

Landscape education and research in Piedmont for the implementation of the European Landscape Convention

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Landscape education and research in Piedmont for the implementation of the European Landscape Convention

**Exhibition catalogue on the occasion of the
Uniscape General Meeting 2010**

Turin, 16-17th October







UNIVERSITÀ DEGLI STUDI DI TORINO



Landscape education and research in Piedmont for the implementation of the European Landscape Convention

Edited by
C. Cassatella, M. Devecchi, R. Gambino, F. Larcher

**Exhibition catalogue
on the occasion of the Uniscape General Meeting 2010
Turin, 16-17th October**

UNISCAPE – European Network of Universities for the implementation of the European Landscape Convention – is a non-profit association established in Florence in January 2008, on the joint initiative of 23 European Universities. More than 50 universities from 8 different European countries are currently members of the network.

Aim of UNISCAPE is to promote the principles of the European Landscape Convention by encouraging scientific interdisciplinary research, educational activities and co-operation among European universities.

Its main activities are:

- Supporting research and experimental studies related to landscapes, their evolution and transformation;
- Facilitating members to co-operate by exchanging scientific competences in landscape matters;
- Encouraging the mobility of landscape specialists in particular for training and dissemination purposes;
- Promoting educational processes and coordinating a European Landscape Master course in Landscape Protection, Management and Planning;
- Providing a regularly updated database of landscape courses, education and training as given throughout Europe (www.ATLAS-EU.org).

The main projects realised by UNISCAPE in its first years of activity are:

- The organisation of the scientific conference Living Landscape on the occasion of the 10th anniversary of the European Landscape Convention.
- The publication of Landscape as a Project. A survey of views among UNISCAPE members, F. Zagari - B Pedrolì (eds.), Libria, 2010.
- The launch of the first edition of the international photo contest People's Landscapes, to involve students in landscape awareness raising
- The design of a European Masters course in Landscape Protection, Management and Planning

Encouraged by positive echoes on these initiatives, UNISCAPE aims to consolidate the network in the next future: any Pan-European university interested in interdisciplinary landscape research is welcome to join us. Moreover, UNISCAPE strives to consolidate the co-operation with the other Networks already working for the implementation of the European Landscape Convention: RECEP-ENELC, the Network of Local and Regional Authorities (www.recep-enelc.net), and CIVILSCAPE (www.civilscape.eu), NGOs for the European Landscape Convention, as well as with the competent Council of Europe's bodies.

Bas Pedrolì
Director of UNISCAPE

As founder members of Uniscape, the University and the Politecnico of Turin are proud to host the Uniscape General Assembly 2010. In this important circumstance they will take the opportunity to present a range of experiences developed in Piedmont in the fields of landscape education and research, in the last few years. The exhibition and the related catalogue will show a selected number of those experiences together with the most significant regional and local institutional experiences in landscape policies and planning.

Both above mentioned Universities share aims and objectives concerning the strategic role of scientific institutions in the improvement of knowledge and perception of landscape and environmental issues, by implementing the European Landscape Convention. As well as basic scientific and cultural institutions in Piedmont - that is facing a complex and deep process of economic, social and cultural change - they are aware of the importance of landscape and environment policies in promoting the local sustainable development and the competitiveness of the region in the global arenas.

In particular, concerning the education strategies, during the last decade many landscape courses have been included in the universities training programmes at first, second and third education level. Specific master degrees have been organized on landscape design and planning subject also providing the partnership between Faculties, specifically Agriculture and Architecture. As a result, current educational activities are aimed to train specialists and providing multidisciplinary training for professionals, according with the European Landscape Convention. Finally, many Departments are involved in landscape research pointing out the need for multidisciplinary approaches in landscape analysing, valuating and planning.

The research on landscape topics involves several Departments, showing that the need of facing landscape issues is today pervading several fields of research and different approaches (evaluation, design and planning).

