Nov	Dec	
CU		42a	27a	44a	27a	11a	67a	37a	
PU		47a	45a	22a	35a	23a	29a	80b	

Note: Numbers in the columns with same letters are not significantly different (p>0.05).

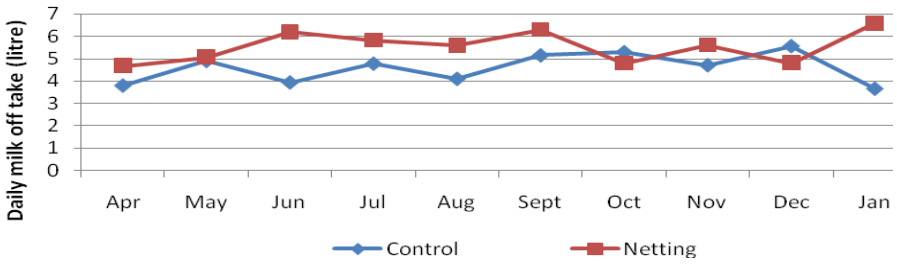
In Kisii, although the difference was not significant, PU were slightly better than WPP in terms of mastitis prevalence. This could be explained by the fact that the net around the units kill flies directly on contact and thus preventing diseases. The WPP would have an effect on flies that are breeding in the dung pits and which would eventually move to the units nearby. Since, a comparison between the two treatments of PU and WPP showed no difference this could mean that one can either use LPNF to protect the zero grazing units or protect the waste pits themselves. It is important to note that the management styles in the two sites of Kisii and Bungoma are very different. In Bungoma, it was practised some form of semi-zero grazing with animals released daily to graze outside the unit for up to six hours. Animals would enter the units with flies and ticks already on their bodies. There was a notable rise in mastitis prevalence in both sites across the treatments in the months of October to January and this coincided with the season after the short rains when fly numbers were also high. The prevalence of mastitis also increased coinciding with the rise in fly population.

Analysis of milk

Forty (40) milk samples were taken to the regional Veterinary Investigation Laboratories and the most frequent mastitis causative species identified were *Staphylococcus aureus* (44%), *S. epidermis* (12%) and *E. coli* (12%) while (32%) samples were negative. *S. aureus* was the most detected pathological agent, it causes one of the most common types of chronic mastitis. Though some cows may flare up with clinical mastitis (especially after calving) this is what was reported by farmers when there was a flare up of clinical mastitis. The infection is usually subclinical, causing elevated somatic cell counts (SCC) but no detectable changes in milk or the udder. The infection is spread at milking time when *S. aureus* contaminated milk from an infected gland comes in contact with an uninfected gland, and the bacteria penetrate the teat canal. Once established, *S. aureus* infections do not respond well to antibiotic therapy and infected cows must be segregated or culled from the herd. This explains the chronic nature of the disease in the herds, with some cases not resolving after therapy. Milk from the udder looks normal but tests positive with CMT. Farm inspection revealed that udder hygiene, cleanliness of the unit, milking rope, single udder-towel and dairy labourers as the most substantial risk factors of mastitis.

When data were pooled for Kisii and Bungoma, the numbers of cows in lactation monitored per month vary from 3 to 20 for the CU (Control) and from 7 to 35 for the PU (Netting). The analyses were performed month by month because of the repeated nature of the data in order to see from which month after intervention difference start to occur. Results of the analyses show that although the lactation cows in the PU and WPP treatments performed slightly better than CU there is no statistically significant difference in the overall milk off take.

Fig. 3 - Average daily milk off take per cow (litre) in Kisii and Bungoma polled data (Control=CU; Netting=PU).



Testing for Brucellosis

None of the 58 samples from Kisii and 38 from Bungoma tested for Brucellosis using the RBT and the CFT at the National Department of Veterinary Services, Kabete were positive, for both tests, though human brucellosis has been reported in the districts.

Tick-borne Diseases

In Kisii the average incidence of TBDs over the monitoring period in the studied animals was as follows: PU 19%, WPP 10%, whereas CU had a 11% prevalence. There was no significant difference in tick-borne disease incidence between the treatments. In Bungoma the mean incidence was 15% for PU and 20% for the CU with also no significant difference between the two treatments (t=1.2034, p=0.2679). The most commonly diagnosed parasite through blood smear was *Anaplasma marginale*. Farmers, however, indicate that ticks were of great significance, and they used acaricides for tick control. The acaricides were applied at one-week intervals and the most common method of application was hand spraying, but still some farmers still experienced problems with ticks. On probing it was found out that most of the tick infestation was due to cross species infection mainly from the dogs. Dogs were used as night guards for the much valued animals, most of the time they slept inside the unit as the case for Kisii. The cut and carry method of feeding the animals with Napier grass sourced from other homesteads and grass cut along the road reserves also served as a source of infestation.

Tab. 2 - Monthly percentage (%) incidence of animals with Tick Borne Disease in zero grazed cattle in Kisii.

Treatment Kisii	Percentage (%) Incidence of TBDs								
	Apr	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
CU	16a	19a	19a	16a	6a	0a	20a	0a	0a
PU	25a	29a	45a	11a	12a	18a	15a	18a	3a
WPP	8a	3a	25a	6a	6a	6a	9a	6a	9a

Note: Numbers in the columns with same letters are not significantly different (p>0.05).

Helminths

Overall the infection was 15% (95% CI=-11.388–41.888) in the WPP, 13% (95% CI=1.092–24.907), for PU and 9% (95% CI=-7.957–25.457), for CU in Kisii. In Bungoma the prevalence for CU was 21.75 (95% CI=7.794-35.705), the prevalence in the PU was 16% (95% CI=4.306-27.693). There was no significant difference between the treatment and the CU (P>0.05) in all the sites. The netting has thus no effect on worm control in the zero grazing units, though it's important to point out that the farmers carried out routine deworming after every three months. Overall FEC were highest in cattle less than 1 year of age (mean FEC 670) and lowest in adult cattle over two years old (mean FEC 150). This is lower compared to studies done elsewhere with a mean FEC of over 1000 for cattle less than 1 year. Farmers had moderate to high levels of knowledge on worm infestation and diagnosis. Seventy-five percent of the respondents indicated that they de-wormed their cattle, mostly after every three months. Farmers mainly diagnosed worm infection by observing unthriftiness (60%), and distended abdomen (30%), coughing (10%) and poor appetite (10%). Expert veterinary advice on drugs was moderate to minimal and farmers relied mainly on over the counter salesmen (70%) for advice on drug usage. Other considerations included previous experience of the drug effectiveness (34%), the low price of the drug (12%), ease of administration (18%), advice from animal health personnel (26%), advice from other farmer (9%) and seminars (5%).

Entomological Results

The most commonly identified flies in both sites were *Stomoxys* (69%), which are associated with confined livestock keeping, mosquitoes (23%), and houseflies (11%) and a few tabanids (0.5%) on an irregular basis. The

number of flies captured from inside the units using the sticky panels ranged from an average of 3 flies in PU, 2 in WPP and 8 in CU. The trend of the flies captured from June 2011 to January 2012 is shown in graphs below as FTD. In general the fly population was high at the beginning of the monitoring phase with the population dwindling from the second month of monitoring onwards. The control units recorded higher relatively FTDs compared to the waste protected pits and the netting. During the month of December immediately after the short rains, there was an increase in mosquito population and higher FTDs were recorded in the control units in Kisii. For Kisii there was no significant difference between the CU and the PU (χ^2=1.817, P=0.927) in *Stomoxys* FTDs. However, there was a significant difference between the CU and the WPP (p=0.014) indicating that protecting the pits is effective in killing the flies especially *in situ*. (Table 3).

Tab. 3 - Catches of house flies: significant difference between the control units and the netted and waste protected units.

Treatment Kisii	Houseflies								
	Apr*	Jun*	Jul	Aug	Sept	Oct	Nov	Dec*	Jan
CU	14a	10a	1a	0a	0a	2a	1a	4a	0a
PU	7ab	1ab	0a	0a	0a	0a	0a	1ab	0a
WPP	5b	5b	0a	0a	0a	0a	0a	1b	0a
Treatment Bungoma	Houseflies								
		Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan
CU		4a	5a	3a	0a	0a	1a	1a	2a
PU		3a	1b	1b	0a	0a	0b	1a	0b

Note: Numbers in the columns with same letters are not significantly different (p>0.05).

Though some flies were captured inside the units by use of sticky panel, the numbers were less in the protected units compared to the non protected units. Statistically, there was a significant difference (P=0.02) in Kisii in stomoxys catches between the WPP and the CU. There was no significant difference between the PU the CU in Kisii (p>0.5) for *Stomoxys* but there was statistical difference for Bungoma. Flies inside the units could be explained by the fact that some farmers left the doors of the protected units open despite the instructions given and also due to constant accumulation of animal dung, rotting straws and hay inside the unit especially if not cleaned frequently permitting the introduction of new suitable breeding places for flies.

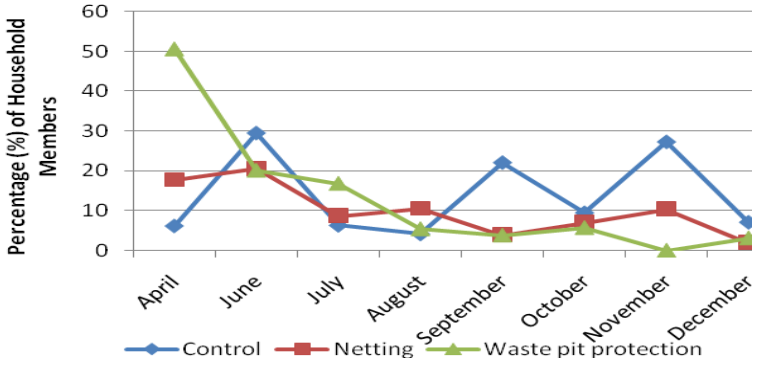
Stomoxys flies are serious pests of confined livestock. The adult flies suck blood from the cow and the bites are very painful. There was considerably decrease in the number of flies physically observed on the PU. On further observation the animals were more calm and feeding well, as compared to the controls where fly repelling behaviours were noted such as tail flicking, feet stamping, throwing the head back towards the torso, rippling the skin etc. During these repellent behaviours, the feeding of the animal was disturbed and food was strewn all over the place.

There was no significant difference in the mean weight gains and PCVs across the treatments both for Kisii and Bungoma. Reduction of stable flies attacking cattle is likely to result in relief of the animal from nuisance flies and giving the animal time to concentrate on feeding thus improvement of the animal condition and production. Also incidence of mechanically transmitted diseases such as pink eye and dermatophilosis is reduced. Eye problems are common in the study sites with a case of long standing case of dermatophilosis in Kisii.

Human health

Although there is no difference between treatments from June onward Figure 4 shows a declining trend of the percentage of total household members falling sick of malaria in Kisii. In Bungoma no significant difference could not be observed between the CU and the PU in terms of the percentage of total household members falling sick of malaria per month.

Fig. 4 - Monthly percentage (%) of total household members falling sick of malaria in Kisii (Control=CU; Netting=PU; Waste pit protection=WPP)



Farmer's perceptions

Farmers mentioned that:

- There was a general decrease in fly populations inside the units and generally in the homesteads.
- Cooking and eating is more comfortable.
- Social life and friendly chats outside the houses are now carried out with no disturbances.
- Milk production is improved, animals were calmer in feeding and during milking times.
- Farmers in households with WPP expressed higher satisfaction with reference to reduction of fly populations.

CONCLUSIONS AND DISCUSSION

Mastitis

- Mastitis prevalence in PU and WPP is significantly lower than in CU units, but there is no difference between PU and WPP, meaning that either barns or waste can be protected.
- As in Bungoma, there was no significant difference in mastitis prevalence between CU and PU it can be concluded that netting is not suitable for semi-zero grazing units.
- LPNF have no effect on tick-borne diseases in both sites nor on helminthes.

Entomology: Catches of *Stomoxys* and Houseflies using the NGU, and Mosquitoes using the CDC Traps

- In Kisii, there was no significant difference in *Stomoxys* catches between the CU and the PU, it appears that *Stomoxys* populations drastically collapsed after the introduction of the nets.
- In Kisii, Stomoxys catches in WPP were significantly less than in the controls indicating that protecting the pits may be effective in killing the flies in situ.
- In Bungoma, there was no significant difference in *Stomoxys* catches between the control and the protected units indicating there is no need to protect semi-zero grazing units.
- In Kisii, overall there was no significant difference in mosquito catches between the treatments (both the net and waste protected units) compared with the control, but immediately after the rains mosquito catches were significantly more in the controls than in the other 2 treatments.
- In Bungoma, there was a significant difference in mosquito catches between the PU and CU thus LPNF affect mosquito catches.
- Housefly catches were significantly less in PU and WPP compared to the CU in Kisii and also in Bungoma.

Sticky traps

- *Stomoxys* catches were significantly lower in zero grazing units where the waste pits were protected with nets compared to the un-protected units (control) interestingly, there was no significant difference in *Stomoxys* catches between the netting and the controls in both Kisii and Bungoma. This observation is similar to the results with NGU trap.
- In Bungoma, in mosquito catches, there was a highly significant difference between the control and net protected units ($p=0.0001$). Similar results were observed with CDC catches
- Fly populations reduced drastically immediately after the intervention across all the treatments. The population seemed not to recover and this could explain why there was little or no statistical difference in the monthly FTD trends.

Impact

The LPNF and dung pits protection with impregnated nets are likely to have economic impact due to the potential in decreasing insects burden in the zero grazing units. The non significant difference may be attributed to the sample size and other confounding factors such as nutrition and cattle breed that should be taken care of in a long term assessment of the PU and WPP. In conclusion LPNF decreases agitation and disturbance of animals easing their feeding and limiting strewing of fodder. Provide consistent protection to livestock by reducing flies burden in zero-grazing units and biting flies in waste pits allowing to keep improved dairy cattle breeds and thus offering the opportunity to increase milk production. LPNF is easy to install and use, it is long-lasting, doesn't need repeated interventions and is not harmful to the environment. Is safe for livestock and humans population which also benefits from a reduction of mosquitoes presence resulting in a reduction of malaria morbidity if waste pits are protected.

NOMENCLATURE

CFT	Complement Fixation Test
CU	Control Units
PU	Protected Units
FEC	Fecal Eggs Count
FTD	Fly per Trap per Day
FAO	Food and Agricultural Organization of the United Nations
FAORAF	Food and Agricultural Organization Regional Office for Africa
IFAD	International Fund for Agricultural Development
ICIPE	African Insect Science for Food and Health,
LPNF	Livestock Protective Net Fence
NARES	National Agricultural Research and Extension Services
PATTEC	Pan African Tsetse and Trypanosomiasis Eradication Campaign
PCV	Packed Cells Volume
SDCP	Smallholder Dairy Commercialization Program
WPP	Waste Protected Pits

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LA FILIERE LAITIERE EN AFRIQUE SAHELIENNE: VALORISATION DU PRODUIT LOCAL

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RESUME

Une étude bibliographique et de synthèse sur la filière laitière en Afrique sahélienne a été réalisée. Après une description générale sur le Sahel et le rôle des produits laitiers au sein des économies locales, ce travail fait le point sur la dépendance des importations du lait en poudre par plusieurs de ces pays. Bien que le lait représente un élément important dans les civilisations pastorales au Sahel, les filières laitières locales tardent à s'affranchir des marchés internationaux. L'étude analyse la filière locale dans ses différents aspects et en particulier son récent développement dans un contexte urbain et celui plus traditionnel au niveau pastoral. Les étapes de production, transformation, commercialisation et consommation sont passées en revue selon les deux contextes analysés, en faisant ressortir les possibilités d'amélioration et les freins qui empêchent la croissance de la filière locale. Une description des produits laitiers locaux est suivie par l'analyse des potentialités qu'ils pourraient jouer dans le processus de lutte à l'insécurité alimentaire. Cette zone d'Afrique souffre encore de ce problème et le lait produit localement pourrait intervenir comme un important maillon de la chaine alimentaire. Pour émanciper les pays sahéliennes de la dépendance des importations et promouvoir la production locale, il est important que la recherche et l'aide au développement s'orientent davantage vers la filière laitière, au profit d'un échange économique plus équilibré et de la valorisation des produits locaux. Une connaissance plus approfondie de cette filière au Sahel vise à faire connaître et à mieux développer les programmes orientés à la promotion et valorisation du lait local et de ses produits dérivés.

INTRODUCTION

La région sahélienne en Afrique correspond à une ceinture de territoire qui va de l'extrémité Est du Soudan aux iles de Cap Vert, en couvrant une superficie d'environ 5,4 millions de Km^2 et en hébergeant une population de 50 millions d'habitants. Elle se situe au sud du Sahara en sorte de bordure de la mer de sable. Les pays sahéliens sont ceux dont le territoire se prolonge à différent degré dans le désert : le Sénégal, la Mauritanie, le Mali, le Burkina Faso, le Niger, le Tchad, le Soudan. Le Sahel est donc une zone de transition entre le désert et la savane dont la distribution pluviométrique au cours de l'année conditionne et règle la vie des hommes et les productions animales et végétales.

A l'intérieur de cette région, les variations climatiques affectent profondément le milieu en donnant lieu à plusieurs écosystèmes : du désert à l'extrême nord en passant par le Sahel proprement dit, pour continuer avec les zones sahélo-soudanaise et soudanaise, où les précipitations annuelles permettent les cultures de sorgho, maïs et coton. Même si les fleuves Niger et Sénégal assurent une partie importante de l'eau pour la vie des hommes et pour les activités agricoles, les cultures restent encore très subordonnées au régime des pluies (cultures pluviales). Dans ce contexte, même l'élevage est obligé de suivre le rythme saisonnier par une forme de transhumance pendulaire du nord au sud et vice-versa [4].

Dans la zone sahélienne, la plus part de la population est à vocation agro-pastorale. Mais le Sahel est aussi une zone à forte croissance démographique (>3% par an) avec une importante concentration au niveau urbain. Il a été estimé qu'environ 30% de la population sahélienne vit en ville, avec des pics de 50% dans certains pays. Ceci implique un changement profond au niveau des produits de consommation, qui seront de plus en plus d'origine commerciale plutôt qu'issus d'une production locale.

Les épisodes de crise environnementale vécus par le Sahel dans les années '72-'73, qui ont vu une intense dégradation des pâturages, décimation des troupeaux et l'exode des populations vers le sud, ont eu l'effet d'une prise de conscience internationale vis-à-vis de la vulnérabilité de cette zone. Il a été donc jugé nécessaire et urgent de prendre de mesures appropriées pour répondre à cette crise. Parmi ces mesures, il est important de rappeler la création d'un comité supranational de lutte à la sécheresse, le CILLS (Comité inter-États de Lutte contre la Sécheresse au Sahel) [8]. Mais les crises alimentaires dans la zone sahélienne se répètent de manière régulière et ainsi plusieurs pays se sont organisés sur la base du système d'alerte précoce (SAP), qui est censés de prévenir ces épisodes dramatiques.

Notre point de vu est que la filière laitière locale peut jouer un rôle non négligeable dans le système d'autosuffisance alimentaire.

NOMADISME ET TRANSHUMANCE AU SAHEL

Dans la zone sahélienne la gestion des troupeaux se fait selon deux grands systèmes : le nomadisme et la transhumance. Dans le premier cas, les communautés nomades déplacent leurs animaux en fonction de la présence des pâturages et des points d'eau le long de tracés plus ou moins codés et connus par les ethnies et les tribus. Pendant la saison des pluies, les déplacements se font à l'intérieur de la zone de transition entre le Sahara et le Sahel, tandis qu'en saison sèche, ils se déplacent en zone soudanaise et même sud-soudanaise soit en zone à vocation agricole, ce qui cause parfois des sérieux problèmes de cohabitation entre agriculteurs et éleveurs [2] [10].

La transhumance par contre est une manière d'exploiter les ressources naturelles sur la base d'itinéraires pendulaires et planifiés chaque année. La méthode de la transhumance est utilisée par les ethnies classiquement pastorales mais aussi par les éleveurs qui pratiquent l'agriculture et l'élevage intégrés. A différence du nomadisme, qui se caractérise par le déplacement de tout le noyau familial et/ou communautaire, la transhumance prévoit de confier le bétail à un berger, qui peut gérer les animaux de plusieurs familles ou propriétaires. Ce berger il est le plus souvent rétribué en nature sous forme de têtes de bétail, lait ou viande. Selon cette pratique, le troupeau en transhumance est composé par toutes les catégories de bétail sauf les bovines en lactation et leurs veaux, qui restent au campement d'origine pour fournir le lait à la famille. Ceci est particulièrement évident chez les éleveurs urbains et périurbains, puisque le lait constitue une importante source de revenus [2] [10].

L'EXPLOSION DEMOGRAPHIQUE

Depuis plus d'un demi siècle, les pays sahéliens connaissent une progression démographique importante, avec des taux de croissance très élevés. Les prévisions d'évolution démographique sont de 3,3% en 2015, 3,0% entre 2025-2030, et 2,1 pour cent vers 2045-2050 [12].

De même, la population n'est pas uniformément distribuée sur le territoire, mais l'explosion démographique est particulièrement accentuée au niveau urbain. Plusieurs raisons ont été évoquées pour expliquer ce phénomène, entre autre:

- la sécheresse des années '70,
- l'instabilité économique dans le milieu rural,
- l'insécurité liée aux épisodes de guerre ou des conflits internes (ex. la guerre au Mali en 2013).

Ce processus est à l'origine d'importants changements des systèmes de production animale que nous avons ci de suite énumérés:

- réduction des pâturages à cause d'une demande croissante de terre pour l'agriculture,
- dégradation des pâturages sous l'effet du déboisement à cause de la demande croissante en énergie par les populations urbaines,
- augmentation de la demande en produits d'origine animale et intensification de l'élevage à but commercial,
- transfert de la force travail (les jeunes en particulier) du monde rural aux grandes villes et affaiblissement du secteur de l'élevage dans les zones à plus forte vocation pastorale.

L'explosion démographique, l'urbanisation et le processus de sédentarisation des communautés nomades et transhumantes représentent aujourd'hui une menace au «système sahélien» déjà précaire en soi. La distribution et la gestion du patrimoine animal est en train de changer : de plus en plus les propriétaires de bétail sont des commerçants, des fonctionnaires, des entrepreneurs qui confient leurs animaux à des bergers salariés [8]. Le résultat est l'abandon des anciennes zones pastorales au profit de la zone subhumide, avec une série de nouvelles problématiques qui se posent, comme la cohabitation entre agriculteurs et éleveurs et le passage d'un système pastoral extensif à l'intensification de l'élevage autour des grandes villes pour en satisfaire les besoins alimentaires.

LA FILIERE LAITIERE AU SAHEL

Le lait est reconnu comme un important élément dans les civilisations pastorales au Sahel. Il représente un facteur déterminant dans l'organisation sociale et familiale, dans les habitudes alimentaires, les échanges commerciaux, les représentations rituelles et symboliques dans plusieurs communautés. En particulier, l'élément « *lait*» occupe une place prépondérante chez les ethnies Peuhl et Touareg.

Même si le lait et ses dérivés occupent une place non négligeable dans les traditions alimentaires des pays sahéliens, la filière laitière est peu développée dans son ensemble. La consommation de produits laitiers en Afrique est minime par rapport au pays occidentaux. Il a été estimé qu'un africain consomme 25 fois moins la quantité d'un européen en terme de produits laitiers. Mais cette différence doit être relativisée en rapport notamment aux capacités d'achat et de disponibilité du produit sur le marché [6].

Actuellement la production et la transformation laitière au Sahel sont en expansion grâce à une multitude de petites et moyennes entreprises à gestion familiale ou coopérative, qui côtoient les unités industrielles ou semi-modernes. Tracer un profil commun de la filière laitière est pratiquement impossible en raison des différentes réalités qui se croisent dans le même milieu, mais une classification est ici proposée sur la base d'une différenciation entre filière urbaine et rurale.

La filière laitière en milieu rural du Sahel est une chaine très courte, composée par les producteurs (éleveurs ou agriculteurs qui exercent l'élevage) qui auto consomment une bonne partie de leurs produits et/ou revendent la partie excédentaire dans les marchés hebdomadaires. Les acheteurs ne sont que ceux qui s'en approvisionnent étant sans bétail.

En milieu urbain, le commerce et les technologies assurent l'injection sur le marché de produits diversifiés, ce qui rend plus complexe la filière. Dans ce cas, les producteurs se localisent au niveau de la périphérie de la ville et ils constituent des villages d'éleveurs semi-sédentaires. Leur activité principale est la vente du lait frais (ou caillé) en détail, aux grossistes ou directement aux unités de transformation. En général, les grossistes ne sont que des éleveurs mieux organisés et qui rachètent le lait des leurs voisins pour le transporter et le revendre aux transformateurs. Le plus souvent ces grossistes sont équipés de vélos ou motos pour le transport et ils sont aussi appelés « *collecteurs* ».

Toujours en milieu urbain, les unités de transformation peuvent être de différente constitution et capacité productive. Par ordre de niveau structurel, nous pouvons trouver les ateliers familiaux, qui transforment la poudre de lait ou le lait frais local ou les deux à la fois. Ils vendent leurs produits (lait frais, lait caillé, deghé, beurre ou fromage) en détail selon le système «porte à porte» ou dans les marchés de quartier. En général, le conditionnement est en sachet en plastique de différente taille.

A une échelle supérieure, nous trouvons les coopératives et/ou les GIE (Groupement d'Intérêt Economique), qui disposent de plus grandes capacités économiques et technologiques. Ils peuvent produire du lait pasteurisé, du yaourt, de la crème, du beurre et du *deghé*, conditionnés en bouteilles en plastique, pots en verre ou en sachets thermo soudés. Souvent ils disposent aussi de leurs étiquettes avec logo personnalisé.

Le niveau plus élevé est celui des unités industrielles avec une capacité de milliers de litres par jour. Certaines de ces unités utilisent également le lait frais local comme matière première, mais le gros de la production est fait à partir du lait en poudre d'importation. Leur production est très diversifiée et en manière générale très semblable à celle des pays industrialisés. Il s'agit de lait pasteurisé, lait UHT, lait aromatisé, lait caillé, yaourt, crème et plus rarement de beurre et fromage. Ces unités de transformation vendent leurs produits aux commerçants de la ville (supermarchés, boutiques, revendeurs ambulants) et dans certains cas aux marchés de la distribution internationale.

Vu l'augmentation des prix de la matière première d'importation (poudre de lait) dans ces dernières années et de la dévaluation du franc CFA des pays de l'Afrique de l'Ouest, quelques unités industrielles ont commencé à s'organiser pour la collecte du lait frais produit localement. Ce nouveau mécanisme, si d'une part a contribué à invertir la tendance de l'augmentation progressive des importations du lait en poudre en Afrique sahélienne, d'autre part il est en train d'augmenter et intensifier le processus de sédentarisation des populations pastorales autour des grandes villes. Malgré ce timide effort des promoteurs de la filière à appuyer la production locale de lait, les quantités produites et transformées à partir de la matière première locale n'arrivent pas à couvrir la demande.

Les productions animales au niveau urbain et périurbain sont classées dans la catégorie des productions «sans terre» puisque l'élevage se fait sans une véritable exploitation des pâturages dans le sens extensif du terme. Dans d'autres mots, il s'agit d'un système dont la terre n'a aucune importance et il représente le début d'un processus d'intensification en termes d'alimentation animale, soins et stabulation des animaux.

EVOLUTION DE L'APPUI A LA FILIERE LAITIERE EN AFRIQUE SAHELIENNE

A partir des années '40, les pays du nord ont soutenu l'industrialisation de la filière laitière en Afrique par des interventions à économie mixte (publique et privé) avec l'importation de races bovines à haute production, systèmes de stabulation intensive, cultures fourragères, etc. En ce moment les premiers systèmes de traite mécanique ont été appliqués, avec des équipements pour la chaine du froid et de transformation industrielle du lait. Après l'indépendance (dans les années '60), les difficultés pour garder ces équipements viables ont été énormes et dans la plus part des cas, les unités de production et transformation ont cessé de fonctionner [6].

Après cette phase de transition postindépendance, vers les années '80 certains gouvernements ont pris soins d'adapter le vieux model colonial aux nouvelles exigences politiques par un processus de « nationalisation » des grandes fermes de production laitière et des unités de transformation. C'est dans ce contexte que des grandes usines de transformation ont vu le jour, comme l'ULB (Union Laitière de Bamako) [11] au Mali et la Solani (Societé du lait du Niger) au Niger. Ces unités industrielles ont commencé à se positionner sur le marché international comme de grands acheteurs de poudre de lait, produit excédentaire des économies européennes et nord-américaines.

Mais la diffusion en Afrique du lait en poudre n'est pas liée uniquement à ce phénomène, mais aussi à la diffusion des aides et des coopérations (bilatérales ou multilatérales) qui commencent à s'instaurer entre les pays du nord et ceux du sud. La poudre de lait est un produit facilement transportable, relativement économique, facile à stocker et à transformer [6].

Tous ces modèles industriels ont connu de très grandes difficultés à cause notamment des capacités du personnel

local, des interférences avec les institutions, de la taille excessive des unités de transformation par rapport à la demande. Néanmoins, des retombées positives ont été constatées, telles que l'introduction de races exotiques, les techniques d'insémination artificielle, les cultures fourragères et le début de la collecte de lait produit localement.

Vers la fin des années '80, le Programme d'Ajustement Structurel (PAS) a encouragé les investissements privés et la naissance des coopératives. Même l'aide au développement vise davantage les réalités de moindre taille et mieux adaptées au contexte. Petites et moyennes unités se développent souvent sur la base de capacités de particuliers expatriés ou de communautés religieuses [6].

A partir des années '90 à aujourd'hui, une multiplicité de mini-laiteries artisanales voit le jour, quelques fois issues par la volonté de quelques entrepreneurs, d'autre fois par l'appui des projets de coopération. En général, leur production est orientée au lait frais, au lait caillé et au yaourt à partir le plus souvent du lait en poudre. Certains unités toutefois choisissent la transformation du lait frais local, comme la laiterie Danaya Nono au Mali, la mini-laiterie Kolda au Sénégal e la Coopérative Laitière de Niamey au Niger [1] [9] [3]. Des moyennes laiteries modernes ont été crées par des particuliers comme le cas de la laiterie Tiviski en Mauritanie ou Laban au Niger [13].

LE LAIT DANS LES DIFFERENTS SYSTEMES DE PRODUCTION ANIMALE AU SAHEL

Dans les systèmes pastoraux traditionnels (nomade ou transhumant), le lait est trait exclusivement pour les besoins en autoconsommation du berger et de sa famille. Dans les troupeaux en transhumance, où les animaux appartiennent à différents propriétaires, le lait n'a pas une valeur commerciale et il est aperçu plutôt comme un sous produit de l'élevage. Les bergers qui conduisent ces troupeaux peuvent s'en approvisionner juste pour leur consommation durant les déplacements. Dans ce contexte, rarement le lait est commercialisé et les vaches en lactation ne sont gardées auprès du campement que pour l'alimentation des veaux. La traite n'est pas donc une pratique régulière et quotidienne, mais ça se fait selon certaines exigences, telles que l'autoconsommation et/ou la vente aux marchés hebdomadaires. Dans ces systèmes pastoraux en milieu rural, dominés par les ethnies Peuhl et Touareg, les animaux sont gérés par les hommes tandis que la traite est un travail typiquement féminin. Le lait collecté est donc consommé comme tel ou transformé et vendu selon les exigences familiales par les femmes. La commercialisation des produits laitiers représente une importante opportunité pour les femmes, qui dans cette manière arrivent à rééquilibrer la prédominance masculine sur la gestion du foyer. Avec ces revenus, les femmes achètent ce dont elles ont besoin pour elles mêmes, la famille, les enfants et l'alimentation quotidienne.

Dans les systèmes pastoraux à caractère plus intensif, comme dans les élevages urbains et périurbains, le lait devient une importante ressource économique, dont la valeur augmente au fur et à mesure que les processus de sédentarisation et d'urbanisation rendent le produit encore plus demandé. Dans cette situation, on assiste à l'appropriation par les hommes des produits laitiers. En d'autres mots, là où le lait devient une importante ressource économique, l'homme s'en approprie le long de toute la chaine: de la traite à la commercialisation. Les femmes n'ont qu'à se contenter d'exploiter le lait des chèvres et des moutons.

LAIT ET PRODUITS TRANSFORMES

La transformation laitière représente partout dans le monde une méthode pour en prolonger sa vie sous forme d'un produit moins périssable, plus facilement transportable et qui peut être commercialisé. L'intérêt de la transformation est encore plus grand dans une zone où la quasi absence d'énergie rends impossible la chaine du froid. Ceci a poussé les communautés pastorales à mettre au point des techniques de transformation plus ou moins élaborées afin d'obtenir des produits pour l'autoconsommation et la commercialisation dans plusieurs pays du Sahel.

Dans ce contexte, les ethnies pastorales qui ont plus développé et diffusé les techniques de transformation laitière sont les Peuhl et les Touareg. Ci de suite, nous avons proposé une description succincte des produits laitiers plus communs qu'on retrouve en milieu rural et urbain.

Le lait frais et caillé

Le lait (frais ou caillé) mélangé avec le mil constituent la base de l'alimentation des Peuhl. Le lait caillé est un produit traditionnel qui valorise les surplus de la production laitière et il est produit par acidification spontanée du lait cru ou bouilli qui est laissé à repos pour une nuit dans une calebasse. Pour accélérer la transformation, certaines femmes ajoutent dans la calebasse une petite quantité de lait déjà caillé; après 12 heures environ (en fonction de la température) le lactose se transforme en acide lactique et la composante lipidique surnage. Cette graisse peut être retirée avec une cuillère pour la transformer en beurre ou l'amalgamée encore au lait caillé pour l'enrichir.

Une autre technique pour cailler le lait consiste en ajouter de l'eau en pourcentage différent selon la saison: 30% environ en saison sèche, 40-50% en saison pluvieuse. Cette pratique toutefois déprécie la valeur du produit et elle s'applique normalement en cas d'autoconsommation.

Le lait caillé est consommé comme tel mais in rentre aussi dans la préparation de certains plats de la cuisine traditionnelle, en particulier la bouille de mil, un aliment composé par le lait caillé, farine de mil et eau. Cette

préparation peut être consommée sur plusieurs jours en ajoutant à chaque fois du nouveau lait caillé et éventuellement du sucre, pour la rendre encore plus attractive.

Le beurre et l'huile de beurre

Le beurre est le produit final issu de l'agitation mécanique de la crème qui surnage sur le lait après quelques heures de repos. Selon la technique traditionnelle, la crème de lait est récoltée à l'aide d'une cuillère et introduite dans un ustensile particulier en guise de batteuse (le nom diffère de zone à zone). Avec 1 litre de lait, les femmes arrivent à extraire 80 grammes environ de matière graisse. L'agitation mécanique se fait selon un mouvement rythmique et régulier pour environ 10 minutes, ce qui sépare la phase liquide de la matière graisse avec la formation des boulles de beurre dans leur petit lait. Ces boulles, d'un poids d'environ 30 grammes chacune, sont prélevées et sont passées dans l'eau propre pour en augmenter la consistance. La conservation du produit se fait dans des calebasses de grandes dimensions sur une période variable entre 10 et 20 jours, si bien gardé dans son petit lait. Le beurre est ainsi commercialisé sous cette forme dans les marchés ruraux et urbains.

Un autre produit issu du lait et très diffusé chez les communautés pastorales est l'huile de beurre (ou beurre cuit). Il s'agit d'un produit très peu périssable et qui se peut conserver pour longtemps. Sa préparation prévoit de faire bouillir le beurre dans une casserole pour environ 15 minutes jusqu'à voir un dépôt marron sur le fond par altération de la caséine. Le produit final est un liquide de couleur jaune qui peut se conserver en bouteille de vitre pour 1 ou 2 mois. Pour produire 1 litre d'huile, 1.300-1.500 grammes de beurres sont nécessaires.

Le *déghé*

Il s'agit d'une préparation à base de couscous, de mil et de yaourt typique du Mali. Le *déghé* a colonisé plusieurs pays limitrophes et il est rentré dans les habitudes alimentaires des populations locales, autant au milieu rural qu'urbain. Il produit à l'échelle traditionnelle mais aussi industrielle. Dans les autres pays sahéliens hors le Mali, les vendeuses de *déghé* sont presque toutes maliennes ou originaires de ce pays.

Le fromage

Chez les communautés pastorales, le fromage a été conçu comme méthode pour valoriser les quantités excédentaires de lait pendant la saison des pluies, qui représente le pic de production laitière au Sahel. Bien que la technique soit utile et avantageuse, en Afrique subsaharienne sa diffusion en milieu rural est très limitée. Néanmoins, quelques exemples de tradition fromagère existent surtout chez les Peuhl et les Touareg.

Dans les zones plus au nord du Togo, Benin et Nigeria, les Peuhl ont l'habitude de produire un fromage particulier appelé *waragashi* qui est en train de coloniser aussi les habitudes des autres pays voisins. La production de *waragashi* a attirée aussi l'attention de quelques projets de coopération qui a essayé de standardiser la technique et de la diffuser ailleurs [5].

Au Niger chez les Touareg, une autre technique fromagère s'est développée, à savoir celle du fromage appelé *tchoukou* en langue haussa et *tikomart* en langue touareg. Il s'agit d'un fromage traditionnel fabriqué par les femmes à partir du lait de dromadaire et en ajoutant de la caille naturel et en exposant au soleil le produit. Il se présente sous forme de feuilles sèches et croquantes qu'on peut consommer comme telles ou incorporées dans la bouilli de mil. En générale, pour produire une feuille de fromage (grand comme un papier A4 environ) il faut 1,5 litre de lait frais avec en temps de dessiccation d'environ 24-48 heures. Même pour cette technique, l'intérêt des bailleurs est grandissant, en particulier la FAO a appuyé depuis 1989 cette filière dans le nord du Niger par des formations et des supports techniques en visant un produit moins périssable et en améliorant le circuit commercial.

Le yaourt

La transformation du lait en yaourt ne fait pas partie des traditions pastorales au Sahel, où le produit laitier principal est le lait caillé. Le yaourt au contraire fait son apparition en périodes plus récentes et notamment en milieu urbain. Sa production est en général de type industriel ou semi industriel, même si une bonne partie du marché est occupée par des produits artisanaux dérivés du lait en poudre et plus rarement du lait frais local. Dans les grandes villes du Sahel, une multitude de petits transformateurs produisent du yaourt à la maison pour le revendre selon le système « porte à porte » ou dans les marchés de quartier.

CONTRAINTES AU DEVELOPPEMENT DE LA FILIERE LAITIERE AU SAHEL

Pour terminer cette contribution à l'étude de la filière laitière dans les pays sahéliens, nous avons tenté une réflexion sur les points critiques qui, à différent niveau mais à forte compénétration, en freinent le développement et son affirmation au niveau économique, social et politique. Selon notre expérience, les facteurs qui doivent être pris en considération en manière prioritaire sont les suivants:

- faible niveau d'alphabétisation des populations impliquées dans la filière soit au niveau rural comme au niveau urbain,
- faible niveau des connaissances hygiénique et sanitaires avec des retombées sur la santé humaine et animale,
- absence d'un système de contrôle de la qualité du lait,
- très forte fluctuation dans la production et disponibilité de la matière première entre les saisons (pics de production en saison des pluies, déficit en saison sèche),
- très faible organisation et structuration des producteurs locaux et des autres acteurs de la filière,
- absence de dialogue entre les acteurs de la filière,
- difficultés d'accès au crédit, en particulier pour les petits producteurs, et absence d'une politique d'appui au secteur,
- très faible compétitivité des produits locaux par rapport aux produits d'importation soit en terme de prix soit en terme de qualité hygiénique,
- quasi absence de réseau de collecte structuré et rapide dans le transfert du lait frais aux unités de transformation,
- faible disponibilité d'aliments pour le bétail et de produits vétérinaires.

Conscients que ces points critiques ne sont que partiels et qui ne répondent pas dans une manière exhaustive à toutes les problématiques du secteur, nous estimons toutefois que ce que nous venons de lister constitue au moins un premier élément de réflexion pour un approfondissement du sujet.

Beaucoup reste à faire pour affranchir ces pays de la dépendance des importations en poudre de lait. Le potentiel productif local est certainement mal exploité, surtout dans les zones à vocation pastorales, qui malgré la richesse en matière première sont déficitaires en énergie et pour le moment restent à l'écart dans le processus de contribution à la lutte contre l'insécurité alimentaire.

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DIFFUSION DE L'INSEMINATION ARTIFICIELLE BOVINE DANS DES FERMES EN ZONE URBAINE ET PERIURBAINE DE NIAMEY, NIGER : PERCEPTIONS ET PERSPECTIVES

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RESUME

Au Niger, le secteur de l'élevage joue un rôle important dans l'économie et occupe 80% de la population. Malgré ceci, la production laitière nationale est faible, à cause d'un système d'élevage traditionnel extensif. Une façon d'augmenter la production est de parvenir à l'amélioration génétique des races locales grâce à l'utilisation de l'insémination artificielle (IA), qui est l'objectif de nombreux projets financés par la Région du Piémont (Italie). L'IA est une nouvelle technique pour les éleveurs nigériens, bien que, depuis le début du projet, un grand nombre d'eux a accepté de l'utiliser. Étant donné qu'au Niger l'élevage est principalement nomade ou transhumant, l'IA a été menée en fermes sédentaires urbaines ou périurbaines de Niamey. L'IA a été réalisée en utilisant la semence du zébu Azawak, qui a une bonne aptitude laitière et bouchère, et des races exotiques, comme la Piémontaise, l'Holstein et la Brune des Alpes. Les conditions d'élevage et les effectifs sont assez différents d'une ferme à l'autre. Seulement les vaches en bon état sanitaire et avec une note d'état corporel supérieur à 2,5/5 ont été soumises à l'IA. Le taux de fécondité moyen était d'environ 30%. L'utilisation de l'IA a permis de parvenir à des avantages économiques et sanitaires et de donner aux éleveurs une plus grande prise de conscience de la gestion appropriée du troupeau. Cependant, l'utilisation des races exotiques doit être surveillée pour prévenir la perte du potentiel génétique. Des enquêtes ont été menées pour examiner la perception des bénéficiaires de l'IA et la perspective de sa diffusion.
En général, les avantages et les objectifs de l'IA sont bien connus par les éleveurs, même si une plus grande sensibilisation est encore nécessaire pour une meilleure vulgarisation de l'IA au Niger.
La diffusion de cette technique devrait être améliorée en vue de l'augmentation de la production laitière, de l'atténuation de l'insécurité alimentaire et de la préservation de la biodiversité.

INTRODUCTION

Au Niger l'élevage constitue un élément important du secteur agricole et il a aussi une grande importance socio-économique. En effet l'élevage concerne 95% de la population dont 20% en tirent l'essentiel de leur subsistance [1]. C'est pourquoi, la stratégie de lutte contre la pauvreté élaborée par les autorités politiques attribue au sous-secteur de l'élevage un rôle moteur pour répondre à ce défi dans les ménages [2] [3]. Le cheptel est estimé à 33 millions de têtes toutes espèces confondues [4]. Le cheptel bovin, qui compte 7.336.088 de tête, se vante de la qualité de ses races tant en reproduction, rusticité, aptitude au travail qu'en production de viande, lait, cuirs et peaux [5].

Malgré ceci, le cheptel bovin nigérien n'arrive pas à couvrir les besoins alimentaires d'une population humaine en croissance continue. La production laitière nationale ne satisfait pas la demande, ce qui oblige le Niger à importer annuellement des produits laitiers pour une valeur de 6,6 milliards de FCFA.

La consommation de produits animaux (lait, viande, œufs) est une tradition séculaire dans les sociétés nigériennes. Le lait et les produits laitiers constituent l'aliment essentiel d'au moins 20% de la population et un important aliment d'appoint pour les 80% restant [6]. Cependant, les quantités de produits consommés par personne et par an sont très en dessous des valeurs minimales recommandées par la FAO (62 litres de lait et 22 kg de viande contre respectivement 30 litres et 9 kg).

Les faibles performances en productions animales s'expliquent par un système dominé par l'élevage traditionnel extensif sur lequel pèsent de nombreuses contraintes dont les mauvaises conditions d'alimentation et d'abreuvement du bétail; l'état sanitaire du troupeau; l'utilisation de races ou des sujets peu performants; le faible niveau de ressources des éleveurs; la désorganisation de la maîtrise du troupeau et de la reproduction des animaux; la faible capacité d'appropriation et d'utilisation des nouvelles technologies.

Il s'avère donc nécessaire d'intensifier les productions par une amélioration génétique des races locales, par des croisements avec des races exotiques réputées productives et par l'introduction des biotechnologies de la reproduction,

qui permettent d'accroître rapidement les productions bovines.

De nombreux programmes d'amélioration génétique, basés sur des croisements entre les races locales et exotiques grâce aux biotechnologies de première génération (comme l'IA, outil performant de diffusion du matériel génétique largement utilisé dans le monde) et de deuxième génération (transfert d'embryon), se développent en vue de l'augmentation des performances de reproduction et de production (lait et viande) des races bovines locales [7] [8] [9].

L'IA est une technique de reproduction consistant à recueillir le sperme chez le mâle et à l'introduire dans les voies génitales de la femelle, sans qu'il ait accouplement. Le sperme recueilli peut être utilisé immédiatement ou après une ou plus moins longue période de conservation sous forme réfrigérée ou congelée.

La pratique de l'IA nécessite la prise en compte des principaux facteurs susceptibles d'influencer la fertilité des femelles. En outre, l'IA est réalisée sur des femelles en chaleur naturel ou plus fréquemment en chaleur induit avec des protocoles de synchronisation en vue d'une meilleure maîtrise de la technique, une plus rapide diffusion de la génétique amélioratrice, le groupement des vêlages dans la meilleure saison et la lutte contre des maladies infectieuses.

La réussite de cette technique nécessite aussi la prise en compte de plusieurs facteurs liés à l'animal lui-même, sa gestion, la technique etc..

L'insémination artificielle présente des avantages multiples.

- Avantages techniques:
  - diffusion rapide dans le temps et dans l'espace du progrès génétique;
  - découverte rapide de géniteurs ayant de très hautes performances génétiques grâce au testage sur descendance qu'exige l'utilisation de l'IA;
  - grande possibilité pour l'éleveur du choix des caractéristiques du taureau qu'il désire utiliser en fonction du type de son élevage et l'option de production animale à développer.
- Avantages économiques:
  - renonciation aux taureaux géniteurs dans l'exploitation, ce qui permet d'économiser les frais d'alimentation et d'entretien;
  - diminution du nombre de mâles à utiliser en reproduction et leur valorisation en production de viande;
  - amélioration de la productivité du troupeau (lait, viande) qui se traduit par l'amélioration du revenu de l'éleveur. Cet aspect est particulièrement perceptible chez les animaux croisés (obtenus par insémination artificielle des vaches locales) dont la production s'améliore significativement par rapport au type local.
- Avantages sanitaires:
  - l'IA est un outil de prévention de propagation des maladies contagieuses et/ou vénériennes grâce au non contact physique direct entre la femelle et le géniteur;
  - le contrôle de maladies grâce aux normes strictes exigées au niveau des centres producteurs de semence, ce qui réduit considérablement le risque de transmission de maladies par voie «mâle»;
  - contrôle et diagnostic précoce des problèmes d'infertilité grâce au système de suivi individuel et permanent des vaches inséminées (fiches d'insémination).

Malgré ces avantages, la généralisation de l'IA peut présenter des **inconvénients** de plusieurs ordres:

- **d'ordre génétique**: L'utilisation et la diffusion massive d'un nombre réduit de géniteurs d'élite contribuent à l'augmentation de la consanguinité, à la disparition de nombreuses races et à la diminution de la diversité génétique.
- **d'ordre économique**: Un animal amélioré (métis issu du croisement entre une race locale et une race exotique) est beaucoup plus exigeant du point de vue de son entretien, notamment l'alimentation et le suivi sanitaire.
- **d'ordre sanitaire**: La diffusion massive des gènes d'un petit nombre de reproducteurs très performants peut entrainer la dissémination de certaines maladies et tares.

C'est dans ce cadre que la Faculté de Médecine Vétérinaire et le CISAO (Centre Interdépartemental de Recherche et Coopération Technico-Scientifique avec les Pays du Sahel et de l'Afrique de l'Ouest) de l'Université de Turin (Italie) en collaboration avec la Faculté d'Agronomie de l'Université Abdou Moumouni de Niamey (Niger) en accord avec le Ministère des Ressources Animales et avec le financement de la Région du Piémont et de la Coopération Italienne, ont initié et mis en place un projet de production et de diffusion de matériel séminal par insémination du zébu Azawak. Les activités ont démarré en 2001. Cette race est la meilleure laitière de l'Afrique de l'Ouest.

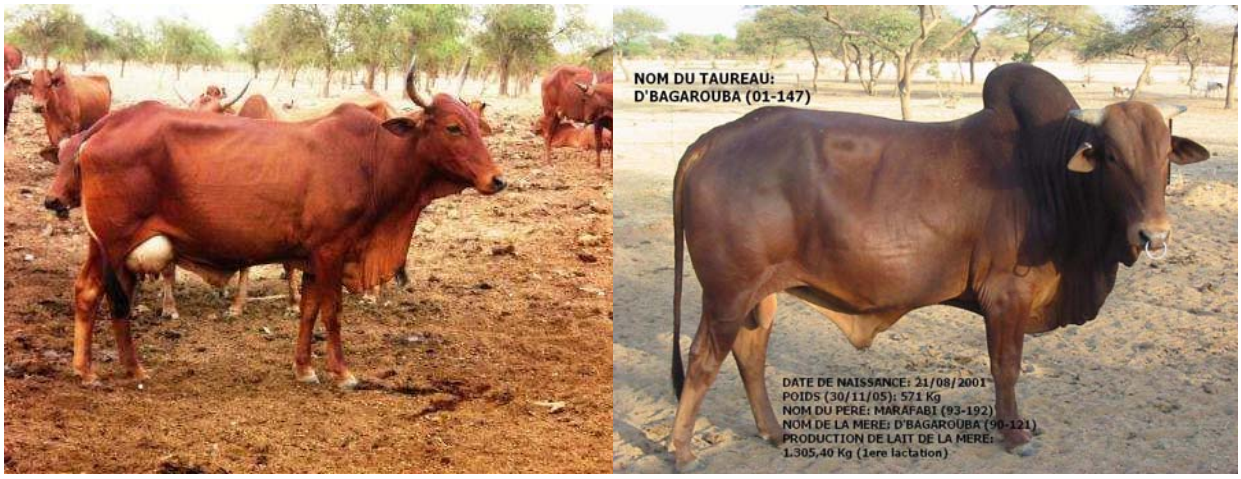
Ceci fait suite à une convention de collaboration inter universitaire signée en 1997 entre l'Université Abdou Moumouni de Niamey et l'Université de Turin.

Bien qu'elle soit la première génération des biotechnologies de la reproduction, l'insémination artificielle est une technique nouvelle pour les éleveurs nigériens. Mais depuis le démarrage des activités du projet, une quarantaine d'éleveurs privés ont bénéficié des prestations du laboratoire. Des essais d'insémination ont été conduits à la fois dans des exploitations étatiques et privées en zone périurbaine de la ville de Niamey.

LE PROJET DE DIFFUSION DE L'IA AU NIGER

Le projet de diffusion de l'IA au Niger a démarré sur les bases du programme de sélection de la race zébu Azawak mis en place à la Station Sahélienne Expérimentale de Toukounous depuis 1954. Cette sélection a abouti à une caractérisation phénotypique de la race (uniformisation de la robe des animaux, qui est de couleur fauve avec des muqueuses noires), avec une amélioration de la production de lait (qui varie entre 800-3000 kg de lait par vache et par lactation de 270 à 300 jours) (Fig.1).

Fig. 1 – Vache et taureau de race Azawak à la Station Sahélienne Expérimentale (SSE) de Toukounous (Niger).



L'objectif global du projet est de participer à l'effort national de sécurité alimentaire par l'amélioration des productions animales.

Les objectifs spécifiques sont:

- créer les bases scientifiques et techniques pour une modernisation future des méthodes de production de lait et viande chez les races bovines du Niger;
- la constitution d'une banque de semence de la race Azawak;
- la diffusion des semences des reproducteurs sélectionnés;
- la vulgarisation de la pratique de l'insémination artificielle;
- la gestion de l'information sur les inséminations artificielles;
- la diffusion des résultats du projet et la répétition de l'expérience dans d'autres contextes et sur d'autres races (ex. projet de sauvegarde de la race taurine Kouri).

Les résultats attendus sont :

- la constitution d'une banque de semence de taureaux améliorateurs de la race Azawak;
- la vulgarisation de la pratique de l'insémination artificielle;
- le perfectionnement de la maîtrise de la reproduction et de la gestion du troupeau;
- l'amélioration génétique du cheptel bovin local à travers des croisement avec des races locales ou exotiques performantes;
- l'amélioration de la production de lait et de viande;
- l'amélioration des conditions de vie des éleveurs;
- la réduction de la pression sur l'environnement occasionnée par les taureaux.

Après une première phase qui s'est déroulée au niveau de la SSE de Toukounous, pour la maîtrise de la collecte des taureaux, de la manipulation de leur semence, du cycle sexuel des vaches des races locales et de la technique de l'IA, la deuxième phase du projet consistait à la diffusion de l'IA dans des élevages en zone périurbaine de la ville de Niamey, en utilisant la génétique locale améliorée (semence Azawak) ou des races exotiques telles que la Piémontaise (viande), l'Holstein et la Brune des Alpes (lait).

La présente étude rapporte donc les résultats obtenus au niveau de ces élevages et les perceptions de l'IA chez les bénéficiaires de la technique, telles que leur niveau de connaissance sur la technique, leur niveau de satisfaction, leur préférence dans les options d'amélioration des productions animales, les contraintes liées à l'utilisation de la technique et les propositions et perspectives pour le future.

LIEU D'INTERVENTION

Les activités qui ont fait l'objet de cette étude se sont déroulées dans la zone périurbaine de la Communauté Urbaine de Niamey (CUN). Le concept périurbain recouvre non seulement la notion de limite géographique mais aussi la notion d'échanges socio économiques. Ainsi du point de vue géographique, la zone périurbaine correspond à la délimitation géographique de la CUN à laquelle il faut adjoindre l'espace périurbain avec lequel il entretient des échanges soit un rayon de 50 km [10]. Du point de vue échanges socio économiques, elle correspond d'une part aux zones d'approvisionnement de la CUN en lait et en bétail et d'autre part, aux zones de mouvement des troupeaux dans le cadre de la stratégie de gestion traditionnelle du troupeau. Elle s'étend dans ce cas sur plus de 100 km.

La CUN forme une enclave dans la partie Sud-ouest du Pays. Elle est divisée en cinq communes administrées chacune par un maire assisté de deux adjoints élus.

Son **climat** est de type sahélo-soudanien avec des températures élevées entre Avril et Juin et basses entre Décembre et Janvier. Ce climat est caractérisé par trois saisons : froide, sèche et pluvieuse. Il est aussi caractérisé par une pluviométrie variant de 400 à 600 mm.

Le **relief** est constitué d'un plateau entaillé par la vallée du fleuve Niger avec des sols hydromorphes, ferrugineux, latéritiques mais aussi des dunes de sable. Au pied de ce plateau s'étend une plaine alluviale dont le niveau plus bas la rend sujette aux inondations où l'accumulation des particules fines drainées des plateaux par les eaux de ruissellement favorise la formation d'un sol argilo-sableux, très propice aux cultures, généralement irriguées (cultures maraîchères, jardinage, riziculture…). La CUN est traversée par le fleuve Niger sur une distance de 15 km du Nord-ouest au Sud-est.

La **végétation** est formée par une bande sahélienne caractérisée par une alternance de savane arbustive claire et de brousse tigrée. S'agissant des ressources fourragères, il y a les pâturages herbacés et aériens sur des espaces assez réduits et des jachères occupant près de 3.500 ha ; les bourgoutières naturelles ou cultivées et les résidus de récolte (pailles de mil et de sorgho, fanes de niébé, paille de riz) occupent une place importante dans l'alimentation du cheptel.

La **population** est estimée à 1.302.910 habitants en 2011 [11]. Le taux d'accroissement annuel est estimé à plus de 4,54%. La population se caractérise par son extrême jeunesse, avec une proportion de plus de 67% de moins de 25 ans.

Les **ressources forestières** de la CUN sont constituées d'une flore naturelle à l'état disséminé et d'une végétation créée, appréciable, qui classe Niamey parmi les villes les plus boisées en Afrique de l'Ouest. La végétation en ville est essentiellement constituée par la «ceinture verte» qui s'étend sur 2500 hectares, de petits cordons arborés et des plantations d'arbres fruitiers le long du fleuve.

L'**agriculture** est pratiquée par près de 15% de la population de la Communauté urbaine de Niamey dont plus de 5000 personnes dans le maraîchage. Ces cultures sont conduites de façon traditionnelle et sans apport d'engrais. Quant aux cultures céréalières, on note la prédominance de la culture de riz dont les emblavures atteignent 2962 ha, suivi du niébé sur 462 ha. La culture du mil et du sorgho se font en association avec plusieurs combinaisons.

L'**élevage** est une activité complémentaire à l'agriculture pratiquée en zone intra-urbaine et périurbaine aussi bien par les femmes que par les hommes. Dans la CUN sont élevées pratiquement toutes les espèces animales dont les effectifs se présentent comme suit: 36.576 bovins, 138.763 ovins, 75.300 caprins, 42 camelins, 2470 asins et 274 équins [12]. Le système d'élevage dominant pratiqué est l'élevage bovin laitier périurbain à plusieurs variantes (système traditionnel extensif et intensif, système intensif, système des ranchs d'Etat et les coopératives) [13]. Les systèmes d'élevage laitiers périurbains traditionnels sont l'œuvre d'ethnies (peul ou touareg) qui possèdent une pratique ancestrale de l'élevage laitier. À côté de ce groupe, on note la présence d'une autre catégorie d'éleveurs laitiers, notamment les fonctionnaires, les retraités et les commerçants. Ces exploitations ont tendance à pratiquer les techniques modernes de gestion des élevages laitiers et peuvent jouer un rôle important dans la diffusion des innovations technologiques. Le mode de gestion du troupeau laitier périurbain est l'élevage extensif. Les parcours périurbains pauvres constituent l'essentiel du pâturage des animaux, une complémentation à base de son est assurée au retour du pâturage. Dans ces élevages laitiers, la traite se fait manuellement, deux fois par jour : le matin avant le départ au pâturage et le soir de retour du pâturage [3].

Les **pâturages** naturels constituent la base de l'alimentation des animaux chez les bénéficiaires de l'IA: ils donnent en plus du pâturage un complément sous forme de paille, foin et sous produits agricoles. Les 31,7% les utilisent sans aucune complémentation. Seulement 1,7% alimentent leurs animaux à l'auge. Presque la totalité des éleveurs font appel aux services vétérinaires dans diverses circonstances.

MATERIELS ET METHODES

Les femelles sélectionnées pour les inséminations appartiennent aux races suivantes: Azawak, Djelli, Goudali, Bororo, Kouri. La situation nutritionnelle et sanitaire varie d'un élevage à l'autre. Seules les femelles ayant une condition physique acceptable sont utilisées pour les inséminations.

Les chaleurs ont été induites avec cinq méthodes de contrôle de l'œstrus par l'utilisation rigoureuse des progestagènes ou les prostaglandines avec un suivi correct des animaux. Dans les exploitations privées, les IA ont été faites à l'aveugle, c'est-à-dire de façon systématique sur toutes les femelles synchronisées et à temps fixe. Le contrôle des chaleurs n'est pas réalisable dans toutes les exploitations compte tenu de la conduite du troupeau et du niveau de connaissance des bergers. Le protocole prévoit deux IA sur chaque femelle.

Quatre méthodes de diagnostic de gestation ont été utilisées par les techniciens engagés dans le projet: l'observation simple des retours de chaleur des femelles inséminées; la palpation trans-rectale après deux à trois mois de l'insémination; l'échographie après 45 jours à deux mois de l'insémination; l'analyse des taux de la progestérone à l'insémination et à J23 de l'insémination.

Pour évaluer le niveau de connaissance, l'idée et l'impression des éleveurs sur l'IA, un sondage a été conduit auprès de 50 éleveurs privés exerçant dans la zone périurbaine de Niamey.

Un questionnaire a été élaboré à cet effet autour des trois parties:

- la première partie, pour obtenir des informations brèves sur le statut des éleveurs (activité principale, niveau d'instruction, affiliation à une structure);
- la deuxième partie sur la conduite de l'élevage (mode d'alimentation, complémentation, ressources fourragères et recours aux services vétérinaires);
- la troisième partie consacrée à l'insémination artificielle avec plusieurs aspects (connaissance de l'IA, de ses avantages et inconvénients, de son coût, de la pratique ou le souhait de faire l'IA, des motivations et des options des matière d'amélioration, du niveau de satisfaction des bénéficiaires, de la synchronisation des chaleurs et du circuit d'acquisitions du matériel d'induction et des semences exotiques, les contraintes de l'application de la technique, les solutions à envisager pour améliorer les résultats en vue de promouvoir la technique).

RESULTATS

Par rapport à la pratique de l'IA, plus de 500 vaches ont été inséminées en zone périurbaine; l'effectif moyen des vaches inséminées par éleveur a été de 10,5 ± 5,15. Des réponses diverses ont été enregistrées dans les différentes fermes par rapport à la réussite aux traitements d'induction des chaleurs. Ces différences sont liées à la méthode utilisée, à l'état nutritionnel des animaux, à la saison pendant la quelle le traitement a été effectué. Par contre, la race, la parité, le délai post-partum n'ont pas influencé les résultats d'induction des chaleurs.

Le taux de fertilité global après induction de l'œstrus sur l'ensemble des femelles inséminées et diagnostiquées est de 30,10%. Une moyenne de 1,58 service par vache a été observée. Le taux de fertilité varie ainsi d'une exploitation à l'autre. Les résultats obtenus ont montré que la méthode d'induction de l'œstrus n'influence pas significativement la fertilité. Aucune différence significative n'est enregistrée entre les taux de fertilité utilisant des semences congelées du zébu Azawak et celles des races exotiques [14].

La fertilité après des inséminations en chaleurs naturelles est significativement plus élevée que celle des chaleurs induites: 43,39% contre 25,60%. Le taux de fertilité est influencé significativement par la parité de la femelle: il est meilleur avec les vaches qu'avec les génisses. La fertilité n'est pas significativement liée ni au délai post-partum ni aux saisons, même si par ailleurs les chaleurs sont moins exprimées pendant l'hivernage.

Par rapport aux résultats obtenus dans le cadre de l'amélioration génétique et des productions dans les fermes, quelques donnés ont été enregistrées telles que le poids à la naissance des veaux issus de l'IA, leur taux de croissance et les productions laitières et bouchères. A la naissance le veau zébu Azawak (issu de l'IA ou de la monte naturelle) pèse en moyenne 22kg. Les croisés, Azawak x Piémontais, naissent avec un poids variant entre 34 et 39 kg. Malgré cela, aucune mise-bas dystocique n'a été observée du fait de la facilité de naissance qui a été retenue comme critère de choix des géniteurs. La croissance des veaux n'a pas été suivie par des pesées régulières; cependant il a été observé une nette différence physique entre les veaux locaux et les croisés (Fig. 2) malgré l'alimentation qui n'est pas suffisante en quantité et en qualité.

Fig. 2 – Veau croisé Piémontais x Azawak 19 mois (à gauche) et un veau de race Azawak (à droite) qui est son frère aîné (37 mois) dans une ferme périurbaine de Niamey.

Par rapport à la précocité des animaux croisés, les femelles avec de bonnes conditions alimentaires étaient gestantes la première fois à l'âge moyenne de 12 mois. Les croisés mâles ont été castrés pour éviter les croisements anarchiques; mais pour ceux qui n'ont pas été castrés et qui sont dans de bonnes conditions on constate une activité sexuelle précoce.

Sur le plan adaptation aux conditions du milieu, les veaux n'ont eu aucun problème particulier de santé. Mais il a été rapporté des signes de stress, d'halètement et de recherche d'endroits frais pendant la canicule par les veaux croisés Holstein. Le problème majeur auquel ils sont confrontés, qui est lié au Sahel de façon générale, est le problème alimentaire. Ils souffrent de l'insuffisance des besoins alimentaires, si bien que la croissance générale est affectée. Ils n'arrivent pas donc à exprimer toute leur potentialité notamment le caractère culard qui caractérise le piémontais. Mais malgré cette situation alimentaire il y a une nette amélioration de la production de viande.

Pour apprécier l'amélioration de la production de lait par l'insémination, des contrôles laitiers ont été effectués pour comparer les productions de même lactation des vaches issues de l'IA à celles de leurs mères. Des résultats différents ont été obtenus, selon l'exploitation et les conditions d'élevage. Généralement on observe une amélioration des productions, compte tenu aussi de la saison. Pour les femelles issues des croisements, races locales x race exotique, leurs productions de lait ont été estimées et rapportées par les éleveurs: 10 à 11 litres par jour dans les bonnes conditions, même les croisé piémontais produisent 7 à 8 litres par jours.

Par rapport aux résultats des enquêtes soumises aux bénéficiaires du projet, l'étude révèle qu'une grande proportion des éleveurs ont utilisé la semence des taureaux Azawak (86,7%). les candidats montrent plus leurs préférences pour les races locales comme gènes améliorateurs, par ailleurs, 36% d'entre eux essayent les exotiques.

Les bénéficiaires de l'insémination artificielle mettent particulièrement l'accent sur les aspects économiques, techniques et culturels comme étant les possibles contraintes et insuffisances de gestion qui entravent la réussite et le développement de la technique. Cependant, d'autres obstacles ont été identifiés notamment le manque de sensibilisation, le mode d'élevage, les problèmes de communication, la méfiance des éleveurs à toute innovation.

Le mode dominant de conduite des animaux, ressorti des investigations, est l'exploitation des pâturages naturels avec la distribution d'une complémentation en paille, foin et sous produits agricoles. Ceci est conforme à l'élevage pratiqué en pays subsahariens: un système extensif (avec quelques aliments de complémentation aux vaches en lactations), la transhumance saisonnière, le sevrage tardif des veaux, la monte naturelle, les soins vétérinaires limités et l'autoconsommation des produits d'élevage [15]. L'alimentation à l'auge est timidement adoptée. L'existence de cette forme de conduite traduit l'amorce d'un développement d'un élevage de type intensif en zone périurbaine. Cette tentative d'intensification favorise d'une part le développement des infrastructures nécessaires pour une mise en œuvre efficace de l'insémination. L'alimentation à l'auge permet d'autre part une meilleure maîtrise ainsi qu'une meilleure gestion de l'exploitation (identification des animaux, alimentation, hygiène et santé animale, détection des chaleurs), gages d'un taux de réussite élevé à l'IA.

L'étude a montré que les éleveurs sont informés de l'existence d'une nouvelle biotechnologie de la reproduction pour les animaux domestiques notamment les bovins.

Les motifs de satisfaction des bénéficiaires sont: l'obtention d'un bon taux de réussite pour certains, l'amélioration du taux de reproduction des femelles et l'amélioration des productions animales. Les insatisfaits avancent les raisons ci après : le faible taux de réussite et l'échec total de l'opération.

Les contraintes technico-économiques et culturelles, le mode d'élevage, les problèmes de communication ont été identifiés comme obstacles à la bonne réussite et au développement de l'IA en zone périurbaine au Niger. Les éleveurs sont prêts à supporter les coûts de l'IA une fois que le projet n'est plus financé mais à condition d'améliorer significativement le taux de réussite à l'IA.

En perspective, pour réussir la généralisation de l'IA, les études proposent qu'il faille continuer encore la vulgarisation, la sensibilisation, la formation et solliciter l'intervention de l'Etat pour mettre en place des structures spécialisées pour l'approvisionnement en matériel de synchronisation, en semence et en prestation de service.

DISCUSSION

En milieu tropical les chaleurs des bovins sont assez souvent fugaces ou silencieuses, ce qui peut rendre difficile la pratique des inséminations. Il faut donc avoir recours aux inductions des œstrus et des inséminations à l'aveugle.

Nombreux sont les facteurs qui influencent la réussite des protocoles d'induction des chaleurs, mais en général, pour améliorer le taux de réponse, il est indispensable d'évaluer le statut physiologique des animaux à traiter pour mieux adapter le protocole.

Le taux de fertilité global obtenu en zone périurbaine de Niamey est faible par rapport à ce qui est obtenu sur d'autres races dans d'autres contextes africains [16] [17].

En Afrique les races locales sont adaptées à produire dans les conditions difficiles sur le plan sanitaire et alimentaire. Les productions qui sont d'ailleurs largement affectées à la baisse par ces conditions défavorables.

Dans le cadre de cette étude, les croisés de tous les génotypes ne se sont pas fait remarqués par une détérioration particulière de leur état de santé face aux maladies tropicales et ceci quelque soit la saison. Les croisés Holstein comme tous les autres animaux, sont un peu plus stressés par la canicule. Les éleveurs peuvent pallier à ce problème en leur procurant des abris bien ombragés car le stress thermique peut limiter leurs performances reproductives et

productives. C'est surtout sur le plan alimentaire que l'adaptation est très difficile, les croisés ne sont pas très rustiques. Sans apport complémentaire, ils ne valorisent pas les maigres ressources alimentaires du pâturage comme les races locales, si bien que leur croissance physique est affectée. Ils sont donc un peu plus exigeants en alimentation que les locaux en quantité et en qualité.

En milieu traditionnel, l'enregistrement des performances de croissance des produits de l'insémination n'a pas été effectué du fait du manque d'une bascule mobile. Le faible effectif des croisés en lactation est un facteur limitant pour l'instant pour caractériser statistiquement leurs performances.

D'après les observations sur le terrain de l'état général des croisés, il ressort une variabilité de leurs performances en fonction des conditions d'élevage. Ceux ayant bénéficié d'une croissance régulière et continue sont précoces pour la reproduction par rapport aux congénères locaux. Pour les quelques indications rapportées par les éleveurs concernant la production laitière, les quantités sont sous estimées, puisqu'une partie est laissée à l'alimentation du veau. Les quelques données rapportées sont encourageantes pour les individus croisés piémontais qui ne sont pas spécialisés en production de lait, puisque dans d'autres contextes les métis de la filière lait produisent des quantités comparables. Ainsi au Sénégal les croisées Holstein races locales produisent en moyenne 7,3l/j ; en Gambie ils produisent 4,5l/j ; en Côte d'Ivoire, les métis races locales x Jersiaise produisent 3 à 6 l/j en fonction du rang de lactation [18].

L'étude a révélé que les éleveurs en zone périurbaine sont informés de l'utilisation de l'insémination artificielle comme étant un puissant outil de reproduction. Ils sont conscients de son efficacité dans l'amélioration du potentiel génétique et de son rôle dans l'accroissement des productions animales.

Les avantages liés à cette technologie sont bien connus des éleveurs. Mais par contre tous les inconvénients ne sont pas bien appréhendés.

La majorité des bénéficiaires étaient des cadres supérieurs, et ont témoigné de leur satisfaction après avoir essayé la technique. Les attentes exprimées par les éleveurs en utilisant ou en voulant utiliser l'IA sont l'augmentation de la production du lait, l'augmentation de la production de la viande et l'accroissement du troupeau.

Le faible pouvoir économique, la non maîtrise optimale de la technique de l'IA et des techniques de gestion des animaux, la conception traditionnelle sur la conduite de l'élevage ont été identifiés comme étant des contraintes pouvant entraver la réussite et la généralisation de l'IA au Niger.

CONCLUSIONS ET PERSPECTIVES

Les résultats indicatifs obtenus en zone périurbaine sont encourageants en matière de diffusion de l'IA et de production de lait et de viande. Ils permettent d'espérer, malgré le climat et les modes d'élevages, une production améliorée au niveau des produits issus des inséminations. Les exploitants privés doivent comprendre que la production laitière de la vache et la production de viande ne reflètent pas seulement le potentiel génétique de l'animal, mais sont influencées par l'environnement qui inclut tous les facteurs externes à l'animal. Parmi ces facteurs les fondamentaux sont: la nutrition et la saison de vêlage. Les résultats de lactation et de production de viande ont de manière générale, tendance à être meilleurs lorsque l'animal bénéficie d'une alimentation suffisante en quantité et en qualité pendant les mois les plus frais de l'année par rapport aux mois les plus chauds qui sont stressants. Le mérite génétique d'un animal est évalué donc après avoir corrigé les performances de l'animal en fonction de l'environnement.

Au Niger si l'alimentation et la santé animale sont bien suivies, les éleveurs peuvent bénéficier de l'effet hétérosis des croisés pour améliorer leur production en lait et viande et améliorer leurs revenus dans le cadre d'un programme national d'amélioration génétique.

En terme de perspectives, la plus part des éleveurs enquêtés sont prêts à supporter les frais liés à l'IA. Cet engagement est conditionné par l'amélioration du taux de réussite à l'IA, la poursuite de la vulgarisation, la formation des éleveurs afin qu'ils cernent tous les contours de la technologie.

Les structures identifiées pour promouvoir et accompagner le développement de l'IA en milieu périurbain sont les pharmacies vétérinaires, les organisations des éleveurs et les services spécialisés pour l'approvisionnement en produits et matériel de synchronisation, en semences exotiques et en prestation de service.

Ces résultats constituent des préliminaires pour cerner la problématique et l'avenir de l'insémination artificielle au Niger. Pour cela, des actions devraient être envisagées, telles que la mise en place d'un programme de sensibilisation et de formation des éleveurs afin qu'ils maîtrisent tous les contours de l'IA (conditions à réunir pour bien réussir l'IA, les avantages et les inconvénients); la formation des inséminateurs de façon qualitative et quantitative; la mise en place d'une cellule opérationnelle avec des cadres chargés du suivi et de la gestion des élevages avant et après l'IA.

Pour une appropriation effective de la technique au Niger, nous pensons qu'il faille mettre en place des structures organisées pour faciliter l'acquisition du matériel d'insémination (matériel de synchronisation et semence). L'implication de l'Etat à travers le programme national d'amélioration génétique permettra sans doute la création de ces structures.

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NOMENCLATURE

CISAO	Centre Interdépartemental de Recherche et Coopération Technico-Scientifique avec les Pays du Sahel et de l'Afrique de l'Ouest de l'Université de Turin (Italie)
DSV	Département des Sciences Vétérinaires de l'Université de Turin (Italie)
IA	Insémination artificielle
CUN	Communauté Urbaine de Niamey (Niger)
Ha	Hectare
SSE	Station Sahélienne Expérimentale de Toukounous

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KEEPING DAIRY CATTLE IN THE GAZA STRIP: A CASE OF STUDY.

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ABSTRACT

Due to a protracted situation of conflict, the economy in the Gaza Strip has developed largely dependent on International humanitarian assistance. The isolation of markets, widespread unemployment, and the economic crisis have caused a serious decline in population living standards, with a high level of food insecurity. Recently the population in Gaza Strip has reached a 1.65 million in an area of only 360 km^2 (PCBS, 2013). The rapid increase of the population (3,2% yearly growth rate), land scarcity and the challenge of food security have accelerated the phenomenon of urban agriculture. Currently, the majority of agricultural production of vegetables, fruits and livestock in Gaza is recognised as being from urban or peri-urban agriculture. In Gaza Strip, despite many constraints, agriculture and related activities are still offering the opportunity of food, income and employment for the local population. By presenting a study case related to an International project promoting the dairy cattle sector, we have investigated the humanitarian intervention in the Gaza Strip exploring key actions and related effects (technical, social and economic). We have also identified and investigated ways of breeding cattle and proposed a reflection on how developing the sector, focusing on main strengths, weaknesses, opportunities and constraints. In addition, we have explored the social and economic reasons for keeping dairy cattle, and analysed the related sustainability. Finally, we would like to propose what we have learned from this experience in order to help making future choice and contribute to the process of rural development supported by International cooperation.

GENDER AND RURAL DEVELOPMENT IN COOPERATION PROGRAMS

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Gender is not a specific topic among other cooperation themes, but it must be transversal to all of them. This is the correct theoretical approach, but in the real situation, in rural areas especially, gender projects are still confused with women projects and nowadays in the rural cooperation projects we witness a lot of women oriented activities, which share little with gender. It seems to be brought back to the seventies WID ages and the consequence is the feeble sustainability of these projects during the time, especially when they come to an end. The problem is more manifest whereas these projects should implicate men and women in rural villages, often recluses and with poor communication lines and means.

The proposal of this panel was to explore this situation through the analysis of different contributions coming from ONGs, universities, local municipalities, research centres.

The presented papers showed the well known critical points that limit women's participation to improve concrete gender actions in the field, from lack of policies to land grabbing, from weak mainstreaming to unreliable gender data to highlight the real context where improve projects actions, from the gap between research studies and the daily life of rural people (especially women) to poor assets management and resources control. Last, but not less important, the multiple factors of discrimination (clan, religious, social) at the base of internal conflicts and wars, which mainly strike women.

The first speech concerned the presentation of the IAO gender project, a multidisciplinary one funded by the IDC (Italian Development Cooperation - Direzione Generale alla Cooperazione allo Sviluppo del Ministero) under the Italian Ministry for Foreign Affairs and managed by the IAO and based in Florence.

The IAO/Gender working group developed a multi-disciplinary research system which was carried out at three levels:

- analysis of the available literature to highlight the development project priorities: land and resources tenure, relationship between farm production and market, rural associations, food security, rural information availability, all of them seen from a gender point of view;
- study of a methodology to conduct field analysis, through experts involvements and focus groups;
- field surveys, to analyze gender project effects, in priority countries for the Italian Development Cooperation: Senegal, Burkina Faso and Mozambique.

Among many lessons learned through this project [1], only some notices are here reported. Concerning the research, the aim that it creates a dialogue and it is a creation of alliances for field purposes: studies on land representations, geographic surveys, socio-anthropological analysis, economic and statistic considerations, are all important if field actions follow. Afterward, the need to develop a system of monitoring, shared with all stakeholders participating in the life and governance of the land, in order to guarantee voice to both women and men and to support gender empowerment and mainstreaming. But the most important issue is to create a different development model with different lifestyles from those prevailing now, where it is impossible to include women's capacities and chances without changing power relationships [2].

The Lanzano et al. paper highlighted the problem of the implementation of the gender approach in some rural development projects in Senegal, specifically in the Louga Region (Northern Senegal), one of the eleven areas at high environmental and social risk (ZARESE, Zone à Risque Environnemental et Social Elevé) of the ITALIA-CILSS program. As observed by the Authors, many of these projects, focused on income generating activities through food processing, aimed to make home-based informal activities more structured and, therefore, more profitable. They nevertheless observed that these formalized interventions, based on a modernism approach, have paradoxical consequences: women involved in these projects have expectations of modernity and efficiency, not in line with the poor local market and the low final products demand. Another critical point is the technology, always requested also when training lacks or it is not well suited. More 'women only' projects than gender ones have been observed by the Authors, who did not found in them the relational dimension of gender, but the crystallization of women's roles in value chains.

Mariam Yassin Hagi Yussuf and Davide Rigallo presented the ONG IIDA (a non-profit organization that was founded in 1991 in Mogadishu by a group of Somalia women to promote women's political, economic and social rights). Since 1991 this ONG has been promoting food security, education, health, conflicts management, demobilization and disarmament, local Government building, as well as gender projects. Concerning the difference between 'rural' and 'urban' areas, it is interesting to notice that, because of the long term conflicts during the Civil War,

it was increasingly blurred, to the point that it no longer constitutes a cut-off criteria on the social plan for the definition of specific methods of intervention. Two are the focal points of IIDA: the fact that traditional channels of influence (men and women shared) should be explored as a priority and a gender audit of the Somali Constitution.

The 'Ne Yi Beeogo Burkina', a project of the COCOPA network of the decentralized cooperation of the Piemonte Region was then presented. Among many other things, this project promoted some actions of education and health especially among young women: empowerment women measures were realized too.

Costanza Tognini explained a work concerning the gender mainstreaming strategies implemented by International Organizations in health and education programs. A case study of the UNICEF Indonesia's Gender Policy in three provinces was presented, through the realization of a gender mainstreaming index. Because the gender mainstreaming measurement is obtained by real data, as all other indexes, the main problem encountered in this work was the data reliability (as underlined by the Author: '… the data available lacked scientific value and was collected using arbitrarily assigned sampling methods ...'). This fact is quite worrying, because the index is a number, resulting from previous numbers and if these last are not reliable, the result is not trustworthy. Nevertheless, the conclusions revealed that among some stakeholders there was a minimal understanding of the terms gender equality and gender mainstreaming, while, especially in the local government departments, other people were unaware of the existence of a gender mainstreaming strategy, although the desire to know more was frequently expressed. The result was a lack of gender awareness training and implementation of the government gender mainstreaming policy in the education and health departments.

In a different area, but in a similar way, the same lack of gender questions in a governmental department was observed by Alice Centrone, who presented a work concerning the difficulty to implement gender indicators to support rural projects in three Regions of Senegal. This study intended to suggest gender indicators to implement a development project aimed to improve the subsistence level and the quality of life of the population across a rural area of sub-Saharan Africa. Another goal of the paper was to reflect on the effectiveness of these indicators as well as on their contribution (or not) to a more equitable implementation of such development projects. On the basis of the available data, three indicators for each region were elaborated: a Nutritional Index, an adjusted Gender Inequality Index and an Index of Economically Qualified Presence of Women and Men in Agriculture. Hereafter the numerical results (which encourage to continue to realize specific regional index to picture local situations instead of using national indicators), it was noted how in Senegal accurate data disaggregated by gender in agricultural contexts or do not exist, or are not available, or are available primarily through direct qualitative surveys (which is difficult to access, especially if conducted by other institutions or international organizations). Another focal point was the necessity to implement a deep sharing of the research outputs with all the stakeholders implicated by the development projects, whether direct and indirect beneficiaries, active subjects of the preliminary field investigations as well as the internal staff of public bodies. This is very important, especially in view to 'bridge' the research with the field actions.

In this panel many suggestions to enhance the gender perspective in the rural cooperation programs were proposed: an action list was not delivered, because lack of time, but the most important point, as Bianca Pomeranzi states, is that: '… women's participation in rural development interventions is absolutely necessary in order to meet the goals of food security and environmental sustainably … development interventions at all levels (from macroeconomic policies to country programs..) must be able to offer a correct analysis of the results reached by the processes which have been implemented' [2].

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INTERNATIONAL AID AND GENDERED ROLES IN AGRICULTURAL VALUE CHAINS: SOME REFLECTIONS FROM A RURAL DEVELOPMENT PROGRAM IN NORTHERN SENEGAL

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ABSTRACT

Overcoming the gender gap in agriculture is nowadays one of the focal points of major international institutions, governments and development agencies. In this paper, we discuss some effects of international aid in rural contexts on gender dynamics and women's empowerment. Through the analysis of some small-scale projects in Northern Senegal – implemented within a wide rural development aid program in West Africa - we develop some reflections on the observed women-oriented projects: we stress the risk that women end up being "locked" into pre-defined roles, namely in small-scale food processing activities, by a standardized logic of aid projects. We develop an analysis of the practices that may lead to this outcome and of the characteristics of such "women roles" in value chains. We discuss this observation in the light of the gendered division of tasks in primary products value chains and of the literature on the integration of "gender" in development thinking. By means of this analysis, we draw some reflections on the discrepancy between explicit empowerment goals and unintended outcomes of aid.

INTRODUCTION

This paper originates from an interdisciplinary qualitative fieldwork – at the crossroad of social anthropology, human geography and economics - on an aid program in rural development in Senegal and in some of the small-scale projects that have been funded within its framework. Without being an evaluation and neither a monitoring of the development program, it tries to observe some of its practices and outcomes and to discuss them in a gender perspective.

We focus on the donor's intervention practices on what concerns the way gender is integrated into the project, with a greater attention to the smallest level of the project, that is the small-scale realizations. We identify a standardized procedure of design and implementation of those projects directed to women, that we try to situate in the wider debate on the integration of gender dynamics into development aid programs. This observation leads us to identify in food-processing the major field of women's projects; we thus analyze some characteristics of this recurrent practice (and some relevant exceptions), such as market power and control over resources of women that enter into the promoted food-processing activities, or the effect of putting a huge emphasis on formalization of home-based activities and on technological modernization. Our claim is that the risk of creating a "ghetto" for rural women has to be taken into account.

We don't aim here to give an exhaustive picture of the specific development program we observe: we "use" it as a tool to extract reflections that may provide insights for a wider range of projects, where a gender component has been integrated by means of income-generating activities specifically oriented to women.

RURAL DEVELOPMENT INTERVENTIONS IN THE LOUGA REGION, SENEGAL.

In 1999, the Italian Government decided to reconvert a substantial part of his credit revolving fund into multi-sectorial grant interventions for poverty reduction. These grants were destined to some of the poorest geographical areas in the world by using framework programs to guarantee coordination and coherence between the different types of intervention promoted by Italian Cooperation system (multilateral and bilateral aid, decentralized cooperation and NGOs).

Owing to his conditions of extreme poverty and environmental degradation, the Sahel region was selected for this kind of program through a pilot scheme – the Italia-CILSS Fund to Combat Desertification for Poverty Reduction in the Sahel - mainly focusing on four countries: Burkina Faso, Mali, Niger and Senegal.

The general objective of Italia-CILSS was to tackle the poverty and desertification spiral through improving rural people's socio-economic conditions and natural resources management, in the framework of the ongoing decentralization process, by acting at three different levels at the same time, sub-regional, national and local. At a local

level, eleven areas at high environmental and social risk – labelled "ZARESE[1]" – were selected and many micro-projects were cofounded at a village level. These small investments were promoted by local Governments and Farmers', Community and grass-root organizations, within which both women only groups and mixed ones. Italia-CILSS Fund strategy was therefore clearly based on a local development approach in order to encourage local communities' initiative and control over project design and implementation process.

It seems useful to identify two distinct phases of the program. A first one, from 2005 to 2008, in which interventions were made at the village scale, where micro-projects were designed following the priorities of Participatory Poverty Assessment and Local Development Plans. An extension phase, from 2009 to July 2011, marked by a "territorial" approach for defining a Natural Resources Management Program for each ZARESE with interventions at inter-village level. During this reframing period, the necessity of integrating a gender approach in the strategic framework raised up. It has been observed that implicit concern could not be enough to guarantee full participation of women in designing micro-projects and in enjoining their effects. Moreover, it is claimed that women livelihoods and economic activities are particularly exposed to depletion of natural resources. There has been therefore the attempt to introduce the gender dimension in the second phase of Italia-CILSS. We don't aim here to evaluate the introduction of a "gender approach" at the macro-level of the program. At the small-scale level (that is our focus in this work), we observe that both the projects proposed by women associations and the Advisory Support Team's approach didn't modify substantially their practices during the second phase of the Program.

Our study area – the ZARESE of Louga – is situated in the Louga Region in northern Senegal. It formally matches the administrative limits of the Louga Department (5.649 km^2 and 299.075 habitants[2]), but actually operates in just three of his fifteen *Communautés Rurales* (CR) – Léona, Mbédienne and Gandé – for a total area of 2.603 km^2 and for a total population of 40.829 units. These three CR are not contiguous and they overlap three distinct agro-ecological areas: the Pastoral Rangeland area covering about 90% of the Gandé CR; the *Niayes* area whose extension is about 40% of the Léona CR; and the Groundnut basin that includes the remaining 60% of Léona and the whole CR of Mbédienne.

PROJECTS FOR WOMEN: PROCESSING FISH, VEGETABLES, MILK AND GRAIN.

In the Louga ZARESE, the associations involved in promoting micro-projects have been: grassroots' organization (*Comité de Santé, Associations Parentes d'Eléves*); village level associations, including *Groupements de Promotion Feminin* (GPF-women organizations); peasants' organizations (*Groupement d'Interêt Economique* or local unions of regional or national organizations).

On what concerns the Mbédiènne CR, in the two phases 23 micro-projects (first phase) have been funded and 19 villages (second phase) have been involved. Of these, only 8 have been promoted by women's *groupements*: 5 grain processing units, a collective plot devoted to horticulture and a warehouse for grain storage. In the CR of Leona, 27 micro-projects have been financed and 23 villages involved: 11 of these projects explicitly concerned women's groups. Again we find 5 grain processing units, a warehouse, a collective plot, a unit for vegetable processing and one for fish processing activities, and a unit of compost production from fish scraps. On what concerns the Gandé CR, out of 15 projects of the first phase, only one (a grain processing unit) is promoted by a women's group, while in the second phase they are two out of 8 projects (that involved several villages): a training for the introduction of improved ovens for cooking and a processing unit for dairy products.

As we can see from this survey, the majority of micro-projects proposed by GPF promote small-scale food processing activities for women's group (namely grain, milk, fish and vegetables). Only four out of these are primary production projects (collective horticultural plot…), among which two were currently not operational at the time of our fieldwork.

On the other hand there are several primary production projects promoted by peasants' groups that include man and woman, but from our observation they show a remarkably lower participation of women with respect to men[3].
In what follows we present four cases of women food processing activities that constitute our case studies.

Dry fish in Niayam Plage

In the coastal area of the rural community of Léona, funds from the Italy-CILSS program have supported the role of women in purchasing and processing part of the fish caught in the local lively chain of *pêche artisanale* (small-scale fishing through motorized *pirogues*). The development of fisheries in the area is – according to some sources [1] – relatively recent, and it is mainly due to seasonal migration of fishermen and their households from Guet Ndar, an area in the Northern city of Saint-Louis whose population is specialized in fishing activities [2]. On a beach located 7 km

[1] The term ZARESE (Zone à Risque Environnemental er Social Elevé) was originally coined by the Italian General Directorate for Development Cooperation working groups and after more largely employed to individuate target-areas for interventions against poverty and desertification. In Italia-CILSS Fund the ZARESE matched the administrative level called *Département*, *Province* or *Circle* (according to the Country), embracing several local Governments (*Communes* or *Communautés Rurales*) with a variable amount of villages and nomadic hamlets.
[2] According to the Senegalese Statistical Department assessment in 2005.
[3] For example, within a project of phosphate fertilizers and compost ditches experimentation only one woman out of ten producers has been involved.

away from the commercial center of Potou, the *Guet-Ndarien* fishermen have established a semi-permanent settlement nowadays known as Niayam Plage. Women from the neighboring village of Niayam, whose population is predominantly Wolof and Fula and was not traditionally active in fishing, have become increasingly involved in fish processing and especially in the treatment and commercialization of *gejj* or dried fish: they have received training, or taken example, from women of Niayam Plage, who dominate the local market.

In this context, women groups in Niayam, who gather a total amount of approximately 200 women active in fish processing, have received support for funding a storage building for the tools used in their work; they have also been supported for the purchase of a *pirogue* in order to guarantee a sufficient supply of fish for their processing activities. In fact, women from the fishermen settlement of Niayam Plage take advantage of their kinship relations to obtain satisfying quantities of fish from their husbands or male relatives who own a *pirogue*, while still paying for it; conversely, women from Niayam can experience obstacles in obtaining fish of acceptable quality, especially in periods of scarcity when fishermen give priority to the most profitable fresh fish markets. The purchase of a *pirogue* was meant to help overcome some of these obstacles: while entrusting it to trained *Guet-Ndarien* fishermen, the women group would retain the property of the canoe, thus securing the majority of the product resulting from fishing expeditions.

The operation resembles another intervention by the Millennium Villages Project, which funded the purchase of three canoes in the same area; our example, though, is the only one where the control of the *pirogue* was specifically attributed to a women group – and, as a consequence, used mainly to improve the processing phase of the chain. We don't have enough data to prove whether the intervention of the Italy-CILSS fund has managed to reinforce the position of the women from Niayam. Overall, the dried fish market seems to be still dominated by *Guet-Ndarien* women sellers, and the proportion of means – one pirogue for the women group of Niayam out of a few hundreds circulating in the area– will probably achieve only limited though symbolic results.

Juices and vegetables in Potou

Potou is a growing commercial pole of the rural community of Léona, at the heart of the Niayes, where horticulture plays a crucial role in local economy[4]. A processing unit for horticultural products has been built in the compound of the local Maison Familiale[5], under the supervision of an extension worker, responsible for the organization in the area. The Italy-CILSS program has funded the construction of a small building, the purchase of tools and machines necessary for processing and conserving the products (such as pots, buckets, kitchenware, refrigerators) and the organization of training sessions on food processing and hygiene (co-organized with the ITA – *Institut de Technologie Alimentaire*). Since the unit was meant as a reference workplace for the area, representatives from 26 villages in the whole rural community were encouraged to participate to the training sessions: 9 of these villages were even located far from the Niayes, in the inner territory of the *Djeri*, where in fact the culture of cereals largely prevails over horticulture. In each village, 2 women were selected to take part to the training, and a final selection was subsequently operated to constitute the work team, composed of three 5-women small groups who would alternate in working at the processing unit.

Completed by early 2011, the unit started in March a test production, which was suspended a few months later for the rainy season. At the time of our last fieldwork, activities were expected to start again soon, but some problems that emerged during the test phase had not yet found a solution. From March to June, the unit had produced fruit juices, mainly the so-called *jus locaux* such as ginger, *bissap* (hibiscus) and *ditax*; fruit jams made with papaya or *buy* (baobab fruit); and some vegetable jams made with sweet potatoes and eggplants. Though initially inspired by the idea of valorizing the rich production of the Niayes area, of offering new forms of product conservation and of diversifying the market, apparently the unit had oriented its activities in favor of the most successful products, based for example on the processing of *bissap* and baobab fruit; as a consequence, a significant part of fresh fruits – later to be processed – was in fact purchased outside the Niayes. Even so, problems in the commercialization of final products were repeatedly reported.

Dairy products in Gandé

The rural community of Gandé, is located at the Western margins of the Ferlo, a large dry area in Northern-Central Senegal mainly inhabited by Fulani herders. While several studies have exposed the transformations undergone by livelihoods in the area as in all African pastoral societies, especially concerning sedentarization and changes in mobility patterns [5] [6], or commercialization of exchanges and preferences [7], bovine herding remains central for the articulation of social and kinship relations. The gendered division of labor, though subject to change especially under the pressure of markets[6], attributes women the essential of dairying activities and the informal trade of dairy products.

In Gandé, following the example of many micro-dairies (*microlaiteries*) promoted by development projects in West Africa since the 1990s [9], the Italy-CILSS fund has supported the creation of a processing unit for the production of *lait caillé* (also referred to as *soow* in Wolof) or curdled milk, that most Fulani women usually process at home and sell to neighbors and in the street. The project has included the construction of the unit main building (currently one of the

[4] For a detailed description of the production patterns of horticulture in the Niayes, see [3] or [4].
[5] The local unit of a National-level association network.
[6] For an early analysis on modernization of dairying and its consequences on Fulani women in Nigeria, see [8].

very few buildings in bricks that can be found in the town of Gandé), the funding of materials and machines for the processing work, and the organization of training sessions on milk processing and hygiene. A team of 16 women has been constituted for the work at the processing unit, while a few men have been selected for collecting milk quotas in the different villages and selling it during the weekly markets of the area. Nevertheless, several problems have delayed the conclusion of the project: the building process was ended by early 2011, but at the time of our last fieldwork the unit had not yet started working, mainly because of lack of power supply.

Grain processing units in Bari Diam Cissé and Thiar Ndiaye

Groundnut and millet processing activities are widely practiced by women and children in the region (and in most West African rural areas), that is the reason why several projects providing mills and oil presses have been implemented. Here we focus on two out these to exemplify different management strategies and effects, that are partly linked to the socio-economic environment and the degree of autonomy of the promoting GPF.

In Bari Diam Cissé (Mbédiènne CR), the GPF *Book Diom* is composed by 60 women that were used to process groundnut and millet manually or moving to another village 5 km far. Flour and oil are both produced for family consumption and for commercialization and micro-project had a significant impact on the amount of production that can be sold. A managing Committee keeps the accounts of the processing unit and calculates sale proceeds every month. Their amount varies depending on season: during *hiver* (dry season) from December to May, when there are considerable groundnut and millet assets, profits can reach 150.000 FCfa par month; while during *hivernage* (rainy season), when raw materials are scarce and agricultural field work is the main people's occupation, profits are around 50.000 Fcfa. Up to now, profits have been divided in three equal parts: one to the unit working capital, one to the GPF as amortization fund, and one to the miller (a man). At the moment of our fieldwork, it was the local *marabout*[7] to take care of the GPF funds. This money is not only used for unit amortization costs, but also for other village needs (such as funerals, medicines, diseases…) and for co-funding other community development projects. Women however did not show a great degree of involvement in money management: profit allocation and decisions about projects financing are kept by the village association Secretary (a man).

In Thiar Ndiaye (*Djeri* zone of Léona CR), the introduction of a grain processing unit had a lower direct impacts on the 116 women's individual revenues and displacement, since private processing machineries were already present in the village. Moreover, interviewed women have declared that only groundnut oil is devoted to commercialization on weekly markets of Potou and Léona. As in Bari Diam Cissé, sale proceeds are calculated every month and dived in three parts, but, here, millers are two women and GPF funds belong to GPF members only. Profits have also been invested in an awning and utensils for ceremonies (rush matting, stockpot, chairs…) that are rented to people outside the *groupement*, also in the surrounding villages. Women have obtained a loan from a microfinance institution to buy a more powerful engine for the processing unit, while the old one can be used in their collective horticultural plot. Grain processing unit therefore had direct effects on GPF collective savings and had consequently upgraded their access to credit and investment capacity for both individual activities (small ruminants breeding) and collective ones (utensils for ceremonies, horticultural plot).