Francesco Profumo
Rector of Politecnico di Torino

Ezio Pelizzetti
Rector of Università degli Studi di Torino

Introduction

'Landscape education and research in Piedmont'

In the last decades, the landscape issues have increasingly gained space in regional and local policies, being faced through a great variety of forms and scales of intervention, and ranging from the projects of requalification, mitigation and monitoring of small critical places, to the programmes for rural development of wide areas, to the Regional Landscape Plan concerning the whole territory of the Piedmont. The present catalogue tries to give just a glance at such a various regional panorama.

The exhibition and, consequently, the catalogue are divided in three chapters: education, research and experiences. Both researches and experiences are often conceived, carried out and/or implemented by regional and local institutions and associations with the scientific support of the regional University.

The catalogue presents methods of identification, assessment, design, planning and management of the landscape, with a strong focus on the applications on the regional territory.

Despite the variety of the selected cases and the brevity of their presentation, the exhibition can help to compare the Piedmont experience with other regional or national cases. The aim of the initiative is, on one side, to contribute to the assessment of the implementation process of Landscape policies on the basis of the Landscape Convention directives and criteria; and, on the other side, to promote the improvement and the effectiveness of each Region's policies.

To this end, we can notice that the contributions of the Piedmontese Universities seem to be characterized by a diffuse attention to the territorial dimension of landscape, trying to propose protection and planning measures as an "added value" for the involved territories, sources of real benefits for the communities.

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Uniscape representative for the Politecnico di Torino

Prof. Marco Devecchi

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Master of Science in 'Green Areas and Landscape Design'

Education

Tutors:

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According with the aims of the European Landscape Convention (2000), the master of science in 'Green areas and landscape design' starts in the 2010/2011 academic year, for the training of specialists in landscape appraisal and operations.

Two Faculties of Agriculture (University of Turin and Milan) and two Faculties of Architecture (Politecnico di Torino and University of Genoa) are involved in the education of future Landscape Architects. In particular the didactic program is the result of important experiences carried out during the last years by the four Universities combining their specific know-hows.

'Green areas and landscape design' is a master of science that, in the relevant subject areas, addresses the values linked to the landscapes and the issues raised by their historical analysis, protection, management and planning. With a multidisciplinary training programme made up of theoretic courses, practical laboratories, intensive seminars, atelier, workshops and national and international stages, during the two years of study, the students learn to analyse, manage and design landscapes.

The themes dealt with are for example:

- Landscape ecology
- The proper choice and use of plants in green areas design
- Historical analysis of landscapes and gardens
- Garden restoration
- Urban spaces design
- Rural landscape analysis and evaluation
- Landscape planning and management
- Valorisation of cultural landscapes
- Environmental design in urban spaces
- Design of greenways and infrastructures
- Environmental laws
- GIS and spatial analysis
- ...

The employment positions for graduated students are as professional consultants for the private and public sectors in: landscape policy, protection, management and planning; historical analysis and restoration of parks and gardens; landscape design; environmental evaluations; and all that concerns the achievement of a sustainable development based on a balanced and harmonious relationship between social needs, economic activity and the environment.





TAV 1 Polytechnic and University of Turin - Faculty of Architecture & Agronomy - Interfaculty Degree in Landscape Architecture

The Quarris' Sonic Park

A mining area restored in a sound-dedicated park

Paolo Tadolini - Brescia (Italy) / Tutor; Arch. Francesca Baglioni; Arch. Vittorio DeSiliani / Doct. Agr. Fiamma Larcher

The park, the unique green structure, the global sonic garden, creates the landscape, defines the park where soundscapes are designed for performance, it was the idea of a sound garden and landscape. Thus, in the sonic landscape, it defines the sound as a series of sound gardens, which provide the sound "soundscapes". The sonic garden park is also integrated in the sound garden structure. The soundscapes are also integrated for other to garden with the green landscape soundscapes.

The landscape design of the park, which is built from structures, also provides means for preparing greenhouses, suggests considering of different, but the same structure plants to use and knowledge from the green landscape offered up the design with the soundscapes being built to use the different soundscapes or soundscapes of green landscape soundscapes, the soundscapes.

Location: Biella - Cacciano mining area.

Concept plan and **Masterplan**

Construction and Layers



Master of Science in 'Territorial, Urban, Landscape and Environmental Planning'

Education

Director:
Prof. Roberto Gambino

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Inter-university Department of
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In succession, some of the results of the studio "Territorial and Landscape Planning" (2006 - 2010). Main tutors: prof. R. Gambino and P. Castelnovi.

Clockwise, the "Segnali di fiume" project (S. Castiati, C. Dorati, C. Impastato, B. Seardo); the "Carignano. Etica ed estetica di un paesaggio ritrovato" project (M. Chiavazza, L. La Riccia, F. Loretto); the "Porte d'Acque Chivasso" project (S. Castello, D. Gallà, C. Garcia, R. Porcari, A. Tabacco); "Landscape quality objectives" (M. Bongiorno, A. Falco, C. Mijno, F. Romeo).

The Course includes:

- First degree bachelor-level in Territorial, urban, landscape and environmental planning: 3 years,
- Master of science-level in Territorial, urban, landscape and environmental planning: 2 years. The Master can be attended by students coming from other first degree courses.

Objectives of the Course

The first degree Course is intended to train experts able to collaborate in all activities of territorial, urban, landscape, environment and landscape planning, including strategic plans, urban design, programmes and each other tools that serve to define, organise and manage a territory and can guide the use and active conservation of natural and cultural resources.

The Master is intended to train planners able to coordinate in the private and public sectors, researches and design activities requested for territorial, urban, environmental and landscape management and planning.

Role of the Course towards the European Landscape Convention

The Course starts from the acknowledgement that landscape (in the broad and comprehensive sense) plays a crucial role, not only in policies concerning the quality and beauty of the living and working context, but also the sustainable local development and the competitiveness of cities and territories in the global arenas.

According to the measures defined by the ELC for landscape policies, the Course aims to promote:

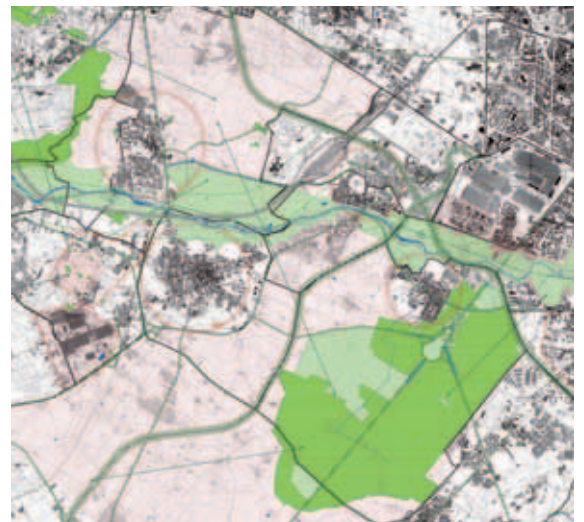
- a, training for specialists in landscape appraisal and operations,
- b, multidisciplinary training programmes in landscape policy, protection, management and planning,
- c, courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning.

Training activities

In line with its "territorial" inspiration, the Course activities are focussed on the "Laboratori", where groups of students, with the integrated support of diverse specialists, try to develop "territorial projects" at different scales, taking into account different and complementary approaches. Particular importance assumes, in this regard, the final work that concludes the training carrier of each student.

Experiences

In the last decade, the activity of the Course has touched a wide range of themes, both in terms of analysis, evaluation, interpretations and representations, and in terms of strategic or operational projects and proposals. Part of these experiences has been selected and exhibited in the International Exposition of Landscape Projects From Schools of Architecture and Landscape (Barcelona, 2008, 2010).