THE STANDARDIZATION OF "GENDER APPROACHES"

In the previous section we have shown that most aid interventions targeted to women aim to develop income-generating activities based on processing of primary products. This is a regularity identified, beside out case study, in many other programs and in other contexts of West Africa. In this and following sections, we try to disentangle different components and possible consequences of this observed regularity. On the reasons why primary products processing is considered a "female" activity, we can put forward some factors: as suggested by Dolan [10], these may be more compatible with the other tasks women perform. These are care activities, that are carried by women, even if at different extent depending on the social context and the position women occupy within the household (whether unmarried, monogamous, or first or last wife in a polygamous family,...). Most of interviewed women who work in the food processing units told us that they started to carry out the processing activity at home, devoting to it a variable portion of time, depending on other occupations. The logic of the project has been to intervene in the organization of "female" home-based artisanal activities. This raises the question on how to deal with the need to adjust interventions to the context-specific gendered division of labor, and the risk of crystallizing a certain image of "female" and "male" activities. This crystallization is identified as dangerous for women empowerment in global value chains, since it is exploited by powerful actors in the chain in order to reduce costs and have more informal and "docile" workforce (see [11] on the role of women in agricultural contracts). As Dolan [10] argues, the gendered roles in value chains may be driven also by stereotypes on women qualities in work and women preferences; this is also highlighted by Dedeoğlu [12] with specific attention to informal market, that, as she claims, more than formal ones, embed such stereotypes. We will not be able to fully answer to this question, but we are going deeper into the analysis of the implications of such a choice and the methodology through which it is implemented.

[7] Religious authority.

Most of these projects tend to replicate, although in different sectors and contexts, similar patterns and intervention methods: they provide tools and working materials, such as buckets, cutleries, tables or shelves; they organize trainings, that are usually oriented to promote the creation of women's associations (*groupements*) or a greater formalization of the existing ones, and/or improve the productive process, namely on what concerns the hygienic conditions of the processing activity; sometimes they build up a permanent structure as technologically-improved processing unit (they may include refrigerators, electric mills, etc.).

This replication of the same methodology of intervention may consolidate some approaches both among "developers" and among "developed". The formers are likely to include food processing projects directed to women as "packages" within an overall strategy that pays little attention to gender relations as a broader and cross-cutting concern, thus operating in a manner still closer to the WID approach, with little integration of its criticisms. On the other hand, from the point of view of the beneficiaries, the integration of a "gender approach" usually translates into the implementation of *ad hoc* projects for women that replicate pre-defined models.

A sign of this replication of practices regardless the context is that, in any of the visited processing units, a business plan has not been prepared before the start-up of the activity, nor a market analysis has been carried out. Aims of food processing activities are to diversify production in order to reach a greater demand or to provide conservation systems for perishable products. From the observation of the described cases, nevertheless, we can see that often these interventions aren't grounded on local market characteristics, on existing trading networks, on market prices and their variations, on seasonality of products, or on the actual mobility opportunities of traders or of women employed in the activities. Of the problems we have observed in the activities that are the core of the projects, some depend on project implementation delays or inconveniences. More relevant to us are production and market related problems, such as difficulties in commercialization of final products, due to demand lower than expected, or to high production costs that implied non-competitive prices of final products. In other cases, problems were related to difficulties in finding raw primary products to be processed or to high prices of these commodities. In the fish processing case, the difficulty in buying fresh fish is related both to product seasonality and to the lack of "relational capital" of Wolof and Fulani women who are the beneficiaries of the project. In other cases, there are not enough means to expand the trading network. Juice and processed vegetables producers suffered high costs when decided to produce *bissap*, since this has higher local demand: in order to meet this demand, they have to buy raw material far away at higher costs, thus moreover reducing the positive impact of processing towards local production.

This lack of consideration for actual market condition and economic effectiveness in projects that nonetheless aim to develop market-oriented activities, goes together with the need, specific of aid agencies, that the project (the processing unit) is operational, even if the women working within the units have to buy raw material far away from local producers, thus "distorting" the economic aim of processing process, that is to sell out excess of local production and to favor local producers. The outcome risk to be surprisingly similar to the one produced within global value chains: autonomous revenues are generated for women, but they are small and volatile. The risk is that women end up being locked in "small income" occupations or poorly profitable activities, whose promotion is justified by the fact that they are "for women".

We find a similar observation in the work by Fatou Sow [13], who analyzed the promotion of income-generating activities for women in the petty trading sector and concluded that "there is a contradiction between these generous ideas and their actual practice, that does not support women's effort and continues to consider their jobs as ancillary activities"[8] [13: 53].

GHETTOIZING RURAL WOMEN THROUGH INCOME -GENERATING ACTIVITIES?

So far, we have identified this standardization of women-oriented aid projects and the risks that these contribute in "locking" women into specific tasks in local primary products value chain. The following question is whether these are disadvantaged or marginal positions. A first element to be considered is market power. In the cases that we have seen, women working in processing activities are in quite large number, both on the demand side, when buying raw products, and on the supply side, when selling final product. This implies a tight competition that makes them face short-side power from the other part of the transaction. The fact that most of women perform the same activity on a home-based artisanal basis - and that they are very likely to continue to do so even when they take part in standardized work at the modern processing units- has the consequence to increase demand of raw commodities and supply of final products. A partial response to this problem is the organization of workers in *groupements*, but what we have seen is that rarely women's group priority is collective trading.

In the case of food and vegetables processing in Potou, trading is organized on a group-basis, but the *groupement* faces low market power, since the demand for processed products is limited by the size of the local market and incurs in the high costs illustrated in the previous section.

Two other elements that have to be taken in consideration in analyzing the power of the position women have in the considered value chains are skill specialization of tasks and skill "fungibility", that is to say the scope for applying those skills outside that specific position. On what concerns the first issue, it is often noticed that women occupy low-

[8] Authors' translation from French.

skilled position in agricultural and handcraft value chains, as it is argued by the literature on gendered roles in global value chains, that are sometimes defined as the lowest levels of "global assembly lines" [12: 2]. Dolan [10] finds this segregation into low-skilled jobs in packhouses of Kenyan export-oriented horticulture, both from the point of view of tasks that are routinized, and of the position within the chain, that is into flexible or "casual" jobs: "their opportunities of skill development are circumscribed by their concentration in flexible work, in which companies are less likely to invest" [10: 117]. Even if both the contractual framework and the market characteristics of the cases we observe are very different from the one presented by Dolan, we can identify some common features. On one hand, the flexibility and seasonality of the task performed, and, on the other hand, the fact that it demands skills that are quite widespread among local women (or at least within an ethnic or regional group, such as Guet-Ndariens women in the case of fish processing and Fulani women in the case of dairy products). These projects aim to reduce the flexibility of women manpower, but they manage just partially to reach this aim, as a consequence of the limited scope of the economic performance of the activities.

On what concerns skill use outside the sector, our observation suggests that such small scale processing activities do not provide women with "fungible" knowledge to be potentially employed in alternative ways on the labor market. This is probably more a limitation of the rural Senegalese labor market, rather than a limitation of the implemented projects: as claimed by Oussouby Touré and Sidy Mohamed Seck [4], weaknesses of the rural non-agricultural labor market is a major bottleneck in employment creation, also on what concerns processing activities.

If compared with the projects directed to men associations, these small-scale transformation activities allow for less access to key productive resources (namely land, physical capital and credit). This aspect is noteworthy, since access to these resources is widely considered a crucial aspect of women's empowerment both by scholars involved in gender-related approaches to development and by activists.

As stated by Cathy Rozel Farnworth [14] in her report to a recent international organizations' meeting, a gender analysis of a value chain shall imply, among other elements, an analysis of differentials in access and control over key productive assets between women and men. We don't have sufficient data to proceed to such an analysis systematically, but, from out case studies, we get some hints that suggest that projects directed to women don't provide new access to productive inputs.

A partial exception is represented by the project on fish processing: as we have illustrated in section 3, the purchase of a pirogue for the women's *groupement* represents an innovation in projects' procedure, since it allows for physical capital ownership, thus favoring women's access to factors of production and to raw products. The main difficulty faced by Wolof and Fulani women is, as many of our respondents said, the purchase of fresh fish, since they face a disadvantage with respect to Guet-Ndarien women: the latter buy fresh fish from men within their household and, at time of shortages, the former may face major difficulties in purchasing the raw product to be processed. The ownership of a pirogue by the *groupement* seems to be a key factor to get a stable level of fresh fish. This is an important example of access to raw products, that, as we have seen, in other cases turned out to be a major problem for the women-led transformation units.

The claim that "female" roles in value chains, whose pattern is followed by the analyzed project, are weak from the point of view of market power, of skill development and access to resources does not mean that these are not important elements for the sustainability of the whole value chain. This has been indeed the role of women-led fish processing in sustaining the Senegalese artisanal fishing sector: following Jean-Pierre Chauveau [1], since the 1950s small-scale fishing in Senegal was organized such that it relied on few selling channels, among which the processing activity made by fishermen's wives.

"MODERNIZATION" OF INFORMAL ACTIVITIES: A TOOL FOR EMPOWERMENT?

The analyzed projects aim at making home-based informal activities more structured and, at least in principle, more profitable. This development practice goes interestingly together with a strategy often adopted by Senegalese household of "commercialisation du travail domestique" [15: 207], that is the marketing of home-based activities that were previously non traded: the authors identify this strategy as being adopted as a consequence of the decline of household incomes since the 1990s. Although the projects intervene on already existing activities, they produce important changes in the organization of labor, namely in those cases where permanent structures are built, such as in the vegetable processing and in the dairy cases.

A first visible change is the formalization of the existing activity. Projects are directed to women's *groupments*, thus trigger the creation of structured groups or the formalization of the existing ones. This happens also in that majority of cases where production keeps being individual. The organization of work seems partly to transform an informal activity into wage work, since teams are created who follow work shifts (at least during the processing season). Work teams are composed by women who passed a selection or have been chosen in the village assemblies, "because they are more motivated", we are told. In other cases, projects require an *équipe* of women to work on a voluntary basis to guarantee the sustainability of the managing committee of the processing unit, to decide of the allocation of profits, etc.

From our observation we argue that this increase in formalization does not lead, nevertheless, to stabilize employment: production keeps being seasonal and is not smoothed in time, hours worked are limited, the economic performance and the profit margin are small, such that the processing option does not become actually a non-farm labor

market opportunity for women. Lower access to formal labor market income for women in rural areas -and access to more precarious and lower paid jobs- are well documented [16] [17] [18] [19]: Whitehead and Kabeer [16] argue for a "lower reservation wage" for women than for men, that is the lower wage they are ready to accept, because of the lower income potential of their own production or the urgent need they may face. Whether this is due to women's preferences for flexible-but-underpaid work in order to meet also the reproductive tasks, or it is due to the constraints given by the commodification of their labor is a debated issue (see Razavi [18: 216] who argues that women's labor market engagement has a "distress character"). What we claim here is that these international aid interventions aimed at building up income-generating activities for women don't manage to trigger the development of a labor market that is substantially more remunerative for women than the existing one.

It doesn't seem that the "formalized" production fully replace the home-based one: this may be due to the limited extent of these interventions in terms of employment and of income generated. On the market usually we find both the products from the processing unit and the home-made products: the extent of their substitutability may vary, as underlined for the case of *lait caillé* in Corniaux at al. [9].

These formalization-oriented interventions sometimes produces, together with the organizational and "modernization" effort of processing activities, some paradoxical situations: it happens that, although facing thin markets or low demand for the produced commodities, expectations are created that recall myths of "modernity" and "efficiency", not in line with the actual realizations. These are created by the inherent logic of the project and, most of all, by the training women attend within the project itself (and within other policy-interventions that follow the same practices). It is often the case that the building itself of a permanent structure is source of prestige, regardless the function that it serves. This is namely true in village contexts, where these may be quite visible since they are surrounded by constructions built using precarious and perishable materials: in these cases they are likely to become – in the imaginary – referential places, where "modern" processing can be learnt and performed. Indeed, the need for new technological endowments is often mentioned in interviews as being one of the major needs of workers, irrespective to the effective use that is done of the existing machineries.

Trainings, moreover, seem to be arenas of top-down transmission of practices and values formulated in a "developmentalist" and "hygienist" approach. They are often organized by the ITA (National Institute for Food Technology), following recurrent models that transmit a standardized approach to production processes and to organizational structures of collective action. Moreover, they seem to convey a "promise of modernity" that is difficult to keep in terms of material effects, but that it's rich in consequences on the discourses and practices concerning women's work.

CONCLUSION

In this work we have tried to draw some reflections from the observation of a number of realizations of the Italy-CILSS program in Northern Senegal. We are not carrying on an overall evaluation of the program, but we discussed some of the practices and outcomes at the micro-project scale from a gender perspective, considering it as an example of a widespread set of tools to introduce gender into development programs. Our first remark is the standardization of projects directed to women: even if the approach is bottom-up and the projects are proposed by local level committees, the typology and tools of women-oriented micro-projects are almost always the same. Is we look at the international debate on gender and development, it seems that this aid program situates itself within the WID approach, without integrating much its critiques. Cornwall at al. [20] criticize the idea of reducing gender to a "set of tools", that de-politicize it; in our claim, this doesn't necessarily happen only when top-down approaches are adopted, but may occur in bottom-up settings too, as far as standardization of aid practices shapes (e.g. though trainings) the approach both in the "developers" and in the "developed". Moreover, we find out a framework of "women-only" projects, where the relational dimension of gender is rarely taken into account. This is, still today, a debated issue on gender integration into aid interventions: moving "beyond a focus on women as a bounded group" is the need expressed by Christine Okali [21: 9].

A second observation is that these aid projects tend to crystallize women's role in value chains. With the words of Cheryl Doss [22: 81]: "in an effort to be responsive to the needs of women, these organizations have tried to prioritize 'women's crops' and 'women's tasks'. Both of these approaches compartmentalize women's contributions in agriculture and thus limit the understanding of women's work and women's needs". If we think that women have been "locked" into pre-defined roles by the standardization of food-processing projects, can we say also that these are marginalized roles? We have tried to discuss some possible weaknesses of the position of women within the value chain, even though we have limited tools and cannot carry out a rigorous value chain analysis. We can nevertheless argue that revenues produced by these activities are limited and volatile: as it seems the case in most analyzed situations of global value chains, the integration of women in these (even though so different) production processes doesn't seem to provide tools to stabilize and substantially increase incomes.

Even though the observed projects aim to reduce the flexibility of women manpower, they manage just partially to reach this aim, since the scope of the economic performance of the activities seems to be (up to now) limited; they partly allow for the shift of unpaid activity to the sphere of paid jobs, but produced revenues are small and unstable and they seem to provide women with low market power. Besides the exception of the fishing sector, our claim is moreover

that such food-processing interventions don't provide women with greater access to productive resources. Moreover, even when a greater access to resources is gained, there is a risk that low profit margin makes the access to inputs unstable [23]; it may be that control over assets depends on how productive is the use that it is done of it, but in our observation, when women are targeted, little emphasis is put on economic performance.

A last point has to be made on the strong emphasis put by the project logic on production formalization. Looking at the literature, we don't have unambiguous evidence that tells us whether this is a tool for women's empowerment. Literature on global value chains stresses the negative consequences of "keeping women informal", on the one hand; on the other hand, literature on agrarian economies under liberalization stresses the negative effect on women of increased access to formal markets. It is difficult to us to have a conclusive evidence in our case, but we have highlighted some limitations of this "formalizing" approach (impossibility to fully replace home-based activity, limitations in providing new access to productive resources and limited market power).

If we compare local aid-driven value chains (the ones that we have observed) to global value chains driven by big retailers, we have the feeling that women labor is "squeezed" between under-formalization of women's work (in global value chains), that hides exploitation on the global labor market, and a form of "over-formalization" (our case), where little attention is paid to economic performance, to local demand, and therefore to workers' revenues.

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THE EXPERIENCE OF IIDA: TWENTY-TWO YEARS OF FRONTLINE ENGAGEMENT OF EMPOWERMENT OF THE PEOPLE AND ESPECIALLY WOMEN IN SOMALIA

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ABSTRACT

This paper aims to present the role played by Somali rights activists in the projects carried out by IIDA Women's Development from 1991 until today a particular attention was given to the impact of their actions on the process of social reconstruction and the management of cooperation projects in Somalia . These are initiatives that are part of a wider range of action that includes different policy areas (food security, education, health, the fight against FGM, conflict management, demobilization and disarmament, local Government building, etc..), in which IIDA, in its twenty-two years of activity, has been operating with the support of several UN agencies and international organizations.
For an adequate understanding of the planning put in place, in this paper we attempted to give a brief description of the Somali social context and its historical transformations, which highlights the multiple factors of discrimination (clan, religious, social) at the base of the internal conflict broke out in 1991, and lasted for more than twenty years. In this context, the distinction between "urban" and "rural contexts" was increasingly blurred, to the point that it no longer constitutes a cut-off criteria on the social plan for the definition of specific methods of intervention.
The introduction is followed by a selection of the projects implemented by IIDA Women's Development under the Gender Equality and Women Empowerment: these are some of the most significant actions that led IIDA women to acquire a high degree of social role recognition. This was achieved by multiplying the individual contexts of local communities the practices of conflict management and effective application of rights. The last two paragraphs present the most recent results and prospects of development in the struggle for the recognition of women's rights, in the light of the constitutional making process of Somalia and the growing importance of the civil society in the peace process.
In its twenty-two years of activity, IIDA's work has been possible to achieve thanks to the strong support of many international organizations that have allowed them to carry out humanitarian interventions and cooperation and, above all, to have a profound impact in the peace processes in Somalia.
The Coordination of municipalities for Peace of the province of Turin (Co.Co.Pa.) aims to support the work of IIDA in spreading the mission and results achieved so far by IIDA by making available their know how and support of projects in institution building, essential for the reorganization of the fabric of the Somali state.

ABOUT IIDA WOMEN'S DEVELOPMENT ORGANISATION

IIDA is a non-profit organization that was founded in 1991 in Mogadishu by a group of Somalia women leaders to promote women's political, economic and social rights [1]. IIDA believes that people are the drivers of change and the custodians of their own destinies and therefore works to mobilize the community and encourage the beneficiaries of their development programs to take ownership of the projects. It is these beliefs that inspire IIDA to formulate women led programs that are geared towards making a lasting impression on the lives of Somali women both at home and in the diaspora. Today IIDA is, operationally, the largest grassroots movement in Somalia, and is represented in different regions of the country such as Lower and Middle Shabelle, Banadir, Galgaduud, Bay, Bakool and the Jubbas; and continues to work towards fostering sustainable development. IIDA has earned the respect of the Somali community and is able to resourcefully and successfully penetrate the grassroots, even in times when international organizations are unable to do so due to security concerns.

IIDA's mission is to promote peace and work towards non-violent means of conflict resolution, to foster and ensure the integration of Somali women in sectors of their society, to promote education for women and the youth in order to increase their awareness on critical issues that affects their lives and to increase their potential as individuals and groups and to enhance women's economic self-sustenance and improve on women's health [2].

IIDA is committed to:

- mobilizing the community in an effort to advance the goals of human rights; equality; development, peace and reconciliation for all women in Somalia;
- supporting poor and most vulnerable people and communities, especially women and children;
- working in partnership with men towards the common goal of gender equality in Somalia;
- respecting and valuing the full diversity of women's situations and conditions and recognizing that some women face barriers to their empowerment;
- protecting the rights of women and girl child as inalienable, integral and indivisible of human rights.

IIDA partnered with various organisations and donors to achieve networking and women's rights goals. The partners included: United Nations Children Fund (UNICEF), BBC Media Action, International Organization on Migration (IOM); Cooperazione per lo Sviluppo dei Paesi Emergent (COSPE), EU, The French Government, United Nations Development Programme (UNDP), Save the Children, The Norwegian Government, The Danish Government, UNPOS, ILO amongst others. Over the years, IIDA has set up networks that have lobbied for children and women's civil, political, social, economic and cultural rights in Somalia. These include Lower Shabelle Women's Association, Somali farmers Association, SHAYDO, Somali women health Association, Puntland Women s Health Association, Somaliland Women's Health Association, Somali Women Teachers Association, Puntland Women Teachers Association, Free Education for All (FEFA), Somali Women Entrepreneurs Association (SWEA), Shabelle Obstetricians Association, Lower Shabelle Youth Association, Galgaduud Youth Association and the Association of Poets and Writers (HORYAAL Band). Over time IIDA realised it needed a bigger organisation to front for women's rights and thus created Somali Women's Agenda (SWA). SWA worked very well and had many achievements in areas of women's rights. IIDA originated the idea of a 30% legislative or constitutional quota for women's representation in Governance.

BEHIND IIDA'S SUCCESS

IIDA strategy is to involve the community from the beginning of their projects. This encourages both trust in the process and community buy-in and support for whatever actions are taken by IIDA. It is IIDA's believe that the Community participation and involvement also promotes leadership from within the community, giving voice to the voiceless.

In the last 22 years, IIDA has always envisioned the execution every few years of a number of assessments, mapping and research. This was done with the purpose of understanding the changes and to identify the resources that are already available to help meet the needs of the people. Further, the needs assessment:

- helps IIDA gain a deeper understanding of the target community in Somalia. Each community group has its own needs, culture and social structure - a unique web of relationships, history, strengths that defines it;
- helps uncover not only needs, but resources and the underlying culture and social structure that will assist IIDA understand how to address the community's needs and utilize its resources;
- encourages community members to consider the community's assets and how to use them, as well as the community's needs and how to address them. That consideration is (and should) be the first step in their learning how to use their own resources to solve problems and improve community life.

THE SOMALI CONTEXT: TRADITIONAL STRUCTURE AND DISCRIMINATING FACTORS

To understand the importance of the results achieved by the women of IIDA, it is important to describe briefly the social context of Somalia with its multiple discrimination factors. The entire social organization of the Somali population is based on traditional criteria of identity, according to which the sense of belonging to groups of people is distinguished by strong clan affiliation (*clan* or *Qabil*).

The clan subdivision forms the backbone of anthropological and historical rule that regulate all human relationships within communities hierarchies of "purity", "nobility" and "antiquity of descent" [3]. In addition to the four major clans (Dir, Darood, Hawiye and Dighil-Mirifle), usually connoted by the term *Nasab* (nobles), the Somali population includes a myriad of minority groups, the origins of which are often difficult to identify, but whose condition is of absolute subordination compared to the former.

These are minority groups whose presence is probably due to the migration of units from the south (Bantu) and the Arabian Peninsula, settled over the centuries in the territory of today's Somalia. The term used to indicate them is *nasab dhiman*, i.e. "non-noble", and expresses their economic and social condition of inferiority compared to *nasab*, as well as their being subject to persistent discrimination [4].

The traditional organization of the Somali population has had to constantly contend/compete its self with two elements of instability: the nomadic lifestyle of the individual groups and the internal fragmentation of clans. If the first element binds tightly to the predominantly "pastoral" structure the Somali economy, which forces the groups to move from region to region to provide water to the flocks, the second factor is explained in family dynamics and relationships that, over the course of history, have seen clan units multiply into pyramids of sub-clans and smaller groups (*reer*),

which often took power, changing and complicating every time the general equilibrium [5].

The clan fragmentation has always been a factor of potential conflict, contrasting with the attempts to construct a national somali identity since the independence of the 1961. It is a tangible example of the tragic parable of the regime of Mohamed Siad Barre (1969 - 1991), in which the instances of nationalist unity paraded in the name of the ideology (scientific socialism) that aimed to "anticlanic", "anti-colonial" and "anti-religious" have ended up spilling into the opposite, constituting the premises of the civil war that erupted in 1991.

During the civil war, another element of instability added to the overall picture: that of religion. If it is true that, historically, the Somali society, entirely Sunni Muslim, has always been characterized by a substantial balance between the religious dimension and civil life, in the last twenty years have gone affirming groups that appeal to schools more openly radical Islamism (*Wahhabism*), with extremist and terrorist continuation (e.g. the militia of *Al-Shabaab*). After the 2000 (but started in the nineties), particularly in Somalia, there has been a genuine attempt of "re-elaboration of identity" based on religion, the aim of which (partly realized) was the cultural hegemony, educational and political of radical Islamism over the traditional social structure.

The multiplication of Koranic schools, the adoption of *shar'ia* laws in areas of civil life previously outside its jurisdiction, the imposition of customs alien to the Somali tradition (e.g. the use of the *hijab* for women), the concept of subordination of women in economic and civil life, the character forced with which it was implemented everything: they are elements that express the increase of criticality of the framework and, above all, of the factors discriminatory inside.

URBAN AND RURAL AREAS DURING THE CIVIL WAR

From the territorial point of view, the "rural areas" of Somalia see a higher incidence of certain phenomena compared to the urban areas. Among them, we highlight the dramatic drought conditions in many inland areas, heightened by food insecurity and the consequences of deforestation.

From an anthropological and sociological perspective, however, in Somalia is difficult to make a clear distinction between "urban" and "rural areas" contexts. Although it is undeniable that the existence of urban centers that during the twentieth century (especially after the Somali independence), have seen the development of a manufacturing economy and organization of type already metropolitan (approximately 36% of the area of the country), the nomadic nature of the population and the essential role of pastoralism have always being characterized in areas predominantly "rural".

In fact, the development of some cities (Mogadishu, Brava, Merka and Kismayo in the south, north Hargeysa and Berbera in Somaliland; Bossaso in Puntland) has had the effect of shaping over the years in many ways otherwise different populations, with medium-high level of education, skills and relations with foreign countries. However, the outbreak of the civil war and the interruption of the process of development have caused a real dispersion of these populations, often victims of the fighting and forced to "evacuate" to the inner regions.

At the same time, the transformation of cities during the war have seen the traumatic irruption of masses of people from the hinterland and armed groups involved in the looting of neighbourhoods and the guerrillas. This dual aspect of the phenomenon has further weakened the distinction between urban and rural areas, to the point that the characters of many groups currently residing in cities are relatable to those of populations traditionally "rural": illiteracy, lack of skills, tendency to life nomadic.

From a methodological point of view, this condition makes it difficult to talk about different approaches to rural and urban areas for cooperation interventions/projects. The social contexts in which it operates (city, IDPs camps, inner regions) are often a mixture of these realities, with combinations also dramatically conflicting.

Therefore, the "rural development" in its broadest sense, represents the objective to engage and relate easily even to groups of people emerged from the city, forced to displacements and also repeated ones that settled in locations distant from their origins. The collapse of the state structure that followed by the civil war, with the disappearance of schools, hospitals and public services, has further accentuated the rate of illiteracy and human dispersion, decreasing the results of earlier processes of urbanization.

WISE WOMEN CONCEPT

The formation itinerary undertaken by IIDA Women's Development is based on awareness of the central role that women have always had within the Somali community. In village life, such as the organization of the clan system, the Somali woman has in fact traditionally played an active function/role around which they built their economies of the various groups, as well as their internal relationships. During the civil war, women were the only people to keep up some form of "civil economy" alternative to the "military", supporting production and trade otherwise lost with the dissolution of the Somali state.

In there exploration of an alternative quest for peace and human security in SC Somalia IIDA came up with the concept of the Wise Women. IIDA believe that traditional channels of influence should be explored as a priority. For this reason, IIDA when needs arise is since years mobilizing and has been engaging the wise women of Somalia (i.e. daughters, sisters and wives of the Ugas, Bogor, Garadhs, Suldans; the respected women in Somalia who we believe

maintain a very high level of influence among the Somali society and who can transcend the clan barriers as peace brokers. The women today can bring change in Somalia if given the opportunity and if to explore together some of the domestic solutions that women have.

With this in mind, they realised that at a time when women are the remaining custodians of peace it has been necessary to understand the International Resolutions, which purport to provide for women representation and participation at all levels of society especially in the context of conflict resolution now in Somali's history. For this reason that IIDA together with SWA have in the last decade translated and Disseminated CEDAW [6] and all the UNSCR on women from 1325 through to 1960.

GENDER EMPOWERMENT PROJECTS CARRIED OUT BY IIDA

The gender empowerment initiatives fall into IIDA projects spanning into multiple sectors (health, food security, the fight against FGM, demobilization and disarmament, local Government building, etc.) and above all, in a broader process of building a strong and responsible civil society in Somalia, able to make lasting and sustainable peace. Here, we report a selection of the most significant planning stages of this journey.

Women Trade and Small Enterprises Network and Capacity Building along the Shabelle Valley. Donor: UE. Partner: COSPE. Period: August 1999 - January 2000. The goal of the project was to promote women's access to democratic participation. The result was the establishment of organizations of women entrepreneurs with projects that have involved about 1,500 women over the years.

Shabelle Women Enterprises Support System (*SWESS*). Donors: EC-SU e Cooperazione italiana. Partner: COSPE. Period: March 2003 - November 2005. The program supported 5 groups of entrepreneurs from 4 regions for the creation of an association of the second level (SWEA). It included a prior training at all levels: management/accountability, data collection, understanding the differences between facts and perceptions. The next step was to guide the association to translate the results obtained in the context of daily life, aiming to respond to the immediate needs of women entrepreneurs. With this aim, the project has fostered collaboration between entrepreneurs, providing support services to enterprise development, such as education, technical training, empowerment services, support for women's access to the market and financial opportunities [7].

Strengthening Somali Civil Society - Capacity building. Donors: UE. Partner: COSPE e NOVIB. Period: 2005 - 2008. Series of focus workshops for representatives of the Somali civil society, associations and traditional leaders on access to basic rights. The action of IIDA was geared to focus on gender (7000 entrepreneurs, 1000 business people, health care professionals and 2,000 teachers in 2000).

Somali Women Platform for Action (SWOPA). Donors: UNIFEM e DFID. Partner: COSPE. Period: April 2007 - 2009. The program has promoted the participation of women in local and national democratization. The target of the beneficiaries included Somali women of every social level, women leaders, policy makers, parliamentarians, professionals, women's organizations, union groups and opinion leaders of the community. The aim of IIDA was to ensure that women and women's groups were able to commit to the goals of the MDGs and access to fundamental rights, through:

- protection initiatives aimed at supporting the participation and representation of women in government structures;
- strengthening and increasing the participation of women in national and local processes of democratization;
- the promotion of dialogue between stakeholders and government officials in the establishment of a platform for women's actions in Somalia.

PACE SETTERS - Somali Women taking up their Destiny! Donor: UE. Partner: COSPE. Period: November 2006 - 2009. The project has conferred capacity for action of women's organizations in Mogadishu (Benadir), Merka and Afgooye (Low Shebelli), Jowhar (Middle Shebelli), Beletweyn (Hiraan), Dhusamareb (Galgaduud), Gaalkacyo (Mudug), Bosaso (Puntland), Hargeysa (Somaliland), Kismayo (Lower Juba), Garbaharey (Gedo), Baydhaba (Bay), by strengthening their active involvement in the local and national political processes. Through a kind of intergenerational dialogue based on the reality of the community, the project has promoted women rights through education and understanding of issues related to peace and security from the perspective of human rights.

The promotion of gender equality and women's economic empowerment in Somalia. Donor: ILO. Period: September 2012 - ongoing. The project will improve the (self) employability of women through training on entrepreneurship and enterprise skills. The project will also facilitate an enabling environment through the development of private business support services.

Gender Equality and Women Empowerment Programme. Donor: UNDP. Period: May 2013 – ongoing. Women MPs and CSOs need each other to win over men and women to support women's human rights. Women have to start redefining their roles and allegiances. The proposed project will work to create a link between the elected women in parliament and their constituents. The project will serve as a catalyst, a hub and an incubator for possible future interventions in relation to working with the legislature in lawmaking, conducting oversight over the executive, representing Somali citizens and their interests and facilitating and promoting public knowledge and participation of

citizens in parliamentary processes.

Fig. 1 - Women of SWEA at the first interregional congress – December 2003.

DISARMAMENT, DEMOBILISATION AND REINTEGRATION.

Despite the customary limitations, Somali women struggled to contribute to the peacebuilding process in war-torn Somalia. IIDA was the first organization who played an important role in the demobilization and disarmament of the local warring militias. IIDA (Women's Development Organization) in the 1997 in collaboration with COSV, an Italian NGO, and with EU funding, curried out the first DDR (Disarmament, Demobilisation and Reintegration) Project offering education, housing, and income opportunities for about 150 disarmed militias in return for submitting their weapons in the city of in Merka (Southern Somalia) [8].

Fig. 2 - Monument DDR project of IIDA were 156 young army were disarmed.

GENDER AUDIT OF THE SOMALI CONSTITUTION

In Somalia women constituter over 52% of the population based on the projections between 8 and 10 million people and the Constitution cannot ignore the concerns of over half of its population, if sustainable peace were to be achieved. It is acknowledged that peace in Somalia is attainable and it is linked with the advancement of women, who are a fundamental force for leadership, conflict resolution and the promotion of sustainable and a lasting peace in the country. This gender audit of the draft constitution will ensure that women's concerns are well articulated and presented to the Commission for incorporation in the final draft. The audit will inform women to take position on their concerns, and to be at the forefront in championing their representation and involvement at all level of decision making. The gender audit will also be used for civic education, in public and political consultation to create a critical mass – a strong and unified women's voice in articulating the concerns of women, generally and in the Constitution. In gender audit provides opportunity to incorporate the human rights commitments made by the world governments in advancing the

participation of women in decision-making positions at all levels of governance, especially as outlined in Resolution 1325; CEDAW; and the AU, Rights of Women in Africa and Solemn Declaration on Gender Equality. It is recognized that progress of Somali women has been uneven, and inequalities between women and men have persisted and major obstacles remain, with serious consequences for the well being of the state. The constitutional-making is an opportunity to create visibility for Somali women concerns to be heard within the country. In summary, the gender audit will be used to ensure women's concerns are well articulated in the Constitution; mobilize women at all levels to address women's rights issues through civic education; and create a critical mass, a strong and unified women's voices and visibility of women's concerns in the whole country.

This audit also included a component of Women's Right in Islam, component, added to counter the misinterpretations of Islam, especially those concerning women's rights. To give women the chance to know their rights in Islam also giving tools to use if the latter are misinterpreted. Women's rights have been prescribed in the Sharia Law; it was critical rights that the audit report bases its analysis on the rights of both men and women as provided in Quran and Sunnah. It was also critical that Islamic teachings are endorsed and used as a means to secure women's rights in the Constitution while highlighting how the Quran supports gender equality.

IIDA POLICY BRIEF. *SOMALIA: LA LOTTA CONTINUA!* A WOMEN'S RIGHTS PERSPECTIVE ASSESSMENT OF THE SOMALI FEDERAL CONSTITUTION

On the 30th of October 2012 IIDA have launched of a Policy Brief On Women's Rights Within the Somali Provisional Constitution. The launch was attended by a large number of people and officiated by amongst others the former Minister for Constitution and Reconciliation, Hon. Abdirahman Hosh Jibril. The purpose of this policy brief was to ensure that the past two decades of work in development of a framework for women's rights is not lost. Since, the rights of women are now written in law, the next battleground for women's rights will be at interpretation and implementation of the constitution. Therefore the fight for women's rights has to continue and IIDA policy brief starts that discussion and provides some ways forward.

The Policy Brief is part of IIDA's celebration and contribution to its 22 years of frontline engagement in women empowerment in Somalia. The road to get to where we are today after 22 years and was characterized by its sad moments and difficult moments and other glorious and full of satisfaction. In all this, our organization has always believed that we need to pursue their dreams at all costs to arrive at a just society. The leadership of IIDA always look ahead and anticipate the times being the pioneers of new ideas and this because we are the setters of peace.

CONCLUSIONS

For over 20 years Somali women have fought for their rights. Currently they have much of their rights provided for within the provisional constitution. The interpretation and implementation will define the future of women's rights in Somalia. This document has come at a time when forward thinking is required in order that rights of women are realised. This policy brief outlines the challenges that women face in order to actualize their constitutional rights. The hurdles include the capacity of the state to deliver services, the capacity of women to demand services due to the lack of a functional state for the last 20 years, the lack of a culture of constitutionalism, the limited capacity of the constitutional court to make progressive interpretation of the constitution, problems of corruption within the government and the busy legislative calendar that will priorities issues of peace and stability as the expense of dealing with women's rights.

IIDA will continue to build alliances with other like-minded national institutions. Concerted effort must, however, be made by all state and non-state actors responsible for the future of Somali to achieve these provisions. IIDA will take this unveiling opportunity and work towards achieving that goal of human rights in Somalia.

Having this prospective in mind, the Coordination of municipalities for Peace of the province of Turin (Co.Co.Pa.) aims to support the work of IIDA in spreading the mission and results achieved so far by IIDA by making available their know how and support of projects in institution building, essential for the reorganization of the fabric of the Somali state.

Fig. 3 – Paris, December 10, 2008: Halima Abdi Arush receives the Prix des Droits de l'homme de la République française «Liberté - Égalité – Fraternité».

NOMENCLATURE

AU	African Union
CEDAW	Convention to Eliminate All Forms of Discrimination Against Women
COSPE	Cooperazione per lo Sviluppo dei Paesi Emergenti
COSV	Coordinamento delle Organizzazioni per il Servizio Volontario
CSO	Civil Society Organization
DDR	Disarmament, Demobilisation and Reintegration
DFID	Department for International Development
EU	European Union
FEFA	Free Education for All
IDP	Internally Displaced Person
ILO	International Labour Organisation
IOM	International Organization for Migration
MDGs	United Nations Millennium Development Goals
OCHA	Office for the Coordination of Humanitarian Affairs
SWA	Somali Women Agenda
SWEA	Somali Women Entrepreneurs Association
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIFEM	Fonds de développement des Nations Unies pour la femme
UNPOS	United Nations Political Office for Somalia
UNSCR	United Nations Security Council resolution

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GENDER MAINSTREAMING IN INTERNATIONAL DEVELOPMENT: AN EVALUATION OF STRATEGIES IN HEALTH AND EDUCATION

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ABSTRACT

Investing in women has brought about positive effects for societies and for the economies of developing and developed countries. In the areas of education and health, women have innumerable opportunities to contribute to the economic and human development of their countries. In 1995, the international development community convened in Beijing to address the situation of women and how best to improve it. At this conference, the concept of Gender Mainstreaming was first given official recognition, and began to be used as a framework for development policy in many organizations. The aim of this strategy is to ensure gender equality in all development efforts, through the integration of women's concerns in all phases of the development process.
The aim of this paper is to analyse and evaluate the gender mainstreaming strategies implemented by International Organisations, by now ubiquitous in the international development discourse. This was achieved through an accurate analysis and comparison of international guidelines for Gender Mainstreaming in health and education programs. Secondly, through a case study of UNICEF Indonesia's Gender Policy. The case study is based on field research carried out in Jakarta, Papua, Aceh and Nusa Tenggara Timur, and focuses on the implementation of the organisation's Gender Mainstreaming policy in health and education programs. The results of the field research were then elaborated into a Gender Mainstreaming Index for health and education programs in each province.
Results showed that Gender Mainstreaming has made much progress since Beijing. However, barriers to its implementation stemmed from a certain ambiguity regarding key terms and definitions in the elaboration of specific policies, as well as a general lack of understanding and awareness further down the line, i.e., at country office and field office levels. This was particularly reflected in the Gender Mainstreaming Index developed specifically for this research.

THE RATIONALE BEHIND THE STRATEGY: INVESTING IN WOMEN

The World Bank's 2012 World Development Report [1] was entirely dedicated to Gender and Development. This is an indicator of the central role played by gender issues in development, which has not always been recognized. Indeed, it is the result of long- standing pressure on governments and the international community to include gender issues in development policy, which dates from the 1960s and 1970s. Leaving the ideological motivations for this sort of pressure aside, it is interesting and worthwhile to consider the economic motivations for the elimination of gender inequalities as a strategy for development.

Investing in women improves economic growth – this fact has been proven by many studies, and will be explained in the paragraphs to come. This can be seen in a variety of issues, from health and education, to labour force participation and employment, to political empowerment, finance and trade. Healthier and better-educated women raise healthier and better-educated children, generating more human capital for their countries. Women in the labour force can be more productive, and represent an untapped resource in many parts of the world (both developed and developing). Finally, 'empowered' women participating in politics can strengthen democracies and, subsequently, economic growth.

In particular, investing in women's education can bring about strong economic returns, both at household and countrywide levels. Stephan Klasen [2] shows that gender inequality in education can have severe repercussions economic growth, affirming that if gender inequality in education had been lower in past decades, several countries would have witnessed faster economic growth. Furthermore, Anne Hill and Elizabeth King [3] assert that '*the nonmarket benefits of women's education experienced by the family are considerable. These benefits extend beyond the family to society at large*.'

Investing in women's health is also of crucial importance, particularly for a country's social and economic development. When it comes to women in particular, investing in health is important for the improved wellbeing of their children and families, and in turn for the economic growth of their countries. This contribution is crucial to economic growth, as Jere Behrman [4] affirms that '*Each year over 22 million infants are born with low birth weight (LBW) in developing countries, with an inverse association between the proportion of infants with LBW and economic development.*'

THE EVOLUTION OF GENDER MAINSTREAMING

Investing in women has by now become a priority for most stakeholders in international development, although this has not always been the case. Getting women's empowerment and gender mainstreaming at the top of the development agenda has been a long process, which started from criticisms moved towards development theories and strategies in the late 1960s and 1970s. A pioneer in gender and development, Ester Boserup [5] was among the first to draw attention to the fact that *that in many African nations, improvements of agricultural techniques and practices actually lowered the status of women by reducing their access to productive work roles*.' Boserup's observations gave a strong impulse to what has been called the 'Women In Development' or 'WID' approach, a first stride towards the inclusion of women's issues and problems in development strategies. According to C. Moser [6], at around the same time female professionals based in Washington joined forces with other groups of feminist critics of development policies to advocate the WID approach and reach greater women's empowerment in international development.

Overall, the effect of the WID movement was to achieve a greater integration of women in development. In fact, the World Conference of the International Women's Year was called in 1975 in Mexico City, and the UN called the years 1976-1985 the United Nations Decade for Women. It was in this period that 'women in development' bureaus began to be created in international development agencies and governmental aid offices. Women-specific programs were put into place, and a greater impulse was given to research on women and development. The first 'gender policies' and statements also began to emerge in international development organizations. However, Razavi and Miller [7] note that '*for historical reasons (the legacy of the 'welfare' era), WID advocates distanced themselves from welfare issues. This placed them at odds with the general thrust of development discourse in the 1970s*.' Furthermore, the creation of 'WID bureaus' and gender-specific programs had contributed towards the creation of a 'women's ghetto' in development, which separated gender issues from the main stream. Hilary Charles worth [8] further notes that WID '… *began to be criticized as inadequate because it identified women as a special interest group within the development sphere requiring special accommodation*.'

Stemming from criticism to the WID approach, a second strategy began to emerge some years later. The Gender and Development approach focuses on the relationship between the socio-economic status of women and gender inequality, and has also been used as a basis for criticism of the structural adjustment policies put into place in the 1980s by international financial institutions. The GAD approach also delineates different policy interventions for the elimination of gender inequalities. One contribution of GAD was to bridge '*the gap between left by the modernization theorists, linking the relations of production to the relations of reproduction and taking into account all aspects of women's lives*.' [9] Furthermore, it focuses on the work done by women within the household and attributes a central role to governmental institutions for the promotion of women's empowerment through specific policies. Emphasis is placed on policies that strengthen women's legal rights, such as the reform of inheritance and land ownership laws, and the promotion of affirmative action and intervention policies. However, though theoretically distinct, these two approaches are overlapping in practice and it is at times difficult to separate between the two.

It was, finally, GAD's primary objective of institutional change that gave rise to the concept of Gender Mainstreaming within a group of international development organizations. The impulse given by GAD was also accompanied by a series of steps from the international community, which led to the official recognition of gender mainstreaming at the 1995 United Nations Fourth World Conference on Women in Beijing.

WHAT IS GENDER MAINSTREAMING?

According to Hilary Charlesworth, [10], the term 'mainstreaming' was first applied in the realm of education in the1970s, indicating the inclusion of children with different learning abilities in the same classroom. Children with disabilities joined children without disabilities in the same learning environment, therefore being included in the educational 'mainstream'. Through the emphasis on institutional change, GAD provided the framework for the emergence of gender mainstreaming. Although the GAD framework did much to integrate women's issues in development, Caroline Hannan [11] affirms that '*the attention to women often came after major decisions on policies, strategies, and resource allocations had already been made. Awareness of these fundamental constraints led to the development of the gender mainstreaming strategy in the early 1990s*.'

Gender Mainstreaming, essentially, requires the inclusion of a 'gender perspective' in all stages of the development process, so as to make further progress towards gender equality in all development efforts. An official definition of gender mainstreaming was provided by the United Nations Economic and Social Council (ECOSOC) two years after the Beijing conference, according to which ''*Mainstreaming a gender perspective is the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality*.' [12]

Lorraine Corner [13] identifies three major elements that most gender mainstreaming strategies have in common:

a) **Conceptual clarity and understanding**. According to the author, all organizations should start with a general conceptual clarity regarding the goal, objectives, approaches and rationale regarding gender mainstreaming. Generally, and in line with the goal set out within the Beijing Platform for Action, the goal of most gender mainstreaming strategies is to achieve gender equality in the organization's areas of activity. Regarding approaches to gender mainstreaming, many organizations favour the "two-pronged approach": while on the one hand the organization in question integrates gender issues in all activity areas and in all stages of the program life cycle, it also maintains specific programs and projects that focus on women's issues. Finally, different organizations provide different rationales for their gender mainstreaming strategies. Some focus on the efficiency of achieving gender equality in their activity areas, while others favour the human rights-based approach, according to which gender equality is a basic human right, the achievement of which need not be justified at all.
b) **Organizational arrangements and processes**. In addition to establishing specific departments and divisions within their structures, most international development agencies and organizations have also put specific gender staff into place. Known as "gender focal points", "gender specialists" or "gender experts", these individuals have the responsibility of coordinating the organization's gender strategy and providing aid to the organization's staff on matters relating to gender equality and gender mainstreaming. The rationale behind the creation of gender focal points is that in most development organizations, the staff is made up of specialists with knowledge in specific fields, such as sanitation and hygiene, macroeconomics, education, maternal health, and so on. Gender specialists tend to have more technical knowledge regarding gender equality and gender mainstreaming, and are hired to provide technical assistance to the organization's staff. On the other hand, gender focal points are usually regular employees of the organization with their own mandate and role, who also take on the responsibility of coordinating and implementing the organization's gender mainstreaming strategy.
c) **Tools and training**. Many organizations and agencies have also developed several tools to aid staff in the implementation of their gender mainstreaming strategies.

- *Gender Awareness*: the concepts and terms relative to gender mainstreaming are difficult to translate into other languages other than English, and to other contexts than those of developed North American and European countries. For this reasons, many organizations have developed tools (such as training material, manuals, and guidelines) to improve the level of gender awareness both within the organizations and throughout the organization's partners and fellow stakeholders.
- *Gender Analysis*: most gender mainstreaming strategies call for an analysis of the impact of the organization's development policies with regard to women, primarily, but also to men. Gender analysis also refers to the analysis of the situation within the country and region in which the organization operates. Analysis of men and women's situations within the national and regional context should precede the creation of development programs, while the analysis of their impact logically comes second.
- *Gender Statistics*: instrumental to the above tools and to the following is the segregation of national and regional statistics by sex. Sex-disaggregated statistics shed light upon the different situations of men and women in different contexts, and help to steer attention towards specific needs. For example, the disaggregation of nutritional statistics by sex can reveal that in a certain area boys suffer more from stunting than girls do, and can therefore provide an impulse toward the tailoring of nutritional programs in the area to address this specific issue.
- *Indexes and Indicators*: in order to monitor progress towards gender equality, organizations such as the United Nations Development Program have created a series of indicators to aid development organizations in their battle for gender mainstreaming. Two of the most used indexes are the Gender and Development Index (GDI) and the Gender Empowerment Measure (GEM), both introduced by the Human Development Report 1995. The GDI is based on the same methodology used for the HDI, and therefore combines indicators relative to life expectancy, educational attainment, and income into a composite index which takes into account different social and economical dimensions of development. The GEM, on the other hand, measures the extent to which women participate in the economic and political life of a country, and takes the following indicators into consideration: political participation, decision making power, economic participation and command over resources. Used together, these indexes are useful to international organizations for monitoring the achievements made by the country in question with regard to women's empowerment and gender equality.
- *Budgets and Auditing*: the importance given to gender issues in any government or organization can, obviously, be judged by the (monetary) value given to such aspects, and gender-focused budgets and audits show the entity of resources that an organization or government allocates to gender-related work.

WOMEN IN INDONESIA: AN EXAMPLE OF GENDER ANALYSIS

The second part of this paper focuses on a case study of gender mainstreaming in UNICEF Indonesia. Specifically, field research was carried out in three provinces (Papua, Aceh and Nusa Tenggara Timur) to give an accurate and detailed picture of how the organizations was implementing its gender mainstreaming strategy in health and education programs, and at country office level. The first step in the process was to conduct a gender analysis of Indonesia at

regional and national level.

- *Socio-legal status of women in* Indonesia: The constitution of Indonesia, written in 1945 and since amended several times, treats men and women equally at the formal level, with its focus on the term 'citizens'. [14] However, the national legal system coexists with *sharia* law in some areas(specifically, in Aceh *sharia* law has been in place since 2002) and with customary, or *adat* law in others. Even in urban centres, men are seen as the 'breadwinners' and often women stay at home to care for the family. Most ethnic groups in the country (there are over 300 ethnic groups in Indonesia, each with their own distinct culture and language) are based on patriarchal societal structures (some however present matrilineal or matriarchal cultures such as, for example, Central Flores, where the dowry system does not exist). In the general culture, women are seen as '*orang kecil*', or 'small people'.
- *Legal framework for gender* mainstreaming: One of the most important instruments for the promotion of gender equality at the international level (which also produces concrete consequences at the national level) is the Convention on the Elimination of All Forms of Discrimination Against Women. Adopted in 1979 by the General Assembly, the convention aims to eliminate all forms of discrimination against women contained in national legal frameworks and promoted by all enterprises and bodies within each State party. With some exceptions, such as in the case of protection for maternity or in the case of legal instruments for the suppression of forced prostitution, States are required to repeal all discriminatory provisions in their laws. The Committee on the Elimination of Discrimination Against Women monitors the implementation of the convention, and reviews State parties' progresses in the elimination of discriminatory laws, practices and provisions in the national legal framework.

In order to complement (and contribute towards the implementation of) the legal activity that has taken place in the past decade, the Indonesian government has also put into place a series of mechanisms that should ensure the implementation of gender mainstreaming at all levels of government, both national and local. The primary institutional instrument is the Ministry of Women's Empowerment, which has the task of realizing and monitoring the implementation of Presidential Instruction no. 9/2000.18 The ministry is composed of members from other government ministries, such as Child Protection, Growth, Religion, Foreign Affairs, and so on. Furthermore, the ministry appoints Gender Focal Points in each government ministry, which have the task of monitoring and aiding the implementation of gender mainstreaming in all government actions. Finally, the Ministry was expanded in 2001 to include Child Protection and Welfare in its mandate. The ministry is also concerned with the coordination of official reporting on the compliance of Indonesia to CEDAW provisions, and works to further implement the convention through the achievement of gender mainstreaming in all government policies and programs.

Alongside the Ministry of Women's Empowerment, the government of Indonesia has also placed other instruments, such as the Gender Working Groups, which can be found in virtually all government departments. Working together with Gender Focal Points and with the Ministry of Women's Empowerment, these groups are made up of government officials working in different departments, and provide support for the implementation of the national gender mainstreaming directive. These working groups are present at *all* levels of government (local, district, provincial and national) and in all departments (from health and education to infrastructure and foreign relations). Furthermore, at the provincial level Women's Empowerment Bureaus (Biro Perempuan) have been created for the coordination of the gender policy. All in all, the institutional framework for gender mainstreaming includes 29Gender Working Groups, more than 30 Women's Empowerment Bureaus, and more than 304 Gender Focal Points distributed in municipalities all over the country.

MEASURING GENDER MAINSTREAMING IN UNICEF INDONESIA

The present case study is based upon a report elaborated under the United Nations Children's Fund (UNICEF) in December 2010. In order to produce this report, a research on the effectiveness of UNICEF Indonesia's gender mainstreaming strategy was conducted in three Indonesian provinces. The research team was made up of a Gender Specialist, assisted by one volunteer and two interns, all working within the Social Policy and Child Protection Cluster of the Jakarta Country Office. In September the team focused on general data collection and desk review, while in the following month the structure and methodology of the research began to take shape, and feedback from different clusters was received. Consultations with management figures and field offices followed. In November the team travelled to the field offices of Papua, Nusa Tenggara Timur and Aceh to conduct interviews and collect data. The following month, the collected material was elaborated and the final report was produced.

The main purpose of the research was to gain a better understanding of how UNICEF was mainstreaming gender in two specific areas, health and nutrition. Due to the fact that the research was carried out during the elaboration of UNICEF Indonesia's new Country Program Action Plan (CPAP), the final report was of great use to the country office.

The two main objectives of the research were the following:

- to collect data and document 'best practices' in gender mainstreaming, within UNICEF's education and nutrition programs in Papua, Aceh and Nusa Tenggara Timur;
- to develop observations and recommendations regarding UNICEF Indonesia's gender mainstreaming strategy for the creation of a future action plan.

Focus of the research was the integration of gender mainstreaming within the project lifecycle, as well as the extent to which gender issues were being addressed by local (district and/or provincial) or national government bodies.

Methodology

Following the initial period of desk review, two specific UNICEF programs were chosen within the health and nutrition sectors. Within the education sector, Creating Learning Communities for Children (CLCC) was chosen, while the target program in the health sector was the Infant and Young Child Feeding program (IYCF). The rationale behind these choices was purely practical: the two programs were present in all three provinces, and UNICEF staff working on these programs was available for collaboration with the research team. In consultation with field office staff working in the two programs, a list of relevant stakeholders to interview was finalized. These came from schools included in the CLCC program, as well a s*posyandus*[1], health centres (*puskesmas*), local government health, education and women's empowerment offices, local religious communities, universities and NGOs. In total, the following 150 stakeholders were interviewed.

The sampling of these stakeholders, schools, NGOs, local communities, and health facilities was elaborated in consultation with local field office staff and did not follow any scientific methodology. Stakeholders and venues were chosen purely on the basis of availability and the extent to which they reflected the socio-economic diversity of the region (a division between urban and rural areas was necessary in all provinces). Given the limited time and resources of the research team, location and budget considerations were also influential in the sampling process. Through interviews and focus group discussions (FGDs) with the stakeholders listed above, the main body of qualitative data was collected, which allowed the research team to evaluate the extent to which gender issues were being mainstreamed in the two specific programs.

Quantitative data was also collected, mainly through national statistical surveys, as well as through UNICEF staff and Internal documents and research. The interviews with stakeholders were structured in order to respond to the following indicators (Table 1) The results that emerged from the interviews and focus group discussions were then integrated with the results of interviews with staff in the Country Office for a wider view of the gender mainstreaming strategy. The results, as well as observations and recommendations from the research team, were included in the final report.

Tab. 1 - Indicators of Gender Mainstreaming.

Indicator	**What does it measure?**
Girls' participation in the classroom and in extra-curricular activities	The extent to which girls feel free to participate, as well as the extent to which teachers treat girls and boys equally
Girls' and boys performance	Extent to which teachers treat boys and girls equally
Patterns of socialization between girls and boys	Gender roles
Seating plans	Extent to which teachers are gender-sensitive, as well as gender roles between boys and girls
Distribution of classroom duties among boys and girls	Extent to which teachers are gender-sensitive, as well as gender roles between boys and girls
Inclusion of gender issues in school curricula	Gender-sensitivity of national or provincial education policies
Gender sensitivity of teachers when interviewed	Gender sensitivity of teachers (as well as the effectiveness of any gender training they may have received within the program)
Inclusion of gender awareness in teacher training activities	Extent to which gender issues have been mainstreamed in the program project cycle, as well as the extent to which gender issues have been mainstreamed at the national and provincial government level in education policies
Equal training opportunities formal and female teachers/health workers/midwives/government officials	Extent to which gender issues have been mainstreamed at the national or provincial government level

[1] The term *posyandu* refers to particular health outposts dispersed throughout provinces in Indonesia, where basic nutrition and ante- and post-natal care services are dispensed to mothers and their children. While *posyandus* fall under the purview of local health departments, the *posyandus* included in the sample worked in partnership with UNICEF to deliver basic health services to mothers and children.

Number of women in key decision-making positions	Extent to which gender issues have been mainstreamed at the national or provincial government level
Participation of mothers in school and committee activities	Gender roles between mothers and fathers
Participation of fathers in school and committee activities	Gender roles between mothers and fathers
Attendance of mothers at the *posyandus*	Gender roles between mothers and fathers
Attendance of fathers at the *posyandus*	Gender roles between mothers and fathers
Inclusion of gender issues in the training activities of midwives and health workers	Extent to which gender issues have been mainstreamed at the national or provincial government level, as well as the extent to which gender issues have been mainstreamed in the program project cycle

Building the Gender Mainstreaming Index.

The data collected during the research on the field was then elaborated in order to build a 'gender mainstreaming index'. It should be noted, first of all, that the data available lacked scientific value and was collected using arbitrarily assigned sampling methods. This was due to budget, time and capacity constraints of the research team. Furthermore, the construction of the index necessarily entailed arbitrary decisions based on practical and theoretical knowledge of gender mainstreaming in health and education. This can also be witnessed in the indicator table above, where the indicators and the dimensions that they measure have been constructed based on knowledge picked up after extensive research on the subject and after a (relatively) substantial amount of time spent in the field interviewing all stakeholders involved.

The first step in the construction of the index was the identification of the different dimensions relative to the implementation of gender mainstreaming, both in health and education. For education, Table 2 illustrates the dimensions of gender mainstreaming and the relative indicators.

Tab. 2 - Dimensions and indicators of gender mainstreaming in Education.

Dimension	**What does it measure?**	**Indicators**
UNICEF Field Office	Extent to which UNICEF's gender mainstreaming strategy is being implemented at the field office level	- Understanding of the term 'gender mainstreaming' - Awareness of UNICEF's gender mainstreaming strategy - Implementation of UNICEF's gender mainstreaming strategy - Gender-responsive budgeting - Collection of gender-disaggregated data - Gender awareness training
Government Education department (district and provincial level)	Extent to which UNICEF has collaborated with local authorities involved in the selected programs for the implementation of gender mainstreaming	- Understanding of the term 'gender mainstreaming' - Gender awareness training for officials - Women in key decision-making positions - Equal training opportunities for men and women - Gender policy at district/provincial level - Collection of gender-disaggregated data -Gender-responsive budgeting
Parents of children attending CLCC schools	Extent to which the gender mainstreaming strategy is being implemented in the CLCC program	- Understanding of the term 'gender equality' - Participation of both parents in decision making - Participation of both parents in school committee activities

Teachers who work in the CLCC schools	Extent to which the gender mainstreaming strategy is being implemented in the CLCC program	- Understanding of the term 'gender mainstreaming' - Gender awareness training for teachers - Participation of boys and girls in classroom activities -Participation of boys and girls in classroom tasks and chores
Head teachers who work in the CLCC schools	Extent to which the gender mainstreaming strategy is being implemented in the CLCC program	-Understanding of gender mainstreaming -Gender awareness training for head teachers

The indicators selected reflect a relatively comprehensive picture of gender mainstreaming: understanding of the term, gender awareness training, disaggregated data and gender-responsive budgeting. These elements have been listed in the previous chapter as necessary tools for almost every gender mainstreaming policy. The indicator 'awareness of UNICEF's gender mainstreaming policy' was necessarily added during the interviews, when it became clear that hardly any UNICEF officers had even heard of the organization-wide strategy. This also shows that all manner of policies and directives can be set at the organization's headquarters, but it takes a great deal of effort to make them trickle down to the field office level, and directly into the programs that the organization puts into place.

Another dimension identified relative to gender mainstreaming was that of the provincial and district education department. It has already been mentioned that the purpose of gender mainstreaming is to actively promote gender equality, and a necessary level of action was that of local government. Seeing as curricula are established by the provincial and district education departments, and it is these departments that also nominate teachers, head teachers and administrative staff, as well as organizing training courses for school staff, it was necessary to measure the extent to which gender issues had been mainstreamed within the local Indonesian government, as well. This was done in relation solely to those officials involved with UNICEF in the CLCC program, seeing as the focus of the research was UNICEF's gender mainstreaming strategy and how, through the CLCC program, local government was also affected. The same rationale stood behind the dimensions relative to teachers, parents and head teachers of the CLCC schools, all of which gave an indication of how gender issues were being mainstreamed by the program.

The interviews carried out followed different sets of questions, due to the fact that the question sets were changed several times during the field research. When looking back on the transcripts, it was possible to identify 'yes/no' answers to each indicator listed above, by re-formulating the answers given to interview questions as 'yes/no' answers. Once the indicators were re-formulated, the interview transcripts were re-read and answers to the questions were found, even though the original questions did not follow the same structure. For each indicator, therefore, a dummy variable was created by assigning a value of one to 'yes' answers and a value of zero to 'no' answers, indicating the fulfilment or not of each particular indicator. This was repeated for each subject (school, teacher, head teacher, officer, government official, etc.) in each district, and the mean was calculated by finding the sum of each variable and dividing by the total number of indicators. The mean for each district was found by summing up the results for each subject and dividing by the number of subjects. For example, if one school in Aceh obtained a score of 0.50 for the teacher dimension, and another school obtained a score of 0.75, the total score for Aceh with regard to the teacher dimension would be the mean between these two scores, leading to a total score of 0.63. The total 'gender mainstreaming' score for each province was found by calculating the mean of the dimensions for each province. For the health programs, the same methodology was used. Due to a much smaller sample size for IYCF programs (33 stakeholders) than that of the CLCC programs (117 stakeholders), the results obtained for health and nutrition programs are less reliable than those for education. Finally, an overall gender mainstreaming score in education and in health and nutrition was found for each province.

RESULTS

The results showed better overall results for all three provinces in education, with lower scores in health. Aceh obtained the best gender mainstreaming score in education, while Nusa Tenggara Timur scored highest in health and nutrition.

The average score between all three provinces was 0,48 for education and 0,33 for health and nutrition.

The following scores were obtained for each province:

Tab. 3 - Gender Mainstreaming Index score for health and nutrition.

Dimension	**Province**		
	Aceh	**Papua**	**NTT**
UNICEF Field Office	0.17	0.17	0.00
Government health department (district and provincial level)	0.29	0.29	0.43
Midwives and health workers	0.40	0.40	0.80
Total Provincial Score	**0.29**	**0.29**	**0.41**

Tab. 4 - Gender Mainstreaming Index Score for education.

Dimension	**Province**		
	Aceh	**Papua**	**NTT**
UNICEF Field Office	0.17	0.33	0.17
Government education department (district and provincial level)	0.64	0.52	0.43
Teachers	0.50	0.25	0.25
Headteachers	0.63	0.63	0.67
Parents	0.67	0.52	0.67
Total Provincial Score	**0.52**	**0.48**	**0.44**
Average	**0.48**		

CONCLUSIONS

Despite the challenges presented by the strategy, many benefits have stemmed from its implementation in the work of international development organizations. The object of the author's experimental research was precisely the effectiveness and impact of UNICEF Indonesia's gender mainstreaming strategy. While the situation of women in Indonesia has improved considerably over the past decades, many challenges remain. Universal primary education has been reached in almost all Indonesian provinces, but due to poverty and workloads at home many girls are still forced to drop out in some of the poorer areas of the country. Many less girls than boys attend university, and most marry between the ages of 18 and 25. Malnutrition, both among mothers and, most of all, among children, is a worrying issue in many provinces (in particular in Nusa Tenggara Timur). The rate of violence against women has decreased across the country, although it remains shockingly high in some provinces. Even today, after having had a female president for three years, women are under-represented in parliament and excluded from the elitist and heavily corrupt political life of Indonesia. Women participate in the workforce, mainly in agriculture and retail or manufacturing activities. The Indonesian government has been active in the past decades with legislative efforts to eliminate discrimination against women in these areas, particularly inside the government structure.

The picture that emerged from the interviews was mixed. Among many stakeholders there was at least a minimal understanding of the terms gender equality and gender mainstreaming. This, however, was offset by a complete lack of understanding among other stakeholders, mostly in local government departments. Within the UNICEF Field Offices, many staff members were unaware of the existence of a gender mainstreaming strategy, although the desire to learn more about it and to put it into practice was expressed frequently. This result was coupled with a complete lack of gender awareness training and implementation of the government gender mainstreaming policy in the education and health departments. The reasons for which staff members were not aware of the gender mainstreaming strategy were mainly two: firstly, although the strategy *had* been communicated throughout the country office, lack of accountability on gender mainstreaming, as well as time and workload constraints on staff members, ensured that the strategy was not put into place.

Secondly, the lack of an effective Gender Focal Point and Gender Specialist network undermined efforts to implement the strategy at the field office level. However, thanks to the arrival of a Gender Specialist during the field research period and to the increased visibility given to the strategy for the purposes of the field research, gender focal points had been named in each country office even when they had not previously existed. This is an encouraging result that, with appropriate follow up and capacity building, could bring to the effective implementation of the gender mainstreaming strategy throughout the field offices in Indonesia.

Both the qualitative and the quantitative results show that there *has* been progress in implementing the gender mainstreaming strategy in the three provinces, although much work still needs to be done. The regional gender strategy, with its focus on the four areas listed above, should be much more widely publicized and staff should be held accountable for its implementation, particularly at the Field Office level.

Overall, gender mainstreaming as a strategy has made much progress since the Beijing conference. By now, it is almost a must within international development organizations. UNICEF Indonesia's gender strategy could contribute widely to the elimination of gender inequality in the country, if it is properly implemented. There *are* barriers to its implementation, as discussed above, which can easily be overcome. Although the organization is already on the right track, some changes and improvements could do much to improve the situation of women in Indonesia through gender mainstreaming.

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NOMENCLATURE

CLCC	Creating Learning Communities for Children
ECOSOC	United Nations Economic and Social Council
GDI	Gender and Development Index
GEM	Gender Empowerment Measure
HDI	Human Development Index
IYCF	Infant and Young Child Feeding
WDR	World Development Report
WID	Women in Development

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AGRICULTURAL GENDER INDICATORS TO IMPROVE DEVELOPMENT PROGRAMMES: A CRITICAL APPROACH

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ABSTRACT

The use of indicators as tools to summarise large amounts of data, providing information as comprehensive as possible about a particular phenomenon, it is largely shared by the academic world. Nevertheless, it may be noted how the supply and the availability of gender indicators, applied to the specific framework of natural resources and agriculture, are very limited, especially in developing countries. This research would therefore analyse this lack, focusing on the importance of identifying gender indicators in rural settings of these Regions, comparable over time and space. Gender indicators in agricultural developing contexts can have multiple purposes: they can be a methodological resource for the comparative analysis of gender in the stages of feasibility, monitoring and evaluation of cooperation projects, focused in rural-agricultural issues, as well as having an impact on national agricultural policies, lobbying and advocacy. For this reason, in a general turmoil context like the present, characterised by the debate on the new Sustainable Development Goals, included in the Post 2015 Development Agenda, gender indicators in agricultural contexts may play an important role as support instrument for the new global instances. Moreover at micro level, the development and the provision of gender indicators, as much as possible qualitative and all-encompassing, would appropriately supplement the deficiencies in statistical terms frequently observed by technicians and researchers, both at national databases level, both within national or regional specific field surveys, particularly in the Southern countries. In conclusion, the need to measure the actual incidence of women in natural and agricultural resource management, could be translated in the development of indicators gender-sensitive oriented, to be used as a tool to analyse, and possibly promote the active participation of women in political and economic life in the North as in the South of the world.

THE RESEARCH BACKGROUND

Indicators are commonly defined as tools able to summarize large amounts of data with the purpose of representing a dynamic situation (i.e. time trends of the level of education, average number of children, etc.) and, therefore, with the unique task to “state” [1]. Accordingly the problem of qualitative and quantitative indicators, such as gender and social indicators [2] immediately arises, in which numerical information is almost never sufficient and it needs to be complemented with qualitative analyses (often more complex than quantitative, especially if one-dimensional, i.e. based on only one type of data).

In order to make information comparable with each other, it must be added the difficulty to standardize them, since who works with these data is obliged to scaling operations. The situation becomes even more complicated when gender indicators in rural areas are considered, where there is a less accessible location for the information, such as the Sahelian villages are. If on one hand is complex obtaining national data disaggregated by sex, on the other hand is even more difficult to gather local data, often completely excluded by the national statistical supply.

Another critical aspect is related to the definition of indicators to measure the level of gender “empowerment/un-empowerment”. Naila Kabeer [3] gives a definition of empowerment as a possibility to make strategic life choices in a context in which these choices were first denied. The empowerment of women thus involves both the importance of increasing their strength decision-making, both the right to determine free choices in their life and to influence the direction of change, through the ability to increase their control over resources and materials [4].

The UNDP (United Nations Development Programme) has tried to quantify this dynamic change from a gender point of view, introducing in the Human Development Reports [5] the GEM (Gender Empowerment Measure), aimed to highlight the level of participation of women in political, professional and economic sectors. This indicator was however, soon questioned by several authors [6] for different reasons. For instance, the GEM does not measure gender inequalities since it only concerns women with higher levels of education and economically advantaged and political situation at national level as well; in fact it does not take into account the contexts economically less visible and comprehensive by statistics such as the rural areas. For these reasons subsequent amendments were proposed [7].

The gender empowerment is not just a set of quantifiable information, but is also a mixture of motivations and objectives that accompanies the actions of men and women towards change and new opportunities (“the agency”) and it

is certainly not efficiently represented by only one indicator [8].

Moreover, according to other authors, no indicator, although articulated, is able to capture the subtle implications of power relations which are established among different stakeholders in the processes of change and empowerment. Accordingly this "numerical" approach has to be combined to targeted qualitative analyses [9].

The measure of change and the decision of which aspects to measure and how to measure them as well, is thus something complex and cannot be attributable to a mere technical exercise, especially if the progress is measured in terms of gender equality, which also entails a strong political component [10].

With respect of the overall problem complexity, this study intends to suggest gender indicators to implement a development project aimed to improve the subsistence level and the quality of life of the population across a rural area of sub-Saharan Africa. Another goal of the paper is to reflect on the effectiveness of these indicators as well as on their contribution (or not) to a more equitable implementation of such development projects.

Whit this regards a sample case represented by the Senegalese Statistics Information System was individuated. In particular the analysis was focused on the national statistics supply and the general tendency related to the gender dimension at regional and national level, as well as applied to the specific sector of agriculture.

This research was developed in the framework of a field survey carried out by the authors in Italy and in Senegal in 2013. The latter was an enquiry conducted under the umbrella of an international project held in Senegal and aimed to improve food security and agricultural production in some specific regions of the country. This project is expected to involve a target of about 3000 women. In particular, the project aims to provide small irrigated plots of land, designed for activities of horticulture and fruit production (in which traditionally women play a key role) and that will be managed in according to communitarian principles.

Therefore, since the mentioned project presents a strong technological component, the need to analyse in a critical way some specific issues as fair access and management of technology as well as technical trainings to women involved in the project, appears fundamental.

Considering the access to technology, many studies conducted in Senegal [11], have shown evident differences between men and women, in terms of access to resources and management of technological applications, especially in the agricultural field. But these disparities do not forcibly entail negative effects for women. Indeed it seems that in some cases, provided that they can count on a fair and available access to technology, women have proved more entrepreneurial and innovative than men.

THE RESEARCH METHODOLOGY AND THE INDICATORS ELABORATION

The methodological choices of the field survey were organised as following.

After having individuated the main subjects to assess in relation with gender and agricultural sector, a statistical matrix aimed to collect data was set-up and divided into five different sections namely:

- demographic indicators;
- social indicators;
- economic indicators (with a special focus on rural context);
- occupation in the agricultural sector and grass-roots organisations;
- agricultural production for exportation.

On the basis of the available data three indicators for each region interested by the project were elaborated: a Nutritional Index, an adjusted Gender Inequality Index and an Index of Economically Qualified Presence of Women and Men in Agriculture.

In this framework it should be specified how the analysis carried out at regional level, although if more specific than that of the whole, will never be able to identify what is really happening in rural communities, in villages and individual *ménage*, which can be investigated only through direct interviews.

The context of analysis consists in three bordering regions, two of which geographically and economically more advantaged (with access to sea and commercial activities), while the third is more inland, drought-prone and not provided with an efficient road network.

Regarding the specific characteristics of the sample, Region 1 consists in 50 rural communities and municipalities, compared with 36 in the Region 2 and 39 of the Region 3. In particular, Region 2, larger than the others, is the region with the greatest rural extent, while in Region 3 a more pronounced population residing in urban areas exists. In contrast, a more uniform distribution of the population between rural and urban areas is observed in Region 1 (Table 1).

Tab. 1 - Distribution of the population in the three analysed regions.

	NATIONAL		**Region_1**		**Region_2**		**Region_3**	
	Women	***Men***	***Women***	***Men***	***Women***	***Men***	***Women***	***Men***
Total population	6,348,578	6,506,575	849,12	849,3	382,9	387,29	668,17	731,05
Urban	6,101,448		872.814		104,67		891,44	
Rural	**6,753,705**		**825,6**		**665,52**		**507,78**	
Area (km^2)	196,72		6,6		7,05		4,86	
Ratio urban/total	0.47		0.51		0.14		0.64	
Ratio rural/total	0.53		0.49		0.86		0.36	
Total population / km^2	65.35		257.45		109.26		287.79	
Rural population/km^2	**34.33**		**125.15**		**94.41**		**104.44**	

On the gender dimension, although women in the three regions are numerically slightly higher than men, it is not possible to know whether they are more prevalent in rural areas (as it might be supposed).

In the Table 1 it can be seen significant findings of the lack of specific gender oriented statistics in rural areas, while an interesting question emerges from Table 2, in which is evident that in Region 3 the percentage of emigrants men is significantly higher than in the other two Regions.

Tab. 2 - Number and percentage of emigrants (per sex and per region).

	NATIONAL		**Region_1**		**Region_2**		**Region_3**	
	Men	***Women***	***Men***	***Women***	***Men***	***Women***	***Men***	***Women***
Total population	6,348,578	6,506,575	849,12	849,3	382,9	387,29	668,17	731,05
Emigrants	144,527	32,164	10,479	2,255	4,107	1,502	16,506	929
%	**2.3**	**0.5**	**1.2**	**0.3**	**1.1**	**0.4**	**2.5**	**0.1**

Instead, in respect to the elaboration of the three indicators and the sources of data as well, firstly a discriminating indicator on the under nutrition of the population was identified, using the percentage of malnourished children (under 5 years) and their mortality rate, together with the BMI (Body Mass Index) of the adult population.

The Body Mass Index (expressed in kg/m^2), is a factor that helps to identify segments of the population underweight: if 18.4 <BMI <17 we are in presence of a chronic energetic deficiency, while if BMI <17 the thinness is considered severe. The nutritional indicator is a percentage (ranging between two extremes never reached in practice, 0 and 100 and very similar to the Global Hunger Index, GHI) which indicates that the population in some way may suffer from nutritional and environmental problems (information provided by data on children, Table 3).

Tab. 3 - Undernourished population, with BMI<18,4.

	NATIONAL		**Region_1**		**Region_2**		**Region_3**		**Source**
	Men	***Women***	***Men***	***Women***	***Men***	***Women***	***Men***	***Women***	
% undernourished children (age<5)	0.19	0.17	0.15		0.11		0.19		EDS V
children mortality rate (age<5)	0.0091	0.0083	0.0053		0.0088		0.0104		EDS V
BMI<18.4 (significant thinness)	0.282	0.220	0.242	0.208	0.253	0.161	0.409	0.295	EDS MICS
Nutritional indicator	**15.9**	**13.2**	**13.4**	**6.9**	**12.5**	**5.4**	**20.3**	**9.8**	calculated

In Table 3 the indicator of under-nutrition is always higher for men than for women, both at National and Regional level, with a dramatic 20.3 registered in Region 3, while Region 2 seems to be less in emergency.

The second indicator that was calculated, the GII (Gender Inequality Index), entailed some problems. The GII is a measure that captures the loss in achievements due to gender disparities in the dimensions of reproductive health, empowerment and labour force participation. Values range from 0 (perfect equality) to 1 (total inequality). GII is a composite indicator, which involves two indicators to measure women's reproductive health (the maternal mortality ratio and the adolescent fertility rate), two indicators to evaluate women's empowerment (educational attainment, secondary and above, and parliamentary representation) and the labour force participation indicator.

Specifically data on regional maternal mortality were taken from the National Demographic and Sanitary Survey of 2012 [12] as well as those relating the teenager fertility. Whereas the information on the level of education (divided by gender) as well as the number of economically active women and men, were obtained during the mission carried out in Senegal in March 2013.

Instead, obtaining data on the presence of women and men in local institutional charges (regional, provincial and municipal) was much more complex: in fact, this specific data provided during the field mission, were related to the period 2002-2007 and not divided by region. Nonetheless, through information made available by the Gender Laboratory of the University of Dakar and thanks to other researches [13] it was possible to estimate fairly accurately the political presence of women and men within the three Regions.

Therefore all these data were used to calculate the adapted Gender Inequality Index (aGII). In particular the aGII at National level (0.56) is equal to the GII reported in the Human Development Report of 2013 [14], while the adapted index of gender inequality is slightly higher in Region 1 (0.577) and even more in Regions 2 (0.611) and 3 (0.624).

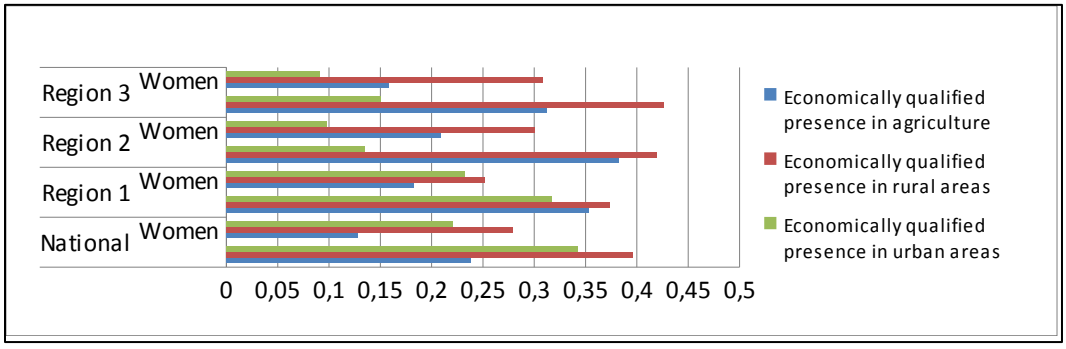
However what neither the indicator on food security conditions, nor the aGII show, is what happens in the countryside to compare with the urban space. Indeed regional data are important and more detailed than the national: but what about, for example, on the level of schooling at least to the second level (as required by the aGII) in the cities than in the countryside? In addition to the (not secondary) aspect relating to the economic resources of families living in rural areas, i.e. are there roads and schools easily reached by boys and girls in the countryside? And again, what about the presence of accessible health centres, which considerably influence the maternal and child health levels of population? Are they really accessible to the villages of rural communities? Obviously these considerations are valid also for all other sub-indices and indicate that a gap, if already exists at the level of the different regions of Senegal, is amplified within the single Region and, even more, in the rural districts.

Moreover, from the information provided during the field mission of March 2013 (and divided by sex) we attempted to establish an index of the significant presence of women and men in agriculture, to be compared with that corresponding in rural and in urban areas as well. In synthesis, the following sub-indices (all divided by gender) were used, in order to calculate the presence of economically qualified women and men in agriculture:

- adults literacy rate;
- percentage of economically active population in agriculture;
- percentage of people responsible for resources in agriculture (obtained from the sub-index of the economically active population);
- percentage of economically active population in rural areas (not necessarily corresponding to the agricultural sector, since includes services, trade and other activities performed in rural areas but not strictly related to agriculture);
- percentage of economically active population in urban areas.

Finally the indices shown in the graph of Figure 1 have then been obtained: some numbers between 0 and 1 (as deducted by percentage).

Fig. 1 - Economically Gender Qualified Index in Senegal and in the three sample Regions.



We can note how in all sample regions, the index of the economically qualified presence in agriculture penalizes women, especially in rural areas. At the same time in the urban context the indexes of economically qualified presence are more similar for men and women, as well as even still much lower.

THE STATISTICAL SUPPLY ON GENDER ISSUES IN THE AGRICULTURAL SECTOR: AN OVERVIEW

With regards to the outputs of the field research, first on the basis of the preliminary results, it can be noted how in Senegal accurate data disaggregated by gender in agricultural contexts or do not exist, or are not available, or are available primarily through direct qualitative surveys (which is difficult to access, especially if conducted by other institutions or international organisations, as already highlighted by the first analyses on gender and statistics [15].

However the consideration of the need of having gender-specific data, related in particular to the agricultural sector, is not new to researchers who have already worked on it in Senegal. Indeed this aspect was already pointed out within the planning document for the National Strategy for Gender Equality and Equity ("SNEEG 2015"), in which is deplored the lack of gender disaggregated data, in particular relating to the sub-sectors of agriculture [16] (as those related to processing, marketing, horticulture and so on, or rather the activities in which rural women hold traditionally an important position).

In regard to this element, among the factors attributable to such deficit of data, the role played by the insufficient political will and support on the development of national policies would be evident. Furthermore a weak involvement in the negotiations of that civil society more active and interested in these subjects is often observed. Therefore, to deal with this limit, the necessity to create and promote favourable conditions to the collection of gender-specific data in the agricultural context (and not only), released at national and decision-making level and with regard to the real weight of women in agriculture, is increasingly necessary [17].

Nevertheless, it must be stressed that, even if on the one hand, within some specific national policies (as the same new National Strategy on Economic and Social Development) [18], the will and the need to address the lack of statistical data seem to be largely widespread; on the other hand, analysing more closely the types of indicators selected, gender issues still appear marginal.

In addition, in order to obtain a complete picture of the situation of gender in agriculture (as well as to supplement the lack of official data) the elaboration of gender sensitive indicators is not exhaustive. For this reason, as sustained by several authors [19], the use of qualitative research in the field, to be conducted at a representative sample of the target audience by the means of participatory methods, should also be addressed. However, in this context another set of problems arises: that often related to the failure to recognize and officially validate data collected through sample surveys on the ground, which consequently cannot be fully exploited and used at central level. Accordingly, a method of harmonisation of data in order to compare them at regional and national level, should also be identified.

Whit regards to this, it is even necessary to implement a deep sharing of the research outputs (present and future) with all the stakeholders implicated by the development projects, whether direct and indirect beneficiaries, active subjects of the preliminary field investigations as well as the internal staff of public bodies.

Other aspects that have been repeatedly cited are the will and the need to set up a joint database, accessible and available to all relevant stakeholder active in the field of the gender issues in agriculture. However many obstacles still exist, such as the extreme fragmentation of initiatives relating to this issue, the lack of coordination between them, the weak relations between technical staff and local authorities as well as the financial problems (especially at regional level). To deal with these weaknesses a proper management of such a hypothetical database shall be ensured. At the same time a better coordination of the information sharing as well as of the networking among the different levels involved, has to be pursued.

In order to provide an overview as complete as possible of the statistician resources (available at national and regional level) and related to the issue of gender in agriculture in Senegal, the second part of our study was consisted in a detailed analysis of all the available documentation (the most updated) concerning the gender aspects within the country.

One of the first element issued by the preliminary analysis is how the overall documentation sources can be considered particularly "virtuous" in the world of Senegalese statistics, since they generally offer the double advantage of having gender-disaggregated data and/or by region.

At this point a question arises: how to examine the level of detail of gender issues (related to both the agricultural sector and the regional dimension), developed within some of the major works and in relation to the specific statistical requirements of the study (a point that will be significantly explained in the second part of the analysis).

Nonetheless, in the matter of the statistical sources specifically dedicated to the agricultural sector, within the national reports there is no reference nor to the gender nor to the division by age of farmers. This could be explained with the apparently attention focused only on the strictly gross production of the Senegalese horticultural sector, ignoring the more qualitative dimensions, which instead would contribute to obtain a more complete picture of who actually works in the overall sector.

Actually, the evidence that all the statistical efforts are focused solely on produced quantities (i.e. t/ha, income/ha, main agricultural production,…) and exploited areas, is easily traceable to such data for production and export crops are the most popular. This latter could be explained in the light of the economic weight and the consequent strong influence in the decision-making processes, represented by the horticultural export sector in a country as Senegal [20]. In regard to this, it is not surprising to observe how these types of data (that symbolise directly the interests of agribusiness, mostly foreign), are more easily traceable and mastered by the two major professional organisations of the country: the ONAPES - "Organisation Nationale Des Producteurs Et Exportateurs De Fruits Et Légumes" (which manages the 80% of exports) and the SEPAS - "Sénégalaise de Produits d'Exportation et de Services" (which holds the remaining 20%)

[21]. This context reveals some criticism: the first concerns the fact of concentrating the management, dissemination and acceptance of such a data base, in the hands of the major professional organisations of the country. It is natural to wonder what happens to small producers not incorporated within a formal body or even more to women producers, largely excluded from these organisations, and therefore not calculated within the statistical estimates, as could be proven by the absence of specific indicators related to their particular status [22, 23].

A second critical aspect, partially connected to the first, is referred to the solely focus of the management system and data collection on export crops, ignoring the crops for self-production [24], which play a key role in the food security of Senegal. This element would lead to think that where there are interests and economic resources, data can be formalised, computerised and well managed. It would imply that, to achieve similar results (in terms of availability and efficiency of statistics) but applied to other agricultural sub-sectors and more focused on the welfare of small farmers and their families, large international investments should be envisaged.

In relation with the more specific aspects of gender, the first element is that is not possible to identify, among all the available statistical sources, any document explicitly and exclusively dedicated to gender issues (except for the SNEEG 2015, but which does not constitute a statistical source in the strict sense). Therefore, we proceeded to analyse how the gender component (relating to the socio-demographic and more purely agricultural-economic variables) was present/available (and at what level of detail) within the supply of statistical information.

In synthesis, on the basis of the examination of the main Senegalese statistical sources and policies documents [25] as well as in according to the outcomes of the mission of March 2013, the statistics failures related to gender (in agriculture or not) in a country as Senegal, may be summarized in the following open questions:

- the weak mastery of the concept of gender as well as its utility, noted by the same human resources within the National Statistical System;
- the lack of coordination at the level of gender statistics production, as well as between producers and farmers, and producers and users; the insufficient consideration of gender in planning and implementation of the activities of data collecting, processing and analysing;
- the weak consideration of gender issues in sectorial programs (for instance in the new Agricultural Programme 2011-2012 [26] the word gender is never mentioned) and within the national budget; as well as the most frequently cited, limited application of the gender dimension to the field of socio-demographic statistics (population, education, health...);
- the difficulties of data centralisation due to the cross-cutting nature of gender, an issue involving in a different ways many sectors of the economy and society; the insufficient level of information and/or knowledge on gender issues registered at all levels (i.e. both in relation to the whole population, both to technicians and professionals, as well as to the political and managerial class);
- the absence of a clear methodology and tools designed to the integration of the gender dimension in the statistical production.

As occurred in the wider issues strictly related to gender, also with regards to the regional dimension of the Senegalese statistics, it is possible to identify different levels of complexity, such as:

- the multiplicity of actors involved (users/producers) without an unified framework of consultation/coordination;
- the vulnerability of the institutional framework and the methodology to collect, archive, and spread harmonized data, aimed to manage and make as effective as possible the dissemination of the regional statistics information;
- the inadequacy of human and material resources available to the various regional services of the National Statistical Agency (“ANSD”);
- regarding the specific agricultural sector, the more often criticized, lack of opportunities for consultation with producers, which can help both the technicians to obtain more specific and complete investigations, both the producers themselves to be more involved and aware of the importance of the whole statistical process as observed by several field researches [27];
- the limited decentralisation of the regional statistics services (both in terms of decision-making power, as well as financial availability and independent resources management).

In brief it is possible to extrapolate a series of cross-cutting issues to the different above mentioned aspects (i.e. data supply on: gender, regional dimension and agricultural sector) such as the weakness of the institutional framework and the lack of coordination among the different statistical areas, combined with a multitude of sources and the absence of a permanent system of consultation and harmonisation of data.

In addition, the already cited problems related to the financing of the statistics field. In relation to this, we can note often, sample surveys conducted on the ground, but only thanks to the intervention of an international donor directly affected by that specific issue (a factor that limits the impact of these surveys, as well as a widespread sharing of its outputs among multiple actors, especially considering time and costs occurred for this type of activities).

At methodological level, there are other obstacles related to data processing, such the archive and dissemination of

statistical information, the latter linked to the excessive length of processing data phase, which results in the fact that often the data processed are already old at the time of their publication.

CONCLUSIONS

In conclusion, the integration of gender issues within the Senegalese statistics (especially at regional and local levels) should go hand in hand with public policies more attentive to gender and its concrete implementation, in the overall areas of Senegalese economy and society. The two sectors should proceed jointly, in particular by virtue of their close connection, which is necessary on the one hand, to gender policies to find more support and feedback in the reality (as facilitate awareness of multiple stakeholders on the importance of gender); and useful at the same time, to the statistics to achieve a greater recognition of its usefulness. A recognition that could help the sector to attract more (national and international) investments as well as an improvement of the management of the whole system.

This research was focused on the identification of gender indicators to use in the specific context of rural development projects. The case study was limited to Senegal, in the framework of an international development project. However, the authors purpose is extend the impact of these indicators in different geographic and cultural contexts, but even related to gender issues in rural environments. In particular, the nature and the incrementing complexity of these indicators could be suitable to evaluate the effective participation degree of women in development and rural projects, starting to evaluate their general level of empowerment and the main obstacles to access to the same rights, inputs, resources (as the property of land) and decision power than men. Furthermore, the elaboration of multiplex gender indicators could constitute an efficient tool for national and sub-regional gender policies as well as lobby activities.

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NOMENCLATURE

aGII	adapted Gender Inequality Index
ANSD	Agence Nationale de la Statistique et de la Démographie
BMI	Body Mass Index
CISAO	Centro Interdipartimentale di Ricerca e di Cooperazione Scientifica con i Paesi del Sahel e dell’Africa Occidentale
DGCS	Direzione Generale della Cooperazione allo Sviluppo
GEM	Gender Empowerment Measure
GHI	Global Hunger Index
GII	Gender Inequality Index
IAO	Istituto Agronomico d'Oltremare
ONAPES	Organisation Nationale Des Producteurs Et Exportateurs De Fruits Et Légumes
SEPAS	Sénégalaise de Produits d’Exportation et de Services
SNEEG 2015	Stratégie Nationale pour l'Egalité et l'Equité de Genre
UNDP	United Nations Development Programme
UTL	Unità Tecnica Locale

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ACCESS TO WATER AND THE NEXUS WITH FOOD, ENERGY AND LAND: THEMES AND INDICATORS FOR THE POST2015 GLOBAL DEVELOPMENT AGENDA

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Scholars and practitioners are currently discussing new sets of water goals, targets and indicators in order to contribute to the definition of the post 2015 global development agenda and the UN Sustainable Development Goals. The panel aimed at contributing to this debate, addressing future scenarios on access to water and on water resources management, and advancing proposals on themes, goals, and processes to be included within the post 2015 global development agenda. The panel adopted a multidisciplinary approach (involving lawyers, political scientists, geographers, engineers, geologists, agronomists and planners), highlighting the interaction between the technical aspects and the socio-political dimensions of access to water and water resources management.

Water policies negotiation, both at global and at local level, should be understood and assessed in the context of two main – and sometimes competing – trends. On one side the growing consensus registered in international fora around the framework of "the water, food and energy nexus" – sometimes explicitly including within this nexus also "land" or "climate change". This approach highlights the interdependence of water, energy and food security and the natural resources that underpin that security, such as land. While this trend might offer a coherent framework to address in a comprehensive way sustainability issues, some have pointed at the risk of securitizing water issues. Moreover the approach underpinning the nexus remains firmly anchored in the modernist perspective representing water apart from its socio-cultural context and reducing it to the mere H2O resource.

On the other side, social movements, local authorities representatives and scholars are increasingly framing water issues in terms of human rights and the commons. The trend emerged firstly as a reaction to processes of privatisation of water supply services, particularly in urban contexts, both in high-income and low-income countries. From reclaiming public water, these positions have been further articulated in order to highlight the plurality of water's meanings, its cultural, social and political dimensions. This trend has been described in terms of "water re-socialisation" or "hydrosocial renewal". It contributes to highlight the moral economies of water, i.e. the sets of moral norms and obligations expressing popular perceptions of legitimacy and justice in relation to collective wellbeing, economic transactions and the role of institutions in water resource management. These claims cannot be overlooked in the definition of future global and local water policies that aspire to be morally and politically legitimate in the eyes of citizens and public opinions.

Bearing in mind this background, the papers presented in the panel addressed the broader issues of power relations in water management, the role of scientific knowledge in shaping these relations and the institutional frameworks that might mitigate conflicts or inequalities in access to water and water resources management.

Massimo Zortea (University of Trento – UNESCO Chair in Engineering for Human and Sustainable Development) presented a paper on "Environmental mainstreaming and integrated policies in development cooperation after Rio+20: the emblematic case of water and food". He highlighted how environmental mainstreaming represents an effective tool of science-policy interface about water-ground-climate-biodiversity-food sovereignty serving the post 2015 development agenda. Zortea delineated and advocated for concrete actions in order to promote environmental mainstreaming in water and food policies, focusing in particular on the driving role that universities should play in these processes.

Michela Miletto (UNESCO World Water Assessment Programme- WWAP) introduced the mission and the work of UNESCO-WWAP Office, presenting the theme of next World Water Development Report, focusing on "Water and Energy" and calling to CUCS scholars and universities to contribute to the future Reports and more in general to UNESCO-WWAP activities. Following, Francesca Greco (UNESCO-WWAP) presented a contribution on "Water and the post 2015 indicators: a research proposal for gender disaggregated indicators in water monitoring assessment and reporting". Greco reviewed the main efforts undertaken within the UN system in order to mainstream gender issues and indicators in development policies. She further presented the efforts of UNESCO WWAP in order to promote the use of gender-disaggregated indicators in the framing of monitoring mechanisms on water related UN Sustainable Development Goals.

Guido Minucci (Polytechnic of Milan, Department of Architecture and Urban Planning) focused on water challenges in the context of increasing trends of urbanisations, presenting a paper on "Fostering adaptive capacity of water institutions to face future environmental changes in an urbanised world". By presenting the case of quinoa cropping in the Southern Bolivian Altiplano, Minucci illustrated, on one side, the growing interdependencies between urban and rural areas and the cross scale trade-offs related to the rapid globalization process. On the other side, he pointed at the need to reform water institutions in order to foster adaptive capacity and face unexpected, current, and future water problems. He also emphasized the opportunity to examine how local water institutions facilitate or constrain adaptive capacity to face future issues and to critically assess the vulnerabilities resulting from consumption

chains and urban demands.

Giorgio Cancelliere (Director of the Master on water resources management in International Cooperation - Università di Milano Bicocca) and Italo Rizzi (Director of the Ngo LVIA – Lay Volunteers International Association) acted as discussants of the three papers presented. They contributed to the debate from the perspective of practitioners involved in applied research to international development cooperation as well as in the implementation of water and sanitation projects in Africa, Latin America and the Middle East. Cancelliere and Rizzi agreed on the need to foster coordination at the national level between different actors (the Ministry of Foreign Affairs, NGOs, universities) in order to elaborate an Italian strategy on water for development, rather than merely delegating water policies definition and implementation to multilateral institutions, as it has been in the past. The aspiration to continue the debate beyond the panel and to carry on joint researches and initiatives was confirmed by the worm reception by the participants of the proposal to create a thematic group working on water issues within the CUCS in close partnership with UNESCO-WWAP. This confirmed the catalyst role that water, as inherently "relational resource", could play in facilitating the bridging of disciplines and institutional boundaries.

ENVIRONMENTAL MAINSTREAMING AND INTEGRATED POLICIES IN DEVELOPMENT COOPERATION AFTER RIO+20: THE EMBLEMATIC CASE OF WATER AND FOOD

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ABSTRACT

The goal of this paper is reflecting, shortly but with the comfort of links to more comprehensive literature, on how the environmental integration represents an effective tool of science-policy interface about water-ground-climate-biodiversity-food sovereignty serving the post 2015 development agenda, also examining in brief the trends of main International Cooperation actors and drawing a possible role of universities.
Environmental Mainstreaming – i.e. a transversal and inter-sectoral inclusion of environmental conservation and of the opportunities offered by environment in all development policies and in project approach to development – has become a theme with pressing actuality: the challenges set by the more and more evident crisis of development sustainability, particularly environmental, are by now urgent. The dramatic theme of denied access to water and food perhaps is the most symbolic expression of such crisis.
U.N. System (Rio Conventions), OECD-DAC, European Commission, Development Cooperation national agencies: by now all promote an ample integration of environment in all their sectoral policies and initiatives, as main path to the goal of sustainable development.
A strategic reaction to demand for sustainable development – especially in the more mature vision emerging in post Rio+20 International Cooperation and post 2015 development agenda scenarios – requires a systematic integration of environmental sustainability into development processes as promoted at the international level. Universities are called to a decisive driving role.