Postgraduate Master 1st level in ‘Landscape and Green Areas Design’

The purpose of the Master in ‘Progettazione del Paesaggio e delle Aree Verdi’ (Landscape and Green Areas design) is to create a new professional figure able to organize, in the best way, all the phases of the articulate compositive process that ends with the green areas realization. For this purpose, teaching will orient the student to a multidisciplinary vision of the planning process, that is fundamental for the correct use of the vegetation both indoors and outdoors.

The Master includes lectures that allow the understanding of the theoretical dimension of the projects, field stages, visiting places that are significant to a specified situation and planning laboratories with interactive teaching and guided study forms. The master’s activities consist in 700 hours distributed in 8 weeks during a period of 9 months.

The Master benefits of the collaboration of prestigious university professors and well-known Italian and foreign professionals. To complete the lessons a study travel will also be organized, to allow the students to better understand the context of the profession.

The themes dealt with are:

- Herbaceous, shrubby and tree species and their use
- Landscape ecology and its application
- History and analysis of the garden and of the urban space
- Terrace and urban spaces design
- Planning and management of the urban green areas
- Architectonic composition of the garden
- Graphic rapresentation
- Planning laboratory

The frequency is requested of at least 60% of the total duration. Obtaining the formative credits depends on the exams, *in itinere*. The Master allows to obtain 60 credits. The master is subject to a final exam. The Master will be held in Biella (Piedmont), at the modern complex of Città Studi S.p.A, in Corso Pella 2/b.

There are numerous scholarships of the same value of the subscription tax and others of inferior values, offered by the nurseries and sponsoring organizations.

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Landscape in the School experience. The case-study of the “Gran Paese”

Education

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Research group:
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The School

It is a 2 years length III level course (120 University credits). Since the origine, the school had some main themes developed during the lessons and the practical activities, such has: history analysis, evaluation analysis, restoration rules and landscape analysis, working in general on the cultural heritage. It used to have for twelve years a section in the Valley of Aosta, and then, since 2002, with the benefits of a new patronage it undertook new researchs in Cuneo province, especially in Mondovì and Alba. Now the school is working on the territory of Venaria Reale. From School original concept derives a strong relationship with Ministero per i Beni e le Attività Culturali, but also with professional workers and Municipalities officers.

The School aims to form Architects and Engineers, but also Fine Arts experts, specialized in historical analysis, critical evaluation, catalogue, diagnostics, restoration and evaluation analysis on territories, estates, urban systems, architecture and landscape. The courses mix theory approach (lessons and visits) with direct experiences and researches (workshops) having a clear multidisciplinary purpose, being also evident during the Conferences and Symposia, involving international speakers and non European scholars.

During the workshops the research group, composed by teachers and scholars, analyses both urban settlements and landscape, studying origine and development of infrastructural nets (roads, canals, railways, etc.), rural exploitation and wood extension but also country morphology, trying to de-construct and define the historical structure of the landscape to organise real valorisation projects. Analyses have been carried on for Valley of Aosta, Mondovì and Alba territories and for the Alta Valsesia country. The Gran Paese is the new theme.

The case-study of the “Gran Paese”

The “Gran Paese” is the ancient definition of a great geographical area coming from the royal settlement of Venaria Reale (belonging to the serial heritage of the Savoia residences, listed by UNESCO) and its great hunting preserve to the Alpine system of the Lanzo Valleys. The area is clearly defined by topographic landmarks such as the morenic “Vauda” on one side and the river Stura on the other, but is historically involved in a more complex organisation and social definition. An imposant rural organisation is still nowadays quite evident and supported by farm settlements, but also villas and noble country houses. So the area was simultaneously an important productive countryside and a place the town (Turin) considered like a sort of proximal expansion and residential place. Roads and the railway are absolutely evident and the international airport of Turin has been placed in a small settlement belonging to this strategical but not enough analysed country. The landscape so was evidently defined by the natural organisation of the territory and by the infrastructural superimposed elements, combined with the rural and woods organisation. The complexity of the landscape has been de-constructed from the definition of the real historical and social extension of the “Gran Paese” (research group: C. Bouvet, F. Ferro, F. Tonino) to the analysis of the great and small scale heritage (i.e. bourgs, small towns, rural settlements, isolated farms, villas, churches, etc.) present in the area (research group: C. Irrera, S. Lomuscio, M.T. Petragallo, L. Toschino), passing by the infrastructural system (i.e. roads, canals, railways, airport, etc) so strongly present in the countryside (research group: A. Candido, M. Leoni). All the dates are finally organised in data-bases and cataloguing reports to be then useful for G.I.S. (Geographical Information System) record and query answering (research group: D. Diletti).