INTRODUCTION

Global environmental crisis has become a reality evident even for the most sceptic consciences. The water crisis is just one of its most remarkable expressions, perhaps the most symbolic, although it rarely conquers front pages of newspapers neither it still mobilizes a suitable international action, unlike wars and natural catastrophes. After all, like hunger, deprivation in access to water is a silent crisis lived by the poor and tolerated from holders of resources, technology and political power to stop it.

Global environmental crisis is a threat to human and sustainable development but fortunately the awareness on this concept is growing. Thus it's opportune to explore its bases with a positive approach, in order to understand whether to embank it and rather to reverse the route, by protecting and valorizing environment in an innovative way in comparison to past experiences. Alfredo Guillet argues, with his usual acumen: *"if Stockholm Conference in 1972 for the first time raises the awareness that protection of Earth natural resources is a matter of paramount importance for peace and socio-economic development, twenty years later, Rio Conference brings to a same table both development cooperation world and environmental conservation world. And it does this, by making explicit the idea that, although daily priorities must converge on starving child and not on forest conservation, it is also true that tomorrow it won't be possible anymore to save that child if we don't allow that forest to keep on furnishing the food to feed him or the firewood to heat him. That concept thrills all participants to the Conference. Then, besides, instead of producing a structured tool, able to combine the different souls of environment-development binomial, that process gives birth to a series of Conventions and sectoral fora, losing its sight on unitary integrative original concept. In such context, against integration of environment with development, different plots emerge, behind every convention and forum, tailored by several political, industrial and commercial lobbies"* [13: 11].

So that some driving themes of the present reflection are: the deep need to integrate and to make synergic development and environmental protection/exploitation policies; the great institutional and operational fragmentation; the contradictory and conflicting polarities, tied up with particular stakes. The conclusion we intend to reach can be summed up in two leading theses: first, the health of the environment is linked in double way with poverty and human development, because degradation and environmental over-exploitation produce poverty but also viceversa the latter produces or contributes to the first; second, in order to to reverse this vicious circle, a specific attention to environmental profiles, in transversal and capillary way, is required to be entered into all policies and interventions for fighting poverty and promoting development, not only into those with specific environmental content.

By now the biunique causal chain among environmental degradation and poverty is blatant and universally

recognized. Almost a billion people, in particular the poor of rural zones, directly rely on natural resources for their livelihoods. But global environmental threats are wearing out that base of resources: biodiversity loss proceeds with a rapid rate in many countries, like the increase of toxic chemical substances; desertification and drought are problems with global dimensions, that strike all the regions; greenhouse gas emissions expose world climate to risks and Developing Countries are the most vulnerable to the impacts (see OECD [9]). Although all the countries are struck, the poor are the most threatened, because they have less resources to face the radical causes of environmental threats and to adapt its impacts; besides because they are highly depending on the natural resources for their livelihoods. Similar environmental threats have impacts on rural livelihoods, food security and health, while they are multiplying the effect of natural disasters as floods and droughts. Such vulnerability risks to intensify the conflicts for land and water resources and to jeopardize all the efforts to reduce poverty: poverty reduction is therefore tightly correlated to a suitable environmental management, conducted at all levels: local, national, continental and global. All environmental upsettings in progress can affect the ability of ecosystems to support livelihoods and, overall, at a scale that crosses national borders of States and ignores all the differences between juridical regimes, cultures, languages etc.

The driving factors underpinning global environmental threats are manifold and variegated over time and space. The greatest pressures are made, separately and more often with inter-action variedly combined, by these components: over-exploitation for excessive fishing, pasture and intensive cultivation etc.; conversion of forests, grasslands and wetlands still intact to artificial uses, for agriculture, industry or urban setups; fragmentation of natural areas once upon a time interconnected, with increase of their vulnerability; uncontrolled introduction of alien invasive species, that conducts to extinction the autochthonous ones. On the other hand, these direct components are referable in their turn to a number of deep causes, such as rapid growth of population, increasing consumptions, absence of market systems or defects of markets, defeating public policies, weak institutional abilities, use of inappropriate or obsolete technologies etc. In conclusion, climate change, biodiversity loss and desertification are deeply connected to human well-being and poverty, in all of its components and expressions, making much more difficult the already arduous challenge of international cooperation to satisfy the priority demands for development.

On this theme let's forward to the numerous works of E. W. Barbier, particularly: Capitalizing on Nature. Ecosystems as Natural Assets [1] and the very recent A Blueprint for a Green Economy [2]. Barbier, generous as usual with data and comparisons, underlines among other that big part of poor population keep on living in disadvantaged areas of Developing Countries, i.e. fragile: is has been estimated that from 1950 to today population living in such areas doubled. Moreover he notes a persistent poverty, even though reduced in percentage, in the countries that have seen ample part of their population going out of the threshold of poverty but that show a constant environmental degradation: typical it is the case of China; despite the strong economic growth and the general reduction of poverty, it sees withstanding a consistent pocket of rural poverty, concentrated in relatively poor agricultural western and south-western zones and in the hilly and mountainous zones: the poor Chinese living in mountains have grown from less than 1/3 in 1988 to the majority in 1995, like approximately Mexican poor.

Therefore, to take seriously and to face this mutual and biunique causal chain between environmental degradation and poverty is necessary. In order to reverse that vicious circle it will be enough, according to L.R. Brown [3], a financial investment absolutely within governments' reach, that he calculated in 185 millions annual dollars, of which 75 for poverty eradication and 110 for environmental restorations; it corresponds to invest in such new frontier of global security 12% of world military expenses and 28% of American ones in 2009.

Several studies speak openly of scarcity civilisation, characterized by the raise of environmental conflicts more and more deep, in a typically post-industrial context, for control and distribution of natural resources: starting from water resources, the so-called blue gold in XXI Century. The increasing insufficiency of resources, tied up with the growth of consumptions and with their progressive exhaustion, produces shortage and iniquitous distribution, projected both in the space and in the time: in some zones for privilege of others and in damage of future generations for excess of greed by the present one. The World Economic Forum ranks the risk from water crisis as the greatest global risk in 2013. In fact, according to a recent paper of CBD [4], 884 million people (the 12.5% of global population) live without access to drinkable water, while 2,5 million people (40% of population) lack suitable sanitation; while, paradoxically, the risks correlated to floods count for the 90% of the risks from natural disasters, keeping in mind that from 1970 over 7.000 natural disasters have caused damages for 2.000 billion dollars and just in 2010 natural disasters have killed more than 296.800 people and affected almost 208 million people, causing some 110 billion dollars damages.

Removing and displacing the effects of exhaustion and environmental degradation – sometimes for mere indifference or ignorance, sometimes for deliberate and meticulous hiding – represent the constant of this beginning of millennium. First of all, those effects are hidden by exporting pollution, wastes *in primis*, toward States less careful to environmental matrixes quality. But such hiding is dangerous even when is due to missed perception of indirect environmental costs, contained in all products and services, often very high in comparison to market prices. In International Cooperation context, these aspects are still more evident and they put a pressing question of equity, both geographical and generational. The dilemma has a nature moral and economic at the same time: in other words, even if the theme doesn't concern for ethical tolerability, it must do it for economic sustainability though.

An useful answer is the political and technical approach of Environmental Mainstreaming, that can be defined as "*complex of ideas, principles and actions directed to make to know, to keep in mind, to pursue and/or to guarantee, in transversal and penetrating way, as goal but also as tool, the environmental protection in all human activities, of any type and in any field, at every institutional and operational level as well as at whatever scale, local, national and*

global, with multi-disciplinary and inter-disciplinary approach" [13: 59].

VISION: INTERNATIONAL COMMUNITY ON ENVIRONMENTAL MAINSTREAMING, WATER, FOOD

Both wide part of the most recent International Environmental Law (water subject is significant, not by chance, particularly the Helsinki Convention 1992 and London 1999 and Kiev 2003 Protocols), and the institutional framework in which methodology and culture of Environmental Mainstreaming have grown are certainly permeated by the Environmental Mainstreaming approach.

In ONU area, 1972 Stockholm Declaration deserve to be mentioned, especially these excerpts:

4. Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors. Nature conservation, including wildlife, must therefore receive importance in planning for economic development.

9. Environmental deficiencies generated by the conditions of under-development and natural disasters pose grave problems and can best be remedied by accelerated development through the transfer of substantial quantities of financial and technological assistance as a supplement to the domestic effort of the developing countries and such timely assistance as may be required.

19. Education in environmental matters, for the younger generation as well as adults, giving due consideration to the underprivileged, is essential […].

From 1992 Rio de Janeiro Declaration:

Principle 4. In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

Principle 7. States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.

From 2000 Millennium Declaration, these excerpts are worthy of note for this paper's purposes:

21. We must spare no effort to free all of humanity, and above all our children and grandchildren, from the threat of living on a planet irredeemably spoilt by human activities, and whose resources would no longer be sufficient for their needs.

23. We resolve therefore to adopt in all our environmental actions a new ethic of conservation and stewardship and, as first steps, we resolve: […] to stop the unsustainable exploitation of water resources by developing water management strategies at the regional, national and local levels, which promote both equitable access and adequate supplies.

2012 Rio+20 Declaration, taking back themes and visions already emerged shortly in Johannesburg Declaration 2002, with its 283 paragraphs is a mine of cues; let's limits to extrapolate the followings:

2. Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development. In this regard we are committed to free humanity from poverty and hunger as a matter of urgency.

3. We therefore acknowledge the need to further mainstream sustainable development at all levels integrating economic, social and environmental aspects and recognizing their inter-linkages, so as to achieve sustainable development in all its dimensions.

30. We recognize that many people, especially the poor, depend directly on ecosystems for their livelihoods, their economic, social and physical well-being, and their cultural heritage. For this reason, it is essential to generate decent jobs and incomes that decrease disparities in standards of living to better meet people's needs and promote sustainable livelihoods and practices and the sustainable use of natural resources and ecosystems.

75. […] The institutional framework for sustainable development should integrate the three dimensions of sustainable development in a balanced manner and enhance implementation by, inter alia, strengthening coherence, coordination, avoiding duplication of efforts and reviewing progress in implementing sustainable development. […]

87. We reaffirm the need to strengthen international environmental governance within the context of the institutional framework for sustainable development, in order to promote a balanced integration of the economic, social and environmental dimensions of sustainable development as well as coordination within the UN system.

Expressively in matter of water and sanitation:

> *119. We recognize that water is at the core of sustainable development as it is closely linked to a number of key global challenges. We therefore reiterate the importance of integrating water in sustainable development and underline the critical importance of water and sanitation within the three dimensions of sustainable development* (then the theme is being developed in paragraphs 120 to 124; likewise significant: par. 158 to 177, on oceans and seas, particularly 174 for explicit references to *mainstreaming*; worthy of mention even par. 188, on disasters risk reduction, and 190, climate change impacts on development).

Links between Environmental Mainstreaming and MDGs (Millennium Development Goals) are even more interesting, especially in their evolution in SDGs (Sustainable Development Goals) in post 2015 scenario, at length treated by the Declaration: see paragraphs 245 to 251.

Environmental Mainstreaming, after all, is a clear concern also for OECD-DAC, given that it has devoted several studies and publications to that theme and it declares: "Integrating environmental concerns in poverty reduction strategies and other national planning processes is a priority" [9: 10].

It is also well-known the general position of European Union in that theme and the decisive contribution engraved by the so-called Process of Cardiff: European Council in Cardiff on June 1998, favorably welcoming the communication by Commission on the strategy of integrating environmental considerations into European Union policies, approved the principle that prominent political proposals must be accompanied by an evaluation of their environmental impact. In that wake, also the following acts deserve a mention: the decision of European Parliament and Council n. 2179/98/CE (it called for a reinforcement of the role of Community in International Cooperation in matter of environment and sustainable development; the ground strategy was identified in realizing the complete integration of environmental policies with the other policies, including development policy); the Regulation CE of European Parliament and Council n. 2493/2000 (containing measures directed to promote the total integration of environmental dimension in development process of Developing Countries); the Conclusions of European Council on integration of environment in Development Cooperation 25.06.2009.

At last, the position of Italian Development Cooperation demands brief references. The Italian case offers an interesting example: the Environmental Guidelines - *Linee Guida Ambiente* of MAE-DGCS were definitively adopted on 2011, December and were elaborated through a participatory process, with an effective involvement also of civil society and scientific-academic community representatives, lasted around three years. Italian Cooperation, Guidelines state, "*respecting transversal nature of environmental theme, promotes the integration of environment in all of its sectoral initiatives as principal means for the attainment of the goal of Sustainable Development"* ([8: 5]; for ample references to everything above and to further experiences of other cooperation agencies, see Zortea [13], passim).

MISSION: ENVIRONMENTAL MAINSTREAMING AND INTERNATIONAL COOPERATION

Beginning from this vision, it is opportune trying to understand what's International Cooperation's mission with reference to the challenges of sustainable development and of environmental threats and how can be implemented.

If present challenges and future scenarios, as it's been mentioned, are global and transversal, according to their own nature, then a capacity of analysis, synthesis and action as much global and transversal. In other words, what technically is denominated Mainstreaming Approach it's required, especially in environmental field: i.e. a cross-sectoral attitude, that doesn't confine environmental themes, problems and potentialities into the enclosure of sectoral policies and of knowledge, languages and methodologies exclusively for technicians, but rather it spreads them capillarily at all levels of decisional trials, of all sectors, public and private, and with a diffused perception in public opinion. According to European Commission, for example, mainstreaming is "the process of systematic integration of a selected value / idea / theme inside all the circles of EU Development Cooperation in order to promote specific (to translate ideas, to influence policies) as well as general development outcomes" [5: 16].

The external effects of human activities on environment are diffused and pervasive and such pervasive attitude has got two aces of development, spatial and temporal: human actions engrave on environment in space and in time. This pervasive attitude tends to be increased by the human tendency to maximize the positive externalities and to reduce to a mininum the negative externalities, besides to maximize the direct advantages and to reduce to a minimum the direct disadvantages. From that, also, the more and more ample phenomenon of the transfer (hidden and sometimes even apparent) of risk, of costs and of negative externalities from consumers of resources to third subjects, more weak and often unaware. A tangle of problems at a wide scale, therefore, that typically impinges even on International Development Cooperation. In truth, global environmental threats, with their causes and effects, cross national borders and press for international, regional, national and local responsibilities. Addressing the causes and the impacts of biodiversity loss, climate change and desertification requires measures in key sectors such as agriculture, forests, but also energy, transports, industry etc.

Too often on the contrary environmental issues have been faced as separated policy agenda issues and with a concern limited to national or even merely local political priorities. So that in many countries only environmental ministers are put in charge of implementing environmental political agendas linked to international convention, first of

all the three Rio Conventions (CBD, UNFCCC, UNCCD), without any coordination at a wide governmental level, suitable for guaranteeing measures in all key sectors, even not directly under the competence of environmental ministers.

Environmental institutions need to work in closer contact with the other, whereas the latter treat environment like an *extra-moenia* affair. On the contrary, as GEF often remarks, Environmental Mainstreaming is important, because socio-economic development and environment are fundamentally interdependent: the way we manage economy and political and social institutions have relevant impacts on environment, whereas environmental quality and sustainability are vital for economy and social well-being trends.

From the reflections above developed a component of Environmental Mainstreaming is rising, that often we tend to underestimate: the cultural component. Environmental Mainstreaming can really take root and work as method only if, even before, it stand as mentality (*forma mentis*), as cultural behaviour and movement at all levels of any organization or community. In that sense, Environmental Mainstreaming culture is a real driver for a system implementation of that methodology. We must also observe that main deficiencies at the level of theoretical elaboration and of practical experimentation are just on cultural side, in mentality spread. As a matter of fact, integration requires and implies a method and a culture of prevention, as well as viceversa: the latter represents the true and deepest meaning of mainstreaming.

Eventually, culture and methodology of Environmental Mainstreaming are complementary, in a kind of virtuous circle. A glance to practical approaches of mainstreaming, applied in public policies and in citizens' life, is useful. A first significant experience deserving a mention is the so-called Agenda 21, we can define a general and multi-level system for managing sustainability, in all its profiles, even environmental. It's an action programme for implementing a sustainable development at world, national and local level, set up during 1992 Rio Conference, summarized in 40 chapters, settled in 4 parts, respectively devoted to: economic and social dimension; resources conservation and management; strengthening of most significant groups' role; tools for performing the programme. Even the voluntary environmental management systems (EMS, actually two types are known: ISO 14001:2004 ed EMAS by European Union), i.e. the systems for analysing, planning and managing all environmental aspect in any organisation, that get an environmental certification attesting the compliance of determined standards. In an even wider circle, we can mention approaches inspired and oriented to the idea of Environmental Mainstreaming – although not exactly direct tool – also for the following initiatives, linked to the concept of Integrated Product Policy IPP: Green Public Procurement GPP; Environmental Product Declaration and Environmental Labelling (such as Ecolabel introduced by European Union for years); Life Cycle Assessment (LCA).

International Cooperation fosters logics and methodological approaches of mainstreaming, for years and in a more and more wide-spread way. The most relevant types of mainstreaming actually are: environmental (to be considered the most important among all, both because it's tied up to the survival of mankind and because the number of aspects and implications involved is huge and higher than all other themes); human rights (Human Rights Based Approach, adopted for example by United nations System ten years ago) gender (Gender Mainstreaming); participation (Participatory Approach, aiming to apply systematically a wide-spread participation to all type of action for development).

Coming back to environment, it must be said that International Cooperation has a lot of aspects the make it a privileged sector for applying Environmental Mainstreaming; and that for at least two reasons. The first: facing environmental challenges is a key option for human and sustainable development e for poverty reduction; as a matter of fact, global environmental threats affect poor in an over-proportionated way, particularly around a billion people directly relying on natural resources for their subsistence. The second: answers to environmental threats require measures in a remarkable variety of sectors: they must be coherent with the priority national development goals and viceversa; that requires to integrate transversally these strategies into national policy agendas for development. It's necessary to work at three levels, at least: strategies and actions in headquarters of agencies and governments; relationships with Developing Countries partners; collaboration among development cooperation agencies.

A further methodological criterion, very important in order to act with efficacy in this multi-level approach, it's to intervene on priorities set up and agreed at the international level, so as to guarantee a coherent alignment and to avoid energies and resources dissipation in isolated initiatives. In particular, climate change, biodiversity loss and desertification are global scale threats putting at risk sustainable development and they can be faced only at likewise global scale: the three Rio Conventions offer an institutional and strategic framework useful to manage these global concern and reverse the current trends of natural resources base degradation.

All that requires also a work on some key factors, positive and negative, influencing a good Environmental Mainstreaming, such as: applying the principles of subsidiarity and suitability in the distribution of roles between international and local actors; inter-action between subjects with different nature, i.e. public and private, profit and non-profit; selection of precise directrixes of mainstreaming, that is to foster them like as many goals of it: sustainability of human development (in the threefold component economic, social and environmental); fight against poverty and social exclusion; security, in its multiple connotations (personal safety, peace and geopolitical stability, health, food security/sovereignty…); promotion and protection of human rights and good governance.

Environmental integration, set up according to the directrixes above listed, is applicable to all types of intervention in the context of Development Cooperation (among them Policy Support, Budget Support; Project Approach). Even with regard to thematic sectors is technically possible or better still desirable a wide-ranging environmental integration; let's think to the nine classical key sectors of International Cooperation according to European Union, i.e.: governance,

democracy, human rights and support to economic and institutional reforms; trade and regional integration; infrastructures, communications and transports; water and energy; social cohesion and employment; human development; rural development, land planning, agriculture and food security; environment and sustainable natural resources management; conflicts prevention and States fragility.

One of the most critical points for a successful environmental mainstreaming is the choice between short-period (3-5 years) and long-period (10 years) strategic priorities. It's an arduous often choice, because in short period social and economic urgencies, particularly poverty reduction, can come into conflict with middle- and long-term goals and strategies. The most typical example in that sense are the policies aimed to a fast growth of agricultural production in order to guarantee food security corresponding to population growth: non rarely, they coincide with the conversion at a large scale of land destination to food mono-cultures, with intensive exploitation of water resources, massive utilization of fertilizers and pesticides, substitution of local varieties with standardized varieties, or even genetically modified; but after first successes, in long period all that ends in biodiversity loss, soil impoverishment and erosion, water and soil pollution, in one word, in destruction of ecosystems and their fundamental services.

This spirit of careful integration between environmental conservation and fight against poverty is being took in serious account by all main actors of International Cooperation. On one hand, many international and national agencies have adopted Environmental Mainstreaming, setting up internal procedures and using several incentives; on the other hand, a number of initiatives has been begun aimed to promote and spread it through multilateral aggregations (Poverty-Environment Partnership, Poverty-Environment Initiative etc.). A problematic basic fact remains however: the great fragmentation among all those bodies. A coordination in Environmental Mainstreaming is missing, as besides even a general codification of law and procedures for environmental conservation. Not by chance environment is still orphan of a worldwide unitary jurisdiction able to guarantee uniform application of principles and rules put for its conservation.

A wide perspective synthesis of the work waiting for International Cooperation in future scenarios – with a perspective of proactive application of results risen from Rio+20 Conference and also, more widely, of setting up the post-2015 development agenda – is contained in the conclusions of European Council on October 25th 2012 (Rio+20: Outcome and follow-up to the UNCSD 2012 Summit).

Finally, about the specific theme of water an effective point of reference for this reflection is represented by UNDP Human Development Report 2006 ([10], especially for the reach synthesis on pages 23 to 50): in 6 chapters it draws up as many great directrixes of work for International Cooperation on the theme of water and access to water resources, also in correlation with food security and human right to feeding.

GOALS: POLICY DEVELOPMENT AGENDA, BEFORE AND AFTER 2015

This approach, global and cross-sectoral, helps to better translate in strategic and operational goals the great target of poverty eradication and of sustainable well-being equitably shared. In that sense, however, all the process for implementation of Millennium Development Goals and of post-2015 development agenda is traditionally oriented, by now, with the drawing up of Sustainable Development Goals (SDGs), but also with the thematic sectoral agendas, such as the CBD's one, as we'll see below.

For Millennium Development Goals (MDGs) – after 13 years since when the eight great international development goals where officially launched in the institutional frame of United Nations Millennium Summit on September 2000 with the consequent Millennium Declaration subscribed by 189 governments – it's time for balances.

The narrow space in this paper doesn't allow a wide overview of that topic, but it's useful to notice and recall two important tools, one traditional and one exceptional: the annual Millennium Development Goals Reports and the report released by United Nations Secretary-General A life of dignity for all [11].

The first, as it's known, assess both global and regional progresses and use the most updated data series provided by partner agencies and members of an ad hoc working group (IAEG). The latter contains updates on goals and strategic vision for the future route. It delivers an important assessment of the progress achieved up to now by MDGs but overall it identifies the policies and programmes that have been successfully carried out to achieve the goals. It remarks some key factors, such as: inclusive growth; policies for a decent job guaranteed for all and a suitable social protection, especially for the most weak layers of population, regardless of their geographic location; creation of innovative mechanisms for mobilizing resources even financial necessary to that scope and accessible to all; building up local and global enabling environments, juridically and institutionally; finally, valorization of multi-stakeholder e multi-disciplinary partnerships.

No doubt an un-precedented progress has been done in fight against poverty, both at global and country level. The 2013 Report shows that really some key goals have been yet reached before the deadline or will be reached within 2015 however. With special reference to goals and targets relevant for the themes treated in this paper (water and food), it's noted 700 million people live in extreme poverty conditions less then 1990. More than 2.1 billion people got access to improved water resources in the last 21 years. Over 200 million slum dwellers benefitted from improved water sources, sanitation facilities, durable housing or sufficient living space between 2000 and 2010.

On the other hand, we must be aware that environmental sustainability is under severe threats and requires a new level of global cooperation. The global growth of green-house gases is speeding up and actual carbon dioxide emissions

are 46% higher than in 1990. Forests keep being eroded at an alarming rate. The over-exploitation of marine fish stocks results in production and gains diminishing. Marine land areas under protection are increased but birds, mammals and other species are approaching extinction faster than ever, with a decline both in population and in distribution.

A further aspect that must be considered, especially in matter of water and food, but more in general for all ecosystem services available for populations, is distribution disparity. Progress towards MDGs has been uneven not only between regions and countries but also between rural and urban zones, men and women, different population groups even inside the countries.

In theme of access to water (target 10 goals 7), the UNDP Report 2006 [10] offers interesting data and comparisons at p. 55 and following; let's forward to them, because of lack of place here, but with some underlining.

Target 10 like it's known aims to half percentage of people living without access to potable water and sanitation within 2015. Beside international community not for the first time has set out ambitious targets in that matter: they come back to early 80s. Therefore the difference between that time and today is not the political willing, that evidently is not sufficient in itself, but a suitable strategy in order to translate political goals into action, monitoring and overall results for populations. And this, even due to the fact that even a full achievement of the target doesn't be said sufficient, remaining the challenge for the rest of population open.

As we said above – but particularly for water and food – the focal point is to overcome the enormous disparities between regions and countries. In fact global aggregation of data masks large differences, even inside the same countries. While South Asia marks important targets, Sub-Saharian Africa remains constantly behind. This increasing gap between Sub-Saharian Africa and the rest of the world unfortunately will feed further inequalities also in matter of health, education and poverty reduction.

In addition the gap between achievements in matter of water and sanitation is increasing, with the risk the potential benefits linked to the first are being eroded by a failure in the latter. Furthermore an increase in water delivery, where drainage and organic waste dumping are unsuitable, could worsen problems in terms of public health, especially in overcrowded areas. Once again an ineludible fact rises: the real challenge for international cooperation are overcrowded suburban areas and in theme a serious regression of human development is looming if at worldwide level in early XXI century mistakes done in second half of XIX century will be repeated, especially in Europe and North America.

The challenge stands on two floors, regardless of achieving MDGs or not: level or type of technology applicable and costs of delivery. Report 2006 in this regard remarks unusually converging estimations by researchers: they estimate the actual expense for water and sanitation around 14-16 billion dollars a year (not including waste water treatment) and around 10 a year of expense for achieving MDGs linked to that issues on a base of sustainable low cost technologies.

Maintaining furniture at the actual quantitative levels but increasing quality would imply, according to some estimations, a further expense of 15-20 billion dollars a year. Further amounts should be employed if the goal was to treat all domestic waste waters. It's a threshold of investment appearing within international community's reach, both because of the corresponding enormous benefits guaranteed (child mortality reduction, spear of time, increase of productivity, reduction of health care expense, reduction of infective diseases, reduction of school withdrawal, strengthening of women's role etc.) and in comparison with other actual public expense items (military expenses and more in general expenses for national and international security).

An interesting review on how all eight MDGs can be linked to water issue in a perspective of mutual integration (working on improvement of access to water resources to attain the respective Goal and working on each of eight Goals in order to better guarantee a qualified but sustainable access to water) is contained in the table on pages 22-24 of UNDP HD Report 2006.

As stirring as that, even for its strategic suggestions, is the SIWI Report 2013, Cooperation for a Water Wise World – Partnerships for Sustainable Development (see Jägerskog et alii [7], especially on pages 45-50, devoted to water-energy-food nexus: it argues that in order to achieve sustainable development goals it's necessary to develop and to implement systematic approaches increasing the comprehension of water-energy-food nexus, both at different scales and through multiple sectors, with typical cross-sectoral approach, just characterising environmental mainstreaming).

What about the future of global development agenda? Ban Ki-moon in above cited Report 2013 [11] affirms: "*A new post-2015 era demands a new vision and a responsive framework. Sustainable development — enabled by the integration of economic growth, social justice and environmental stewardship — must become our global guiding principle and operational standard. This is a universal agenda that requires profound economic transformations and a new global partnership. It also requires that the international community, including the United Nations, embrace a more coherent and effective response to support the agenda*".

Doubling efforts is required to achieve the goals, although economic-financial crisis has made more complex the course. Lessons learnt for 15 years of MDGs implementation will contribute to define next global agenda. United Nations Department for Economic and Social Affairs is coordinating the UNTT (UN Task Team) working precisely on post-2015 agenda promoted by Secretary-General on November 2011. The Team has launched already three reports: Realizing the future we want for all (July 2012), Towards a renewed partnership for development (March 2013), Statistics and indicators for posst-2015 development agenda (July 2013).

Under the profile of resources necessary for agenda, Rio+20 Declaration ha recognized the need of a significant resources mobilization, as known, to promote sustainable development; at this aim it has been established to create an Intergovernmental Committee of Experts that will submit the results of its work to General Assembly on September 2014. The involvement of Major Groups of civil society is guaranteed by specific participatory mechanisms.

Finally, in theme of global political agenda and of transversal cross-cutting with environmental issues, another paradigmatic example deserves to be remembered: the so-called Aichi Target, i.e. the Strategic Plan for Biodiversity 2011-2020 to implement CBD. In particular, target 14 prescribes that By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable. The Strategic Plan notes that the paramount importance of water should be highlighted in the technical rationale of Target 14. Water is also cross-cutting and therefore underpins all of the other targets.

ACTION: BUILDING UP AN ENVIRONMENTAL MAINSTREAMING FOR WATER AND FOOD

The considerable extent of Environmental Mainstreaming idea has been already noted. It must be said that in reality about the concept different feelings and attributions of meaning and relevance exist. For instance, *Poverty-Environment Initiative* of UNDP-UNEP interpret it as "*integrating linkages between poverty and environment inside national development planning processes and what they produce like Poverty Reduction Strategic Papers (PRSPs) and the strategies of MDGs*" (2007).

The effectiveness of environmental mainstreaming appears under several profiles: at the scope of finding out integrated solutions to cope with intricate problems, such as the contrasts between development and environment needs or between top and bottom visions, institutional tensions, social costs; at the scope of setting up a more efficient planning of environmental assets and of environmental risks management; of supporting a technological innovation inspired to nature; of sustaining an informed debate, propaedeutic to political choices on grate issues and of helping their concrete formulation; of setting up environmental mandates to be accomplished in effective ways.

The following outer edges – with progressively ampler extent, in time and space – can be identified, in which an environmental integration can be started up: single initiatives; development projects or programmes; local or national plans (for example socio-economic, urban, environmental strictu sensu, military etc.); national or international strategies (for instance let's think of usefulness of mainstreaming in National Strategy for Biodiversity adopted by Italy in 2010, and in general in NBSAPs, National Biodiversity Strategy and Action Plans, provided by CBD).

Under a different profile, integration can be used both in action sphere of public sector (governments, public administrations) and in that of private sector. Within the latter, really very variegated, environmental mainstreaming can be employed both in for-profit sector (in particular, companies and enterprises, including SME and cooperative companies) and in non-for-profit sector: let's think of NGOs, but more in general of voluntary service organisations or to ONLUS entities (non-lucrative organisations with social usefulness), both in shape of association and foundation. In truth, just due to the fact that its effectiveness depends overall on its extent, mainstreaming can involve even whole groups, communities and territories, as well as can be activated (at least in hypothesis) by single individuals or families inside themselves, in daily life.

Even the theme of tools for implementing environmental integration strategies deserve brief mentions, at least. It must be underlined first of all that several typologies of tool exist (informative; formative and educational; operational; evaluative) [13: 73 ss.], but each one has its own role, irreplaceable, and is an integral part of the strategy. The dimensional limits of this paper oblige to opt for a dimension more focused on single project interventions, on a development programme or on plan and strategies, all characterized by being delimited in space and time. In this regard, some tools deserve to be remembered, that have become traditional in international cooperation, despite not all are known and widespread in the same way: Country Environmental Profile CEP; Green Logical Framework; Environmental Screening; Strategic Environmental Assessment; Ecosystem Approach; Community-Based Natural Resource Management CBNRM; Integrated Capacity Development; Technology Transfer environmentally compatible; Ecosystem and Human Well-being Framework (see more at length Zortea, *ibidem*).

Exemplary and paradigmatic is the Ecosystem Approach. Introduced by CBD in 1992, it has been promoted as main action tool of the Convention, facilitating the integration of global environmental goals into policies and socio-economic development plans at international, national, sectoral and project level; an official definition has been set out by Subsidiary Body on Scientific, Technical and Technological Advice - SBSTTA of CBD in 2000: "*a strategy for integrated management of soil, water and living resources, promoting their conservation and sustainable use in an equitable way; it's based on application of scientific methodologies focused on biological organisation levels comprising essential processes, functions and interactions among organisms and their environment; it recognizes that human beings, with their cultural diversity, are an integral component of ecosystems*". In other words, methodology consists in adopting all contrivances in order to make a certain project intervention on a territorial and environmental context to respect vital cycles and functionality of ecosystems existing over there, integrating itself in them; therefore it takes care of guaranteeing an use of natural resources and of ecosystem services in general compatible both with characteristics of that specific natural environment and with its "receptive" capacity, of generating or regenerating the resources utilized and of waste o recovering of rejected items produced during the intervention. Thus Ecosystem Approach must be applied both in project formulation and in its implementation; with regard to that, SBSTTA also set out 12 guide principles. OEDC underline that "*capturing both environmental and socio-economic aspects of sectoral development policies, a framework of policies based on Ecosystem Approach can provide to decision makers a way to identify the best options of development and allow them to take decisions based on a solid understanding of their long-term consequences*" [9: 17].

Much would remain to tell but there's place by now only for some applicative considerations, focused on the theme of water and food. A necessary premise it that scarcity and excess of water are paradoxically both serious and actual threats to mankind. Moreover: both of them are consequence of human action!

The long necklace of natural catastrophes, for which origins or anyway disastrous consequences are directly referable to human foolishness just recently has been enriched by a further flood devastating episode, concerning also because it's far from usual locations imprinted in collective imagination, such as typical floods in Gange basin: the Amur river's flood (2.824 km) at the borders between Russia and China, with economic damages amounting to 226 million euros and 40.000 people displaced in Russia and 194 million euros and over than 200 people deceased or missing in China, regardless to risks linked to leaks in dozen dams built alongside the course of the river. It's really paradoxical that consequences of that disaster have been much amplified by a thirty-year drought that has made populations and local administrators forget those areas are under the risk of flood and river has just retook the riverbed it had created in thousand years: on that, though, entire villages had been built with regular building licences.

A very detailed analysis of this inter-dependency between poverty and wrong water resources management – and overall about how we can work backwards on this vicious circle in order to defeat poverty – is included in UNDP HD Report 2006 above cited [10]. It observes that, during the course of history, water exposed mankind to some of its most demanding challenges. Water is a source of life and a natural resource contributing to sustainability of our environment and to family livelihood, but it's also a risk source of vulnerability. At the beginning of XXI century, human development perspectives are threatened by a global water crisis more and more deep. It derives both from water scarcity and pollution and worst quality of water used by poor populations.

Dispelling myth of crisis as mere consequence of a water scarcity, the Report demonstrate how the real core of problem must be found in poverty, in power and in inequality. The poor pay more than other water and food and more than they can afford. Beyond familiar needs, competition for water as production resource is increasing. Among the symptoms of this competition is the collapse of ecological systems based on water, the decrease of rivers flow and the depletion of aquifers on a large scale. Conflicts on water inside countries are intensifying, damaging the poor. Even the risk of tensions between countries is increasing, despite it would be absolutely convenient, in terms of human development, increasing cooperation.

In this frame, the need of a well done Environmental Mainstreaming rises with all its dramatic face, but also with its effectiveness. A crucial role have infrastructures and their integrated management (see UNDP [10: 155]), but the usefulness of environmental mainstreaming in international cooperation initiatives excels particularly is the combination between initiatives of contrast to water crisis and climate change.

In parallel, the dualism water competition – food security stands. Even the problematic of access to food depends heavily on vicious circle among political choices, project implementations and consequences on population. Water competition in agriculture is perhaps one of the fields in which most blatantly the deep linkages between water, livelihoods and human development are unveiled. UNDP [10] spares illuminating pages to that theme, remarking also some strategic directrices in which international cooperation is called to a strong commitment, in fruitful synergy with universities and research centres: better governance in irrigation systems; greater water productivity for the poor (even suggesting two pilot ideas such as water harvesting with micro-irrigation and low-technology solutions with high human development returns).

A further example of how the lack of an integrated vision, both geographic and sectoral, causes disasters, spoils the work of good cooperation, multiplies the effects of other impoverishment factors and obstacles for human and sustainable development, is trans-boundary waters management. Given that water interdependency is commonly recognized, the heavy costs paid for lack of cooperation are blatant, particularly in twofold shape of transmitting tensions down rivers and of shrinking lakes or drying rivers (exemplary are the cases of Chad Lake and Aral Lake)

Case studies in that matter are innumerable. For better bibliographic convenience, we can quote those ones proposed by Water Resources Institute [12], such as the example of inter-linkage between water and health in a project for regenerating watersheds in Darewadi Village, Maharashtra (India), with a typical Community-based Natural Resource Management approach, cross-sectoral, participatory, multi-stakeholder. Other variegated examples, even on cross-cutting water/food, can be found in annual reports of realities such as ICARDA. Also the enormous range of case studies in theme of correlation between marine pollution, fish stocks, fishing, jobs and food security is significant.

Finally, at least a mention must be dedicated to reflections, even methodological, in Human Development Report 2013 about common goods conservation (among them water, with a prominent role) and shared responsibility in their management.

CONCLUSIONS

At the end of this brief excursus, there's only to sum up some conclusions. For more comfort, let's summarize them in 5 theses:

1) environment and ecosystem services are crucial themes and strength points of International Cooperation, being at the same time goal, tool and indicator of a sound Cooperation;
2) conservation and sustainable use of environment, fair and equitable sharing of benefits deriving from them are

three key goals of the whole Environmental International Cooperation, even beyond of the context of CBD, that expressively adopts them;

3) it's impossible to achieve them without a generalized and transversal application of them in all policies, thus Environmental Mainstreaming is the most suitable tool, even for combating the actual great fragmentation;
4) in matter of water and livelihood (food, clothes, drugs etc.) Environmental Mainstreaming is mostly useful and therefore represents the emblem of how integration should permeate all Cooperation;
5) Universities, both of Developed and Developing Countries, can play a decisive driving role: in order to spread mentality and culture of mainstreaming as well as to develop its methodologies; but in its turn that requires to adopt an inter-disciplinary, cross-sectoral, open approach, getting over the typical stiffness of academic environments and of higher education curricula, especially in Italy.
6) The experience of UNESCO Chair UNITN stands indeed in this direction. For further details on all the themes above treated, let's forward to the volume *Integrazione ambientale nei progetti di sviluppo* [13] that represents precisely a first digest of this experience.

NOMENCLATURE

CBD	Convention on Biological Diversity
EC	European Commission
GEF	Global Environment Facility
MAE-DGCS	Ministero Affari Esteri – Direzione Generale Cooperazione allo Sviluppo
MDGs	Millennium Development Goals
OECD/OCSE	Organisation for Economic Cooperation and Development
SDGs	Sustainable Development Goals
UNCCD	United Nations Framework Convention to Combat Desertification
UNDP	United Nations Development Programme
UNGASS	United Nations General Assembly
UNFCCC	United Nations Framework Convention on Climate Change

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Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

Water and sanitation access in the South-western Region of Burkina Faso

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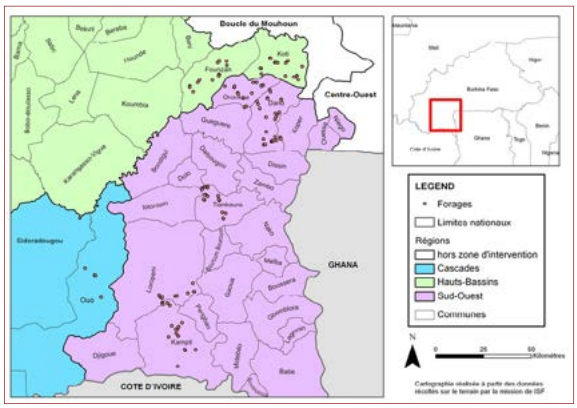
Context and issues



In the last few years the achievement of the Millennium Development Goals concerning access to water and sanitation has been announced. However, entire nations are still facing significant water issues. Burkina Faso is one of the country that still counts an important number of water-related disease cases, although acknowledged efforts have been done for incrementing safe drinking water and sanitation access so far. The South-western regions of the country have experienced an augmenting immigration flux from neighboring countries (e.g. Ivory Coast) and a growing gold mining activity, both formal and informal. These conditions cause an increasing pressure on the scarce drinking water infrastructures.

The cooperation project

The European Union funded project FED/2011/264-206 address the above mentioned issues through the water supply system restoration, the application of the national laws concerning water governance and the construction of improved sanitation facilities.

On the left a water well to be restored, on the right a case of drinking water pumped for informal mining activities; Burkina Faso (photos V.Coviello)

Expected results

More than 55.000 persons will have access to an improved water source.

More than 20.000 pupils of 62 schools and the patients of 29 health centers will have access to sanitation infrastructures.

Organisational and management skills of municipalities and environmental regional offices will be improved and will permit the functioning and maintenance of the water and sanitation network.

Beneficiaries behaviour with respect to the water and hygiene practices will be improved.

Women at a deep water well; Burkina Faso (photo V.Coviello)

Women at a deep water well; Burkina Faso (photo V.Coviello)

The project is led by the Italian NGO *CISV*, in partnership with 8 municipalities of the South-western region of Burkina Faso and the regional environmental authorities, with the technical support of *ISF-Torino*.

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SUSTAINABLE BIOMASS IN DEVELOPING COUNTRIES

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In developing countries, an unsustainable level of consumption of firewood for domestic use has been reached, resulting in severe deforestation in some areas.

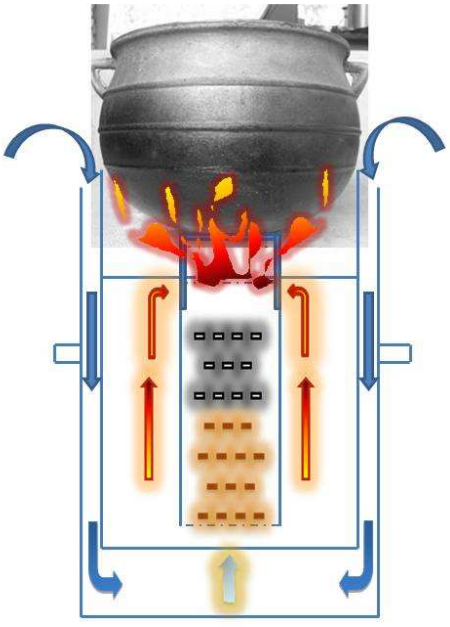
Considering that the only sustainable solution to this problem is switching to fuels other than wood, a gasification stove (AARON) has been developed by our research unit, starting from a scheme originally developed by the Brace Research Institute of Montréal (Canada).

This stove uses pelletized agricultural residues instead of wood, and does not produce smoke (apart from some periods during start-up and shutdown) during regular operation. Its adoption, on a large scale, is likely to greatly reduce wood consumption and incumbent smoke-related pathologies.

The activity was carried out in the framework of the project Energies durables dans les régions d'Agadez et de Tillabéry (NIGER) promoted by the European Commission - Energy Facility ACP – EU.

AARON has been appreciated for its ease of use and the absence of smoke. Aaron has been certified by the Centre National d'Energie Solaire of Niamey. Currently 1000 units are under production in Niger with the side result of a certain boost to the local economy. Pellets are produced locally, principally from millet residues.

French fries cooking with Aaron.



Aaron scheme and airflow.

	Efficiency %	Power (kW)	Specific Consumption (kg/l)*
Traditional fire on 3 Stones	14,70	2,80	0,34
AARON	30,07	4,55	0,08

*The specific consumption is calculated in kg of fuel used per liter of water brought to 100 ℃.

Figures released by the "National Center for Solar Energy" ***(CNES).***

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APPLICATION OF SOLUTIONS DEVELOPED FOR DCS IN ITALY

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Giulio Re – SCUOLA LA MALVA
Thomas Anthony Lawand, SOLARGETICS LTD.

Abstract - A solar drier type named Icaro, originally developed for Sahelian climate, has been adapted to European conditions. A drier built following this new desing has been installed at La Malva school in Bibiana, Italy. The unit did undergo several tests during 2013 summer, in the framework of a regional project named Sundryfruit.

Achieved Results - The Icaro solar drier has been adapted to European conditions. Tests indicate that temperatures and airflow obtained by the unit are suitable for drying.

Objectives - To adapt to European conditions an existing successful technology developed for Sahelian climate. To demonstrate that smart, eco-friendly appropriate solutions are suitable also for developed countries.

Methodological approach - The drier design has been modified in order to technically and economically adapt it to European conditions. With regard to technical conditions the tilt angle of the solar collector was increased and a transparent cover has been added on the cover to enhance air heating. The overall size of the drier has been increased to raise the volume/surface ratio, thus assuring higher internal temperatures. Besides the effect on temperatures, size enlargement allows a scale economy.

Conclusion – The new drier proved to be well adapted to temperate climate conditions. However drying time is generally longer than in African conditions, mainly because of fresher and humid nights. This aspect is a technical and economic disadvantage, and further study is going on, at present, in order to speed up the process.

Icaro solar dryer under final preparations for testing

raspberry being dried on trays

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MILK AND DAIRY PRODUCTS SUPPLY TO URBAN AND PERIURBAN MARKET IN NIGER BY THE CREATION OF A COOPERATIVE DAIRY UNIT

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Abstract

Milk and dairy products are considered more and more as an essential element for the human nutrition in developing countries, above all in urban and periurban contexts. A development project to improve the quality of the milk chain in Niger was carried out by the Dipartimento di Scienze Veterinarie e Sanità Pubblica in collaboration with the Dipartimento di Scienze Veterinarie per la Salute, la Produzione Animale e la Sicurezza Alimentare and NGO Africa'70. The farmers involved in the project, grouped into a cooperative (Association des Producteurs Laitiers de Say - Hawrinde Biradam, APL) and trained on milking and milk management, became suppliers and operators of the dairy unit realized by the project. The unit, located in the Department of Say, was equipped with a laboratory, used for physico-chemical (temperature, pH, density) and microbiological (TBC, *Enterobacteriaceae*, *E. coli* and *Staphylococcus aureus*) analyses of milk and products. If milk quality was adequate, it was pasteurized or used for the production of yogurt and mozzarella; all milk and dairy products were sold in the market of Niamey.

The presence of a dairy unit in a periurban area allows a constant provision to the milk growing demand of urban and periurban consumers, assuring the availability of hygienic products. The farmers' involvement in supplying and managing the dairy unit can be considered a point of strength of the project, following a structure already validated in previous experiences (CLN – Cooperative Laitiere de Niamey, Redou Gniwa at Maroua, Cameroon); this social model made the beneficiaries aware of their role in a collective project and responsible for the milk quality available on the local market.

Objectives

Development and cooperation ⟷ **Research**

To create of a dairy unit allowing a constant provision to consumers.
To organize farmers for an improvement of local cow's milk hygiene.

To evaluate the hygienic status of cow's milk delivered to the dairy unit.
To evaluate the influence of transport on the quality and microbial load of milk delivered.

Achieved Results

A total of 129 local farmers from 19 villages in Say Department were grouped in the cooperative Association des Producteurs Laitiers de Say (Say cow's milk producers association) - Hawrinde Biradam (APL/Say), and a small dairy processing unit, with a laboratory for basic microbiological analyses, was built in 2009.
All farmers involved were trained on milking and milk management, and became suppliers and operators of the dairy unit realized by the project.

Village ⇨ **Intermediate Collection Points (ICPs)** ⇨ **Dairy Unit** ⇨ **Market of Niamey**

Traditional milking

Collection at ICPs

Preparation for the transport

Transport by bicycle

Arrive at the dairy unit

Control (T, pH, density)

pH ≥6.45
density ≥ 1.028 g/L

Storage in a cooler tank

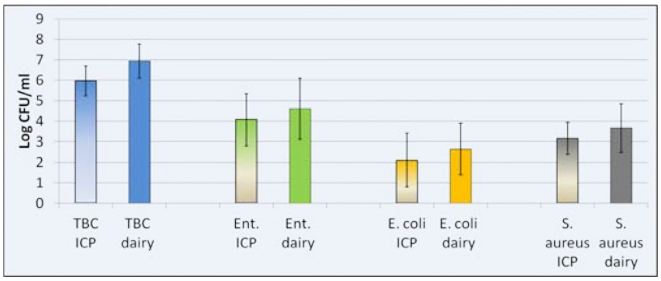
Transport to Niamey

Transformation in mozzarella

Microbiological analyses

T(°C) at ICP	32,7±2,8
T (°C) at dairy	31,1±3,8
pH at ICP	6,47±0,1
pH at dairy	6,54±0,07

During transport, milk temperature decreased gradually, thanks to the application of wet cloths to the plastic churns



The results obtained by microbiological analyses showed

- high bacterial numbers, considering international dairy quality standards (IDF, 1990), but in line with data obtained by the studies conducted in similar production contexts (Millogo *et al.*, 2010; Bonfoh *et al.*, 2003)
- high contamination values linked to traditional milking procedures, such as manual milking in non-dedicated, uncovered areas
- increase in mean values due to milk transport, ΔTBC = 0.99 Log, Δ*Enterobacteriaceae* = 0.61 Log

Methodological approach

The farmers' involvement in supplying and managing the dairy unit can be considered a point of strength of the project, following a structure already validated in previous experiences; this social model made the beneficiaries aware of their role in a collective project and responsible for the milk quality available on the local market.

Conclusion

The diffusion of the awareness on the importance of microbiological contamination of milk can be an incentive for farmers to improve the quality of their production. Training programs represent the most efficient mean to promote the diffusion of technical knowledge and responsibility among all the stakeholders along the whole production chain. To be effective, hygiene promotion programs should be performed repeatedly and last for extended periods.

References: Bonfoh *et al.*, 2003. Microbiological quality of cows' milk taken at different intervals from the udder to the selling point in Bamako (Mali). Food Control, 14, 495–500. INTERNATIONAL DAIRY FEDERATION (IDF). (1990). Handbook on milk collection in warm developing countries. Brussels: International Dairy Federation. Millogo, V., Svennersten Sjaunja, K., Ouédraogo, G. A., Agenäs, S. (2010). Raw milk hygiene at farms, processing units and local markets in Burkina Faso. Food Control, 21, 1070–1074.

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'Italy in Senegal': large-scale investments and support for family farming

Giorgio Roberto
Università Degli Studi di Torino – Scuola Universitaria in Scienze Strategiche

Abstract

The mobility project – which lasted five months (from April to September 2012) – came from the definition of Land Grabbing of the Tirana Declaration and was aimed to find out if the phenomenon was happening in Senegal, and eventually discover which of the Italian companies were involved.

To do this, I compared the two methods of aid to agriculture in Senegal. The first was the one led by the largest companies, whereas the second one was the support for families farming carried out by the Italian NGOs on Senegalese territory.

I also compared the presence of Italy in the private and public sector.

Achieved Results

- Recognition of the laws that allow foreign private investors to access to the land in the territory of Senegal.

- Localization on a map of the agricultural investments made by companies with Italian participation

- Analysis of two international cooperation projects that deal with the support for farm families and food security.

- Study of two Italian companies operating in Senegal in the cultivation and processing of jatropha: *Tea cooperative society* and *SBE Senegal*. A further analysis has been done to the *Tampieri* company operating in the field of sunflowers in Fanaye and the *African National Oil Corporation* operating in the field of jatropha.

- Creation of a matrix for the collection of data for each studied agricultural investments and development of a database for the classification and data management.

Objectives

The result of the research was a qualitative and quantitative information on which land had been taken away from local farmers by Italian investors in order to product biofuels and / or food for exportation. Here follows a list of the main objectives:

- A database on the use and ownership of land as far as the Italian factories installed in Senegal

- An analysis of the relationship between the use of local populations and the evolution of land grabbing

- A detailed analysis that leads to the understanding of the processes and dynamics of the formal acquisition of land by foreign and domestic investors and the role of local authorities.

Methodological approach

The research methodology has been developed as follows:

- Interviews with university professors and companies managers of the area

- Field visits

- Compiling the database of the companies

- Photographic documentation

Conclusions

This research can be seen as a basic work for the creation of a database of Italian companies operating abroad. Future researches could expand the research I carried out and implement the database already in place and, at the same time, integrate whatever is still missing.

My suggestion is to investigate on all those organizations which provide secure, sustainable and eco-friendly certifications.

A further field of investigation should be the one of the emission of carbon credits.

Potou's jatropha nursery (pépinière)

Localization of the agricultural investments made by companies with Italian participation

Examples of micro gardens carried out by the NGO ACRA in Dakar

Woman in a certified organic cotton field which has been given by the support from the 'NGO M.A.I.S.

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TEN YEARS OF COOPERATION ON SUSTAINABLE AGRICULTURE BETWEEN CHINA AND ITALY

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**University of Torino, DISAFA
***Italian Ministry for Environment, Land and Sea

AGROINNOVA
RESEARCH BEARS ITS FRUITS

Ministero dell'Ambiente e della Tutela del Territorio e del Mare

Abstract

In the year 2000 the Italian Ministry for Environment, Land and Sea and the State Environment Protection Administration of China jointly launched the Sino-Italian Cooperation Programme for Environment Protection. In this framework several cooperation and technology transfer projects in different rural areas of China have been carried out with special attention to sustainable crop protection.

The projects, located in Inner Mongolia, Xinjiang, Shandong, Hebei and Chongming Island, were aimed at increasing yields and quality of vegetable crops (e.g. tomato, eggplant, pumpkin, and cabbage), fruits (e.g grape) and cereals.

Fig. 1 – Watermelon field trial with organic mulching.

Achieved Results

The implementation of innovative technologies characterized by low cost of application, simple set up and management and economic suitability to the local conditions provided successful results. Obsolete, polluting pesticides were replaced with chemicals having a lower environmental impact. Drip irrigation systems in substitution of the old, water-consuming techniques of flood irrigation were used to distribute fertilizer at reduced dosages. Polyethylene mulching films were replaced by the use of starch-based biodegradable plastic films and organic mulching (Fig. 1). Grafting on resistant rootstocks (Fig. 2) was used to reduce plant stress to soil salinization and disease caused by soil-borne pathogens. In the demonstration areas, consumption of water, pesticides and fertilizers were reduced by 5–6 times, while the new mulching films, being completely biodegraded a few month after the cropping cycle, solved the problem of white pollution.

Objectives

- Transfer of innovative technologies for sustainable agriculture
-Reduce agricultural pollution caused by chemicals and plastics
- Increase food safety and security
- Increase farmers income

Fig. 2 – Grafting on resistant rootstocks

Methodological approach

Academic institutions, public research centres and private companies have joined the Programme with the aim to ensure the replicability and long-term sustainability of the new technologies adopted. Workshops and seminars have also been organized in order to inform stakeholders on scientific, technical and economic feasibility of the new proposed techniques.

Conclusion

Sustainable agriculture systems were able to reduce the environmental pollution, resulting in an increase in incomes and positive economic benefits, while maintaining production costs similar to that of the conventional systems in many cases. Meanwhile, the innovative technologies also improved the agricultural product quality and safety.

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CREATING AND IMPROVING PROFESSIONALS IN THE MANAGEMENT OF LIVESTOCK FARMING IN THE SAHELIAN AREA

Tiziana Nervo [1] (tiziana.nervo@unito.it), Gabriella Trucchi [2], Moumouni Issa [3], Marichatou Hamani [3], Alhassane Yenikoye [3], Victorin Codjia [4], Carlo Semita [2]

[1] University of Turin-Department of Veterinary Science, [2] University of Turin-CISAO, [3] University Abdou Moumouni of Niamey-Faculty of Agronomy, [4]Ministry of Agriculture, Livestock and Fisheries (MAEP) of Benin

Abstract - Thanks to financing provided by the **Piedmont Region** and the ***Associazione delle Fondazioni delle Casse di Risparmio del Piemonte***, in 2009, some of the researchers of the CISAO (Interdepartmental Centre of Research and Scientific and Technical Cooperation with Sahelian and West African Countries – www.cisao.unito.it) of the University of Turin, supported by the associated **Universities of Niger, Benin and Burkina Faso**, pursued two training courses in Niamey (Niger).

Achieved results

• *Course for technicians in Artificial Insemination (AI):* 17 technicians and veterinarians (from Niger, Benin and Burkina Faso) have been learned; three of them were women.
• *Course addressed to skilled workers:* 22 subjects (from Niger, Benin and Burkina Faso) have been trained.
• *Learning assessment* with questionnaires and custom tabs, containing observations and comments to fill the gaps of every apprentice.

Objectives

• Sustainability of agro-livestock development programs.
• Capacity-building and improvement of the expertises of the employees.

Methodological approach

2 courses have been structured:
a) Training of higher-level and graduated technicians in AI;
b) Training of not high school graduated skilled workers in livestock and milk production techniques.
Step 1 in Italy: stage of the 3 African coordinators which provided some common tasks and other specifications according to their skills.
Step 2a in Niger: training in AI techniques with lectures supplemented by several practical training including relatively innovative issues in the African context such as animal welfare and occupational safety.
Step 2b in Niger: training of skilled workers with lectures, translated into the local languages, and practical exercises about the correct approach of cattle and cattle chute, also highlighting the risk associated with the work and the need to adopt safety precautions.

Conclusion

Course participants showed that they were satisfied with the activities. The technicians in AI were contacted to evaluate comments and experiences after implementation of the acquired expertises. The skilled workers expressed enthusiastic appreciation demonstrating a certain pride in being joined by a training initiative, as a first experience for many of them.

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ENVIRONMENTAL RESOURCES AND DECAY IN CAPE VERDE. A SURVEY IN SANTO ANTÃO AND SÃO VICENTE

Stefano Orlandi, Angela Calvo
Department of Agricultural, Forest and Food Sciences – University of Turin

Abstract
The research in Santo Antão and São Vicente (Cape Verde) has been undertaken from August to September 2007 as part of the multidisciplinary project "From waste to resource" focused on Sahel and funded by Regione Piemonte. The survey concerning water and energy availability and waste production has been carried out through semi-structured interviews, based on specific questionnaires, addressed to local authorities, to some associations of producers and to processors of agricultural products (small farmers, local liquor producers, small retailers, etc.).

The analysis of the collected data allows us to formulate the following considerations:

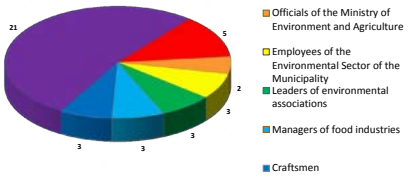
- as regard water resources, it seems essential to keep on the reforestation program, with species adapted to the Cape Verdean climate (e.g. *Prosopis juliphlora* L.), of which local population has now directly experienced the benefits. Educational programs should be carried out especially in urban areas, while in rural areas facilities for drip irrigation should be extended.
- as regard energy development, it was found that the wind turbines, in absence of proper maintenance, have a limited use over time, while the evaporative desalination provides a longer service life. This observation, far from theoretical hypotheses, teaches how much in cooperation projects is necessary to take into account the local and the actual conditions, which determine the project outcome over time.
- as regard the problem of waste, awareness and habits of local population are, at the moment, inadequate; in many areas, the ground, despoiled from the tree, is covered by waste. Proper waste management would stop the environmental decay and initiate a new deal, with the reappropriation and the safeguard of habitat by a responsible population, able to make progress

International aid is still fundamental in terms of financial and technical contribution, but only the involvement of an aware enough local population can allow and truly guarantee a sustainable development.

Objectives of the research
The main objective of the study was to acquire a deep knowledge about environmental decay in Cape Verde islands, inhabited by humans from the discovery (1445-1462), Portuguese colony until the proclamation of independence on July 5th 1975. In particular, Santo Antão and São Vicente, characterized by a rapid population growth and a hasty modernization process, are at risk of reducing water and forest resources and of increasing waste production.

Methodological approach
The survey concerning water and energy availability and waste production has been carried out through semi-structured interviews, based on specific questionnaires, addressed to local authorities, to some associations of producers and to processors of agricultural products (small farmers, local liquor producers, small retailers, etc.).
When the interviewee was more available (as in the case of the Director of the Ministry of Agriculture of Santo Antão), a second interview was made on possible solutions to face the problems of water shortage, desertification and uncontrolled presence of illegal dumping.

Interviewed people



Questionarios sobre produçao de produtos agricolas
Empresa: ..... Localidade .....
Superficie: .....
Caraterisiticase: .....
Tipo de approvisionamento energetico e consumi medio (mensal): .....
Tipo de aprovisionamneto de agua e consumo medio (mensal): .....
Existe problemas de agua ou de energia? .....

Cultivo executado e trabalhos (do trabalho do terreno até a recolha)

Cultivacao	Superficie	Producao unitaria	Trabalho efectuado	Destino dos produtos (mercado local, ...)

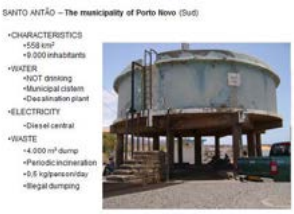
Maquina usada (tambem para o transporte)

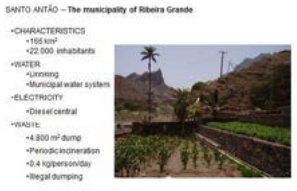
Tipo	Adquirida onde e Quando	Potencia (kW)	Hora de uso anual	Manutencao e reparacao

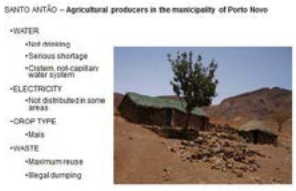
Produto usado na fertilizacao e luta antiparasitaria

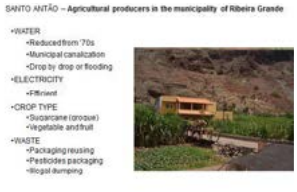
Tipo	Marca	Quantitade usada (kg/ha ano)	Tipologia di smaltimento

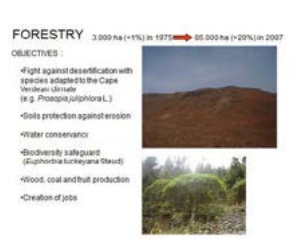
Onde são vendidosos produtros agricolas? .....
Como são embalados? .....
Quais e quantos são os produtos em excesso? .....
Algum produto em excesso é usado nas empresas agricolas, Como.....
Como se recolhe o Lixo? .....
Esiste recolha diferenciada por tipologia de lixo? .....











Conclusions
Considering population growth and increased tourism, financial and technical contributions are necessary to ensure water and energy supply and waste management.
The interventions should be realized through:

1. Economic investment for a better management of municipal waste, consisting in:
   - more staff;
   - more equipment (bins, containers, garbage trucks);
   - programs for disposal and recycling.
2. Local population involvement :
   - spreading of water saving culture (drop by drop irrigation system);
   - reduction of illegal dumping;
   - forest protection.

In this context, international aid must cooperate with the Cape Verdean people to safeguard their environment, restoring the basic habitat elements for life.
An authentic cooperation implies coming together to find a way to sustainable development, which certainly passes through the respect for the environment but, above all, for the local population.

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LA RIFORMA SILENZIOSA
-COME LO STATO RUBA LA TERRA-

Dott.ssa Alessandra Portis
Università degli studi di Torino

Land grabbing in Senegal e la debolezza normativa

Il fenomeno del *land grabbing* è stato oggetto di innumerevoli analisi multidisciplinari nel corso degli ultimi anni, avendo catturato l'attenzione di ricercatori dai back ground più disparati, per via delle implicazioni globali drammatiche date dalla sua diffusione.
Tuttavia, vi è pochezza d'analisi del fenomeno dal punto di vista giuridico. Sulla base di questa considerazione, il mio progetto ha cercato, nel suo piccolo, di colmare questa lacuna. Attraverso un caso studio in Senegal, tramite l'analisi della disciplina proprietaria e fondiaria senegalese, ho messo in evidenza come la debolezza normativa abbia permesso un atteggiamento elusivo da parte dello Stato che, non rispettando la legge formale, svendendo la terra dei suoi cittadini.

Pastori nomadi Peul

Approccio metodologico e modalità di svolgimento della ricerca

- ✓ **Why?** Dimostrare come lo Stato senegalese eluda la disciplina formale per garantirsi maggiori benefici economici e per incentivare le possibilità d'investimento in campo agricolo nel paese;
- ✓ **Where?** Dakar e zona del Ferlo, Regione di Louga;
- ✓ **When?** Da gennaio a marzo 2013;
- ✓ **Who?** Gli attori coinvolti nella ricerca sono stati: esperti di diritto fondiario, funzionari della Pubblica Amministrazione implicati nei processi di concessione e locazione di terre, presidenti delle Comunità Rurali, come ultimo livello di decentramento amministrativo, ed infine beneficiari di concessioni amministrative sulla terra;
- ✓ **How?** Attraverso l'analisi del *corpus* normativo disciplinante il diritto fondiario e il diritto di proprietà per lo studio della struttura formale di accesso alla terra, attraverso interviste in loco agli attori coinvolti nel processo di concessione per la modalità pratica di accesso alla risorsa *terra*;

Strada per la comunità rurale di Mbeidien, zona di Louga

L'obiettivo: disciplina formale vs applicazione sostanziale

DISCIPLINA FORMALE

1. Tripartizione del diritto di proprietà

2. Domaine National (DN)

Sulle terre del Domaine National è esercitabile solo un **diritto d'uso** tramite concessione (**Affectation**), approvata con delibera dal Consiglio Rurale. Sono **vietate** locazione (**Bail**) e diritto di proprietà (**Titre Foncier**).

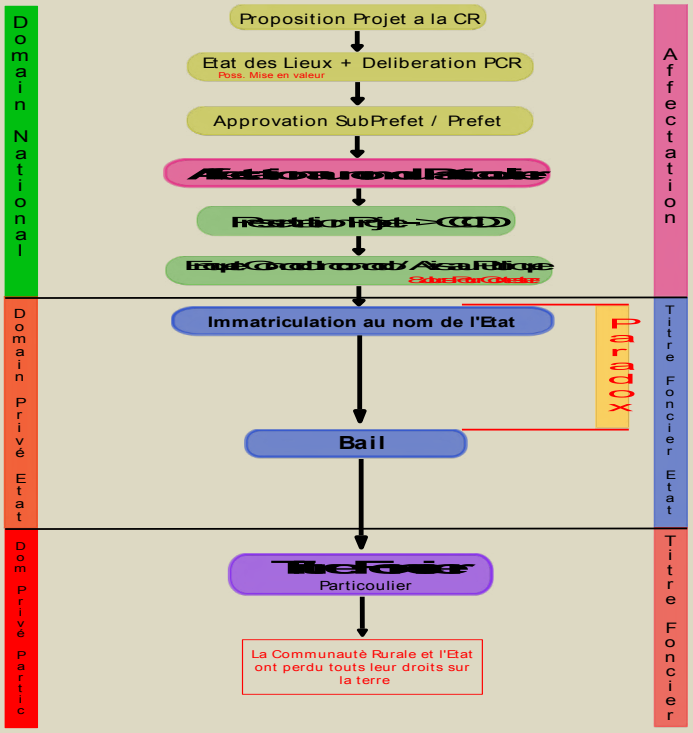
3. Affectation

- ✓ Concessa solo agli appartenenti alla Comunità Rurale;
- ✓ Con obbligo di valorizzazione della terra in 2 anni;
- ✓ Vietata agli stranieri.

4. Pubblica Utilità

Eccezione: in casi di **pubblica utilità,** stabiliti per legge, le terre del Domaine National possono essere oggetto di **Bail** e **Titre Foncier**.

APPLICAZIONE SOSTANZIALE



Elaborazione grafico a cura di Davide Cirillo, Università di Padova

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The H_2Ortisol Model

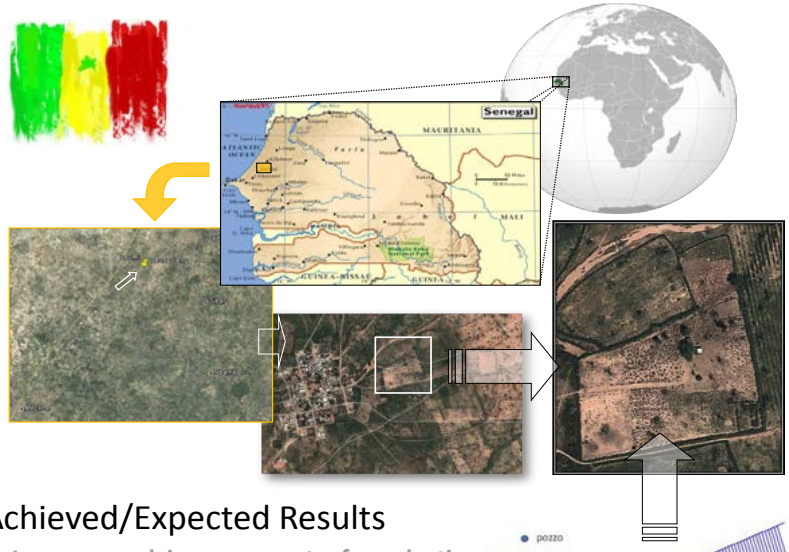
- *Sun and Water management for a reliable and sustainable horticultural production* –

Maurizio Previati, Stefano Bechis UNIVERSITY OF TORINO – DISAFA
Davide Canone, Stefano Ferraris UNIVERSITY OF TORINO – DIST

Introduction

Rural areas of most Sahelian countries are characterized by subsistence agriculture with productivity rather poor and a consequent exodus of people from country zones to cities. Having that in mind, many governments are developing plans for a "return to agriculture" with the objective of stabilizing communities in their areas of origin and revitalizing the local economy by increasing the agricultural production, especially horticulture.

However, an increase in productions and domestic incomes should necessarily pass through the implementation of new strategies aiming at the **sustainable development of agricultural infrastructures, the adoption of new equipments, and the training of people in order to improve the sustainable utilization of the factors of production: soil, water, and energy**.



Objectives

H_2Ortisol aims to be a sustainable and replicable modular system of a vegetable garden, conceived to minimize operating costs and reducing the waste of natural and energetic resources.

Methodological approach

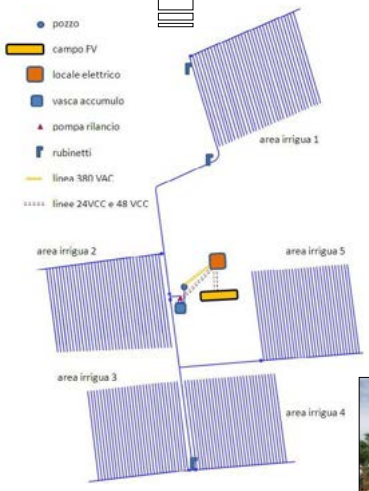
The H_2Ortisol pilot project has seen the **installation of 5 drip irrigation sectors** (for horticultural purposes) **with pumping systems powered by solar energy without the support of any battery**.

More over, **this system adopted a water tank** located at ground level and **a booster PV pump tailored to supply the necessary water volume calculated on the base of cultivated plants physiological needs.**

Finally, **security devices have been adopted to preserve the integrity and the functionality of the whole system**, both in case of energy imbalances, lack of water, and/or abnormal pressures.

Achieved/Expected Results

- **Increase and improvement of production areas;**
- **creation of jobs places and reduction of local exodus;**
- **raise of domestic incomes;**
- **increase of knowledge and awareness on the good local development capability;**
- **activation of local microeconomies;**
- **food local prices mitigation and stabilization;**
- **better nutrition;**
- **contribution to the decrease in illnesses due to poor nutrition;**
- **valorization of soil and water.**



Water tank construction

Solar energy supply systems installation

Water outflow in a cloudy day during winter time

Water supply system details

Conclusions

The **widespread of H_2Ortisol projects on the sahelian territory** can strongly contribute, (especially if coupled with solar drying systems for the food conservation), to:

- **the self-sustenance of rural communities,**
- **the revitalization of the local economies,**
- **the reduction of the rural exodus,**

according with the main political programs implemented by governments in the area and with a **particular attention to the**

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TRANSFER OF AGRO-LIVESTOCK TECHNOLOGIES FOR BIODIVERSITY PRESERVATION IN SAHELIAN ENVIRONMENT

Carlo Semita[1] (carlo.semita@unito.it), Riccardo Fortina[2], Francesco Cristofori[1], Ousseina Saidou Touré[3], Moumouni Issa[3], Marichatou Hamani[3], Alhassane Yenikoye[3], Tiziana Nervo[4]

[1] University of Turin-CISAO, [2] University of Turin-Department of Agriculture, Forest and Food Sciences, [3] University Abdou Moumouni of Niamey- Faculty of Agronomy, [4] University of Turin-Department of Veterinary Science

Abstract - Between 2001 and 2011 the Interdepartmental Centre of Research and Scientific and Technical Cooperation with Sahelian and West African Countries (CISAO – www.cisao.unito.it) of the University of Turin has supported many activities to preserve and enhance biodiversity at the Experimental Sahelian Station of Toukounous (Niger). These activities and projects provided for the transfer of techniques and innovative but sustainable agro-livestock technologies to the staff of the Faculty of Agronomy of the University of Niamey and of the Ministry of Animal Industries of Niger. All the actions were part of the Food Security and Poverty Reduction Programme in West Africa of the Piedmont Region.

Achieved results

- Improvement of milk production through the application of a model of management of forage resources and the improvement of the composition of the herd.
- Progressive knowledge of the operational context.
- Dissemination of the project on a larger scale through to awareness-raising and diffusion of the activities and the results both in Italy and locally.
- The Toukounous Station has assumed a considerable educational value becoming a location for practical works and stages for the local universities students.

Methodological approach

Adoption of a scientific approach progressively adapted to the social, economic and cultural local situation.

Objectives

- Analysis of the priority needs and available local expertises;
- Development of a model for the use of local forage resources.
- Proper management of a herd of the dairy native zebuine breed Azawak.

Cages for the evaluation of local forages

Milk analysis

Involvement of consultants

Expertise transfer

Breeder bulls selection, semen production, artificial insemination.

Conclusion

The participatory process has proven to be one of the keys to the success of the project which is replicable for further safeguard actions of other local breeds of Niger (e.g. Kouri cattle, red Maradi goat) and which has been applied in similar contexts in other countries of the Sahel (e.g. Burkina Faso) by other groups of decentralized cooperation.

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IMPROVEMENT OF THE DAIRY PRODUCTION CHAIN IN THE RURAL AREAS OF ECUADOR THROUGH THE USE OF REPEATABLE TEACHING MODEL

Martina Tarantola[1], Gianluca Pressi[2], Paolo Rodighero[2], Luca Nicolandi[3], Emma Della Torre[3], Ivan Garcia[4], Carlos Arce[4], Claudia Durando[5], Achille Schiavone[1]

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[4]Fepp-Fondo Ecuatoriano Populorum Progressio – Quito, Ecuador.
[5]Ufficio Solidarietà e Immigrazione – Comune di Settimo T.se (TO), Italy

Abstract. The decentralized cooperation activities of Piemonte Region (2007-2011) funded a three inter-linked projects to support the rural areas of Ecuador (Provinces of Cotopaxi, Canar and Tungurahua) with the aim of improving the whole dairy production system (milk, dairy products and marketing), through technical support and a training repeatable model. The project activities, through informative meetings organized in Piemonte, contributed to raise the local population awareness on the problems of the Ecuadorian Andean communities.

Objectives. Even if in recent years Ecuador has been experiencing major social and political changes, the majority of the population is still living in a chronic poverty condition, worsened by the global economic crisis. The project was focused on strengthening the capacity of the actors involved in the milk/dairy production chain through the provision of multi-disciplinary training, in order to achieve a repeatable teaching model for rural areas of Ecuador, in Cotopaxi, Cañar and Tungurahua Provinces. In rural areas there is a strong need of education/training programs because the small producers hardly have access to local public and private institutions, due to logistical and economic reasons. In Italy the project aimed at raising the citizens' awareness to the problems of developing countries, particularly of the Ecuadorian Andean communities.

Methodological approach. The Piemonte Region (Italy), through decentralized cooperation programme, from 2007 to 2011, funded three inter-linked projects presented by the Municipality of Settimo Torinese (TO), aimed at improving the milk/dairy sector and the creation of a teaching repeatable model for rural areas of Ecuador. The partners of the project were: Dipartimento di Scienze Veterinarie, University of Torino; AVEC-PVS Associazione Veterinaria di Cooperazione con i Paesi in Via di Sviluppo (http://www.avec-pvs.org/) and Dipartimento di Prevenzione - ASL TO 4 - Regione Piemonte; FEPP - Fondo Ecuatoriano Populorum Progressio (Ecuador) and Fondacion Consorcio de Queserìas Rurales Comunitarias (Ecuador).

In consideration of the participatory needs assessment the following training courses have been planned and conducted: dairy production techniques; management, feeding and welfare of dairy cows; milking hygiene and animal health; control of the quality of milk and dairy products; production of new types of cheese; optimization of the administrative management and HACCP plans for dairy processing plants; marketing strategies for dairy products.

Achieved Results. From the training courses, held by local and international experts and attended by 225 breeders and producers, technical manuals have been obtained (milking hygiene, marketing guidelines, HACCP simplified and milk/dairy chain technical manuals). The publications, in Spanish language, have been distributed to the rural associations and local and international development organizations. A small laboratory for the analysis of milk quality was set up (*Solex* equipment, densimeter and *Milk Analyzers Lactoscan*). Four mobile and three fixed refrigerated units have been appointed for dairy products marketing. A small scale feed manufacturing plant was also established for cattle feeding. Three dairy local experts attended a 55-day formation course in Italy. In Italy cultural awareness evenings and meetings in some schools have been held (project activities presentation, ethnical dinners and short course of cheese tasting).

Conclusion. The collaboration among all the stakeholders, in a long term project, has permitted to assess the real needs of Ecuadorian rural population involved in milk/dairy production, changing over time the strategies of intervention by a "backwards" process, from an enhancement of the final product to an improvement of the raw material. The creation of a repeatable teaching model, which identifies among its objectives the production of operating manuals and/or guidelines by the participants themselves, ensures more sustainability to the project, improving its efficacy and efficiency. In Italy, the sensitization activities have certainly increased the knowledge and awareness of the rural Ecuadorian population problems and needs.

POLITECNICO DI TORINO
UNIVERSITÀ DEGLI STUDI DI TORINO
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Imagining cultures of cooperation:
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A MULTILINGUISTIC APPROACH TO PRESERVE VINEYARD LANDSCAPES' AGROBIODIVERSITY.

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Abstract

The purpose of this study consists in exhamining the function of language in the vineyard landscapes' development outlining the need of a "multilinguistic" approach to preserve their agro-biodiversity. Indeed, as authenticated by international legal instruments, traditional agricultural techniques - typical of indigenous cultures - are frequently in accordance with contemporary environmental needs and constitute the solution for the conservation and use of rare resources - soil and water in this case. Then, the vine-makers become directly partners of the International Community in conserving the agrodiversity of landscapes. Furthermore, it is widely admitted, in doctrine, the proportionality between the safeguard of native language and the preservation of biological diversity, because of the fundamental role of the nominal identification of natural elements and managing techniques and, of course, the role of language in oral transmission of knowledge.

Achieved Results

1. The reflection starts with a case study of the vineyards already inscribed into the World Heritage List or under nomination through the Tentative List: the importance of the ***cultural element*** emerges, by definition, considering them as cultural landscapes. Indeed, human contribution is evident in all the wine-sites examined, making them rich in "biocultural diversity".

2. The second step underlines the importance of traditional and local agricultural techniques for the preservation of biological diversity: an agricultural landscape characterized by a low-intensive cultivation (as vineyards) is typically ***rich in agro-biodiversity***.

3. The subsequent reflection represents the connection between the previous considerations: as traditional techniques, expression of the cultural identity of the local community, are essential for biodiversity conservation, ***the preservation of the cultural peculiarity safeguards the agro-biodiversity of vineyards***.

4. The fourth and conclusive reflection takes into consideration language as one of the most representative cultural elements: it is widely admitted, in doctrine, the proportionality between the safeguard of native language and the preservation of biological diversity, because of the fundamental role of the nominal identification of natural elements and managing techniques and, of course, the role of language in oral transmission of knowledge. Considering, than, that some of the vineyards already inscribed under the World Heritage List are located in a territory reported by the Atlas List for the language in danger, is possible to assume that ***a policy of multilingualism preservation could directly affect the agro-biodiversity of the related vine - but not just them - cultivations***.

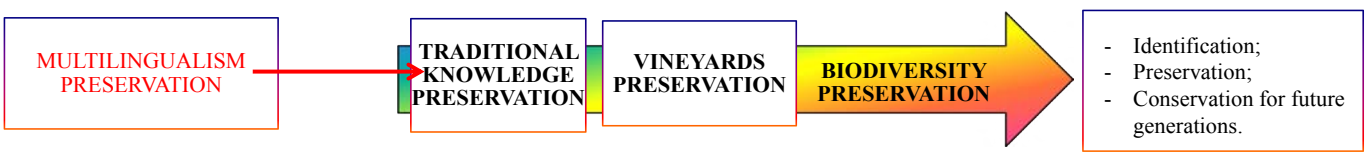
Objectives

The principal objective of this study was to demonstrate the mutual correlation between the safeguarding of language – as a manifestation of the cultural background and identity of a local community – and the preservation of agro-biodiversity of cultivations, providing, as such, an exemplification of the consideration that «*cultural diversity is as essential for humanity as biodiversity is for nature*».

Methodological approach

A step-by-step approach has guided this study, starting from an analysis of the related international istruments (signally the World Heritage Convention; the Convention on Biological Diversity; the Universal Declaration on Cultural Diversity and the further 2005 Convention; etc.) and moving towards a case-study of vineyard cultural landscapes to reach, with the sustain of the contemporary doctrine, the following conclusion.

Conclusion



TRADITIONAL MEDICINES AND LOCAL KNOWLEDGE: POLICIES, INTERNATIONAL AID AND ACADEMIC RESEARCH

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The panel developed a reflection on the relations between the so-called systems of "traditional" healing, 'western' medicine and the health policies and interventions of international aid implemented at the different scales. The discussion revolved around the following questions: what are the multiple characters of traditional medicines, which role do they play and how are traditional medicines transforming themselves? What are the tools, practices, strategies of international organizations in the field of traditional medicines? What are the national policies implemented in different countries? What is the role of international aid? What is the possible role of academic research? The projects of development cooperation which aim to improve access to the right to health confront themselves with different concepts of illness, care, health which coexist, conflict and dialogue. How to meet and interact with these dynamics? How to protect traditional knowledge at the different scales, and ensure the recognition of intellectual property rights in the hands of indigenous peoples?

With reference to this last aspect the tools made available by national and international law in order to protect the traditional knowledge of indigenous peoples were discussed during the panel. The use of traditional medicines and the local knowledges on which it is based are closely linked to the cultural diversity of the people involved, as well as to the right to life. Both aspects are protected on the basis of legal principles recognized by legal systems at the different scales, from the international to the regional level. The protection of traditional knowledge has been at the core of several complaints, which were brought in front of national courts, for the recognition of intellectual property rights in the hands of indigenous people. These complaints are mainly aimed at protecting the originality inherent in traditional medicine against commercial exploitation by multinational corporations. At the international level, traditional medicine is protected through the action of tribunals in order to ensure respect for fundamental human rights. It is relevant, in particular, the case law of the Inter-American Court of Human Rights. This body has explicitly recognized a collective right of indigenous people to the use of land and natural resources, as indispensable to their material and spiritual life. The binding between those rights and the right to life has brought out two aspects that are particularly innovative in terms of international protection of human rights. On the one hand, the purely collective rights to land and its use (including the production of traditional medicines) have been recognized and, secondly, the assimilation of the violation of the rights in question to a violation of *ius cogens*, in the name of the close link with the right to life has also been recognized.

A second theme approached in the panel has been the relationship between traditional medicines and conventional medicine (also referred as modern or western medicine), with specific reference to the Senegalese context. The process of interaction between traditional and western medicine in Senegal is one of the most delicate terrains of divergence between what is announced in policies and what actually happens in practice. The results of two field studies conducted in the urban areas of Louga and Saint Louis have been presented. The studies discuss the positions of the various parties involved in the traditional-western medicine integration debate (healers, herbalists, patients, government representatives, Ngos, medical doctors, nurses, etc.) collected through participant observation and the administration of semi-structured interviews. The analysis of the therapeutic itineraries of the local population in Louga and St. Louis shows that the dialogue between traditional and mainstream medicine today revolves primarily around herbal medicine and the joint examination of the results of the case studies allowed identifying some possible guidelines for the integration of traditional medicine into the national health system.

A third theme explored in within the panel has been the balance (or absence of balance) between the demand for and supply of care which are at once a dynamic component and an obstacle in the relationship between various medical knowledges. In equatorial Africa, in political and social contexts characterized by widespread insecurity and the overlap of local and foreign macro and micro economic interests, often in conflict with each other, "traditional medicine" continues to be an area of interaction, and sometimes clash between subjects with different logical a priori. Representations of illness such as those of western and traditional medicines, the etiology of "mysticism" that calls into question witchcraft in its various forms, the diagnostic device of divine healing introduced by immigration from the East, all these representations often collide within the equatorial market of healing, giving rise to new etiologic and therapeutic devices that continuously change to meet the needs and demands of local populations. Through the analysis of some ethnographic cases collected in the Central African Republic and in Benin between 2005 and 2012, dilemmas related to the interaction of biomedical and "traditional" healing practices have been analyzed and discussed. The case studies show how the use of multiple therapeutic approaches can not erase some of the tensions and misunderstandings that arise among traditional healers' and biomedical doctors. A long history of contacts, violence and impositions cyclically re-emerges in the practice of traditional healers and their colleagues trained in the universities and in the hospital wards in Central Africa.

Finally, the panel concentrated on development cooperation projects in the field of traditional medicine which aim to improve access to health, where concepts such as health, infection, care, gender coexist and can acquire contrasting meanings. An international aid project which promotes access to health integrating western and traditional medicine must reflect on the health models implicit in the various systems of care within the different health knowledges. Studying therapeutic itineraries allows in this framework to highlight the diversity of care resources available and how they are used. Several studies in Western Africa confirm the complexity of therapeutic itineraries, which are influenced by the meanings and causes attributed to disease, by the perception of pain, by urgency, by the priorities assigned to the geographical, economic and cultural aspects which determinate access to health facilities. The panel discussion focused on how contemplating these issues not only affects the fundamental right to health of people but it also helps promoting policies in which the richness and plurality of traditional and western medicine interaction generates wealth and knowledge for all, and the capability of accepting the coexistence of different forms of knowledge and different systems of care.

LES RELATIONS ENTRE LA MEDECINE TRADITIONNELLE ET LA MEDECINE OFFICIELLE AU NORD DU SENEGAL: UN ETUDE COMPARATIVE.

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ABSTRACT

L'intervention approfondit l'étude de la relation entre la médecine traditionnelle et la médecine conventionnelle au Sénégal. Le processus d'interaction entre les deux médecines semble être l'une des terres les plus délicats de l'écart entre ce qui est annoncé dans les politiques et ce qui se passe réellement dans les pratiques. L'étude montre, dans une perspective comparative, les résultats de deux études menées sur le terrain dans les zones semi-rural de Louga et urbaines de Saint-Louis. Les positions des différentes parties prenantes (les guérisseurs, médecins, patients, gouvernements, ONG) ont été recueillies par l'observation participante et l'administration des entretiens semi-structurés. L'analyse des dynamiques spatiales et des itinéraires thérapeutiques de la population locale nous a permis de comprendre les dynamiques d'utilisation des les deux méthodes de traitement. Il a été constaté qu'il y a beaucoup de pratiques comptés comme médecine traditionnelle, et que le dialogue entre eux et la médecine officielle repose aujourd'hui principalement sur la phytothérapie. Dans ce cadre, nous avons analysé le rôle des organisations de la coopération dans la promotion (ou opposition) de l'interaction de ces pratiques et la fonction de la recherche en proposant des modèles d'interprétation capables de soutenir et de maintenir un possible dialogue. L'analyse conjointe des résultats des études de cas a permis d'identifier quelques orientations possibles d'intégration préliminaire de la MT dans le système national de santé.

INTRODUCTION

À partir d'une première analyse d'emprunte politologique, on vise à identifier les limites de la réglementation des pratiques de guérison traditionnelles et ensuite on offre un examen comparatif des résultats spécifiques des deux études de cas. Les activités de recherche sur terrain qu'on a menées et qui ont été financés par l'Université de Turin, et réalisées ensuite en collaboration avec l'Université Gaston Berger de Saint-Louis et le Centre de Recherche Girardel, nous ont permis d'étudier les modalités d'interaction et d'intégration entre la médecine traditionnelle (MT) et la médecine conventionnelle (MC) à partir de plusieurs points de vue: géographique, politologique, économique, social et culturel.

Pour mieux comprendre si et comment l'intégration parmi les différentes thérapies se vérifie effectivement, on a examiné les itinéraires thérapeutiques propres des populations locales afin de trouver les facteurs qui déterminent les choix et les préférences de soins.

On s'est donc posé des questions spécifiques: est-ce qu'une réelle intégration parmi MT et MC réponde aux besoins des populations locales? Quels sont les facteurs qui déterminent le choix parmi une thérapie de MT ou de MC? Comment les différents contextes territoriaux (urbain / rural) influencent sur les choix de traitement médicale des populations locales?

Le point de vue d'un bon nombre de sujets impliqués dans notre réseau de recherche, à voir Agences techniques, ONG, personnalités et institutions politiques, professionnels de la santé et d'autres groupes de recherche, nous a permis de compléter le tableau des limites et des potentialités de l'intégration des deux pratiques à l'intérieur du même Système de Santé National (SSN) et de rédiger une série des possible orientations qui pourraient améliorer l'assistance sanitaire primaire au Sénégal.

LA MEDECINE TRADITIONNELLE ET LA MEDECINE CONVENTIONNELLE AU SENEGAL: POLITIQUES, ORIENTATIONS ET OBSTACLES AU PROCESSUS DE REGLEMENTATION

Le thème de l'intégration entre la MC et la MT domine le débat international depuis les années 70 du XX siècle, produisant toute une série de réactions et opinions contradictoires. Les organismes internationaux et régionaux les plus importants ont toujours eu comme objectif la réalisation d'une collaboration entre les deux disciplines en attendant de formaliser une intégration effective de la MT au sein du SSN.

Pour supporter cet intérêt, on cite les évènements des premiers 20 ans dédiés à la valorisation de la MT et le Plan d'Action stratégique de l'OMS en 2002-2005 [1]. Profondément ancrée dans le débat international est la définition de

Santé Publique donnée par l'OMS en 1946: "La santé est un état de complet bien-être physique, mental et social, et ne consiste pas seulement en une absence de maladie ou d'infirmité" [1] et la Déclaration d'Alma-Ata issue de la Conférence sur les Soins de Santé primaires en 1978 [2]. Pour la première fois dans le monde la Déclaration permet l'utilisation de méthodes de guérison traditionnelles dans le but d'atteindre des standard de santé adéquats pour tous et reconnaît le rôle du thérapeute traditionnel qui, si correctement préparé d'un point de vue professionnel et technique, est capable de répondre aux besoins de santé des populations au même niveau que les docteurs conventionnels.

La MT fait donc pleinement son entrée dans le débat international et l'OMS, et les agences qui lui sont reliées, ainsi que plusieurs organisations internationales (régionales et locales), commencent à planifier des stratégies diversifiées et à mettre en œuvre des politiques spécifiques. C'est le défi d'un mouvement en faveur d'une santé publique renouvelée, qui réitère l'importance de la justice et de l'égalité comme conditions préalables pour un état de santé décente et qui souhaite la mise en place de nouveaux partenariats à différents niveaux [3].

L'idée de base est que la MT puisse contribuer de façon substantielle, même si pas exclusivement, à la santé des citoyens, car il est certainement nécessaire que pour son intégration avec la médecine conventionnelle, elle doit se doter de normes de qualité et d'instruments de fiabilité typiques des autres prestations sanitaires.

Avec le début du XXI siècle, les interventions dans le champ sont de plus en plus intensives et possèdent plus d'information sur les spécificités territoriales.

Les objectifs se font plus vastes, pour inclure la garantie de qualité et de sécurité des pratiques de guérison traditionnelles; l'échange d'informations et de bonnes pratiques se propage et la recherche appliquée et la formation des acteurs sur le terrain se développent.

Néanmoins, de nombreux obstacles se posent dans le processus de réglementation et par conséquent dans le processus de collaboration formelle entre les deux domaines. Les différents aspects critiques du processus de mise en œuvre varient en fonction de l'échelle régionale que l'on prend en considération : problèmes d'ordre politique et économique à côtés d'autres d'origine socio-culturelle.

Les obstacles au processus de réglementation et de législation dans le domaine de la MT sont donc différents [4].

Obstacles d'ordre épistemologique:	une Médecine d'emprunte holistique est en conflit avec le modelé biomédicale réductionniste de la médecine conventionnelle.
Obstacles d'ordre scientifique:	la recherche dans le domaine de la MT complémentaire/alternative est encore trop faible et hétérogène.
Obstacle d'ordre politique et culturel:	*opinion leader* d'excellence s'opposent forcement à toute tentative de réglementer la lois du cas, et surtout s'opposent à tout projet de financement voué à la recherche ou aux services à la population.

D'après un premier examen des opinions dominantes en littérature, comme par exemple les études de Christophe Bouramoué, Amidou Sekou, Charles Katy Diouf et Piero Coppo, on montre que même les partisans les plus ardents de cet échange de connaissances, conscients des grandes différences entre les la médecine moderne et les pratiques traditionnelles de guérison, ne recherchent pas une véritable synthèse entre les deux. Ce que l'on veut obtenir c'est plutôt un consensus collaboratif qui puisse assurer le mieux la santé et le bien-être de la population, devenue enfin libre de choisir le type de thérapie préférée [5].

Seydou Nourou Faye en *Médecine Traditionnelle et Dynamiques Interculturelle: Les implications socio-anthropologiques de la formalisation de la Traditeraphie à l'Hôpital Traditionnel de Keur Massar*, identifie comme but ultime une collaboration basée sur le respect mutuel, la non-ingérence et une volonté d'auto-amélioration [6]. Sa position se reflet dans celle d'autres nombreux auteurs, dont Charles Katy Diouf qui, dans *Les médecines moderne et traditionnelle: Deux écoles complémentaires sur le continent*, décrit la médecine moderne et traditionnelle comme les "sciences du jour et de la nuit". Celles-ci, selon l'auteur, ne diffèrent pas pour leurs fonctions, mais plutôt pour le contexte social et historique qui les caractérisent: les connaissances traditionnelles thérapeutique sont une véritable culture, où connaissances et savoir-faire du guérisseur deviennent une véritable discipline loin de la simple observation empirique des phénomènes [7]. Ça devient nécessaire, par conséquent, mener une critique des deux, au cour de laquelle les limites de chacune soient en évidence pour comprendre comment l'autre discipline peut être plus utile, sans écouler dans une lutte exclusive à la maladie [8]. Une légitimation de la MT au niveau international devient urgent, afin d'en permettre la proximité avec les pouvoirs publiques et à la médecine moderne dans la mise en œuvre des différentes actions politiques sur la santé.

Ce modèle d'intégration reflète pleinement la volonté de la majorité des organismes, qui poussent les pays membres à procéder à un recensement des guérisseurs présents sur le territoire nationale depuis plusieurs décennies, mais aussi des associations de guérisseurs traditionnels, comme le témoigne l'interview soumise à Mamodou Ba, Président des guérisseurs traditionnels ouest-africains. La littérature toutefois, pour ce qui concerne la MC, partage l'idée qu'il faut travailler sur l'aspect social du rapport avec le patient, surtout sur la réception. Comme Yannick Jaffré et Olivier de Sardan ont déclaré dans *Une médecine inhospitalière: Les Difficiles relations entre et soignants et soignés dans cinq capitales de l'Afrique de l'Ouest*, l'expérience de la maladie est déjà choquante au départ, et le froid détachement qui signe la relation entre le médecin et le patient dans un établissement moderne empire encore plus la situation [9].

Médecine traditionnelle au Sénégal: un système de tolérance non reconnu

Le Sénégal, par rapport à d'autres Pays de la région du Sahel, semble-t être en retard dans le processus de régulation et d'intégration de l'MT dans son SSN. Bien que ce Pays joue un rôle clé dans l'élaboration de stratégies communautaires, visant à la promotion du secteur au sein de l'espace CEDEAO et l'engagement des organisations non-gouvernementales et des groupes de recherche soit particulièrement intense, on dirait que la classe politique n'est pas encore prête à promouvoir des mesures concrètes dans ce sens. L'État sénégalais ne reconnaît pas officiellement la MT et ceux qui travaillent dans le secteur, mais en autorise tacitement la pratique. Les causes de cette paralysie sont nombreuses, mais d'après des études récentes ces obstacles peuvent être résumés en trois grands paniers: l'opposition des grandes sociétés pharmaceutiques, un problème de sondage et d'évaluation des pratiques thérapeutiques et, par dernier, la tension entre le désir de se conformer pleinement au modèle occidental de modernisation et ce de garder ses propres valeurs [10].

De plus, légiférer dans le domaine de la MT signifie faire face au système religieux et maraboutique (car la spiritualité et la religion jouent un rôle important dans les pratiques de guérison traditionnelles) créant des questions pas faciles à résoudre. Le gouvernement semble nier d'un côté les engagements pris lors des grandes conférences continentales, comme l'Accord de Lusaka de 2001, et réaffirmés chaque année lors de la célébration de la Journée africaine de la MT. Les activités des organes de l'État, établis dans le but de réglementer le secteur, en raison d'un manque de financements sont pratiquement nulles et le projet de loi proposé en 2004 n'a jamais été approuvé par les Chambres et par le Chef de l'État.

L'absence de réglementation dans ce champ constitue un fort obstacle à l'exploitation des pratiques de guérison traditionnelles principalement pour deux raisons: en premier lieu, si l'État ne reconnait pas un secteur, les investissements étrangers se font plus faibles et donc il y a moins de fonds pour mettre en œuvre une intervention de revalorisation, deuxièmement, le phénomène de charlatanisme continuera à se répandre.

La prolifération des charlatans dans le Pays est la conséquence d'une réglementation de la MT dans les nombreux Pays voisins (par exemple le Mali), en obligeant ceux qui l'État n'a pas reconnu à se déplacer au Sénégal, où la pratique de toute technique thérapeutique est tacitement tolérée et où les contrôles sur l'expertise des TT sont très faibles. Même si les obstacles que le gouvernement sénégalais rencontre sont nombreux, des efforts doivent être reconnues: tout d'abord la création en 2003 d'un Comité de Pharmacopée traditionnelle et d'une Commission de Pharmacopée Nationale, ensuite la rédaction d'une proposition de DDL en 2004 (pas encore approuvée) et le recensement partiel des TT, réalisé par le Ministère de la Santé dans le but de parvenir à la création d'associations autonomes. Identifier le nombre de TT au niveau national permettrait, une fois approuvé le DDL, la création d'un conseil national qui leur garantirait une reconnaissance formelle en les doutant d'un code de conduite éthique.

Seulement ce processus pourrait libérer le médecin traditionnel de la vision négative qui s'est développée autour de son rôle pendant la période coloniale et qui le dénigrait en comparaison avec la figure du médecin occidental moderne. À partir des paragraphes suivants, les aspects traités jusqu'ici seront développés par rapport à ce qui ressort de l'analyse comparative de deux études de cas.

ÉTUDES DE CAS: INTEGRATION ENTRE MT ET MC DANS LES PRATIQUES DE SOINS DES POPULATIONS LOCALES

Si au niveau politique national et international les positions et les objectifs semblent correspondre, c'est au niveau local qu'il existe des faiblesses et des criticités dans le champs de la médecine traditionnelle. C'est ce qui ressort des deux projets de recherche sur terrain, de la durée de trois mois chacun, que nous avons conduit dans le contexte rurale de Louga et urbain de Saint Louis.[1]

L'analyse comparative des résultats des deux recherches nous a permis de pénétrer le contexte sénégalais et analyser les dynamiques qui sous-tendent au champs de la MT: les politiques internationales, qui ont comme but l'intégration entre les deux domaines, ont-elles un effet sur la population? Est-ce que cet objectif est partagé et soutenu par tous les acteurs impliqués? Quels sont les obstacles qui freinent cette voie à l'intégration ? Quelles sont les parcours possibles vers l'intégration et/ou la coopération?

La méthode

La collecte de données et d'informations a été possible grâce à une recherche documentaire minutieuse, à l'observation attentive et à des interviews semi-structurés faites à une cible de sujets privilégiés. La méthode d'échantillonnage non probabiliste dit "snowball", comme une boule de neige, étend progressivement l'échantillon de départ. Chacune des personnes sélectionnées suggérait de temps en temps d'autres personnes et le processus a procédé jusqu'à ce que, compte tenu des hypothèses, tout nouveau cas reportait des données plus sensibles. Cela nous a permis

[1] Les recherches sur terrain ont été faites en cooperant avec le Centre de recherche Girardel, le Centre d' Etudes Interdipantimentaux sur l'Afrique Occidnetale (CISAO), le Centre pour les Etudes Africains de la Region Piemonte, la ONG CISV sigé à Tourin et l'ensemble des sujets impliqués dans le champ présents sur le territoir, AMPHOT et Enda en particulier.

d'intercepter des sujets informés et directement ou indirectement impliqués dans le secteur de la santé. On a décidé de procéder par interview semi-structurés afin de laisser au locuteur la pleine liberté de s'exprimer et de ne pas manipuler la réponse. D'un point de vue méthodologique, l'approche qualitative a été le plus approprié pour comprendre les interrelations entre les individus et le contexte local, car nous a permis de saisir les nuances et les détails des processus d'intégration et interaction thérapeutique [11].

ECHANTILLON LOUGA	ECHANTILLON SAINT LOUIS
30 thérapeutes traditionnels	13 thérapeutes traditionnels
10 operateurs de santé	23 herboristes
32 patients	40 patients

Les interviews avec les guérisseurs traditionnels, les médecins, les infirmiers et les patients ont pu tracer les itinéraires thérapeutiques entreprises par les populations locales et ont révélé les opinions et les points de vue des acteurs directement impliqués dans le traitement et la prévention des maladies.

La structure des sondages s'est caractérisée par un premier groupe de questions portant sur des informations personnelles, (caractéristiques sociales et économiques) et un deuxième groupe de questions concernant les comportements thérapeutiques (caractéristiques des itinéraires).

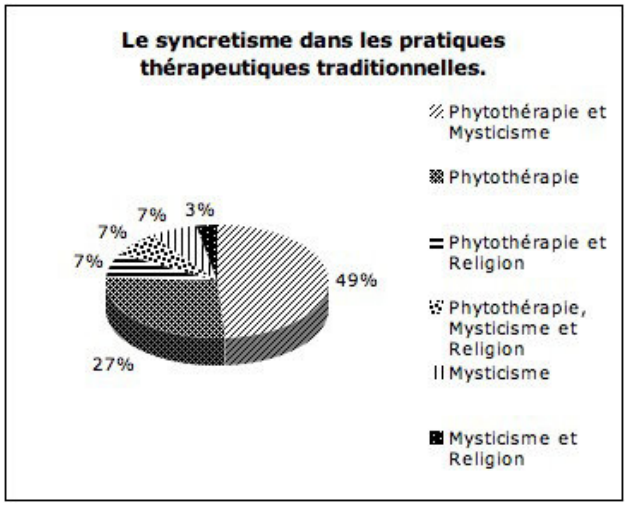
Pour avoir une panoramique plus étendue sur la situation des sujets impliqués, les opinions et les points de vue des opérateurs de la coopération au développement ont été aussi bien analysés.

Les questions posées aux fonctionnaires des organismes institutionnels et non gouvernementaux ont identifié les limites de cette matière, les mesures importantes à prendre et les positions et atteintes respectives.

TYPOLOGIE	**SUJETS IMPLIQUÉS**
Associations	Association des Medico-droguistes, phytotherapeutes, herboristes et opothérapeutes traditionnels du Senegal (AMPHOT)
ONG	Comunità impegno servizio volontariato (CISV), Enda Plantes medicinales, Rencontre des Medecines, Prometra international et Gestu
Organismes Publiques	Eaux et Forets, Service d'Hygiène, Cabinet de la MT au Senegal, Médecine Chef du Region
Chercheurs universitaires	Groupe de Recherche sur les Plantes Medicinales, Groupe de recherche Girardel.

Itinéraire thérapeutiques : syncrétisme dans les pratiques de soins

La MT du Sénégal se compose de techniques et pratiques thérapeutiques diverses et transmises oralement de génération en génération. Cela permet de préserver une grande biodiversité culturelle.



D'après les données sorties des études sur terrain, illustrées dans le tableau ci-dessous, et faisant référence au syncrétisme thérapeutique à Louga, ça ressort que la plus part des thérapeutes utilise plus qu'une techniques de soins au même temps.

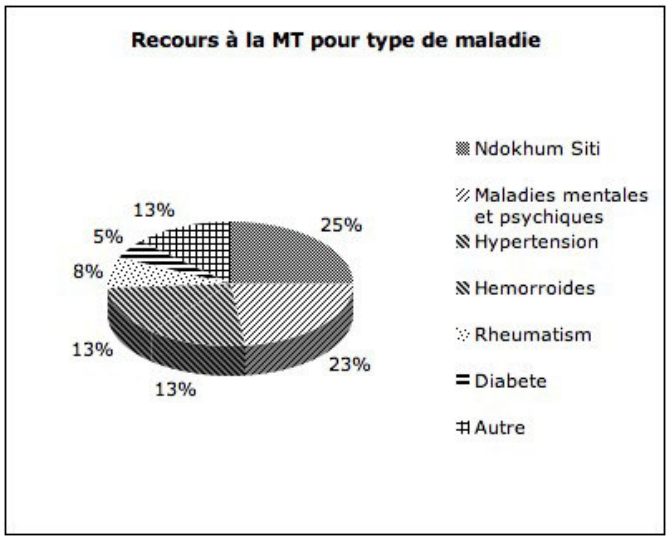
Pour simplifier l'élaboration des résultats, on a décidé de repartir les thérapies traditionnelles utilisées dans trois groupes principaux: les thérapies phytothérapeutiques des guérisseurs; les pratiques mystiques qui s'appuient sur la divination, les sortilèges et la production d'amulettes (TT) et les thérapies religieuses qui se basent sur les écritures du Coran, les "marabouts".

Cette distinction toutefois risque d'enfermer l'aspect holistique de la MT derrière des cages conceptuelles et des définitions statiques, par conséquent, il ne faut pas regarder aux limites de façon limitative mais plutôt de façon représentative. De même, à côté de nombreuses pratiques et méthodes de guérison traditionnelles, il existe d'innombrables parcours et choix thérapeutiques faits par les populations locales.

À Saint Louis, contexte urbain, l'influence du colonialisme français a eu un fort impact sur les choix de soins des résidents. Les informations recueillies montrent que les jeunes et les gens les plus aisés préfèrent recourir à la médecine

moderne et traditionnelle. La première action, à ce propos, semble-t être s'adresser au district sanitaire, sauf que pour les cas des maladies "typiques de la société africaine".

Le graphique ci-dessous a été élaboré sur la base des données prise dans le contexte de Saint-Louis et démontre que les gens font appel à la MT quand des pathologies spécifiques apparaissent. 23% de la population locale s'appuie sur la MT pour des problèmes mentaux et psychologiques, 25% demande le support des TT pour le traitement des dermatoses causées par des aliments à base de poisson (*ndokhum siti*); et 33% qui reste recourt aux méthodes traditionnelles en cas de maladies chroniques, pour lesquels la médecine modernes est trop chère, par exemple diabète, rhumatismes, hypertension artérielle, hémorroïdes.

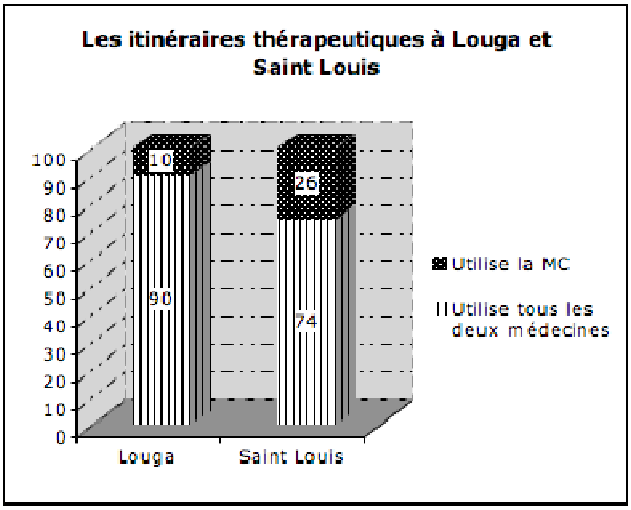


A Louga, les traditions rurales sont décidément plus profondément enracinées et vivantes, par rapport à d'autres régions du Pays, et la quasi-totalité de la population recourt presque massivement à la MT et conventionnelle. Parmi ceux qui adoptent les solutions proposées par la médecine traditionnelle, 87% en recours pour soigner des maladies bénignes et des maladies non graves (rhumatismes, abcès, migraines, problèmes dentaires, gastrites, insomnie, fatigue, circulation sanguine, hypertension artérielle, catarrhe). 6% est recouru aux méthodes traditionnelles lors de graves maladies, comme la malaria, le sida, le tétanos, troubles des articulations, le diabète et problèmes cardiaques. Seulement 7% a déclaré de s'appuyer sur la MT pour traiter et des maladies graves et des mineures.

De même, certaines études du Bureau régional pour l'Afrique de l'OMS soulignent que la MT est utilisée pour traiter la plupart des maladies non graves, qui n'ont pas besoin d'un service d'urgence [12].

Les pourcentages ci-dessus confirment que la majorité des patients interrogés utilise la MT pour soigner des maladies bénignes ou chroniques et, par contre, recourt à la médecine moderne pour des affections graves et urgentes.

D'après l'histogramme en bas, le traitement des données recueillies permet d'observer que la consultation multiple constitue la base du parcours thérapeutique, c'est à dire qu'en cas de besoin l'on consulter à la fois le médecin, le guérisseur et/ou un herboriste. Pas forcément cela arrive au même moment, même si cela se produit fréquemment dans le traitement des différents aspects de la même maladie ou parce qu'il n'y a pas d'amélioration dans la condition de santé du patient [13].



L'histogramme confirme que la quasi-totalité de l'échantillon de Saint Louis et de Louga mélange les deux méthodes de soins, faisant, c'est à dire, systématiquement usage de MT et MC simultanément ou comme alternative. D'après les témoignages recueillis, les facteurs qui contribuent à la définition du comportement thérapeutique adoptée par chaque individu sont distingués par: les facteurs liés à l'accessibilité spatiale et financière, facteurs socio-culturels liés à la "proximité culturelle", et le niveau de scolarité.

Toutefois, il convient de noter que, comme d'après Didier Fassin, le type de maladie affecte le patient dans le choix de soins, plus que l'argent et le niveau de scolarité [13].

Si en Sénégal les différentes méthodes de thérapie pouvaient coopérer ensemble de manière efficace, "le choix dans la lutte contre la maladie répondrait au vrai besoin de la population : le patient aurait un plus large éventail de choix thérapeutiques valables et sûres et il serait, enfin, libre de préférer les soins les meilleures en fonction de ses besoins économiques et culturels" [14].

Avis en comparaison: valorisation et règlementation des connaissances thérapeutiques traditionnelles.

Le thème de l'intégration entre les deux Médecines a toujours suscité un grand et controverse débat entre les acteurs directement et indirectement impliqués. La remarquable différence d'objectifs et d'ambitions, qui caractérise les sujets engagés dans la préparation de projets à niveau local, ralentit le processus.

Qu'est-ce que donc l'amélioration des pratiques traditionnelles de guérison ? Est-ce que l'intégration est le but primordial pour tous?

Les sondages menés sur terrain et le travail de recherche bibliographique veulent recomposer le désordre et les

contradictions typiques de l'argument pour identifier les acteurs les plus réticents et ceux plus enclin à la collaboration. Les opérateurs de santé, dans leur qualité de figures conventionnelles en contact avec la population locale, ont la tendance à coopérer avec la MT. D'après les mots d'un infirmier de Louga: "La MC est complémentaire à la MT, n'y s'oppose pas. J'ai confiance dans une coopération entre les deux, surtout parce que la MC rencontre des difficultés pour soigner certaines maladies. Par exemple la MT offre des soins valables dans le traitement de maladies de la peau et de maladies chroniques, la population fait beaucoup confiance aux TT et croit que la MC ne peut pas guérir ces maladies. Je pense donc que travailler ensemble puisse créer des avantages". D'autre part, la catégorie des thérapeutes traditionnels admet les limites de leur Médecine et trouve qu'une coopération puisse aboutir à une amélioration et croit aussi bien que la MC sera à son tour renouvelée grâce à la sagesse offerte par les pratiques de guérison traditionnelles. Un TT interviewé à Saint Louis constate : "les gens vont là pour se faire diagnostiquer le mal et puis continuent le traitement chez nous. Parfois, c'est même moi qui leur conseille de contacter l'hôpital et ensuite de revenir chez moi. De cette façon, je suis sûr du trouble de mon patient". Malgré un scepticisme général réciproque, des accords informels se produisent entre les deux champs. En cas de fractures, d'entorses ou de maladies qui nécessitant d'une opération chirurgicale, le thérapeute traditionnel encourage le patient à s'adresser aux soins de l'hôpital et la même chose arrive si un patient manifeste des crises hystériques, de folie, de migraine et d'allergies causées par des raisons inconnues, mais dans ce cas, c'est même le médecin qui conseille au patient de contacter le guérisseur [15].

L'analyse serait trompeuse si l'on ne considèrerait pas le point de vue de certains guérisseurs qui condamnent les méthodes modernes et ne visent pas à mélanger leurs savoirs traditionnels et religieux dans la rationalité scientifique typique du monde occidental. La divergence d'opinions ne touche pas seulement les guérisseurs et les marabouts, mais aussi les ONG, les associations et les institutions qui travaillent dans le domaine de la médecine. Les organisations internationales, comme l'OMS, régionales, comme le WAHO, et locales, comme le Ministère de la Santé du Sénégal, insistent beaucoup pour renforcer la coopération entre le médecin traditionnel et le médecin moderne. À ce propos les fonds adressés à l'organisation de séminaires pour l'échange d'informations et de bonnes pratiques sont nombreux: la MT devrait soutenir la médecine moderne pour ce qui concerne le traitement des maladies typiques de la société africaine et au même temps recevoir une formation sur le diagnostic, le contrôle et l'hygiène.

Les organes techniques liés au domaine spécifique de la phytothérapie s'opposent à l'organisation de ces rencontres, car ils estiment que la formation du personnel ne sera jamais efficace si l'on ne trouve pas une collaboration fertile pour laquelle tous peuvent obtenir de petits avantages et être encouragés à continuer dans le chemin.

Afin d'atteindre des objectifs concrets comme la régulation du secteur et, par conséquent, une majeure incorporation dans la médecine moderne, les groupes de recherche prétendent d'oublier l'aspect mystique et symbolique de la MT pour mieux se concentrer sur l'étude des propriétés thérapeutiques et des principes actifs typiques des herbes. Au même temps, il ne faut pas isoler la MT de l'environnement socio-culturel qui l'identifie en la privant de légitimité [16].

CONCLUSIONS

En termes de santé, la comparaison entre la MT et la MC reste une question centrale dans la situation sanitaire d'aujourd'hui en Afrique. Pour promouvoir une coopération efficace entre les deux systèmes de soins, le Gouvernement du Sénégal devrait accorder une certaine légitimité aux praticiens de la MT. Cela signifie reconnaître officiellement toutes ou partie de leurs compétences.

Une collaboration est complexe parce que les deux systèmes de soins ne disposent pas d'un même niveau de développement. Ils parcourent des chemins parallèles très différents: c'est l'expérience qui détermine la connaissance empirique du guérisseur, et de l'autre côté, la médecine moderne s'appuie sur des diagnostics précis et détaillés de la maladie du patient [17].

La tendance de la MC est celle de subordonner les savoirs de la MT à ses propres lois scientifiques, bien que la MT, en raison de sa capacité à satisfaire un besoin culturel et de sa plus grande accessibilité géographique et économique, offre des traitements plus abordables [18].

Les deux sujets du processus de guérison (thérapeute traditionnel et patient) partagent la même idée sur les causes, l'importance et le traitement de la maladie.

D'après ce qui ressort de l'analyse des deux itinéraires thérapeutiques, les deux domaines coexistent dans les pratiques de soins adoptées par les populations locales. Malgré cela, ils ne coopèrent pas, c'est à dire qu'ils n'interagissent pas et ne s'intègrent pas au niveau formel, alors que cela arrive sporadiquement au niveau plus informel. La MT au Sénégal garde une certaine richesse, et à cause de cette diversité il est plus difficile d'établir des critères scientifiques de qualité, d'efficacité et de sécurité comme le demandent les politiques et les directives supranationales. La complexité de la MT avec ses multiples aspects obstacle sa pleine entrée dans le SSN, et c'est pourquoi la tendance est d'intégrer la médecine la plus simple, c'est à dire la phytothérapie.

L'on dirait que cela s'avère d'être la seule branche de la MT qui peut être testée et réglée en fonction des standards scientifiques, en en faisant un domaine privilégié pour l'intégration entre les deux champs de la médecine, et pourtant, cela pose encore des questions essentielles pour en permettre l'admission dans le SSN.

L'on pourrait donc mieux valoriser le domaine de la phytothérapie en supportant la recherche rigoureuse et appliquée, permettant aux experts d'identifier une trajectoire politique axée sur l'étude du commerce et de la diffusion

des plantes médicinales (production, stockage et distribution) ainsi que de créer une pharmacopée traditionnelle officielle. Il faut encourager la coopération parmi les opérateurs, avec l'aide de modérateurs pour favoriser, ainsi, la création et le développement de centres d'expérimentation, qui soient au moins au même niveau, et possiblement meilleurs de celui de Malango et de l'Hôpital Traditionnel de Keur Massar.

L'échange d'informations et de bonnes pratiques avec les Pays voisins, qui ont déjà réglementé le domaine de la médecine traditionnelle, pourrait favoriser le chemin de l'institutionnalisation en Sénégal.

À côté des problèmes d'ordre politique et institutionnel, il faut entreprendre une action décisive pour surmonter certaines limites concernant l'utilisation et la distribution des traitements à base d'herbes médicinales. Les organes techniques du Service d'Hygiène et de l'inspection régionale des Eaux et Forêts de Saint Louis, déclarent que dosage, stockage et conservation inadéquats des plantes, souvent causés par une mauvaise formation des opérateurs de la MT, sont la raison principale pour laquelle la phytothérapie n'est pas considéré comme un champ scientifiquement sûr de la médecine traditionnelle.

Ce genre de connaissances se transmet oralement. Cela implique, d'une part, le risque d'une perte progressive du savoir collectif, et de l'autre pose un problème épineux touchant la notion de propriété intellectuelle qui mérite une étude ad hoc. À ce propos, on assiste à une forte méfiance des praticiens de la MT relative à l'échange d'informations en dehors de leur environnement. Un autre risque pour l'environnement est la perte massive de biodiversité, en raison de l'exploitation intensive des plantes médicinales.

Ce ne sont pas seulement les organisations nationales, internationales et gouvernementales et non gouvernementales qui poussent pour protéger ce phénomène, mais aussi les multinationales qui ont un intérêt dans l'exploitation de ces ressources car la phytothérapie est encore un secteur en expansion. Le risque réside dans la peur que ces pratiques ne soient pas adressées pour le bénéfice exclusif des populations locales, mais pour le bénéfice des lobbies pharmaceutiques.

L'analyse des données a indiqué que le processus plus efficace pour atteindre l'institutionnalisation de la MT dans le SSN est du type *bottom-up*: à partir d'une opération de sensibilisation et formation des premiers maillons de la chaîne il faut remonter jusqu'au sommet de la pyramide pour inclure finalement l'État.

Cette approche est la seule à permettre que la simple formation des opérateurs traditionnels aboutisse à la création d'associations autonomes, qui reçoivent une reconnaissance officielle au niveau nationale et qui leur permette de participer activement à l'élaboration des politiques de santé.

Le recours à méthodes innovantes devrait être guidée par des conditions préalables de justice et d'équité qui valorisent le niveau local, le potentiel social et l'utilisation de ressources alternatives, dans l'espoir de développer de nouvelles formes de collaboration au sein et parmi les différents niveaux [19]. Cela étant, l'on peut résumer le rapport entre MT et MC dans trois catégories de relations. L'*opposition*, par premier, prévoit que la MT soit éradiquée pour le bien du patient, car préjudiciable à son bien-être. L'*intégration*, deuxièmement, favorise l'inclusion dans le SSN sur la base des standards et des mesures vouées à la validation scientifique des traitements. Le *pluralisme*, par dernier, opte pour une coopération entre les différents systèmes de santé de manière cohérente avec le principe d'autonomie du patient, car cette approche reconnaît la valeur de la liberté dans le choix de traitement. Le pluralisme encourage la recherche et la communication ouverte, tout en respectant l'intégrité de chaque système thérapeutique [20]. Pour conclure, l'une des possibilités de promotion d'une politique organisée, visant au pluralisme thérapeutique, est celle de profiter des infirmiers en tant que sujets-ponts entre la MC et la MT. Comme cela à déjà été mentionné, les infirmiers sont ces personnes qui maintiennent un lien très fort avec les traditions et les populations. Ils sont considérés des médiateur qui facilitent la collaboration entre les médecins traditionnels et conventionnels à l'intérieurs des différents lieux thérapeutique mis en place dans le but de poursuivre un chemin parallèle. Un champ fertile de collaboration est le diagnostic et le monitorage de la maladie, considéré comme un moment où l'on écoute le patient sous deux différents "loupes": celle traditionnelle, soutenue par l'enracinement socio-culturel et celle conventionnelle, soutenue par l'analyse clinique scientifique.

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COOPERATING FOR CULTURAL HERITAGE CONSERVATION

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Many courses of anthropology, ethnology and archaeology in Italian Universities have set up long term research project in many countries of the world addressing the conservation and valorization of the cultural patrimony jointly with local partners in Africa, Asia, Europe and Oceania. The idea of putting up this panel stemmed from an urgent need to highlight the role universities can play in carrying out activities of cultural cooperation; these are similar but different from activities of cooperation to development. The latter are mainly driven by the desire to address specific problems for their solution while the former stems from a shared interest in investigating aspects of tangible and intangible cultural patrimony within a country.

The experience of participating to long term Ethnological Missions in Malawi and Mozambique (MEIMM) as well as to activities of cooperation for development suggest to highlight a number of differences whose added value should be considered carefully. The long term relations set up among researchers and academics in the countries of the research usually are long lasting good and exponentially durable relations of intellectual interchange among the partners. Research is usually an activity that entails personal passion for the personnel involved and it creates communication among the researchers of the different countries that lasts beyond financial limits. The long term cultural relations between the actors involved could also be considered an added value in the relations between countries whose outcomes of soft diplomacy[1] could be viewed as an important added value of a financial investment in these cultural activities.

The boundary line between development cooperation and cultural cooperation is often overlooked. Cultural cooperation holds its own specificity that should be preserved and valued. Cultural cooperation involves universities and research centres engaging project focused in the field of ethnology, ethnography, archaeology, and history. In Italy there is a specific tradition within this domain: the ethnological and archaeological missions promoted by the Ministry of Foreign Affairs. Similarly, the French Ministry of Foreign Affairs support scientific cooperation trough the CORUS (Cooperation pour la recherché universitaire et scientifique) Programme. In both cases, cultural cooperation works for the study, the protection, and the value of local cultural heritages.

The panel compared different international experiences, in particularly French and Italian initiatives, in the field of cultural cooperation for local heritages conservation. Cultural heritage and the processes of identification of such heritages have arisen as a key field study in human and social sciences. They also represent a main sector within development policies in the "Global South". There is a growing awareness about critical issues related to risk managements as threat to cultural heritages, both at the level of single sites and at regional level. Universities and research centres play a role in terms of training, management, knowledge transfer and dissemination among different stakeholders (local communities, public institutions in charge of cultural policies). The main goal of the panel has been to encourage critical thinking within academic and scientific research on the process of identification and protection of cultural heritages in the "Global South" and beyond it. The panel addressed the need of improving the knowledge and develop the skills of the people working in the field of cultural heritage, as well as of the local communities, in terms of protection mechanisms, heritage conservation and management. The overlapping of scientific and political interests within this field might offers a potential in terms of funding; it might also bring material benefits to local actors, universities and research groups. By addressing different case studies, and the experiences of three of the several Italian Ethnological Missions in Ghana (MEIG started in 1954 by V. L. Grottanelli and followed from 1989 by a second phase directed M. Pavanello), Mozambique & Malawi (MEIMM started in 2007 and directed by F. Declich), and the Equatorial Africa (MEIAFE) started in 1979 by F. Remotti and directed by C. Pennacini since 2004), the panel took into account the plurality of actors involved in the projects, as well as the processes of negotiation that shape the different phases of the projects. More broadly the panel addressed also the conflicts and the political implications related to cultural heritage conservation projects. Only some papers discussed in the panel are published here. Yet, some of the question addressed were the following, from tackled from an inter-disciplinary approach:

- how to build scientific knowledge on cultural heritage taking into account the complex issues of identity, memory, and claims over land;
- how to protect the cultural heritage and how to transform it in an opportunity for economic empowerment of local communities;
- how to create and strengthen cooperation networks between universities and research centres belonging to the Global North and the Global South;
- how to support research teams working on cultural heritage and how to contribute to the training of human resources in the Global South;
- how to strengthen research networks at regional and international level.

[1] Castles, Steven and Miller, Mark, 2012, L'era delle migrazioni, Editore Odoya, Bologna.

CULTURAL COOPERATION BY WAY OF ETHNOGRAPHY: A UGANDAN CASE STUDY (CORUS PROJECT)

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ABSTRACT

The paper moves from my experience as Italian anthropologist doing research both for the CORUS (cultural cooperation project) and for the Italian Cooperation (development cooperation). The aim of the article is to highlight some specificities of the ethnographic approach in matters of dialogue and cooperation between actors from different backgrounds. For this purpose the article draws upon the case study of Buddo Naggalabi, explored in the framework of CORUS Project. Some methodological and ethical aspects of fieldwork will be emphasized to suggest that ethnography is an ideal tool, particularly appropriate on the micro-level, to engage participants and scholars in broader frameworks of cultural cooperation.

This paper draws upon a research I carried out in Uganda for the CORUS Project[1], to which I took part as a member of the "Missione Etnologica Italiana in Africa Equatoriale"[2] in 2008-2010, and which dealt with sacred sites and heritagization in East Africa. Other authors in my panel have introduced both the project and the Missione, therefore I will not talk about them in more detail. I will instead move from a personal experience in Uganda, which made me confront with the concept of "cooperation" from the perspective of an Italian, anthropologist, with multiple loyalties (to "my" ethnographic field and to the Italian Cooperation which was temporarily hiring me). After sketching out this background, I will describe the site of my CORUS ethnographic research in more details, in order to give an example of the kind of knowledge that fieldwork can provide us with. I will use this case study to suggest that such knowledge makes ethnography a proper example of "cooperation" - "cultural" cooperation, of course, with little to envy to "development cooperation".

PREAMBLE – SOME REFLEXIVITY ON MY ITALIAN BACKGROUND AND ON "COOPERATION" IN UGANDA

As I was doing research in Uganda for my university studies, the Italian Cooperation (Ministry of Foreign Affairs) hired me to write a publication about the Italian presence in the country. I had two months to reconstruct the history of the interaction between the two countries, and to explore the contemporary context. The work was going to become a publication [1] which, as I discovered in the review process, had to follow implicit guidelines impressed by the commissioning institution. Research was enjoyable and inspiring as only fieldwork can be, while the writing up became a subtle (and I suppose, sometimes unconscious) negotiation around the narrative that should emerge from the book.

As a number of reviews and interpolations went on, the chronological organization I had chosen for the book – explorers, missionaries, development workers, business community –acquired more and more an ideological meaning. Italian governmental and non-governmental cooperation for development is well established in Uganda, and stakeholders wanted the publication to give relevance to its history. The order of chapters thus acquired a sort of teleological flavour, where everything before the establishment of "cooperation for development" seemed to prepare the ground for it, while everything after it could not but benefitting from it.

Therefore, I had an occasion to reflect upon the meaning of "cooperation" from an unusual perspective. Was it consistent to read the first travels of Italian explorers in the region as a prodrome of a future of "cooperation"? Was the Catholic mission a "cooperation" effort? The travel memoires from 1890s-1910s that I was reading were unsurprisingly rich in colonial time stereotypes, fear and horror for the *difference* experienced in the field and paternalistic empathy for the poor "little blacks" (in the words of Comboni), which did not really resound with modern cooperation's vocabulary. Was Italian food-import really "cooperation" with the Ugandan partners? Uganda was described by businessmen as the land of opportunities, where a booming economy was giving concrete chances of success, also (although not only) because of loose regulations and cheap labour. What was the *fil rouge* between the 19th century Italian explorers in the Great Lakes Region and the 21st century NGO officers on white pick-ups in Karamoja (where Italian efforts are nowadays focused)?

[1] "Approche socio-historique de sites sacrés naturels et enjeux contemporains autour de la préservation de ce patrimoine (Kenya, Madagascar, Ouganda)", funded by the French Ministry of Foreign Affairs and IRD (Institut de Recherche pour le Développement).
[2] "Italian Mission in Equatorial Africa", founded by Prof. F. Remotti and presently directed by Prof. C. Pennacini.

If I had to find a common denominator, this was represented by the fascination of interviewees with a specific narrative on Italians, in which hard work, joyfulness and passion for "bella vita" ("good life") were naturalized as Italian genetic fingerprints. Such characteristics, in turn, were thought of as the reason why "cooperation" worked so well, smoothly and "naturally" with Ugandans. When racist comments made me hesitant, the interviewees would quickly add a paternalistic comment on how Ugandans were, after all, funny - funny like Italians, always cracking a joke or forgiving wrongdoings. This narration is neither new nor rare: already in 1959, a speaker at the III Congress on economic and trading relations with the African continent observed that "our workers have left in Africa a memory of lively sympathy for their humanity, hard work and generous spirit" [2]. A development worker in Karamoja, referring to the missionaries' experience, told me that "Italians are more inclined to create bonds with other cultures", while a presenter of the Italian Festival held in Kampala in March 2012 opened the show by reminding the audience that "the relation between Ugandans and Italians have always been of friendship, never of colonialism". As the anthropologist Favero [3] has brightly explained, the *topos* of "Italians, good people" has marked the Italian identity construction process in the last 50 years at least. It has probably been reinforced by the peculiar characteristics of the Italian "scramble for Africa", a "demographic imperialism" with minor (in quantity, although not in quality) impact than other nations [3]. This narrative, in my view, encourages a "cooperation" talk in which other expats communities are not as much soaked as Italians.

Since I was there as a member of the Missione, which works in Rwanda, Congo and Uganda – here within an agreement with Makerere University - I insisted to include in the publication a chapter on Italian scientists and researchers in Uganda. If something like food-import could be displayed as a step in that ideal line of evolution along a "cooperation" paradigm, I felt even more authorized to consider students exchanges, cultural agreements and the collaborations between university departments or museums as a relevant aspect of our mutual cooperation.

In more or less the same period, the Italian Cooperation funded a TV program, "Brothers in Cooperation"[3], aimed at portraying the Italian presence in Uganda in 10 episodes. Creative and eye-catching, the program was an interesting channel through which the narration of the "good Italian" was reconfirmed. Live interviews from the studios of WBS TV were combined with pictures of the works realized countrywide: hospitals, cultivated fields, schools, but also trading enterprises and financial partnership with local entrepreneurs dominated the scene. Invited to present the work of the Missione on behalf of the other members (which were in Italy at that time), I sat in the studios with Prof. Nannyonga Tamusuza and Prof. Ndoleriire, from Makerere University. It was a wonderful occasion to reflect upon my and our positionality in Uganda: while "development cooperation" programs are publicized by the media and openly supported and echoed by the expats communities, social researchers that produce knowledge and encourage respectful, peaceful and creative human relationships usually carry out their fieldwork far from the public attention. Through WBS we finally had a chance to explain to a diverse audience what anthropologists are and do, and the value of the "immaterial bridges between cultures" that they build. We had no picture of hospitals built or school developed to show, but we talked about the marvels of intercultural sharing and affinity that only field research offers. At the end of the day, it seemed that we had legitimately gained our little place amongst the "brothers in cooperation" (although my colleagues are mainly women and sisterhood is way more relevant to our work).

This sudden visibility through a cooperation-related program made me realize something very simple, yet significant: devoting time to the diffusion and restitution of knowledge improves the interaction with the general public and with the institutions, something we should not dismiss, especially in time of cuts to funding to cooperation in general, and cultural cooperation in particular. However, we should pursue that without betraying the nature of our discipline. The rapport that anthropologists build with participants, the intimacy and durability of networks they establish in the field, the knowledge they produce are as precious as building schools, but represent an endeavour of different nature and as such it should be valued .

In this paper I want to sketch out some reflections that the above narrated anecdotes triggered in me. I do not want to pursue this reasoning in a theoretical way, but to articulate it with the research carried out for the CORUS Project. If ethnographic fieldwork shares something with development interventions, it is that both represent an "encounter" [5], and the encounter always "takes place", with a fitting expression [6], somewhere. Therefore, I am proposing here to see an example of ethnography "taking place" in Buddo Naggalabi; to explore how the anthropological approach can build knowledge, on the micro level; and I suggest that such knowledge legitimately fits, on the macro level, in broad projects of "cultural cooperation" as CORUS. By reflecting on ethnography's specificities I do not want to discredit the cooperation-for-development initiatives, but to propose that our endeavour is equally pertinent to the "cooperation" discourse and did deserve that little chapter in the publication on Italians in Uganda.

[3] Directed by Marco Ballerini and Sarah Nsigaye.

Fig. 1 - Damaged signpost welcoming tourists to Buddo Naggalabi.

ETHNOGRAPHY "TAKING PLACE" - BUDDO NAGGALABI, A "MORAL" PLACE

Buddo Naggalabi hill is located about 15 km south west of Kampala, central Uganda. Upon arrival on the site, the visitor first passes along the gates of King's College Buddo, an excellent college established by the Church Missionary Society in 1906 for the education of the ruling elite and royal families in the Uganda Protectorate. On the top of such illustrious hill, the *kabaka*, kings of Buganda[4], are enthroned, given the regalia and introduced to the world. A number of natural spots on the hill are named after salient episodes of one of the origin myths of Buganda: in the myth, the first king Kintu kills the tyrant-snake Bemba and takes power as a *primus inter pares* among the Ganda clans. Taboos and rules apply to such spots.

My research, explained elsewhere more in detail [7], dealt with the powerful "official" narration surrounding this site, which portrays it as a sacred place for the Baganda due to its close interconnection with royalty, main *raison d'être* of this society. Crucial to the vicissitudes of the kingdom, Buddo seemingly condenses meanings of centrality (geographical and symbolical), authenticity and continuity. The latter materialises in the reiteration of the coronation rite from king to king, but also in the path which connects the named spots mentioned above: every visitor's walk, by the act of moving along spatial directions under the guide of the locals, revives and re-enacts the memory which sprouts from myth, spot after spot.

Anthropological literature is particularly appropriate to understand how different societies attribute meaning to space and place; the connection between place and mythological knowledge is pointed out already by Malinowski [8], and it is still a focus of interest. If, as Tilley notes, "naming and identification of particular topographic features... is crucial for the establishment and maintenance of their identity" [9: 18], the act of moving around in the landscape, "encountering" such features, becomes a way to tell stories about the place and the people emplaced there. The individual and collective memories which are bound to that very geography are given temporal depth. The concept of "spatial stories" [10], upon which Tilley draws, is useful to understand how a surface as Buddo's hilltop can be seen not just as a space, but as a combination of places, through which a narration on the clans and the society of Baganda is carried out. As Augé aptly notes: "strangely, it is a set of breaks and discontinuities in space", exactly our named spots on the hill, "that expresses continuity in time" [11: 60]. Obviously, such interpretation of the hill is particularly fitting in the context of heritagization plans (the path can quickly become a ready-made tour for visitors): hence, the relevance of Buddo for the CORUS Project on heritagization of sacred sites in East Africa.

However, walking along a path is not only narrating a story: "geographical features of the landscape act as mnemonic pegs on which *moral* teachings hang" [9: 33, italics mine]. When places scattered in an "existential space" are attributed meaning, individuals and groups anchor their identity discourse on the ground and the place itself becomes charged of morality. After some years from my fieldwork in Buddo and more research on the Baganda's identity claims in the Ugandan context, I feel all the importance of such observation for understanding the issues at

[4] Buganda is a (neo)traditional kingdom in central Uganda. People from here are called Baganda (sing. muganda), and speak the Luganda language. I will use "Ganda" as an adjective throughout the paper, according to the British literature fashion.

stake on that little hill.

In Buddo, the "athmosphere of the place" [12] is striking. The rural setting, silent and afar from any urban sound (the only exception being the radios working also in case of power outage) is particularly prone to romanticization; countryside, here as elsewhere, is charged with meanings in contrast with the city, and as a "locus of *moral* purity and wholeness" [13: 152, Italics mine]. In the place where royalty comes to being, a proper moral behaviour is required; morality is heightened by the presence of sacred spots, protected by rules and taboos, and by a hierarchy of culturally specialized people, whose head is represented by a clan chief with functions of traditional healer. He and his clan men (from the *mamba* clan) regulate the access and the use of the land on the hill, which is mostly property of the king. Their position has been enhanced by the cultural revival ensued in Buganda after the restoration of the traditional institution in 1993, that has revived old cultural traditions and dictated the criteria to define a "good muganda". "Cultural brokers", "tradition bearer" [14] (people who actively commit to the reactivation of traditional knowledge and to its transmission) and elders capitalize on the revival: they have become the gatekeepers of the Ganda identity, repository of authenticity and morality. In this way they can negotiate powerful roles within the administration of the kingdom, or within the arena of their own clans or villages. In Buddo they protect the place, synecdoche of the kingdom as an institution and its people, from strangers. Events like the fire which unknown people set to one of the sacred houses in 2012 are seen as bewildering wounds to the security of Buganda, a further deterioration to the custom and traditions of a once united kingdom.

Moral meanings are aptly explored by ethnographic fieldwork. As Lambek claims, "fieldwork is an intensely moral activity in the Aristotelian sense" [15: 32]: coherently with the position of many scholars of anthropology of morality in the last decade, morality here is not a set of rules, but an "ethical practice" which provides us with the chance of a "meaningful engagement with the others" [15: 33]. Navigating a place soaked with morality, through participant observation and sharing, the ethnographer can also more easily acknowledge (or foresee) how this can trigger absolutistic claims of belonging. When fear of the "immoral" Other is felt by self-asserting "moral" first-comers, autochthony discourse is activated, with little if any historical contextualization [16]. In Buddo, the origin myth gives pre-eminence to the *mamba* clan that dwells on the hill, and seems to provide it with an exclusive right to the land. However, research can also help to understand that even the harshest and most essentialistic discourse on rooting and belonging has a constructed nature and reflects to partisan needs and interests, contextually elaborated.

ONE SITE, MANY INTERESTS: SUBJECTIVITY, RELATION AND CONFLICTS AROUND THE PLACE

As I said, the official narrative on the site insisted on Buddo as a crucial, shared heritage for the whole kingdom. However, when between 1999 and 2003 a project of heritagization attempted to transform the site into a touristic attraction, a Pandora's vase opened and revealed a number of tensions and conflicts within and around it. I detail such tensions better elsewhere [7]. Here it will be enough to say that these conflicts can productively be interpreted as sprouting from the divergent meanings that the place has been given by the actors and from the heterogeneous relations between them. For the inhabitant of Buddo (clan *mamba*) the hill represented an "existential place" where every rock reminded of ancestors' deeds and reconfirmed emplaceness and belonging. Some were eager to develop the site and to open it to visitors, but had their own peculiar vision of how this was to be done: sacred space was not supposed to be invaded by people, and being a relational space of interaction between the living and the dead it was not supposed to be "frozen" within fences or labelled by generic touristic signposts. For the officer of the Buganda Ministry of Tourism, the interpretation had minor phenomenological importance: Buddo was conceived as an asset capable to generate income. Several "ethnically defined entrepreneurs, community leaders and cultural brokers" [14: 8] started interacting in new ways, some of them seeing that "it paid to be native"[14: 6], and unwilling to step back in the management of the site. People from the national museum and from urban institutions, however, claimed expertise and cultural knowledge on the site as much, if not more, than the locals. The museum's officers, on their part, eager to apply UNESCO directives on intangible heritage, brought expert craftsmen, architects and professionals to the site; workshops with the local people were intended to teach the basis of tourist reception.

The confrontation between these actors - all Baganda, but with different statuses – showed how the morality, sacredness and even the taboos in Buddo were in reality contextual and negotiable constructions. As anthropological literature shows, indeed, moral discourse on place is not stated once and for all: it ideally unfolds at its best in the relationship between locals and outsiders, but it can also be articulated to serve different aims, tackling different levels of social relationship, even *within* one place, within one community [17]. None of the several perspectives really won, and the place was left to itself, shabbier than before.

Each of the above positionalities in relation to the site engaged differently with it. As Thilley maintains, "there is no space that is not relational" [9: 17]. Subjects engage with space differently, through "embodiment" [12]; space, and the navigation into a place, trigger different sensibilities and attitudes. Since I was interested in the consequences of heritagization, the relation between tourists and Buddo was an interesting aspect. The tourist in a site has to be reminded of other experiences, of other places, activating memories and resonating with higher values and ideals, in order to feel the "athmosphere of the place" [12: 45]. However, the tourists' comments that I gathered were often negative: the place was dilapidated and disorganized, and for some "not authentic enough"; they could not get the "sense of place" that Crouch defines as a "suitable mood or ambiance related to that [tourist] attraction" [12: 365].

One place, many interpretations and relations: hence, the conflicts and negotiations that I encountered in my research. When a selected "stewardship" is called to manage precious resources [18], conflict seems inevitable. Sites undergoing heritagization processes "are destined to be sites of controversy, as different groups embracing different narratives seek to assert symbolic (or economic) ownership of them" [19: 434].

Ethnography, through the continuative interaction and the accurate construction of rapport with informants, brings us closer to the concrete power relations between actors that have different rights to the place, a real "system of domination" [9] which restricts and regulates access. While the development workers I interviewed for the Italian Cooperation often described with surprise the "skirmishes" among the interventions' receivers, anthropologists take the power relation in the field as an essential part of their research. They know how to avoid culturalist stereotypes pretending that a place is inhabited by a uniform and united people [11][13] and they bring the duality power/place to the forefront in their analysis. Nobody, let alone myself, could access all the corners on the hill: rules and taboos applied to Buddo's sacred houses, the shrines, the *kabaka*'s land on the hill, and different people had different rights of movement on the site. Place and power were closely interconnected there as elsewhere, and one of the duties of the anthropologist is exactly to extricate this nexus. Projects of cultural cooperation like CORUS cannot but encourage a reflection upon these themes, and prove how ethnography is a privileged tool to approach them.

ETHNOGRAPHIC FIELDWORK AND CULTURAL COOPERATION

This case study inspires a number of observations on the potentiality of ethnographic fieldwork in the framework of cultural cooperation programmes. There is, I feel, continuous need not so much to justify our presence as social researchers or cultural practitioners among the "VIPs" of cooperation, as probably to remind ourselves and the general public of the specificities that we are called to bring on the ground as a "plus".

First, critical anthropology can deconstruct taken-for-granted concepts as "heritage", culture or tradition, investigating the historical and cultural context that produced them [20]. This effort implies a responsibility towards the people we interview and the public we target: "our [of the anthropologists] writings challenging or reifying particular narratives associated with [heritage] sites have the potential to be read not only by local stakeholders but also by visiting tourists and representatives from granting agencies" [19: 434]. Reflexivity around this issue represents a duty, but also a great strength of our discipline.

Despite the effort to demystify essentialistic concepts, researchers also have clear that emic categories have very real consequences in terms of inclusion and exclusion. Therefore, the second point I want to underline here is that the ethnographic stance gives the researcher a privileged view on conflict. As Buddo case study shows, certain fields like heritage become more easily arenas of conflicting relationships. "How do we situate ourselves in these frequently contentious sites? … What role, if any, are we to play in the articulation and negotiation of various stakeholders' claims surrounding heritage sites?" [19: 434]. Ethnography gives room to these questions and avoids simplifications.

The attitude of the ethnographer towards issues of conflict can be inspired by different approaches: it could be one of "applied", or "action", or even a "public interest" anthropologist, all of them requiring active involvement of the researcher as practitioner or vocal advocate of local's claims. As external observer, the researcher can learn of "disparities in power across involved groups" and he might act to "readdress imbalance in the debate", or have a voice in the "planning, management, and conflict resolution" [18: 368]. I have not had the chance to participate to the (failed) attempt of heritagiziation process in Buddo, but I had to deal with its consequences. I chose a lower profile: my informants were frustrated for the divergent interests competing around the site, and I tried to communicate their discontent to the higher levels of the hierarchy, when possible. I thus mainly concentrated on "[mapping] out the regimes of power connected to [the] site" [19: 434], and tried to act as a mediator, but I could not act upon the process of heritagization which had occurred much earlier.

The result of this very modest role is that instead of helping the people on the ground to learn something about heritagization, I was the one who learnt more about the place. My normative knowledge about Ganda custom and society was insinuated by doubts, cracks on the surface, which made more evident the multidimensional dynamics of power in that society. This small community, claiming to be the caretaker of such an emblem of Buganda's unity, was torn by tensions. Power layers unfolded before me, something that I have tried to interpret here also through the lens of place and space.

As Lambek points out, it can be "demoralizing" to realise how little we know, when we are in the field. There we adopt an attitude of "perpetual student" [15], and the participants often have the right to the last word. And here comes a third peculiar aspect of ethnography: the anthropologist at wok *learns* from the people with whom he or she studies, and has rarely, if ever, the intention to teach. This makes a cooperation based on cultural research quite different from a development intervention, where expertise from the "developed" world has to be taught in form of "transfer of knowledge/technology" (although there has been a revaluation of local knowledge in the last decades, also thanks to anthropology [21]). One should however not romanticize ethnography as a democratic, egalitarian, naive enterprise: power relations are at work also between the researcher and the research field, and reflexivity is again necessary to avoid rhetorical statements.

As a fourth and final point, I have already mentioned above that ethnographic fieldwork represents a "moral" activity, an ethical enterprise with a focus on *praxis* and bodily dispositions. If the ethnographers, in the "hermeneutics

of fieldwork" [15], gets to know the others and engages with them, such engagement is a holistic activity: with his/her body, the ethnographer navigates space that the participants navigate and tries to take part into the process of attribution of meaning that they consciously or unconsciously perform in everyday life. Even speech is ethical practice [22]: while speaking, the ethnographer creates conditions which are bounding in the exchange with others. Moreover, as Paul Stoller loves to remind (cf. his speech at Vega Day in Stockholm, April 2013), anthropology seeks for an "existential convergence" with the participants. Ethnography, the "bedrock of anthropology", "sometimes enables readers to understand the wisdom of others, which, in turn, can open their being to an increasingly complex and interconnected world" [23: 156].

All this may sound too reflexive and even intimate, when we are talking of "cultural cooperation" between big institutions. However, I am convinced that the success of such a peculiar kind of cooperation lies exactly in what happens on the ground. Moreover, we are called upon a serious consideration of the consequences that such potentialities have for us. Among the heterogeneous actors and practitioners of development, we are certainly better equipped to engage local participants and scholars in our research. We can do it through the diffusion and restitution of knowledge, but we also have the duty to support their active involvement in the research designs. As I have said above, fieldwork cannot be romanticized as an egalitarian enterprise: availability of funds, facilities, documents, marks a difference between scholars from the "North" and from the "South" that cannot be naively underestimated.

The "good" anthropology, as Susan R. Whytes has said in a speech at SANT conference, Uppsala, in April 2013, is "one whose engagement 'ramifies' along different trajectories". Scholar with participants, scholars among themselves in the field, "North" with "South": anthropology must create connections deemed to remain in time, and has to do so also by involving scholars from other background in the conceptualization of the research. In this sense, "cooperation", I suggest, might be just another label for such engagement, and for the multidimensional relations which anthropology builds. Ethnography, for the aims of this paper, is the smallest in a series of nesting dolls – where the biggest represents the huge administrative and institutional framework of cooperation projects like the Missione or CORUS.

CONCLUSIONS

Back to the first setting of this paper, governmental and non-governmental cooperation for development remains the Italian success story in Uganda. Cultural cooperation, overshadowed by her bigger sisters, is cheaper yet more affected by budget cuts and receives less public recognition. However, agreements between Italian and Ugandan universities are still on-going[5], and the Missione represents an important actor on this scene.

As long as the results of cultural cooperation are measured against the standard of development interventions, the lack of public and institutional confidence in what we do will affect our working conditions. The risk I see from my personal experience on the ground is the fragmentation of research - each researcher seeking funds and support on his or her own, at the expenses of a broader coherence with other researches carried out on the same ground. Another risk is the lack of material support for the scholars from the "South", which are deemed to be excluded by the elaboration of the research questions ad run the risk of being "dragged" into our projects only after all is said and done. These are the risks that must convince us to disclose our skills to the broader public and to the institutions, asking for the recognition of our role and for the support of a real engagement with our "Southern" colleagues.

This is why frameworks like Missione Etnologica Italiana in Africa Equatoriale and broad international projects like CORUS are important: they should create the conditions to channel energies towards the achievement of congruent research designs, to support a concrete exchange and engagement between researchers, and to legitimize anthropological knowledge as a tool for cultural cooperation.

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THE ITALIAN ETHNOLOGICAL MISSION TO GHANA AND CULTURAL COOPERATION: HERITAGE-MAKING PROCESSES IN THE NZEMA AREA (SOUTH-WEST GHANA)[1]

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ABSTRACT

In the last fifteen years the Italian Ethnological Mission to Ghana (IEMG), established in 1956, has been supporting cultural cooperation projects aiming to the valorisation of natural and cultural heritage of the Nzema area (South-West Ghana). The long-term relationships between IEMG anthropologists and local actors have led representatives of Ghanaian communities and institutions to ask for a restitution of knowledge gathered throughout the years by researchers.
In order to meet these requests, in mid-1990s IEMG opened the way to the international cooperation in the area, and promoted development projects focused on micro-credit. However, the restitution of ethnographic knowledge has mostly been achieved through the cultural cooperation project *Fort Apollonia and the Nzemas. Community-based Management of Natural and Cultural Heritage, Western Region* (2008-2011). Managed by COSPE NGO (Cooperation for the Development of Emerging Countries) in collaboration with IEMG and many Ghanaian institutional actors, this project culminated in in 2010 in the establishment of a museum-cultural centre. Today, the *Fort Apollonia Museum of Nzema Culture and History* plays a leading role in the safeguarding and valorisation of local heritage, as it is testified by its recent participation to a project – founded by the British Library and Sapienza University of Rome – concerning the conservation and digitization of archival documents belonging to Nzema traditional authorities. This project is part of a wider program aiming to the establishment of a digital archive including the documents related to Nzema chieftaincy as well as the research materials produced by IEMG scholars, currently being catalogued and digitized at Sapienza University of Rome.
This paper will illustrate the main features of the ongoing ethnographic restitution process, focusing on synergetic interactions among anthropologists, local actors and NGOs. Thus, the authors will discuss how an academic Mission, within a specific area, can trigger development processes and then contribute to the shifting of development cooperation into cultural cooperation. Finally, they will point out the results of this multifaceted relation among academia, Ghanaian interlocutors and development operators, in terms of local empowerment.

THE ITALIAN ETHNOLOGICAL MISSION TO GHANA AND ITS LONG-TERM RELATION WITH ETHNOGRAPHIC FIELD

In 1956, Vinigi Grottanelli, holder of the first chair of Ethnology in Italy, established the Italian Ethnological Mission to Ghana (IEMG), a multidisciplinary team of scholars carrying out its linguistic, historical and ethnological surveys in the Nzema area[2], South-West Ghana. IEMG developed in two significant research phases, characterized by different methodological and epistemological perspectives, as well as by different relations with the fieldwork. The first IEMG research period (1956-1975) distinguished itself for a scientific approach enhancing the "authentic" and the "traditional" with the aim of obtaining a holistic and organic representation of the various components of society, «before the brutal impact of modernization could radically transform them» (Grottanelli, 1978, p. XIII, authors' translation). Among the investigated topics, the classical themes of Africanist ethnography were extensively examined: the individual's life cycle, with its rites of passage; magic and witchcraft; traditional medical practices; otherworldly entities and ancestors (Cerulli, 1963; Grottanelli, 1977, 1978; Lanternari, 1972; Signorini, 1978). Interactions among local people and colonial authorities, as well as slavery and any other process of cultural change, were at the same time

[1] The paragraph "The Italian Ethnological Mission to Ghana and its long-term relation with ethnographic field" has been written by Elisa Vasconi; "From development cooperation to cultural cooperation" has been written by Mariaclaudia Cristofano; "Fort Apollonia today" has been written by Stefano Maltese.
[2] We refer here to the wider coastal region, with the Ankobra (Siane) Estuary as a western border and the Tano (Tanoɛ) River and the lagoons separating Ghana from Ivory Coast (Eby and Tano-Ehy lagoons) as an eastern border. This territory, which is part of the wider Akan lands, covers two traditional areas (Western Nzema Traditional Area, with Beyin as capital, and Eastern Nzema Traditional Area, with Atuabo as capital) and roughly matches two regional district assemblies (namely Jomoro District Assembly and Ellembele District Assembly).

neglected.

This phase ended with the publication of a comprehensive two-volumes monograph on Nzema society edited by Grottanelli (1977, 1978), including most of the researches of the so called "classical Nzema ethnography" (Pavanello, 1997-1998). The conclusion of this first period was marked also by Ghanaian political situation, characterized by coups leading to a military regime established in 1981 by Jerry John Rawlings, making anthropological surveys difficult to be arranged in a poor and marginal region as the Nzema area.

A second season officially started in 1989, when Mariano Pavanello succeeded to Grottanelli in the scientific direction of the Mission. In this period several scholars travelled to the area with the intention of examining issues left in the background by their predecessors. Their new approach did not mean to enhance an authentic and reified context, instead they tried to interpret the contemporary Nzema society taking into consideration the relations among the Nzemas, neighboring populations and Europeans. Distancing from what currently would be called an essentialist perspective, with the Nzemas portrayed as bounded and unchanging, a people without history, the second phase of IEMG has adopted a diachronic perspective, focusing on processes of transformation, cultural dynamism, negotiations of identities and sociopolitical order of the area. Pavanello's studies on local economy and oral traditions (2000, 2007), as well as Valsecchi's historical studies (2002), investigated the cultural interactions that characterised this territory at least since the arrival of Portuguese, presenting a different vision of history based on contact and relationships (Aria, Cristofano and Maltese, 2014, forthcoming). Thus, IEMG scholars deeply immersed themselves in Nzema society in order to cast an in-depth look on sensitive themes such as the relation with ancestors, local history, land tenure system and the creative dimensions of tradition.

In this framework Pavanello built deep relations with traditional rulers, in doing so achieving a near-chiefly status himself as well as the access to the most hidden levels of historical knowledge. Among them, a preeminent role has been played by Annor Adjaye III, *ɔmanhene* (Paramount Chief) of the *Western Nzema Traditional Area*, promoter together with Pavanello of development and valorisation projects throughout the territory. He paradigmatically embodied a new traditional authority model, in line with the extraordinary revival process properly suggested by the term "le retour des rois" (Perrot and Fauvelle-Aymar, 2003), and expressed in Ghana's 1992 constitutional reforms[3]. The *ɔmanhene* has always seemed to contradict the stereotypical idea of traditional chief: he achieved academic qualifications and advanced his career in the ranks of the civil service. Moreover, the Paramount Chief has shown the ability to master the language of development, as well as to convincingly relate with anthropological knowledge. An evidence of this new relation with IEMG researchers is provided by his two journeys in Italy arranged by Pavanello: the first in May 1996, as a guest of honour of an international conference on Akan studies in Urbino; the second in June 1997, aiming to involve Italian local governments into decentralized cooperation programs to be developed in the Nzema area. At the same time, at the end of 1990s, Annor Adjaye III shifted his attention on the ethnographic studies carried out in his area throughout the years. As Pavanello pointed out: «he was starting to consider anthropological fieldworks as an extractive activity to be done in accordance with a permit, and which expect a compensation» (Pavanello, 2007, p. 135, authors' translation). Thus, the Paramount Chief confronted the Italian scholars with the unavoidable issue of ethnographic restitution, that is the way to share the outcomes of IEMG activities with local communities.

Emphasizing the importance of the Italian scholars' long-time relationship with the Nzema area since the time of Grottanelli, Annor Adjaye III reminded anthropologists of their duties to make the outcomes of their research available to the Nzema people, and stimulated them to undertake some kind of activities in order to provide a fair compensation to the local communities in return for their cooperation over the years (Pavanello, 2007). The restitution and development rhetoric fielded by the *ɔmanhene* in his interactions with the Italian academics become a key aspect of Annor Adjaye III's political legitimization in front of governmental authorities, local chiefs and population.

In order to meet the requests of the most authoritative local chief, Pavanello was «forced to think about the stake of anthropological research» (Pavanello, 2007, p. 135, authors' translation). Thus, he decided to promote new development programs introducing the Italian NGO COSPE (*Cooperation for the development of emerging countries*) and the Tuscan Municipality of Peccioli, where he resides. The first project, started in 1998, led to the creation of a mechanical workshop school in Bawhia (Jomoro District), carried out in collaboration with Ghanaian national and traditional authorities. This intervention opened the way to further decentralized cooperation programs, and marked the turn of Pavanello's role from researcher to development promoter (Pavanello, 2007). This was followed by a second and more extended project founded by European Commission, entitled *Small and Micro Enterprises Support System* (SMESS). It aimed at sustaining micro-credit and encouraging the creation of a local network of entrepreneurs and artisans. Lasted almost ten years, the SMESS triggered the establishment of several associations and trained more than 2500 Nzema artisans – tailors, carpenters, mechanics, oil producers, etc. – in enterprise, budget and credits management.

At the beginning of 2000s, the completion of these programs and the experience and knowledge gained by development operators, led to a wider and different project, far from economic and development issues characterising

[3] Concluding the legislative reform process started in the late 1960s, the new 1992 Constitution recognized the traditional chieftaincy's prerogatives but also established limits on the scope of their authority. Specifically, traditional chiefs were granted a status of autonomous institutional entities, but were at the same time forbidden to run in governmental elections. In this new context, chiefs reaffirmed the sacredness and the relevance of their role by staging ritual performances, and they also displayed great skill in gaining consensus outside the political arena, not least in their openness to new opportunities offered by international cooperation.

the previous interventions. The project *Fort Apollonia and the Nzemas. Community-based Management of Natural and Cultural Heritage, Western Ghana* was approved and funded in 2005 by the Italian Ministry of Foreign Affairs. It represented a turning point within the development cooperation in the Nzema area, in which the IEMG anthropologists have played an outstanding role.

FROM DEVELOPMENT COOPERATION TO CULTURAL COOPERATION

Throughout its history, IEMG has not only distinguished itself for scientific works and peculiar relations with fieldwork, but also for its special link with a symbolic site both for Europeans and Nzemas: Fort Apollonia. It is a British stronghold built at the end of the Eighteenth Century at Beyin, capital of Western Nzema Traditional Area.

In 1968 Kwame Nkrumah, the first President of independent Ghana, promoted its restoration to enhance the Nzema area – his place of origin – and contrast its backwardness and marginality, at that time seeming to be inevitable. He also accorded to IEMG anthropologists the permit of housing in the castle during their surveys: therefore Fort Apollonia became their residence. The situation started to change in 1998, when *Ghana Museums and Monuments Board* (GMMB) – the governmental body in charge for the administration of both national museums and historical buildings – granted the anthropologists exclusive use of the fort. In return, GMMB asked them to work out a strategy to turn Fort Apollonia into something useful for local population. Soon after, Pavanello encouraged Italian scholars to leave the fort and spread out into the territory, as himself did in 2002 moving into a raffia-hut in Old-Kabenlasuazo, a coastal village not far from Beyin (Aria, Cristofano and Maltese, 2012).

In this changing scenario, thanks to the joint efforts of different actors, both Ghanaians and Europeans, *Fort Apollonia and the Nzemas* started. This project, managed by COSPE from 2008 to 2011, was strongly supported by Italian anthropologists in order to meet the above mentioned restitution claims. It was also the outcome of national and international cooperation programs, which in mid-1990s were making of cultural and natural heritage valorisation a central feature of their actions. These are indeed the years of heritage policies promoted by international organizations like UNESCO, which find their achievement in an increased number of development projects aiming to actively involve local communities. In tune with the described new directions of international cooperation, also the Nzema area benefitted from valorisation programs. At the end of 1990s the NGO *Ghana Wildlife Society* (GWS) settled in Beyin to promote actions of eco-touristic requalification and conservation of the area[4]. Thus, anthropologists and COSPE included the already started GWS interventions within *Fort Apollonia and the Nzemas* project.

Therefore, in *Fort Apollonia project* conservation and valorisation of local cultural and natural heritage were identified as two key-elements for the human development of the Nzema people and for the improvement of their living conditions in an eco-compatible and self-sustainable way. The project aimed to carry out this complex purpose through tree main objectives: 1) strengthening of possibilities and capabilities for the safeguarding and valorisation of local natural and cultural heritage; 2) improvement of entrepreneurial skills and chances for local people, with particular reference to economical activities related to the enhancement of local resources. 3) making local people aware of the importance of conservation and sustainable use of ecosystems and natural renewable sources. Each objective included different actions combining development of the area with the safeguarding of cultural and natural heritage[5].

Among them, the setting up of the *Fort Apollonia Museums of Nzema Culture and History* has played a central role. The museum-cultural centre was inaugurated on October 30th 2010 within the newly restored Fort Apollonia, to the presence of local population and representatives of the institutions involved within the project (Fig. 1).

Fort Apollonia and the Nzemas has gathered different actors: on the European side IEMG, responsible for the design and the implementation of museum exhibitions; Italian Ministry of Foreign Affairs, as main founder of the project; and COSPE, managing funds and interventions. On the Ghanaian side: GWS; representatives of traditional rule (*Western Nzema Traditional Council* and *Eastern Nzema Traditional Council*); decentralized governmental institutions (*Jomoro District Assembly* and *Ellembele District Assembly*); GMMB; and other institutions dealing with the valorization of national cultural heritage (*National Commission on Culture*) and touristic promotion of the territory (*Ghana Tourist Board*).

In this framework, anthropologists have not only played the role of observers, instead they have become active agents of a collaborative heritage-making process. As young IEMG probationers who had focused their studies on heritage and museums, at the end of 2008 indeed COSPE employed two of us[6] to develop a museum proposal including

[4] The first important project carried out in the Nzema area by GWS is the ACID project (*Amanzule Conservation and Integrated Development* project). It aimed to the conservation of Amanzule lagoon ecosystem and to the «enhancement of its scenic beauty, ecological integrity, eco-tourism potential, and the economic well-being of the local community» (Abban, et al., 2009). It reinterpreted the Nzema area as a natural heritage and opened the way to the eco-touristic development of the area.

[5] Concerning point 1), the action focused on: the restoration of Fort Apollonia and the setting up of a museum-cultural centre within the stronghold; the support of local communities in the management of the museum; the identification of touristic trails which, starting from the museum, could lead to the discovery of the Nzema area. The essential purpose of the action described at point 2) was to make Nzema cultural and natural heritage an income-generating resource for the communities. Through production and selling of handicrafts, access to credit and training of local entrepreneurs, the project aimed to develop employment opportunities for local people. In accordance with point 3), the project aimed both to spread a new ecological awareness and to enhance hygienic conditions through the setting up of local sanitary infrastructures.

[6] The authors of this essay have played different roles in the process of cultural valorisation started in the frame of the *Fort Apollonia and the Nzemas* project. Since 2009, Mariaclaudia Cristofano and Stefano Maltese curated the museum project and set up its exhibits. Elisa Vasconi has collaborated

a number of key-topics to be developed in the exhibition, with the idea to submit such a proposal to the Project Management Committee (PMC) for close examination and approval. After negotiations and exchanges among us, local representatives and the PMC, these subjects came to include: the Nzema system of kinship and its seven clans; the hierarchy of traditional power; the *Kundum* festival; historical narratives of the area; the relationship between the human population and local ecosystems; and traditional medicine[7].

Notwithstanding, at the beginning of the project the character of the museum to set up was not unambiguous. The actors taking part to its realization were wondering if Fort Apollonia should become an eco-museum, a historical and ethnographic museum, a gallery filled with showcases displaying objects, a cultural centre, a strategic tool for the economic growth of the area, a place mostly visited by tourists or local people. Another important issue was related to the method to be adopted to implement the exhibition. The development project charged us with "translating" into museum exhibits the knowledge gathered throughout the time by IEMG anthropologists. We were conscious that this task threatened to result in reifying and exoticising representations, marginalising local people's agency, even if it was in accordance with the cultural restitution programme at the basis of the project. Thus, we tried to join the anthropological knowledge, with a kind of museum able to relate with the contemporary Nzema, through a reflexive operation of mediation and intentional contamination among different imaginations and languages. Our approach was informed by studies of heritage-making processes (e.g. Handler, 1988; Herzfeld, 1997; Lowenthal, 1998; Palumbo, 2003) and by the perspectives of museum anthropology (e.g. Karp and Lavine, 1991; Karp, Mullen Kreamer and Lavine, 1992; Clemente and Rossi, 1999; Karp, et. al, 2006; Padiglione, 2008). We aimed to avoid essentialising and classifying ideas of museum and cultural heritage, to connect "an anthropology *within* museums with an anthropology *of* museums" (Padiglione, 2008, p. .92), taking into account the intellectual and political contexts in which the heritage-building processes take place. In order to do so, we were encouraged to continuously shift from the role of museum designers to that of critical ethnographer and vice versa, which was the only way to reflexively analyse the representations that we ourselves had a hand in producing.

The two methodologies adopted gave us the opportunity to show in *Fort Apollonia Museum* a plurality of views on Nzema society, avoiding the knowledge and the academic authority of the anthropologists to prevail. Thus, in the participatory spirit of museum anthropology, both the outline and the setting up of the exhibition were carried out through a series of workshops involving different actors. Throughout the process, constant collaborations were taking place among us as anthropologists, with the *Nzema Art and Crafts Association* (a regional craft association), and other Ghanaian individuals who played a role in the development of the museum thanks to their skills or position in the community.

The setting up of *Fort Apollonia Museum* represents the outcome of continuous negotiations among different actors' representations. It has revealed conflicts and problems usually characterizing the establishment of a museum as an institution (Clifford, 1997), as well as the carrying out of a development project (Oliver de Sardan, 1995). However, *Fort Apollonia and the Nzemas* project has also promoted the museum as a new cultural institution strongly rooted in the Nzema area, today representing a point of reference for local communities, drawing the attention of national and international tourism, and promoting cultural cooperation programs.

FORT APOLLONIA TODAY

Since its inauguration, the Fort Apollonia Museum has been acquiring relevance at local, national and – thanks to the projects recently undertaken – also international levels.

In 2012 a Scientific Committee including the major Ghanaian scholars has been instituted, with the support of the IEMG. Besides the promotion of the institution in the academic and institutional scenario, the Committee's main objective is to facilitate the engagement of the Museum in new research projects. The political consequences of this operation have been so relevant to expedite the process for the employment of the museum staff by GMMB, which started immediately after the end of the *Fort Apollonia and the Nzemas* project and has been recently finalized. Since July 2011, the three professionals selected and trained by COSPE and the anthropologists have indeed been working for free, despite the fact that the official employment dates from December 2012. Although the staff employment looks as an important achievement, its instability has been delaying so far the activities of the Museum, such as educational programs for the schools and tourist promotion of the area.

Nevertheless, the Museum has been able to gain an important role in raising awareness about cultural and environmental issues, by organizing locally-based activities for the schools children, as well as by hosting summer schools for Italian students in cultural anthropology. Such a commitment gradually led the Museum to stand as a leading agency in several projects aimed at implementing cultural activities throughout the territory.

By the way, the implementation of some kinds of cultural cooperation with more defined objectives seemed particularly appropriate in order to intervene where the *Fort Apollonia and the Nzemas* project could not, as, for instance, in the sensitive matter concerning the history of the area. During the months in which the Museum exhibition was developed, and even earlier, the issue of local history had proved to be one of the most relevant and conflicting, no

to the setting up of the traditional medicine room as a medical anthropologist expert of the area.

[7] On the patrimonialisation of traditional medicine in Fort Apollonia see Cristofano, Maltese and Vasconi, 2013.

matter of the actors with which it was discussed within the project framework. All the partners agreed on the idea of dedicating a significant space in the exhibition to the issue, but the great conflicts among different oral traditions, strongly catalyzed by the lack of a documentary historiography based on archival materials, very soon proved to be a too big obstacle to be passed in the few weeks available to finalize the exhibition. However, some previous events could suggest a solution. In 2002 Pavanello had started, though he couldn't complete it, the re-organization of the Western Nzema Traditional Council historical archive, stored at the Paramount Chief's private residence. From then on, the *omanhene* often demanded the completion of that project, asserting the importance of archival material for the preservation of the historical memory in his area. Moreover, at the initial stage of the research which shaped the exhibition of the Fort Apollonia Museum, many traditional rulers expressed the idea that the Museum had to become the place where they could entrust the documents belonging to them. According to this idea, Fort Apollonia should have become something halfway between a museum and an archive, in which the documentary heritage scattered in the various villages of the area could have been preserved for future generations.

In this frame, a concrete opportunity to follow up the requests coming from the chiefs as well as to enable the Museum to play as a propulsive agent in the valorization of local history was provided by a cultural cooperation project aimed at safeguarding and digitizing endangered archival material. In February 2012 the Fort Apollonia Museum, supported by the IEMG, applied for funds to the British Library in the frame of the Endangered Archives Programme (www.eap.bl.uk), as implementing agency of a ten-months pilot project named *Safeguarding Nzema History: Documents on Nzema Land in Ghanaian National and Local Archives*. Ended on the 30th of June 2013, the action had among its main objectives the securing, sorting and digitization of the documents kept in the archives of Western and Eastern Nzema Traditional Councils. This includes records that are relevant both for outlining the relations between written documents and oral sources, and for reconsidering the historical dynamics the area went through in the last two centuries. The European partners in this project were the British Library, the Department of History, Cultures, Religions of Sapienza University of Rome, the Centre for Research and Services DIGILAB of Sapienza and the Italian Ministry of Cultural Assets – Archives Directorate General. On the Ghanaian side, besides the Fort Apollonia Museum, the Western and Eastern Nzema Traditional Council Archives have been involved as beneficiaries of the action, while PRAAD (Public Records and Archives Administration Department, Accra central branch and Sekondi regional branch) and the Information Studies Department of the University of Ghana contributed by providing training and technical support.

The project *Safeguarding Nzema History* represents the first phase of a wider and more complex action of re-organization and digitization of the archival materials in possession of the Paramount Chiefs of the Nzema traditional areas. The museum staff and the anthropologists of the IEMG have recently applied to the same Programme for a major project aimed at completing the digitization of the materials in the Western and Eastern Nzema Traditional Council Archives and also at broadening the action in the Nzema-Evaloe traditional areas, namely Upper and Lower Axim, Edwira, Apateim and Nsein. The final objective, strongly backed up also by the hierarchy of the local traditional rule, is to establish a digital platform capable to host both the interactive exhibition of the Fort Apollonia Museum and the digitized records of Nzema chieftaincy. The IEMG is actively cooperating with local interlocutors to design such a platform, and is facilitating its development by providing technical know-how and mobilizing financial resources available both in Ghana and Italy.

As part of its restitution program the Mission is also engaged in a project aimed at cataloguing and digitizing the materials produced by its scholars, which will be eventually uploaded on the internet and made available for research purposes. Sapienza University of Rome is currently funding the digitization of selected pictures, slides, audio and video recordings, papers and books; such materials will become part of Sapienza Digital Library, the digital archival system of the University, and will be made accessible through the portal dedicated to the Fort Apollonia Museum.

By promoting cultural cooperation programs that are in tune with local interlocutors' claims for restitution and self-representation, the IEMG may actually be considered as one of the agents active in the shared heritage-making processes that are taking place in the Nzema area (Aria, Cristofano, Maltese, 2014 forthcoming). In a scenario characterized by a long-time relationship with its fieldwork, the Mission is currently trying to further its scientific vocation by promoting cooperation projects able to trigger original developments in the research activities. By doing so, it is committed in building upon and even fostering the ethnographic relationship between the Nzemas and the Italian anthropologists, whose peculiarity lies in its long duration as well as in the fruitful interaction established over the years with a network of Ghanaian local and national institutions.

Fig. 1 - Fort Apollonia Museum of Nzema Culture and History, Beyin, Jomoro District, Western Region, Ghana.

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THE PROMOTION OF HERITAGE INSIDE THE POLITICS OF TOURISM DEVELOPMENT OF MOZAMBIQUE. THE ROLE OF INTERNATIONAL COOPERATION

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ABSTRACT

The development politics that Mozambique is promoting has started improving the economic growth of the country but is still struggling to improve the living conditions of the local population, together with empowerment and capacity building.
Tourism may be a significant tool to help the country improve both aspects: increasing the GNP and creating real well-being; in fact, in the first decade of the XXI century, the Government has implemented a policy aimed at helping the development of tourism, the *Plano estrategico para o desenvolvimento do turismo*. This Plan identifies several institutional weaknesses such as a shortage of infrastructures and of financial tools to sustain local and international investors, and also a lack of skilled human resources; and it aims at increasing the tourist accommodation capacity, the tourist infrastructures and the human resources by the year 2015.
Thanks to its natural and cultural heritage, and to its climate and biodiversity, Mozambique could promote a wide range of tourist products, supported by public and private investments and by the creation of cooperation partnerships with other Countries and Ngos.
The Country has since long started several programs of international cooperation, but the experience in the field of tourism is quite recent and is now focusing on the realization of several programs promoted by the *Plano Estrategico*, such as the construction of infrastructures and the creation of capacity building initiatives.
This paper analyses the governmental policies aimed at the promotion of tourism and focuses on several case studies to highlight how much the international cooperation is contributing to the development of the sector, supporting the local communities in realizing the tourist policies promoted by the *Plano.* Despite an evaluation of such experiences is still impossible due to their being still *in fieri*, we will try to observe them with a critical eye, focusing in particular on the role played by the Ngos and other international institutions working in the country in training, creating capacity building and obtaining empowerment for the local population, but aiming also at the preservation of the local natural and cultural heritage.

TOURISM AND DEVELOPMENT: THE ROLE OF THE INTERNATIONAL COOPERATION

WTO figures highlight how international tourist arrivals have shown a continuous growth from 1950 (25 million) to 2012, when 1.035 billion tourists have been moving around the world, generating a revenue of US$ 1,075 billion. Asia and the Pacific recorded the strongest growth with a 7% increase in arrivals, followed by Africa (+6%) and the Americas (+5%), while Europe, the most visited region in the world, recorded only a 3% growth. For the future, WTO estimates that the international tourist arrivals will increase to 1.8 billion by 2013, with a growth of 4.4% in emerging destination [1].

As for Africa, the continent reached a total of 52 million tourists in 2012, accounting for US$ 34 billion international tourist receipts, while Subsaharan destinations recorded a global 5% increase, with South Africa, the largest destination in the subregion, accounting for a 10% growth in 2012, that is to say over 9 million arrivals. Other destinations with strong growth were Cameroon (+35%), Tanzania (+24%), Sierra Leone (+14%), Madagascar (+14%), Cape Verde (+13%) and the Seychelles (+7%) [1].

Tourism is nowadays recognized as a key feature for local development, especially to those countries with poor economies where it can bring large direct revenues, employment and satellite revenues.

These very countries, however, lack money and skilled human resources and they rely on the aid coming from international cooperation to sustain the development of the sector [2]; moreover, tourism may also create negative impacts, such as a general growth in the cost of life, social inequalities in the access to the revenues it brings, pollution and commodification of the local culture.

These drawbacks may impact both on the local population and on the environment: even if tourism is capable of diversifying the local economies, of bringing infrastructures to people in remote areas (and with them the access to social services such as hospitals, schools, markets, etc.) and of creating job opportunities, with its infrastructures and cultural contamination it may often lead to a change or to the destruction of the local natural and cultural environment.

Moreover, through tourism the local communities may lose control on their territory, the local resources and on how to use them, and on the number of tourist they are willing to welcome [3;4]. Without such control the population loses the faculty of choosing how to use its territory [5] and in the end this may to a loss of its identity, considering that nowadays the preservation of people is strictly connected to the preservation of their spaces [4].

As Lozato-Jotard [4] puts it, consuming images, dreams, time and places, tourism may threaten the very survival of the cultural landscapes it uses. As said, a major risk is that the local communities lose the control of their territory: the global tourist market, in fact, is strongly controlled by global economic agents, much stronger than the local stakeholders who often cannot oppose to the investments made on their territory [6]. However, as Lozato-Jotard [4] urges us to remember, the control on the territory is the only way that a community has to maintain the control on its history and tradition: once the control is lost, the community has no more the right to decide what to sell of the multiple resources they possessed and they can thus be exposed to a complete commodification of their cultural and natural environment.

This is the reason why the participation of local people and stakeholders to local development has been recognized as vital to the success of every project aimed at improving the living conditions of the resident population: participation should allow the satisfaction of the majority's interests, while promoting the process of sharing the benefits deriving from tourism and thus granting an improvement of the living conditions of the resident population [7].

Participation, together with capacity building, are key factors that the international cooperation has started promoting after the Millennium Development Declaration, that emphasized the role of (public-private) partnership, territorial integration, political dialogue and capacity building in helping human development. After this Declaration, in fact, the concept of need, that often has driven the actions of international cooperation subjects, has acquired a new, wider dimension: it is no longer connected exclusively to emergency situations, rather it has to focus on a wider conception of poverty, and work on the causes rather than on the effects. This has meant that international cooperation is no longer restricted to emergency actions such as bringing food or medicines in the places of a human crisis, but it has become more and more an action of investing money in training public workers, entrepreneurs and citizens in general. Much of this work has to do also with another key element of international cooperation: technology transfer. This may include the introduction of new agricultural techniques, the creation of communication and transport infrastructures, but also a general informatization of the target community, through a private action or more often through a public-private partnership, in the form of an international cooperation agreement [8].

A SHORT HISTORY OF TOURISM DEVELOPMENT IN MOZAMBIQUE

Before independence Mozambique was considered a very important tourist destination in Africa insomuch as in 1973 it received 400,000 tourist arrivals, mainly from South Africa, Zimbabwe and Portugal. Obviously, during the independence war years and the civil war this flow collapsed, with great loss for the Government's treasury.

Only after the 1992 peace agreement Mozambique involved again in tourism and several accommodation infrastructures (mainly campsites and self catering) were constructed in Maputo and in the nearby area, such as Ponta de Ouro, Bilene e Inhambane. At the same time national parks and natural areas were developed and made accessible for tourists reception, such as the Bazaruto and Quirimbas archipelagos and the areas of Nacala and Pemba.

With 2,770 Km of coasts, a tropical climate with an average temperature of 23° in the North and 26° in the South, a great diversity both natural and cultural, the Country has enormous potentials for the development of tourism. The Northern region is known as "the tourism jewel" due to the presence of the Quirimba archipelago, the lake Nyassa and Ilha de Moçambique; the Centre offers both the coastal resources of Beira and the wilderness of the Gorongosa National Park, while the Southern region orbits around Maputo and the nearby coastal areas, where 50% of the total tourist infrastructures and 65% of the Country beds are located [9].

At present, the Country has been recognized only one World Heritage Site, Ilha de Moçambique, but has submitted four more sites to the tentative list, places of both natural and cultural value. In general, both the built and natural heritage have suffered greatly during the independence and civil war years, but the government is trying to restore it, recognizing its potential role in helping the development of the Country, in improving the living condition of the population and in strengthening the national pride for its culture and history.

WTO has estimated that in 2004 (the last available data) has received 470,000 tourists [10], with an income of 95 million dollars [11]. The figures show a growing trend but in 2007 the tourist arrivals in Mozambique reached only 1% of the total arrivals in the African continent. In the same year, the tourism share in Mozambique GNP was only 3.2% [12], and this because the majority of the tourist flows in the country were composed by domestic tourists (42% of the total) or by people coming from the nearby Countries, using their own cars and often sleeping at parents' houses or in low-costs accommodations. Moreover, the average stay is only 2.3 days and the average expenditure only 250$, nearly half of the continent's figure (404$) [13].

Mozambique rates only 119th in the world tourist rank compiled by the World Economic Forum in 2007 (on 124 countries), behind Tanzania, Gambia and Zambia. Among the weaknesses that affect negatively the County we may count the still strong presence of malaria, the unskilled human resources and the bad management of the cultural and natural resources [13], but also the lack of economic subsidies to encourage foreign and local entrepreneurs to invest in the country.

MOZAMBIQUE TOURIST DEVELOPMENT POLICY

Tourism is rightly considered by Mozambique as a vital lever for development, both in respect to the revenues that it grants to the State's treasury, and to the social benefits that it is capable of bringing to the local population, emphasizing its role in poverty reduction. This is the reason why in 2004 the Country has promulgated a tourist policy called the *Plano estratégico para o desenvolvimento do turismo em Moçambique* (Strategic plan for the development of tourism in Mozambique), for the years 2004-2013 [14]. Tourism, moreover, is recognized as a tool to impact actively on the development of the whole country, due to its role in stimulating satellite activities, and thus reaching a wide range of economic sectors and impacting a large portion of the population. The Plano establishes the goal of reaching 4 million visitors by 2025, by becoming a dynamic and the most exotic tourist destination in Africa, mainly improving the promotion in the rich markets of Europe and North America:

«Até ao ano de 2025 Moçambique será o destino turístico mais vibrante, dinâmico e exótico de África, famoso pelas suas praias e atracções litorais tropicais, produtos de eco-turismo excelentes e pela sua cultura intrigante, que dá boas-vindas a mais de 4 milhões de turistas por ano. As áreas de conservação constituem uma parte integrante do turismo e os seus benefícios darão um contributo significativo para o PIB, trazendo riqueza e prosperidade para as comunidades do País» [14: 50].

The main goal of the *Plano* is to get to develop Mozambique as a global tourist destination, while contributing to the creation of employment, economic growth and poverty reduction. Tourism, though, has to become an instrument to help the conservation of the national biodiversity and the cultural values, promoting the national pride. Mozambique wants to promote the development of a sustainable tourism sector, dedicated not only to an economical growth but also to the well being of its population. Such plan is to be implemented through several actions:

- Integrate tourism in the general politics of the Country
- Plan and coordinate the development of the markets, of the products and of the tourist infrastructures
- Establish an institutional frame of planning and control tools
- Recognize the active role of the private sector
- Create consciousness on the importance of tourism and on the national natural and cultural heritage
- Train the human resource
- Promote the involvement of the local communities in the tourist development programmes [14]

The main challenges the Country has to face lie in the need to create an integrated national tourist system based on a diversified use of the national resources and on a set of public and private investments in tourist infrastructures, capable of increasing the total value of the tourist expenditures in the country: this can be achieved only by reducing the leakages effect and by developing the tourist and economic skills of the local communities involved in tourism [13].Very important is also to secure the ownership of the resources that the local communities are managing in a tourist way, quite a critical issue in a country when only recently such right has been recognized, through the intervention of a foreign Ngo implementing a project that has mapped 45,018 urban land parcels and prepared titles for the right of use and benefit of land, known in Mozambique as a DUAT, or *direito de uso e aproveitamento da terra* [15]. Moreover, in 2003, the issue of ownership has been recognised by the OECD's Development Assistance Committee as one of the key features for the future implementation of every international cooperation project, in order to stimulate a bottom-up approach to local development [8]. Concerning the implementation of tourist initiatives, without such right a tourist activity will not be secured and is quite probable to fail.

This tourist promotion policy, starting from the Government, aims at reaching all the tourist stakeholders who work in the different areas, supporting investments aimed at improving the transports and the accommodation infrastructures and at diversifying the tourist offer. This is the only way the country can position itself in the global tourist market. Moreover, these actions have to be integrated with a greater environmental consciousness aimed at sustainably exploit the natural resources, both the coasts and the wilderness in the interior of the country, in order to avoid the environment depletion that would decrease the potential tourist attractivity, but also a worsening of the living condition of the local population, reducing their access to food resources [9].

The *Plano Estrategico para o desenvolvimento do turismo em Moçambique* focuses mainly on the development of ecotourism, maritime tourism, cultural tourism and the observation of flora and fauna, and it establishes three main areas where the efforts of the Government will concentrate:

- Priority areas for the tourist investment (APITs)
- Conservation areas (AC) and transfrontier conservation areas (ACTFs)
- Tourist routes

Among these, the areas destined to attract greater tourist investments are conservation and transfrontier areas, where the observation of flora and fauna is the main tourist attraction, but several projects have also involved some cultural areas, such as the islands of Ibo and Ilha de Moçambique. Concerning the natural heritage, since the beginning

of the XXI century they have been involved in a great programme to increase the population of wild animals, decreased during the civil war years, but they have also been characterized by the construction of transport and accommodation infrastructures [12].
To sustain the tourist development of these areas, the Plano has established three different forms of action, destined to the three areas [16] [17]:

- in the APITIs (regions of Gaza, Inhambane, Maputo, Nampula, Zambezia) the project Ancora do Turismo is developed: these initiatives are realized in collaboration with the International Finance Corporation in order to stimulate the growth of tourism through local initiatives aimed at constructing infrastructures and accommodation, and to remove the administrative barriers that constrain private investments in the sector. It is estimated that they will be able to attract 1.2 million dollars in the country and to create 26,000 new employments, plus 5,000 more once the infrastructures will be operating [18].
- At the moment only 4 project have been realised: Reserva Especial de Maputo, Reserva de Gilé e Ilhas Primeiras (Zambesia), Distrito de Inhassoro (Inhambane), Distrito de Mossuril (Nampula).
- In the AC/ACTFs (regions of Gaza, Inhambane, Maputo, Manica, Niassa, Sofala, Tete) the Planos do turismo are developed: these receive much of the international attention, not only for their conservative value, but also for the role that transfrontier conservation areas in particular may play in stimulating peace keeping at a regional level.
- In the northern regions (Cabo Delgado, Nampula, Niassa) the Project Arco Norte is developed: it is a three-year project that has been implemented with the collaboration of USAID, (and financed with 5.5 million $) to attract tourists and investors and to promote the conservation of nature [19].
- At the moment only 3 projects have been started: Cabo Delgado (Ibo and Pemba), Nampula (Ilha de Moçambique) and Nyassa (Lake Nyassa, Chuanga) [12].

Cooperating to the conservation of the cultural and natural heritage in Mozambique: a case study

As an example of successful international cooperation, the case of the African Safari Lodge Foundation will be here presented. During the 3rd Conference of World Parks, held in Durban in 2003, the importance of protecting the rights of the local communities involved in tourist development programmes was once more recognized and Mozambique decided to support it by starting a cooperation with the African Safari Lodge Foundation (ASLF), a South African association that was already working in South Africa and Namibia [20]. Two years later the Foundation started working in Mozambique too, promoting the development of tourist activities in areas included in the regions recognized as priority by the *Plano Estrategico*, and with a participative approach.

In all the countries where ASFL works, it has promoted the implementation of participation, capacity-building and empowerment, the key features of international cooperation as recognized in literature. Its strategy, in fact, has always included two different kind of actions: collaboration on one side and training on the other. As for collaboration, ASLF aimed at helping the members of the local communities participate actively to the new tourist business, and creating a discussion forum on the theme of conservation, tourism and social development, in order to involve in the process all the possible stakeholders; finally ASLF means to work to establish an active partnership among the private sector and the communities involved. Training, on the other side, is meant to strengthen the skills of the local communities members to set legal tourist activities and to better understand this industry, in order to improve the quality they would be able to offer, and to become competitive in the global market in order to attract not only more tourists, but also more investments [20].

The work of ASLF in Mozambique has started with several pilot projects, where the two set of actions have been carried out in parallel [21]. The pilot projects are aimed at setting a standard for tourism development in Mozambique, helping "develop positive lessons from them and then disseminate these to those tourism companies, operators and NGOs who want to also play a positive role in terms of promoting development and poverty alleviation in the country" [22]. The first of these six pilot projects is Ibo Island: set in the Quirimbas Arghipelago, in the Cabo Delgado province, the island has been included in the Unesco tentative list, for its natural and cultural heritage. It is also included in the Quirimbas Naional Park, that comprises 11 of the 32 islands of the Archipelago and is renowned not only for its outstanding natural landscape, but also for its historical past: colonized by the Portuguese, it became a trading port where the slaves were traded. The project was realized with the collaboration of the Ngo Technoserve, that works in several countries around the world to "develop business solutions to poverty by linking people to information, capital and markets" [23] and has been working in Mozambique for several years. Together they cooperated with the local Ibo Safari Lodge to encourage the development of tourism-related businesses on the island and, with the help of the Aga Khan Foundation, they succeeded in involving the island's silversmiths in creating silver jewels and objects to be sold worldwide. Nowadays ASLF is not involved in the management of the programme any more but the Ibo Island Lodge Foundation continues raising money through tourisms but also through international fund raising for the community, to be invested in education and training in entrepreneurship [21, 20].

The second pilot project is Manda Wilderness, on Lake Nyassa, in the Niassa Province. The project includes a lodge, the Nkwichi Lodge, built several years ago by a group of private individuals to introduce tourism as "a force to stimulate conservation and community development" [21]. ASLF has also supported the creation of a Charity registered

in the United Kingdom, that helps raising money for the project, and of the Manda Wilderness Community Conservation Area, that protects 120,000 hectares of land, while working with several villages of the area, to improve their health and education and to support the creation of small tourism-related businesses. Moreover, in 2005 these villages constituted an Association, the Umoji Association, in order to be involved in the project and to advocate for property right (DUAT) on the land the project is run on: it is generally recognized that only with a proper ownership of the land the community will be able to attract more investors. Presently the projects has produced nearly sixty employments [20; 21].

Covane Community Lodge is the third pilot project, near Massingir in the province of Gaza, on the very outskirts of the Limpopo National Park. The construction of the lodge was promoted by a Swiss Ngo, and later left to the management of a Mozambican Ngo. A new lodge is actually being constructed and ASLF has helped the community getting a grant from the Ford Foundation and the World Bank, while negotiating the opening of a new partnership with Transfrontier Park Destination, a local tour operator that will market the lodge internationally. Not only ASLF has stimulated the opening of this collaboration, but it has also worked to train the local population to become better acquainted with tourism and its industry [21; 22].

The fourth pilot project is Chemucane Lodge, constructed inside the Maputo Special Reserve, south of Maputo, where elephants may be observed but also coastal resources are present to entertain the tourists. ASLF vision for Chemucane is to create an exclusive, environmentally sensitive eco-tourism development based on community ownership of the tourism concession [21]. In fact, the Government has recognized to the Ahi Zameni Chemucane Association (AZC), an association of local people, a 50-year license to manage the project on the territory; moreover the association has obtained a loan by the World Bank to construct a lodge at Ponta Chemucane, in joint venture with the Bell Foundation [24]. ASLF has also started a training programme for the local population, in order to help them acquire more skills in the management of a tourist activity.

The fifth pilot project is in Ilha de Moçambique, in the province of Nampula. This project focusses on cultural tourism with ASLF helping the realization of a community development plan aimed at refurbishing 100 historical building in the island and in the nearby area, to start tourist activities managed by the local community. The case of Ilha de Moçambique is quite interesting, first of all because it is the Country's only Unesco World Heritage Ssite and secondly because here the international cooperation has been working for a long time to sustain the preservation of the historical buildings but also to support education, health, promotion of traditional economic activities such as fishing, and training in the field of tourism, entrepreneurship but also in the learning of the English language, to help the tourist entrepreneurs become more skilled. Unesco is one of the major international boards that has been operating on the island since 1991, the year of its inscription in the WHS List, and its presence has incentivized the intervention of other international Ngos and donors, such as the already mentioned Technoserve, that is promoting the realization of a Community Foundation in charge of the management of the tourist activities promoted by the ASLF project [21]; but also the Japanese Funds-in-Trust, the Union of Lusophone Capital Cities (UCCLA) and the IPAD (Portuguese Institute for Aid and Development), as well as by the Netherlands Funds-in-Trust and Flanders Funds-in-Trust,involved in the rehabilitation of the São Sebastian Forte [25].

The sixth and last pilot project was started in Gorongosa National Park, in the province of Sofala. The Park was opened due to a public-private partnership between the Government of Mozambique and the Gorongosa Restoration Project, a US non-profit organization that helped protecting the wilderness and reintroducing part of the wildlife damaged after the civil war [27]. ASLF has started a wide programme aimed at promoting a sustainable management of the park, in collaboration with Technoserve and the Carr Foundation, that is helping the communities living in the Park's Buffer Zone define their boundaries in order to apply for the DUAT, the property right on the land where new tourist activities will be started. The agreement with the local communities includes training in the field of tourism but also in agriculture techniques aimed at producing higher yields but with a lower impact on the environment. Moreover, a plan to attract international donors and investors to restore the mountain's endangered forests has been promoted, that has allowed the implementation of a reforestation programme. Finally, Technoserve has promoted the establishment of a dry fruit factory that buys the fruit from the local communities [21].

As we have seen, tourism is only one of the multiple activities that international cooperation has been able to implement in the Country: it has promoted education, health improvement and capacity building, in the form of training in the field of entrepreneurship, tourism and agriculture. It has also advocated for greater empowerment for the local communities, and perhaps this is the greater success of the case here presented, because with the support of ASLF and its partners not only the communities have seen an empowerment in their living conditions, but they have also been supported in their struggle to obtain land rights: in 1997 the country has passed a new legislation allowing local communities to secure formal rights to their ancestral land.

CONCLUSIONS

Mozambique has great potentials for the development of tourism connected to its natural and cultural heritage, however it is constrained by several weaknesses that the Government is trying to handle with a wide spectrum of initiatives. As seen, international cooperation is a vital tool to help the Government in its quest for a better tourist industry that will grant larger incomes, but also improved living conditions for the local population.

We have here discussed the case of international cooperation aimed at the development of sustainable tourist areas, implemented by a South African foundation, that works in several countries in the sub region and whose main objectives are advocacy, capacity building, empowerment, transfer of land rights. All these are implemented through a bottom-up, participative process, that includes the local stakeholders and general citizens in all the phases. All the projects promoted by ASLF are aimed at establishing tourism businesses owned by local communities but operated with private partners, allowing the local residents and heir communities obtain not only an employment but also new skills and new rights [21].