The work is still going on, and will be improved during next year, but the landscape analysis methodology is strongly supported by the School experience.



Degree Course for the Alpine Space in ‘Science and Culture in the Alps’

The Alpine landscape is still now assimilated to unchangeable and obsolete stereotypes, even though such attitude needs to be revised according to the deep renewal process that is taking place due to two opposite trends: on one side the abandonment and marginalisation of wide areas that were originally guarded by permanent settlements, and on the other side a significant change in the awareness the tourist fruition of sites and landscapes. Such a twofold trend implies the rethinking of the value of both natural and cultural resources within the Alps, and undoubtedly represents the high road towards a well-balanced and sustainable development. Right in the Alpine area, not only the Italian one, areas recently still considered marginal are progressively emerging as a reservoir of new productive functions, consistent with the green economy requirements.

The European Landscape Convention – as it is well known – finally assigns to the landscape a strong cultural connotation, by abolishing any both conceptual and practical distinction between the natural and anthropic constituting elements. Even if it is true that the urgent need to safeguard the alpine landscape as a cultural and environmental gift is today widely shared, the task of collecting a large consent within the local communities appears more delicate in relation with the conservation and promotion of “minor” buildings, material culture and landscape and environmental resources.

In the direction of training professional figures able to recognize and enhance the landscape, environmental, historical and cultural resources worth to be protected, the educational offer of the University of Turin includes the Degree Course in *Sciences and Culture in the Alps*, arising from a recent reform of the previous Inter-faculty Course in *Sciences and Tourism in the Alps*. During the three years course, students learn multidisciplinary contents concerning subjects such as physical and human geography, alpine georesources, alpine ecology and botany, paedology and snow science, anthropology and zoology, web design, remote sensing and cartography, English language, forestry, livestock production, grazing management, vernacular architecture and land planning, energy conscious building design and also alpine history, art and archaeology, alpine anthropology and sociology, environmental policies and economics, environmental law, sociolinguistics, etc..

The students acquire critical tools supporting the analysis of agricultural, forestry and grazing systems and gain experience about the ecological and sustainable landscape planning.

Once that both the technical and humanistic education are pursued, the graduate student is oriented towards public and private fields, local bodies, pools and cooperatives, working as a consultant for territory management or promotion agencies, private customers or any other professional category. Besides, this professional figure shall be able to elaborate feasibility projects and evaluating the positive effects of proposed interventions onto local communities, their initial and running costs, possible alternatives.

As a fulfilment of the 1st level educational course, graduates might attend Master or Bachelor Degrees concerning the *Planning of Green areas and Landscape* (in cooperation with the Polytechnic of Turin, University of Genoa and Milan) or *Geography and Economics of Environment and Territory*.

Numerous initiatives of studies or research activities have been stimulated by some degree reports and involve cultural associations, local bodies, cooperatives of mountain agriculture producers, tourist offices, as well as

the recently born “ProAlp” association, that gathers graduates and final-year students of both *Sciences and Tourism in the Alps* and *Sciences and Culture in the Alps*.