These goals are obtained through advocacy and through the establishment of partnerships with other international cooperation subjects – other Ngos, Foundations, international agencies – that contribute to the realization of the primary goal of eradicating poverty. The results, up to now, seem to be quite positive.

However, despite the good practices described, a final judgment of their results is still impossible due to their very short history, but the improvement in the local communities living conditions will have to take into consideration not only the elimination of poverty, but also the creation of trained and skilled people that will work in tourism activities, and a real empowerment of the communities involved in the development programmes: only this will enable the local communities become active members on the territorial development.

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SPERIMENTAZIONE DI MODELLI PER IL RAFFORZAMENTO DELLE ISTITUZIONI ALLE QUALI E AFFIDATA LA CONSERVAZIONE DEL PATRIMONIO CULTURALE: CASI DI STUDIO IN CINA E IN EL SALVADOR

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ABSTRACT

Nella parte introduttiva di questo contributo, allo scopo di evidenziare le origini delle strategie di intervento settoriali adottate oggi, si ripercorrono le tappe principali che precedono la nascita della Cooperazione Italiana allo Sviluppo.
Infatti l'ambito specifico della conservazione del patrimonio culturale aveva registrato già a partire dagli anni '50, una intensa attività di scambio a livello internazionale e di vera e propria cooperazione con paesi in via di sviluppo.
Sono poi analizzati modelli settoriali di *capacity building* particolarmente efficaci e adattabili ad altre realtà geografiche e culturali, sperimentati nella Repubblica Popolare Cinese e in El Salvador. L'azione italiana in Cina ha avuto inizio nel 1988 ed è proseguita senza interruzione per venticinque anni. La creazione di centri di formazione di livello regionale prima, e successivamente di livello nazionale, ha prodotto un cambiamento profondo nell'intero paese del livello professionale degli specialisti che si occupano della conservazione del patrimonio culturale tangibile.
L'America Centrale e in particolare El Salvador rappresentano una seconda area geografica particolarmente adatta alla sperimentazione di modelli di intervento caratterizzati da evidenti collegamenti con problematiche sociali.
Tra le attività condotte in El Salvador nel quadriennio 2009-2013 dalla Cooperazione Italiana attraverso l'Istituto Italo-Latino Americano, assieme all'Università Roma Tre, alle università centroamericane e alle istituzioni nazionali competenti per i diversi settori di intervento, particolarmente rilevante è stata la realizzazione del *Seminario. Centroamericano sobre la conservación y la valorización del patrimonio cultural - CULT 2011* che ha prodotto la *Declaración de San Salvador para la potenciación de la conservación y de la tutela del patrimonio cultural Centroamericano y del turismo sostenible,* punto di partenza per una azione di sviluppo organica e condivisa a livello regionale.

LE ORIGINI DELL'IMPEGNO ITALIANO PER LA CONSERVAZIONE DEL PATRIMONIO CULTURALE MATERIALE NEI PAESI IN VIA DI SVILUPPO.

L'attenzione che da molti decenni è rivolta all'Italia come paese di riferimento per la conservazione del patrimonio culturale trova un evidente collegamento con la ininterrotta sequenza di contributi sul piano normativo e metodologico che costituiscono una delle più ricche vicende nazionali nel campo della tutela del patrimonio culturale. Particolarmente interessante è la precoce tendenza alla collaborazione internazionale che si riscontra in questo settore e che rappresenta una chiave di lettura dell'impegno settoriale della Cooperazione Italiana allo Sviluppo fin dal momento della sua creazione.

L'azione all'estero degli specialisti italiani nel campo del restauro, quasi sempre limitata fino agli anni '40 del Novecento al restauro dei monumenti archeologici e storici con la mediazione delle missioni archeologiche attive nel Mediterraneo, si estende successivamente alla pittura e alla scultura grazie all'impegno di Cesare Brandi, noto storico dell'arte e fondatore nel 1941 dell'Istituto Centrale del Restauro. L'azione di Brandi si colloca in quel clima di cooperazione intellettuale che si era generato dopo la fine della Prima Guerra Mondiale. Lo storico dell'arte italiano assume un ruolo di primo piano nel dibattito internazionale sulla pulitura dei dipinti e sulla conservazione delle patine, scaturito nel 1947 dalla mostra *An exhibition of Cleaned Pictures* presso la National Gallery di Londra, stabilisce una forte relazione con l'UNESCO fin dal momento della sua creazione e successivamente con l'ICCROM a Roma.

Nonostante la scarsità delle risorse finanziarie e le numerose richieste di intervento sul territorio nazionale a cui l'Istituto appena rimesso in funzione dopo la fine del conflitto bellico deve far fronte con un organico assai ridotto, l'impegno all'estero voluto da Brandi è in continua crescita e rappresenterà un campo di attività fondamentale nei decenni successivi.

Aumenta la presenza di studenti e di stagisti stranieri ammessi a frequentare i corsi triennali nell'istituto romano e pertanto si crea in breve tempo una efficiente rete di collegamenti internazionali. Si costituisce una vera e propria *task force* per l'attività al di fuori dell'Italia. Molti degli interventi di successo effettuati all'estero riguarderanno la pittura murale, ambito per il quale veniva riconosciuto all'istituto romano un vero primato.

Per la realizzazione della strategia internazionale di Brandi saranno determinanti i rapporti di collaborazione con l'archeologo Doro Levi, fondatore e primo direttore della Scuola Archeologica Italiana ad Atene. Altra importante sinergia, avviata nel 1954, è quella con l'orientalista e storico delle religioni Giuseppe Tucci, primo presidente dell'Istituto Italiano per il Medio ed Estremo Oriente (IsMEO) e attivo con missioni di studio in molte parti dell'Asia.

Nel 1954 Brandi e Tucci, consapevoli della necessità di migliorare urgentemente il livello degli interventi da eseguire all'estero, ipotizzano la creazione di gruppi di specialisti in grado di operare in ambiti geografici e culturali extraeuropei, ai quali viene attribuita una denominazione quasi dannunziana: le "Squadre di Restauratori Volanti" che dovevano essere formate da restauratori adeguatamente preparati attraverso un programma che comprendeva la conoscenza della lingua inglese, della storia dell'arte e della storia delle tecniche artistiche con specifico riferimento ai luoghi che sarebbero stati oggetto di intervento.

L'impegno internazionale dei restauratori di Brandi prosegue con cantieri e interventi in molte parti del mondo e nel 1958 all'Istituto Centrale del Restauro viene dedicata un'intera sala in occasione dell'Esposizione Universale di Bruxelles. Nei decenni successivi gli "ambasciatori" del restauro italiano nel mondo saranno Paolo e Laura Mora.

Nel momento in cui viene creata la Cooperazione Italiana allo Sviluppo attraverso la Legge n. 49 del 26/2/1987, l'Italia possiede istituzioni e specialisti noti all'estero e pronti a realizzare cantieri, corsi di formazione e ad esportare, con opportuni adattamenti alle diverse situazioni locali, il modello di centro di organico e interdisciplinare che era stato appunto inventato alla fine degli anni '30 da Cesare Brandi assieme ad un altro notissimo storico dell'arte: Giulio Carlo Argan.

A partire dalla fine degli anni '80 il campo specifico del restauro e della conservazione, come segmento del più ampio intervento sul patrimonio culturale nei paesi in via di sviluppo, assume una importanza sempre maggiore per la Cooperazione Italiana allo Sviluppo e si registrerà un coinvolgimento sempre maggiore del Ministero per i Beni e le Attività Culturali, delle Università, degli enti di ricerca e di istituzioni scientifiche come l'Istituto Italiano per il Medio ed Estremo Oriente (IsMEO), mutato poi nel successivo Istituto per l'Africa e l'Oriente e recentemente soppresso, e di organismi internazionali come l'ICCROM e l'Istituto Italo-Latino Americano.

SINTESI DELL'AZIONE DELLA COOPERAZIONE ITALIANA ALLO SVILUPPO NEL SETTORE DEL PATRIMONIO CULTURALE.

Si ritiene utile tentare una sintesi dell'azione settoriale condotta dalla Cooperazione Italiana utilizzando dati provenienti da fonti ufficiali..

Durante i ventisei anni dalla promulgazione delle legge 49/1987 che istituiva la Cooperazione Italiana allo Sviluppo, si è registrata una complessa attività anche nel delicato settore della tutela e della conservazione del Patrimonio Culturale. Nel 1999, in occasione della Conferenza di Firenze "Culture Counts" organizzata dalla Word Bank in collaborazione con l'UNESCO, erano state pubblicate dettagliate sintesi dei primi dodici anni di azione settoriale. Uno studio curato da Fabrizio Ago contiene una analisi approfondita delle strategie adottate in quella prima fase. Si riportano poi le schede relative a 52 iniziative per un impegno complessivo di Euro 30.871.000. Si sottolinea che 21 di quei progetti avevano riguardato la formazione delle professioni collegate al restauro e alla conservazione del patrimonio tangibile per un impegno complessivo di Euro 13.624.000. Tra questi particolare interesse rivestono 3 centri-scuole di restauro e conservazione (Cina, Territori Palestinesi, Giordania), 3 corsi di livello universitario post laurea (Algeria, Tunisia), corsi nei settori del restauro dei manoscritti (Egitto), dei dipinti murali (Siria), degli edifici architettonici.

Tredici anni dopo, nel 2012, la Scuola S. Anna di Pisa elaborava su incarico della Direzione Generale per la Cooperazione allo Sviluppo, le "Linee Guida della Cooperazione Italiana su Patrimonio Culturale e Sviluppo. Ben 47 pagine del documento contengono in forma di tabella la sintesi dell'attività nel settore in questione e relativa al periodo 2000-2012. Sono state censite in totale 249 iniziative con un impegno economico complessivo pari a Euro 117.404.405.

Per l'Africa sono state indicate 17 iniziative in 10 paesi (Angola, Camerun, Eritrea, Etiopia, Ghana, Mauritania, Mozambico, Repubblica Democratica del Congo, Senegal, Sud Africa), a cui si aggiungono 8 iniziative di livello regionale o continentale, con un impegno complessivo pari a Euro 15.807.767.

Per il Nord Africa e Medio Oriente sono menzionati 96 interventi in 13 paesi (Algeria, Egitto, Giordania, Iran, Iraq, Libano, Libia, Marocco, Siria, Territori Palestinesi, Tunisia, Yemen, Israele), a cui si aggiungono 2 iniziative di carattere regionale, per un impegno complessivi pari a Euro 48.879.031.

Per l'America Latina e Caraibi nel documento si indicano 39 iniziative in 13 paesi (Argentina, Bolivia, Brasile, Cile, Colombia, Cuba, Ecuador, El Salvador, Guatemala, Paraguay, Perù, Repubblica Dominicana, Uruguay) a cui si aggiungono 20 iniziative di livello regionale continentale, per un impegno complessivo pari a Euro 11.382.861.

Per l'Asia e il Pacifico, si registrano 19 iniziative in 7 paesi (Afghanistan, Cambogia, Cina, India, Laos, Pakistan, Vietnam) per un impegno complessivo pari a Euro 20.471.513.

Per l'Europa si indicano 26 iniziative in 10 paesi (Albania, Armenia, Bosnia-Herzegovina, Georgia, Kosovo, Macedonia, Serbia, Slovenia, Yugoslavia, Balcani) per un impegno complessivo pari a Euro 12.468.927. Si aggiungono 2 iniziative di livello regionale, 18 iniziative realizzate in Italia, 4 iniziative di livello globale affidate all'UNESCO per un valore complessivo pari a Euro 8.394.306.

La formazione nel campo specifico del restauro riguarda 7 iniziative realizzate in Africa e Medio Oriente, 29 iniziative in Nord Africa e Medio Oriente, 22 iniziative in America Latina e Caraibi, 6 in Asia e Pacifico e 9 in Europa.

Resoconti come quelli pubblicati nel 1999 o come l'ultimo in ordine di tempo allegato alle Linee Guida a cui si è fatto cenno sono particolarmente utili. Si suggerisce la necessità di una verifica attenta delle informazioni poiché alcuni dati economici derivanti da documenti non conclusivi della singola iniziativa, possono aver subito variazioni e ciò può rendere inesatto il computo complessivo.

I CASI DI STUDIO

Gli interventi in Iraq per la protezione del patrimonio Culturale dal 2003 a al 2013 dopo la fine dei conflitti

L'azione italiana a sostegno del patrimonio culturale iracheno rappresenta un evidente esempio di organicità e di buona impostazione strategica di una azione di lunga durata in un paese.

La collaborazione tra Italia e Iraq nel settore del Patrimonio Culturale inizia nel 1969, quando Giorgio Gullini, uno dei più autorevoli archeologi italiani, fonda a Baghdad l'Istituto Italo-Iracheno di Scienze Archeologiche e il Centro Italo-Iracheno per il Restauro dei Monumenti, costola del Centro Ricerche Archeologiche e Scavi di Torino. Da quel momento, fino alla fine degli anni '80, il centro torinese ha realizzato campagne di scavo e interventi nel campo del restauro dei monumenti di enorme rilevanza. Si ricorda l'attività di ricerca svolta nei siti di siti di Seleucia e Choche, Tell Yelkhi, Tell Hassan, Nimrud, Hatra, Kifrin, Babilonia; le campagne di studio e rilievo architettonico e fotogrammetrico e le attività di progettazione, restauro e conservazione condotte a Seleucia, Aqarquf, Ctesifonte, Hatra, Ukhaidir, Anah, Mossul.

A partire dalla prima guerra del Golfo, nel 1991, era stata avviata un'azione sinergica tra il Ministero degli Affari Esteri, il Ministero per i Beni e le Attività Culturali e l'Arma dei Carabinieri, al fine di fornire alle autorità irachene un importante supporto tecnico e metodologico per la protezione del patrimonio culturale mesopotamico.

Nel 2003, con la IIª guerra del Golfo, ha inizio il periodo di maggiore rischio per il patrimonio culturale del paese e da quel momento l'Italia intensifica la sua azione di sostegno attraverso piani organici di intervento in settori diversi tra i quali anche il patrimonio culturale. I fenomeni di saccheggio e di trafugamento dai musei mettono a repentaglio quel patrimonio. Il nostro Comando Carabinieri per la Tutela del Patrimonio Culturale ha realizzato pertanto un censimento dei beni trafugati dall'Iraq a partire dal 1990 e ha identificato finora ben 2969 oggetti.

Attraverso un'azione sinergica e il sostegno finanziario di alcune direzioni generali del Ministero degli Affari Esteri (DGAP (ex DGMM) – *Task Force Iraq* e DGCS – *Task Force Iraq*) vengono avviate dal 2003 al 2013 17 iniziative, con un impegno di spesa complessivo di € 10.357.831,95, articolate in 4 aree di intervento. Nella sua globalità l'intervento italiano di assistenza all'Iraq nel decennio considerato ammonta a 3,2 miliardi di euro (doni, crediti di aiuto e cancellazione del debito) per un numero totale di 124 iniziative.

Rilevante è stato l'aiuto alla risistemazione del sistema museale iracheno, a Baghdad, Nassiriya, Diwania e Najaf. Di grande rilievo è stata l'azione condotta nel Kurdistan per la cittadella di Erbil e le altre iniziative condotte nella stessa Regione.

Di particolare importanza risulta l'azione condotta nella conservazione e nel restauro. Già tra il 2003 e il 2004 venne effettuato il primo intervento di ammodernamento del laboratorio di restauro del Museo Nazionale di Baghdad. Il nuovo laboratorio venne inaugurato nel marzo 2004 e in quel momento furono avviati i primi corsi di formazione condotti da esperti dell'Istituto Superiore per la Conservazione e il Restauro, sospesi poi a metà del 2004, quando le condizioni di sicurezza nel paese non consentirono di prolungare la presenza degli specialisti italiani. La formazione venne proseguita ad Amman in Giordania, dove gli allievi iracheni, guidati dagli esperti italiani, eseguirono interventi su circa 1500 manufatti sequestrati dalla dogana giordana e contrabbandati dall'Iraq.

Successivamente le tappe più significative dell'azione di rafforzamento del settore della conservazione e del restauro sono state le seguenti:

- riallestimento del laboratorio di restauro del Museo di Baghdad (2004).
- Riapertura della Sala Assira del Museo di Baghdad (2007).
- Progettazione del recupero di tre musei provinciali di Nassiria, Diwanya e Najaf (2010).
- Corsi di formazione sul restauro degli avori antichi del Museo di Baghdad (2010).
- A partire dal 2011, ulteriore rafforzamento delle dotazioni tecnico-scientifiche del Museo Nazionale di Baghdad e avvio di corsi di formazione a Nassirya in un laboratorio allestito all'interno della ex base militare italiana di Mittica e per la parte pratica direttamente sul sito archeologico di Ur. Attivazione di un cantiere-scuola nel cosiddetto E-Nun-Mah, parte del tempio chiamato Ekishnugal, "Tempio in cui non entra la luce", dedicato al dio Luna Nannar, costruito da Ur-Namma fra il XXII e il XXI sec. a.C. e restaurato fino all'epoca di Ciro il Grande nel VI sec. a.C.
- Realizzazione a Mosul di corsi sul restauro di libri e manoscritti antichi, avori e metalli archeologici.
- Attivazione a Erbil, capitale del Kurdistan iracheno, in un centro di formazione e di intervento sui materiali archeologici realizzato dal governo americano nel 2008 (Iraqi Institute for the Conservation of Antiquities and Heritage) e consegnato al governo iracheno il 31 dicembre 2010, di corsi trimestrali sul restauro di libri e dei

manoscritti antichi, avori archeologici e metalli archeologici. Avvio parallelo, a cura dell'Università di Roma La Sapienza, di corsi sulla lingua e la filologia sumera.

- Restauro della seconda Sala Assira nel Museo di Baghdad, condotto dal Ministero per i Beni e le Attività Culturali attraverso una convenzione con il Centro Ricerche Archeologiche e Scavi di Torino.

Venti anni di costante attività di cooperazione con la Cina

Fu proprio il particolare impegno italiano all'estero e il prestigio conquistato dagli specialisti italiani a spingere alla fine degli anni '80 la Repubblica Popolare Cinese a richiedere l'aiuto dell'Italia per favorire il processo di modernizzazione del restauro e della conservazione del Patrimonio Culturale.

La Direzione Generale per la Cooperazione allo Sviluppo del Ministero degli Affari Esteri italiano a partire da quel momento ha sostenuto senza interruzioni numerose iniziative in Cina in questo campo.

Tra il 1995 e il 1998 a Xi'an venne creato il Centro per la Conservazione e il Restauro del Patrimonio Storico-culturale, competente per le cinque province del nord-ovest del paese (Shaanxi, Gansu, Ningxia, Xinjang e Qinghai) e nell'ambito di quel progetto, nell'arco di due anni di costante impegno italiano, venne formato il primo gruppo di 20 restauratori che possiamo definire moderni nell'impostazione metodologica e che provenivano da tutte le province del nord-ovest della Cina.

Le attività formative in Cina vennero sostenute da 49 docenti italiani provenienti da istituzioni e università dell'intero paese. Il corso biennale di restauro era impostato seguendo il modello interdisciplinare messo a punto presso l'Istituto Centrale del Restauro italiano e prevedeva insegnamenti di discipline storiche, scientifiche e specifiche del restauro.

Il Centro di Restauro di Xi'an divenne rapidamente un'istituzione di riferimento ed i restauratori che erano stati formati intrapresero una intensa attività professionale, ricoprendo ruoli importanti nelle istituzioni a cui appartenevano ed attivando essi stessi iniziative di formazione.

Le autorità della State Administration of Cultural Heritage di Beijing nel 1998 richiesero pertanto all'Italia di proseguire l'azione di sostegno nella formazione dei restauratori attraverso un'intervento di potenziamento delle capacità formative del China National Institute of Cultural Property (CNICP).

Si trattava di un'occasione davvero speciale, attraverso la quale venivano coronati gli sforzi di anni ed anni di lavoro che un numerosissimo gruppo di specialisti dei due paesi avevano portato avanti con coraggio e determinazione. Il Centro veniva inaugurato il 9 febbraio del 2004 ed in breve tempo diventava il polo centrale di riferimento del settore per l'intera Cina (Figg. 1-3). Anche questa iniziativa veniva affidata all'IsIAO che si avvaleva degli specialisti provenienti dall'Istituto Centrale per il Restauro e da numerose università italiane.

Rispetto ad altre possibili strategie formative si scelse di innalzare il livello professionale di operatori già in servizio presso musei e istituti di ricerca attivi nel comparto dei Beni Culturali, dipendenti dalla State Administration of Cultural Heritage centrale o dagli uffici periferici dislocati nelle diverse province della Repubblica Popolare Cinese. In tal modo è stato assicurato un effetto tangibile in un territorio di così grande vastità ed è stato innescato un fenomeno di sviluppo a catena nell'ambito della generale modernizzazione del settore.

La principale conquista conseguita dai nuovi restauratori cinesi formati grazie al sostegno italiano fu aver capito che il restauro non è un'operazione meccanica ma al contrario rappresenta un momento metodologico che richiede un'analisi critica attenta.

Dal 2003 al 2010 sono stati formati nel Centro di Pechino oltre 700 allievi, di cui oltre 80 stranieri, I giovani cinesi che sono stati formati oggi sono divenuti affermati specialisti attivi nei musei dell'intero paese e costituiscono un autentico network del restauro (Tav. 1).

El Salvador e la Regione Centroamericana

In America Centrale sono state recentemente realizzate due iniziative di valore metodologico: l'avvio di un processo di rafforzamento nel settore del restauro del patrimonio materiale a livello di paese (in El Salvador, elevata priorità per la Cooperazione Italiana), e l'innesco di un processo di sviluppo dell'intero settore del patrimonio a livello regionale.

Creazione del Centro de Capacitación para la restauración, conservación y promoción del patrimonio cultural en El Salvador

Negli anni 2009-2012 in El Salvador è stato creato il *Centro de capacitación para la restauración, conservación y promoción del patrimonio cultural*, cofinanziato dalla Cooperazione Italiana allo Sviluppo e realizzato dall'IILA con l'apporto della Secretaria de Cultura de la Presidencia, della Alcaldia di Izalco e della Universidad El Salvador.

Il Centro è oggi l'infrastruttura specialistica più moderna e attrezzata dell'intera regione centroamericana e El Salvador è divenuto il paese di riferimento per quanto riguarda la conservazione e il restauro.

Il centro è composto di due sezioni: la prima specializzata nel restauro di manufatti archeologici in ceramica (Museo Nazionale di Antropologia "David J. Guzmán"); la seconda, specializzata nella conservazione delle sculture policrome, è installata in un nuovo padiglione realizzato con il contributo economico della Municipalità di Izalco

all'interno dell'area occupata dalla *Casa de los Barrientos* (Figg. 4-5).

Nel 2009, presso la Scuola di Architettura dell'Università di El Salvador, sono stati organizzati due corsi di specializzazione nei settori del restauro urbano e del restauro architettonico. Negli anni 2011 e 2012 sono stati formati 18 specialisti in restauro e conservazione di manufatti archeologici e di opere d'arte in legno policromo. Elemento determinante per il raggiungimento del risultato atteso è stato lo studio approfondito del contesto e delle istituzioni che ha consentito la identificazione delle risorse umane da utilizzare all'interno di un sistema organizzato e ciò ha consentito di ridurre notevolmente l'apporto degli esperti espatriati.

Il *Seminario Centroamericano sobre la valorización y la conservación del patrimonio cultural* CULT 2011 verso azioni di sviluppo a livello regionale

Il tema del dialogo interculturale sta diventando sempre più un elemento qualificante e determinante all'interno dei rapporti diplomatici bilaterali e multilaterali.

Tale fenomeno è diventato un nodo centrale nelle agende politiche nazionali e internazionali ad ogni livello di *estensione* geografica, dal locale al globale.

L'evoluzione dei sistemi sociali da una parte e delle strutture produttive e dei servizi dall'altra rende necessario ripensare la cultura non solo come valore in sé, ma come fattore integrante dei processi di sviluppo economico e sociale.

La crisi economica globale attuale induce a ripensare le strategie di sviluppo settoriale che ciascun paese adotta e rende indispensabile la messa a punto di piani di crescita condivisi tra i diversi paesi che formano regioni geografiche caratterizzate da vicende storiche fortemente connesse e da netti legami in generale sul piano culturale.

Ciò è particolarmente riferibile alla Regione Centroamericana, fortemente caratterizzata da una ricchezza di esperienze storiche fondamentali e di differenti interazioni socio-culturali, e attualmente al centro di dinamiche sociali e politiche in costante fermento.

Il Centroamerica appare pertanto come un "laboratorio" ideale per la sperimentazione di interventi atti a stimolare processi di crescita di carattere regionale che conducono ad una necessaria ottimizzazione delle risorse e potenziano l'integrazione tra i singoli paesi con effetti moltiplicatori sul piano sociale ed economico.

Questo era l'obiettivo del Seminario *Centroamericano sobre la valorización y la conservación del patrimonio cultural* CULT 2011 che si è tenuto in Antigua (Guatemala) e a San Salvador (El Salvador) dal 9 al 13 del mese di maggio 2011. Il Seminario, promosso dalla Cooperazione Italiana allo Sviluppo, è stato realizzato dall'Istituto Italo-Latino Americano.

Le delegazioni dei paesi partecipanti e dei paesi osservatori erano composte da esperti e da funzionari che rappresentavano le principali istituzioni settoriali. Italia e Cuba hanno svolto il ruolo di paesi osservatori.

A ciascuno dei sei paesi centroamericani è stato affidato il coordinamento di una delle seguenti sessioni tematiche:

- recupero e riqualificazione dei centri storici (coordinamento: Guatemala);
- valorizzazione e turismo sostenibile (coordinamento: Nicaragua);
- i rischi: calamità naturali e fattori antropici (coordinamento: Panama);
- restauro, conservazione e rafforzamento istituzionale (coordinamento: El Salvador);
- sviluppo dei musei e dei siti archeologici (coordinamento: Costa Rica);
- catalogazione e lotta al traffico illecito(coordinamento: Honduras).

La *Declaración de San Salvador para la potenciación de la conservación y de la tutela del patrimonio cultural centroamericano y del turismo sostenible*, siglata al termine del Seminario, contiene gli elementi che caratterizzano il quadro specifico a livello regionale e le linee strategiche da seguire.

RIFLESSIONI CONCLUSIVE SULLE INIZIATIVE DI COOPERAZIONE COLLEGATE CON LA CONSERVAZIONE E IL RESTAURO DEL PATRIMONIO CULTURALE TANGIBILE

La formazione dei restauratori, *punto focale e caratterizzante* della strategia italiana più recente, deve essere collegata a componenti più ampie di *sostegno istituzionale*, deve essere cioè indirizzata a rendere autonome le istituzioni del Paese beneficiario, privilegiando la modalità della *formazione di formatori* e gli aspetti organizzativi/gestionali delle strutture di riferimento.

Le esperienze condotte su campo e l'osservazione attenta dell'intera strategia adottata dall'Italia in questo delicato settore, consentono di sottolineare alcuni elementi fondamentali e imprescindibili che condizionano il successo di questa speciale categoria di iniziative.

a. Realizzazione, durante la fase di identificazione e di formulazione del progetto, di una indagine accurata, non limitata al presente, ma estesa alla storia recente del paese beneficiario e che consideri:
   - il quadro istituzionale settoriale;
   - il quadro legislativo;
   - la consistenza del patrimonio culturale sul territorio;

- le istituzioni a cui è affidata la gestione del patrimonio culturale, sia a livello centrale, sia a livello periferico;
- il livello professionale e scientifico degli operatori.

Tale analisi permette di evidenziare le criticità che caratterizzano il contesto settoriale generale che sarà oggetto dell'intervento e rendono possibile la definizione degli obiettivi specifici e della strategia di intervento.

b. Definizione della strategia generale e del piano operativo congiuntamente con la controparte al fine di favorire il processo di appropriazione e di condivisione.
c. Definizione attenta delle componenti tecnologiche (attrezzature e apparecchiature di laboratorio) . Dovrebbero essere evitate iniziative che prevedono la fornitura di attrezzature senza o con scarsa attività di formazione.
d. Co-gestione dell'iniziativa per tutto la sua durata.
e. Durata dell'intervento. La durata standard dei progetti è di 1, 2 o al massimo 3 anni. Affinché possano crearsi le condizioni per una appropriazione completa e il raggiungimento di una autonomia da parte del beneficiario sono necessari tempi ben più lunghi e fasi successive, caratterizzate da un impegno sempre più ridotto del paese donatore.

Riflessione conclusiva: le iniziative di cooperazione in tempo di crisi economica devono essere attentamente progettate con speciale cura verso l'ottimizzazione delle risorse.

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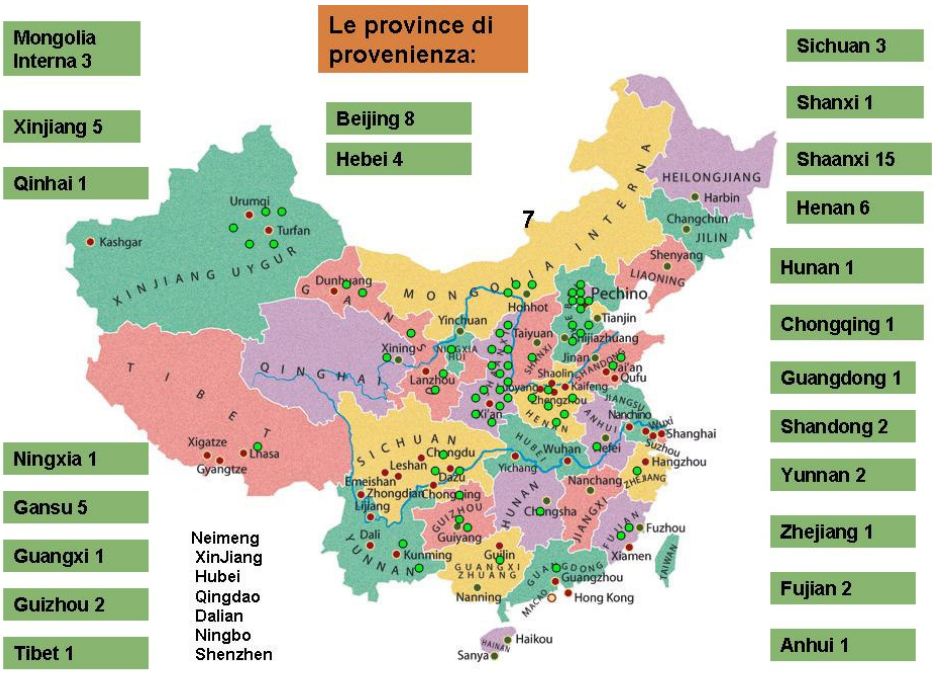

Fig. 1 - Provenienza dei 67 allievi che hanno partecipato al primo corso del Sino-Italian Conservation Training Center – 2004.

Fig. 2 - Sino-Italian Conservation Training Center di Pechino. Conservazione e restauro dei manufatti metallici. Esercitazione in laboratorio.

Fig. 3 - Sino-Italian Conservation Training Center di Pechino. Restauro degli apparati decorativi dell'architettura. Cantiere didattico.

Summary of training activities carried out at the Sino-Italian Conservation Training Center

Categories of courses	Courses	Students /sub-total	Students /total
Courses held as part of the programme funded by the Italian Development Cooperation	Courses held in 2004	67	190
	Courses held in 2007	62	
	Training course for Cultural Heritage conservation technicians from the Palace Museum, Forbidden City, Beijing	15	
	Specialization course for the application of laser technology in restoration work	14	
	Specialization course for the reintegration of lacunae in wall paintings	14	
	Science and Conservation. Chemistry and physics methodologies as applied in restoration and conservation interventions.	18	
Sino-Japan Cooperation Cultural Heritage Conservation and Restoration Training Course for technicians along the Silk Road	Courses held between 2006-2010	102	102
South-South Cooperation	Courses for African, Asian and Middle Eastern countries	83	83
Courses realized by SACH and funded by the Chinese government	Conservation of metals	24	81
	Conservation of wall paintings	14	
	Conservation of paper	14	
	Conservation of stone materials	15	
	Conservation of textiles	14	
On-site conservation courses	2007	44	186
	2008	48	
	2009	49	
	2010	45	
Courses on the restoration of buildings and monuments	2004-2005	36	36
Course Preventive Conservation: Reducing Risks to Collections, organized in collaboration with ICCROM	2009	20	20
Total number of students who followed training courses between 2004 - 2010			**698**

Tab. 1 - Sintesi delle attività didattiche condotte dal Sino-Italian Conservation Training Center tra il 2004 e il 2009.

Fig. 4 - *Centro de capacitación para la restauración, conservación y promoción del patrimonio cultural* di El Salvador. Esercitazione nel laboratorio di restauro archeologico.

Fig. 5 - *Centro de capacitación para la restauración, conservación y promoción del patrimonio cultural* di El Salvador. Esercitazione nel laboratorio di restauro della scultura policroma.

A BETTER KNOWLEDGE FOR A BETTER COOPERATION: THE CONTRIBUTION OF HUMAN SCIENCES FOR AN INTERCULTURAL COOPERATION TO DEVELOPMENT

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The panel aimed at bringing together researchers in human sciences who share an attentive eye to the specific import of local cultures, knowledge and tradition in the activities subsumed under the collective, and often too vague, concept of cooperation to development.

Our basic idea was that a good preventive analysis of the field, of the human groups living and interacting (and sometimes coming into conflicts) in it, of their specific cultures and languages (often widely divergent among themselves) – chiefly in the poorest areas of the countries in the South of the World – represents a priority in the planning of cooperation projects that aim at efficiency either in terms of empowerment or of assumption of responsibility and management by the local partners. We believe that achieving these aims could bring a better stability of the partnership and a better time continuity in the sustainable-development projects proposed and initiated by international partners.

These ideas derive of course from our direct field experience, and we think that they are – sometimes tacitly – shared nowadays among practitioners in cooperation and development. They are widely echoed in projects in such different fields as, to mention just a few, eco-farming, sustainable tourism and cultural and linguistic revitalization. Here and elsewhere the vision lying behind these projects and inspiring them has enabled, we dare say, a considerable level of success. It is a vision which stresses the enormous value of the specific cultures and traditions of the local people(s) in a perspective which can be labelled a *dynamic safeguard of the past*, and whose actual and final aim is to assure the safeguard of the traditional heritage of the communities involved or in any way interested in the project. As an additional – but far from secondary – bonus, these communities could therefore more spontaneously and confidentially join the project and accept the new perspective of eco-compatible growth promoted by the investors.

These ideas were developed and conjugated during the panel in such different areas as: ethnicity and their political exploitation (Fontana), language and educational policy (Manfredi and Tosco), agro-forestal cooperation among marginalized peoples (Micheli), the archaeological data on ancient farming systems with an eye to facilitate the design of future strategies for sustainable land-use (Sernicola), or, finally, socio-technical innovations and the collective participation of the community (Silvestri).

The proceedings put together all the contributions presented and thoroughly discussed at CUCSTorino2013, and namely, in alphabetical order:

- Lorenza Belinda Fontana: *The power of ethnic labeling: the role of international cooperation and academic community in shaping the new indigenous movement in Bolivia*
- Stefano Manfredi and Mauro Tosco: *Language uses vs. language policy: South Sudan and Juba Arabic in the post-independence era*
- Ilaria Micheli: *Safeguarding the past to guarantee a better future: the role of ethnolinguistics in the NECOFA projects among the Mariashoni Okiek community*
- Luisa Sernicola: *Strategies of land exploitation and management in the area of Aksum (Northern Ethiopia) between the 1st millennium BC and the 1st millennium AD*
- Federico Silvestri: *The case of Zimbabwe Bushpump like a socio-technical network*

We offer them in the hope that they may raise consciousness on the – in our view, fundamental – role of human sciences in cooperation.

THE POWER OF ETHNIC LABELLING: THE ROLE OF INTERNATIONAL COOPERATION AND ACADEMIC COMMUNITY IN SHAPING THE NEW INDIGENOUS MOVEMENT IN BOLIVIA

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ABSTRACT

Since the electoral victory of the Aymara coca growers' leader Evo Morales in 2005, Bolivia has been undergoing a phase of political transition. One of the most important element within this process is the consolidation of a new discourse around the 'indigenous' that led to key instructional reforms inspired by the so-called 'identity politics'. This phenomenon cannot be fully understood without considering the role, over the last three decades, of external actors, including the international cooperation and the academic community, and their active support to the emerging indigenous movements as well as to the process of legislative reform. This paper will propose a critical perspective on normative paradigms inspired by the 'politics of recognition', through the presentation of two case-studies: the role played by the Danish cooperation in funding the titling of collective indigenous land, and the foundation of a native organization among aymara and uru communities, under the guidance and advice of a group of anthropologists.

> *As policymakers, practitioners and researchers, we use 'frames' and 'labels' to help our analysis and to describe to others what we do (…) While they may be efficient, such labeling processes are also dynamic and political. Therefore they can produce unintended, and sometimes, unwelcome consequences. For example, labeling may shift – or sustain - power relations in ways that trigger social dislocation and prejudice efforts to achieve greater equality* (IDS, 2006)

INTRODUCTION

Since the election of President Evo Morales in 2005, Bolivia has been undergoing a phase of political transition. This process undoubtedly constituted a breakthrough in contemporary Bolivian politics, especially for the sudden and massive inclusion of rural and popular sectors in the national political arena. However, the elements of continuity with the previous three decades are as well significant. One of the most important is the consolidation of a new discourse around the 'indigenous' that led to key instructional reforms inspired by the so-called 'identity politics'.[1] Indeed, with the end of the long cycle of military *golpes*, Bolivia has become a laboratory for testing of the political use of recognition. In this framework, the indigenous movements took a new shape, and developed discursive categories that had a strong cultural and ethnic connotation, starting as well to claim for the demarcation of their ancestral territories [1].

This phase of revitalization of indigenous identities and claims stands in opposition with the trend that dominated during the period between the national revolution of 1952 and the end of the dictatorial period in 1982. In this phase, the Bolivian post-revolutionary governments put in practice a systematic project of 'transformation' of indigenous into peasants. In the 1950s and 1960s, a process of massive *campesinization* imposed the peasant union as a new dominant form of rural organization. At the same time, the affirmation of the *mestizaje* ideology promoted class-based identities instead of ethnic-based indigenous identities as collective mechanisms of self-identification [2]. As a result, in the following 30 years, the very notion of citizenship in the rural world overlapped with the belonging to a peasant union [3]. However, these efforts didn't lead to the disappearance of the ethnic issue for complete. One of the main reasons is the historical and sociological relevance of ethnicity, not only, as it is often emphasized, in the pre-colonial epoch, but also as essential part of the way in which the Bolivian, and more in general Latin American states, were constituted over the last two centuries (what Paula Lopez Caballero, called the *régimes national d'altérité* [4]).

Between the 1970s and the 1990s, new highly politicized social organizations emerged, moved by a strong ethno-

[1] This is true at least during the first phase of *Moviminto al Socialismo* (MAS)'s government, until the approval of the new Constitution (January 2009) and Morales' reelection in 2010. In the second and current political phase, the relation with the indigenous sectors became tenser. The breakthrough was marked mainly by the conflict around the *Territorio Indígena Parque Isiboro Sécure* (TIPNIS), where an indigenous-ecologist coalition was formed to mobilize against the State's project of contracting a road throughout the natural park and indigenous territory.

cultural identity and agenda, bringing the 'indigenous issue' back into the Bolivian public scene. Similar phenomena occurred at the same time in other Latin American contexts, pushed by socio-economic transformations within rural groups, changes in the political contexts as well as by a new international sensibility *vis a vis* this issue and the rise of a specific and unique legal framework. The latter was based on some striking assumptions, namely: that the issues regarding the treatment of ethno-cultural diversity had become "matters of legitimate international concern and consequently do not constitute exclusively an affair of the respective state" [5]. And that the indigenous issue, which has always had a unique standing within international law [6], had to be addressed through a series of special measures, which in principle constituted exceptions to the post-war set of international rules regarding ethno-cultural minorities. In particular: the recognition of land claims, language rights and customary law and their aspirations "to exercise control over their own institutions" [7].

The new dimension and strategic importance acquired by ethnicity and indigenous movements in Bolivia cannot be fully understood without considering the role of external actors. Under the influence of the international debate on multiculturalism, and of a wave of intellectual fascination towards indigenous issues, a multiplication of cooperation programs took place and a number of *ad hoc* organizations, often run by academics, with an ethno-developmentist focus emerged. In particular, international cooperation and the academics play an active role both in providing funds and advice to the emerging indigenous groups as well as in supporting national institutions in the generation of a new policy framework to address ethnic diversity. However, the operationalization of the differences between social groups through the introduction of ethnic labeling (as criteria of self-identification and of policy design) proved to be an extremely complicated task and entails both epistemological and operational challenges.

This paper will propose a theoretical perspective on normative paradigms inspired by the politics of recognition as well as an analysis of two case-studies drown from Bolivian recent history. In particular, it will focus on the role of both cooperation agencies and academic community in 'shaping' the new indigenous movements as a relevant political subject. This fact was at the bases of both a pluralizing and more inclusive political transition as well as of new tensions between rural (peasant and indigenous) organizations.

THE RISE OF NEOINDIGENISM AND THE ROLE OF EXTERNAL ACTORS

Although the 1960s and 1970s marked the rise of an intellectual stream – the *Katarism* – with deep ethno-cultural bases and of a political movement able to incorporate this discourse and bring it to the national stage, the ethno-cultural issue did not manage to reach a relevant position in the political agenda. It was in the 1980s that the historical situation of identitarian plurality and related problems of exclusion and discrimination (in the economic as well as in the political and cultural domains) was revitalized as discursive base of a new intellectual and academic current, able to give birth to its own political and social platform. To affirm itself, this movement had to develop new categories that, on the one side, were rooted on a strong cultural and ethnic base around the concept of 'indigenous', but, differently from *Katarism*, took distance from the syndical corporatist organization. Through a radicalization of the 'indigenous', it looked for the affirmation of new social and political subjects – the indigenous peoples –, through the consecration of cultural differences as fundamental lines of social differentiation. Moreover, this movement started to formulate specific territorial claims, arguing that the process of identitarian recognition should be accompanied by land titling and demarcation. In the following years, the indigenous identity became one of the most important factors of political shaping and, with the passing of time, would play a key role as mechanism of social aggregation with high potentialities in term of mobilization and antagonism.

During the 1990s, at the national level, a new political doctrine, generally referred to as 'neoindigenism'[2] [9] started to emerge, which marked a breakthrough with respect to the assimilationist model that prevailed in the previous decades. Bolivia shared this process with other Latin American countries, where, in the same period, new constitutional and legislative reforms were implemented, which recognized the pluriethnic and multicultural character of national societies. These reforms entail a change of perspective in symbolic terms, but also a concrete turning point generated by the instututionalization of new rules to regulate the recognition of diversity through the positive right. This process, considering both its top-down and bottom-up mechanisms, was highly influenced by the international community (academics and practitioners)[3].

From the 1970s, in Latin America and mainly in the Andean region, a number of anthropologists and ethno-historians, influenced by the work of John Murra, started to highlight the specificities of indigenous communities in past and present times, privileging ethnic over classist categories [11]. At the end of the 1970s, two meetings were organized in the Barbados islands, where, for the first time, a concern was expressed about the need, not only of studying, but also of assuming a concrete compromise to support the emancipation and the development of indigenous

[2] I define this phenomenon 'neoindigenism' to distinguish it from indigenism (*indigenismo*), an ideology that spread in many Latin American countries in the first half of the XX century as an "essential aspect of the ideology of national ethnogenesis, the creation of a new national identity based on the *mestizo*" [8].

[3] The role of NGOs and foreign intellectuals in Bolivia and particularly within social movements is not completely new. An example is constituted by the interrelations between *Katarism*, the theology of liberation and some NGOs with international support such as CIPCA. In this sense, key figures are the Catalan Jesuit and intellectual Xavier Albó and the sociologist Javier Hurtado [10].

peoples, through the strengthening of their rights and of their cultural and ethnic identities. In Bolivia, the German anthropologist Jürgen Riester, expert in lowland and Amazonian indigenous groups, decided to support a process of indigenous revitalization. In 1978, he obtained international cooperation's funds to build a shelter called *Casa del Campesino* for the Ayoreos[4] that migrated to the city of Santa Cruz de la Sierra and that lived in condition of poverty and marginalization. In 1980, Riester together with other colleagues, founded the NGO Support *Apoyo Para el Campesino Indígena del Oriente Boliviano* (APCOB), which received funds from the Danish cooperation (DANIDA) and the NGOs Hivos, Oxfam America and Cultural Survival, to bring about long-term projects that linked development programs with institutional strengthening. From that moment, lowland indigenous groups started to be politically structured and, in 1982, the *Central Indígena del Oriente Boliviano* (CIDOB), that later on changed its name in *Confederación de Pueblos Indígenas de Bolivia,* was founded. This organization became one of the main social actors of the lowlands and played a key role within national politics, proposing an innovative project of state reform and putting forward the issue of indigenous rights [12]. At the beginning, this fact generated tensions with other organizations that worked in the area, such as the *Centro de Investigación y Promoción del Campesinado* (CIPCA), which still followed a classist paradigm of development, working with the peasant unions of the *Confederación Unica de Trabajadores Campesinode Bolivia* (CSUTCB), and considering the traditional organizations – especially the Guaraní traditional authorities, the *capitanias* – corrupted and involved in the exploitation of the population, especially in the sugarcane harvest.[5] However, in a few years, ABCOB and CIDOB became one of the most important receptors of international funding.

Contemporaneously, in the western part of the country, similar experiences of symbiosis between academic and development cooperation sectors took place, which started to implement projects of what was defined 'trasnational ethno-development' or 'development with identity' [13][6]. The most important was the *Taller de historia oral andiana* (THOA) created in 1983 in La Paz with the support of Oxfam America. This project developed researches on the indianist movement between 1869 and 1950, with the explicit aim to promote a policy of strengthening of indigenous history, culture and identity in the highlands [15]. The results served as discursive bases for the legitimation of a movement of 'reconstruction of the *ayllus*'.[7] The relationship of this initiative with the peasant unions was obviously tense, especially because an implicit critic was addressed to the syndical organization, accused to be a 'continuation of colonialism' [17]. In 1988, another linked transnational coalitions financed the creation of some federations of *ayllus* in the departments of Norte Potosí and Oruro [18], as will be described more in details in the forth section.

A second example of transnationally rooted ethno-development was the *Proyecto de Autodesarrollo Campesino* (PAC) started in the Oruro department in 1988 and sponsored by the European Union. In this case, 21 million dollars were invested to finance micro-projects with the aim to improve the small scale agricultural and livestock production [19]. The selected stakeholder for the program was the organization of the *ayllus* and its native authorities, which were thus legitimated to the detriment of local syndical leaders. Mainly thanks to these projects, at the end of 1989, three sub-departmental federations of *ayllus* existed, which promoted an alternative development and organizational model on an ethnic basis. As a culmination of this process, in March 1997 in Ch'allapata, the *Consejo Nacional of Ayllus y Markas del Qullasuyu* (CONAMAQ) was founded and consecrated as the "national authority of the Aymaras, Quechuas and Urus" [20]. In the first stage, this organization made great efforts to differentiate itself from its natural competitor – the CSUTCB – though an ethnic-based discourse that emphasized the 'genuineness' of this movement as expression of an 'original' Andean peoples' identity [21]. The key concept in this sense was the 'nativeness', which allowed this organization not only to take distance from the peasants, but also from the indigenous of the East, and to build thus its own identitarian boundaries. Here are some examples of this kind of discourse:

> We are native. We are neither indigenous, nor peasants. Whoever could be peasant! Ruben Costas[8] could be peasant, since he has its own ranching activity. We didn't come from another country, but we are native, legitimated owners of our land and territory. (…) In the highlands there are no peasants. They call us peasants, but we are not. We are native. We are native nations.[9]

> How could one say that the peasants, the syndicates are pre-existent to the colony? This is a serious matter. (…) In the past, they call us 'indians', 'aboriginal', 'ethnic group'. These concepts were rejected, buried, and new ones are rising to reach the true meaning. We are not indigenous, we are native.[10]

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[4] An indigenous group of the Amazon.

[5] Interview with a former officer of APCOB, Santa Cruz de la Sierra, 22.8.2010.

[6] Guillaume Boccara and Paola Bolados studied similar processes in Chile, focusing in particular on ethno-development policies implemented by state or para-state institutions (ethno-government) with the aim to strengthen partnerships with indigenous communities, to hold them accountable and seek, following the World Bank's motto to 'help them helping themselves'. This and other works of Boccara aim to describe ethno-developmentism as the point of juncture between the capitalist, neoliberal market and cultural diversity [14].

[7] The *ayllu* is a form of extended familiar community originally from the Andean region, which work the land in a collective form in the framework of a commonly owned territory. In its origin, the *ayllu* was a territorial unity that gathered a lineage of related families, belonging to segmented and dual hierarchies, with different geographical scale and complexity [16].

[8] One of the most important leaders of the regionalist movement of Santa Cruz de la Sierra.

[9] Interview with a Jiliri Apu Mallku, most important authority of CONAMAQ, La Paz, 5.8.2010.

[10] Interview with an advisor of the CONAMAQ, La Paz, 5.8.2010.

Meanwhile, CONAMAQ started a 'proselytism campaign' in the highlands trying to 'convert' rural communities to the *ayllus'* cause through a discourse based on a shared historical memory and pre-colonial identity. Reinterpreting the anti-colonialist principles of the indigenous movement's ideology, the *ayllu*'s activists presented their organization and the native authorities as 'more indigenous' (in term of authenticity) and with more potential (in terms of development), rapidly creating a powerful rival movement for the peasant organizations of the highlands.[11] Nevertheless, CONAMAQ did not manage to replace the peasant union that, on the contrary, imposed itself in the national scene leading important social mobilizations after 2000. A multifaceted relationship was thus established between the two organizations that has been at the origin of a complex and fragmented socio-political scenario until today.

International cooperation agencies and anthropologists also played a key role in influencing the process of institutional reforms that underpinned this 'indigenous rise'. In the 90s, two reforms made by neoliberal governments contributed to change the rural identity-building process, and in particular to modify the political space around indigenous peoples: (1) The Popular Participation Law that, in 1995, introduced mechanisms of devolution of power and a formal distinction classifying communities as indigenous or peasant; (2) The Law of the National Institute of the Agrarian Reform (*Ley del Instituto Nacional de la Reforma Agraria*, INRA) of 1996 that legalized the Native Communitarian Lands (*Tierras Comunitarias de Origen*, TCOs), i.e. vast territorial areas assigned on an ethnic bases. Although the indigenous issues *per se* were not of particular interest to a wider electorate and not even to the vast majority of people who might be described as indigenous [23], these reforms triggered a process of political ethnicization [24], which, despite the explicit aim to deepen country's democracy, ended up generating a certain degree of fragmentation and the rise of particular, rather than national, identities. In fact, this process benefited geographically concentrated social movements, whether regionalist or ethnically rooted [25]. As Manuel Centellas wrote, "ironically Bolivia became politically unstable after reforms that improved the political system's representativeness and embraced multiculturalism" [26]. These legislative initiatives of the neoliberal governments benefited in their implementation by the fundamental support of the international cooperation, especially North European. One of the most interesting cases is the support of the Danish cooperation agency (DANIDA) to the process of titling of indigenous territories.

DANIDA AND THE INDIGENOUS LAND TITLING

In Bolivia, one of the most important and effective indigenous-related cooperation programs in terms of impact was the DANIDA's program *Support to the Rights of Indigenous Peoples*, whose aim was to generate a "growing recognition and implementation of the rights of indigenous peoples, in combination with the active and democratic participation of the indigenous population in an economic and political development process" [27]. In concrete terms, the program, which developed along 15 years from 1995 to 2010, provided support and advice to the Bolivian state to implement the TCOs' titling, the process of decentralization and popular participation, the bilingual education in the lowlands, and the sustainable management of natural resources in the TCOs. All in all, it was an effort of mainstreaming of the indigenous issue in the design of development programs and public policies. However, reading the program's systematization documents, it often emerges a simplistic vision of the indigenous issue. Moreover, although there is a recognition of the strategic role of social movements in the generation of tensions over land tenure, the focus rests mainly on the vertical conflictive axes (*latifundio* vs. indigenous), neglecting the multiple horizontal conflictive axes (between social organizations).

Despite these problems, the Danish cooperation has considered its strategy of support to Bolivian indigenous peoples as one of its most successful programs, as it is clearly stated in the final report. A similar opinion has a Danish Embassy's officer that was in charge of the program for four years:

> This program has been one of the most successful I have ever seen, since it was well formulated and it led to interesting results. In terms of land, 11 million hectares were titled, which correspond to the 70 or 80% of what has been titled for indigenous peoples.[12] It was not only a titling process but an empowerment process of these peoples.[13]

Clearly, the effects on identity-building processes and the positive discrimination criteria introduced in favor of the indigenous were not only well known, but explicitly incentivized.

A different and more critical opinion on the role of the international cooperation in the process of ethnic identities' revitalization is the one of a former officer of the Viceministry of Indigenous Issues:

[11] For a recent study of the fights between *ayllus* and peasant organizations in the Norte Potosí see Le Gouill, 2011 [22]. Focusing on permanent organizational tensions around the construction of identities and the definition of regional spaces of power, this articles shows how the rise of the MAS at the national level triggered a process of reconfiguration and generates new forms of ethnicized political representations whose goal is the management of economic and natural resources based on a rather developmentist vision.

[12] During the first 10 years of implementation, the international funding contributed to cover the 67% of the total costs for the TCOs' titling process. Moreover, until December 2009, 135 TCOs were titled thanks to the support of DANIDA [28].

[13] Interview with a Project Manager of DANIDA, La Paz, 11.6.2011.

> There are cooperation agencies that expressly supported exclusively indigenous peoples, and not the peasant sector, because they thought that, from the 169 ILO Convention, the logic of indigenous peoples was different and that it had been made invisible. This fact has been contributing to the resurgence of certain identities and to the empowerment of others. (…) In fact, distortions introduced by the international cooperation's funds generated conflicts, since it is true that there are cooperation agencies that only sponsor indigenous, and not peasants.[14]

Another important element that the interviewee mentioned is that the civil society's stakeholders of this kind of programs were mainly indigenous organizations – i.e. CONAMAQ and CIDOB – while CSUTCB, for its syndical nature, was not taken into consideration, ignoring thus, and in the long term probably contributing to weaken, its original indianist stream. According to the Danish Embassy's officer, the stakeholders' selection was made according to a criteria of 'most representativeness' in ethnic terms: "It was considered that CONAMAQ and CIDOB were the most representative within the indigenous world, the most organized and with national representation".[15] However, these decisions generated much critics and discontent within peasant organizations, which accused the international actors to benefit a social group to the detriment of another one. I quote here an example:

> The cooperation is the empire and we are puppets that say what the cooperation wants us to say. The cooperation makes the agenda. Since there is money, invitations, good hotels, flight tickets, they buy interlocutors, ventriloquists. All the money that comes from Finland, Norway, Denmark, comes to destroy syndicalism, Marxism. Supposedly, they think they come to destroy communism. Who are the communists? Syndicates! Who should they support? The neutral, those that are not going to make any problem, the *cariñosos* [affectionate people]. And who are they? Indigenous and CONAMAQ (…).[16]

ANTHROPOLOGISTS AND THE CREATION OF A NEW INDIGENOUS ORGANIZATION IN ORURO

Among the generation of young anthropologists that, in the 1970s and 1980s, started to get involved with indigenous communities carrying out an intense ethnographic and political work of historical reconstruction and memories collection, one of the most relevant and influential works was carried out by the *Antropólogos del Sur Andino* (ASUR) in the altiplanic department of Oruro. In the mid-1980s, they conducted an ethnographic research to trace back the historical trajectory of the 'ethnic unit' of the actual Quillacas community. The results of this study – entitled 'From aymara kingdoms to communities'[17]– had important and unexpected consequences in the local debate on the organizational fragmentation that the region was experiencing, eventually inspiring the conformation of a new explicitly native (*originaria*) organization called *Federation de Ayllus del Sur de Oruro* (FASOR). This organization and territorial unit, which coincided with the ethnic regional demarcation of the XVI century, was intended as a way of unifying the ancestral territory, consolidate a common ethnic identity and cohesively negotiate with the state and international NGOs operating in the region through important programs of local development.

FASOR was formally constituted in 1989 during a meeting of the traditional authorities of the *ayllus* of Southern Oruro, whose primary goal was to analyze the intervention and impact of NGOs and national development programs in the region. The anthropologies played a key role in supporting the organization of the event and in gathering funding (from the Swiss cooperation agency SDC) to sponsor it. During the meeting, the historical study was presented and, at least according to its authors [30], had a significant impact in influencing the minds of local authorities. On the one side, it generated a sense of urgency on the need to resolve problems of poverty and exclusion in the region and, on the other side, it rescued a long-term tradition as a basis for the reconstruction of a unifying political entity of the *ayllus* to contrast fragmentation. A decision was made to create a new organization, and, at the moment of defining its name, the authorities explicitly asked for the advice of one of the anthropologists present at the meeting, Ramiro Molina Rivera. As he reported in a later book, in his intervention, he emphasized the indigenous past and memory as the elements that articulated these communities in the past and that could serve as catalyzing forces against fragmentation still in those days. The opinion of external actors was greatly considered by local authorities. Answering to some leaders who feared racist reactions and prejudices around indigenous categories, an authority of the community of Pampa Aullagas said:

> True, the Bolivians are so afraid to speak the Aymara language, the same happens with the Quechua, but foreigner people, the *gringos*, appreciate our language, while Bolivians say *indios*. On the contrary, we should be proud of our language. Therefore I agree to put the name of *ayllu* [31].

The creation of FESOR was the first step towards the rise of a new national native organization in the highlands. Two years later, the same group of anthropologists of ASUR was part of the creation of a similar federation of *ayllus* in

[14] Interview with a former officer of the Viceministry of Indigenous Issues, La Paz, 5.8.2010.
[15] Interview with a Project Manager of DANIDA, cit.
[16] Interview with an advisor of the Bartolinas, Santa Cruz de la Sierra, 19.8.2010.
[17] The research, coordinated by Rossana Barragán, was published in the book of Ramiro Molina Rivero (2006) [29].

the Norte Potosí region. There, a project was put in place with the aim of conducting a process of consultation with the *ayllus* on the Popular Participation Law. The hidden aim was the consolidation of a new native organization. The project was funded by the German cooperation agency. In this context, the resistance of the peasant unions was much stronger and started to feed and reactivate long-term conflicts. This was an unintended consequence for the anthropologists who participated in the process, since their idea was to create an integrated system *ayllu*-union[18]. However, the peasants strongly refused this option.

The culmination of this process was the foundation, in 1997, of CONAMAQ, as national organization of representation of the native peoples of the highlands. This organization played a key role in the mobilizations and 'social wars' (the water and gas conflicts in Cochabamba and El Alto) during the early 2000, was one of the main allies of Morales' fist government, a crucial actor in the Constituent Assembly and still holds an important, although more critical, role in Bolivian national politics. In the words of one of the anthropologists that were part of this process, the rise of the native movement in the highlands was not endogenously driven, but rather the result of a symbiotic interaction between three main actors: local communities, anthropologists and cooperation agencies:

> The very idea of indigenism and the new social movements does not arise only from their own conception and strength. It arises symbolically from non-indigenous intellectuals and mainly anthropologists and historians, some sociologists, and from the cooperation. (...) That creates a whole continental movement during the 80s. The same three axes generated the international conjuncture: indigenous leaders that started to articulate, supported by NGOs and cooperation, and anthropologists.[19]

Tellingly, some members of this group of anthropologists were, in the 1990s, part of the neoliberal governments, actively advocating for the incorporation of the international framework on the rights of indigenous peoples within Bolivian laws and Constitution. Ramiro Molina Rivero himself was the first National Secretary for Ethnic Affairs under the government of Gonzalo Sanchez de Lozada and one of the main players in the design of the Popular Participation Law and the INRA Law, as mechanisms to grant more power, participation and territorial control to Bolivia indigenous and native groups.

CONCLUSIONS

In the case of Bolivia, and in particular, in the two case-studies that were briefly presented, a clear influence of external actors (academic and practitioners) can be detected, which actively influenced both the way people self-identified as well as the design of a new generation of public policies. These interventions were led by a political and ideological agenda, which somehow refers to the 'theory of recognition' and 'identity politics'. The priority given to the classification and self-identification of social groups through ethnic categories was intended as a way to widening and deepening their rights through the recognition of their cultural and ethnic features. Although intellectual and political mechanisms inspired by the recognition paradigm contributed to the strengthening of the democratization process in the country and to the social and political inclusion of traditionally marginalized sectors of the population, the following paragraphs will briefly focus on some problems and limitations of those approaches and experiences.

One of the side effects related to the support of the international cooperation to indigenous organizations is the 'professionalization' of these movements – and of their leaders – as development actors. As Yvon Le Bot wrote referring to Latin America in general: "Indigenous actors and the militants that support them would tend to 'professionalize' themselves, to adopt essentially strategic conducts, fights of position and resources harnessing – financial, juridical and symbolic – and to enter, together with other actors, into a game of reciprocal instrumentalization" [32]. A 'project-based logic' is thus installed within the indigenous movements' leadership, which converts them in sort of lobbies and managers of development, experts in fund-raising and in the use of a specific ethno-developmentist language [33]. This fact demonstrates a great adaptation capacity of these actors, while at the same time, it constitutes a consistent limit to their autonomy. Indeed, it triggers a vicious circle that strengthens the movements' dependency from funds, advising and support of external agents, weakening their economic and ideological independence [34].

Secondly, the cases presented contribute to emphasize the normative reluctance of recognition. In the Bolivian context, traditionally characterized by a high degree of polarization of peasant and indigenous identities, it proves to be extremely difficult to identify the rules governing the conditions of success of (ethnic) recognition, formal procedures, as it where, that tell us when to recognize (in which contexts), and how to recognize (to whom is it appropriate to grant recognition, what counts as proper recognition). What rules the fact of conceding recognition to certain people, and not to others? This constitutive indeterminacy impinges tacitly on the normative use of recognition, with consequent problems at both the epistemological and political level. As the Bolivian case showed, it is generally very difficult (if not impossible) to operationalize the difference between social collectivities, making them viable on the basis of ethnic or identitarian categories. Moreover, institutionalizing the link between resource allocation and ethnicity (the

[18] *Ibid.*
[19] Interview with an anthropologists and former National Secretary for Ethnic Affairs, La Paz, 6.6.2011.

recognition of native title as a basis for land-claims by indigenous people) and, in particular, stating a policy of positive discrimination dependent on displaying acknowledgement of 'authentic' identities, turns identity into a target, hence increasing the risk of an instrumental use of identity for economic or political purposes, and potentially multiplying conflicts between social organizations. All these critical aspects were apparently underestimated both by anthropologists and cooperation agencies.

As I mentioned, the social and political weight both at symbolic and concrete levels of rural and popular sectors has increased, especially from 2005, after the electoral victory of Evo Morales. Nevertheless, although I definitely recognize these important improvements, I would like to mention here a still controversial as well as widely underestimated issue concerning the effective impact of this dynamic on post-colonial marginalized groups and individuals. Kymlicka argues that:

> In (…) the struggle against ethnic and racial hierarchy, what matters is not the change in international law *per se*, which has had little impact on most people's everyday lives. The real change has been in people's consciousness. Members of historically subordinated groups today demand equality, and demand it has a right. [36]

The issue of right, equality and, before that, of consciousness of oppression is thus a key point in the analysis of ethno-cultural movements, and force to bring the analysis to the individual dimension, whereby the cognitive domain is strongly influenced by emotions and feelings. I argue that the process of development of this consciousness is not linear but it rather moves along a complex, multifaceted, non-teleological path. In particular, a difference might exist between predominately endogenously or exogenously-driven processes of emancipation, with respect to the 'quality' of the emancipatory dynamic itself. An hypothesis inspired by this paper that would need further research is that the 'quality of emancipation', in terms of its potentialities of enhancing a 'consciousness of oppression' and the very 'ontology of freedom' that this would imply, is directly proportional to the degree of endogeneity of the emancipatory movement. An exemplification coming from another historical context could be the ways in which the universal suffrage was implemented in different countries and the consequences for the feminist movements. Namely, the differences between the United Kingdom, where it was the result of women movements' struggle after the drastic social changes triggered by the First World War, and Turkey, where it was included in the constitutional reform of 1924, under the Ataturk one-party government. The consequences inscribed in the genesis of the feminist movements in the two countries are still visible today. In the study of social dynamics, it is hence paramount to consider the conditions in which supposedly emancipatory dynamics take place, the role of external actors, and, when possible, the effects in terms of the very individual and collective ontology of freedom.

ACHRONYMS

APCOB	Apoyo Para el Campesino Indígena del Oriente Boliviano (Support for the Peasant Indigenous of the Bolivian East)
ASUR	Antropólogos del Sur Andino (Anthropologists of de Andean South)
CIDOB	Central de los Pueblos Indígenas de Bolivia (Confederation of Indigenous People of Bolivia)
CIPCA	Centro de Investigación y Promoción del Campesinado (Center of Research and Promotion of the Peasantry)
CONAMAQ	Consejo Nacional of Ayllus y Markas del Qullasuyu (National Council of Ayllus and Markas of the Qullasuyu)
SDC	Swiss Agency for Development and Cooperation
CSUTCB	Confederación Unica de Trabajadores Campesinos de Bolivia (Unique Confederation of Peasant Workers of Bolivia)
DANIDA	Danish Development Cooperation
FASOR	Federation de Ayllus del Sur de Oruro (Federation of Ayllus of Southern Oruro)
INRA	Instituto Nacional de la Reforma Agraria (National Institute of the Agrarian Reform)
IWGIA	International Work Group for Indigenous Affairs
MAS	Movimiento al Socialismo (Movement Towards Socialism)
NGO	Non Governmental Organization
PMC	Pacto Militar Campesino (Military-Peasant Pact)
TCO	Tierra Comunitaria de Origen (Native Communitarian Land)
THOA	Taller de Historia Oral Andina (Workshop of Oral Andean History)

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SAFEGUARDING THE PAST TO GUARANTEE A BETTER FUTURE. THE ROLE OF ETHNOLINGUISTICS IN THE NECOFA PROJECTS AMONG THE MARIASHONI OKIEK COMMUNITY

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ABSTRACT

Cooperation to development in rural Africa is often a matter of handling with technologically archaic societies, where tradition has still a very high cultural value. In such societies things must be done, "as they have always been done", because "the forefathers said it was like that". Shifting from a traditional way of doing things to a more modern one is a delicate issue, touching the very core of a people's identity. How to handle with this identity matter, bringing people to open themselves to the new perspectives of modernity without infringing upon their traditions, their values and their right to choose their own way of life? Only a true reciprocal knowledge can result in true reciprocal confidence and therefore no project of cooperation to development can be successful if it does not consider the context in which (Western) highly educated volunteers are called to operate. Human sciences like anthropology, history, archaeology and linguistics, with their multifaceted views of the context, represent a precious key for accessing an often remote world, and the only means to get in touch and at the same time obtaining and showing respect to the communities living in a territory which is going to be subject to a project of development. Only reciprocal confidence and a real tentative of empowerment of the local people, adapting new technologies and modern ways of doing things to traditional methods can bring indigenous people to feel part and actors of the project.
As an object of discussion on the methodology of intervention proposed in the paper, the author presents a real case-study, which demonstrates the positive evolution of a sustainable agro-forestal project aimed at the implementation of beekeeping in the Okiek region of Mariashoni, Mau forests complex, Kenya, pursuant to the introduction of an ethnolinguistic study linked to the technical part of the project and aimed at facilitating the mutual comprehension of local Okiek and technicians in the domain of beekeeping. The study revealed itself not only functional to the correct execution of the project, but also fundamental to the constitution of a strengthened consciousness of the Okiek community as the bearer of a proper identity, stimulating the ideation, by the Okiek themselves, of further possibilities of cooperation on the field for the future.

INTRODUCTION. SAFEGUARDING THE PAST TO GUARANTEE A BETTER FUTURE

In West Africa the glorious Ashanti Empire, whose capital was Kumasi, in modern Ghana, used to forge very sophisticated gold weights, a kind of bronze statuettes, in some cases, real artistic masterpieces, which represented symbols of their cultural tradition. Many of them were animals, whose role in traditional tales were well known, like the caiman, which represented the wise, patient, man, or the hare, which represented deceitfulness and a brilliant mind. Sometimes these animals were fantastic ones. This is the case of a mythical bird they called Sankofa. Sankofa is one of the most important symbols in the Ashanti world. It is a bird, standing on top of a hill, or pyramid. Its wings are closed, its tail kept straight upward. It has a long neck and its face looks down, backwards at its feet. The meaning of Sankofa is that no one can reach the top - read: become "someone", a wealthy, respected or a rich man -, if he does not constantly remember his origins, and if he forgets his past. It is only on someone's past that one can build his future as well as his (good) fortune. The same, according to the Ashanti, is true for every society in this world.

And the same, of course, is what is considered true also in our Western World, despite our untiring projection towards the future.

Even though the core idea is the same, the attitude we have towards the past is very different from the one showed by our African neighbors.

Trying to put things in the most simple way, we in fact look at our past as at the path we have followed to reach the place where we are. It can have been full of obstacles, but, thanks to our efforts and a certain degree of ideation and luck, we could go on and finally ameliorate our initial condition. What is in our past, has been necessary to forge us as we are now, and it is important to know it, in order to avoid repeating the mistakes we made in life. We do not long going back to an initial idillic heroic phase, rather, we aim to continue our way towards something new, which is located somewhere in our future, and which is always thought to be better.

African traditional (above all rural) peoples instead, educated at the school of their forefathers, are convinced that

in the past lays the secret of luck and good fortune, and only remaining attached to the traditional laws and ways of doing things transmitted unchanged to them from generation to generation, the world can go on, preventing the sky from falling, one unlucky day, on their heads.

This is of course an oversimplification of the matter, but sometimes oversimplification is more useful than philosophical meditation when we are in front of real, concrete problems, like, for example, the emergency caused by savage deforestation in an area, like the Mau Forests complex we will consider in a while, which until some 30 years ago, had always represented the main water catchment of Kenya, and which is now collapsing, due to the loss of forest cover and to climate change caused by pollution in the Western, modern world, with all the terrible effects we can imagine both on the fields and on the people living in the country.

In contexts like the one I depicted, knowledge of the past is not only synonym with understanding the habits, ideas or position of a single people in its local chessboard, rather, it is fundamental to avoid false steps in the construction of the relationships we aim to create in order to cooperate to *their*, and at the same time *our,* development, in a positive global vision of the world.

If the past continues to represent a model for the indigenous inhabitants of a region, it is important not only to know it, but also to understand what can be maintained and valued positively in a process of "forced" or "accelerated" evolution, and what is necessary to throw away. If the past is the guardian of a people's identity, it is important to safeguard what in it is considered fundamental and unavoidable by the insiders. Many times this involves the necessity to negotiate and discuss what is moral or ethically correct in a determined society. In the last years this problem has often been on the table of discussion in our academic world. Can we really say that there is only one (Western) way to conceive issues such as *Human Rights, Morality* or *Ethics*? And anyway, once assumed that we could agree upon the idea that *Human Rights* must be respected everywhere in the world, we must admit that what we call a moral or ethical behavior is necessarily shaped by the context we live in. Thus, in different contexts we will differently perceive something as being *very much* or *not so much* against a determined *Human Right*[1].

For example, in all societies hunger is seen as something nobody should suffer from, but in different contexts access to food resources is regulated in different ways. It is a Western concern that if there is little to eat, the first to be nourished must be children, because they represent our future and are most vulnerable. In many African societies, on the contrary, the first to be nourished must be elders, because if an elder dies, a treasure of knowledge disappears with him, while if a baby dies, just nine months later the mother can have another one.

Thus, many times it is a matter of perspective, deriving from cultural and traditional values, embedded behaviors and embedded ideas of what is considered *right* or *wrong*, what is *appropriate* and what *is not*. If we do not try to understand this point, and if we do not recognize to the *others* the same value as the one we recognize to *ourselves*, in terms of cultural starting position, we surely cannot hope to get to a really accepted, shared and empowered project of cooperation.

On many occasions and in many traditional contexts safeguarding the past, or what is pivotal in that past, according to those whom we are addressing, is the first step to obtain a reasonable degree of confidence and respect.

In this sense safeguarding one people's past is often the key factor to guarantee a better future for everybody.

THE ROLE OF HUMAN SCIENCES IN COOPERATION

The label *Human Sciences* covers such an enormous amount of disciplines and fields of research, that it is particularly hard to consider them really as a whole. Therefore I think it is important here to try to be a bit clearer and specify what I am exactly referring to. The *Human Sciences* I am thinking of here, are those aimed at the knowledge of the mechanisms of formation of determined societies, of their values, their beliefs, their way of doing things and interact with others, their view of the world and of themselves inside the world, their ways to cope with *otherness* and their ways to manage interpersonal relations according to their cultural and traditional habits in terms of gender distinction and distribution of labour, hierarchy and age class or political and economical prestige.

In other words, when speaking of *Human Sciences*, I think of history and archaeology, which are the tools we have to understand the situations, choices and events, which made a people adapting itself in a specific way to survive in its

[1] The academic literature on this kind of topics (Anthopology of Moralities and Ethics, Development Studies in general and Anthropolgy of Development) is now very rich. I do not think it is the right place here to discuss the different positions. I just cite those I think are the most important productions: [1] A. Appadurai *Modernity at Large.* Minneapolis: University of Minnesota Press, 1986; [2] K. E. Browne & B. L. Milgram eds. *Economics and Morality. Anthropological approaches. Lanham:* Altamira Press, 2009; [3] D. Fassin "Beyond Good and Evil? Questioning the Anthropological Discomfort with Morals" in *Anthropological Theory* 8 (4): 333-344, 2008; [4] D. Fassin, *Humanitarian Reason: A Moral History of the Present*. Berkeley: University of California Press, 2011; [5] C. Grootaert & T. Van Bastelaer T. eds., *The Role of Social Capital in Development. An Empirical Assessment.* Cambridge: Cambridge University Press, 2002; [6] S. Howell, *The Ethnography of Moralities.* London: Routledge, 1997; [7] J. Lindlaw, "For an Anthropology of Ethics adn Freedom" in *Journal of the Royal Anthropologicl Institute* 8 (2): 311-332, 2002; [8] G. McCann & S. McCloskey eds. *From the Local to the Global. Key Issues in Development Sutdies.* London: Pluto Press, 2003; [9] D. Mosse, *Cultivatind development: An Ethnography of Aid Policy and Practice*. London: Pluto Press, 2005; [10] A. Tsing A., *Friction: An Ethnography of Global Connection.* Princeton: Princeton University Press, 2005; [11] R. A. Wilson & J. P. Mitchell eds., *Human Rights in Global Perspective.* London: Routledge, 2003; [12] J. Zigon, *Morality: An Anthropological Perspective*. Oxford: Berg Publishers, 2008.

natural and geo-political context. I then think of anthropology and ethnology, because these are the disciplines which handle specifically with the description and interpretation of the cultural heritage of a people and of the ways in which its values are estimated, expressed, preserved and transmitted to the new generations. I finally think of linguistics because every language keeps in itself the traces of successive contacts with other human groups, has the possibility to create genuine labels for what is typical of a culture and adopts terms from other languages when it needs to indicate objects or concepts which were not part of its speakers' tradition, revealing which kind of exchange there have been with those communities the term came from.

With the label *Human Science* I then refer to all these disciplines taken together, which I see as the different faces of an elaborate solid, each one mirroring just a part of the whole, a whole which comes out from the correct reconstruction of the original image, which can be obtained only through a constant confrontation and discussion of the same issue, taken from all the different points of view.

Aim of what I call *Human Sciences*, should be the reconstruction of this complicate image.

Assumed this position, the role I see for *Human Sciences* in projects of cooperation to development is fundamental.

On the one hand *Human Sciences* should provide for an accurate reading of the conditions, reasons and expectations of all the human groups living in the area interested by the project (never mind what is its final aim), and on the other hand they should evaluate, step by step, the effective possibilities of the project to be accepted, taken in charge and carried on by the local partners, once the intervention of the interested NGO or international partner is finished.

Historians, archaeologists, anthropologists or linguists should work side by side with the technicians involved in the project and act as mediators between them and the local people, in order to make their communication clearer, to stimulate the local people's involvement and their real empowerment, making new ways of doing things as something chosen and not only accepted, or, worse, badly suffered by indigenous people.

Even though in these last years from this point of view things are going much better than before, there is still much to do to make Western partners abandon the idea of being there just to *teach* to indigenous communities how to do things better, without showing any care for their traditional know-how and ignoring religious or moral constraints preventing their partner to do determined (taboo) things, or to act in a specific (immoral) way, work or live in a determined (sacred, or spiritually dangerous) place and the like...

Before being *teachers*, we have to learn to be *learners* and try primarily to understand where we are, which are the values our project could be contrary to, which are the categories of people who could never be asked to do a particular task, or how we could bring our partners to change their minds on specific important issues.

In short, Western or International partners of local projects of cooperation to development, should first of all make a thorough recognition not only of the technical possibilities for the project to function, but also of the human context the project is intended for and the possibility it has to be accepted.

An interesting case study, demonstrating how much important it is to consider all these factors before starting any kind of cooperation project, is presented by Lianne Holten in her "Mothers, Medicine and Morality in Rural Mali", edited in 2013 by LIT.

In her book, Holten reports her own experience in the village of Farabako, in the Mande Mountains of southwestern Mali. The author is at the same time a midwife and an anthropologist and in Farabako she has done the experience of being both things at the same time. She was there as a midwife, cooperating in a health care project funded by some Dutch charitable organization aimed at the setting up of a maternity clinic in the village, but at the same time she was there in order to gather first hand materials for her PhD thesis in anthropology. I will not resume her book here, but I suggest my readers to have a look at it. It is in fact a genuine description of the mistakes one can make, even in good-faith, applying the way of thinking of a Western biomedical expert in a context in which most of the times Western biomedical practice is seen just as one (and not the best, even though more expensive) possible healing method. Reflecting on her experience, Holten admitted to have been initially badly surprised by the fact that, despite the opening of a maternity clinic and the opportunity to refer to a Western midwife for consultation and prompt intervention, in such a remote Mande village as Farabako, when a child had a serious health problem, such as severe malnutrition, his mother hardly went to ask the midwife for help. Many women seemed not to take care of their children, because they seemed not to take any initiative to get rid of the disease of their babies, waiting for others to make a decision. Only after long months spent in the village, Holten understood that the women's attitude towards their children's illness was due to their social condition. Decision making in issues like health care in Farabako is a male task and if a wife doesn't respect this traditional rule of letting her husband decide for her and her child, behaving in a different way and looking for help elsewhere than in her family, this could cause her to loose even the very small social capital she can rely on in the patrilocal, patriarchal and polygamous society she lives in. In her book, Lianne Holten demonstrates in concrete facts the kind of in-depth comprehension there should be of the human and social context of people on the field before starting any cooperation project.

Many times good-will and technical know-how reveal themselves simply insufficient.

THE ROLE OF ETHNOLINGUISTICS IN THE NECOFA PROJECTS AMONG THE MARIASHONI OKIEK COMMUNITY (KENYA)

Okiek have always been hunters and gatherers, moving periodically form the highlands to the lowlands of the Mau Forests complex, following the lifecycle of savage bees, whose honey was the Okiek's first source of energetic food. Living out from the common standards, speaking a Kalenjin language in a Bantu context, having nothing to offer on the market and limiting their trade to the barter of game food against the milk of Maasai or Nandi cows, they were considered "dorobo", that is "servants", of their Maasai or Nandi neighbors, and esteemed nothing.

Such a low social position caused them to be used to think of themselves as the savage, bad copy of their neighbors and, despite their rich traditional heritage, they had never done anything to value it.

In the last 30 years, due to the reduction of their original habitat, their life changed and they had to start sheep farming and garden activities to earn a living.

Despite their number, estimated at 79.000 between Kenya, Uganda and Tanzania[2], the Okiek are generally considered an endangered minority, speaking an endangered language (even though a recent sociolinguistic survey I conducted in the months of Janury-february 2013 and now in print for the types of *Incontri Linguistici* demonstrates quite the contrary), living in an endangered habitat, which, since 2004, is the object of NECOFA's attention.

NECOFA, the Network for Ecofarming in Africa, is a Kenyan community based NGO, ruled by a Kikuyu, Samuel Karanja Muhunyu, and its aim is the promotion of ecofarming, that is of an ecologically and socially sustainable form of land management. In their website they declare that: "*It* (NECOFA) *works towards empowering communities to sustainably access education, health, food security and social dignity*"[3].

NECOFA met the Okiek in the framework of its projects aimed at the forest conservation and management. Since the beginning, NECOFA involved the Okiek community in different projects, such as beekeeping and the establishment of combined traditional and modern apiary production, the establishment of forestal (and other) tree nursery and the establishment of environmental clubs in primary schools.

Principal partners of NECOFA in the area of Mariashoni are the Italian NGO "Manitese", which, in collaboration with Ethnorêma and the Province of Bolzano is involved in the apiary establishment, and SLOW Food.

One of the principles on which NECOFA and Manitese base their action, is the fact that local communities not only must be involved in the cooperative programs they finance, but, of course, they must be empowered.

All their projects provide for special trainings for all the figures they envisage being necessary to the operativeness of the project once it reaches its full speed.

In 2012 NECOFA, together with Manitese, supported in Mariashoni the birth of MACODEV, the Mariashoni Community Development SHG, engaged in "*the popularization of its initiatives in the community*". According to the 11/16/2012 post on NECOFA's website, MACODEV operators "*have been conducting meetings and barazas with community members so at to engage them to participate more actively in the process of community development. To strengthen their capacity to operate more efficiently the project (NECOFA) supported them with a one day training for it's committee members. The training entailed Leadership and Management, Record Keeping Resources Mobilization, roles and responsibilities of committee members and growth and development of an organization. The CBO has also been coordinating the honey procurement from local farmers. This activity is ongoing considering that the harvesting season is approaching thus the CBO is trying to acquire as much as they can so that it can be refined at the Mariashoni honey refinery, then certified for by the Kenya Bureau of Standards. After the honey is certified the CBO will be in charge of Marketing the honey countrywide thus providing a path way for the Mariashoni Ogiek community to earn some decent compensation for their honey production without being exploited by the middlemen who buy it at a throw away price. Other areas of the CBO engagement include commercialization of locally produced milk, wool purchase and value addition and pyrethrum commercialization and popularization in the area*"[4].

The *case study* I discuss in this paper is that of the ideation, actualization and prosecution process of the project on beekeeping in Mariashoni, funded by Manitese and realized in cooperation with NECOFA and MACODEV, which I see as a model to be valued as a good method of intervention on the field.

Aim of the project was the establishment of traditional - modern combined apiaries and the promotion of a new way of doing beekeeping not only for personal sustenance, but also for commercial purposes.

I have already said that honey had always been the principal source of nutrition for the Okiek and, therefore, the introduction of modern methods, if on the one hand was supposed to be accepted as a modernization and simplification of traditional techniques, on the other hand touched and, in a sense, invalidated, many practices and beliefs which were taken for granted because "*the forefathers did it like this*".

A specific training phase had thus to be prepared and studied carefully.

Moreover, in the Okiek tradition, beekeeping and honey production had always been a male concern. Okiek

[2] http://www.ethnologue.com/language/oki.

[3] http://necofakenya.wordpress.com/about/.

[4] *Ibidem.*

women could never substitute their male partners in the collection of the precious nectar. Men stored their honey in a secret place in the forest, divided it among the women, who then could carry it to their locations and use it in their domestic activities, for cooking, the preparation of traditional medicine and as a preservative for smoked meat.

Far from being unaware of this, NECOFA and MACODEV decided to admit in their project also cooperatives of women and this implied a serious engagement in education, in order to avoid problems with the women's husbands.

The first step was financing the formation of the activity manager on the field, John Kemoy, an Okiek member of the NECOFA staff, at the Baraka college in Molo, one of the most renowned schools for beekeeping in the region.

Being an Okiot, John would then easily communicate with those other Okiek involved in the project.

Despite his success at the school, once back in Mariashoni, John had anyway to confront with some ethnolinguistic problems. On the one hand, in fact, he had no Okiek words to refer to the modern tools and garments he learned to use at the Baraka college, and therefore he had to use many English and Kiswahili terms his mates were not used to, and this caused initially a bit of confusion. On the other hand, during his training at the Baraka college, John learned a lot about the nature and roles of the different kind of bees and about the different products of the bees and the possibilities of use they have.

Much of this knowledge was completely new for his mates, and sometimes it was contrary to traditional beliefs.

The problem was then one of knowledge and consciousness. John's concrete problem was to find a way to explain all this new stuff to his Okiek, often very less educated, collaborators, during the training meetings in the different locations. A choice had to be made: abandoning tradition and adopting *tout court* modern beekeeping methods, or rather trying, with the help of an expert anthropologist, or better, of an ethnolinguist, to help the Okiek community preserving what was good in its tradition, implementing it with modern knowledge and technology?

NECOFA and Manitese discussed the problem with MACODEV and the community elders and the choice was taken: the intervention of an ethnolinguist was very welcome.

I do not describe here the selection process which was committed to Manitese, but finally the choice fall on me. My task as an ethnolinguist was manyfold. My first concern, in agreement with my customers, Manitese and NECOFA, as we decided together in a meeting we had in Peschiera del Garda some months before my departure for Kenya, was to find a way to transpose Okiek phonemes in a graphic system understandable to the Okiek, and the second goal was the realization of informative materials (handbooks) in Okiek for the beekeepers who were already involved in the program, or who intended to join it.

Before my arrival in Mariashoni, NECOFA engaged itself in the selection of some Okiek youth, sufficiently educated to be trained in the methods of ethnolinguistics, who were supposed to act as interpreters for me.

The two young Okiek selected demonstrated to be ok, and even if one of them left the project one month later, because of another job he found elsewhere, I am still in touch with the second, Catherine Salim, daughter of the Mariashoni village chief, who is going on working for NECOFA. The day after my arrival in Mariashoni, a community meeting was organized with MACODEV and the elders of the various locations.

Samuel Muhunyu explained my role in the project to everybody.

I asked the permission to visit all the locations of the region, asking questions here and there to understand the Okiek traditional way of handling with bees and honey, explaining to them that my aim was helping them to document and preserve their beekeeping tradition and finally they would have decided how to use the materials I would collect in order to transmit their knowledge to modern and future Okiek beekeepers. The reaction of people was literally enthusiastic.

I believe that this happened not because of a particular ability from my part in resulting nice to others, but because the community elders saw that the need they had manifested had been taken seriously and cooperant partners were now acting to help them doing things as *they themselves* desired.

At their eyes this was in fact a concrete demonstration that in this synergetic relationship with NECOFA, Manitese and MACODEV they really had the power and the right to take part in the decision making process. Due to this, my work on the field in Mariashoni was very productive.

People were happy to help me and answer to my questions. Many of the elders invited me at their locations to show me traditional tools and techniques, and when we had to meet to discuss particular problems in group, all the elders, even though living some km away from Mariashoni, came to the NECOFA office to give me their contribution in terms of knowledge and traditional visions of things.

Soon, beekeeping became also an excuse to speak of many other traditional issues, and the idea to come back to go on working for the promotion and safeguard of the Okiek traditional culture started to live in my mind.

On my second community meeting, I shared this idea with my customers and hosts.

I proposed to go on working with them, training Catherine in the methods of material culture collection, and trying to study the grammar of their language for the production of a book which could be useful for the future generations.

The Okiek community did not only accept it, but autonomously proposed new fields of intervention, such as the study of oral tradition and the production of a book of tales for children in the school, or the combination of an ethnolinguistic work with the production of educational material in the framework of a health care project for mothers and babies which was then being studied, and so on.

I suddenly started to work on these new issues and before my departure in february 2013, besides the cultural lexicon on beekeeping and honey I had done 46 out of 142 interviews for my sociolinguistic survey (the other 96 were done by Catherine and sent to me via e-mail), I had collected more than 700 words belonging to the domain of

traditional daily life objects and practices, I had done some grammatical investigations, and recorded and analyzed a bunch of folktales.

Now the cooperation with Manitese continues, I inserted the ethnolinguistic part of the project in the outline of the *ATrA* program presented in the *postilla* below, financed by the Italian Ministry of Universities and Research (MIUR) in the framework of FIRB 2012, and for the next three years I will go on working on it.

The *case study* I discussed here, demonstrates that today Okiek, through MACODEV and the system of community meetings, are autonomous in the decision making process and the projects promoted in the area following this method are firmly taken in charge by easily *empowered* local operators.

The synergetic and constant dialogue between NECOFA and MACODEV in fact caused the Mariashoni Okiek community to get a sense of dignity for itself and to start participating in the creative process of proposition of future interventions in order to ameliorate their living conditions as well as safeguard and promote their cultural heritage.

I must add here that recently NECOFA and MACODEV assisted the birth of the *Kaprop Cultural Centre*, ruled by a cooperative of Okiek women trying to preserve their ancient way of life (with the reconstruction of traditional huts, cooking tools, fur clothes, honey bags and containers, but also dances and songs).

After the success of my cooperation as an ethnolinguist in the beekeeping project and the very interesting cultural dimension it has assumed, the decision has been taken to improve seriously the *Kaprop Cultural Centre* and now NECOFA and MACODEV are thinking of the future, envisaging even the building of a hostel for *slow tourists* in Mariashoni.

CONCLUSIONS

The Ashanti Sankofa teaches that a society cannot make any progress if it is not able to value what it inherited from its forefathers.

People have to struggle to go ahead, and their past should be kept in their minds and hearts as a treasure to be safeguarded, without becoming a chain impeding them to move.

You can understand where to go, only when you have a clear idea of where you come from.

Too many projects of cooperation to development in poor countries until now have ignored this important issue, trying to make people jump from tradition to modernity without taking enough time and spending enough energies to make the point with indigenous people, before changing their habits, behaviors, ways of doing things and values.

Too many projects have been imposed from outside and people had only the sad choice to be subjected to them or to refuse them.

Real *empowerment* cannot be obtained *during* the realization of a project on the field. The premises for it must be posed *before* any step on the field. People must be conscious of the meaning and aims of an intervention coming from abroad and thought for their sake. They must be put in the condition to understand its usefulness and be engaged in its promotion. They must feel actors and not victims of cooperative projects.

Even when a cooperative project has a very technical objective, as it was the case of the maternity clinic in the village of Farabako in Mali, or of beekeeping among the Okiek of Kenya, *human sciences* in general can be a useful tool to get to the point.

Whatever the issue, disciplines such as archaeology, history, anthropology, ethnology and linguistics can do a lot to suggest Western partners how to behave with their local counterpart, which are their values and modalities of relationship within their group and outside of it, in gender marked exchanges or in social hierarchies once on the field.

Valuing in an adequate way local traditions and culture and the history of the people we are going to work with, is a way to show them respect, a manner to tell them indirectly that they have the right, and the duty as well, to express their idea, to be *agents* also in the first phases of a cooperative project, which should always be designed together with those who live since generations on the field we are going to invest in.

Once we apply this simple rule and accept to be for a while just *learners* instead of *teachers* in a new environment, we can be sure that our project would gain a lot from the dialogue with our interlocutors and local partners.

It can gain so much that it can be extended as to reach a dimension of which at a first sight we would never have thought of.

I think that the two examples I brought here, the Mande case reported by Holten and the Okiek one I am personally involved in, can be considered a demonstration of what I have tried to explain so far.

Postilla

Horizon 2020 and the ambition of creating inclusive, innovative and safe societies. The gamble of ATrA.

Horizon 2020 is the new EU program for Research and Innovation. On its website it is defined as “the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global

competitiveness. Running from 2014 to 2020 with an €80 billion budget, the EU's new programme for research and innovation is part of the drive to create new growth and jobs in Europe"[5].

Its aims should thus be merely financial and its attention focussed only on the EU countries and maybe on those international partners the EU considers central to its economic growth. The EU vision is however luckily much wider. The EU, of course, is not an isolated area in the globe and we are aware that everything that happens, in terms of climate change, global pollution, societal insecurity and health or demographic crisis has its repercussion on the whole world. Therefore, as the EU website says, "International cooperation will be an important cross-cutting priority of Horizon 2020"[6].

This EU strategic priority is well understandable in a global perspective, and far from being just a void assumption, concrete initiatives, like for example the granting of funds for research projects in line with the objectives of Horizon 2020 to National Ministries of Education, Universities and Research, has already taken place in order to reach the goal.

In detail, the third priority of Horizon 2020, very closely related to the main issues of cooperation in developing countries, is that of coping with what they call the current Challenges of Society, which means studying possible solutions to problems like sanity, demographic changes and wellness (point 1 of the program), or alimentary security and sustainable farming (point 2) or even the creation of inclusive, innovative and safe societies (point 6).

All these factors, which mainly interest poor countries, represent key issues for the political and demographic stability of entire regions, for example in Africa, most times rich in raw materials, minerals and metal reserves. The solution of these problems, far from being only a matter of Human Rights' recognition, becomes also a question of (possible future) business.

Be it as it may, the EU interest in these kind of problems represents a first step towards the promotion of civil, human and cultural rights among many peoples who, until now, have always been ignored.

But the mission is not so easy.

The goal of building inclusive, innovative and safe societies, for example, cannot be reached if not passing through a correct, serious and respectful study of all the ethnic, cultural and linguistic parts of the human mosaic sharing one and the same territory and most times struggling for the same resources in terms of water, food and infrastructures.

This involves the eternal problem of identity constitution, shaping, reshaping and negotiation, in a game whose factors are always multiple choices represented by the different and always changing cultural, traditional and imported habits and values making up a people's peculiar heritage and representing those core traits of a culture for which one can decide to die.

It is in this context that the 3 years project "ATrA - linguistic and cultural zones of transition in Africa", financed by the EU through the MIUR (Italian Ministry of Universities and Research) in the framework of FIRB 2012, of which I am the Principal Investigator and which involves the Universities of Trieste, Torino and L'Orientale of Naples, with its mixed team of ethnolinguists, archaeologists, anthropologists and historians, has been launched.

Starting from the study of ancient and modern situations, mainly in the Horn of Africa, ATrA's aim is trying to offer an interpretation grid, valid also in different contexts, for all those phenomena which, from antiquity to our time, have been and still are characteristic of those melted areas where different peoples, cultures, languages and traditions get in contact, creating tensions and instability resulting too often in civil rebellion, genocides or civil suppressions.

Also in this case, I firmly believe that only the knowledge of the past and present ways of being human in a determined context can be at the basis of a significant dialogue. Only through a sane exchange of opinions and the true will to reach a common point, negotiating what can be negotiated, can bring to the realization of a pacific, even not idillic, cohabitation.

The gamble of ATrA is thus to give to those peoples living in such chaotic contexts the right tools to try to understand each other. We hope to give the start to a virtuous cycle in which the correct knowledge and recognition of the identity, history and culture of all the peoples living in an area of transition can be the first step towards reciprocal acceptance and mutual respect for the sake of a higher value than ethnical superiority, which is a peaceful and harmonious relationship of neighborhood.

The ethnolinguistic study among the Okiek of Kenya will continue, for the next three years, in the framework of this program, always in collaboration with NECOFA, Manitese and MACODEV.

NOMENCLATURE

NECOFA	Network for Ecofarming in Africa
MACODEV	Mariashoni Community Development Programme
ATrA	Aree di Transizione Linguistiche e Culturali in Africa (*Linguistic and Cultural zones of transition in Africa)*
EU	European Union

[5] http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020 viewed on 08/21/2013.
[6] *Ibidem.*

MIUR Ministero Italiano dell'Università e della Ricerca (*Italian Ministry of Universities and Research*)
FIRB Futuro in Ricerca

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STRATEGIES OF LAND EXPLOITATION AND MANAGEMENT IN THE AREA OF AKSUM (NORTHERN ETHIOPIA) BETWEEN THE FIRST MILLENNIUM BC AND THE FIRST MILLENNIUM AD

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ABSTRACT

Northern Ethiopian highlands, like most of the country and the whole Horn of Africa, have always been perceived as low-productivity regions with very fragile ecosystems, where local communities, often relying on a traditional ox-plough agriculture, are continuously exposed to the threat of drought, famine and starvation because of environmental and social factors.
This paper intends to contribute to the reconstruction of the long-term dynamics of human-environmental interactions in these regions by analyzing how agricultural land was managed, exploited and manipulated and how ancient farming communities faced environmental degradation phenomena like soil impoverishment and erosion. The study will focus on the area of Aksum, an important historical centre located in the region of Tigray, northern Ethiopia, which emerged between the 1st millennium BC and the 1st millennium AD as the capital city of a vast kingdom. Agriculture in Aksumite history is commonly regarded as a system in which problems of soil-exhaustion are linked to land clearance and population increase, and the intensification of agricultural resources' exploitation has long been considered the trigger for both Aksum's rise and decline. Nevertheless, archaeological and paleoagricultural investigations recently conducted in the area significantly clash with this model, suggesting that even during the periods of greatest extent of Aksumite kingdom the erosion rate was relatively low, proving the effectiveness of Aksumite farming strategies in managing and maintaining the soil. This unresolved debate is a useful spur to research, as understanding ancient farming systems may facilitate the design of future strategies for sustainable land-use.

INTRODUCTION

The northern regions of Ethiopian highlands have, for many years, been perceived as low-productivity areas characterised by extremely fragile ecosystems where climatic fluctuations and/or conflicts among ethnic groups or polities periodically resulted in severe phenomena of environmental, social, and economic deterioration. Episodic events or long-enduring processes acting at local and regional scales, have threatened local communities with chronic drought, famine, and starvation. Land-use and land-management strategies and their environmental, economical and social consequences are therefore issues of great significance for present Ethiopia, as 85% of the country's economy is based on agriculture practiced with traditional techniques and equipment. In particular, soil erosion processes are considered a major factor heavily affecting rural ecosystems.

This paper will describe the results of over ten years of combined archaeological and paleoenvironmental studies conducted in the area of Aksum (Tigray, northern Ethiopia) by the University of Naples "L'Orientale"[1] in collaboration with geologists, geoarchaeologists and soil scientists from Boston University (USA), University of Cambridge (UK), University of Florence and University of Ferrara (Italy), and aimed at investigating ancient strategies of manipulation and exploitation of the territory and at reconstructing long-term dynamics of human-environment interaction in this area, also in the light of present phenomena of environmental degradation and soil erosion processes.

The basic theoretical assumption is that archaeology can give a significant contribution to larger debates on present environmental degradation and on the role played by human communities in ecological dynamics by providing evidence about long-term ecological processes and on their temporal nature. Archaeologists have developed very sophisticated procedures to recover, analyse and explain, by means of cultural materials, the traces left by human actions on a specific territory and to organize such evidence in spatial-temporal sequences with century scale resolution for the Late Holocene.

The research adopted a multidisciplinary approach that integrated innovative methodologies with well established

[1] The Italian Archaeological Expedition at Aksum of the University of Naples "L'Orientale" conducts archaeological researches in the area of Aksum since the early nineteen-nineties. From 1993 to 2003 has conducted archaeological investigations on the hilltop and northern slopes of Bieta Giyorgis hill in collaboration with the Boston University (co-directors Rodolfo Fattovich and Kathryn A. Bard). Between 2004 and 2009 has investigated the plain to the north of Aksum and the eastern, western and southern slopes of Bieta Giyiorgis (director Rodolfo Fattovich). Since 2010 it conducts research at the pre-Aksumite site of Seglamen, ca. 12 km to the SW of Aksum (director Rodolfo Fattovich).

procedures. Archaeological, geoarchaeological, geological and ethno-historical investigations generated site-specific datasets necessary to model the ancient landscape of the area, and provided new perspectives for analyzing the causes and rates of ancient erosion dynamics, and the evaluation of the relevance and effectiveness of ancient strategies adopted by rural communities to face this problem. Archaeological investigations included the systematic, complete-coverage survey of the area of Aksum [1] in order to document the distribution of archaeological evidence within the region and to reconstruct the ancient settlement pattern. Geoarchaeological, geological and pedological investigations represented a basic component of the project as they provided paleoenvironmental evidence for a more detailed correlation between natural and cultural phenomena. Archaeological, geological, and geoarchaeological evidence were spatially positioned using GPS and related information have been uploaded, through geo-referencing, in a Geographical Information System and analysed through the implementation of thematic maps, statistical and spatial analysis, Remote Sensing and 3D modelling. Ethno-historical researches and enquiries were conducted to get information from written historical sources and local oral traditions about local and regional environmental changes, land-use and land-management strategies, and demographic pressure. In particular, ancient Ethiopian texts, reports by European travellers who visited the country since the 15th century and recent data published by International Agencies were scrutinised. Finally, information about traditional infrastructures has been recorded as a first step towards possible future strategies of protection and promotion of traditional knowledge as an important aspect of the cultural heritage.

SOIL EROSION AND ANCIENT HUMAN COMMUNITIES: NEW EVIDENCE FROM ARCHAEOLOGICAL AND PALEOENVIRONMENTAL STUDIES

The city of Aksum is located in Tigray, the northernmost region of Ethiopian highlands (Fig. 1), at an average altitude of about 2,200 m asl, in an alluvial plain situated at the hub of a radiating network of river valleys linking the area with the surrounding regions. The plain is dominated in the centre by two prominent hills, Bieta Giyorgis and May Qoho while a ring of surrounding hills forms the natural boundary of the territory (Fig. 2). The geological and lithological variety of the area results in a mosaic of soils with a different degree of productivity [2].

The area is characterized by a tropical climate with an average annual temperature between 15° C and 20° C, and by highly seasonal rainfall, mainly concentrated between June and September. In moist periods, a second rainfall may occur between March and May. Paleoenvironmental studies suggest that, during the Holocene, this region experienced an alternation of wet and dry periods with an evolution towards more arid climatic conditions from 1000 AD [3][4][5][6][7].

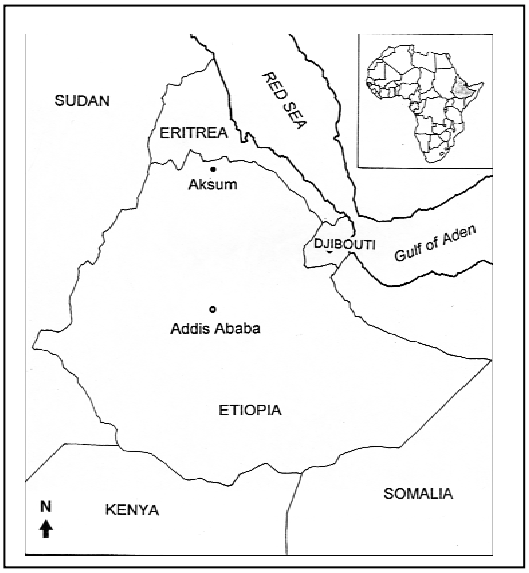

Fig. 1 – Location of the study-area.

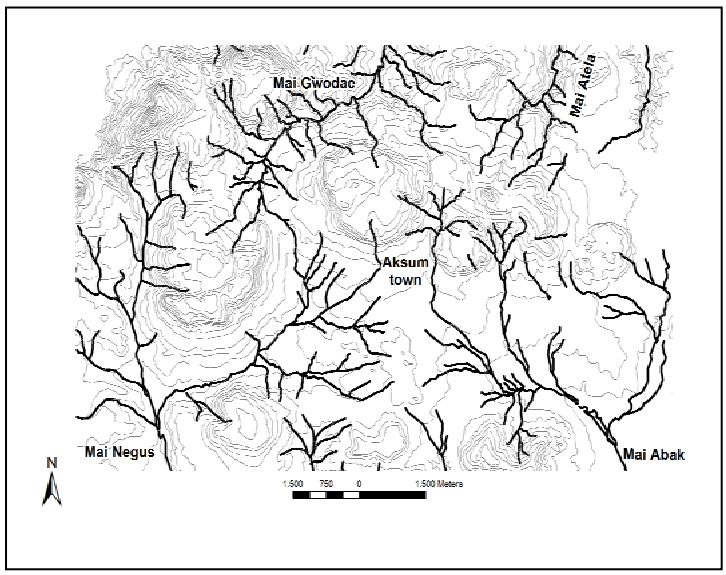

Fig. 2 – The plain of Aksum with major river valleys.

The vegetation pattern is characterized by perennial herbaceous plants, thickets of bushes and scattered, medium-height trees, including acacia and African olive. Eucalyptus have been planted since the beginning of the 20th century. Present domestic fauna includes dromedaries, asses, cattle, sheep, goats and poultry, while wild species are mainly represented by hyenas, baboons and a wide variety of endemic and other birds.

From about the 1st century BC, the area of Aksum emerged as the capital of a powerful and vast kingdom directly involved in a long-distance exchange circuit which included the northern Horn of Africa, the Nile Valley, the Mediterranean, Southern Arabia, and the western coastal regions of India [8][9]. Nowadays, Aksum is one of the most important religious centre of the Ethiopian Orthodox Church, and a very important symbol of Ethiopian cultural identity. Moreover, it is presently one of the major archaeological areas in the country, and is included in the UNESCO

World Heritage Sites List.

Due to its geographical position, the area of Aksum is exposed to severe phenomena of environmental degradation, the whole ecosystem being extremely sensitive to climatic changes. One of the most common forms of landscape degradation occurred in this region is soil erosion. The current model for ecological history of the area of Aksum, and of the whole Tigrean plateau, argues for a progressive increase in land clearance and human impact on the natural environment due to the intensification of agriculture since the 3rd-2nd millennia BC, which ultimately resulted in severe soil impoverishment and erosion processes [3][4][10][7].

On the contrary, recent archaeological, pedological, geomorphological, and paleoagricultural investigations in the area highlighted new and encouraging results concerning the effectiveness of ancient terracing systems and land-management for the conservation/exploitation of the hill slopes and provided significant information on the possible causes of soil depletion and erosion [11][12][13].

ENVIRONMENTAL AND PALEOAGRICULTURAL STUDIES

Research, carried out at a local scale, involved the northern slopes of Bieta Gyorgis hill, an area largely devoted to farm-lands where the present landscape is characterized by scattered isolated rural dwellings or hamlets alternated with cultivated fields. A smaller portion of the total area is given over to grazing while most of the up-slopes is characterised by forests of eucalyptus planted to minimize soil erosion.

Here, as in many other parts of the Tigrean plateau, farming has been practiced along the slopes of the hills since atleast the mid-1st millennium BC, by means of a terracing technique which helps to reduce the gradient and improve the drainage of the soil [14][7]. The traditional plough still used in the region is the *maresha*, an "ard plough" drawn by a pair of oxen; it seems to have been introduced in Ethiopia by the 1st millennium BC [15]. The impact of the plough against the stones is frequent, and the stones are consequently scratched (Fig. 3): 1) on the top if rocks are at a lower depth than the tilling depth (8-16 cm), or 2) on the sides if rocks are protruding [11][12]. The occurrence of plough- marks, thus, is a safe evidence for previous cultivation on lands presently cultivated or abandoned.

In the case of Aksum, the finding of large outcropping rocks with ancient plough-marks in the now abandoned area between Enda Giyorgis and Ma Qono, on the northeastern slopes of Bieta Giyorgis hill, allowed reconstruction of ancient cultivation procedures and agricultural terracing systems. Systematic mapping and study of the thicknesses and orientations of the marks suggests that the ancient ploughing procedure was, similarly to present, characterised by concentric progress of the plough from the outer edge of the terraces towards their centres [11][12]. Moreover, as the plough-marks have been found at different levels on the outcropping rocks, these provide a reliable indication of soil erosion rates during the various chronological phases. Chromatic differences in the superficial alterations of the rock (becoming progressively darker as exposure to external pressure and atmospheric agents increases) show that the highest marks are the most ancient while those found lower down are progressively more recent (Fig. 4). Correlations between the heights of plough-marks on the rocks and phases of utilization of the terraces testified by the associated archaeological material, allowed us to estimate the rate of soil erosion that occurred in the area from the Aksumite period up to the present. The study suggests that the level of erosion that occurred in the area during the 1st half of the 1st millennium AD (which is a period of increasing demographic pressure in the area [16][17][18]) is between 1.9 and 4.8 t ha-1 y-1 Tons per hectare per year [11][12].

Fig. 3 – Plough impacting outcropping rocks.

Fig. 4 – Ancient plough-marks on a boulder.[2]

[2] Figures 3 and 4 are courtesy of Rossano Ciampalini.

This value, which is much lower than the threshold erosion rate commonly accepted by international soil conservation agencies, shows that ancient strategies of land management and exploitation were effective and that the whole ecosystem was extremely stable. On the contrary, the land reform begun in the early nineteen-seventies during the socialist regime of Menghistu Haile Maryam, which led to the abandonment of the area under examination, caused a significant increase in the rate of soil erosion which sharply accelerated environmental degradation processes. Thus, at least in this area, high demographic pressure and soil exploitation should not be considered the principal cause of soil depletion and erosion. On the contrary, anthropic presence and land-exploitation strategies appear to play a crucial role in preserving the landscape and maintaining environmental stability. Whereas soil erosion and impoverishment seem to be the result of a lack of maintenance of the infrastructures consequent on the abandonment of the area. The relationship between soil erosion and human activity in the Aksum area should therefore be considered in a new perspective, probably nearer to the paradigm "More people less erosion" introduced by Tiffen at the end of the last century [19]. This interpretation seems to be confirmed by modern data according to which the areas worst hit by soil erosion in the Ethiopian highlands are those which are not currently exploited (3.8% of the total) with an erosive intensity of 70 t ha-1 y-1 [20]. Geoarchaeological analysis conducted on exposed paleosoils in the same area confirm that between the 1st millennium BC and the 1st millennium AD the territory was characterised by stable environmental conditions with localised, low-energy erosional episodes [13][18].

ARCHAEOLOGICAL EVIDENCE

The hypothesis revealed by paleoenvironmental data and ancient plough-marks is supported by the analysis of the ancient settlement patterns in the study-area, particularly, of diachronic changes in the spatial correlations among ancient rural settlements; a method commonly used for measuring anthropic reaction to environmental changes [21]. If, as has been claimed, excessive anthropic pressure degraded the local environment by accelerating soil erosion processes, the people who occupied and exploited the northern slopes of Bieta Giyorgis hill would have been compelled to abandon the degraded portion of their territory and relocate to more productive areas. Such relocation should be archaeologically detectable in the spatial segregation of sites from adjacent chronological periods, by a reduced number of settlements in the degraded area and increased settlements elsewhere. In the absence of erosion or environmental degradation, an economically productive area will be continuously exploited and the distribution of the settlements will remain relatively unchanged. Quantitative analysis and statistical measures of temporal and spatial correlation of residential sites have been employed to evaluate the extent of settlements relocation. Nearest-neighbour (NN) analysis is presented here. The NN coefficient is the ratio of the average distance between the nearest neighbours among a set of points, and the expected average distance if the same number of points were randomly distributed within the same area [22]. Values around 1.0 indicate a random distribution; values greater than 1.0 indicate spatial segregation; values less than 1.0 indicate a concentrated distribution with a high rate of spatial aggregation. In the present study, the coefficient of spatial correlation was correlated with the diachronic changes in the number of settlements recorded in the study area and in the wider Aksum territory.

Diagram 1 shows a spatially aggregated distribution of settlements during the 1st half of the 1st millennium AD with a NN coefficient reaching its lowest value (and thus the peak of spatial aggregation) during the Middle Aksumite period (ca. 350-550 AD, "Aksumita Medio" in the diagram). This apparently confirms the hypothesis obtained from geoarchaeological, paleoagricultural and erosional evidence, that despite intense demographic pressure and constant agricultural exploitation, Aksumite management system effectively minimised soil erosion along the north-eastern slopes of Bieta Giyorgis.

A slight decrease in settlements' aggregation occurred between the end of the Middle Aksumite period and the Post-Aksumite period (ca. 550-1100 AD, "Post-Aksumita" in the diagram). This phenomenon may have been related to a demographic decrease which affected the entire area of Aksum during this period [17][18][23]. Whatever the cause of this demographic decline, progressive abandonment of the area may have accelerated soil erosion.

Geoarchaeological evidence suggests that, between the 7th and 8th centuries AD, the territory of Aksum conurbation was subjected to severe environmental degradation [3] and that, towards the end of the 1st millennium AD, the entire Tigrean plateau was affected by a period of environmental instability probably due to a phase of greater aridity [6]. The abandonment of areas within this territory may have resulted from the interaction of ecological, economic and/or social nature factors.

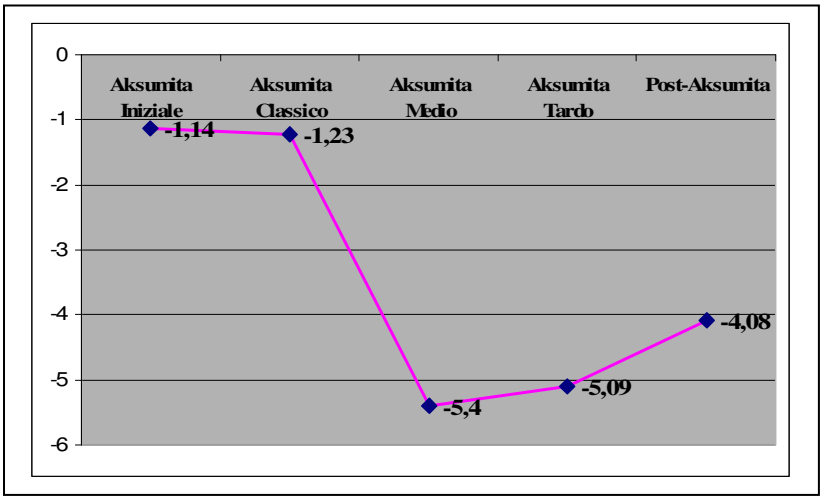

Diagram 1 – NN coefficient in the area of Aksum.

FINAL REMARKS

Although present-day military actions strongly contribute to regional environmental degradation processes by forcing communities to abandon some areas, famines caused by drought, invasions of locusts or epidemics, are to be considered as well. These problems are not limited to recent history. Eastern Africa appears to having been affected by plague at least since the 6th century AD [17][23], when, according to Procopius, the so-called "Justinian Plague" spread from northeastern Africa to the whole of the Mediterranean [24]. Famine on the Tigrean plateau, as recorded in local and foreign chronicles, goes back at least to the 8th-9th century AD, and that the phenomenon has periodically recurred ever since [25]. The consequences of epidemics and famine on farming and on the organisation of the rural communities are well-known from ethnographical observations. As well as the loss of human lives and livestock, famine and epidemics reduce the energy of the farming communities and leads to the destruction of natural resources culminating in weakening social structures and the abandonment of populated areas. This process, which has been extensively studied by anthropologists and historians, is characterized by four phases: a) reduction of consumption; b) temporary migration, generally limited to the head of the family; c) exploitation of natural resources; and d) migration of the entire household [26]. In the most severe cases, the central government uses the mass relocation of entire communities from the areas strongly affected by the disease to less densely populated regions as a long-term solution to the problem of soil depletion and food starvation.

To conclude, the case-study here presented demonstrates that combining archaeological evidence, environmental and historical data, and ethnographical observation permits a long-term reconstruction of human-environmental interplay, the identification of ancient strategies of land exploitation and the investigation of how ancient communities faced environmental degradation. These insights may help to define the trajectories through which the present situation has emerged, to increase our knowledge of the possible causes of present-day environmental problems and, perhaps, to contribute to the design of future strategies for sustainable land-use especially in those areas, like the northern Ethiopian highlands, where many activities of daily life are still practiced by using traditional knowledge and equipment.

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THE CASE OF ZIMBABWE BUSHPUMP LIKE A SOCIO-TECHNICAL NETWORK

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ABSTRACT

The paper presents a case study on the Zimbabwe Bushpump, a manual pump used for water supply in rural areas of Zimbabwe.
Assuming a point of view located, relational and dialogic, through ethnographic analysis of social practices, the analysis develops the concept of "fluidity" to indicate the variability, adaptability and flexibility of the operation of this technological artifact, as well as multiple identities it represents: subject to simplified mechanical, hydraulic system, installed and maintained through the collective participation of the community, but also hygienic intervention for the protection of health and the foundation of the process of nation building.
Through the analysis of the relationships between the technical object and the subjects involved in its design, installation, maintenance and use, we propose a reading of technology interrelated social environment, to demonstrate how social and technological realities are co-emerging from processes and negotiation practices.
The object is described as a collective product, defined by the network of relationships that keep it in place, demonstrating that the fate of a project depends on the resilience of these associations.
In the belief that the meaning of an intervention for development cooperation derives from the ability to take charge of contingencies and local specificities, it is proposed, therefore, the adoption of a normative "travel", adapted and modified to different contexts, or too fluid.

INTRODUCTION

This paper intends to present the contribution to broader thinking on development cooperation and technology transfer as part of a case study done by Marianne de Laet and Annemarie Mol [9], whose goal is to analyze the particular quality of the technological artefact for the use of water resources. The authors, originally engaged in a research project on the path of patents within the countries in the developing world, arrived in Zimbabwe, have the opportunity to appreciate a remarkable piece of technology: the Zimbabwe Bushpump, a volumetric manual pump for uncultivated land that is characterized not only by the rapid spread of its facilities, including the fact that it was never recorded any patent[1].

The supply of water resources in Zimbabwe takes place mainly through four models of water pump, cylinder heads from the Blair Research Laboratory in Harare, which differ in their technical characteristics and use. However, the intent of the study by De Laet and Mol is to formulate a set of theoretical statements using empirical materials - interviews with health professionals, experts in patents and manufacturers of pumps, visits to factories and research institutes government - about the nature of the technical object and its relations with the subjects and local practices.

The Zimbabwe Bushpump is the flagship of a policy of intervention that can be considered successful. First, because it effectively allows to make available clean water to rural areas of the country thus contributing to the health of the nation. His mechanics has become the standard in the field of government water systems and its image is imprinted on the national currency. Its use is also being promoted by UNICEF in other countries such as Namibia, South Africa and Swaziland. However, as discussed by the authors of the research, the fact that a pump is or is not good depends on something more of the technical characteristics.

In this way, the study of Zimbabwe Bushpump is, in the opinion of the writer, relevant to development cooperation as the issue of technology transfer also involves the question of the "nature" of technology[2]. So, if in the conventional formulations the nature of the technical object is considered to be stable and fixed, this assumption is questioned here by using the metaphor of the "fluidity". Developing the theme of the fluidity of the object, in fact, the authors intend to offer a perspective opposed to analytical research of a specific nature, fixed and specific technology, ontologically distinct from the context in which it's inserted.

Through ethnographic investigation of the organization of social activities, able to take into account the multitude

[1] The materials of the search are collected in an essay originally published by the authors in the journal Social Studies of Science, April 2000. A revised version is published in Italy on the book by Alvise Mattozzi, The sense of technical objects, 2006 Meltemi.
[2] The question of the "nature of technology" is discussed by historians and sociologists of science and technology with the intention of detecting the critical importance of the social dimension in techno-scientific processes, including the action in the analysis of relevant social groups in the crystallization the technical artifacts. For a first review it against Bijker, Huhhes, Pinch, edited, The Social Construction of Technological Systems, 1987 Cambridge, MIT. Press.

of stakeholders around the object, is offered a detailed description of the tests, the successes and failures of the design, management and use of this particular manual pump for the water supply. The thesis of fluid is carried out emphasizing the collective nature, distributed and negotiated the technical object and showing that, although the Zimbabwe Bushpump is visibly a solid object and mechanical in nature, nevertheless *"its borders, rather than being clearly defined and stable , are vague and constantly moving"* [9: 157].

HOW TO DEFINE THE ZIMBABWE BUSHPUMP? THE FLUIDITY OF BOUNDARIES

In Zimbabwe, water is scarce and the issue of water supply is one of the most critical for the development of the country. In many areas the Bushpump existed for more than half a century and its spread has been encouraged and supported by the programs of government policy for water resources. The current model, the type "B" produced by V & W Engineering in Harare under the charge of Dr. design. Peter Morgan, is therefore the result of improvement practices of an old manual water pump subjected to numerous adaptations and changes over time.

This mutability and variability are a first element to support the view of the fluidity of the object pursued by the authors in the attempt to analyze the specific qualities of this pump and its field of action.

Designed to be a simple object and durable, the Bushpump is composed of several parts. Those visible, above ground level, and those not visible, relative to the hydraulic system underground. But, as we will see, the Zimbabwe Bushpump is part inside a socio-technical network much larger, representing a node in a loop composed of multiple heterogeneous elements interconnected.

The current model offers above to view a harmonious design and inviting, able to convey messages of meaning: a blue color, which evokes the purity of water that provides a compact and essential that invites you to a simple to use. The unit water discharge - the upper part of the well - is formed from a base of steel bolted to the frame place to protect the hole in the ground and by a lever, a wooden body fixed in a flexible manner to the pump body. The mechanical components are made of steel and wood to increase the durability of the object and at the same time make it a cheap product.

The pipeline slopes, composed of a series of technical elements functional to the instrument for pumping water from the soil and bring it to the surface, however, remains invisible since placed under the ground level. Here, in the place chosen, following the drilling of an artesian well, we proceed to install the hydraulic components: cylinder, piston, valves, bars lifts.

The borders which define the Zimbabwe Bushpump are however not limited to the aesthetic shape that characterizes it. The Bushpump is a technology with the aim of safeguarding and raising the level of health of the population. It does not just make itself available as a source of water that is otherwise inaccessible, it becomes a source of clean water, healthy. To ensure the hygiene and health of the water, a series of preliminary works are to be made: the installation of a frame that ensures the impermeability of the well to pollutants and sealing of the pump to prevent water poured on the surface.

So, for the pump to be defined as such and provide clean water to rural areas where it is located must be assembled and installed correctly. For this reason, a detailed set of instructions, illustrating the various components and describe the stages of construction - by carrying out preliminary work to put into use the object - accompany the transfer on-site pump distributed by V & W Engineering. A distinctive feature of this paper is that both the preliminary works that the installation and commissioning of the Bushpump are usually made by future users, local village to which it is addressed. Not only that. The same mechanism of hole drilling for water used, the rig manual Vonder product is made in the same factory where the Bushpump, is designed to be operated on a Community basis. The total drilling with the participation of the village community, where men sit on the axis of the drill to deepen while women pushing, turning around and punching the ground up to the proper depth.

Is through this involvement, this collective participation that the community appropriates the object and builds trust necessary for its maintenance[3].

The involvement of the village, the authors remind us of bringing the views of technical experts interviewed, it is an essential feature for both the preliminary works and for the act of drilling for proper installation, operation and proper maintenance of the pump. In addition, in the person of the legitimate "nganga" the water diviner, the village contributes to the choice of site. So, unlike other development programs in which the excavations are conducted by NGOs and governments determined to maintain decision-making power on Intervention and implemented solely on the basis of geological surveys, in the instruction manual mentioned above is clearly stated the importance consultation of local water diviners to decide the location of the water outlet hole.

Shared ownership and collective responsibility are essential characteristics of Zimbabwe Bushpump. It is considered much more efficient as more capable of uniting people around him, to become a node in a larger network involving the social collectivity, a socio-technical network.

This technical artifact is part of a concrete political intervention that consists of a technology suitable for the

[3] The instruction manual states as the pump is designed so that the villagers can play by yourself maintenance [26]. The importance of taking into consideration the culture of the local community was reiterated on several occasions especially in reference to the need for consulting the "nganga" or water diviner.

purpose and placed at the service of the community, which reinforces the cohesion, improves health and helps to overcome the inequality on the division between those who, in population has access to water and who is excluded. This orientation has gradually become part of the national water policy and Zimbabwe Bushpump has become the standard model chosen by the government program in order to achieve water infrastructure capable of integrating the various village communities in the nation. Designed and built locally produced materials available in the country and incorporated into the local community, the boundaries of the pump have become those of a whole nation[4]. Zimbabwe is the only African country to produce its own pump.

The Zimbabwe Bushpump is defined by a multiplicity of different frames in connection between them. Therefore, to offer a definition, reference should be made to the fluidity of its multiple boundaries: it is a mechanism for the extraction of water, a hydraulic technique, but also a device for the maintenance of hygiene and public health. Its essential parts, besides the technical features, appear to be the mechanism and procedure for drilling, instructions to be followed during installation and maintenance, as well as the village community to which the entire process.

HOW DOES ZIMBABWE BUSHPUMP? THE QUESTION OF AGENCY

Interestingly, the authors, describe in the fluidity of Zimbabwe Bushpump, articulate their text in symmetrical parts, where a first section dedicated to the pump as an argument in key physical-mechanical, sanitary and hydraulic national policies, useful in clarifying the definitional aspects of the object, corresponding to a next portion, which describes the operation, in which each of the preceding arguments is considered as a field in which the distinction between subject and object becomes fluid, revealing the continuous adaptations and associations between the technical and the social.

Since it is an effective technology to Zimbabwe Bushpump acts, works and continues to do so. The authors report the impressions of Dr. Morgan that, during the monitoring visits, proves surprised by the unexpected adaptability of the pump, which is able to operate even with defective or missing parts. The pumps, in fact, are not identical to how they are delivered, they are turned "on site" at the way in which users will repair the parts and they fit mechanisms. Worn gaskets and bolts skipped do not affect much on the operation of the pump that is wonderfully effective due to the repair with other materials produced by the ingenuity of the users of the village. The elasticity and flexibility of which is equipped with this technology allows so to adapt and run longer.

From the hydraulic point of view, the Bushpump reveals an unexpected fluidity compared to other models of water pumps. This is related to the ease of repair of those items which, although installed under the hole of the pit, have been progressively made less rigid and easily removable. The possibility of removing the lower parts of the device without having to remove the entire pump and thus risk of damage, and on-site repair or replace damaged parts without the need for skilled workers, gives the double benefit of reducing the costs and involve the community room that can be responsible for the repair. The changes made over time to the hydraulic components that make it up - pipeline lifts wider and thinner bars - increasing the fluidity and smoothness of the connections between these, make Bushpump, perhaps an object less rigid and less solid, but still more serviceable , then better in the long run.

A spring technology (mechanical repair, hydraulic components easier to replace) and permeable to the action of users proves to be able to adapt better and more effective to the contingencies of daily living in which it is located to act: through a more fluid design changes and the Bushpump turns constantly but the efficiency can remain unchanged.

What to say, however, about the effectiveness with respect to health? Recall that the goal is to supply Bushpump rural areas of pure water, clean and pristine. The hygienic aspect is an integral part of the intervention of Bushpump in Zimbabwe and that is what makes it attractive also for other parts of Africa. To answer this question, we must mention the existence of international quality standards for water - prescribed by the International Reference Centre for Community Water Supply and Sanitation - with which to make comparisons, but it is necessary above all to admit that the operations of measurement and comparison with these universal standards are difficult to apply in contexts such as Zimbabwe. The conditions observed at a well can easily vary over time and are never the same as found in other wells. However, health issues require to be addressed in practice by comparing concrete alternatives. It is thus that it is not appropriate to try to establish if the Bushpump safeguard the health on the basis of a universal standard, fixed once and for all. Would, if anything, more fluid required standards, able to collect the variability of concrete local situations. As for the mechanism for producing health the pump works in different ways and with varying degrees of success: between efficiency and inefficiency, between security and infectious contamination *"there are many intermediate situations, [...] we are once again in front of smooth transition"*. [9: 192].

The criteria for the success of a technology, or more generally of a development project, cannot be clearly defined in advance. If the Bushpump Zimbabwe has a multiplicity of fluid boundaries, the evaluation of those activities should be equally smooth. In this way, there are also good reasons to think that a policy intervention more flexible, fluid and editable, you may be better able to deal with local contingencies. The Bushpump needs to function, and to continue to do so, to gather around him a community, usually represented by the village to take care of it. If this condition does not occur, if the reference group of the government program is too small or too large, the pump may cease to act altogether.

[4] In 1987, the National Action Committee of the Government of Zimbabwe decided to standardize hand pumps as part of the water distribution in rural areas.

But even if unused, the Bushpump, thanks again to the fluidity that is attached, can be transferred to some other place, in the course of work by changing the organizational unit of reference of the intervention. In certain cases, passing by the size of the village to that of the extended family, for example, it is possible to put the pump in the condition of most interest relevant actors, and then to continue to function.

In a sense, from the description of the authors, the Zimbabwe Bushpump is better understood when represented as a project and not as an object in itself, separate from the context in which it is immersed. The object-pump actually exists at a given time t, as if it were a still image in the film project. But it is never equal to itself, acting in continuing association with the practices of other actors forming a network socio-material. The pump acts on the social environment, incorporating it and modifying it, in the same way as the environment exerts an action in more ways than one on the pump. Rather than an object by rigid boundaries and well-defined, radically distinct from the machinations of relationships that involve, it is perhaps more appropriate to think the Bushpump as a hybrid socio-technical system, an assemblage of material and social elements together, the crossroads of the dynamic interconnections that define the existence at any given time. From this point of view, assuming therefore the fluidity as a key and as a characteristic inherent to the technology itself, it is reasonable to say that the pump works, has a role in the construction of social reality, changing, and this is simultaneously changed because his competence is evident from the performance of which in turn is capable.

STS AND ANTHROPOLOGY COMPARED: A STANDARD OF "TRAVEL"

The study by de Laet and Moll on Zimbabwe Bushpump exemplifies the importance of the contribution of human and social sciences can offer to the reflection on development cooperation and technology transfer, in the belief that enlarged perspective, able to take into account the relationships and local specificities involved in a project, is necessary for the success of the intervention.

The argument put forward by the authors differs from traditional analysis technology, which explain the effectiveness of an artifact exclusively through its own intrinsic characteristics, and deliver a linear image of technological innovation, the introduction of which necessarily follows the transformation of 'social environment (if able to comply with it). In traditional approaches, technology is seen as a company that stands for quality and logical that ignore the social context [23] and that spreads in a linear and diffusive, or evolutionary, such as an inertial motion of techniques aimed towards the success.

The study of Bushpump shows us a different story, in which technological development is part of the social process, and in which technical change and social change are read as two sides of the same coin. Describes a path multilinear innovation where the social groups concerned contribute to the stabilization of the artefact through a complex trading practice between them and with the artifact itself. The methodological strategy and analytics with which we presented this case study reveals an empirical approach, contextual, and centered on a problem spatio-temporally located. The authors refuse to explain the fate of the project by invoking mechanisms of "technical necessity". These factors need to be studied in their concreteness and tangibility.

By postulating a radical relationality, it seems appropriate to re-establish the reflection on Bushpump analysis offered by the so-called "French school" of STS [5]. With this wording, which can be read as Science and Technology Studies, or as a Science, Technology and Society, it implies an approach that comes in opposition to the minimalist way, deterministic and utilitarian technology, in the name of a vision capable of asserting the character proceedings, collective negotiation and socio-technical innovation.

According to the assumption that objects have a role in the construction of social reality, as they are socially constructed by practices that they help to establish [17], the Bushpump is not evaluated in terms of utilitarian and functional, represented as a medium or because its social impact. It can be rather defined as an "actant" (Greimas & Courtes, 1979), a term borrowed from semiotics to refer to any entity that has an active role in defining the situation, is amended by amending and relationships that develop around it.

In an attempt to demonstrate how social and technological realities are co-emergent processes and trading practices, the technical artifact is taken as a collective product, defined by the network of relationships that keep it in place. In this sense, the fate of a project depends on the tightness of these associations. If the network of associations for any reason is not maintained, if the project is not open the necessary negotiations and changes about its status of objectivity, it's not quite fluid and flexible, then its reality is less and the operation fails.

In this way the Bushpump can be described following the route of the associations - between objects and subjects that compose it-and it can continue to exist if and only if it is proved capable of coagulating this association. In fact, remember that the success of an intervention depends on the installation of the pump, rather than the pump itself, its maintenance program, which in turn depends on the community of which is to run it. The Bushpump needs of a community that you take care of the maintenance and at the same time helps to establish this community. It is through development projects such as the one that includes the Bushpump Zimbabwe, which the local authority assumes consistency reassert itself as a community, attributing the material properties of the object and acquiring equipment that becomes part of its social order.

The Zimbabwe Bushpump successful, as a source of water, the guarantor of health, community builder, builder of a nation, as a collective instrument. The difference between a good and a bad technology based on the collaborative

effort then common.

Unlike traditional studies on technology that see the individual genius the origin of technological innovation that then spreads to the rest of society, postulating a kind of force of inertia to which the artifacts will propagate by virtue of their efficiency outside of their production context hampered or incorporated in different social contexts[5]. The Bushpump is described rather as a fluid project engineering collective, result of an evolution in time, whose realization and efficiency-and therefore also its transferability-depend on the degree of involvement of users. This, as we have seen, is locally developed and is in the public domain, belonging to the community that runs it.

The authors remind us that the users do not pay the right to use it as it was not expected it to any patent. Dr. Morgan who also has a lot of work to improve the Zimbabwe Bushpump, so it can be considered the father of type B, this has never claimed authorship because the pump is not the result of a single man, but of a collective action distributed which depends on the involvement of other stakeholders. So, leaving the control center, even its builder appears fluid, "*dissolved in the various areas of which he himself and the pump are part*" [9: 201].

There is an actor, not even the most brilliant engineer who can be referred to as the inventor of the Bushpump. All actors have a role in the collective work and, in particular, absorption by the artifact of forms and tasks from trading [22].

Highlighting the fluid nature of this technical object and the path contingent and socially co-constructed technological development, the authors are developing an anthropological model applied to the technique, with ethnographic gaze, joint analyzes the evolution of technology and society, mending context and content into a single fabric, assembly socio-technical system. In this case, then, the pump represents the social bond and material. The Zimbabwe Bushpump technology is responsible for building a nation and at the same time Zimbabwe as a nation is the pump manufacturer since it oversees its facilities: "*this pump helps to build Zimbabwe Zimbabwe to the extent that builds*" [9: 178].

The technology is a social product, but at the same time, the social context is produced by technology. By virtue of this process of mutual definition between technology and society is eliminated any causal hierarchy, so that artifact and social environment are seen as products, however, unstable and continually renegotiated, a network of associations between entities heterogeneous human and non-human, technical and cultural (materials, individuals, communities, state, health policy and development).

Underlining the interconnections between subject and world, technology and culture, through the notion of fluidity is highlighted, on the one hand the flexibility of the definition of the pump and the variability of its perimeter, on the other the contribution of this object in the shape the world of social relations. In the face of such complexity of social life, the Zimbabwe Bushpump, seen in this light, offers, if not the precise criteria for a technology development project, at least one method of observation that, through a sort of "estrangement anthropological, "in which the participant observer puts what is given in brackets for granted by his own culture, may prove to be able to grasp the specificities and both technical and cultural nuances of the actors involved, human and technical resources.

For these reasons, instead of an analysis that radically distinguishes the nature of an object by the recipients of an intervention, it is preferred to read the history of Bushpump as a case of collaboration between technology and society in a continuum of changes that define fluid both. Not that it was dashed a generalized idea of universally valid normative able to state that the principles of this development project are automatically transferable elsewhere. There was even recommended the adoption of a culturalist approach closely and pluralistic, founded an epistemology of points of view capable of taking into account the multiplicity of values and interests at stake, this because the same points of view are not stable defined from the outset, but tend to change the present circumstances and to be articulated in different ways in the course of the project.

In the name of non-hegemonic anthropology, the lesson that can be drawn from this story is to adopt a standard of so-called "travel", fluid and adaptable to different circumstances, be able to grasp the network of relationships that involve objects and associated subjects, technologies and human groups that interact. The success of a particular artifact cannot be used to explain the goodness of that process determined its character as a good practice, but we need to compete with the collective processes and hybrid production and articulation of socio-technical devices.

CONCLUSIONS

In conclusion, it was considered useful to present the case study of Zimbabwe Bushpump as through the metaphor of fluidity we have tried to do justice to the many areas of society called into question by a development project that has made the foundation of a particular technology social bond, a node in the network of relationships which, thanks to it, making it more durable stabilize the whole association. It is as if the feature and the very notion of fluidity conceded almost paradoxically a surplus of force capable of consolidating the socio-technical assembly. Through this reading you are considered the many aspects that make the Bushpump a fluid technology. In fact, this item is not uniquely defined by its technical characteristics, but is equipped with fluid boundaries consist of multiple identities: one mechanical

[5] This is the so-called "diffusion model" for the interpretation of technological innovation. In such a model, which maintains separate technical fields from the social, the analysis is based on a principle of causality of the former over the latter, so that the successes are attributable to the intrinsic characteristics of an object and failures are reported to the lack of adaptation of 'social environment.

object, but also the hydraulic system to safeguard the health, installed and maintained by the community of users and around which constitutes the entire nation.

The fluidity of Bushpump is read primarily as variability over time. Its evolution shows that the object has its own historicity, then variable ontology that draws a range of processing capabilities. Moreover, fluidity becomes synonymous with flexibility and elasticity of sealing of the technical characteristics of the object, it indicates the high degree of adaptability and repairability obtainable with maintenance. Incorporating the possibility of its own break down, Bushpump appear to be sufficiently malleable and durable in the long term.

Another aspect related to the fluidity of this technology is that the relative response to its success or failure is a matter of degree. You cannot determine if the object is effective or not using dichotomous responses, it takes standard fluids, observable in the multiplicity of contexts in which the pump acts (technical, functional, political, health). In this context, a policy of ongoing development capable of modifying its own program of action and to adapt fluidly to local specificities and local contingencies, able to take into account all the elements associated with the network of social relations materials a specific environment, it may prove more fruitful in terms of empowerment and continuity of development over time.

A more fluid intervention, suitable to give space to the methods by which the different actors relate to the object in question, it could be a guarantee of the involvement and empowerment of local actors, on which much of the outcome of the project. In fact, the meaning of an operation for development cooperation, as can be seen from the history of Zimbabwe Bushpump, derives from the ability to take charge of contingencies by a community that, in fact, cooperate for one or more common goals.

The implementation of a technical project escapes an idealized vision of technology and technology transfer that interprets the realization as a mere diffusion of artifacts from individuals. Technological development is not a linear direction, there is always a portmanteau between the project and its implementation, since each device must fit within everyday routines and practices, to be matched with users, who typically change their routine but also change the artifact [6], in varying degrees to the degree of fluidity of the latter. For this reason it was considered useful to refer to Zimbabwe Bushpump not as an object itself, with the force of inertia, but as a socio-technical assembly in which the behaviors of activity differiate converge, cooperating evolution of a hybrid process of association.

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LANGUAGE USES VS. LANGUAGE POLICY: SOUTH SUDAN AND JUBA ARABIC IN THE POST-INDEPENDENCE ERA

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ABSTRACT

The paper summarizes the language and educational policy of the Republic of South Sudan against the backdrop of a sociolinguistic survey conducted in Juba, South Sudan, in the months of July-August 2013, and aiming at a better understanding of the role, uses and beliefs surrounding the use of Juba Arabic, an Arabic-based pidgincreole widely used in Juba and in a wide part of the newly independent country. The results highlight the fact that, although the government of the newly independent country does not recognize the very existence of Juba Arabic, this is the real lingua franca and the most widely spoken language. In a parallel way, although Arabic, the former official language, is not granted any special role and status, it still acts as the de facto "high variety."

FOREWORD: LANGUAGE IN THE SOUTH SUDAN[1]

This is very much the report of a work in progress, and for two different reasons: the first and usual one is the preliminary state of our data, collected in Juba, South Sudan, in July-August 2013. The second, and most important one, is the very undefined and unstable political situation in the South Sudan.

South Sudan is widely known in the general press as the youngest nation-state, having acquired its independence on Juy 2, 2011. It is formed by the three historical provinces of South Sudan, dating back from the colonial times: the southernmost one, Equatoria, and, to the northwest and northeast respectively, Bahr El Ghazal and Upper Nile. The newly independent state, following various administrative reshuffles during the Sudanese times, is formed by 10 "states:" Western, Central and Eastern Equatoria; Warrap; Jongley; Lakes; Unity; Upper Nile; Western and Upper Bahr El Ghazal.

The linguistic picture is quite complex; *Ethnologue* (http://www.ethnologue.com) counts 68 spoken languages and three additional extinct languages. From a classificatory linguistic point of view, most languages in the country belong to the Nilo-Saharan phylum, a minority to the Niger-Congo phylum. From a communicative point of view, it seems safe to say that no single language, local or foreign, is shared by the totality, or even a majority of the population. It is apparent, nevertheless, that some form of Arabic has enjoyed such a role since at least the late 19th century and still is the most widespread medium. Which variety of Arabic is more difficult to say: broadly speaking, one can distinguish between a "simplified" variety of Sudanese Arabic (generally referred to as *árabi al besít*), used in the northern parts of South Sudan (around Malakal) and the West (centered in Wau), and a quite distinct language, usually called Juba Arabic, or, in Juba Arabic itself, *arábi júba.* The latter is traditionally labelled a pidgin, but a better label would be a pidgincreole (as per Bakker 2008) borne out of the contact between Sudanese Arabic and the local languages in the second half of the 19th century (cf. Owens 1985 for a general overview of the genesis of Juba Arabic, as well as Owens 1996 and Tosco and Manfredi 2013 for an overview of Juba Arabic within the Arabic-based pidgins and creoles). It is the status of this variety which was the object of our fieldwork.

The Provisional Constitution of South Sudan does not list each language and ethnic groups. In its Article 6 it states:

> *All indigenous languages of South Sudan are national languages and shall be respected, developed and promoted.*
> *English shall be the official working language in the Republic of South Sudan, as well as the language of instruction at all levels of education.*

On the other hand, the constitution of the single states of South Sudan may flatly contradict the central government's one; e.g., the Interim Constitution of Central Equatoria (hardly known in South Sudan itself) states inter

[1] Fieldwork in South Sudan was made possible by a grant from the Italian Ministry of Education, University and Research (MIUR) within the FIRB project "Areas of Linguistics and Cultural Transaction in Africa *(AtrA).* The research was done in partnership with the Department of Arabic of the College of Education at the University of Juba, and in particular its Director, Prof. Siham Osman. We thank her for her assistance in acquiring the entry visa to South Sudan and in making our research possible in the first place. We also thank Claudius Waran Patrick and Sara Bojo Lokudu for their precious help; the Embassy of France and the Ambassador, M. Christian Bader, for their logistic and practical help, and countless other individuals and institutions. All errors and omissions are our exclusive intellectual property.

alia that both 'English and Arabic shall be the official working languages at all levels of the government of the State as well as languages of Instruction for higher education,' and that 'Bari shall be an additional official working language or medium of instruction in Schools at the State level.'

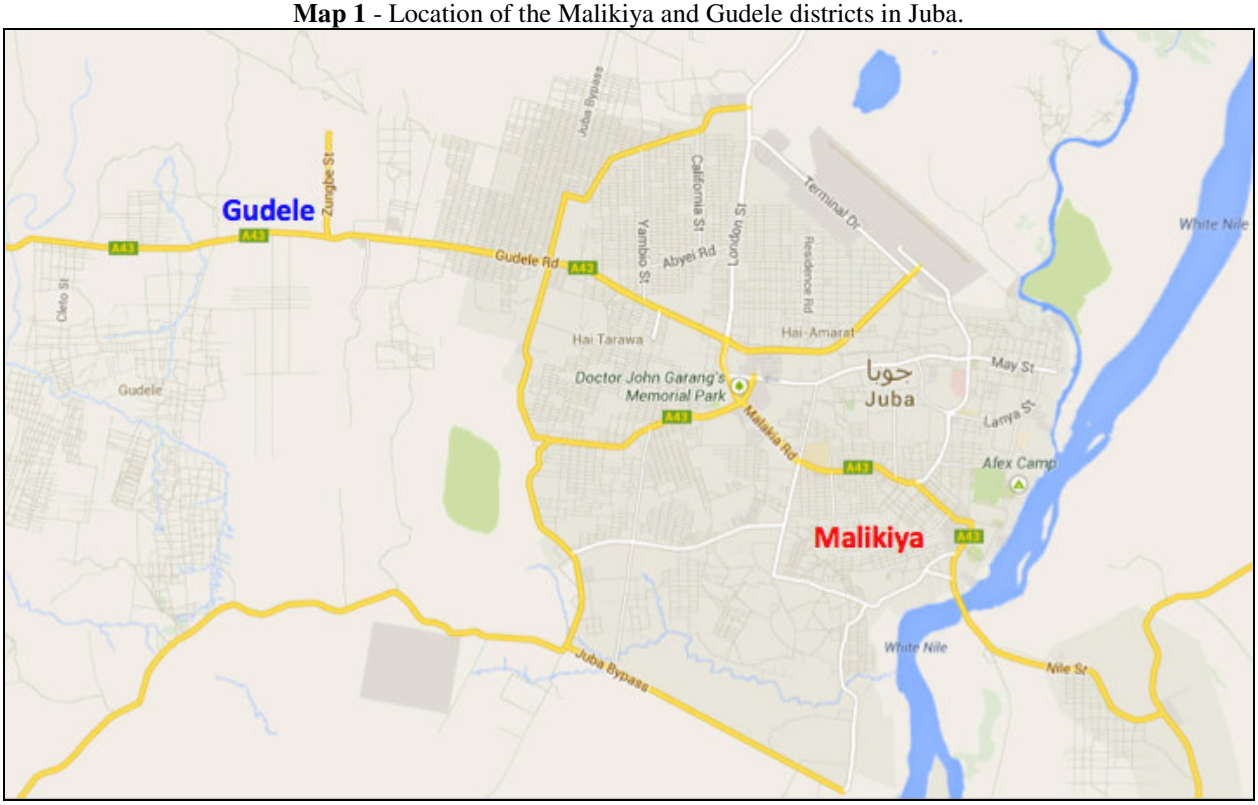
Provided that education in South Sudan is by and large in English, and that locally either Arabic or an indigenous language is used (the latter, in the first years of the primary school), the Government of South Sudan's educational policy remains unclear, nor did various interviews conducted at the Ministry of Higher Education shed much light: primary education in a number of local languages is planned, but neither the exact number of the involved languages (Dinka, Nuer, Shilluk, Bari, Zande, and possible a few others being the most likely candidates, due to the relatively higher number of speakers) nor a timetable were available to us. Most importantly, it is not clear *which* language will be taught *where* and *to who*. Education in the local language is planned for the first three years of the primary school, with English being introduced in the fourth class. If education in the local language will then be dropped altogether, or the language will be taught as a subject, is equally unclear.[2]

What is clear, on the other hand, is that Arabic is generally ignored at the official level – although, being much better known than English, it is very much in use practically, and probably at any level of government. The same applies to Juba Arabic, the pidgincreole which is the everyday language in the capital, Juba, and in much of the country; things are actually worse, because Juba Arabic is itself an exclusively oral language and it is not standardized at all. What do South Sudanese think about this language? How do they rate its degree of independence vis-à-vis Arabic (its main lexifier)? Even more: how do they use it, when and with who? Our research was aimed at providing a few preliminary answers to these questions.

THE SOCIOLINGUISTIC SITUATION OF JUBA

The first part of our fieldwork was spent on a qualitative evaluation of the degree of multilingualism and the linguistic uses by means of a sociolinguistic survey. In order to assess the status of Arabic in Juba, two districts were chosen: Malikiya (alternative spelling: Malakiya), the heart of "old Juba," traditionally inhabited by ethnic Bari and mainly Muslim; and Gudele (alternative spelling: Gudelle), one of the new residential areas extending to the West of Juba town.

Map 1 - Location of the Malikiya and Gudele districts in Juba.



Within each district 50 households were investigated and their members (with the obvious exception of infants) interviewed. This resulted in a total number of 314 interviews (190 Malikiya and 124 in Gudele; 12 additional

[2] Actually, the present-day South Sudan language policy finds its origins in the guidelines proposed by the Navaisha Comprehensive Peace Agreement (see Abdelhay 2007 for a full discussion).

interviews in Gudele were disregarded for the purposes of the present study). The higher number of interviews in Malikiya stems from a higher ratio of individuals per household (3.79 vs. 2.48).

The data also bring to the fore the very recent and still ongoing inflow of immigration: Juba is a town inhabited by young people (31.5 years in general, and 28.6 years in Gudele), and less than a half of the interviewees were born in town (36.6 of the total), while even in the historical district of Malikiya the percentage reaches 49% only. A grand total of 46% of interviewees settled after 2005 (the year of the Comprehensive Peace Agreement which brought to a substantial stop the Sudanese civil war, and paved the way to independence). Within Gudele, the percentage of newcomers rises to 74.1% – three out of four inhabitants.

Tab. 1 - The sample.

	Gudele	**Malikiya**	**Total**
Households	50 (+12 not considered)	50	100
Individuals = Ratio	124/50 = 2.48	190/50 = 3.79	314/100 = 3.14
Age (average)	28.6	34.4	31.5
Gender	M 67 (54%) - F 57 (46%)	M 74 (39%) - F 116 (61%)	M 141 (45%) - F 173 (55%)
Length of stay in Juba			
- Born in Juba	22 (17.7%)	93 **(49%)**	115 (36.6%)
- Arrived after 2005	92 **(74.1%)**	54 (28.4%)	146 **(46,4%)**
- Arrived before 2005	10 (9.2%)	43 (22.6%)	53 (17%)
Education			
- university	21 (17%)	62 (32.6%)	83 (26.4%)
- secondary	43 (34.6%)	68 (35.8%)	111 (35.3%)
- primary	34 (27.4%)	42 (22.2%)	76 (24.3%)
- none	26 (21%)	18 (9.4%)	44 (14%)

Juba is also, of course, highly multiethnic and multilingual (more so in the new area of Gudelle than in Malikiya). Table 2 aims at capturing multilingualism on the basis of the interviewees'.

Half of the population of Gudele claims to speak three languages; Malikiya – home as we have seen to an older couch of the population – has a slightly but significantly lower multilingualism rate, with 45.2% of the interviewees claiming to speak two languages.

Tab. 2 - Degree of Multilingualism.

	Gudele	**Malikiya**	**Total**
More than 4	8 (6.5%)	6 (2.1%)	14 (4.5%)
4 languages	31 (25%)	16 (9.5%)	47 (15 %)
3 languages	63 **(50.8%)**	69 (36.4%)	132 **(42%)**
2 languages	21 (16.9%)	86 **(45.2%)**	107 (34%)
1 language	1 (0.8%)	13 (6.8%)	14 (4.5%)

Against the backdrop of multilingualism, Juba Arabic is by large the first language for almost a half of the respondents (47%, but as many as 60% in Malikiya).

Flying in the face of an official policy of utter disregard (if not overt hostility) for Arabic and its speakers, Arabic ranks second in the list in Table 3., with almost 10% of the interviewees declaring it their first language.

Most importantly, Juba Arabic is the only medium shared by a very high portion of the inhabitants (6.37% only claim *not* to speak it, the majority of which located in Malikiya).

Tab. 3 - 1st language.

	Gudele	**Malikiya**	**Total**
Juba Arabic	33 (26.6%)	114 **(60%)**	147 **(47%)**
Arabic	5	26	31 **(9.8%)**
Bari	6	22	28 (9%)
Moru	11	8	19 (6%)
Zande	13	0	13 (4.1%)
Pojulu	6	6	12 (3.8%)
Dinka	5	4	9 (2.9%)
Madi	6	0	6 (2.0%)
Mundari	6	0	6 (2.0%)
Baka	5	0	5 (1.6%)
Kakwa	3	2	5 (1.6%)

Acholi	3	1	4 (1.3%)
Kuku	4	0	4 (1.3%)
Nyangbara	4	0	4 (1.3%)
Nuer	3	0	3 (1.0%)
Balanda	3	0	3 (1.0%)
other	2	0	2 (0.7%)
Juba Arabic unknown	7 (5.65%)	13 (6.84%)	20 **(6.37%)**

The use of the different languages is also revealing: Juba Arabic is present in all of the four investigated domains (even, partially, "in the public offices," where English, the official language, and Arabic, the other de-facto high variety – which are also written media – clearly predominate). On the other hand, Juba Arabic is not the preferred medium at home, within the family: here, as expected, the ethnic language wins out. Juba Arabic is instead the preferred medium to talk with neighbours and, to a lower extent, in the market. Juba Arabic is therefore, first and foremost, the language of socialization.

Tab. 4 - Language uses.

a. at home			
	Gudele	**Malikiya**	**Total**
Juba Arabic only	34 (27.5%)	85 (44.7%)	119 (37.8%)
x + Juba Arabic	40 (32.3%)	54 (28.5%)	94 (30%)
x only	21 (16.9%)	30 (15.8%)	51 (16.3%)
Juba Arabic + x	24 (19.3%)	14 (7.4%)	38 (12.1%)
x + y + Juba Arabic	5 (4%)	7 (3.6%)	12 (3.8%)

b. the neighbours			
	Gudele	**Malikiya**	**Total**
Juba Arabic only	83 (66.9%)	155 (81.6%)	238 (75.8%)
x only	8 (6.5%)	25 (13.2%)	33 (10.5%)
Juba Arabic + x	20 (16.1%)	8 (4.2%)	28 (8.9%)
x + Juba Arabic	8 (6.5%)	0	8 (2.5%)
Juba Arabic + x + y	3 (2.4%)	1 (0.5%)	4 (1.4%)
x + y	1 (0.8%)	0	1 (0.3%)
x + y + Juba	1 (0.8%)	0	1 (0.3%)
x + y + z	0	1 (0.5%)	1 (0.3%)

c. the marketplace			
	Gudele	**Malikiya**	**Total**
Juba Arabic only	79 (63.7%)	115 (60.6%)	194 (61.7%)
Juba Arabic + x	31 (25%)	21 (11.1%)	52 (16.6%)
x only	8 (6.5%)	25 (13.2%)	33 (10.6%)
x + Juba Arabic	2 (1.6%)	18 (9.4%)	20 (6.3%)
x + y + Juba Arabic	0	7 (3.6%)	7 (2.2%)
Juba Arabic + x + y	2 (1.6%)	4 (2.1%)	6 (1.9%)
x + y	2 (1.6%)	0	2 (0.6%)

d. the public office			
	Gudele	**Malikiya**	**Total**
English	39 (31.5%)	34 (18%)	73 (23.3%)
Arabic	5 (4%)	54 (28.7%)	59 (18.8%)
Juba Arabic	21 (17%)	23 (12.2%)	44 (14%)
English + Arabic	6 (4.9%)	14 (7.5%)	20 (6.4%)
English + Juba Arabic	10 (8%)	4 (2.1%)	14 (4.5%)
Arabic + English	3 (2.4%)	7 (3.8%)	10 (3.2%)
Juba Arabic + English	8 (6.4%)	2 (1%)	10 (3.2%)
English + Arabic + Juba Arabic	0	6 (3.1%)	6 (1.8%)
Arabic + Juba Arabic	0	4 (2.1%)	4 (1.3%)
Arabic + English + Juba Arabic	0	1 (0.5%)	1 (0.3%)

English + Arabic + Juba Arabic	0	1 (0.5%)	1 (0.3%)
English + Juba Arabic + Arabic	0	1 (0.5%)	1 (0.3%)
Kakwa	0	1 (0.5%)	1 (0.3%)
English + Juba Arabic + Bari	1 (0.8%)	0	1 (0.3%)
not applicable (: elders and young people)	31 (25%)	38 (20%)	69 (22%)

CONCLUSIONS: THE SPEAKERS VS. THE GOVERNMENT ON JUBA ARABIC

A second part of our fieldwork concerned the attitudes towards Juba Arabic vis-à-vis Sudanese (or "High") Arabic, but also English on the one side and the ethnic South Sudanese languages on the other.

The answers to these questions were elicited though a number of interviews in Juba Arabic with a limited number of the interviewees of the first questionnaire. In total, 35 interviews for a total number of around 40 hours of recording were obtained.

In general, the interviewees agreed on the following:

- Juba Arabic is an independent language of South Sudan and *not* a "part" of Arabic;
- Juba Arabic is the main first and vehicular language in "greater" Juba (possibly in Greater Equatoria);
- although the lexicon of Juba Arabic is by and large Arabic-derived, Juba Arabic speakers in general have a very clear metalinguistic consciousness of its distinctiveness and show a positive attitude toward it (this nicely correlates to the results of a previous survey conducted by SIL South Sudan (SIL, n.d.)
- such a positive attitude towards Juba Arabic does not contrast in the speakers' minds with a general appreciation of the other indigenous languages and of English.

It was also apparent that, by and large, Juba Arabic speakers would like to have this language taught at school and more widely used (either in Latin or Arabic script). We investigated their attitude towards the national educational policies, and in particular towards the hypothetical adoption of Juba Arabic as a teaching or subject language. In this regard, it is interesting to note that, in contrast to the state's ideological understanding of language, according to which Juba Arabic is a form of Arabic (i.e. the only official language of the previously unified Sudan) and it therefore has no official status within South Sudan, the majority of our informants showed a positive attitude towards the adoption of what they consider their first and foremost language. In particular, they adopt a pragmatic perspective in arguing that Juba Arabic is the only means that can facilitate interethnic communication in South Sudan.

Although ideology is not absent in the speakers' attitudes toward language(s), and it is apparent for example in a frequently heard statement about Juba Arabic being "the language which unites South Sudanese," pragmatic considerations play a much bigger role: the speakers stress the usefulness of an already existing local lingua franca in order to surmount the communicative problems of their communicative settings.

The relative role of ideology and practical considerations is reversed in the case of the government's attitude toward the language problem: on the one hand, the choice of English as the language of education may be supported by economic and practical considerations, while the recognition of the indigenous languages may be seen as a tactic move to prevent possible criticisms of a scarce attention to the diversity of the country. But ideological considerations are rampant in the choice of English as the sole official language of the country, although it is barely if at all known by the majority of the South Sudanese. Conversely, Arabic, which, in one form or another, is widely used as an interethnic medium, is utterly disregarded. Indigenous languages are paid lip-service in the Constitution, but Juba Arabic, as a "non-ethnic" language, is not even acknowledged.

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Formazione linguistica e interculturale: i laboratori di francese per studenti non italofoni e di lettura comparata dei miti letterari

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Abstract

Obiettivi
Il Dipartimento di Lingue e Letterature Straniere e Culture Moderne dell'Ateneo torinese ha da tempo orientato le proprie attività di didattica al dialogo interculturale e interlinguistico. Creare culture della cooperazione nel nostro ambito significa valorizzare le singole e diverse appartenenze, compresa quella del docente, accettando di rimettere in discussione il punto di vista dell'istanza formatrice, non più eurocentrica, bensì disponibile ad attuare strategie multifocalizzate. Il percorso di apprendimento diviene così vettore di consapevolezza della propria *identità multipla*, ai fini di contrastare l'emergere di localismi e/o nazionalismi, e fenomeni di ripiegamento difensivo nella propria comunità di appartenenza.

Metodologia
Il laboratorio di francese per studenti non italofoni– dott.ssa Patricia Kottelat
Attivato nell'anno accademico 2010-2011, il laboratorio di perfezionamento di lingua francese per studenti non italofoni si rivolge a studenti francofoni africani provenienti dal Maghreb e dall'Africa subsahariana. Concepito inizialmente per colmare i bisogni e le carenze linguistiche di questa nuova tipologia emergente di discenti, il laboratorio si è rivelato un terreno di sperimentazione di cultura della collaborazione, agendo su tre livelli: quello linguistico, per il rafforzamento delle competenze comunicative scritte e orali; quello sociolinguistico, che consente la presa di coscienza delle interferenze multiple dovute al contatto fra le lingue, il riconoscimento del plurilinguismo e dei problemi ad esso collegati; e, infine, quello interculturale che, a partire dalla matrice francofona comune, tramite l'identificazione delle variazioni linguistiche e culturali del francese, attiva una dinamica interculturale di valorizzazione delle identità multiple dei discenti.

Il laboratorio di lettura comparata dei miti letterari – dott.ssa Laura Rescia e dott.ssa Monica Pavesio
L'apporto degli studi letterari e culturali al pieno raggiungimento della cultura della cooperazione può avvenire tramite l'esercizio della lettura comparata di miti letterari, a cui si intende dedicare un laboratorio sperimentale. La recente pubblicazione di inediti di Furio Jesi ci permette di ritornare sulla sua idea di *macchina mitologica*, applicandola ad una nuova ipotesi didattica. L'analisi della contestualizzazione culturale, laddove il sistema di riferimento è variabile, porta a constatare che gli elementi mitologici sono "simboli riposanti in se stessi", ovvero che non rinviano a nulla se non a se stessi (Bachofen). La scienza del mito, così intesa, rifiuta dunque la ricerca dell'esistenza di un'origine, più autentica delle altre, dimostrando che, nel suo stesso nascere e divenire funzionante, il mito non "significa" altro che se stesso. Partendo da questo assunto, la proposta di approccio a testi letterari di culture diverse, provenienti dal mondo francofono, può divenire esercizio utile per constatare il funzionamento della *macchina mitologica* e decontestualizzarla dall'aura ideologica alla cui dipendenza è spesso stata utilizzata.

Conclusioni
Attraverso il percorso linguistico e culturale, il Dipartimento di Lingue e Letterature Straniere e Culture Moderne intende offrire un contributo allo sviluppo e al rinnovamento della formazione

BLURRING BOUNDARIES, RESHAPING TECHNOLOGIES, MERGING KNOW-HOWS: A REFLEXIVE APPROACH TO ICT4D IN DEVELOPING COUNTRIES

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Since the Millennium Development Goals first met digital media, initiatives harnessing ICTs to improve health services, empower civil society, enhance emergency response and increase the competitiveness of small producers have proliferated across the Global South. In particular, the widespread adoption of mobile telephony has been increasingly shaping aid policies and coalescing strategies of actors driven by diverse aims: Ngo's cultivating innovation for social change, businesspeople reaping profits at the bottom of the pyramid, activists seeking greater political accountability and governments (sometime) willing to concede it, but in their own terms. The emphasis on the transformational potential of the ICTs often conceals tensions arising from the encounter of different ways of knowing and of acting and from the emergence of new socio-technical arrangements in which deep-seated dichotomies are challenged: profit/no-profit; surveillance/sousveillance; civil society/uncivil society; formal economy/informal economy. Processes of appropriation and reshaping of technological innovations problematize linear views of technology transfer based on the North-South axis and call upon academics to elaborate new frameworks and methodologies to grasp the ongoing transformations.

The purpose of the panel was to promote a dialogue on the way ICTs are bridging and blurring the boundaries between opposed categories, on the expectations ICTs have spurred, and on the practices individuals and communities have already developed to make sense of the technologies that surround them. In doing so, it intended to bring to the fore approaches developed in different disciplines (from anthropology to economics, from cryptography to political science) and in different locations to understand how ICTs can be studied and understood both for the transformative potential, but without forgetting how old forms of power and domination learn to thrive in new scenarios and to appropriate new tools to support their agenda. Papers for the panel could include issues of design-implementation gaps; ICT between power and counterpower; technological gatekeeping in humanitarian spaces; controversial ICT driven social changes; hybridization of old and new technologies; changing forms of participation.

CHINA AND THE AFRICAN INTERNET: PERSPECTIVES FROM KENYA AND ETHIOPIA

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ABSTRACT

Through the lens of China in Africa, this paper explores the transformations in the relationship between the Internet and the state. China's economic success, impressive growth of Internet users and relative stability have quietly promoted an example of how the Internet can be deployed within the larger political and economic strategies of developing states, moving beyond the democratization paradigm promoted in the West. New evidence suggests that this model is becoming increasingly popular, but it is not clear why and how it is spreading.

Through a case study comparison of an emerging democracy, Kenya, and a semi-authoritarian country, Ethiopia, where China has recently increased its involvement in the communications sector, this paper investigates whether and how the ideas of state stability, development and community that characterize the strategies pursued by the Chinese government are influencing and legitimizing the development of a less open model of the Internet. It analyses how new ideas, technologies and norms integrate with existing ones and which factors influence their adoption or rejection. It is based on fieldwork conducted in Ethiopia and in Kenya between 2011 and 2013, where data was collected through mapping Internet related projects involving Chinese companies and authorities, analysing Internet policies and regulations, and interviewing officials in Ministries of Communication, media lawyers, Internet activists, and Chinese employed in the media and telecommunication sector in Kenya and Ethiopia.

Since the third Forum on China-Africa Cooperation (FOCAC), which took place in Beijing in 2006, the Chinese media have begun a steady march to get closer to Africa and to gain influence in its mediasphere. This process has displayed signs of continuity and discontinuity with China's previous attempts to influence ideas and perceptions on the continent. It has included both old and new communication technologies, and has developed through a mix of bold policy decisions as well as trials and errors.

The relocation of the Regional Editorial Office for Africa of the state controlled news agency Xinhua from Paris to Nairobi in 2006 represented the first symbolic step of this new strategy.[1] The same year, China Radio International also began to seek partnerships with national broadcasters in Africa to relay some of its content and make it more accessible to local audiences [3]. The expansion of traditional media has been followed by some unprecedented initiatives in the new media and telecommunication sector. In 2011, Xinhua launched what it labelled as the first "mobile newspaper" in Africa [20]. Developed in Kenya in partnership with Huawei, China's largest telecommunications and service company, and Safaricom, Kenya's leading mobile operator, it allowed mobile subscribers to receive news selected by Xinhua via Multimedia Messaging Service (MMS). The project was only partially successful and it was discontinued in 2012, but it signalled a willingness on the part of Chinese companies and media to experiment with new formats and find alternative ways to compete in an increasingly crowded "market for loyalties" [14]. Alongside these media initiatives, which have been aimed at reaching wider audiences in Africa through different channels, since 2006 the Chinese government and Chinese companies have also begun to play an increasingly important role in the continent's telecommunication sector, as symbolized by the multi-billion dollar loan from China's EXIM Bank to the Ethiopian government's Ethio-Telecom, the country's sole telecom operator, to increase access to the Internet and mobile phones, a project later undertaken by Chinese telecom giants ZTE and Huawei [8].

These initiatives present both signs of continuity and discontinuity with the past. China's diplomatic relations with Africa date back to the 1950s and have been characterized from the very beginning by the provision of aid and by attempts to communicate not just with elites but with African audiences at large [1] [2]. China's Prime Minister Chou En-lai first articulated China's strategy of engagement with Africa during his visit to the continent 1964, and, despite claims that today's China is transforming development practice in Africa, the modes of its engagement seems to have remained almost unchanged. As Chou's first two points indicate:

1. the Chinese Government always bases itself on the principle of equality and mutual benefit in providing

[1] Xinhua's correspondents had historically been China's eyes and ears on the continent, even before China had established embassies in Africa, but while Xinhua's had established numerous national bureaux (the first in Egypt in 1956), it had never had a regional office for Africa.

aid to other countries. It never regards such aid as a kind of unilateral alms but as something mutual and helpful to economic cooperation.

2. In providing aid to other countries, the Chinese Government strictly respects the sovereignty and independence of the recipient countries, and never attaches any conditions or asks for any privileges [9].

Together with the other six principles, which offer a more detailed indication of the financial instruments that China would employ when providing aid and of the lifestyle Chinese workers should adopt abroad, these continue to represent the pillars of China's engagement with the continent also in the new millennium [3].

Some important differences, however, do exist between China's past and present efforts in Africa. I focus on three here, which are particularly relevant for the media. The first is the disappearance of ideology from the language of China-Africa cooperation. In 1964, together with the eight principles regulating aid and cooperation highlighted above, Chou enunciated other five principles substantiating the type of political engagement China was concurrently seeking in the continent. The first principle declared that "China supports the Arab and African peoples in their struggle to oppose imperialism and old and new colonialism and to win and safeguard national independence" [9: 8]. China's efforts in Africa during de-colonization were closely linked to its efforts to export and strengthen the socialist revolution in the continent [2][19]. Today, these have largely been replaced by admissions of China's interest in Africa's resources and untapped potential. It is as if the deletion of the socialist cause as the goal of China-Africa engagement had promoted the principles of "mutual benefit" and "sovereignty and independence" to the rank of ideological guides of the new engagement.

A second major difference between China's earlier and current presence in Africa depends on the sheer scale of resources China is now able to deploy on the continent. While in the 1960s-1970s China had to partially disengage from Africa because of the damage the "great leap forward" and the "cultural revolution" were causing to its own economy [16], the 2000s-2010s belong to an era of plenty and Chinese actors, including Chinese media, have been able to invest and operate in spaces where others simply do not have the resources to act.

A final, closely connected, element characterizing contemporary China-Africa relations is the mix of interest and fear they are producing among traditional donor countries. While during the Cold-War China's presence in Africa was minimized by the competition between the USA and the USSR [2][16], today's China is acting as a game changer. In 2011, the then US Secretary of State Hillary Clinton in her visit to Tanzania made the USA's concerns clear about the possibilities of a "new colonialism" in Africa and a few months later, UK Prime Minister David Cameron's warned its audience in Lagos that new forms of "authoritarian capitalism" may take root in the continent. Similar concerns have been expressed also about the detrimental role China may have in the media sector in Africa, increasing authoritarianism and undermining Western efforts to promote openness and freedom of expression [4][11]. These concerns are largely based on the assumptions that, as Western countries have tried to promote their models in Africa, China will try to export its own. No studies to date, however, have proved this to be the case, and greater empirical evidence is needed to fully understand the nature, scope and implications of China's new role in the African mediasphere. This article aims at providing a contribution in this direction, adding to ongoing efforts to understand China's role in Africa in empirical rather than ideological terms that have characterized works in development studies and international relations (see for example [1][16]), but have so far had little application to the media.

PARTNER, PROTOTYPE OR PERSUADER?

China's increasing involvement in the media in Africa can represent a critical entry point to understand the broader political implications of China–Africa relationship. So far, however, similarly to what has been the case in other areas where China has stepped up its presence, there has been a tendency to frame its role in relation to what Western countries have done or are doing on the continent, rather than in its own terms. Hillary Clinton has warned Africans about risks of a "new colonialism", a concept that belongs to the history of Europe in Africa rather than of China, while David Cameron has spoken of "authoritarian capitalism", suggesting how China may be adding darker tones to ideas the West has tried to promote on the continent for decades.[2] In the case of the media, this tendency has been evident in the alarms raised about the possibility that China could act as a net exporter of authoritarianism [4], selling its own strategies of media development and media control abroad and countering the efforts of countries such as the US and the UK which, while stressing the role of the media in the democratization of Africa, have encouraged the adoption of aspects characterizing their own media models [14][15].

Elsewhere I have proposed a framework that can encourage understanding of Chinese engagement in the African mediasphere for its original contributions, and not simply as a negative of the impression left by the West [8]. This framework emerged as part of a collective effort among scholars from Africa, China and Europe who gathered in Oxford in 2010 to explore ways to approach the study of China's emerging role in the media in Africa, balancing out

[2] For Hillary Clinton's remarks see for example Flavia Krause-Jackson, 'Clinton Chastises China on Internet, African 'New Colonialism' http://www.bloomberg.com/news/2011-06-11/clinton-chastises-china-on-internet-african-new-colonialism-.html. And for David Cameron's see Jason Groves, 'Cameron warns Africans over the 'Chinese invasion' as they pour billions into continent' http://www.dailymail.co.uk/news/article-2016677/Cameron-warns-Africans-Chinese-invasion-pour-billions-continent.html. Last accessed 13 July.

different perspectives and building a shared research agenda. The framework was tested and further refined through fieldwork in Ghana, Kenya and Ethiopia.[3] This framework breaks down China's actions on the continent according to China's ability to act as a *partner*, a *prototype*, and a *persuader*. These categories are meant to add greater nuance to the analysis of China's actions on the continent, questioning whether or not China's role as a partner sponsoring media and ICT projects on the continent is facilitating the diffusion of some aspects that characterise its domestic media system, rather than assuming this will be the case. They seek to de-ideologise the debate on Western versus Eastern developmental models, enabling research findings to show, for example, how the partnership between China and a given African country may enhance some aspects of the local media that fit within a Western liberal framework while they do not belong to China's media system. Finally, they allow research to highlight areas of collaboration between different development actors, where their relative strengths can enable common goals to be reached, but also common patterns of exploitation, where the interventions of different donors contribute to empower specific actors, such as government's, and disempower others. Each category is briefly described below.

China's role as a *partner* is apparent in the resources it provides to African countries to implement projects that are deemed important for social and economic development. China has provided substantial financial and technical inputs to the expansion of the ICT infrastructure in authoritarian regimes (as in the case of Ethiopia discussed below), but also in democratic countries such as Ghana, where its contribution of US$ 180 million has helped realizing one of the most ambitious e-government projects in West Africa, reinforcing the ability of the central administration to communicate with the peripheries of the state and to provide more effective services to citizens [8]. China has similarly offered support to state broadcasters in selected countries: Kenya and Zambia are the most popular examples. Even if China has traditionally felt uncomfortable with the term 'donor', the activities it sponsors in this area are those usually funded by bilateral and multilateral donor agencies, and, in some cases, China has offered an alternative to traditional donors for African countries willing to develop projects in this area. But while the role of Western donors as partners has usually been conditional upon the acceptance of at least some of the elements characteristic of Western media systems, China has stressed its intention to maintain a separation between these two dimensions and its willingness to simply respond to the demands of its African partners. While this 'no strings attached' policy may be consistent, this does not mean that it is neutral or free of impact. For example, while Western donors have tended to favour media projects benefitting the private sector and the civil society, or projects creating incentives for the state to open a dialogue with other forces in society, China has displayed a tendency to privilege government actors, thus increasing governments' capacity vis-à-vis other critical components in the development of a media system. Within this dimension, assessing who benefits from China's increased role as a partner in the media sector becomes particularly important.

China in also increasingly perceived as a *prototype* by countries seeking to balance between investment in ICTs and containment of the risks of political instability new technologies may bring. In a Wikileaks cable reporting a meeting between Sebhat Nega, one of the Ethiopian government's ideologues, and the then US ambassador Donald Yamamoto, for example, Sebhat was reported to have openly declared his admiration for China and stressed that Ethiopia "needs the China model to inform the Ethiopian people".[4] Some have called its mix of proactive and reactive measures aimed at facilitating a controlled expansion of the Internet while leaving the established power structure unchallenged, 'Chinese media model' [4]. China, however, has historically been reluctant to label its own as a model ready to be exported, preferring to refer to specific, but not necessarily cohesive, strategies it has adopted to face the problems it encountered throughout its own development. Some of these strategies may be copied and adapted by other countries but Chinese leaders and diplomats have tended to challenge the idea of China as an "active teacher", a term coined by Martha Finnemore (1993) [5] to describe international actors attempting to socialize other countries to new ideas and practices.

Finally, China's role in Africa can be assessed according to its modality and ability to act as a *persuader*, shaping opinions in ways that favour either its image abroad or a particular agenda it supports. This third dimension is in the realm of public diplomacy, which China has stepped up through expanding the reach and content of its international broadcasters, including China Central Television and China Radio International, and of its news agency, Xinhua. Furthermore, cultural diplomacy has grown through the continued establishment of Confucius institutes, and programs that offer scholarships for foreign students and journalists to study in China. Still within its role of persuader, China has concurrently pursued a strategy that has distinguished it from its Western competitors, maximising the symbolic value of some of the projects it sponsors in Africa, such as roads, theatres, libraries and hospitals, which can symbolize China's support to both literate and illiterate populations.

This paper adopts this framework to compare the influence of China on the development of telecommunications, and of the Internet more specifically, in two countries that have adopted very different approaches towards shaping their national information societies. One is Kenya, which is often referred to as Africa's information hub, because of its leading role in promoting local innovation, from mobile banking to crisis responses systems. The other is Ethiopia, the only country on the continent where Internet provision is still a state monopoly, whose government actively blocks opposition websites, but has also heavily invested in Information and Communication Technologies (ICTs) to improve service delivery, even in the most remote areas.

Since 2006, China has become an important player in both countries, at a diplomatic level, offering an alternative to

[3] More information about the workshop's programme, participants and outcomes can be accessed at http://pcmlp.socleg.ox.ac.uk/research/project/china-and-africa-media-policy. Last accessed 10.09.2013.
[4] Wikileaks cable: #09ADDISABABA149. Last accessed 13 July 2013.

traditional donors and allies, especially in moments of political crisis; and as new development actor, sponsoring projects that are deemed important by respective governments. This paper seeks to address some of the consequences China's renewed engagement is having on the development of the Internet and of national information societies in both countries. It first offers a brief overview of the development of the internet and of telecommunication in Kenya and in Ethiopia and then examines which impacts China has had on these countries' trajectories.

THE ETHIOPIAN INTERNET BEFORE CHINA

The development of the Internet in Ethiopia, while similar to the path taken by other authoritarian and semi-authoritarian regimes, has certain distinctive characteristics. Together with Djibouti, whose population is less than a million, Ethiopia is the only other country in Africa with a single, state controlled Internet Service Provider. As argued by Ethiopia's Minister of Information and Communication Technology when he was at the helm of Ethiopia's ICTT Development Agency: "Monopoly is a crucial factor. It is exactly because ICTs are so important and they have the capacity to penetrate every aspect of our lives that we have to make sure that it is the state that is in charge of using and implementing them. In this phase we cannot leave it to the market. ICTs are too key for our development. They are a priority. Behind the decision of leaving the monopoly in the ICTs and telecommunication market there is big philosophical thinking. It is not just because we want to make money from the use of telecoms."[5]

The mix of commitment to using new technology and fear that the same technology could unsettle existing power structures is reflected in the government's massive efforts to use digital media in schools and government offices, and the neglect of providing reliable and affordable internet connections in the major towns, including the capital [6]. Ethiopia has historically had one of the lowest internet penetration rates in the world.[6] Despite the very limited diffusion of the internet among Ethiopian citizens, in 2006 the government began to actively filter the websites of opposition groups and human rights organizations, specifically targeting those that gathered the voices of Ethiopians living abroad [13].

One reason for blocking these online spaces can be attributed to the composition of the Ethiopian diaspora and to the ability of the discourses it articulates to reach beyond the digital media. Similar to other national groups that migrated from the Horn, Ethiopians living abroad represent a large and powerful force that have historically been involved in wars and politics back home [12].

But, in sharp contrast to the cases of Kenya, Eritrea and Somaliland, the great majority of politically-minded Ethiopians in the diaspora have opposed the political agenda of the incumbent government led by the Ethiopian People's Revolutionary Democratic Front (EPRDF). Many posts hosted in online spaces such as Nazret.com or Ethiopianreview.com, two popular websites blocked in Ethiopia, aim at the very core of the EPRDF national project, refusing to recognize the current government as either legitimate or as the expression of the people's will. It is not uncommon to find a blog post labelling the prime minister as "crime minister" or describing the government as a dictatorship led by an ethnic minority. On the other hand, pro-government websites have responded by accusing opponents of chauvinism and of encouraging tensions within multi-ethnic Ethiopia similar to those that led to the Rwandan genocide in 1994 [7].

This vehemence and polarization are not exclusive to online spaces and are evident in the long history of engagement — or lack of engagement — between the EPRDF on one hand, and other political forces in Ethiopia and the diaspora on the other. Since coming to power the EPRDF has chosen not to negotiate with its adversaries, preferring to expand its influence and presence on the ground by delivering progress rather than enlarging its base by incorporating new forces and perspectives. This strategy has been applied to both old and new media. After coming to power, in response to internal and external pressures, the EPRDF allowed for unprecedented levels of freedom of expression, but they did not develop a strategy for reconciling or negotiating with the forces that were defeated or marginalized [7].

As a result, journalists who were fired from the Ministry of Information and sympathized with those opposed to the EPRDF were given the opportunity to set up independent newspapers and use them as platforms for criticizing the government. The decision of the EPRDF to ignore these voices, or attack them without engaging with their arguments, exacerbated the polarization over time. A few years later, when the first websites were created for an Ethiopian audience, the EPRDF took a similar approach and largely ignored them.

The divide between pro- and anti-government forces has widened over time, having consequences in the aftermath of the elections in 2005 when the EPRDF reacted to its substantial electoral losses by imprisoning opponents and firing on demonstrators. Prominent journalists were arrested, their papers closed, and, the following year, blogs were also blocked to silence all alternative voices. As a result, both old and new media in Ethiopia now carry pro-government information or criticism that can be easily managed by the ruling elite and does not challenge its fundamental political goals of retaining power and reinforcing its vision of ethnic federalism.

[5] Interview: Debretsion Gebre Michael, Ministry of Communication and Information Technology, Addis Ababa, Ethiopia, 10 June 2008.

[6] In 2000 Ethiopia had an internet penetration of 0,02%, which grew to only 1,48% in 2012. Source ITU http://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2013/Individuals_Internet_2000-2012.xls. Last accessed 13 July 2013.

KENYA BEFORE CHINA

The history of the Internet in Kenya cannot be more different. Kenya has been one of the first countries in Africa to liberalize telecommunications and to develop a strategy that, while offering limited privileges to the former incumbent telecom (Telecom Kenya) such as the monopoly to operate the Internet gateway and backbone until 2004, allowed different companies to immediately enter the market, driving down prices and expanding access. As a result Kenya has now one of the most competitive Internet sectors in East Africa, with national and international companies offering both mobile and landline services. As of 2012 Safaricom had 69% of the Internet market, Aritel 14%, Orange 9% and Essar 8%. Of these subscriptions, 99% were through mobile [17].

The Kenyan government has also taken an innovative approach towards involving a variety of actors, from private companies to civil society organizations, in shaping the national internet. Kenya was the first country in Africa to create a national Internet Governance Forum after the creation of a Global Internet Governance Forum in 2007. Other initiatives, such as Vision 2030 which was set up to define the priorities for Kenya's development and has placed significant emphasis on the role ICT can play in national growth, included consultative processes that could allow a variety of actors to contribute shaping the future of the nation. As a result, the evolution of the Kenyan internet has been characterized by the inclusion of different interests at different stages, with the state acting both as a facilitator and as a driver of innovation.

ETHIOPIA AFTER CHINA

After the elections in 2005, which were considered the most democratic and contested in the country, but also led to violence and a crackdown on oppositional forces contesting the results, the Ethiopian government became the object of increased criticism from the International Community, especially from Western donors, and started looking more insistently at China for support. This led to an increasing number of agreements between the two countries and the telecommunication sector emerged as one of the most important to realize the EPRDF's goal to promote economic growth and maintaining control over the country. At an ideational level, China's ability to balance control of information and dramatic growth of Internet users started to be looked at as a model and source of legitimation for the restrictive practices the Ethiopian government had started employing in the aftermath of the elections. The conception of the information society that has progressively emerged in China appeared more in line with the EPRDF's ambition to make Ethiopia a developmental state that could pursue sustained growth and stability. But China has not supported Ethiopia only ideationally and indirectly. It has also offered technical and financial means to support the government's strategy. In the second half of the 2000s, as privatized telecommunication markets were booming in most of Africa providing cheaper and increasingly reliable access to mobile phones and the Internet, Ethiopia faced the challenge of having to balance between its decision to retain monopoly over telecommunication and the inability of expanding access without opening to competition. The EPRDF's stubbornness could not last for long, unless a new partner could provide enough resources to introduce a dramatic increase in access and quality of service in a regime of monopoly. China obliged by offering the largest loan in the history of telecommunication in Africa: 1.9$ billion to overhaul Ethiopia's telecommunication system, expanding mobile service and Internet connectivity while keeping Ethio-Telecom as the only player in the market.[7] Some of these resources also went to upgrading the infrastructure on which the e-government projects were based, allowing a system that many had considered unsustainable to become an even stronger component of the government communication strategy towards the periphery.

The role China had in Ethiopia was of paramount importance. Without China's support in extending the infrastructure and expanding the plan the EPRDF had devised, the government of Ethiopia would have been either forced to change its course and liberalize, or to condemn the country to suffer from lack of connectivity to the Internet and mobile communication on which many countries on the continent have been relying to support both economic growth and state operation.

KENYA AFTER CHINA

Given the different context in which the Internet developed in Kenya, the role China came to play was significantly different from Ethiopia, but also presented some elements of similarity. As in Ethiopia, China has been deeply involved in the extension of internet connectivity in different capacities. First, through telecom companies Huawei and ZTE.

Together with French company Sagem, they participated in the first National Optic Fibre Backbone Infrastructure (NOFBI) expansion, brining fibre optic to the main urban centres and allowing a first series of e-government projects to be delivered regionally.[8] The country was split into three sections namely Western Kenya, Coast and North Eastern, and

[7] See Zhao Lili, 'Contributing to the Development of Ethiopia with Wisdom and Strength' http://wwwen.zte.com.cn/endata/magazine/ztetechnologies/2009year/no6/articles/200906/t20090612_172517.html. Last accessed 13 July 2013.

[8] See, for example, Okuttah Mark, 'Telkom Kenya set to run fibre network on behalf of government' http://www.businessdailyafrica.com/Corporate-News/Telkom-Kenya-set-to-run-fibre-network-on-behalf-of-government/-/539550/929626/-/m96mry/-/index.html. Last accessed 13 July 2013.

Central — each region handled by one company. Sagem has laid out cables in Coast and North Eastern, Huawei in Nairobi and Central, and ZTE in Western Kenya. Also investors such as internet service providers (ISPs) and telecommunication operators have benefited as NOFBI lowered the cost of entry to business. A second round of NOFBI (known as NOFBI II) was directly funded with Chinese resources. In 2012 China's EXIM Bank provided a $71 million loan to support further extension to 36 administrative district centres across the country, with the objective of allowing also people in remote areas to access faster internet. A condition for the loan was that the implementing agency had to be Huawei, which is now in charge of the realization of the project.[9] As in Ethiopia, the Chinese government and Chinese companies have thus supported the expansions of government led initiatives aimed at extending Internet connectivity and improving e-government services. In the Kenyan case, however, Chinese support has fitted in a much wider context, where a plurality of actors have been competing to offer better services at lower prices. For example, soon after the signing of the agreement for NOFBI II, Kenya's leading telecom operator, Safaricom, decided to invest additional $95 million to build an additional 2,400 kilometre fibre optic cable to support its growing customer base. Interestingly, a large share of the contract has been assigned on a commercial basis to Huawei, which had already worked in collaboration with Safaricom to roll out the 4G network at a cost of $143 million. A remaining share of Safaricom's expansion project was assigned to Ericsson.[10]

As it had been the case in Ethiopia, after Kenya's highly contested and violent elections, that took place in 2007 and lead to numerous deaths and displacements and to condemnation from the international community, the relationship between the Kenyan government and the Chinese government increased both in quantity and in quality. This is mostly connected to the Chinese policy of providing aid and engaging in agreements without any strings attached. Therefore, as relations with governments such as the US and the UK reached a low point in the aftermath of the elections and later with the indictment of the two presidential candidates Uhuru Kenyatta and William Ruto by the International Criminal Court in relation to the alleged role they played in the incidents of 2007-08, China managed to keep a low profile, stressing its faith in the legitimacy of Kenyan institutions.

CONCLUSION: GLOBAL AND NATIONAL RHETORIC OF THE INTERNET

Both in the case of the Kenyan and of Ethiopian governments, the violence that followed their respective elections was employed as a reason to stress the potentially disruptive role that technology, including the Internet, could play in increasing divisiveness and harm peace. While in the case of Ethiopia this discourse had been used for a long time to justify state monopoly, Kenya, a country that had heavily invested in the idea of an open internet, woke up to a new reality and progressively developed a new discourse framing peace as the overarching goal each Kenyan, from media houses to bloggers to telecom operators, should give priority to in shaping the country's future. As one interviewer put it, "Kenya has been slowly sliding from democracy to a peaceocracy". This rhetoric was employed to justify for example the censoring of thousands of SMS considered harmful and inciting ethnic hatred or to ask media houses to downplay cases of ethnic violence still happening in the country.[11] In both the Ethiopian and the Kenyan case, however, it was not just incumbent governments, but also Western donors that stressed the importance of creating mechanisms that could lead to peaceful elections and prevent outbursts of violence. With regard to the media the idea that progressively emerged was that of a harmonious information space, where people could still be allowed to be critical and comment negatively on political actors, but could not incur in actions possibly leading to forms of mobilization considered harmful by public authorities. The idea of the internet that progressively emerged was not different from the one offered by the detailed study of the Chinese internet carried out by King, Pan, and Roberts (2012) [10], which showed how it was mostly posts leading to the organization of protests that were removed, rather than those attacking the government for misconduct, for example for corruption. And this idea progressively emerged and gained momentum without the Chinese government or Chinese companies engaging in any notable activity to support this particular model abroad. From the interviews carried out with Ethiopian and Kenyan members of the government, civil servants, but also with members of the civil society and private entrepreneurs in 2012 and 2013, none of them referred to Chinese authorities as trying to suggest that their model could be productively applied to the Ethiopian and Kenyan cases.

The conclusions are still highly tentative, but it seems that some of the strategies adopted by the Chinese government in China to control and contain the national interned are gaining popularity in both countries, despite no attempts form the side of China to promote them abroad. It can be argued that China's appeal as a *prototype* has increased, without its government necessarily having to engage in activities to *persuade* its African counterparts. In a

[9] See, for example, Margaret Wahito, 'Kenya: China to Fund Kenya's Fibre Optic Project' http://allafrica.com/stories/201206290024.html. Last accessed 13 July 2013.

[10] See, for example, Okuttah Mark, 'Safaricom loosens China's grip on local contracts with Sh14bn tender' http://www.businessdailyafrica.com/Corporate-News/Safaricom-loosens-China-grip-on-local-contracts/-/539550/1638364/-/11xotu6z/-/index.html. Last accessed 13 July 2013.

[11] See, for example, Lillian Onyango, 'PS now names blogs over hate messages' http://mobile.nation.co.ke/News/PS-now-names-blogs-over-hate-messages/-/1290/1662804/-/format/xhtml/-/hk21w0/-/index.html; Fred Mukinda, 'Phone firms block 300,000 hate texts daily, says Ndemo' http://mobile.nation.co.ke/News/Phone-firms-block-300-000-hate-texts-daily-says-Ndemo-/-/1290/1726172/-/format/xhtml/-/2e787c/-/index.html; Njoroge Kaburo and Peter Mutai, 'Kenya decries use of social to spread hate speech' http://news.xinhuanet.com/english/africa/2013-03/15/c_132236743.htm Last accessed 13 July 2013.

climate where local actors, such as the Ethiopian and the Kenyan government, and in the case of Kenya also the local media, private operators, and international organizations, created a political context privileging peace and development over allowing a plurality of voices to compete in the marketplace of ideas, China had simply to act as a *partner*, offering unconditional help to governments, to put forward a concept of harmony that it supports. While there was satisfaction that the Kenyan elections were conducted peacefully, as peacefully were the elections that took place earlier in Ethiopia in 2010, privileging peace also meant downplaying critical voices, such as those of civil society organizations, lamenting that grave misconducts and violations of human rights had been marginalized in the name of a peaceful development that could benefit both countries.

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MAPPING MAP KIBERA: WHAT IS BEHIND THE MAP?

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ABSTRACT

The general purpose of this paper is to problematize the idea of map as a visual representation of a given territory. In fact, it is based on the assumption that what we see on a map is the outcome of an exploratory process that hides several social dynamics like political power, popular belief or traditions. This research is the result of three meetings with a group of mappers of Map Kibera Trust, a no profit organization based in Kibera slum. Mapping a particular territory like a slum requires indeed a good understanding of what are the steps, roads, secure and insecure places that allow people to easily perform the job. Moving along an informal settlement is quite complicated due to narrow streets interspersed with rivers carrying waste and contaminated water, but also to insecure places, especially as we penetrate into the slum. For this reason, all the mappers of the Map Kibera project live, or used to live, in Kibera.
The implications are significant in understanding the set of social, spatial and human values that connect people with their own space, going over the use of an ICT like an open source mapping software. What makes possible the realization of the map is not the technological tool itself, but the people who have the appropriate tool and use it in their own ground. And speaking about people who map a slum means to speak about relations between people themselves and between people and their networks. With this paper, there is a desire to find out what are the links between beneficiaries of the project and territory, territory and binding agents that led to the creation of the map, work that otherwise could be impossible or not leading to the same result. Simultaneously, a reflection about the sustainability of this project will be provided, as well as the efficacy and the effective participation in GIS activities like OSM related to the contest of Nairobi slums.

INTRODUCTION

This research inquiries into the creation of a participatory maps achieved by the young mappers of a non-profit organization based in Kibera: Map Kibera. Before Map Kibera's work, the slum was a black spot on the map and this mapping project was initiated in response to the lack of available public and open map data of the zone. The general idea is that behind the creation of a map, in the particular locations like the informal settlements, what allow to work and to create a map is the power of the human and social networks. This hypothesis was confirmed by following and observing the mapping processes of this group, conducting interviews and focus groups that gave me the instrument to analyze the concept of participatory mapping in a slum.

With my research I intend to make a contribution to the broader theme of ICT4D, reflecting on how the use of a technology increasingly underpins a series of links and social values that go well beyond the technological innovation itself.

Before to analyze the fieldwork, I need to define the framework that allowed me to place the facts I have observed on the ground. The analysis of the mapping process of Map Kibera can fit with the Actor-Network Theory (ANT), that focuses on the mechanisms of power and the concept of knowledge as they emerge from the interactions between human beings and artifacts [1]. Power is intended as the product of the interactions among elements of heterogeneous networks. Heterogeneous is the key term that drew my attention as it refers to the participation of different materials: human and no-human, people and machine. In ANT, there is no point in differentiating between the elements of a network because the relevance rests on the relations among the actors rather than in their nature. ANT is a theoretical approach that help re-conceptualize many of the issues behind the dilemmas of development theories and practices, highlighting "how people's actions and interactions are part of what stabilizes objects, processes, texts, and ideas to become things" [2]. ANT scholars claim that this theoretical perspective is particularly useful to analyze "situations where interactions of the social, technological and political are regarded as particularly important" [3].

Thanks to this theory, it is possible to overcome the distinction human/machine and thus consider social and technical networks as a continuum, bridging the networks of institutions, organizations and individuals which constitute Kibera's civil society and the technical networks revolving around participatory mapping processes. The actors implicated in development projects like citizens, community based organization (CBOs), local and international NGOs and institutions are powerful and affect the success of the same actions. However, even among the development professionals who act participatory approaches continue to face problems and this raises important challenges concerning the role that an actor holds in its community, obfuscating sometime the voice of marginalized groups

and the weak they are meant to serve [4].

What is behind a map built in a slum? What are the relationships between locals? What kind of influence the stakeholders have in Kibera community and its activities? I argue that what makes possible the creation of a map in a place like an informal settlement is the connection between the mappers and the social agents, redefining the bonds of power that affect the social activity in the community of Kibera.

THE PARTICIPATORY AND OPEN SOURCE MAPPING SOFTWARE: OPEN STREET MAP

Map Kibera was launched in response to the lack of available map data and other public, open, and shared information about Kibera, the second largest slum in Africa. Its mission is to increase the potential impact of the map data, making the final products available for the entire Kibera and Kenya community.