Fig. 1 The multidisciplinary of Sciences and Culture in the Alps: livestock, history, natural resources and vernacular architecture

Fig. 2 Walser buildings

Fig. 3 Transhumant sheep farming in high pastures

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Guidelines and best practices for quality improvement of the built landscape. Integrations to the PPR (Regional Landscape Master Plan) of Piedmont

Research

Research Group:

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and, for sustainability aspects: A. Mazzotta, B. Melis
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This study has been carried out by the DIPRADI research group, in a close cooperation with the Assessorato Regionale alle Politiche Territoriali (Regional Department for Territorial Policies), and it is strongly related to the Piano Paesaggistico Regionale (Regional Landscape Master Plan) of Piedmont, which has been made with a contribution of the same research group. The overall purpose of the work is – first of all - to integrate the general prescriptions of the Landscape Master Plan with a system of references and indications, specifically articulated for the different situations of the regional territory and for the different scales and players involved in the transformation processes. Moreover another aim of the work is to introduce in territorial transformations - beside the binding normative approach of the traditional planning - a new generation of not compulsory rules, mainly finalized to create a more educative new slant about landscape conservation and improvement.

The Guidelines and Best practices repertory is a complex of indications and hints, covering the whole regional territory, concerning in general the urbanized spaces, but in particular they are specifically dedicated to the most dynamic transformation areas, where a sort of blurred transition between the two conditions of “urban” and “rural” is a main feature of the landscape. The main thought on which this work is based is that every single transformation – from the largest and supra-local ones, as far as the smallest and circumscribed ones – has an important cross-scalar influence on the landscape, which can be described as a continuous relationship, linking different scales of reference, from territorial to local planning, and from urban design to the single building.

This is a very complex theme, mostly because it is related to social, financial, cultural and symbolic matters, and moreover because it is strongly influenced by the multiplicity of stakeholders and by the fragmentation of implementation scenarios; but it can be separated however – and somehow simplified – in two parts.

The first one concerns the relationship between the *shape of territory* and the *urban morphology*, which means the different ways the built components of the landscape (buildings, infrastructures, public spaces etc.) are positioned on the ground and integrated with the main natural and artificial territorial features.

The second one regards the *character of architecture*; that is the whole of typological, constructive, stylistic and symbolic features which contribute to give the local space elements a particular appearance.

These principles are obviously an integral part of the local cultural and identitarian patrimony, but they are connected to innovation and sustainable development as well. For this reason the guidelines included in this work have been strongly oriented to the landscape improvement as well as to its traditional conservation, following an idea of sustainability not only limited to the usual environmental acceptance (namely based merely on quantitative parameters examination), but also extended to a qualitative meaning, linked to cultural and social issues, and tightly related to the local specificities.

Left: example of specific morphological indications. Down: map of Piedmont's territorial architecture.



Grandescala

Research

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The research here presented belong to a P.R.I.N. titled "Infrastructures for mobility and construction of metropolitan territories: guide lines for an integrated project", national coordinator Bernardo Secchi. The research results are recently published in: De Rossi A. (edited by), GrandeSCALA. Architecture Politic Form, LISt Laboratorio Internazionale Editoriale, Barcellona/Trento; Secchi B. (edited by), On Mobility. Infrastrutture per la mobilità e costruzione del territorio metropolitano: linee guida per un progetto integrato, Marsilio, Venezia.

The author of this text is A. De Rossi, starting from collective reflections with the other components of the Research Unit.

Let us immediately clarify a possible misunderstanding. By architecture on a *GrandeScala* (***) we do not mean an architecture of big shapes or big dimensions. The term has nothing to do with «bigness» either. Nor with the «territory of architecture», or with an expansion of the urban project to a territorial scale. On the contrary, it willingly pursues terminological ambiguity, typical of cartography, between the representation on the small and the great scale.

We could say that we want to start further upstream, from a conceptual - before than physical - place, in which the definition, denomination and naturalization of the topics is still considered unfinished. A place where the theme is the setting out of the critical field for the scientific debate on the issues. Our point of departure is the following: after a long phase of "creative destruction", which since the Nineties has determined the extension of the processes of spatial transformation to the integral scale of the territory, we - not only the architects - want a return of the urban and territorial project. We also welcome the return of something even more scandalous, after years of theorizations - and sublimations - about the poetics of fragments and urban labyrinths. In the wake of the progressive fading of the spatial categories in the contemporary building and perceptive processes, we are looking forward to the project of *shaping the city and the territory*.

It is from this point of view and around the theme of the *landscape* that many of the expectations of the last decades have revolved, and not only in the architectural dimension. For a long time the landscape essentially represented a new and original perspective, that highlighted the overall data and the connections between things, breaking the traditional disciplinary fences. The landscape-oriented way of looking was the cultural and interpretative answer to a new physical and conceptual dimension, put at stake by the transformations of the contemporary territory. But after the shift from the project of landscape to the project of *the* landscape, we witnessed a harsh conflict aimed at assigning the topic to the single disciplines and professional duties and powers. Paradoxically, due to the absence of a critical debate between the different fields, the landscape eventually recreated the umpteenth fence, a fragmented and sector-based vision of space: precisely what it wanted to deny and get over with in the first place. Moreover the focus on the landscape, the programs, and the territorial substratum did not succeed in turning these issues into internal elements of the territorial project; it essentially produced "negative" cards of passive constraints. And landscape planning has rarely managed - from both an interpretative and an operational point of view - to positively confront the settlement transformation that was taking place at the time. As a consequence, the landscape gradually lost its subversive and problematic charge to become a naturalized, appeasing, and often comforting object.

Our *idea of a morphological project* in relation to the landscape, is the one accepting these contextual - morphological and political - conditions and trying to "internalize" them, turning them into a positive factor and an active agent in the planning activity.