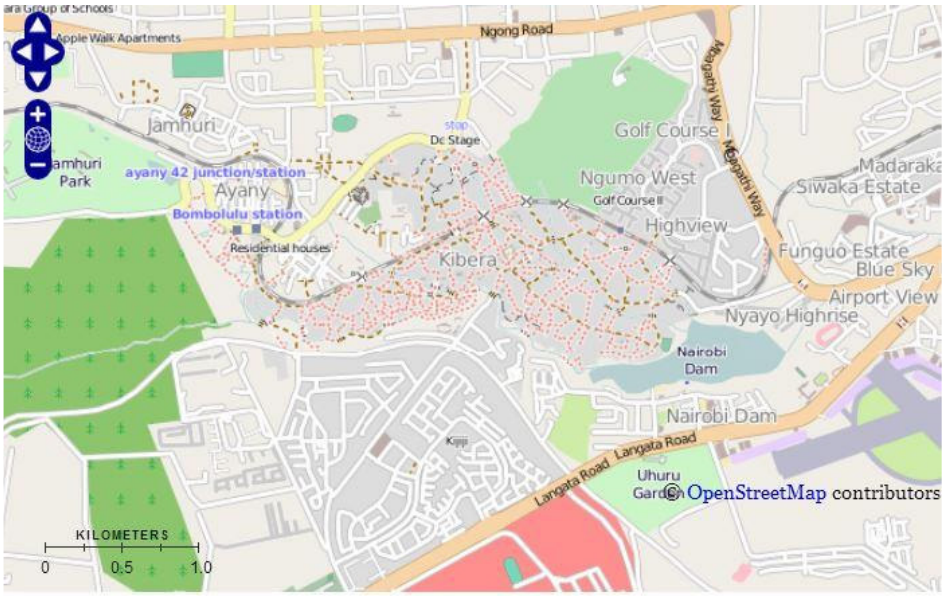
For the creation of the maps was chosen an open source GPS, Open Street Map, that allowed them to begin to focus on the mapping process in more detail in four areas, health, security, education, and, thanks to an UNICEF partnership, to undertake an issue-based mapping with a focus on mapping girls' security [5].

Created by Steve Coast in the UK in 2004, OSM was inspired by the success of Wikipedia and preponderance of proprietary map data in the UK and elsewhere [6] and provides free geographic data such as street maps to anyone who wants them, inviting people to view, contribute and use the map in collaborative and creative ways.

As Yu-ei Lin says:

> "*whereas the complexities of the world have long been simplified and reduced to a known geometric scale in their maps by professional cartographers, the advent of OpenStreetMap has transparentised and democratized cartography; non- cartographers are now provided with an opportunity to participate in the map-making process*". [7]

Fig. 1 - Map Kibera's map created by using Open Street Map.



Participatory GIS is, therefore, an attempt to utilize GIS technology in the context of the needs and capabilities of communities that will be involved with development program in the production of GIS data and spatial decision making, involving local people by integrating participatory mapping information, capturing local knowledge and combining it with more traditional spatial information. [8]

KIBERA: THE LARGEST INFORMAL SETTLEMENT OF NAIROBI

Kibera is the second Africa's largest, densest and poorest slum (the first is Soweto, South Africa) and the population depends on the source (one other estimation varies from 235,000 to a maximum of 270,000 people [9]) and on the period of the year. [10]

The exact number of people who live in this settlement was never been discovered, due to the constant displacement of people and the indifference of the government to a place considered informal.

Kibera is located at 7 km from the center of Nairobi and is at the core of the Kibra constituency. It extends on 256 hectares, with a population density of more than 2,000 people per hectare [11], and it is bisected by the railway to

Uganda. According to the figures available, only 17% of the adult population is permanently employed [12]; the rest are casual workers and migrants, mainly employed in Nairobi's industrial area. The official definition for Kibera is 'informal settlement', although the area has been occupied since 1912.

Nowadays, it is formed by 14 villages, mainly divided along ethnic lines. Almost all Kenyan tribes are represented in Kibera but Luos are the main ethnic group. The topography undulates with two heavily polluted streams running through the settlement and forming corresponding valleys; the railway line along its northern perimeter, the abandoned dam to its southern edge and infrastructure on its eastern side further add differentiating parameters to the fabric of a highly complex settlement.

The entire territory of Kibera is government property and, by a complicated set economic, political and social factors, who hold a right to occupation of the land often lack economic resources, generating interests of a circulation of capital linked to numerous rented properties.

Humanitarian NGOs are often one of the very few actors operating in these conditions of disadvantaged and, despite the lack of almost all public services, Kibera is a big recipient of international aid. Every international agency funds initiatives and projects in the slum, starting with UN-Habitat, the United Nations' body for human settlements, which is located, ironically enough, few kilometers away from one of biggest informal settlement in the world. There are an estimate 100 NGOs and over 400 Community based organizations (CBO's) in the slum, engaged in wide range of activities such as providing HIV information and advocacy, empowering groups of women and training kids and teenagers. These CBO's include also self-help groups, mainly women organizations which keep a fund and loan small amounts of money to members in need.

MAP KIBERA

Before the organization's idea, a research project led by an Italian researcher, Stefano Marras, was called with the same name, but the projects are two different entities, also if their intentions are really similar.

'Map Kibera project' was launched in May 2008 and was aimed to take a **census of the structures, infrastructures and population** of the entire shantytown, but the pilot project has focused just on the village of Kianda, situated on the northwestern end of the slum. [13]

'Map Kibera' was a project of GroundTruth Initiative and started in October 2009 with a small grant from Jumpstart International, a non-governmental organization specializing in community-based mapping, and the grant was meant to facilitate the creation of the **first public, digital map of Kibera**, through the training of the local youth in the use of GPS and open source GIS tools.

In November 2009, local young people motivated to work for Kibera community learned to create maps using OpenStreetMap techniques. Kibera was not actually unmapped but the problem was that none of the existing maps were shared with the public or used by Kibera's residents [14]. So, thanks to the Nairobi tech scene and some American start up help, the young Kibera volunteers created a group of mapper included surveying with GPS, digitization of satellite imagery and paper based annotation with Walking Papers. Map Kibera Trust is a project of Erica Hagen and Mikel Maron and the current executive director is Kepha Ngito. They worked in partnership with local and international organizations like Social Development Network (SODNET), Carolina for Kibera, an international NGO based in Kibera that seeks to promote leadership, women's empowerment and community development, and the Kibera Community Development Agenda (KCODA), a community media organization that publishes the Kibera Journal, the only local newspaper.

In 2010 Map Kibera became a Trust and the founders established two additional projects aiming to create an interactive community information platform. The first was Voice of Kibera (Vok), an SMS reporting project that uses the Ushahidi platform to enable residents to text in reports on events happening in Kibera. The reports are approved by an editorial al team and integrated on the website with the digital map of Kibera. The second project that was introduced in this period was the Kibera News Network (KNN), a video journalism initiative where videographers create short documentaries and news stories about Kibera that are published on their YouTube channel.

Ushahidi is a non-profit software company that develops free and open-source software for information collection, visualization, and interactive mapping. Ushahidi (Swahili for "testimony" or "witness") was created in the aftermath of Kenya's disputed 2007 presidential elections to collect reports of violence reported by email and text message, placing them on a map.

The platform is built to collect information from the general public and citizen about events happening in near real-time. It is also, assisting areas that are not well covered in the mainstream media; for this reason it has been named crowdmap. The main concept of the crowdmap is crowdsourcing for social activism and public accountability, empowering citizen journalism activities in different part of the world. [15]

The reports can be submitted by using a mobile phones or internet and many countries from all over the world have benefit of the Ushahidi crowdmap for several emergency projects: Russian bloggers to co-ordinate a relief effort, Haiti to identify natural disaster locations and others in Chile, Pakistan, Congo, Philippines, Peru etc.. [16]

In 2013 Map Kibera Trust is integrating the use of different ICTs and tools to improve his work and to better interact with the slum communities, as the monitoring election project during the March presidential elections or a current project concerning accountability and transparency of community funds.

Map Kibera Trust works for the community and with the community, thanks to a participative approach used by the team in every project lead in the slums where the organization works: Kibera, Mathare and Mukuru. [17]

THE RESEARCH

Mapping a particular territory like a slum requires a good understanding of what are the steps, roads, secure and insecure places that allow people to easily perform the job. The implications are significant in understanding the set of social, spatial and human values that connect the mappers with their own space, going over the use of an ICT like mapping software. The methodology and approach used in this research are focus groups and interviews, carried out to discuss and identify those elements that led to the creation of the map using an open source technology. With this research, there is a desire to find out what are the links between people, territory and binding agents that led to the creation of the map, work that otherwise could be impossible or not leading to the same result.

According to Erica Hagen, in the implementation of the project:

> "*Equally important was the fact that the mapping experience validated the knowledge that participants already held: their intimate knowledge of the paths, businesses, and social relations of their own neighborhood. Now they were regarded as holders of important information rather than poorly educated slum dwellers*". [18]

As I explained in the introduction, the framework that supports my analysis is the conception of the social relations power and the role of the local actors in influencing development projects in a territory. In this case, the development program is a participatory mapping project and the actors are those groups and community leaders identified by the mapper team during the meetings and interviews. The focus groups were divided in three parts and were aimed to:

- Get the general understanding of the mapping process in a slum
- Know the implication of the mapping process in to the community and discover the background of the mappers
- Draft a map of the slum to underline the networks and relationship between them and the slum spots

First meeting with the mappers

The main purpose of this meeting was to get the general understanding of the mapping process.

There were submitted some general questions about the mapping phases and the interaction between the mappers and the community stakeholders, but the conversation was really free and people easily interacted and exchanged opinions. By analyzing observations and notes, I identified eight processes.

The main question was: "how do the mapping process works?"

1. *Finding the point of interests for the entire community*

First, they start to identify and understand the needs of the people living in a particular area of the slum and the final choice depends on several aspects that I deepen later.

2. *Getting in touch with the community stakeholders*

Secondly, after they have decided the point of interests, the mappers try to contact the community stakeholders using their personal contacts.

Then, they meet the stakeholders to discuss about their findings to proceed later to work with the stakeholders belonging to the matter they are considering. They need to meet stakeholders to get the permission to map a particular area, to take picture, to collect information from them and to share ideas about the needs of that place.

But my question was: "who are the stakeholders?" They really mention those actors but it was not clear who they are and what they do in Kibera community. During the meetings, we were able to identify a number of actors in Kibera, including:

- local administrators
- opinion leaders
- village elders
- service providers (the professional in different fields like water, education –like teachers, garbage etc.…)
- religious institutions

Another goal of this focus group was to understand how the mappers get in touch with those stakeholders and they explained that it depends on the type of actor with whom they were dealing with.

If they want to interact with some public administration people, they just walk to the offices to explain the mapping

project, in order to get the permission to work and ask the institutions to provide the mappers security. With the other stakeholders, they use the mobile phones to contact them and to arrange a meeting.

The mobile phone is the most used technology between the organizations in Kibera. Many time internet connection does not work and most of these groups do not have a website or a social platform so that the mobile device becomes essential.

3. *Organizing general stakeholder meetings*

After the previous stage, they arrange meetings involving different stakeholders of the area they want to map to reflect and to compare the people needs. Sometime both the mappers and the local actor require several meetings before to agree about the problems concerning the mapping process.

4. *Participatory mapping: involving the community in the process*

During the meetings with stakeholders they look for some volunteer from the area they want to map, sharing their ideas and analysis with the Kibera actors and engaging young people with a strong motivation to learn and to support community development. Further, they select just people from the zone they want to map and people who know well the place and the number of people they involve depend on how the area is big. Then, after they have nominated a volunteer's coordinator, the mappers train the volunteer team, giving them technical skills to map.

5. *Editing data in the office*

In this step, the mapping team try to find out what kind of data they want to collect brainstorming together, creating a "data collection form", that is a paper to submit to the organization/CBOs/institutions to collect information about them. They speak about logistic issues like the money they need to buy lunch, airtime, printing, gum boot etc…Then, they check if every device is working well: GPS, software and internet connection.

6. *The practical work: to the field*

Once they have spoken with stakeholders and people from the slum they go to the field with GPS, notebook, cameras and the "data collection form", in order to register every structure they map and the people who work in these places. After being asked how long it takes to map an area they answer that it depends on how depth and specific should be their job and the size of the area to be mapped.

If the mappers did not have the questionnaire and the camera, it can take just three weeks, like the time they spent to map their first Kibera general map. When they started to use the questionnaire and the camera to take pictures of the place and create thematic maps, they spent three months to complete their work.

So, the time they take to map an area depends on the size of the area and on the tools that they want to use during the mapping process (if they take pictures or not, if they bring the questionnaire – the "data collection form"- or not).

7. *The sharing process: sharing the results with the community*

They organize a Community Forum, where they compare their work with the community opinions changing, if necessary, the map structure. Maybe they forget to map something and the stakeholder give them new inputs to add into the map . After that, the final map can be printed and distributed among the institutions, NGOs and CBOs offices and around the stakeholders like schools, churches and youth centers.

8. *Using the maps for a common interest*

According with our interviews and visits to the CBOs and Kibera organizations places, most of them have the map hanging on their office wall and they say that they use the map to locate and recognize other points of interest, otherwise impossible without a map. Further, the map undertake the role of identification with the community and therefore with the slum itself. As the mapper coordinator, Millicent, says, "is also a special way for the community and the people who visit the office to locate their house and their workplace into the map. They feel happy and excited".

Mapping a particular place like a slum with an high number of difficulties involves some challenges for the people who ride through the narrow streets of the shantytown, like Map Kibera mappers. By asking them "What kind of challenges you face in doing your job?", they identified two main areas where they sometime encounter a problem.

In the field

The mappers admitted that, at the beginning of their activity, many people did not trust them, especially in the health sector, where the employees that should have a specialization to work, did not have it; "they see the mappers like a spy", a mapper says. One other challenge is that in some not really safe areas they have to hide the GPS while they work, also if they can recognize "tricky people, thief or dangerous situations", one other mapper says, "and to map Kibera we have to be from Kibera".

In using the equipment

Occasionally there are problems related to the weather conditions that can impede the mapper to bring the GPS to the field and sometime, in narrow and covered passages , can lacks the connection between the GPS and the satellite.

Second meeting with the mappers

The second meeting was aimed to focus on the mapper background and relationship with Kibera community and institutions. To learn more about those connections, I gave them a notebook for each and a pen and explained the exercise. They were told to write down every important connection they have in the slum as a community person and as a Map Kibera mappers. For example, the typology of link of a person living in a given territory (like the church environment, village elders, water vendors etc…) could be different from the personal links and contacts achieved in the work field. This meeting was used to collect data for the next stage and to make the mapper understand about the importance of their network in the slum area, a net of relationship that allows them to perform their job.

Fig. 2 - Map Kibera political map hanging on Langata District Peace Committee wall in Kibera.

Third meeting with the mappers

The final meeting was the last step of our focus groups and included the principal activity: the construction of a social relations map. First, they were told to copy what they previously wrote in the notebook in some stickers, divided for the two categories of social relations: people, stakeholders and institutions they know as a citizen of a slum and as a mapper. Then, the post-it were hanged on the wall and discussed all together, identifying the sectors and categories of stakeholders from a collective analysis.

Fig. 3 - A mapper hanging their social relationship stickers on the wall.

The categories found – each one identified with a different colour - were six and reproduced both the personal and professional relationships that the mappers have in Kibera slum:

- church
- CBOs
- NGOs
- school
- administrations
- health facilities

Fig. 4 - Some actor categories identified during the meeting.

Using the same colors the participants drew a map on a transparent sheet, tracing the profile of the Map Kibera paper map and allocating in the same map, one by one, structures and places forming part of the categories identified earlier and connected with the life of everyone.

Fig. 5 - The mappers drawing their personal relationships on Kibera map.

The final result is a map of social networks and personal relationships in the slum community, from the school to the health center, from the administrative institutions to the no profit organizations that work for the public interest.

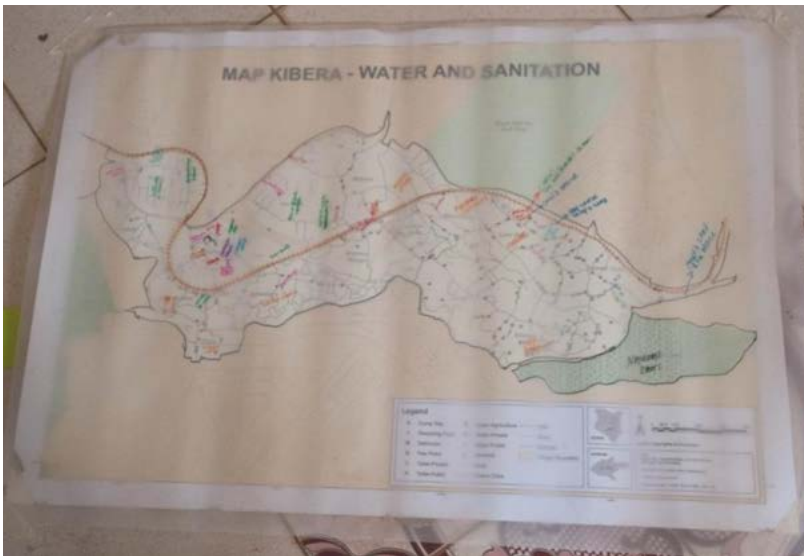


Fig. 6 - The final map representing the mapper social relations in Kibera community.

CONCLUSION

Having a perfect knowledge of the zone to map is a necessary prerequisite for every person who want to do this job in Kibera and, I guess, in every informal settlement of the world. A key aspect of this case study is that all mappers who have mapped Kibera live, or used to live, in Kibera, revealing how being a resident of the slum was a basic prerequisite in facilitating the mapping process. In Map Kibera case behind the use of the ICTs and technology, there are a range of relationships between people, places, workplaces and institutions that are fundamental to maintaining confidence among the community and implement participatory mapping activities. Churches, CBOs, NGOs, schools, administrations and health facilities are the finding results of a learning process that allowed the realizations of these three meetings, reconstructing together what are the key steps of their mapping processes and the typology of relationship they have in Kibera community. Doing so, it has been possible to understand the main characters that represent the most influencing actors for Kibera citizens, denoting how there is a hidden power that affect social relations and also projects or actions involving the whole community of the slum.

This paper is the result of three days focus groups and the short time spent did not allow me to get to the bottom of many other important issues and in-depth analysis. My work aims to provide food for thought for a wider research that addresses the social role and power of certain realities inside the slum of Kibera and in any existing informal settlement. Who are the most influential stakeholders in the slums? What tribe and which political party they belong to? What relationships have with other local actors and with the same slum community?

Moreover, the representation of space is always a sensitive issue because of the different perceptions that a population can have of its own territory, which may not coincide with what should be circumscribed by a system of PGIS [19].

Is the knowledge of indigenous constructed through a “Western way” to do cartography and participatory mapping

processes or can a system like OSM be regarded as a suitable means of self-representation? The use of GPS in developing countries and, in this case, in a slum, is often externally driven and technocrats, despite seeking to make these technologies more and more inclusive, leave some outstanding issues that sometimes do not allow projects to get a positive result. As Rambaldi et. Al. argue, some important questions that should be addressed are:

> "*Who's GIS is it? Whose questions are addressed? Who's set the agenda? What will happen when experts leave or when donor funding dries up? What is left with those who generated the data an shared their knowledge?*". [20]

In order to make an ICT4D project succeed and pass to what Heek called ICT4D 2.0 [21] phase, a participation of beneficiaries in the design and construction phase of the project is required, as well as a construction of skills and capacity at the local and institutional level and a continuous learning phase. Despite Map Kibera activities have been led with a bottom up approach and the maps produced have been used by many Kibera organizations and seen as reference point for the slum inhabitants, mapping activities are concluded because of lack of funds and its efficacy and sustainability is compromised.

Furthermore the current availability of spatial data and the large choice of open source software and user interfaces could increase the gap between those who have the ability to access these tools and who is excluded, especially in a fragmented environment like that of Nairobi, where town and slums are two independent and non-communicating entities living in the same space.

These and other questions can be the beginning of a new research and reflection on the social dynamics embedded in a slums, which, according to Mike Davis, "are growing at twice the speed of the continent's exploding cities" [22].

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NOMENCLATURE

ATN	Actor Network Theory
CBO	Community based organizations
GIS	Geographic information system
ICT4D	Innovation Communication Technologies for Development
NGOs	Non-governmental organizations
OSM	Open Street Map
PGIS	Participatory GIS

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M.U.S.I.C. - MEDITERRANNEAN URBAN SOUNDS INTERACTIVE CULTURE

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ABSTRACT

Citizens are now able to produce cultural localized knowledge; ICT technologies can integrate data-sharing platforms into the spatial dynamics of cities. This can promote a sustainable enhancement of local communities through cooperative activities setting culture as growth-driver. The M.U.S.I.C. (Mediterranean Urban Sounds Interactive Culture) project promoted by the University of Tunis and Politecnico di Milano-DAStU (International Cooperation Lab and Measures and Scales of the Contemporary City Lab) aims at reinforcing the awareness of a shared regional culture in the Southern Mediterranean Region. The project gives structure to the relation among digital media as catalyst tools and urban regeneration as spatial rooting device, setting an innovative exportable cooperative strategy. The action plan applies sounds analysis to geo-localized user-generated content to extract patterns of perception of urban and rural spaces. A visualization platform archives and diffuses these data, working for synergies between formal and informal economies. The project helps to improve the responsiveness of urban systems to the cultural requests of citizens and customers. It reinforces the need of new professional figures and more structured relations among them. The digital platform, as engine of spatial regeneration for built heritage, fosters economies of scale determining a spatial rooting in specific urban or rural spaces suitable to host permanent or temporary, profitable or non-profit activities. The gathering of actors around specific nodes will transform them in Mediterranean antennas transmitting the sound of places for a cultural and economical exchange among people and countries. The economical balance is reached through an equilibrated management of profit and no-profit initiatives setting relations among stakeholders at various scales. A cultural sustainability framework could make the music industry able to sustain local emerging realities and to promote education.

M.U.S.I.C. (Mediterranean Urban Sounds Interactive Culture) is a project promoted by the University of Tunis and Politecnico di Milano-DAStU (International Cooperation Lab and Measures and Scales of the Contemporary City Lab) with the aim of reinforcing the awareness of a shared regional culture in the Southern Mediterranean Region. In the South Mediterranean countries the national analysis allowed us to identify some specific problems valuable at Regional level in the field of cultural economies: lack of structures offered by institutions and city administrations for cultural activities; lack of interest by the investors to enhance cultural spaces and activities; insufficient awareness of the value of local heritage; difficult relationship between the cultural institutions and single artists; people and local communities are not involved in documenting living heritage; the documentation of cultural heritage (tangible and intangible) is not spread by social network and new media; the relationship between tangible and intangible heritage is not well developed. The aim of the project is to contribute to solve these problems stimulating the local population to keep a direct role in finding right solutions and supporting the local and national authorities to improve their support to the creative and cultural field. In each country the situation is very different and in this framework all the actions implemented by the EU, Unesco, World bank give a real contribution to move different southern countries towards similar solutions. The international crisis and the specific situation of many Arab countries push the Governments to other directions considering culture as a privilege for few people. What is relevant is that the civil society growing its capacity to address the political decision and young generation are very interested in saving their heritage, in sharing their culture, and in creating job opportunities in their own country. The project will not refer to some specific governmental plan but it is strongly linked with a social plan produced every day by the civil society. The role of the Universities is fundamental to involve the students as well the intellectual people in this process. The M.U.S.I.C. project is an instrument to improve the application of two Unesco Conventions: the Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005) and the Convention for the Safeguarding of Intangible Cultural Heritage (2003). The project is also linked to the "Medina 2030" programme implemented by FEMIP, Unesco and Arab Town Organization and with the following projects: Athena (Euromed heritage IV) closed in 2012 and lead by the Department of Antiquities of Jordan. It concerns the Ancient Theatres in the Mediterranean and proposed innovative methodologies to produce management plan for the theatres and their clusters involving local communities; DOREMIHE (Enpi Italie – Tunisie), actually under negotiation, a project to create a common doctorate in the field of cultural heritage with the University of Palermo. Another link could be created with the Unesco Chair (Intangible Heritage) managed by Evora University and already involving Tunisia, Morocco, Egypt Palestine and Italy.

WEB 2.0 OPPORTUNITIES AND INTANGIBLE CULTURAL HERITAGES

The background of the project is the growing production and availability of cultural information with geo-references, generated by non professional web users and supported by technologies generally known as Web 2.0 [1][2]. Citizens are now capable to produce cultural localized knowledge and to contribute through local engagement and by the use of new, widely diffused technologies such as mobile phones [3] to sensing and monitoring aspects of the urban environment. Hence, ICT technologies can be deployed to integrate data-sharing platforms into the spatial dynamics of the city. As Mitchell noted, the spaces and places of twenty-first century cities provide contexts for communication serving not only to shelter and protect their inhabitants, but also to ground and sustain meaningful interaction among them, and to construct community. Emerging critical practices have proposed new models to describe the city that stress the collaborative, constructionist dynamics of the mapping processes. The underlying idea of this approach considers the geographic, urban experience through a network of multiple, fragmented and temporary data and information generated by human-place interactions and collaborative dynamics. Based on these theoretical premises, several experimental GIS focusing on cartography emerging from users' perceptions and activities have been produced. As Zook and Graham noticed [4], traditional methods used to register users' perceptions and activities about the cities and its fruition - like surveys and ethnographic reports - seem to be inadequate to meet the need of information of contemporary society both because they require a considerable amount of resources (in terms of time and money) and because they do not consider the temporal dimension.

Web 2.0 applications, the growth of online mapping tools and the development of networks of "sensors" capable of recording and geo-reference a variety of signals can transform human beings in potential "sensors" that not only have the intellectual ability to process and interpret what they "feel" but also to geo-localise the information (sometimes involuntarily) and spread it globally through the Internet. The combination of these factors produce and disseminate an immense amount of geographical information which can be: voluntary/conscious and involuntary/unconscious. The first type stems from web mapping activities, while the second type is generated by digital footprints left by web users in the cyberspace without being aware they are producing geographic information.

This user generated information, termed Volunteered Geographic Information (VGI; a controversial definition), differs from conventionally produced geographic information in several aspects: the source of the information, the technologies for acquiring it, the methods and techniques for working with it and the social processes that mediate its creation and impact. Traditionally geographic information has been produced by experts and institutions: so certain types of information have been privileged and other types ignored or marginalized [5]. VGI represents a powerful shift in sources, content, characteristics, modes of data production, mining, sharing, dissemination and use. This approach could support transfer of knowledge, exchange of expertise and best practices among cultural actors, support the structuring and strengthening of professional cultural associations and networks.

Can geo-tagged and user generated content be useful in the creation of meaningful, real time indicators of urban quality related to the cultural heritage? Is it possible to plot the very many and co-existing perceptions in cities and neighbourhoods, relying on User Generated Content? What kind of GIS-based spatial analysis techniques can be applied to geodata to produce real-time maps of citizens' cultural perceptions, sentiments and emotions related to them? How does an urban semantic layer - the meanings we attach to places - look like? How can this data be validated, in order to verify if they are significant and accurate proxies of common perceptions toward city spaces? How can user-generated information be applied to the design, implementation and evaluation of urban policies and spatial design and planning related to the cultural heritage? How can well-being and happiness related to the cultural issues be defined and observed from user generated content? And what use can we make of ubiquitously connected things and sensor data of various kinds towards the aims of the stakeholders? And how can we design such infrastructures to support human communication and cultural meaning-making?

Besides UGCs that are explicitly spatial and can be easily geo-localized, as long as they are made available through on-line mapping platforms, produced through GPS-integrated (mobile) devices, are geo-tagged or can be geo-referenced by using IP addresses, there is an enormous amount of web content that is merely textual and that is not possible to geolocalize directly. Moreover, the recognition of the geographical origin of contents, does not guarantee that they are actually referring to the places where they are produced, nor that they include information which is relevant for the purpose of the project. In order to overcome those limitations and to extract relevant and appropriate information, it's possible to apply entity recognition (NER) methods to assign geographical scopes, through automatic GeoReferencing, including GeoParsing (or GeoExtraction) and GeoCoding processes. Analysing geo-localized contents to explore emotional indicators and topics will result in a number of dynamic maps on perceived urban quality, using visual representation to enhance the detection of patterns, reducing the search for information and enabling perceptual inference operations. That fact produces huge audiences for cultural productions at local and regional levels and increases and represents a stronger incentive for possible investors.

M.U.S.I.C. focuses on the possibility to constantly extract quantitative and qualitative indications on how places and cities are perceived by inhabitants and city users. End users would be able to count on information which is relevant for their cultural purposes. The project aims at reinforcing the awareness of a shared regional culture and setting synergies between formal and informal cultural dynamics. This can be envisioned giving structure to the relation among digital media as catalyst tools and urban regeneration as spatial rooting device. M.U.S.I.C. aims at providing multi-dimensional and vivid experiences of physical space throughout the music and sound related to different times of city

inhabitants, tourists and visitors as well as a sophisticated and specialized data base for experts. Within this framework, the project aims at providing a wide range of stakeholders (which includes urban managers and public administrations as well as citizens) with meaningful cultural inquiry information about the city environment they live or work in. Starting from the historical physical manufacture and passing through instruments and sounds, the project focuses on the contextualization of cultural heritages within the so called "Intelligent Expert System of Digitalization". So that, after a data mining through independent and flexible media, it will be possible to know if some archives already exist, or to create them. Through natural language and network analyses, the project will identify a cultural behavioural and semantic background for the entire city, related to the sound, rhythms, music of a place, making it possible to extract and depict specific patterns of subjective perception and use. This will allow the cultural economical energetic sustainability of the conservation through a project related with the music as a propeller for a cultural awareness.

FOSTERING CULTURAL AWARENESS TO ENHANCE CULTURAL POLICIES AND ECONOMIES

The project will develop a strategy to archive cultural data, - sounds music and rhythms in particular - extracted from different sources, such as independent social networks, web platforms, mainstream media, specific information by population, which will be delivered to Public Administrations involved, to implement through these a cultural awareness. The envisioned action plan applies sounds and places analysis to spatial and geo-localized user-generated content in order to extract patterns of perception of city and rural spaces. With the project's focus on the operational level of the city the aim is to constantly extract indications on city cultural uses related to the sound of places. In particular the project platform will allow end-users to analyze users' perceptions related to specific geographic areas, detect the lack of structures related to the culture offered by institutions and city administrations, discover possible emergent structures and bottom-up initiatives responding to uncovered needs and desire, discover meaningful relationships and connections between places, people and cultural uses. The data display and diffusion will be provided through a visualization engine, helpful to understand how the cultural heritage is perceived within a city and how it can be managed. The visualization engine, will provide both geographic and non-geographic features.

Geographic visualizations will be the main access point to information, showing the intensities and qualities of the captured data under the form of graphical layers which are stackable onto the map, allowing for comparative visualizations across times, information sources, themes and other parameters. Maps will be completely navigable and filterable, allowing Municipalities to visualize only the information they want to focus on, including the other data sources which will be provided in the platform, as gathered from databases coming from institutional, verified sources. The non-geographical visualizations will show classical statistical and analytical information about the data contained in the system and its subsets, including distributions, correlations, indexes and dissemination across time and subjects. Specific visualizations will provide insights on the interpretation of the harvested information, expressing it under the form of semantic graphs directly obtained by the processes which will use semantic classification techniques. From this set of visualizations users will be able to focus on specific subsets of data, and then visualize them geographically. All data and visualizations will be exportable using internationally recognized open formats, allowing for easy integration to other databases and documentation forms.

The project will also develop meaningful ways to represent spatial cultural heritage and sounds for an immediate reading, understanding and interpretation of the information to convey and to archive. Many practices rely on the act of 'mapping' the world in order to make decisions; in the case of Urban Design, mapping is an integral part of the design process. Maps are used to support and argue for specific design and development decisions even though they are often built from limited sources of data or even from the perspective of a single person (thereby greatly increasing the subjectivity of the artefact).

Geo-spatial data (the visualization of real-time feeds of data on maps), with regard to the resulting cultural heritage indicators and sounds, will be a central point: particular effort will be put in developing an effective representation and sound system, that will allow the user flexibility and the possibility to highlight data related to specific issues, with the aim of providing an easy to use tool for designers, cultural operators and decision makers. Unlike traditional maps, which are often static representations of distributed phenomena at a given moment in time, M.U.S.I.C. will provide tools for grasping the moving picture of citizens expressions, as they are constantly changing and evolving with the city itself. The result will be a map/archive of the geo localized territory sounds and cultural places.

Building a notion of time into computer-generated maps would definitely help urban planners, cultural operators and designers to present a more dynamic notion of what places and experiences in cities are and are fundamental to create an awareness of cultural identity. The graphic user interface will be specifically designed to meet final users' needs, and specifically to make complex data effectively accessible, easily searchable in a visual and "hearable" way, through a visual and sound language that will allow the users to intuitively catch a temporal understanding of people, places and sounds in the city.

The tool we wish to develop would help the whole range of cultural operators, stakeholders involved in decision-making processes that result in planning activities, in urban design, in the definition of urban policies related to the cultural heritage. It would be a monitoring tool, offering information interpreted and mapped in real- time to the cultural elements of the city and its citizens, deploying de facto a cybernetic feedback loop between them. It would be helpful in understanding how the cultural heritage is perceived within a city, but it could also give hints to central and local public

administrations who are willing to adopt a more human-centred approach toward our cities' transformations.

The awareness of the presence of renovated cultural opportunities related to the sound and music in the Mediterranean area, will reinforce the need of new professional figures as cultural private and public administrators, curators, and producers. Festivals and informal performing occasions in the north Africa context do not produce durable skills for cultural operators neither for Arab artists mobility. The relations between cultural operators, decision makers and citizens have to be enhanced in a more structured way. Only acting constantly, cultural operators will better influence their political, administrative and economic environment. The project platform will work as a catalyst in setting synergies between formal and informal cultural economies. Under a regional management setting the general framework, local stakeholders and cultural associations will operate as curators able to coordinate activities at the local and inter-regional scale of the network and to work on the formal-informal interactions. The possibility of finding meaningful ways to inquire citizens' patterns of use, cultural spatial experiences and related perceptions of the urban environment brings in fact many important promises to the fields of urban design, planning and management.

MAPPING SOUNDS, SPATIAL ROOTING AND URBAN REGENERATION

In every city, there are areas with strong character and identity. It's clear to everyone where and what a historical centre is, how to define an urban park or a hilly countryside. But how can we define and how people name areas in transition? For example the terrain vague of areas that used to be rural, areas of suburban fragmentation, areas characterized by enclosed technological infrastructures that often disappear from the mental representations the inhabitants build to navigate and communicate their environment. We think that sounds identify cultural places historical and not, which can define the identity of a place.

A domain where VGI (Volunteer Geographic Information) has been demonstrated to have considerable potential is in the identification and description of so-called vernacular place names – that is to say the often unofficial place names that people use in their everyday life, whose borders do not coincide with administrative regions. For example, Jones et al. (2008) investigated the use of web mining to identify place names associated with vernacular names and thus derive a "shared" idea of the definition of large vernacular regions such as Switzerland's Mittelland or the Midlands in the UK. Hollenstein and Purves explored how place names were used in Flickr, in particular with respect to the naming of city centre neighbourhoods. Edwardes and Purves [6] looked at the use of so-called basic levels, that is to say terms commonly used to describe place, in Geograph, a large collection of volunteered georeferenced images, and demonstrated that similar results could not be obtained from previous empirical studies, thus demonstrating that VGI has the potential to be used as an alternative means of gaining knowledge of shared concepts of space. We think that sound rhythms and music of a place could be a red line to define a new trans national space along the Mediterranean area.

Is it possible that cultural heritage makes people talk about an area? How many different cultural activities make people talk about an area? Is the sound theme possible in a district? How do cultural heritage awareness change over time (on a daily, weekly, monthly and yearly base)? What are the public's perception of a few central elements often associated with "good" cultural environment and thus increasing the liveability of a city: how accountable is its government (fiscally as well as in transparency); what is its accountability to the public in terms of this perceived performance which presume citizen interest. Thus different components of "access" and participation are key in stimulating both the elicited perceptions of liveability as well as prioritization of citizens in order to better target and special design and policy related to cultural issues and sounds, which satisfies their criteria for a "liveable" city. This could be done with an initial scoping or "digital emersion" phase where the research team identifies the appropriate mechanisms, places and ways to build relationships based on their sounds mapped, through networks of social hubs and focal points where further participation could be elicited. The these links should be traced in order to see where a social change agent (or blocker) has been identified through an expression of values of what liveability in certain geographic areas means and what is needed as expressed by the inhabitants within the community, as issues, alternatives, and their position on the current status of the liveability.

Through the application of sentiment analysis techniques, a method first developed for businesses aiming to market their products, within the textual analysis of UGC, it will be possible to identify generic sentiments from citizens toward cities, specific neighbourhoods within cities or single urban infrastructures, landscape and urban projects. Sentiment analysis will allow to extract information about, on the one hand, users' judgement and evaluation, classified according to their polarity (positive, negative, or neutral) and, on the other hand, about the affective/emotional state of the writing author, e.g. happiness, fear, etc. While there is extensive research about sentiment analysis per se, and a growing interest for applying sentiment analysis to UGC and social networks (see Golder S.A. et al. in Science 333, 2011), the application of sentiment analysis to spatial and environment data has not been experimented yet. The integration of sentiment analysis, UGC, and spatial analysis techniques, can provide relevant information about urban perceptions and emotions through space, that would be otherwise impossible to obtain, to map and to visualize.

The Project platform would benefit from the explicit possibility to highlight emerging trends in how people declare their desires, wishes and visions on the city relating to cultural heritage, describing the possibility to identify opportunities for business, new models, new possibilities to create collaborations, groups, policies and infrastructures.

There are a lot of different software solutions already used for urban planning. The main issue is that they rely on

static data coming from governmental or manually surveyed data sets, or on data coming from users which are already aware of the possibility of contributing information using digital tools and networks. The use of a dynamic flow of social data is a huge advancement over this current practice as described in the following sections.

The Project assumption is that by conducting an analysis of data sets based on data extracted from UGC (User Generated Content) there is the possibility to recognize multiple stories, as they emerge, overlap and influence each other, unfolding from city users' mental representations and spatial experiences of city spaces.

Through the awareness derived from this knowledge the digital platform could empower public administrations, private stakeholders and citizens to foster economies of scale for the cultural sector that could determine a spatial rooting of the platform in specific urban or rural spaces suitable to host permanent or temporary, profitable or non-profit activities linked with the themes of the project. According to this dynamic the digital media initiatives can become engine of spatial regeneration. Urban or built heritage in need of regeneration could take advantage from the settlement of stakeholders from the cultural sectors. The economical balance can be reached through an equilibrated management of profit and no-profit initiatives mixing stakeholders at various scales, sponsors, investors, NGOs, producers, artists, beginners, amateurs. A cultural sustainability framework can make the music industry sustain the local emerging realities and promoting education.

CONCLUSION

M.U.S.I.C. aims at reinforcing the awareness of a shared regional culture and setting synergies between formal and informal dynamics to foster cultural economies. This means increasing audiences and access to markets and raising the interest for investment; fostering administrative skills to better influence their political and economical environment; creating new cultural and creative small and medium enterprises; enhancing cooperation synergies among public and private stakeholders and citizens. We can resume the main actions of the project in the following list:

- a harvesting engine that collects real-time cultural data streams from geolocalized UGC streams;
- a web interface that will allow users to perform specific searches within pre-defined domains (e.g. show all the content related to 'places' within the domain of 'a kind of music');
- a visualizing engine that will generate dynamic infoaesthetic representations on top of standard Google Maps visualizations;
- a mutually interactive set of sounds visualizations which allow operators to move between different analytical approaches, leveraging the benefits of each of them toward the creation of valuable interpretations of the expressions and behaviours of users in social networks;
- combination of user profiles information an geospatial data to generate several levels of analysis based on selected target groups (residents, tourists, age groups, …) ensuring inclusion of minor groups;
- an approach focusing on the support of multilingualism at different levels;
- an urban monitoring tool to set policies and planning initiatives;
- an urban regeneration strategy to root the intangible aspects of the project into specific places in need of economical investments for regeneration.

The gathering of actors around specific nodes will transform them in Mediterranean antennas amplifying and transmitting the sound of places to the region and the world promoting cultural and economical exchange among scales and countries. The project proposes a global, regional, cross-countries expandable approach. The digital platform could become exchange tool among countries and populations, setting the basis for the strengthening of common identity, but also for the fostering of contamination and dialogue, protecting differences and minorities. The digital dimension allow a widespread access to the cultural contents from the countries involved, but effectively from everywhere, opening an unprecedented showcase to the cultural products of this part of the world.

AKNOWLEDGMENT

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COMUNICARE LO SVILUPPO E LA COOPERAZIONE INTERNAZIONALE

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Obiettivo del Panel è indagare su come si comunica la cooperazione internazionale sui media, come comunicano i soggetti che fanno cooperazione, quali relazioni si instaurano fra media-ong-istituzioni, e in che modo la tipologia di comunicazione influisce sulle scelte finali.

Le ricerche presentate intendono fornire un quadro generale dell'interazione tra Università,giornalisti e operatori della cooperazione internazionale.

Tali ricerche sono state effettuate nel quadro progetto triennale europeo **"Comunicare in rete per lo sviluppo"** che si svolge in Italia, Francia, Spagna, con l'obiettivo di migliorare la quantità e la qualità della comunicazione sui temi dello sviluppo e della cooperazione internazionale. In Italia è promosso da COP - Consorzio Ong Piemontesi (www.ongpiemonte.it) in collaborazione con Università degli Studi di Torino, Associazione Stampa Subalpina, Regione Piemonte, Coordinamento Comuni per la Pace della Provincia di Torino. In Spagna e Francia i partner sono invece la Federazione delle Ong Catalane (www.fcongd.org) e RESACOOP – Réseau Rhône-Alpes d'appui à la coopération internationale (www.resacoop.org).

Un rapporto difficile tra media e Ong o enti che lavorano nella cooperazione è stato evidenziato da tutte le ricerche presentate e dal dibattito successivo. La prima ricerca, realizzata da Sara Minucci ha monitorato i media piemontesi tra il 1 aprile e il 30 giugno 2013: ne sono emersi 237 articoli che in qualche modo trattano il tema (secondo le parole chiave individuate), ma la maggioranza risulta di piccole dimensioni contenuti nella sezione cronaca locale (60,7%). A testimoniare che i piccoli eventi locali sono più ripresi delle tematiche generali e la cooperazione internazionale non è percepita come una rappresentanza dell'Italia all'estero.

Interessante anche il confronto con i dati di Francia e Spagna (visibili nei paper allegati) in cui pur in contesti sostanzialmente differenti alcuni tratti comuni si riscontrano nella scarsa notiziabilità dei temi della cooperazione internazionale, la bassa salienza, la predominanza del termine umanitario su quello di sviluppo e cooperazione.

La parola chiave più riscontrata è infatti, in tutti e tre i paesi "Umanitario" (50,2%), a scapito di scarsissimo coverage sullo sviluppo o sulla cooperazione. Il tema della cooperazione appare più complesso da comunicare, soprattutto in modi comprensibili ai media e al pubblico in generale.

A questo proposito, tornando al caso piemontese,sono emersi molti dati anche sulla necessità di professionalizzazione dei comunicatori delle Ong e degli enti che fanno cooperazione: solo il 59% delle 32 Organizzazioni di cooperazione interpellate in Piemonte si serve di comunicati stampa per raccontarsi all'esterno. Il 91% di loro comunica attraverso il proprio sito web, attuando una strategia autoreferenziale. Appena il 15% possiede un ufficio stampa, mentre il 41% si serve di volontari per comunicare. Una comunicazione che appare più a spot basata sui pochi o tanti contatti personali che strutturata strategicamente e in modo continuativo.

Interessante anche l'approfondimento sull'uso dei social network da parte delle Ong italiane, presentato nella terza ricerca italiana, condotta da Donata Columbro: se è forte da parte della maggioranza delle Ong italiane la voglia di seguire le nuove tendenze del web 2.0, manca però un cambiamento 'strutturale' del lavoro, che si lasci permeare da una comunicazione in cui il contenuto è creato anche dagli utenti.

Spesso le Ong tendono a usare siti, blog e social network come vetrina delle proprie attività nel senso più tradizionale del marketing: cioè come "canale" per informare o lanciare eventi e campagne come farebbero con uno spazio pubblicitario in tv.

Più strategia, meno frammentazione e un rapporto strutturato tra Ong e media, è emerso come indicazione di fondo dal panel. Emerge anche come le linee guida sulla comunicazione vadano aggiornate. La cooperazione internazionale gode di una bassa presenza sulle reti televisive nazionali, e in Italia se ne parla poco. Sono rari i documentari sulla cooperazione.

Esiste inoltre un effetto della comunicazione sulla memoria storica della cooperazione: si dimentica che "fare comunicazione" è aggiornare una riflessione per il futuro. Questo perché anche i progetti molto interessanti, se non comunicati, perdono di significato e di impatto sulle società.

L'altro ostacolo è quello posto al "data journalism", ovvero l'uso dei dati permesso dai sistemi informatici. A questo proposito, mancano o non sono accessibili le informazioni.

Emerge anche un nuovo bisogno di formare i giornalisti sui temi di solidarietà e della cooperazione, e la necessità di costruire un network di comunicazione: solo così i media possono raggiungere la gente e la società.

THE COMMUNICATION OF INTERNATIONAL COOPERATION AND DEVELOPMENT IN PIEDMONT

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ABSTRACT

This work is part of the European project "Network of Journalists and Communicators for cooperation and development" (www.devreporternetwork.eu, DCI-NSAPVD/2012/279-805) and deals with the communication of international cooperation and development in the media of Piedmont.
The goal is to offer a snapshot of how local media address the issues related to international cooperation and development that can provide elements to reflect on which are the strengths and the weaknesses of the information landscape in Piedmont.
The research focuses on the coverage of issues related to international cooperation and development in local newspapers distributed in Piedmont and in the evening edition of TgR Piemonte, the regional newscast on the national broadcast RaiTre. The discussion also uses the information collected through a questionnaire to editorial staffs working in Piedmont that aims at understanding how they organize the communication of these issues.

INTRODUCTION

This article presents the first data on the presence of international cooperation and development in the local media of Piedmont.

The research is part of the EU-funded project "Communication Network for Development" (www.devreporternetwork.eu, DCI-NSAPVD/2012/279-805). The leader of the initiative is the Federación Catalana de ONG para el desarrollo (85 member organizations), based in Barcelona, together with the two partners: the Consorzio delle ONG Piemontesi and RESACOOP, the coordination of the Region of Rhône-Alpes based in Lyon (the latter consisting of several NGOs but also by French local authorities and universities).

The project has three main objectives: 1) to establish a network of journalists and media professionals for development, 2) to improve the quality of local news about international cooperation and development and the Millennium Development Goals and 3) to enhance the skills of the people in charge of communication among the members of the three regional platforms. The analysis presented here participates to the achievement of the second objective and will be completed by November 2013.

This paper is organized as follows: first, we will discuss the results of the research carried out in the local papers of Piedmont, then we will show the data about the regional newscast of RaiTre and, finally, we will present the first results of a questionnaire to editorial staff working in Piedmont.

LOCAL NEWSPAPERS

Local newspapers in Piedmont have a strong journalistic tradition, rooted in the territory. Local newspapers reach their readers with thousands of copies by postal subscription and on newsstands, with a high loyalty rate. Readers bases mainly consist of territories inhabited by 80 to 150 thousand people.

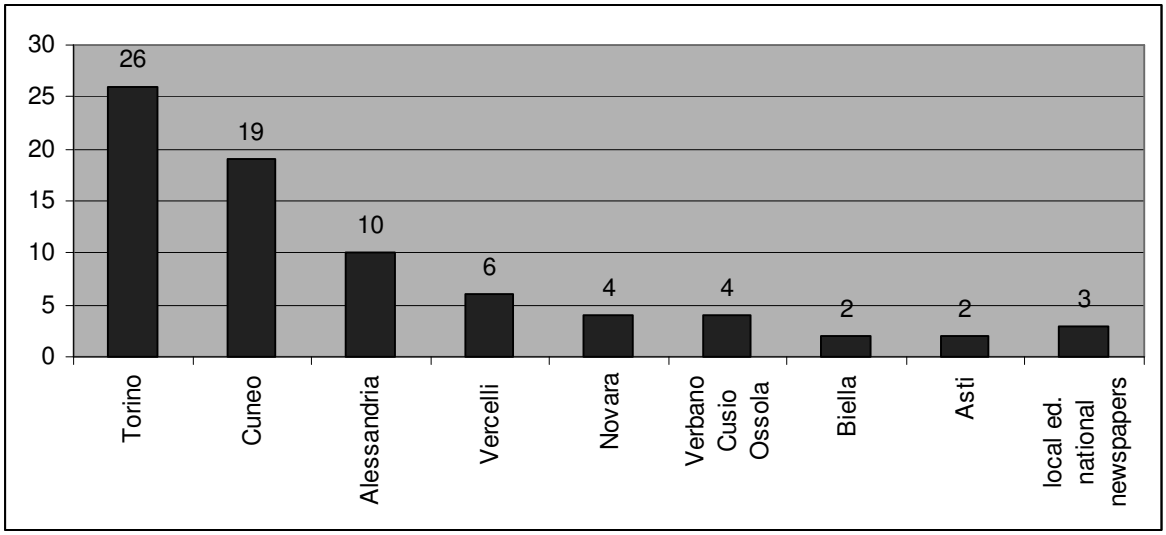
The spread of local newspapers in Piedmont reaches a total of about 600,000 copies a week [1], with an actual readership of more than 2 million people out of a total of approximately 4 million and 400 thousand inhabitants. Since the local newspapers are in majority weekly or bi-weekly, they remain more days in homes and they can thus be read by more than one person. This aspect highlights one of the most important features of local press, which is to be primarily in-depth newspapers, in contrast to the steady stream of information coming from the other media.

The analysis was conducted by querying the database of the Piedmont Region "MenteLocale", a storage platform of printed Piedmont developed by the Press Office.

The list of newspapers consulted shows a geography of Piedmont extremely interesting from the point of view of the vitality of local journalistic system (see Graph 1).

The research was carried out in the following newspapers:

- Province of Alessandria (AL): *Ancora*, *Monferrato, Nostro Giornale, Novese, Panorama Novi, Panorama Tortona, Piccolo, Popolo, Vita Casalese, Voce Alessandrina.*
- Province of Asti (AT): *Corriere Astigiano, Gazzetta di Asti.*
- Province of Biella (BI): *Biellese, Eco Biella.*
- Province of Cuneo (CN): *Bisalta, Bra Oggi, Corriere Alba, Corriere Bra, Corriere Saluzzo, Corriere Savigliano, Cuneo Sette, Fedeltà, Gazzetta Alba, Gazzetta Saluzzo, Guida, Idea, Idea Sport, Nuovo Braidese, Piazza Grande Fossano, Provincia Granda, Saluzzo Oggi, Saviglianese, Unione Monregalese*.
- Province of Novara (NO): *Azione, Corriere Novara, Novara Oggi, Tribuna Novarese*.
- Province of Verbania (VB): *Eco Risveglio Arona, Eco Risveglio Ossola, Eco Risveglio Verbano, Prealpina*.
- Province of Vercelli (VC): *Corriere Eusebiano, Corriere Valsesiano, Gazzetta, Notizia Oggi Borgosesia, Notizia Oggi Vercelli, La Sesia.*
- Province of Torino (TO): *Canavese, Corriere Chieri, Corriere Moncalieri, Corriere Sportivo, Cronaca Qui Torino, Eco Chisone, Eco Mese, Gazzetta Canavese, Luna Nuova, Mercoledì, Monviso, Nordovest, Nostro Tempo, Notizie Comune, Nuova Periferia Chivasso, Nuova Periferia Settimo, Nuova Voce, Nuovasocietà, Risveglio Canavese, Risveglio Popolare, Sentinella Canavese, Sprint e Sport, Valsusa, Vita Diocesana Pinerolese, Voce Canavese, Voce del Popolo.*
- National newspapers with local editions: *Il Giornale, La Repubblica, La Stampa.*[1]



Graph. 1 - Number of newspapers/ province.

Methodology

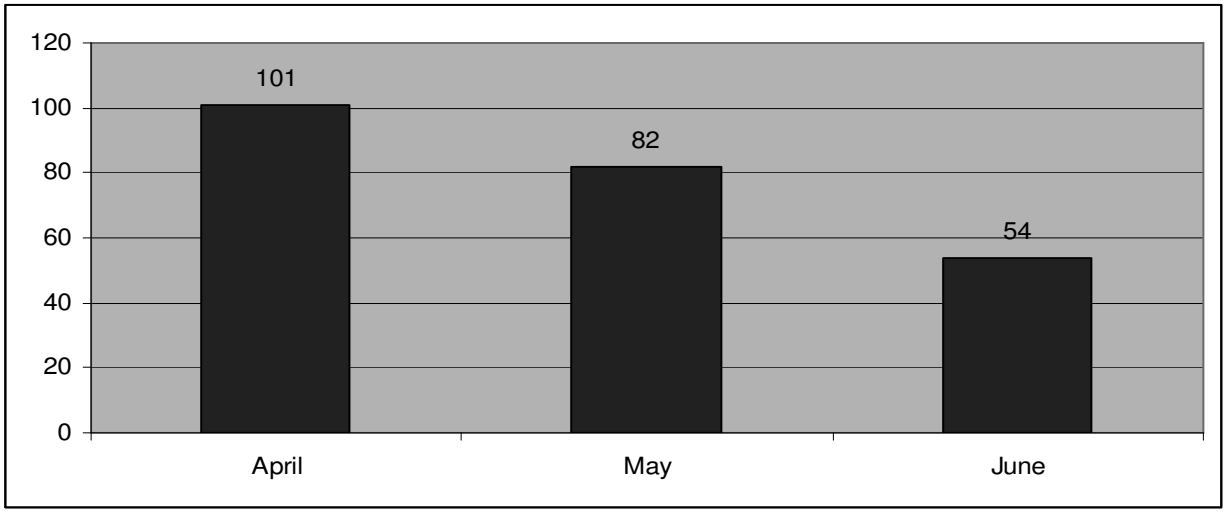
The digital archive MenteLocale collects the pages of newspapers that regularly send the material in PDF format. The database allows users to search pages by selecting from one to three textual units (key words), which can be searched by combining three Boolean operators "and", "near" or "not". The limited amount of search fields, it should be remembered, does not allow to refine that much about the query string. However, the method of investigation allows the definition of quantitative flows that, once defined, may be repeated, giving rise to significant trends.

Results

The research was divided into two phases. The first one has detected the frequency with which, in the period between April 1st and June 30th (2013), articles have appeared with at least one of the keywords selected: cooperazione internazionale (international cooperation) 85, cooperazione e sviluppo (cooperation and development) 200, ONG (NGO) 80, internazionalizzazione (internationalization) 158, umanitari/o/a/e (humanitarian) 353. In this way we collected 877 articles in total. In the second phase, all articles have been read to verify their actual relevance to the topic under investigation. Once the analysis was completed, it emerged that there are 237 articles related to the topic of this study[2]. The presence of the articles varies over time: in April were 101, to May 82 and June 54 (see graph 2).

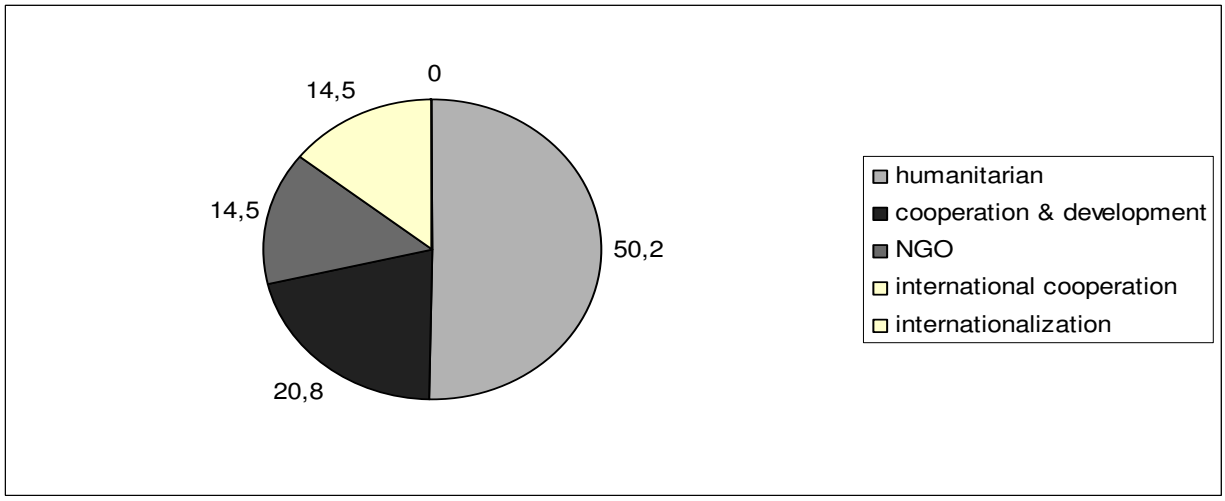
[1] *Il Giornale* and *La Repubblica* have regional editions, while *La Stampa* has a local issue for each of the 8 provinces of Piedmont, each with its own pages. Therefore, in this paper, articles published by the various provincial editions of *La Stampa* will be counted among the articles published in each province, while the articles of *Il Giornale* and *La Repubblica* will be kept separate.

[2] The value is calculated net of the cases (34 in total) in which the same article has been identified using multiple keywords.



Graph 2 - Number of relevant articles/month.

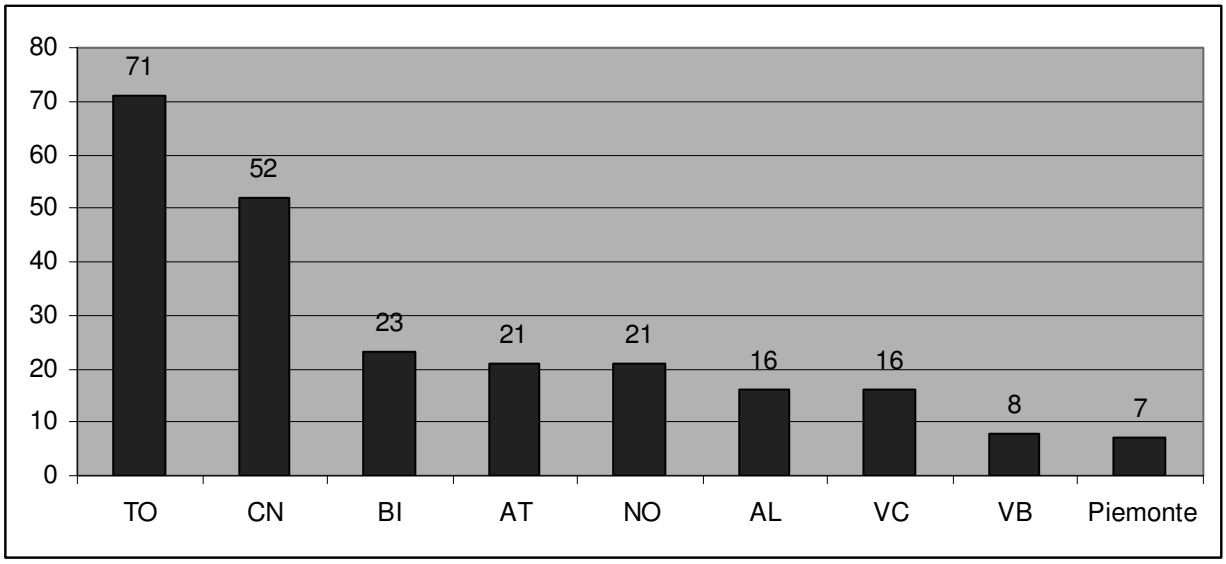
From the reading of the collected material emerges as, among those used, the keyword 'humanitarian' is the one that collects the largest number of articles (50.2%), followed by 'international cooperation' (20,8%) and 'development and cooperation' (14.5%) and 'NGO' (14.5%)[3]. No article on topics related to international cooperation for the development was instead found by using the term 'internationalization' (see graph 3). The fact that 'humanitarian' in its various forms appears to be the most used word in the articles confirms that the term humanitarian ended up becoming an overused adjective [2] used both to create emotional involvement and to legitimize external interventions [3]. Other keywords are evidently being too technical and specific and therefore of limited use to outside their specific field.



Graph 3 - Relevant articles/ keyword.

The number of articles by province (Alessandria 16, Asti 21, Biella 23, Cuneo 52, Novara 21, Torino 71, Verbania 8, Vercelli 16, Piedmont 7), on the one hand, reflects the disparity between provinces in terms of number of newspapers, with Turin and Cuneo which are clearly distinguishable. On the other hand, it reveals how some provinces - in particular Asti and Biella - have a significant number of articles about international cooperation and development in relation to the number of newspapers published. Similarly, one can observe a lack of attention to these issues in the regional editions of *Il Giornale* and *La Repubblica*. The limited presence of articles on these titles may be due to the fact that, since they have to cover the news from the entire region, it is more difficult for news on international cooperation for development or on NGOs to respond to so-called "substantive criteria" [4] of newsworthiness that define the importance that a news can have: the type of actors involved, the geographical proximity, the number of people involved, the possible future developments. The more geographically limited is the area covered by a newspaper, the greater is the possibility that news stories – in particular those referring to specific events on the ground - get visibility on its pages.

[3] In this case values are calculated including all keywords found in the articles, then n = 271.



Graph 4 - Number of relevant articles/ province.

The section where most of the articles are is the Cronaca Locale (Local News), which collects 60.7%, followed by the pages of Cultura e Spettacoli (Culture and Shows) with 12.6 %. All other sections, including Attualità (Current, 2.9%), Esteri (Foreign News, 2.5%) and Economia (Economics, 1.2%), have a very limited number of articles. This fact, together with data about the occasion of the article - which in 73.4 % are originated by events - even very small – on the territory (e.g. fundraising concerts, book presentations, ethical markets) confirms the fundamental importance of the geographical proximity of the events or people involved as a means of access to the pages of local newspapers.

We also found that in 114 articles there are references to specific countries or areas: the majority of them uses generically the term Africa (25 articles), while the most mentioned country is Mali (16 articles), followed by Kenya (7), Burkina Faso (6), Brazil and India (5), Ethiopia, Nepal and Tanzania (4). The other countries or areas have very few references. This result, on the one hand, shows how journalists tend to use generic geographical references ('Africa') instead of precise indication of a country and, on the other hand, it points out how emergency cases such the one of Mali can be presented even in local newspapers.

The result of the study on the visibility of the articles shows that they are in majority of small size (35.4%) or medium (33.3%). The fact that the largest number of items does not bear the signature of the author (64.9%) and that the majority of them are of small or medium size would seem to suggest the direct use of press releases by the newspaper. To find a reply to that hypothesis, we crossed the data regarding the items with greater visibility, those that are big sized and high-cut, which is 19.8% of the total. Of these, only 17% is published without signature. This result seems to strengthen the hypothesis that, for the items with poor visibility into the page, newspapers tend to make use of texts already written, while news to which is dedicated more space tend to be processed by the journalists of the magazine.

In this analysis, it is important also to highlight the presence of local newspapers that host sections on topics such as associations, aid and the South of the world which can thus offer a space to inform also about issues related to international cooperation and development and its actors: *L'Eco di Biella* (Biella) has the heading Associazione della settimana (The association of the week) and *La Bisalta* (Cuneo) 'Cuneo-Associazioni' (Cuneo' Associations), *Cronaca Qui Torino* (Torino) hosts 'Volontariato e solidarietà' (Volunteering and solidarity), while *La Voce del Popolo* (Torino) has 'Sud' (South). It is an important element of context that could contribute to the creation of a relevant frame in the communication of these issues and that therefore may be taken into account for the purposes of improving the quantity and quality of the communication of issues related to cooperation and development and its actors.

LOCAL TV NEWS : TGR PIEMONTE

TgRegione of Piedmont (TgR) is the regional television news broadcasted on the national broadcast RaiTre, produced by the Regional Newspaper. It constitutes the main mean of television news about Piedmont for the region's inhabitants.

Methodology

The analysis of TgR examined the main edition of the newscast, that of 7.30 p.m., in the period April-June 2013. The survey was conducted in two phases. The first was developed through a keyword search (using 'international cooperation', 'development and cooperation', 'internationalization', 'NGO', 'humanitarian') in the database of Teche

Rai in Turin, where all the services of all editions of the TgR are archived by keywords. It was decided to use the same keywords used for searching the local papers both because it was considered they were those that could better identify relevant services for the diagnostic study, both because this allows to create dialogue between the results obtained in the two samples.

In the second phase, to deepen the research, the entire 7.30 p.m. edition in the first week of April (1-7), the second week of May (6-12) and the third of June (17-23) has been watched to check the presence of services relating to the topics of interest that had not emerged using keywords. In this way it was possible, on the one hand, to check the possible margin of error given by the use of keywords and, secondly, to verify the possible presence of relevant topics eventually excluded from our survey.

Results

The conduct of the two stages of the inquiry on 7:30 p.m. edition of TgR did not reveal any service related to the issues of international cooperation and development. This result can depend on the absence – in the period of time taken into account - of news on international cooperation and development (i.e. events on the territory) considered significant enough to merit a space in the TgR main edition. Anyway, this lack of data is in itself an important result and must be taken into account for the achievement of the specific objectives of the project "Network communication for development".

LOCAL EDITORIAL STAFFS

After having examined the communicative products, the study focused on the communication actors that operate in Piedmont to understand how they are organized, whether and how they deal with the issues of international development cooperation and how they evaluate their contribution in the communication of these issues. To do this, more than 250 newsrooms in Piedmont (including the press, internet, radio and TV) were contacted via email between June and October 2013 to answer to an online questionnaire. 16 answers have been received so far (12 newspapers, 2 radios, 2 websites).

Methodology

The questionnaire was structured through a first part of questions designed to reconstruct how the editorial staff is organized – how many journalists work in it, how many freelance journalists work for it. A more specific second part focused on the subject of this research: it asked if there is at least a specialist in international cooperation, how often news related to international cooperation are published, what the main focus given to these kind of news is, what sources are used, if they have a specific section on international cooperation. Finally, a question asked to describe cooperation in 5 words.

Results

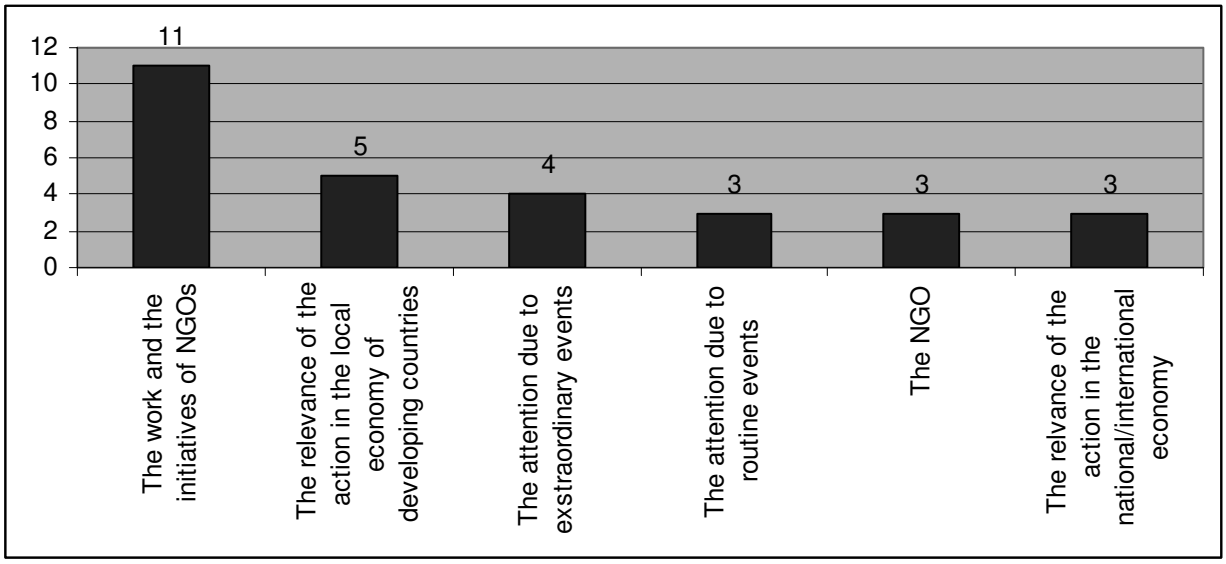
Although this part of the research is still going on while we write, we try here to sketch the partial results obtained from the small number of responses obtained so far.

As for the journalistic routine, the data collected so far confirm what was observed in the study of the newspapers: the majority of editors who claims to treat, even infrequently, information concerning Co-operation and Development (14) does so especially in the section of Local News (5), 3 in Economics, 2 in Foreign News, one has a special section, one uses the Front Page, one in the section 'Society', one in Politics.

In addition, four say they feature at least a specialist on issues related to international cooperation and developing countries: in two cases it is a collaborator, in one case it has an internal editor who is specialized in this area and in one case the tested claims to have more than one specialist in the field but does not specify what their classification. Among those who declared that they have specialists, 6 stated that they never or almost never deal with these issues, 3 admit they do not have sufficient resources to have them, while 2 claim that they do not consider necessary to have a specialist in this field.

Moreover, among those who responded to the questionnaire, 6 claimed to have hosted public awareness campaigns related to the issues of development cooperation promoted by cooperation actors at international, national or local level. In all cases they did it for free.

Regarding the sources of information used by editorial staffs, it is relevant to note that the vast majority of those who responded (11) said that, when they talk about international development cooperation, they mainly use as sources direct personal contact with the actor/s involved. The others declared to use press agencies or institutional sources of information (press releases, newsletters or websites of Ministry , Region, Province, City etc.).



Graph 5 - Main focus of pieces concerning cooperation according to journalists (multiple answers were possible).

Editorial staffs were also asked to describe in five words what international cooperation is according to them. Figure 1 shows their answers (the bigger a word is, the more it has been used).

Fig. 1 - Words describing cooperation and development according to local journalists.

Even if Figure 1 has not any statistical relevance, it shows a mainly positive conception of international development cooperation by the frequent use of terms such as ‘solidarity’ and ‘collaboration’ but also ‘future’, ‘rights’, ‘commitment’ and ‘justice’. The result, however, has to be confirmed at the end of this part of the study.

CONCLUSIONS

The analysis conducted so far lets us drawing a first reflection on "communication for development".

Data show that the presence of news related to international development cooperation and its actors is in general poor and mostly linked to events in the area. Furthermore, data collected from newspapers seem to suggest a lack of specialization of journalists on these issues although cases of thematic headings on some newspapers are a good example of how the presence of development and cooperation and of the actors involved in it can be improved on the pages of the newspapers Piedmont.

In a context of scarce competence of journalists, the professionalization of NGOs communication constitutes the basis to increase the information about international cooperation both in local and national newspapers and broadcasters. The result can be obtained by improving the newsworthiness of NGOs’ activities: examples can be 1) the organisation of events – even small – on the ground, 2) to show clearly the link between the territory and the economy of Piedmont and the work and the activities of local NGOs (i.e. describing the work and the personal stories of Piedmontese development workers).

Actually, a better communication can create a favourable ecology for international cooperation programs by making development interventions more vernacular and thus facilitating interactions between the actors of cooperation and the public [5].

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ONG E SOCIAL MEDIA: I RISULTATI DI UN'INDAGINE DI MAPPATURA DELLA PRESENZA ONLINE DELLE ORGANIZZAZIONI NON GOVERNATIVE ITALIANE

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ABSTRACT

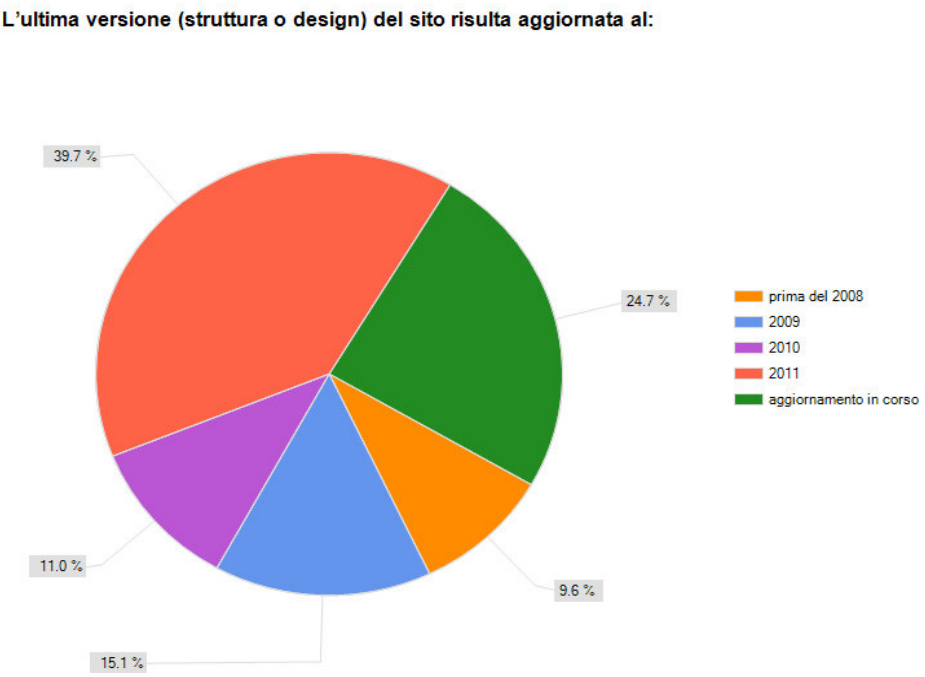
Il paper raccoglie i risultati di un'indagine online somministrata alle organizzazioni non governative italiane nel mese di febbraio 2012, nell'ambito di una ricerca sulla comunicazione della cooperazione internazionale attraverso i nuovi media cofinanziata dalla Fondazione CRT e della Fondazione Giovanni Goria per il Master dei Talenti della Società Civile.
Attraverso un questionario è stata osservata la presenza online delle Ong con riferimento al sito internet, alla capacità di creare comunità attraverso i social network e all'impiego di tecniche di fundraising su web.
I risultati hanno evidenziato un utilizzo ancora sperimentale dei nuovi media da parte della maggior parte delle Ong italiane, con una percezione errata del ruolo ad esempio del mezzo "social network", comparabile a quello degli "old media", dove il modello di comunicazione broadcasting consente a un soggetto di diffondere il suo messaggio a un'ampia audience di utenti. In realtà i social network o social media sono prima di tutto luoghi di conversazione, dove la comunicazione non è unidirezionale ma viene formata dai contributi di ogni attore. In generale, dai risultati dell'indagine emerge la volontà, da parte delle Ong rispondenti, di esplorare nuovi strumenti, ma manca la disponibilità a cambiare strutturalmente il proprio lavoro facendosi permeare dalle novità. Il che rende per lo più improduttivo il lavoro. Secondo Beth Kanter, studiosa statunitense dell'evoluzione delle Ong in relazione all'evoluzione del web, "Le Ong devono cambiare strutturalmente l'organizzazione del proprio lavoro e non solo applicare vecchi modelli a nuovi strumenti".
Nel mese di febbraio 2012, in corrispondenza del cronoprogramma previsto dalla ricerca, è stata avviata un'indagine qualitativa sulla presenza online delle organizzazioni non governative italiane. L'indagine, pubblicata attraverso l'applicativo Survey Monkey, è rimasta aperta per 90 giorni, raccogliendo in totale 76 questionari.

CHI SONO LE ASSOCIAZIONI INTERVISTATE

Il 65,3% dei rispondenti all'indagine sulla presenza on-line delle associazioni ha segnalato il proprio profilo come Ong idonea per il Ministero degli Esteri, secondo la legge 49/87. Il 28% dei rispondenti è un'organizzazione di volontariato iscritta al registro delle Onlus, un altro 28% si definisce 'associazione', mentre due si riconoscono nella categoria 'fondazioni' e due come 'comitati'. C'è poi un 8% che si definisce come avente diversa natura, in particolare: un ente autorizzato dalla Commissione adozioni internazionali, un giornale online, una Fondazione di partecipazione e un coordinamento di associazioni. Tra i rispondenti all'indagine, il 38,7% dichiara un numero di personale a contratto tra 1 e 5 persone; il 30,7% tra 6 e 15; il 22,7% più di 30 e l'8% tra 16 e 30.

INDAGINE – PRIMA PARTE: UN SITO INTERNET PARTECIPATIVO

La prima parte delle domande riguardava il sito internet, l'interazione con gli utenti e il collegamento con uno o più blog. Nell'era del web partecipativo "la struttura di un sito dovrebbe tendere sempre di più verso l'apertura all'esterno" secondo Luca Conti, consulente di social media marketing e docente dei corsi di Ong 2.0, dove ha spiegato che "Web 2.0 è passare dal web marketing al content marketing, non basato sulle metodologie tradizionali di diffusione del messaggio pubblicitario su siti vetrina, ma attraverso gli strumenti che si avvalgono dei contenuti come elemento che genera valore per l'utente".



I siti web delle Ong italiane stanno andando in questa direzione? Tutte le Ong coinvolte nell'indagine hanno un sito internet e il 39,7% ne ha aggiornato la struttura nel 2011. Per il 24,7% l'aggiornamento del sito era in corso nel momento in cui si è svolta l'indagine, mentre il 35,7% lo ha aggiornato per l'ultima volta prima del 2010. Solo nel 28,1% dei casi il sito è stato predisposto dalle Ong con la possibilità di commentarne il contenuto, mentre il 9,4% ospita uno spazio con uno o più forum per gli utenti. L'81,3% dei siti delle non profit prevede inoltre uno spazio per donare online via carta di credito, PayPal, bonifico bancario o altri servizi di pagamento.

A proposito dell'apertura verso l'esterno, alcuni rispondenti (16% in totale) hanno segnalato un collegamento con i social network attraverso social plugin (speciali strumenti che permettono di incorporare le funzionalità del Social Network direttamente all'interno di un sito) con cui condividere il contenuto, la possibilità di scaricare materiale, il collegamento a blog esterni e una form apposita per iscriversi come donatore. Inoltre, il 24,7% delle associazioni dichiara di gestire un blog e il 16,4% ne gestisce più di uno.

Per le Ong partecipanti all'indagine la cadenza di aggiornamento è per lo più settimanale (38,5%), di solito da parte dell'ufficio comunicazione/promozione del proprio organismo (70%). Il 26,5% invece è aggiornato da un team di autori dedicati a questa attività, mentre nel 20,6% dei casi sono i cooperanti espatriati a occuparsene o i volontari in servizio civile (11,8%).

Solo in un caso il blog viene utilizzato solo in fase di "emergenza", in un altro non viene più aggiornato perché la comunicazione è stata spostata integralmente su Facebook. Solo una delle organizzazioni rispondenti fa partecipare i beneficiari dei progetti nella scrittura del blog, tre Ong chiedono invece agli stagisti di occuparsene.

INDAGINE – SECONDA PARTE: USO DEI SOCIAL MEDIA

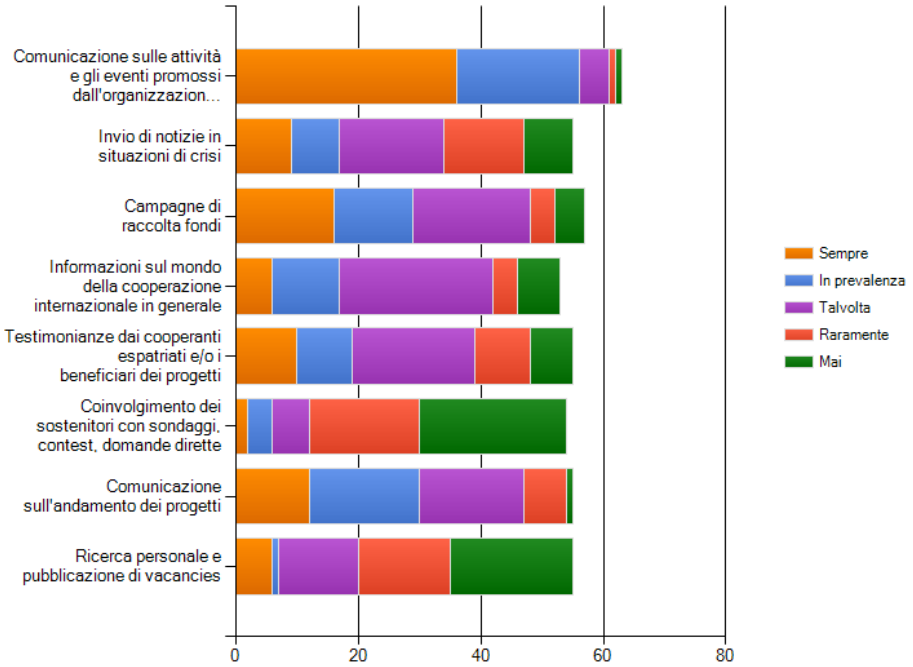
La maggior parte delle Ong partecipanti all'indagine (92,6%) ha attivato almeno un profilo sui social network: Facebook (92,5%), YouTube (76,4%) e Twitter (69,8%) i più gettonati, seguono Linkedin (32,5%) Google Plus (27,9%) , Pinterest (8,6%) e Foursquare (2,8%).

Alla domanda sui motivi per cui sono stati attivati canali di comunicazione social, i partecipanti all'indagine hanno risposto con commenti liberi che abbiamo raggruppato secondo le loro affinità:

- velocità, semplicità e immediatezza del mezzo **(9)**
- per raggiungere target diversi di persone allo stesso tempo (oltre newsletter/oltre rapporti face-to-face) **(7)**
- per la quantità di persone che è possibile raggiungere (effetto moltiplicatore) **(4)**
- per aumentare la propria visibilità/per promozione **(16)**
- per informare **(3)**
- facilitare la comunicazione con gli stakeholders **(2)**
- per aggiungere i giovani in particolar modo **(2)**
- perché ritenuto indispensabile/fondamentale **(3)**
- per l'interazione e il networking (informare e ricevere nuovi input) **(9)**
- per il contatto diretto con i volontari/simpatizzanti **(7)**
- trasparenza **(1)**

La maggioranza delle motivazioni fornite dai rispondenti evidenzia una percezione errata del mezzo "social network", comparabile a quello degli "old media", dove il modello di comunicazione broadcasting consente a un soggetto di diffondere il suo messaggio a un'ampia audience di utenti. In realtà i social network o social media sono prima di tutto luoghi di conversazione, dove la comunicazione non è unidirezionale ma viene formata da i contributi di ogni attore. Questo punto di vista emerge anche nelle risposte date sui tipi di argomenti trattati nell'aggiornamento dei social network. I principali riguardano la comunicazione sulle attività e gli eventi promossi in Italia (57,1% ha risposto 'sempre', il 31,7% ha risposto 'in prevalenza'), ma talvolta i profili sono usati anche per dare informazioni sul mondo della cooperazione in generale (47,2%, solo l'11,3% li usa 'sempre' per questa pratica). Sono poche le Ong che sfruttano i social network per coinvolgere in modo diretto i sostenitori con sondaggi e contest (il 44,4% non li usa mai in questo modo, il 3,7% li usa 'sempre' e il 7,4% li usa in prevalenza con questa modalità). Il 28,1% aggiorna 'sempre' i profili con campagne di raccolta fondi (in prevalenza per il 22,8%, mai per l'8,8%), mentre per il 14,5% l'invio di notizie in situazioni di crisi è l'argomento trattato in prevalenza (mai per il 15,5%). Talvolta (36,4%) le Ong usano i social network per riportare testimonianze dai cooperanti espatriati e dai beneficiari dei progetti (sempre nel 18,2% dei casi, mai nel 12,7%), mentre in prevalenza il 32,7% pubblica aggiornamenti sull'andamento dei progetti (sempre per il 21,8%), e solo il 10,6% li prende in considerazione come canale di ricerca personale e pubblicazione di vacancy (mai nel 36,4% dei casi).

Principali argomenti trattati sui profili dei social network attivi:



Ad aggiornare i profili istituzionali dei social network nelle Ong sono in genere persone dell'ufficio comunicazione/promozione nel 73,2% dei casi, mentre si tratta di un'attività integrata nei compiti di ogni dipendente e del personale a contratto nel 21,4%. Solo in due casi il lavoro risultava appaltato a un'agenzia esterna, mentre il 10% delle Ong hanno una figura di 'social media manager' al proprio interno. Nella casella di risposta libera all'indagine, il 10% dei rispondenti hanno specificato che si tratta di un'attività portata avanti dai volontari dell'associazione, in un caso solo viene esplicitato che "ogni membro dello staff propone contenuti e talvolta li pubblica". In un altro caso è invece il direttore ad aggiornare i profili istituzionali sui social network.

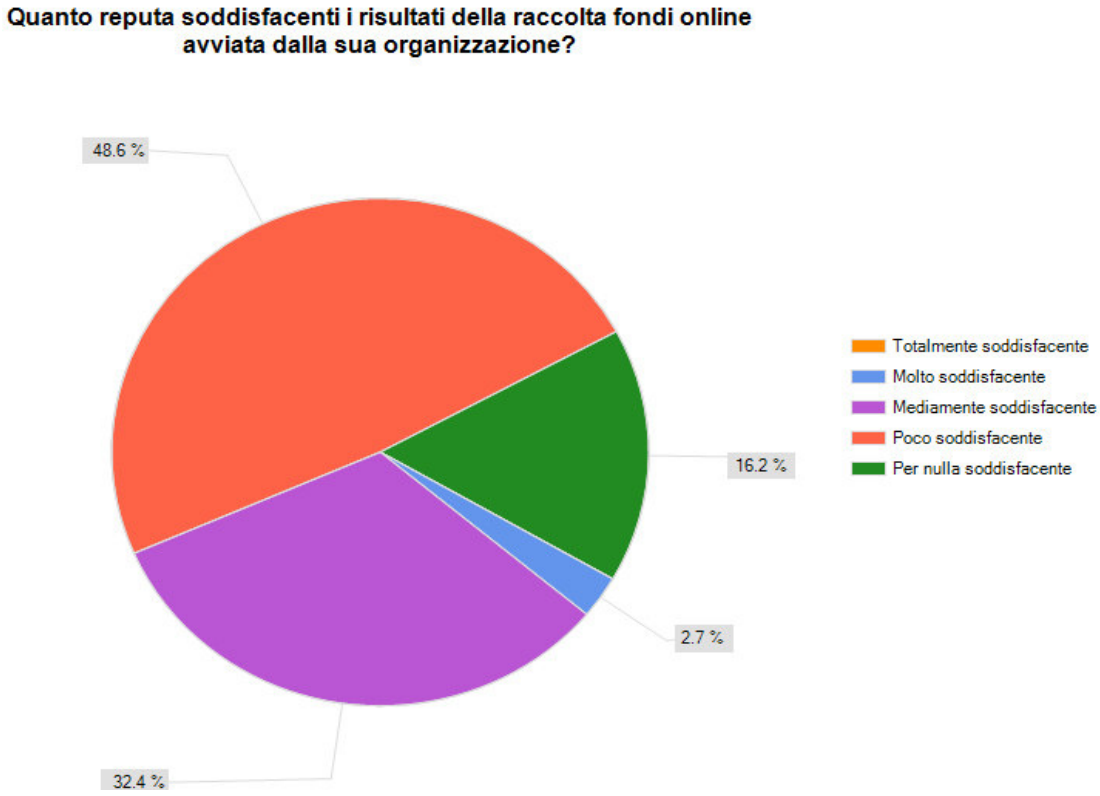
Solo l'11,3% dei rispondenti afferma di dedicare da 2 a 5 ore al giorno per la gestione dei social network, che diventa un'ora al giorno per il 41,9% dei partecipanti, un'ora alla settimana nel 30,6% dei casi e meno di un'ora la settimana per il 16,1%.

INDAGINE – TERZA PARTE: LA PERCEZIONE DEI SM NEL LAVORO DEGLI OPERATORI DEL NON PROFIT E NEL FUNDRAISING

Ma qual è la percezione delle Ong nei confronti dei social network come nuova modalità di comunicazione del proprio lavoro? Per capirlo si è loro proposta una serie di affermazioni su cui si potevano dichiarare totalmente in disaccordo, fortemente, in parte d'accordo, molto d'accordo, totalmente d'accordo.

La maggioranza delle Ong è convinta che la presenza di un profilo sia fondamentale per raggiungere i sostenitori della propria organizzazione (57,4%), mentre non è opinione condivisa che la gestione dei social network vada affidata solamente a personale specializzato (35,2%). Solo il 15,21% crede poi che il personale non facente parte dell'ufficio stampa non dovrebbe essere autorizzato a usare i social network per divulgare informazioni sull'attività della propria Ong. Come invertire questa tendenza? "Pensare ai social media come competenza dell'organizzazione e non come il lavoro di qualcuno", suggerisce Beth Kanter, consulente del non profit nel settore social media con esperienza internazionale (vedi in allegato).

Quanto al nodo centrale del coinvolgimento dei leader dell'organizzazione e della presidenza nella strategia di comunicazione con i social media, solo il 25,8% dichiara che la dirigenza della propria Ong non riconosce il valore del tempo e delle risorse impiegate nella gestione dei social e questo è un dato molto positivo, poiché se manca il coinvolgimento dei vertici dell'associazione manca un'ottica di investimento a lungo termine: "I social network non sono strumenti che si usano un mese all'anno e poi si abbandonano, vanno coltivati, e se necessario si cerca di colmare le lacune seguendo corsi di formazione", raccomanda Luca Conti.



Il 41,4% è in parte d'accordo quando si afferma che ogni cooperante espatriato dovrebbe gestire un blog o un account personale per eliminare le distanze tra gli operatori umanitari e i sostenitori delle Ong, mentre il 34,4% ritiene

che la trasparenza sulla gestione dei fondi potrebbe migliorare se ogni progetto venisse condiviso con i sostenitori delle Ong attraverso i social network.

Per quanto riguarda il fundraising online, il 92,2% non ha mai fatto uso di piattaforme di crowdfunding (processo di finanziamento dal basso), anche se il 28,6% si dichiara molto d'accordo nel sostenere che si tratti del fundraising del futuro. Chi ha utilizzato piattaforme di crowdfunding si è rivolto a Rete del Dono e a Indiegogo.

Che si tratti di fundarising online tradizionale o crowdfunding, Paolo Ferrara, da dieci anni fundraiser, docente di Ong 2.0 e responsabile della comunicazione di Terres des Hommes Italia, è convinto del fatto che è la chiave del successo delle raccolte fondi risieda nel "credere nelle persone, farle sentire protagoniste di un'attività di socializzazione e di condivisione". In ogni caso, "il fundraising 2.0 non ha niente di diverso dal fundraising faccia a faccia: a fare raccolta fondi deve essere una comunità, perché crede in un progetto, lo sente suo e se ne impossessa" (vedi intervista allegata). In quest'ottica, anche il 48,6% che reputa poco soddisfacente i risultati della raccolta fondi online avviata dalla sua organizzazione, e il 16,2% che li considera per nulla soddisfacenti potrebbe impostare diversamente una strategia di fundraising, magari in una direzione peer-to-peer, dove al centro c'è la persona e non la campagna da promuovere.

INDAGINE – QUARTA PARTE: NEWSLETTER E BOLLETTINI

Nell'ultima parte della ricerca realizzata da VpS si sono indagate anche le modalità di comunicazione più tradizionali, come la newsletter e la pubblicazione di bollettini periodici. Al riguardo si è potuto rilevare che il 72% delle Ong invia newsletter periodiche ai propri sostenitori, con frequenza per lo più mensile (65% dei casi). Circa un'associazione su due pubblica inoltre un bollettino cartaceo, con frequenza non inferiore al trimestrale, che nel 75% dei casi è disponibile anche in formato digitale, e in un caso esce anche in edicola.

ANALISI E COMMENTI: DOV'E LO STORYTELLING PARTECIPATIVO?

In generale, dai risultati dell'indagine emerge la volontà, da parte delle Ong rispondenti, di esplorare nuovi strumenti e di seguire le ultime tendenze dal punto di vista della comunicazione 2.0, sia in quanto ciò è ritenuto necessario e fondamentale per essere al passo con i tempi, sia perché si reputa che per raggiungere un grande numero di persone con il proprio messaggio non si possa fare a meno di considerare la 'piazza' di internet come luogo dove si formano opinioni e movimenti sociali. Manca, nella maggior parte delle Ong intervistate, l'esplorazione della possibilità di cambiare strutturalmente il proprio lavoro facendosi permeare dalle novità di uno spazio comunicativo che è pura conversazione come il web 2.0, dove il contenuto viene generato dagli utenti. I social network, ad esempio, sono utilizzati come vetrina delle proprie attività nel senso più tradizionale del marketing e della promozione: le Ong sostengono di usarli come "canale" per informare e lanciare eventi e campagne come farebbero con uno spazio pubblicitario in tv. Con la differenza che l'uso dei social network è considerato gratuito, senza che vengano percepite come bene economico le ore-lavoro impiegate per l'uso di questi strumenti o per l'apprendimento all'uso. Anche secondo Kanter l'errore più comune nelle Ong di tutto il mondo è: "Provare a fare troppo…con troppo poco. Le Ong sono ovunque, ma senza strategia e in questo modo perdono tempo e hanno un impatto veramente minimo. E' giusto provare nuovi canali, ma poi bisogna passare alla fase di misurazione dei risultati e imparare da questi".

Una prospettiva nuova potrebbe essere quella che offre lo storytelling partecipativo, ovvero la pubblicazione di contenuti sotto forma di storia: le Ong che hanno attivato blog aggiornati da un gruppo di persone interne ed esterne, con il coinvolgimento dei beneficiari o di persone vicine ai beneficiari, hanno raccolto appieno la sfida del web 2.0. E, in più, "quando le persone partecipano pubblicando dei contenuti sono più motivate a fare la propria parte", spiega Luca Conti.

Spostando l'attenzione sui termini storytelling e narrazione ci si avvicina di più all'approccio conversazionale dei nuovi media. Quando lo storytelling è efficace produce due risultati immediati: coinvolge, creando "engagement" (impegno), e produce cambiamento.

Un esempio è quello della campagna "It gets better", lanciata spontaneamente nel 2010 dal giornalista Dan Savage insieme al suo partner Terry Miller con un video su YouTube per incoraggiare i teenager ad affrontare le difficoltà dell'essere omosessuali durante il periodo dell'adolescenza. Savage e Miller hanno trovato il modo per raccontare che, crescendo la vita migliora, "It gets better": dopo di loro altre 200 persone hanno caricato una testimonianza video su YouTube per aderire al progetto e in una settimana è stato raggiunto il limite di caricamento di 650 clip.

I sostenitori, i volontari - ma anche i beneficiari del lavoro delle Ong - sono insieme ricettori ed emettitori di informazioni, e come tali vanno considerati quando si vuole raccontare una storia. Nel web 2.0, il loro contributo non è facoltativo.

THE REPRESENTATION OF THE COOPERATION NORTH-SOUTH IN THE CATALAN MEDIA

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ABSTRACT

The media of reference in Catalonia (press, radio, TV and internet) propagate an image of cooperation and solidarity that combine, in different proportions depending on each case, a neocolonialist and paternalistic framework with another framework based on emancipation and empowerment for both South and North oriented to structural changes.
This paper presents the preliminary results of a quantitative and qualitative study, still underway, carried out as a part of an initiative organised with the financial support of the European Union. The project, called "Network of Journalists and Communicators for cooperation and development" (www.devreporternetwork.eu, DCI-NSAPVD/2012/279-805), is run by the consortium formed by Catalan Federation of NGO (www.fcongd.org), RESACOOP (Réseau Rhône-Alpes d'appui à la coopération internationale www.resacoop.org) and Consorzio ONG Piemontesi (www.ongpiemonte.it).

METODOLOGÍA

Objetivos y objetos

El estudio que presentamos tiene como objetivo, en primer lugar, analizar la representación de la cooperación y la solidaridad en los medios de comunicación que se producen desde Catalunya y, en segundo lugar, contrastarla con el posicionamiento ideológico de las direcciones y los redactores. Por lo tanto, hay dos objetos de estudio:

- las piezas periodísticas emitidas o publicadas por los medios locales y regionales catalanes que tengan relación con la cooperación o la solidaridad internacionales (CSI);
- la concepción que las direcciones y los periodistas de los medios tienen sobre cooperación y solidaridad.

Para obtener los resultados deseados hemos escalado el proceso en distintos objetivos específicos:

- reconstruir la matriz ideológica del discurso de cada medio sobre CSI;
- identificar y describir los marcos ideológicos promovidos;
- reconstruir la matriz ideológica de las redacciones de los medios sobre CSI;
- identificar eventuales estereotipos sobre el Sur;
- y establecer correlaciones entre los discursos publicados y los expresados en las entrevistas con integrantes de las redacciones.

Hipótesis

A medida que logramos los objetivos, esperamos verificar o refutar la siguiente hipótesis general: los medios combinan dos visiones sobre la CSI, una solidaria e igualitaria con otra neocolonial marcada por estereotipos negativos sobre los 'receptores' y positivos sobre los 'donantes'.

La distinción entre las dos orientaciones está inspirada en el documento Finding Frames: New ways to engage the UK public in global poverty, elaborado por Andrew Darnton con Martin Kirk. [1]

La comprobación de la hipótesis general se realizará a través de las siguientes hipótesis especificas.

1. En el discurso periodístico hay proposiciones que explícita o implícitamente fomentan un encuadre (marco, frame) caracterizado por:
   - la promoción de la caridad, las organizaciones de beneficencia, las donaciones, el desarrollo de tipo occidental,
   - y estar focalizado en la efectividad a corto plazo de la ayuda, la corrupción de la sociedad receptora, la comunicación como proceso unidireccional y las campañas puntuales de solidaridad.

2. Alternativamente, en el discurso periodístico hay proposiciones que explícita o implícitamente que fomentan otro encuadre (marco, frame) caracterizado por:
   - la promoción de la justicia y la equidad; los movimientos sociales y las ong; el apoyo mutuo norte-sur y el partenariado; el bienestar, las libertades i la responsabilidad económica, ambiental, social; el buen gobierno; el diálogo y los compromisos;
   - la denuncia de las responsabilidades de actores del norte y no solo del sur; los fraudes; el no cumplimiento de los compromisos y las prácticas neocoloniales.

3. Hay estereotipos sobre el Sur.

Corpus y muestra…

Para estudiar el discurso de los medios se han escogido dos televisiones (TV3 y 8TV, una pública y una privada) de ámbito catalán; dos radios (Catalunya Ràdio y RAC1, una pública y una privada) también de ámbito catalán; cinco periódicos diarios de ámbito catalán (La Vanguardia, El Periódico, El País-Cataluña, ARA y Punt-Avui); cinco periódicos de ámbito local (Diari de Girona, Diari de Tarragona, El Segre, Regió 7 y Nou9), y un portal-web informativo (Vila-Web).

La muestra se ha construido a partir de piezas escogidas por los periodistas más cercanos en cada medio a temas de cooperación, dentro del último año. Frente al inconveniente de que no son piezas escogidas sistemáticamente o al azar por el investigador, proporcionan la ventaja de disponer de piezas a las que los periodistas conceden importancia.

Hay que añadir, llegados a este punto, que esta investigación, al formar parte de un proyecto europeo que se propone como objetivo final la creación de una red de informadores sobre cooperación, el método escogido para seleccionar la muestra sirve de forma más efectiva al objetivo final de lo que hubiese rendido una selección aleatoria.

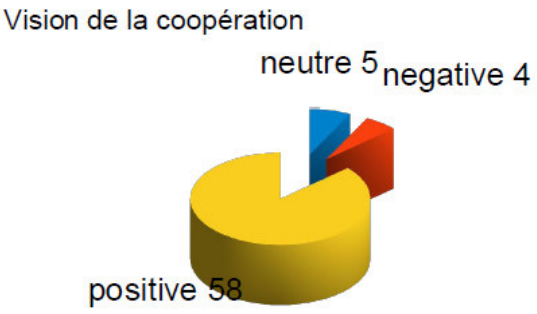
Para estudiar la concepción de los periodistas y la dominante en los medios, se realizaran entrevistas a una persona de la directiva y a un o una redactora de cada medio. Esta fase aún no se ha iniciado en el momento de la entrega de este documento. En cuanto a piezas, aún no ha terminado el proceso, pero ya se han analizado 67.

RESULTADOS

Visión positiva

La inmensa mayoría de la piezas presentan una visón positiva de la cooperación o de la solidaridad internacional, sea lo que sea esta y sea sobre el campo que sea. Si bien no es un resultado sorprendente porque las piezas analizadas ha sido facilitadas por los periodistas a petición de un grupo de investigación manifiestamente favorable a la cooperación, no deja de ser un indicio de que ese es el tono hegemónico de la información sobre cooperación. De todas forma el siguiente gráfico 1 ofrece el resultado numérico.

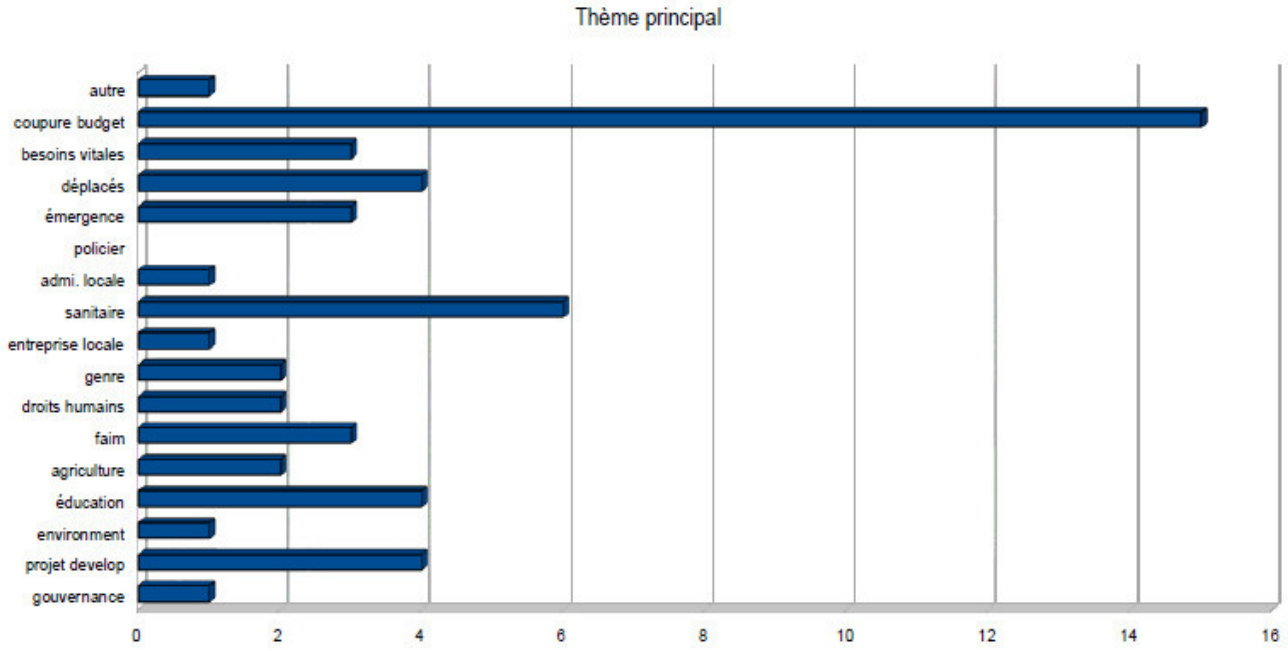
Gráf. 1 – Visón de la cooperación.



Deriva política en tiempos de recortes

El tema más visitado por las piezas ha sido el de los recortes presupuestarios que las administraciones públicas (gobiernos catalán y estatal) ha ejecutado sobre las subvenciones a proyectos de cooperación de todo tipo, pero particularmente a los gestionados por organizaciones no gubernamentales (ONG). No son la inmensa mayoría, pero com se observa en el gráfico 2, hay más piezas sobre recortes que sobre cualquier otra temática de la cooperación.

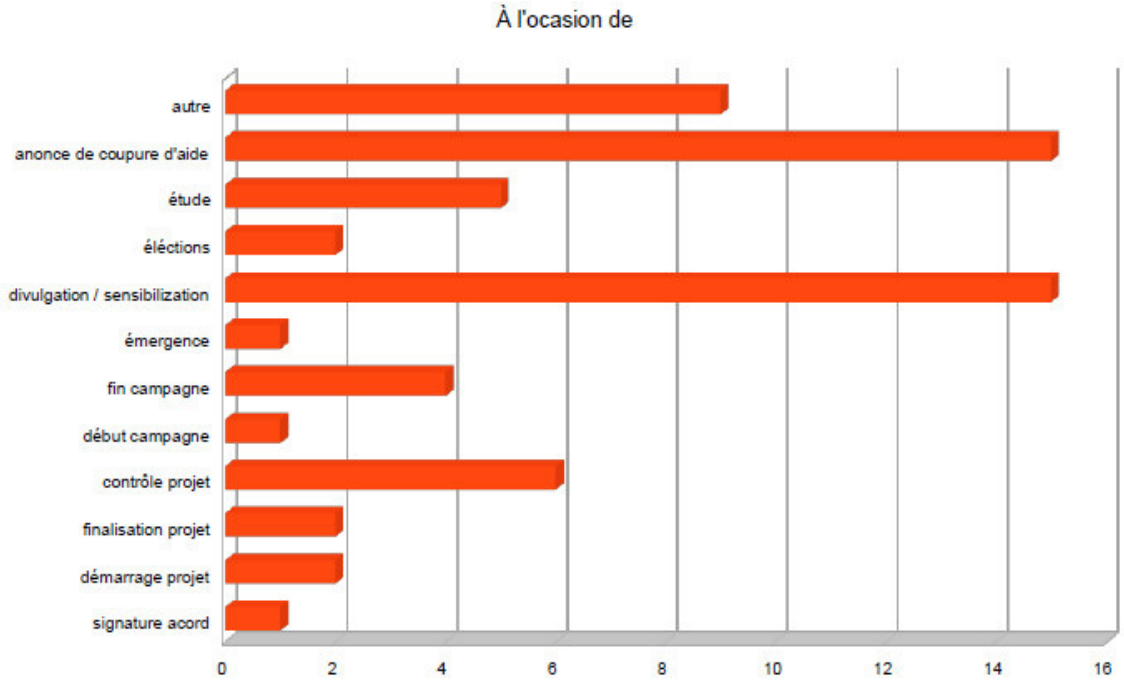
Gráf. 2 – Temática principal.



Sensibilización y divulgación tienen fuerte presencia

Los gabinetes de prensa de las ong se preguntan a menudo cómo se puede lograr que los medios hablen de la cooperación. Pues bien, a pesar del resultado anterior que muestra que una información con capacidad de erosión política como lo es la publicación de recortes en algo percibido como positivo tiene una gran presencia, nuestros resultados muestran que la 'noticiabilidad' (news peg, valeur informative) también puede residir en el carácter divulgativo o de sensibilización que comporta aquello que se difunde. El gráfico 3 muestra 'con ocasión de qué' se han publicado las piezas de que disponemos.

Gráf. 3 - Cantidad de piezas publicadas por diversos motivos principales.



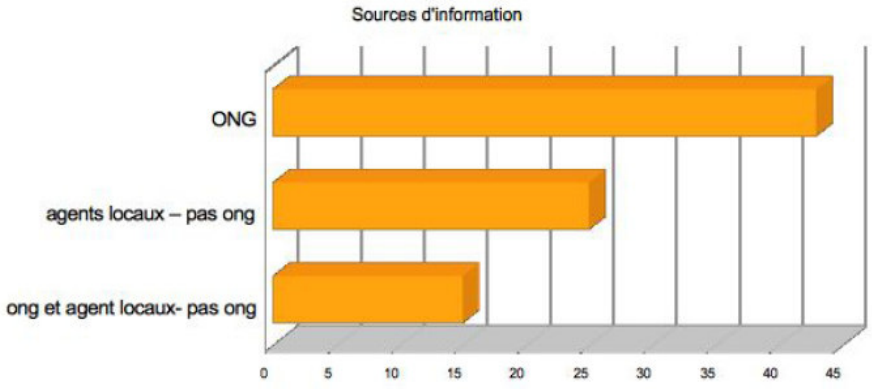
De todas formas, si pasamos de los datos globales a los particulares para cada medio observamos que en los medios en que los criterios de selección de noticias son más duros (porque son para todo el ámbito catalán y normalmente porque tienen poco espacio redaccional) las informaciones que erosionan políticamente están más presentes.

En los medios de ámbito local, tiene más cabida la divulgación de proyectos concretos, sobre todo si hay

protagonistas locales en aplicación del conocido criterio periodístico de la proximidad. Estos protagonistas tienen voz, aunque no la tengan los protagonistas de los países del sur participantes porque las informaciones han sido elaboradas en la localidad con material (información y fotos) traídos por los cooperantes.

La voz de los protagonistas del sur aparece si el o la periodista han viajado a lugar donde se desarrolla el proyecto y esto ocurre –es claramente deducible de los textos– si había una emergencia y el medio decide enviar a alguien o si una ong o una institución pública financia el viaje. El gráfico 4 muestra la presencia de testimonios.

Gráf. 4 - Fuentes de información.



Equiparados valores caritativos y valores transformadores

El valor más fomentado es el de la 'Ayuda' en distintas variaciones: 'Ayuda al Sur', 'Ayuda al Tercer Mundo', 'Ayuda humanitaria', 'Ayuda sanitaria', 'Ayuda educativa'. Y también la versión simple de 'Donaciones' o de 'Donaciones empresariales'.

El siguiente paquete de valores en importancia cuantitativa –en lo que llevamos de estudio – corresponde a la defensa de los derechos humanos, sociales, económicos y a la solidaridad entendida como lucha por esos valores.

El tercero bloque es el que promueve la cooperación en el plano igualitario y saluda positivamente las medidas que fomentan el auto desarrollo y la sostenibilidad.

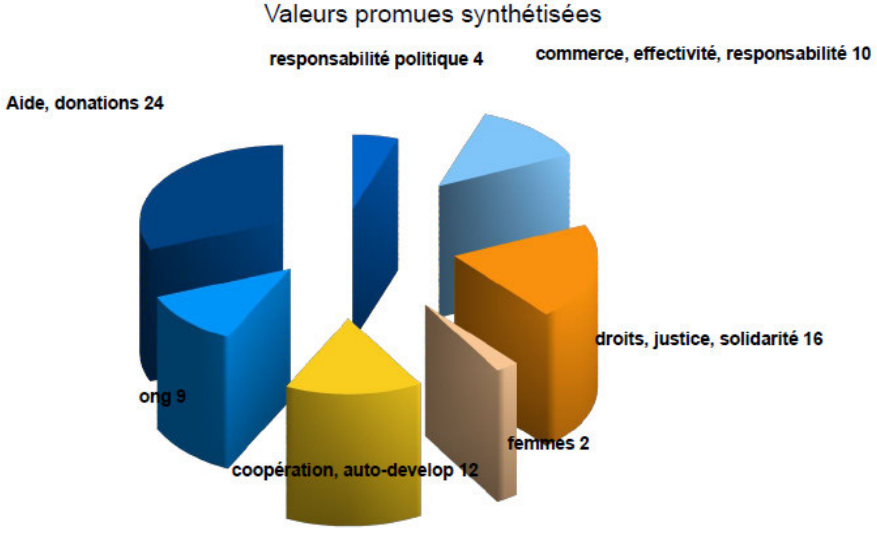
A un mismo nivel se encuentran los valores como 'comercio justo', 'efectividad de la ayuda', 'responsabilidad empresarial', por un lado, y las 'ong' como un valor en si mismas –aunque en parte como instrumento de solidaridad–.

Las piezas en que las ong aparecen como un valor en si mismas son las que tratan de los recortes presupuestarios a la cooperación y de las deudas de los gobiernos con las ong. Algunos de los artículos apuntan –siguiendo la línea de ong citadas – no sólo al valor de la ong sino también a su 'independencia' y consecuentemente sugieren nuevas formas de captación de socios y también de presión política.

Con respecto a las mujeres, en una pieza se trata del empoderamiento y en otra de la lucha contra las agresiones.

En las informaciones sobre la protesta contra los recortes y las deudas, se fomenta el valor de la responsabilidad política. En el gráfico 5, se observa como la suma de piezas que fomentan valores orientados en la línea de la solidaridad vertical de norte a sur (piezas azules) es ligeramente superior a la de piezas orientadas a los derechos, la justicia, el auto-desarrollo (anaranjadas).

Gráf. 5 - Cantidad de piezas que fomentan determinados valores.

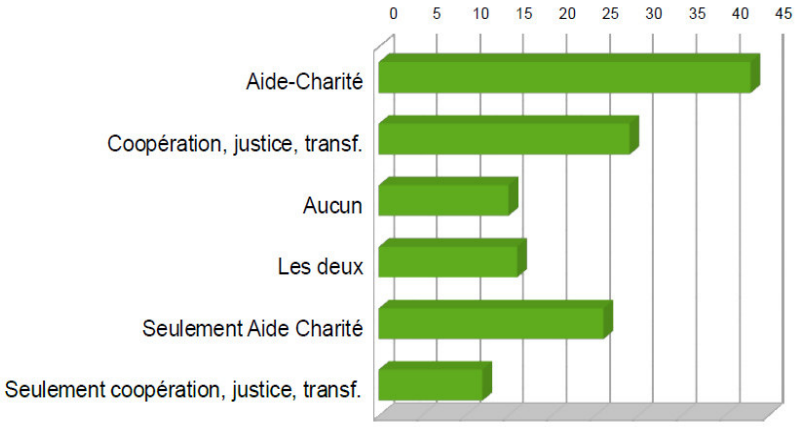


Marco caritativo más presente

En la medida que las piezas de que disponemos son en su mayoría de una extensión considerable (páginas enteras, dobles páginas, diversos programas de tv de 30 minutos), cada una puede contener (explícita o implícitamente) un buen número de proposiciones relevantes que sin ser contradictorias necesariamente respondan a orientaciones distintas.

Por este motivo, en la ficha de análisis que hemos usado, hemos recogido todas esas proposiciones de tal forma que hemos podido establecer si una pieza fomentaba una u otra orientación o ninguna o ambas a la vez. El resultado está recogido en el gráfico 6.

Gráf. 6 - Presencia de las orientaciones marco.



Es interesante notar que en algunas piezas (las más relacionadas con la política de erosión) no se distingue una orientación u otra.

En un número relativamente pequeño (15) se fomentan ambas a la vez.

Hay más piezas que fomentan sólo el marco 'Ayuda-Caridad' que piezas que fomenten el marco 'Cooperación-Justicia-Transformación'.

Y, globalmente, destaca que la orientación más presente es 'Ayuda-Caridad'. He aquí algunos ejemplos de proposiciones que la fomentan:

- 'Avances como los registrados en alimentos se verán truncados por culpa de los recortes en cooperación' (Punt-Avui, 06/07/2011)
- 'Hay jóvenes que aprovechan el verano para realizar trabajos solidarios' (Diari de Tarragona, 08/08/2011)
- 'Los proyectos responden a las necesidades justificadas en espacios de escasez por todo el mundo' (Diari de Tarragona, 23/04/08)
- 'Los ciudadanos comprometidos recolectan fondos para los jóvenes desfavorecidos de República Dominicana' (Nou9, 26/02/10)
- La aplicación efectiva del tratamiento de la enfermedad dependerá de los donantes de fondos del Norte' (Cat ràdio, 23/03/13)
- 'La incapacidad i corrupción del gobierno haitiano deja desamparada a la población de manera que las acciones de cooperación internacional son positivas, justificadas y totalmente necesarias o imprescindibles para la supervivencia de la población haitiana enferma' (TV3, 16/11/11)'

Veamos ahora ejemplos de proposiciones con una orientación favorable a la 'Cooperación-Justicia-Transformación':

- 'Las empresas farmacéuticas no están interesadas en los problemas de África' (La Vanguardia, 27/01/13)
- 'Hace falta una reforma agraria para tener seguridad alimentaria' (Cat Radio, 2013)
- 'El comercio es justo si hay: precio justo, condiciones laborales dignas, es sostenible, retorna beneficio a la comunidad' (TV3, 18/06/10)
- 'Las poblaciones receptoras sufren explotación, marginación e injusticia' (Diari de Tarragona, 23/07/06)
- 'Las ONG del Sur tiene métodos e ideas concebidas para trabajar problemas específicos de su país que han demostrado que funcionan y que tienen efectos de desarrollo a largo plazo tanto a nivel individual como comunitario ' (TV3, 20/6/2011)

Escasos estereotipos, pero los hay

En un 13% de las piezas se detectan estereotipos sobre los habitantes del Sur que, si bien no son flagrantes generalizaciones, por su repetición los refuerzan. No por comprensible que sea la evocación de la 'pobreza' o 'extrema pobreza' y de la combinación entre 'pobreza y pasividad' en la información sobre actuaciones de emergencia (o la

necesidad de hacerlas), la reiteración de estas características a veces para poblaciones concretas y a veces sin precisar más que la nacionalidad de los afectados, dejan la puerta abierta a la generalización.

Ocurre los mismo al evocar a menudo la corrupción o la incapacidad de gobernarse o gestionar lo publico. Además, en ocasiones, esas incapacidades se ven relacionadas con lo que en los medios califican de 'superstición'.

REFERENCIAS

[1] Andrew Darnton with Martin Kirk, Finding Frames: New ways to engage the uk public in global poverty, Oxfam & UK Aid, London, 2011.

THE ICT FOR AN INCLUSIVE URBAN DEVELOPMENT

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The focus of the panel relates to the use of the Information and Communication Technologies for Development and social inclusion, a topic that has been recognized as a priority both on national and international levels, as inferred by the guidelines of European programs such as Horizon2020 (2014-2020) or from the Call 'Smart cities and Social Innovation' (MIUR, Italian Ministry of Education, University and Research).
'Social Innovation' is to be included as a part of the field of research and work of ICT4D (Information and Communication Technologies for Development) which, in fact, refers to the use of information and communication technologies in the field of international, socio-economic development and human rights. Possible implementations of ICT4D, between which it is intended to be done a comparison, concern, on one hand the methods and techniques of participation of the local community in identifying problems and resources and on the other hand the use and the integration of data collected in a relation with the database and the planning tools used by administrators and policy makers, as a basis for future interventions.
The use of ICTs technology platforms such as websites, wikis, interactive geographic maps and SMS have an important role in increasing the accountability of the public administration. Accountability is connected to the ability to respond and to clearly report the activities carried out. As an aspect of governance, this responsibility has been in the past and must be now and in the future a main topic of discussions when concerning about issues related to the public, non-profit and private sectors.

In addition to the papers hereinafter reported, other contributors to the Panel have been:

- Jean-Claude Bolay, Abigail Kern Centre Coopération & Développement, Ecole Polytechnique Fédérale de Lausanne: *"Technology and urban planning: What is appropriate for cities of the South?"*

  The communication dealt with technologies, considered as catalysts for change, and their links to urban development. One of the main questions to be investigated for the next decades, in relation with the spatial and demographic growth of cities in Southern countries, is to know if we could discern appropriate technologies adapted to the specific urban contexts, affordable for users, socially acceptable, and efficient in order to improve concretely the present and future situation tackled by urban population, stakeholders and authorities. Particularly for developing and emerging countries, technological breakthroughs create wonderful opportunities but they may also convey risks that should not be overlooked. This leads to crucial questions on the nature of technological innovation and its capacity to fulfill the specific needs of these societies, characterized, in a lot of cities in Africa, Asia and Latin America, by limited financial and human resources. In a prospective approach, we shall try to identify priority sectors fostering a sustainable urban development, 4 at the initial moment of our research process: habitat; energies; water and sanitation; transport.
  The aim of the contribution is: addressing the question of the existence of exclusively-urban technologies; exploring the framework conditions allowing the implementation of appropriate technologies in Southern cities; assessing the criteria allowing an access for all inhabitants to urban infrastructures and services; defining key elements we shall have to find in instruments used to translate the urban information in real applicable tools of urban planning, with a focus on "poor cities".

- Elisabetta Demartis, Università degli Studi di Torino: *"Geographies for peace and development cooperation. Mapping and preventing violence and post-electoral disorders in Nairobi slums: an ICT4D participative project"*.

  The general purpose of the paper is to reflect on how ICTs can improve the social issues of Developing Counties. The research starts from a participative project in three slums of Nairobi (Kibera, Mathare and Mukuru), where Map Kibera Trust set up a Ushahidi crowdmap platform to monitor the elections and prevent post-election violences and disorders. The methodology and approach used are a combination of semi structured questionnaire addressed to Map Kibera members, interviews of Kibera CBOs and Ngos, focus groups coupled with the author's previous research on ICT4D.
  The research aims to discover the driving forces behind the project and its impact on the community, first of all on people living in Kibera. In detail:
  - What is the background of the members of the Map Kibera and how they are integrated within the territory of the slum;

- How can a participatory mapping project to prevent riots and post-election violence;
- How many people were really involved in the project and how;
- Can this project be considered a success which confirms the positive role of ICT in emergency cases such as elections;
- How the project may involve slum dwellers and influence them positively.
- The implications are significant in light of the ICT4D scenario and research, aiming at understanding how a technology can be used at its best to impact positively on a social issue. At the core of this idea is the belief that behind the crowdmap there is not just the software that allows the creation, but that set of social, spatial and human values that connect people with their own territory, in this case with one of the largest slums in Africa.

- Christian Quintili, Luca Fanelli, ActionAid Italia: *"Open Ricostruzione"*.

Open Ricostruzione is an Italian program which aims to guarantee a transparent reconstruction of Emilia Romagna, shocked by an earthquake in May 2012, through the use of digital technologies and the citizens collaboration. Open Ricostruzione is the result of an innovative cooperation between public institutions and civil society organizations: Emilia Romagna Region, ANCI, Anci Tel, Wikitalia Open Polis and ActionAid.

THE USE OF ICT FOR SOCIAL INCLUSION AND PARTECIPATIVE PLANNING. A CASE STUDY OF "SOUTH-NORTH" TECHNOLOGY TRANSFER.

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ABSTRACT

The proposed paper aims to address the use of ICT for social inclusion. In peculiar this research study and experimentation examine both the application of participative methods and techniques, which support the community to identify problems and resources, and the possibility to integrate data and tools with the ones used by public stakeholders, as a starting point for future interventions. Participative planning is then intended as a way to think over the public action, either in the relationship with citizens or in the public space management. The proposed subject takes cue from the "Crowdmapping Mirafiori Sud" project outcomes. The project has been granted with 5x1000 funds from Politecnico di Torino for student projects and is now in the final phase. The aim of the project is to conduct a pilot experience in a participative and inclusive way in order to identify and categorize – returning information on a geographic map – the nature, the location and consistency of the obstacles/barriers which prevent vulnerable categories to access and use the public spaces of their neighbourhood. For this aim it is going to be used Ushahidi, an opensource platform which allows an easy crowdsourcing of data and the total transparency of their diffusion. One of the key aspect of using Ushahidi is the possibility to use mobile phones as a mean to send reports and receive updates, not needing an internet connection, which is often not available. Outcomes of data collection are then available and given to local and public actors, establishing a direct connection with the instrument used and the possibility to continue the project autonomously. This crowdmapping, and the transparency of the process, are useful not only to sensitize the population and to define the state of the art, but they mostly allow to interpret the results, analyzing the problem from the point of view of the community, the public actors and the scientists, hypothesizing active and participative solutions.

BACKGROUND

Increasingly over the last decade, there has been attention and expectations on the role that ICT based technology platforms such as websites and wikis, social media, interactive geo-mapping, and SMS and voice based reporting can play in increasing *accountability*, participation and transparency in the Public Administration (R. Avila et al. 2010; W. Reyes 2006).

Concerning ICT and social innovation rich are also the literature and the scientific debate, however the practical side is still under exploration and it need to be developed through projects and initiatives which effectively foresee participation and interaction of the involved actors.

Some exceptions are worth mentioning, among others: FixMyStreet in Uk, a platform where people can send information and discuss local problems about infrastructural issues or ePart and IRIS Beta in Italy. Their common goal is to offer an online service which allows citizens to interact with the public administration and to send information. They have a transparent interface and they are easy to use, they mainly allow to see the warning list and to check the status.

This paper aims to examine both the application of participative methods and techniques, which support the community to identify problems and resources, and the possibility to integrate data and tools with the ones used by public actors, as a starting point for future interventions. Participative planning is then intended as a way to think over the public action, either in the relationship with citizens or in the public space management.

THE CROWDMAPPING MIRAFIORI SUD PROJECT

The proposed subject takes cue from the "Crowdmapping Mirafiori Sud" project outcomes. The project has been granted with 5x1000 funds from Politecnico di Torino for student projects and is now in the final phase.

The project "Crowdmapping Mirafiori Sud" (www.polito.it/mapmirafiorisud) has been conceived and drafted under the lead of the Research and Documentation Center in Technology, Architecture and City in Developing and

Emerging Countries (CRD-PVS) at the Politecnico di Torino.

It is set in continuity with the ongoing research of the CRD-PVS, which seek to experiment the applicability of strategies, methods and instruments successfully developed in the Global South into urban contexts of traditionally defined "developed" Countries and nowadays in deep transformation or crisis.

As a recent experience the CRD-PVS organized in collaboration with UN-Habitat the international student design competition *Tur(i)ntogreen – farms in a town* (www.polito.it/turintogreen), with the aim of reflecting on the urban future. The Competition area was the Mirafiori Sud neighbourhood in Torino (Italy). This neighbourhood has been the emblem of the italian motown during the economic boom, gradually decreased due to the work crisis and to the new production geographies; it will be in the next future the object of urban transformations with an high social and economic potential.

Furthermore Mirafiori Sud is an active neighbourhood, with dwellers keen to participate into the urban transformation projects, in order to overtake the actual situation of crisis and poverty. A rich and lively network of local associations support them in this sense.

Thanks to the tur(i)ntogreen competition, the CRD-PVS had the opportunity to get in contact and collaborate with some of the local actors and stakeholders such as the Fondazione della Comunità di Mirafiori Onlus and the City Council District.

The aim of the project Crowdmapping Mirafiori Sud is to conduct a pilot experience in a participative and inclusive way (together with the population and the local associations) in order to identify and categorize – returning information on a geographic map – the nature, the location and consistency of the obstacles/barriers which prevent vulnerable categories to access and use the public spaces of their neighbourhood.

For this aim it is going to be used Ushahidi, developed in Kenya to map in 2008 the violence in the post-electoral period, an opensource platform which allows an easy crowdsourcing of data and the total transparency of their diffusion (Hagen E. 2011). Ushahidi is nowadays used as a prototype and an example of something that could be done by matching information generated from citizens reports, media and NGOs into a geographical map.

One of the key aspect of utilizing Ushahidi is the possibility to use of mobile phones as a mean to send reports and receive updates, not needing an internet connection, which is often not available.

The project is addressed to citizens, dwellers of Mirafiori Sud neighbourhood, in particular to those who belong to the most vulnerable categories concerning accessibility and use of urban public spaces.

The problems identification, survey and mapping will be lead by the proponent group together with citizens representatives, identified thanks to the contribution of Fondazione della Comunità di Mirafiori Onlus.

Outcomes of data collection will then be available and given to local and public actors, estabilishing a direct connection with the instrument used and the possibility to continue the project autonomously.

This crowdmapping, and the transparency of the process, will be useful not only to sensitize the population and to define the state of the art, but they will mostly allow to interpret the results, analyzing the problem from the point of view of the community, the public actors and the scientists, hypothesizing active and participative solutions.

Because of this reasons, the project is meant to be a pilot project, relevant for other neighbourhoods and other cities, either at a national or international level.

METODOLOGY AND TOOLS

The project has been developed from April to October 2013, through the following phases:

- **Kick off.** A necessary phase of identification, contact and meeting with the local actors and representative of the categories identified as "vulnerable". After the launch the students group planned meetings with both civil society's representatives and public administrators in order to better explain the projects, advertise it and gather consensus to form a group which would have then make the first signals.

Fig. 1, 2 - Kick-off Meetings.

- **Definition of Criteria.** Starting from the interaction with local actors through a series of transect walks, and ending with a reflection on criteria, categories, standard identification of the phenomena to be signaled, for a coherent achievement of a data base. The formed group took some transect-walks along the neighbourhood in order to better understand the area, let the involved people discuss and transmit their knowledge and finally start looking for obstacles. The willing to involve people since the first steps is innate in the nature of the project, which doesn't want to have fixed prejudiced but it would like to look at the real obstacles for whoever lives the neighbourhood, either them being physical, mental, intellectual or visual.
- **Set up. S**tarting from inputs acquisition from the local actors. Setting of the Ushahidi platform for a better response to the project's goals.
  In order to better improve the system and to create an useful instrument, the students designed a website where all information and news can be found. An email address, a telephone and an SMS numbers were also established, in this manner civil society and public administration had all the means to get in contact and to send their posts.
  As long as the aim of the project is to create and to use an instrument which has to be affordable, appropriate and easy to use, the team decided to implement the use of SMS to send information, which could be done by any mobile phone, both basic ones and smartphones.
  The iXem Labs, a component of the Department of Electronics and Telecommunications of the Politecnico di Torino, which field of activity is mainly related to wireless systems and networks, radioplanning, radiofrequency propagation and high frequency electromagnetic compatibility, created a system which could send SMS direct to an email address. The system is based on the Arduino, a low cost open-hardware platform with the addition of a GSM\3G shield. The platform is connected to Internet by means of Ethernet connection. It may be also possible to set up a 3G connection in case of absence of Ethernet connectivity.
  Once an SMS has been received, the program performs two automatic actions, it forwards the information to the Maps platform and sends an alert via e-mail to the administrators. Afterwards the Platform takes in charge the information received from the Arduino and with an automatic procedure it publishes the reporting on the Map. The new message is not public yet waiting for the approval by the administrators. In order to improve the reliability of the system, the Arduino platform logs all the data and actions on a local SD such that even in case of failure of connectivity it is possible to recover all data locally.
  Furthermore it is possible to query the SIM card, by means of special string sent via SMS, in order to retrieve information about: status of SMS storage capacity, ask to re-send a particular SMS, delete all SMS, automatic reply, etcetera (De Filippi F., Pantanetti S., Stefanelli R., 2014).

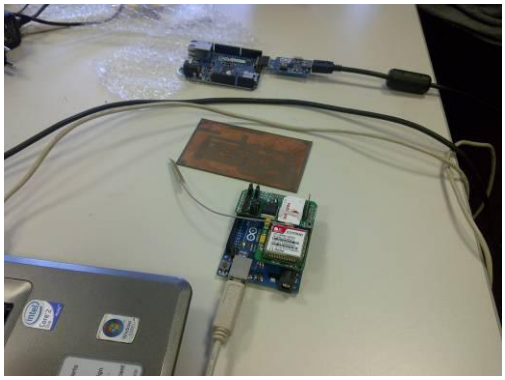

Fig. 3, 4 - The Arduino-based system set up by iXemLabs (Politecnico di Torino).

- **Training.** With the support of the Fondazione della Comunità di Mirafiori, a group of inhabitants [30] is selected for collecting data on the area, stimulating the effect of crowdmapping. A period of training is conceived in order to understand how the platform works and how to send information by the means of SMS, emails, phone calls and website.
- **On field data collection.** The data collection begins through a direct analysis, with the representatives of the interested categories, and an indirect analysis based on the received inputs on Ushahidi. During June and July 2013 the group formed by the students and the involved citizens made different data collections in the neighbourhood, sending information direct from mobile phones, app and computers to the Crowdmapping Mirafiori Sud Website, email and numbers. Once the information is received, it must be approved by a member of the student team and then it can be seen in the map.
  In the meanwhile an analysis of data is needed, in order to understand the weak points and to discuss with people This analysis is made by all the involved people using more traditional ways such as meetings. From this meetings other important information are gathered which could be seen on both the map and the website. This process is important to enhance participation: people are directly involved from the first to the last steps.

Fig. 5, 6 - Data collection.

- **On line**. Once the data collection is completed, the elaboration and dissemination phase will take place through preparation and distribution of the material (reports, videos, photos, etc...) to all the stakeholders involved in the project. All tools and materials can be used by the local actors, to continue the project in an autonomous way, eventually supported by the team in future interventions.

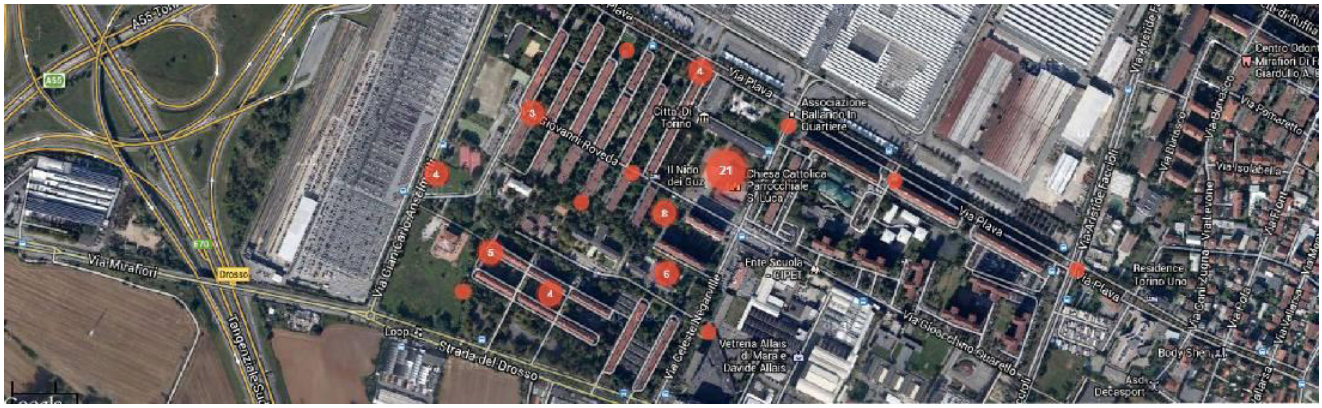

Fig. 4 - The Project Map.

CONCLUSIONS

The project outcomes are:

- having created a “smart” methodology and tool, based on the use of ICT (internet and mobile phones) to map the barriers and enhance the community participation and social inclusion; its use is not limited to identify and point out single interventions, but also to analyze phenomena at the urban scale;
- having built local capacities, stimulate participation and ownership;
- having enabled Local Authorities to access and use the data, to build and strengthen their "accountability";
- having set up a pilot scheme that could be replicated and expanded to other neighborhoods (or to other contexts).

ACKNOWLEDGEMENTS

The Crowdmapping Mirafiori team is composed by Cristina Coscia and Francesca De Filippi (scientific advisors and project leaders), Michela Bevione, Veronica Brugaletta, Grazia Cocina, Elisabetta Demartis, Janet Hetman, Fernando Menendez Cobelo, Serena Pantanetti, Giovanni Quattrocolo, Silvio Soldi, Giulia Venco, Chiara Viano (students); Silva Ferretti, Christian Quintili (external advisors).

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AN EFFECTIVE STRATEGY TO DEVELOP EFFICIENT SERVICES FOR A DIGITAL-DIVIDED POPULATION

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ABSTRACT

The project consists of a medium scale Internet of Things and Internet of Services experiment, in a rural village in the Italian Countryside, where population is relatively aged and the village is almost digitally divided from the neighboring cities (and consequently from the whole World). A wide band wireless network with full coverage has been built, to provide several remote services: Internet access, intelligent house (garden) control, remote assistance to people. Internet of Things and Internet of Services activities are realized by means of low cost, open technology. A relevant application is represented by tele-assistance to elder people living alone. The results obtained during the first eighteen months of experimentation demonstrate a strong participation of the local population, a reduction of the house management costs, together with an increase of safety and security, which are particularly critical in rural scenarios, far from the accessibility levels typically found in metropolitan city.

INTRODUCTION

The digital gap in rural (remote) regions is considered a strategic issue for Developing, but also Developed Countries, a clear limitation of living conditions, and one of the most significant causes of emigration, loss of popular heritage and traditions. The connection to the digital World represents the most significant way to provide access to information and cultural exchange, but also to basic social services like telemedicine and distance learning. Additionally, in the very last years, a digital channel is more and more requested to transport information related to Things and Services.

In rural scenarios, the possibility to acquire, share and control information associated to house and/or environment may signify not only additional comfort, but also energy saving, costs reduction, improved life quality, advanced security, health assistance. Nonetheless, transforming a rural living place into an intelligent one does not make real sense, without a network. When a network is available, Things and Services may be inserted in a virtual social network, as the Humans do. The inhabitants may share, compare, and optimize house managing. Or, even more, they could delegate management to somebody else. Security control can be assigned to an external authority. Energy consumption can be administered at a Municipality level. Health assistance can be supervised by a medical unit.

Bringing a networked intelligent platform to rural places is normally limited by bandwidth availability and end-users technological skill. Network operators have no significant advantage to operate in the Countryside, because of the restricted number of possible subscribers. Furthermore, rural citizens are typically unfamiliar with high technology and intelligent systems.

Starting from these basic concepts, we have developed an implementation scheme to facilitate adoption of intelligent systems in the Countryside. It is based on the realization of a very low cost, wideband last-mile Intranet network, on the construction of extremely low cost sensors and controllers, on a strong participation of the inhabitants, on the enrolment of University students during the design, realization and technological transfer phases. The scheme is being successfully implemented in a peculiar location in the Italian Countryside.

THE LOCATION

The experiment has been organized and developed in the Municipality of Verrua Savoia, in the Monferrato region, a huge hilly, mainly agricultural area in North-Western Italy, not far from the city of Torino. The village covers a territory of about 16 square kilometers, where about 1400 inhabitants live, with half of the population aging more than sixty-five years old. Very few factories and commercial activities are present; the economy is mainly agricultural, for ninety percent devoted to family needs. Most of the people aging between 15 and 60 are commuters and travel far from the village, staying outside for a large part of the day. Topographically, the Municipality area is formed by more than thirty islets, some of them being connected exclusively through dirty roads.

As a business case, for ICT companies, the Municipality is a losing affair: for long times, no wideband connectivity has been provided to the inhabitants and still now, several hamlets are not provided with cabled ADSL connectivity.

The relative distance from the city, the average age of the population, the significant presence of commuters and the lack of ICT facilities and ICT know-how make the selected location a representative case of a general remote rural context.

THE EXPERIMENT

To set-up any kind of network study, the first step is represented by bandwidth availability and end-user connectability. To bridge this initial gap, at first, a Municipality wireless network has been realized, in order to interconnect all the hamlets of the village [1] [2]. Figure 1 shows the orographic profile of Verrua Savoia and the position of the Hyperlan base stations. To lower the costs and avoid expenses, network design the construction of hardware components have been developed by a first group of University students, during their courses or internships [3] [4]. Citizens have participated to the network realization, installing autonomously client equipments for connecting to the network. Additionally, Internet connectivity has been provided for free to all subscribers, transporting bandwidth from an Internet exchange to the village by means of a high performance point–to-point radio-link.

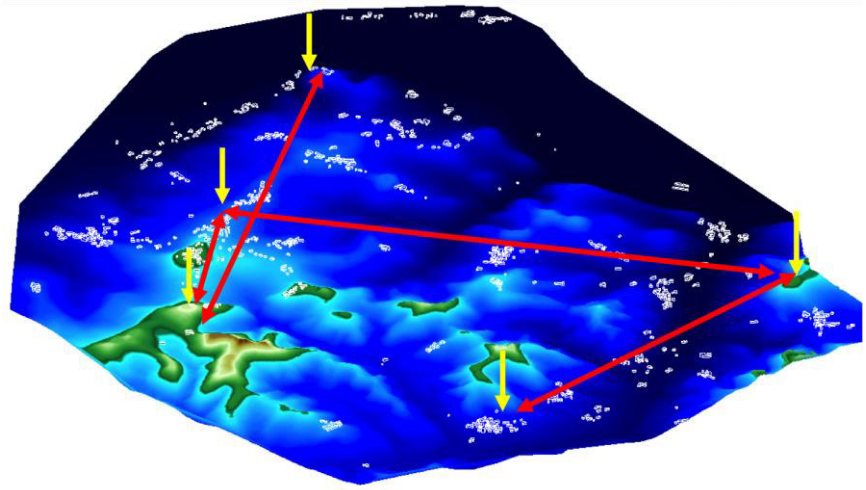

Fig. 1 - Orographic representation of Verrua Savoia: yellow arrows indicate the Hyperlan Access Points, red arrows show backbone links and white boxes are houses.

Once this first phase has been completed, we have started developing home automation facilities for each subscriber. Citizens have been provided with one controller that can be connected to several sensors, a large number of personal Ethernet devices, and actuators. The controller, the sensors and the actuators have been built by means of extremely-low-cost devices, developed on purpose for larger scale applications in rural environments [5]. These open hardware solutions have been designed and realized by a second group of University students (Figure 2). Among the several parameters that can be monitored are: temperature and humidity of the relevant rooms, unexpected gas/water leakages in the living environments, mechanical and vibrational state of buildings, ground humidity. The list of Ethernet devices comprises cameras, loudspeakers, light detectors, etc. As actuators, the controller is able to manage thermostats, fuel burners, stoves, automated wells, alarming units and again any kind of Ethernet based actuator.

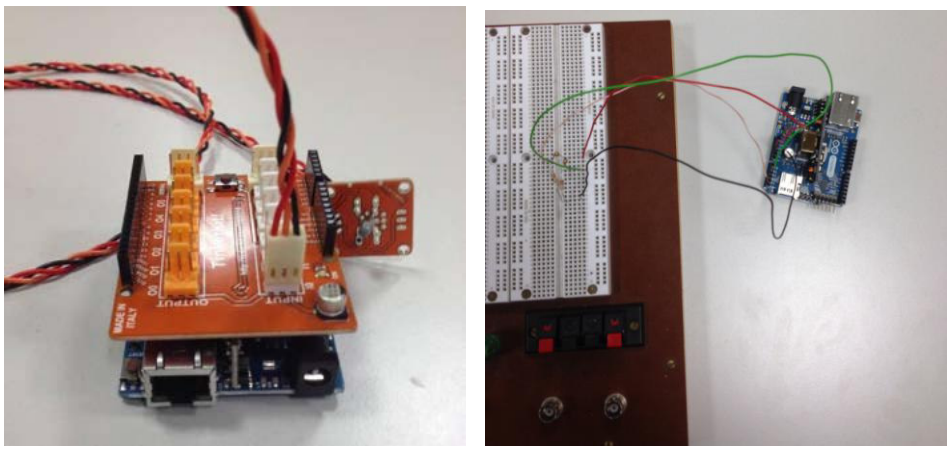

Fig. 2 - Examples of prototypes manufactured in our Lab, ready for installation in the house selected for the preliminary application of the experiment

In the same time, a customized network environment, together with a dedicated web platform, has been developed, to favor an easy and integrated management of the sensing and controlling components. The collected information is transferred to a general monitoring console, hosted in the Municipality building, which offers a global overview of the situation of the whole village, and allows an upper and immediate level of protection and intervention. Its functionality can be undertaken by the owner or delegated to the Municipality console, depending on the presence/absence/capability of the house holder himself.

Moreover, we are developing a dedicated infrastructure to provide remote control of the living conditions of elder people, without affecting their privacy. The system is realized thanks to an extremely low cost wireless passive tracking platform, which detects information about the activity inside the house. A dedicated algorithm processes the acquired information, thanks to statistical comparisons and cross-correlation computations originated from data acquired during certain amounts of periods. This solution does not require any action by the inhabitant, neither wearing a device, nor being confident with technology: hence it can be exploited to a very general case.

RESULTS AND OUTCOMES

The network has been constructed between August and October 2010 and the number of subscribers has been increasing continuously, becoming approximately 240 in September 2013 (over a total of about 600 families). The participants distribution on the territory of the Municipality of Verrua Savoia is shown in Figure 3. Figure 4 shows temporal evolution of the subscribers from August 2010 to September 2013. Surprisingly (but not very much), not only young people were interested to the new technology: in fact, the Municipality was forced to change the teaching program of the local Third Age University, inserting (between a cooking lecture and a gardening one) a dedicated Introduction to ICTs. User appreciation about the network is very high. Even if network management is carried out by University students and there is not a structured "customer service", citizens participate actively to network control, being always the first to document network problems and sometimes providing suggestions. During last winter, when a huge snowfall covered the solar panels compromising power supply of half the network backbone, 10 volunteers offered to climb up the hills and put into service the infrastructure.

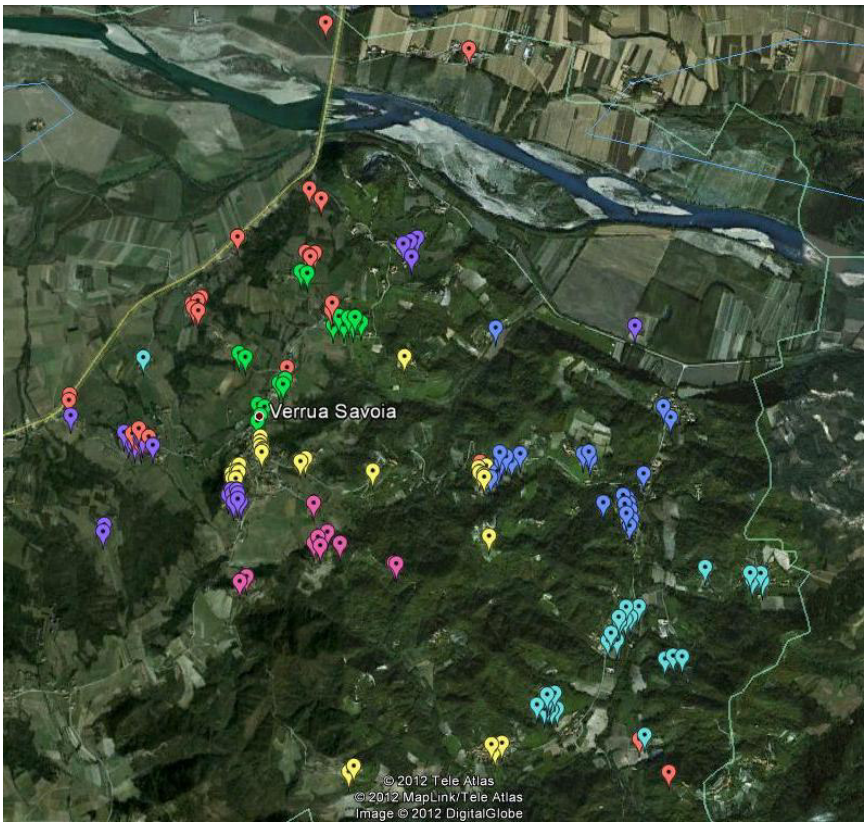

Fig. 1 - Participants distribution in the territory of Verrua Savoia.

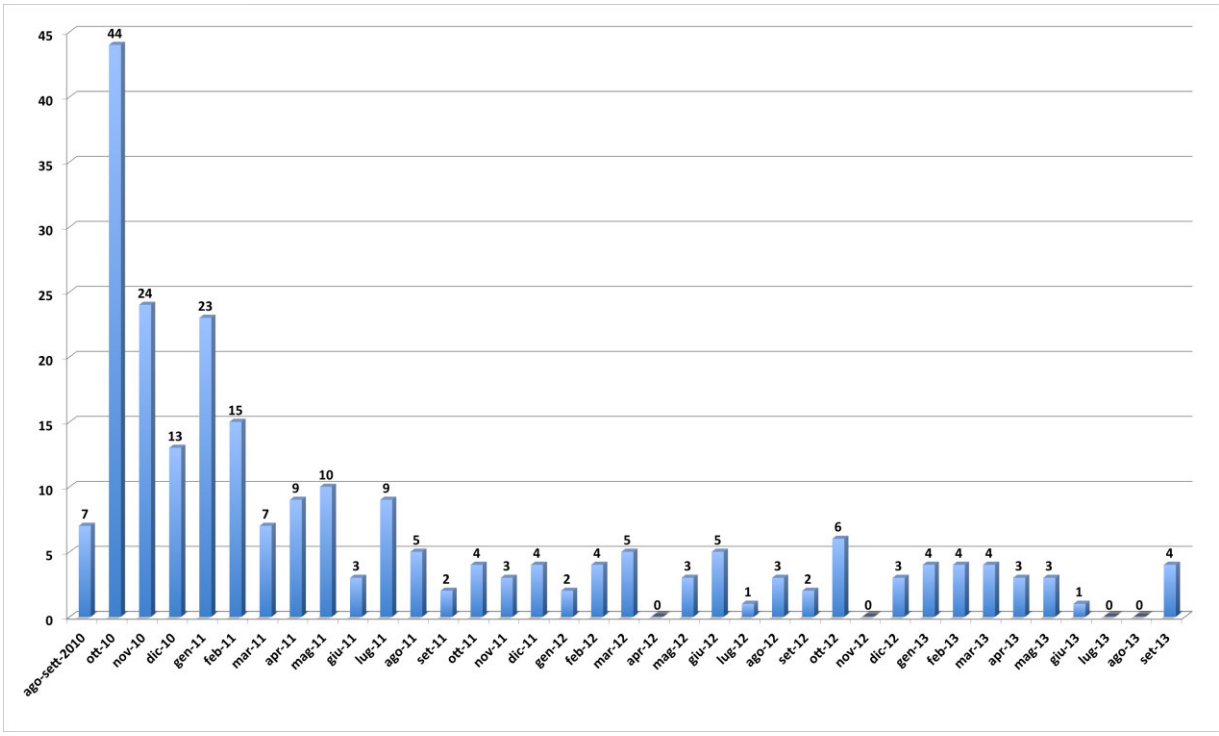

Fig. 2 - Temporal evolution of the number of participants from August 2010 to September 2013.

The preliminary results measured in the house that has been automated since the beginning of winter 2010-2011 are showing dramatic money savings, primarily due to the remote control of the sensing equipment. They exhibit a reduction of almost the 50% of the heating energy consumption and about 25% of garden watering. As a matter of fact, this early result could not be considered as representative of the functionality of the whole system, but it represents an interesting starting point that generates important perspectives for the continuation and implementation of the project on a larger scale. Figure 5 shows one of the temperature sensors mounted on the wall of the bedroom, while Figure 6 presents a wood stove connected to the controller.

Fig. 3 - Temperature sensor mounted on wall bedroom.

Fig. 4 - Wood stove connected to the controller.

Data regarding the following winter season (2011-2012) are more representative, as they are been applied to a larger number of houses. Unfortunately, they are affected by an unpredictable trigger: winter 2011-2012 has been the coldest of the last 100 years in Europe. Nevertheless, we have still measured an average reduction of the 10% of the expenditures, between early November and late February. This datum should be analyzed and disaggregated, or, even more, compared to further data acquire in the next winter periods.

On October 28, 2011, the inhabitants have been involved in a photographic competition with subject related to their own home equipment installation. The competition has gathered a large number of participants (http://www.ixem.polito.it/research/Verrua_2010/Concorso_fotografico_2011_e.htm): one more demonstration of the passion generated by the project.

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Imagining cultures of cooperation:
Universities networking to face the new development challenges

III CUCS Congress
Turin, 19-21 September 2013

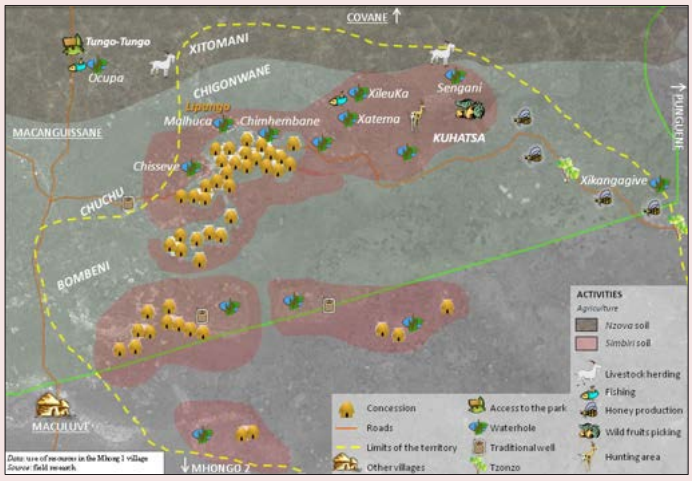
PARTICIPATORY METHODOLOGIES FOR A RESPONSIBLE TOURISM: THE ZINAVE NATIONAL PARK (MOZAMBIQUE)

CST-LABORATORIO CARTOGRAFICO DIATHESIS
Diathesis Cartographic Laboratory
University of Bergamo

Abstract

The **Zinave National Park** (Mozambique), included in a system of protected areas as the **Great Limpopo Transfrontier Park,** is the experimental area for the application of a particular form of involvement of local communities in the conservative actions: the **community conservation**. As part of a *Ph.D. thesis**, it was carried out a field research in order to recover the local knowledge and the traditional values about the use of resources in the villages located within the protected area to achieve this implicative form.

The traditional status of the villages in the Zinave National Park



The system of use of resources in the village of Mhongo 1 in the PNZ

Achieved results

Through the **observation**, the **inquiry** and the use of **participatory mapping** have been investigated the **traditional status** and the **organization of the villages** of PNZ recovering the **systems of resource use.** In particular, the research has allowed to realize:

i. the **census of 25 villages**, ever before cartographically represented, and the reconstruction of their traditional organizational structure;

ii. an in-depth analysis of **two sample villages**, Mongho 1 and Makitchile, recovering their traditional system of resource use;

iii. the study of the potentiality of a **sustainable tourism development** as an alternative activity to the livelihood of local communities, in view of the implementation of new regulations for the use of resources in the Park.

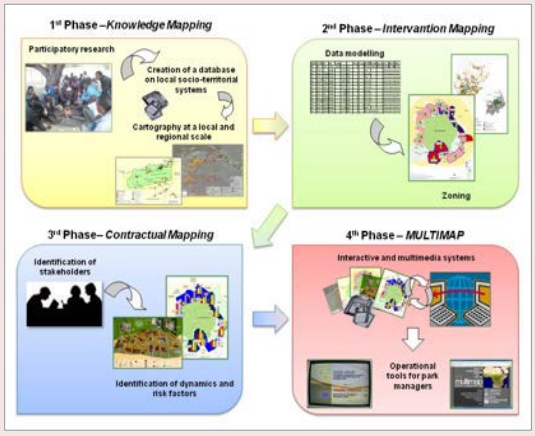
The Zinave National Park and the Great Limpopo Transfrontier Park

Objectives

The research has highlighted the importance of the territorial organization of local communities for the recovery of **spatial capital**** in order to manage and develop tourism in the African protected areas.

Methodological approach

The **SIGAP Strategy** is a **participatory methodology of research** based on: i. **field work** for collecting data; ii. **mapping systems** for communicating results. In particular, this research presents the application of the first phase knowledge-based of that strategy, who allowed the creation of a **participatory database,** that was digitized in order to realize **GIS cartographic documents,** useful to improve the **environmental governance** and the **participation** of the people in the field of environmental conservation and promotion of tourism initiatives.



The SIGAP Strategy

Conclusion

The field data were used to bring out the **systems that govern the territory**, recovering local knowledge, and has allowed to highlight some conflict situations about: i. **land ownership**, for the competition between Park and local communities and for the change of the boundaries of the protected area; ii. **use of resources**, due to the incompatibility of the hunting, fishing and agriculture with the environmental management of the Park; iii. **tourism**, for the difficulty of achieving a sustainable system that will ensure the practice of tourism without causing negative impacts on the land system and the local production.

* The PhD thesis in Geography of Development entitled "The Transfrontier Conservation Area Of Great Limpopo: participation and tourism promotion in the Zinave National Park (Mozambique)", is coordinated by Prof. Emanuela Casti, head of the Diathesis Cartographic Laboratory of the University of Bergamo (www.unibg.it/diathesis). The defense is expected for the beginning of 2014.

** The term *spatial capital* refers to the heritage of places, territories and networks built up by a social actor and the set of skills acquired over time to manage it, which can give benefits for his own survival (J. Levy, M. Lussault , Dictionnaire de la Géographie, Belin, Paris, 2003, p. 124-126.)

Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

OLTRE LA CARTOGRAFIA PARTECIPATIVA.

Raccolta coordinate con palmari GPS
e condivisione di Geodati via web (2.0)

Antonio Maini
Università di Torino
Interfacoltà di Geografia

Introduzione

In Mozambico, a sud del fiume Save, lungo 40km di Savana semidesertica compresa tra il 33° e il 34° meridiano, si trovano insediate sei comunità investite da un coraggioso progetto di *ecoturismo* finanziato dalla Banca Mondiale e appoggiato da altri attori tra cui l'Ong italiana LVIA.

Tra l'ottobre e il dicembre 2012, sono stato incaricato di realizzare una rappresentazione cartografica delle risorse culturali e naturali della regione.

Approccio metodologico

Attraverso la cartografia partecipativa ho svolto la prima parte del lavoro. Successivamente, i luoghi segnalati nella carta disegnata insieme a rappresentanti del villaggio, sono stati rintracciati sul terreno e georiferiti con un comune GPS. Tornato dietro la scrivania, i dati raccolti sono stati organizzati in un geodatabase tramite semplici funzioni del software QuantumGIS.

I geodati - esportati in formato shapefile da Qgis - con pochi semplici passaggi sono poi stati pubblicati - senza alcun costo - sul rivoluzionario portale Mangomap.com.

Obiettivi e risultati ottenuti

Oltre alla manifestazione in scala ridotta del territorio investigato, uno dei risultati più affascinanti raggiunti attraverso la cartografia partecipativa risiede nel processo di autocoscienza che talvolta coinvolge i partecipanti al disegno della carta. La fase di rilievo GPS, invece, permette di conoscere in prima persona ogni singolo luogo degno di nota delle comunità.

Infine l'esportazione sul web consente di analizzare e comunicare in modo dinamico e multiscalare le realtà sociali, culturali e ambientali conosciute sul campo.

Conclusioni

Ogni luogo nasconde ponti e dirupi. Ecco perché l'attività diagnostica qui illustrata dovrebbe essere considerata indispensabile per aiutare (tutti) a capire, dove siamo, dove vogliamo andare e qual è la strada migliore da percorrere.

I links che seguono portano ad un blog dal quale è possibile accedere alla carta dinamica.
Following the links you can read it in English and access to an interesting dynamic-map.

www.mapitlab.blogspot.com.br

Contatto: antoniomaini@gmail.com

ADDENDUM

POLITECNICO DI TORINO

UNIVERSITÀ DEGLI STUDI DI TORINO

CUCS TORINO 2013

Immaginare culture della cooperazione:
le Università in rete per le nuove sfide dello sviluppo

III Congresso scientifico CUCS
Torino, 19-21 Settembre 2013

UNDERSTANDING AND KNOWING HOW TO DESIGN HEALTHCARE BUILDINGS THROUGH INTERDISCIPLINARITY

MASTER II LEVEL "ARCHITECTURE FOR HEALTH"

PLANNING, DESIGNING AND MANAGMENT OF HEALTHCARE BUILDINGS IN DEVELOPING COUNTRIES

SAPIENZA UNIVERSITÀ DI ROMA
DIPARTIMENTO PIANIFICAZIONE DESIGN TECNOLOGIA DELL'ARCHITETTURA

co-financed by the Italian MINISTRY OF FOREIGN AFFAIRS
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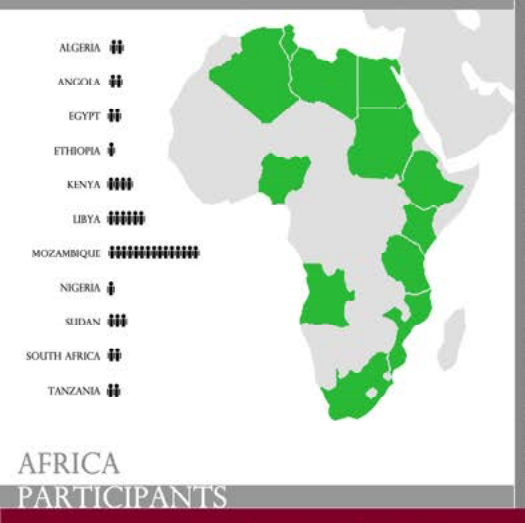
DEPARTMENT OF PLANNING, DESIGN, TECHNOLOGY OF ARCHITECTURE



ABSTRACT

THE POSTER ILLUSTRATES THE TRAINING PROGRAM AND THE RESULTS DRAWN FROM A WEALTH OF EXPERIENCE OF POST-GRADUATE SPECIALIST INTERDISCIPLINARY EDUCATION COURSES. LAUNCHED IN 2004 THE PROGRAM IS AIMED AT ARCHITECTS AND ENGINEERS WITH FIVE-YEAR DEGREE COURSES FROM COUNTRIES CONSIDERED A PRIORITY BY THE ITALIAN COOPERATION POLICIES. THE MASTER'S DEGREE IN ARCHITECTURE FOR HEALTH, WHICH IS CURRENTLY IN ITS SIXTH EDITION, IS CO-FINANCED BY THE G.D.D.C. OF THE MINISTRY OF FOREIGN AFFAIRS AND THE DEPARTMENT OF PLANNING, DESIGN AND TECHNOLOGY OF ARCHITECTURE FROM SAPIENZA UNIVERSITY OF ROME.

IN THE FIVE PREVIOUS EDITIONS (FIRST EDITION 2004, II ED. 2006, III ED. 2008, IV ED. 2010, V ED. 2011) 95 FIELD EXPERTS IN TOTAL HAVE BEEN TRAINED FROM 19 DIFFERENT DEVELOPING AND EMERGING COUNTRIES. ACCORDING TO THE EX-POST MONITORING CARRIED OUT, ABOUT 45% OF THESE EXPERTS ON THE RETURN TO THEIR COUNTRIES OF ORIGIN GAINED SOME PROFESSIONAL EXPERIENCE OR FOUND EMPLOYMENT IN THEIR SPECIFIC SECTOR.

CURRENTLY IS ITS SIXTH EDITION, NINETEEN ARCHITECTS AND ENGINEERS FROM EIGHT COUNTRIES IN SUB-SAHARIAN AFRICA ARE ATTENDING THE PROGRAM. IT HAS ALSO BEEN DECIDED THAT THE FUTURE EDITIONS WILL ALSO ONLY FOCUS ON SUB-SAHARIAN COUNTRIES.

THE TRAINING PROGRAM HAS ALSO BEEN EXPORTED, WITH THE NECESSARY ADJUSTMENTS, AS A SINGLE EDITION TO THE UNIVERSITY OF SAN CARLOS OF GUATEMALA, FACULTY OF ARCHITECTURE (2009) WITH THE RELEASE OF THE JOINT DEGREE BETWEEN THE TWO INSTITUTIONS, AGAIN THANKS TO THE CO-FINANCING OF THE G.D.D.C.

ACHIEVED RESULTS

WITH THE GRADUAL DEVELOPMENT OF THESE EXPERTS, A NETWORK OF HIGHLY PROFESSIONALIZED SPECIALISTS HAS BEEN CREATED. THEY ARE ALL CONNECTED TO EACH OTHER AND ALSO WITH THE TEACHING STAFF OF THE MASTERS COURSE, WHO CONTINUE TO PLAY A SUPPORTING ROLE. THE SUPPORT IS FOCUSED PARTICULARLY ON ISSUES RELATED TO THE FACTORS OF SCIENTIFIC AND TECHNOLOGICAL INNOVATION THAT IS CONSTANTLY AFFECTING THE SECTOR. FURTHERMORE, THE MASTERS HAS BEEN AN OPPORTUNITY TO BEGIN AND ALSO TO FORMALISE COLLABORATIVE ACTIVITIES WITH FURTHER ACADEMIC INSTITUTIONS.

OBJECTIVE

The specific objective of the training is the acquisition on the part of the participants of the methods, knowledge and specialist competences relating to the design, planning and programming of the activities of building and plant maintenance, from a point of view that pays attention to the themes of environmental sustainability, for health buildings.

METHODOLOGICAL APPROACH

PHASE 1 – E-LEARNING
Before starting the specialist-training program which also features online educational support, participants must first carry out an Italian language course in their own country. Following on from this they must also complete a basic activity targeted towards on-site collection of documentation about the hospital care study that each student will analyse within his or her Masters.

PHASE 2 – INTRODUCTION TRAINING
The educational path starts in Italy with the "Introduction training." In this phase the main themes that are taught are: tools for analysing and quantifying health needs (through a demographic analysis, the assessment of disease load, existing and potential risk factors, expectations and values of citizens) and methods for health services planning in connection with local needs.

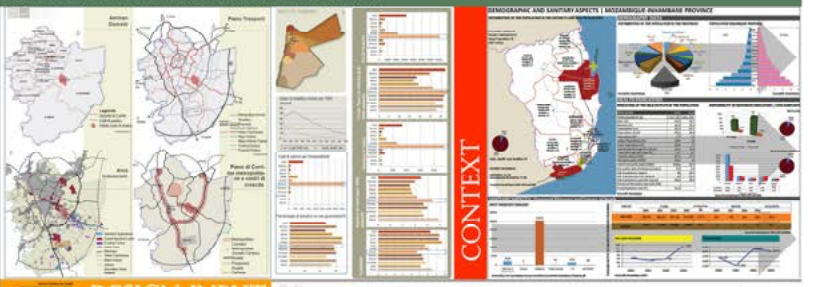
PHASE 3 – SPECIALIZED TRAINING I
This section is divided into two modules. The first is focused on the spatial planning and environmental sustainability of health care facilities, while the second looks at typological analysis related to the spatial and functional requirements of different types of health care facilities. Parallel to the lectures, as part of a Design Workshop I starts the systematisation and graphics processing of the collected data about the case study in order to guide the design choices in relation to the acquisition of learning content.

PHASE 4 – INTERNSHIP AND SEMINARS
Next students complete an internship at various hospitals in Rome and attend specialised seminars. Participants are divided into groups and supervised by a university tutor. They carry out practical training in the Technical Offices of hospitals or local health authorities in order to acquire skills and expertise in different areas such as maintenance management, plant engineering and energy saving. During the entire training cycle of the Masters the student will also complete specialised seminars, which aim to focus further on specific issues such as technical installations, interior design and cost analysis.

PHASE 5 - SPECIALIZED TRAINING II
The fifth section is divided into two teaching modules aimed at analysing features and requirements of functional areas of a health care facility, their spatial and functional relationships and to provide tools and content of the meta-design of health facilities in order to improve the development of a design-guide during the Design Workshop II.

PHASE 6 – SPECIALIZED TRAINING III
Between lessons and workshops, the sixth phase presents in an integrated way the theme of the ex-novo planning of a socio-health structure, such as a health centre, starting from the initial concept right up to the executive project.

DESIGN COMPETITION
Throughout the training there is also another important experience which sees participants form groups on their own and then elect a project leader to work collectively within a set timeframe in response to an international tender for the construction of a new hospital structure. Students are supplied with all the bid material and are shown the contents and the winning projects. This activity is the only one of a collective nature within the course, and it simulates on a reduced scale the approach of a professional studio.



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A.P.P.A.® Project: study of pediatric formulations for using in developing Countries

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Abstract

The *A.P.P.A.*® Project [1] is the result of the cooperation between the Pharmacy Faculty (TO) and local Pharmacists and it is in agreement with the International Health Cooperation principles. The Project is structured in six phases, through which it is possible to obtain an effective and functional **galenic lab in hospitals located in developing Countries** (DC). Due to the different socio-economic conditions each lab is a reality different from the others, always without forgetting the goal of opening labs that produce quality medicinal products. For each lab a specific handbook has been studied: each of them reflects the different local needs. For this reason, in the last two labs carried out in Angola and Haiti, it was necessary to introduce several formulations for pediatric use. For each preparation specific tests were performed to verify the stability under different environmental conditions, in accordance with the European Medicines Agency (EMA) guidelines [2].

Achieved Results

The **galenic medicines** studied until now for **pediatric use** have been prepared in different pharmaceutical forms:

- ✓**Solutions**: captopril, furosemide
- ✓**Suspension**: amoxicillin, carbocysteine, chloramphenicol, erythromycin, magnesium and aluminum hydroxide, metronidazole, vitamin B complex
- ✓**Syrups**: ascorbic acid, carbocysteine, ibuprofen, iron sulphate, paracetamol, potassium canrenoate, propranolol, quinine, ranitidine, salbutamol, vitamin B6
- ✓**Drops**: nifedipine, quinine, ranitidine, salbutamol, vitamin B6
- ✓**Suppositories**: paracetamol

For each preparation specific tests were performed to verify the **quality** and also the **stability** under different environmental conditions, in accordance with the **EMA guidelines** . Up today, all formulations have proved to be stable in "Refrigerated" conditions (T=5±3 °C) and "Standard" conditions (T=40±2 °C, UR 60±5%) for **12 months**, in "Accelerated" conditions (T=25±2 °C, UR 60±5%) for **3 months**.

Objectives

✓To realize **pediatric formulation** according to the needs of different hospitals
✓ To verify the **quality** [3-4] and also the **stability** [2] of the medicinal products under different environmental conditions

The study of pediatric formulation is very important considering that the **availability** of preparations designed for children is **limited**. Furthermore should not be underestimated the extremely high incidence of **counterfeit medicines** in DC [5].
For pediatric use **suppository** and **liquid preparations for oral use** should be preferred; in particular liquid preparations allow a simple modulation of the amount in function of the weight of several children afferent to the hospital.

The main goal of the stability study is that the preparations could therefore be **preserved in complete safety at homes even if these houses, as often happens in DC, are not equipped with air conditioners or refrigerators**.

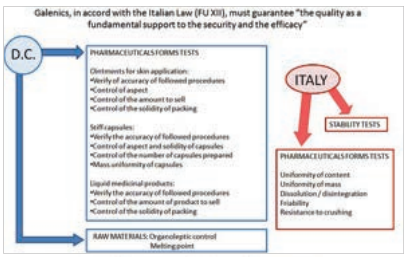
"Pharmacien de la route"

Methodological approach

✓In agreement whit local medical doctors the **drugs** for the pediatric therapy are **chosen** and then **formulated** [6]: liquid oral formulations are preferred and appropriate excipients are selected.
✓For each formulation a **specific card** (written in local language) has been prepared. The card shows the procedure of preparation and the characteristics of each component present in the formulation.
✓Each preparation have been tested to check its **quality** and its **stability** under different environmental conditions in accordance with the EMA guidelines.

Card for the preparation of the Propranolol syrup

Operator of the *A.P.P.A.*® lab of Haiti



Quality control and quality assurance

Considering the environmental conditions present in DC where the galenic products will be use and in order to investigate the stability of these medicinal products, *A.P.P.A.*® performed a survey of the stability of various galenic dosage forms using different environmental conditions in accordance with the EMA guidelines. We endeavoured to gather information on stability of galenics at extreme environmental conditions (high temperatures and relative humidity) that might prove useful in those Countries (*e.g.*, African ones) where the tropical climate is a serious threat for the quality of drugs. Stability results of samples stored in "accelerated" (T=40±2°C, RH=50±5%) conditions supplied precious information on the expected stability of galenics in tropical Countries where extreme environmental conditions are often a limiting factor for correct storage of drugs.

TEST CONDITIONS				
STORAGE CONDITION	**T (°C)**	**RH**	**PERIOD COVERED BY DATA**	**ANALYTICAL METHOD**
Standard	25±2	50±5%	analysis at time zero (T0) and every 30 days (from TS-1 to TS-n)	UV-VIS spectrophotometric assay
Refrigerator	5±3	-	analysis at time zero (T0) and every 30 days (from TS-1 to TS-n)	UV-VIS spectrophotometric assay
Accelerated	40±2	50±5%	3 months, analysis at time zero (T0) and every 30 days (from TA-1 through TA-3)	UV-VIS spectrophotometric assay

Conclusion

- ✓ About **30 galenic medicinal products** for pediatric use have been studied and then formulated.
- ✓ For all formulations **quality** and **stability** have been demonstrated in accordance with EMA guidelines.
- ✓ The studied pediatric formulations are currently in use in the *A.P.P.A.*® laboratories of **Haiti** and **Angola**.

1] Aid Progress Pharmacist Agreement (*A.P.P.A.*®) no-profit organization web-site. Available from: www.progettoappa.it.
[2] Guideline on stability testing: stability testing of existing active substances and related finished products, 2003, CPMP/QWP/122/02, rev 1 corr
[3] European Pharmacopoeia, 7th edition, legally valid from 01/01/2011. Supplement 7.8, legally valid from 01/07/2013 until 31/12/2013. Available from: www.edqm.eu.
[4] Ministry of Health. Good Manufacturing Practices for galenic medicinal products in pharmacy, Official Pharmacopoeia of the Italian Republic XII edition [Italian]. Roma: Polygraphic Institute of the State; 2008.
[5] Baratta F., Germano A., Brusa P. Diffusion of counterfeit drugs in developing countries and stability of galenics stored for months under different conditions of temperature and relative humidity. CMJ. 2012; 53: 173-184.
[6] Brusa P., Germano A. Technological and management procedures for Galenic Laboratory in Pharmacy. Torino; 2007, accredited by FOFI on 16/06/2008, www.fofi.it. [Italian]

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SOLID WASTE MANAGEMENT IN ARMED CONFLICTS AND UNSTABLE CONDITIONS: A CASE STUDY FROM THE GAZA STRIP

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University of Brescia, CeTAmb – Research Centre on Appropriate Technologies for Environmental Management in Developing Countries

Abstract

Solid waste management (SWM) is one of the most challenging topics in low- and middle-income countries. Municipalities are usually not able to provide an acceptable level of collection and disposal service, despite great economical and financial efforts, with social, political, health and environmental impacts. Several actors are interested in SWM, with a different level of involvement according to needs, resources and objectives: they can be either officially recognised (e.g. NGOs, CBOs, private companies) or informal individuals/groups (e.g. scavengers, collectors, traders), interacting each other in dynamic conditions. Thus a SWM system looks particularly complex, and any intervention could affect not only the environment, but also society and public health: technicians have to identify appropriate solutions, considering not only technical aspect, but also social, economical, environmental and institutional ones, evaluating impacts at short and middle-long period. When conditions are unstable, for example in case of armed conflicts, not all the aspects can be clearly evaluated, due to lack of data, unexpected political changes, and security constraints. Donors and international NGOs have an humanitarian approach, with short term projects: sustainability is clearly not a priority, and some particularly complex sectors, like SWM, are usually not considered. In the Gaza Strip SWM is a hot topic, due to high population density, with consequent large waste generation, scarcity of land availability for disposal, few recycling opportunities, and equipment poor conditions. CeTAmb has analysed the situation in order to identify appropriate solutions, robust to local instability, and supported COOPI, an Italian NGO, to design effective and sustainable humanitarian interventions. Such solutions concern the management of municipal solid waste and health-care waste, and have partially been applied. CeTamb have evaluated the impact on local conditions and sustainability.

Objectives

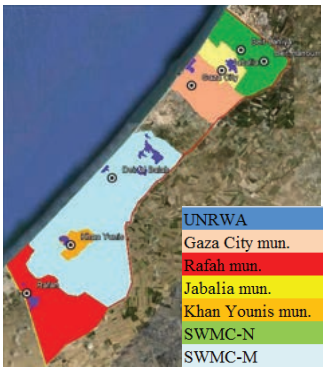
To assess solid waste management system in the Gaza Strip
To identify main needs and challenges
To suggest possible humanitarian responses

Methodological approach

Literature review
Field missions: document collections, field visits, meetings and interviews
Each service provider was analysed in details (e.g. scheme of collection, equipment, challenges, potentialities, and future plan)
Data verification and triangulation with COOPI staff, and service providers

Achieved Results

Land and maritime no-go zone in Gaza Strip (United Nations OCHA, 2011. *Easing the Blockade*).



MSW coverage by main service providers (authors' elaboration).

Year	Household (ton/day)	Commercial (ton/day)	Market (ton/day)	TOT MSW (ton/day)	Composting rate	MSW to landfill (m^3/year)	Agricultural (ton/day)
2007	1,306	68	72	1,446	1%	435,336	1,200
2011	1,506	78	83	1,667	1%	501,825	1,200
2012	1,552	80	85	1,718	1%	517,303	1,200
2015	1,711	88	94	1,893	2%	564,272	1,200
2020	2,019	102	109	2,230	6%	637,709	1,200
2030	2,874	128	137	3,139	15%	811,511	1,200
2040							

Municipality	Governorate	Disposed waste (ton/day)	Disposal Site	Collection rate	Waste generation (ton/day)
Um Al -Nasser	North Gaza	n.a.	Johr al Deek	95%	n.a.
Beit Hanoun*	North Gaza	27	Johr al Deek	95%	29
Beit Lahia*	North Gaza	42	Johr al Deek	95%	44
Jabalya*	North Gaza	119	Johr al Deek	95%	125
El-Zahra*	Gaza City	3	Johr al Deek	95%	3
Al-Moghraqa*	Gaza City	3	Johr al Deek	95%	3
Gaza City*	Gaza City	535	Johr al Deek	95%	564
Wadi Gaza	Gaza City	n.a.	Johr al Deek	95%	n.a.
Al-Breej**	Middle Area	10	Deir al Balah	90%	11
El-Zawaida**	Middle Area	10	Deir al Balah	90%	11
Al-Musadar**	Middle Area	1	Deir al Balah	90%	1
Al-Maghazi**	Middle Area	9	Deir al Balah	90%	10
Al-Nusirat**	Middle Area	29	Deir al Balah	90%	32
Deer Al-Balah**	Middle Area	47	Deir al Balah	90%	52
Wadi El-Salqa**	Middle Area	1	Deir al Balah	90%	2
Al-Fokhari	Khan Younis	n.a.	Sofa	80%	n.a.
El-Qarara**	Khan Younis	12	Deir al Balah	80%	16
Bane Sehela**	Khan Younis	17	Deir al Balah	80%	22
Khan Younis**	Khan Younis	93	Deir al Balah	80%	116
Khuza'a**	Khan Younis	7	Deir al Balah	80%	8
Abasan Al-Jadedah**	Khan Younis	5	Deir al Balah	80%	6
Absan Al-Kabera**	Khan Younis	13	Deir al Balah	80%	17
Al-Shoka	Rafah	n.a.	Sofa	70%	n.a.
Al-Nasser	Rafah	n.a.	Sofa	70%	n.a.
Rafah***	Rafah	100	Sofa	70%	143
2 camps*	UNRWA North	50	Johr al Deek	100%	50
5 camps**	UNRWA Middle	97	Deir al Balah	100%	97
1 camp***	UNRWA South	30	Sofa	100%	30
TOTAL	Disposal	1,261	ton/day	Generation	1,391

*: source: municipality of Gaza, Johr al Deek landfill registry for September 2011.
**: source: Financial Statements and Independent Auditor's' Report for the Year Ended December 31, 2010 - SWMC Deir al Balah-Palestine.
***: source: interview with municipality of Rafah, Environment and Health Department.

Conclusion

Industrial and healthcare waste are collected with MSW; **MSW production is expected to largely increase in few years**. Recycling is very limited. **MSW management system is overloaded**, with scarce, old, and poorly maintained equipment. However **almost all the waste is collected and landfilled**. **Several actions are required**: a more efficient waste and fee collection, **directly involving population in planning** phase; schools and commercial areas should start **separating waste**; new **technologies for material recovery** should be introduced, in particular anaerobic digestion for organic.
Need of **future research**: **specific waste production and management** (healthcare, commercial); **service providers' operation; informal sector**.
Cooperation with COOPI is still on-going, in particular about **healthcare waste management**.

EUROPEAN COMMISSION
Humanitarian Aid

All COOPI staff is thanked for the opportunity to cooperate about MSW, and the precious support during all the study phases. DG ECHO is thanked as well as to have accepted to include MSW and HCW assessment in Gaza Strip in the project "Support to vulnerable households affected by limited livelihood opportunities in West Bank and Gaza Strip, Occupied Palestinian Territories".

COOPI COOPERAZIONE INTERNAZIONALE

COOPERATION, DISCOURS, CHANGEMENT: *BIAS* DANS LE DISCOURS ACADEMIQUE SUR LE CONFLIT

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ABSTRACT

L'article part du présupposé que les discours ont un pouvoir, puisqu'ils influencent l'action. Les discours définissent les limites du cadre d'explication d'une réalité. C'est ce que nous appelons le *frame.*
Tous les discours académiques ont un poids important sur la construction des *frames* ; ils les valident. Ces discours légitiment ainsi une certaine vision de la réalité.
L'article présente, en étude de cas, une analyse d'un texte académique. Il s'agit d'une description qualitative d'un projet de coopération entre Italie et Palestine visant l'empowerment des habilités des jeunes dans l'utilisation des TIC pour dénoncer les violations des Droits de l'Homme. L'analyse critique de ce texte fait émerger le *frame* du «balanced approach» comme filtre de représentation du projet. Ce *frame* biaise la description de la réalité et incite, par sa présence, à l'inaction sociale.
Cette étude de cas met en lumière tout le pouvoir des *frames* dans le discours académique.

INTRODUCTION THÉORIQUE

1. Le pouvoir du discours

Habituellement, nous entendons le pouvoir de la communication comme un contrôle sur ce que l'on peut dire ; c'est-à-dire sur la construction de l'agenda des médias : c'est d'abord une question d'accès au discours. Mais le pouvoir ne s'exerce pas seulement à travers la censure et le silence. Le pouvoir, nous enseigne Foucault, est producteur : «Le pouvoir s'exerce aussi comme construction du signifié à partir des discours, à travers lesquels les acteurs sociaux orientent leurs actions.» [1]. «Le pouvoir est l'habilité à interpréter la réalité et à faire en sorte que les autres acceptent ces interprétations.» [2].

Selon la théorie politique d'Habermas [3], ce n'est pas seulement la violence qui est à la base de la relation de pouvoir, mais plutôt la légitimation que le subordonné accorde au dominant. Cette légitimation « dépend surtout du consensus obtenu à travers la construction d'un signifié partagé » [1, p.36].

2. Les frames

Selon la théorie linguistique de Lakoff [4], ce signifié partagé constitue les *frames*; c'est-à-dire, le contexte de connaissances dans lequel l'individu peut placer les informations qu'il reçoit sur un fait. L'ensemble des *frames* constitue la cosmovision, c'est-à-dire la pensée de chacun pour «reconstruire» le monde [5].

Depuis les études de Goffman [6], les *frames* ont été considérés comme importants, dans la mesure où ils définissent des séries de métaphores pour guider l'interprétation de la réalité.

3. La stratégie du framing

Le pouvoir de changer la réalité est le pouvoir de contrôler les *frames.* Le *framing* est une activité stratégique visant à manipuler certaines communications afin d'imposer son point de vue à autrui. Le *framing* n'est pas une technique de manipulation coercitive, mais il limite les métaphores à disposition du sujet. En effet, l'individu n'agit pas de façon rationnelle, mais utilise ses préconstruits, ses attentes, ses perceptions sur l'identité, des mythes et stéréotypes, ses mémoires et ses croyances. Ainsi, manipuler le *frame* offre la base pour contrôler de façon indirecte le futur comportement. «Le *frame* donne du signifié aux opportunités, au réseau, au groupe et à ses membres. Il est donc une composante cruciale de l'action collective» [7, p. 9].

La conclusion de Castells [1, p.85] est que «les discours, dans nos sociétés, forment le mental à travers une technologie précise : le réseau de communication, qui organise la communication socialisée. Ainsi, la programmation des réseaux de communication est la source décisive des matériaux culturels».

4. Le discours académique

Le discours académique est le plus valide des matériaux culturels à disposition des individus pour construire ses *frames* et activer ses réseaux. Le discours académique suit des règles précises et bénéficie *a priori* d'un degré très élevé de légitimité dans la description de la réalité, grâce au consensus de prestige accordé à la méthode scientifique en

général. «La vérité est située dans la forme du discours scientifique et dans les institutions qui le produisent» [8]. Deleuze [9, p.59] affirme, quant à lui, que «la représentation n'existe plus, mais n'existe que l'action ; action théorique ou action pratique». A cela Foucault ajoute que « le rôle de l'intellectuel n'est pas de dire la vérité muette ; son devoir est plutôt de lutter contre toutes les formes de pouvoir là où l'intellectuel-même est objet et outil, c'est-à-dire dans la connaissance, la vérité, la conscience et dans le discours » [8, p.60].

5. Le discours construit des sujets

Le discours possède aussi le pouvoir de former les sujets qui parlent et qui écoutent : le discours in-forme le sujet. Cette dimension du discours explique pourquoi les individus considèrent qu'adopter un discours est une action existentielle et identitaire.

ETUDE DE CAS

Le titre de l'article que l'on examine ici est le suivant : «The global imaginary, new media and social political innovation in the periphery: the practical case of an Internet-based empowerment project in Palestine and Israel» de Roland Benedikter, Davide Ziveri, Revue Continuum: Journal of Media & Cultural Studies [2013, pp. 2 -15].

1. Le projet

L'article parle d'un projet d'échanges entre jeunes ayant reçu une formation aux usages des nouvelles technologies de l'information et de la communication (TIC) dans les media labs de Turin (Italie) et de At-Tuwani (Cisjordanie). Le projet a été financé grâce à un processus participatif dans une communauté de jeunes en province italienne de Bolzano. Le projet est un exemple de bonne pratique d'apprentissage de pair à pair et il fait partie du processus d'empowerment du comité local populaire de résistance non violente palestinienne. L'objectif du projet était de favoriser l'autoreprésentation des jeunes Palestiniens et d'observer et dénoncer les violations des Droits de l'Homme en Palestine. A partir de la description de cette expérience, l'article propose le concept de non-violence 2.0, c'est-à-dire un savoir non violent capable d'utiliser de façon tactique les TIC et d'agir sur les discours.

2. Les prémisses non-respectées

Les auteurs de l'article affirment que « ce qui est crucial pour un résultat positif des efforts des émancipations à l'âge de la globalisation médiatique, ce sont les faits sociopolitiques sur le terrain ». Cela vient dire que la description de l'image du contexte est très importante. Les éléments de la narration de la situation sur le terrain sont une partie des histoires qui se passent sur le terrain-même. Mais la narration influence également le contexte de ce sur quoi elle porte.

La non-violence, en tant que force sociale, peut fonctionner comme un «*reframing*» d'un problème, d'un conflit et de sa résolution (transformation), mais seulement si la narration se base sur la vérité.

En effet, la non-violence, dans son étymologie originelle («satyagraha», Gandhi) signifie «force de la vérité». Il ne s'agit pas d'une vérité *a priori*, mais d'une attitude parrèsiaste.

3. Le frame du « balanced approach »

Dans l'analyse de l'article, il apparaît un *frame* spécifique qui forme le cadre d'explication de la situation israélo-palestinienne au-dessus de la réalité. Le *frame* est tellement puissant qu'on le retrouve dans le discours académique. Le *frame* explique la réalité à la manière d'un script.

On peut appeler ce *frame*, celui du « balanced approach », dont les éléments caractéristiques sont les suivants :

- *La dynamique de la violence*

Plusieurs références dans le texte dessinent un scénario différent de la situation réelle. «La région où se déroule le projet est ravagée par la violence des deux factions : les colons Israéliens qui occupent une partie du territoire et les jeunes Palestiniens qui répondent avec des protestations violentes et des actes subversifs. […] Les observateurs internationaux ont documenté des attaques de la part de la communauté palestinienne vers les colons et, en réaction à cela, une contre-attaque des colons et, occasionnellement, des intimidations de la part de l'Armée israélienne».

Ces affirmations contredisent les rapports publics et officiels des observateurs internationaux du Corps civil de Paix pour l'Union européenne. En regard de la violence en ces régions spécifiques, les derniers actes violents de la partie palestinienne dataient de 1999. En 2001, les villageois ont créé le comité populaire de résistance nonviolente. Il s'agissait d'une décision communautaire visant à repousser la violence en tant qu'agression ou défense. Depuis lors, les observateurs internationaux ont relevé constamment les attaques des colons et ont observé qu'aucun acte violent n'y a été riposté de la part des Palestiniens.

Le *frame* du «balanced approach» qui émerge de ce texte refuse une catégorisation dichotomique, mais généralise excessivement la dynamique de la violence. Ce biais ne permet pas de mettre le focus sur ces contextes locaux qui représentent une différence significative par rapport à la tendance des autres zones géographiques. Ainsi, ce *frame* rend invisibles les expériences locales de non-violence.

- *La dénonciation de la violation des Droits de l'Homme à travers le Web*

L'article rapporte que « l'observation des violences à travers Internet permet aux citoyens de dénoncer les agressions des deux parties du front ». Cette description ne tient pas compte des différences en matière d'accès à Internet [10]. Le village des At-Tuwani n'a été que très récemment alimenté en électricité. Le retard n'a pas été causé par la situation de pauvreté et de sous-développement, mais par une décision politique de l'autorité militaire israélienne qui contrôle le territoire occupé (area C, selon les accords d'Oslo).

- *La participation ouverte*

Le *frame* du «balanced approach» ne décrit les expériences comme étant positives que si les deux communautés (israélienne et palestinienne) y participent. Cette méthodologie de transformation des conflits a été utilisée avec succès en Irlande du Nord. Malheureusement, ce n'est pas exactement ce qui se passe en ce cas. L'article dit que «le projet fait travailler les deux communautés dans une échange on line et off line. Les activités avec des groupes mixtes de jeunes leur permettent de connaître les deux narrations du conflit. Le projet essaie donc de construire des relations partenariales entre pairs». Cette affirmation est inexacte, car cette intéressante activité ne fait pas partie du projet, puisque la communauté de la colonie israélienne - proche du village palestinien d'At- Tuwani – se montre très fermée et a érigé plusieurs barrières (contrôle physique et armé, langue, idéologie), qui n'offrent aucune possibilité de rencontres. Les jeunes du village palestinien engagés dans le projet travaillent avec des associations pacifistes israéliennes. Cet aspect montre d'un côté que les rencontres sont possibles, mais également que les différences sont très marquées à l'intérieur de la société israélienne entre les colons et les citoyens Israéliens engagés pour la paix.

- *A l'origine du frame du «balanced approach» : le concept du politiquement correct*

L'origine de ce *frame* se trouve dans la culture Nord-américaine du «politically correct», c'est-à-dire une attitude visant à réduire la discrimination verbale dans la forme extérieure du discours. Cette attitude implique une équidistance, autrement dit, une relation à distances égales entre deux parties en conflit. C'est l'attitude de la prétendue «neutralité». Se placer loin des deux parties implique de ne pas reconnaître les victimes comme telles. Cela favorise la production de sensation de culpabilité chez les victimes et un véritable deuxième traumatisme. En revanche, dans la culture non-violente, il est plus fréquent de trouver le concept de proximité avec les deux parties, en reconnaissant toujours les responsabilités de chacune.

- *A l'origine du frame du «balanced approach» : la peur des valeurs sacrées*

Sur le conflit israélo-palestinien, au centre des médias de toute la planète, convergent plusieurs intérêts, mémoires et identités. Ainsi, il est considéré comme légitime d'expérimenter la peur des valeurs sacrées. La première de ces valeurs est la dignité humaine. Jamais dans l'histoire la dignité humaine n'aura autant été brisée que durant la Shoah. Le *frame* du «balanced approach» met en relation le respect pour le drame de l'holocauste avec l'impossibilité d'exprimer des opinions sur les politiques du Gouvernement israélien dans les territoires occupés.

- *Les avantages du frame du «balanced approach»*

Utiliser le filtre de ce frame amène des avantages grâce à l'économie cognitive. Les narrations dans ce frame réduisent la complexité et défendent l'individu de toute dissonance cognitive, motrice du changement.

Ce frame a aussi une valeur heuristique : il offre une explication de la violence selon la dynamique attaque – défense, expliquant ainsi la continuité de l'état de violence. De plus, si les rôles s'alternent, il est facile et permis de s'identifier alternativement aux deux acteurs du conflit. Cette double empathie nous amène à comprendre le conflit dans une dynamique action – réaction de majeur à mineur [11].

- *Les effets du frame du «balanced approach»*

En refusant la polarisation entre groupes et la radicalisation d'autrui, en refusant la figure de l'ennemi, du différent et du barbare, le *frame* du «balanced approach» risque quand même de déshumaniser les acteurs du conflit, qui deviennent alors esclaves de l'automatisme de la violence.

Ce *frame* du «balanced approach» est tellement basé sur les valeurs de la modération qu'il favorise une attitude passive, et donc l'inaction.

CONCLUSIONS

L'analyse critique du discours ne pose pas de question sur le degré de véridicité des interprétations de la réalité. La *question* qui émerge se pose quant à la typologie d'actions, et quant à la typologie de sujets créés par l'adoption d'un type particulier de *frame*. Quand le *frame* du «balanced approach» entre dans le discours académique, il y a un risque de ne pas pouvoir adéquatement présenter la complexité du contexte de chaque situation, d'empêcher les chercheurs de prêter attention aux cas particuliers et différents, de limiter la sérendipité.

Une action de coopération académique efficace doit tenir compte des histoires, des représentations, des discours et des *frames* sur les conflits et sur les régions qui souffrent de violence politique ou de catastrophes naturelles ou encore de sous-développement économique. La façon avec laquelle ces situations sont représentées à la Communauté internationale définit l'action de la Communauté internationale-même par rapport à la situation donnée. Autrement dit, agir sur les *frames* intentionnellement et stratégiquement change les représentations, et, par conséquent, les actions de la Communauté internationale.

Les *chercheurs* en Sciences Sociales ont le devoir d'expliciter les *frames* que l'on trouve dans les narrations qui circulent dans les réseaux. Nous, en tant qu'activistes, que chercheurs, que représentants politiques ou simples citoyens, sommes toujours consommateurs et producteurs de flux de discours. Donc, nous pouvons choisir de participer à la diffusion des *frames* qui promeuvent le changement social.

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The Italian Universities Network for Development Cooperation (CUCS) has been founded in 2007 and nowadays includes 28 Italian Universities. The III CUCS Congress (CUCSTorino2013) was held in Turin on the 19th, 20th, and 21st of September, 2013. CUCSTorino2013 was co-organised by Politecnico di Torino and University of Turin in the frame of the growing partnership between these two Universities with other relevant development cooperation actors (the UN system, the Italian Ministry of Foreign Affairs, local authorities, foundations and NGOs and their respective partners in the so called "Global South").

The Congress, titled "Imagining cultures of cooperation: universities networking to face the new development challenges", focused on changes occurring at different levels on current development and cooperation trends (theories, policies, practices, and the definition of the Global Development Agenda post 2015), on the role of universities as development cooperation actors and their contribution in terms of research, education & training, solutions implementation in the field, technology transfer and co-creation.

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