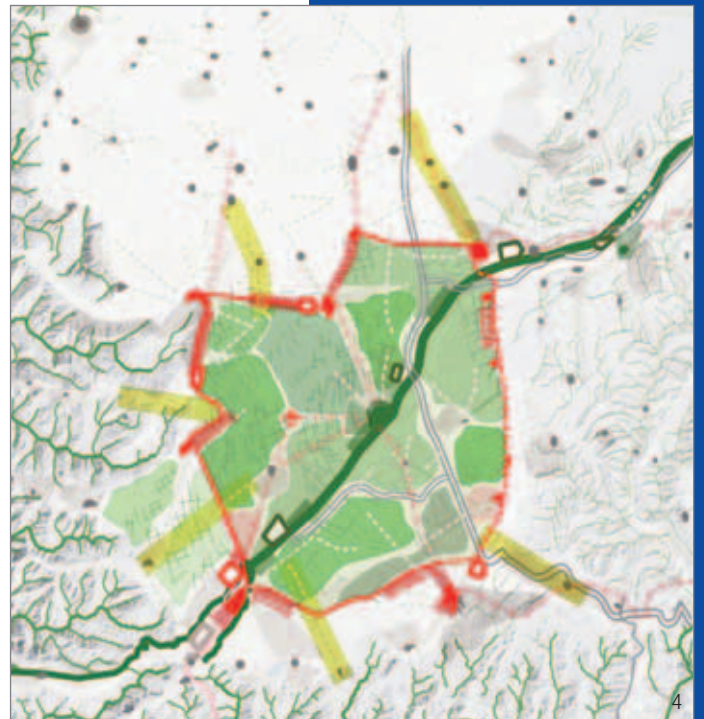
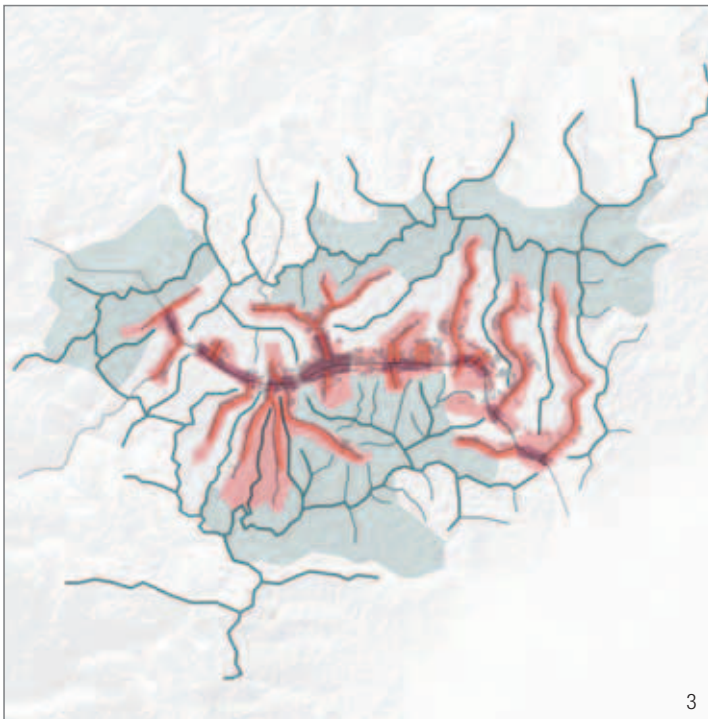
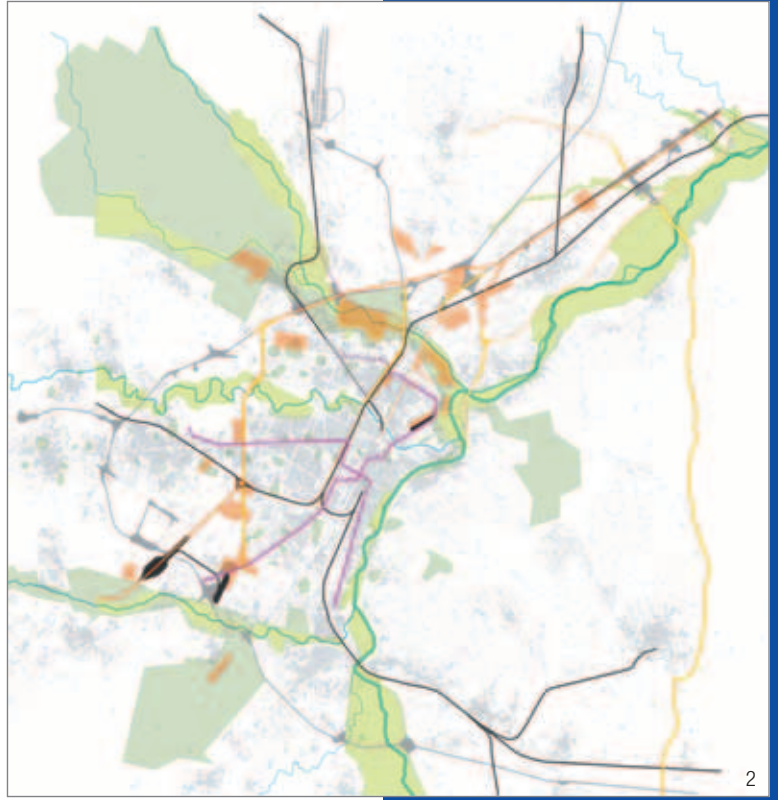
This ensemble of reflections shows that the issue of architecture on a *GrandeScala*, with its dialogic *jeu d'échelles* between the morphologic dimension and the political horizon, is quite an original one - despite it stems from a crossing of pre-existing objects, phenomena and perspectives. The optic of the *GrandeScala* brings to light an absence and a deficiency, and the subsequent need to take an important action on these crucial nodes, in between pedagogy and politics.

Fig. 1 North-west landscapes

Fig. 2 Torino Metropolitan Area: the new north-western city

Fig. 3 Aosta valley: the architecture of transects

Fig. 4 Cuneo Region: the Grand(a)Stad



Discovering landscapes in the metropolitan periphery

Research

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By using the tool of the cartographic representation this research aims to discover landscapes where these are apparently lost, or at least hidden - in the metropolitan peripheries. The cartographic map is an instrument capable to make (re-)emerge these landscapes. It furthermore records and anticipates the changes taking place in the city and the territory and has thus manifold implications in relation with landscape design.

In the context of the PRIN 2005 and 2007 the DIPRADI Unit of the Politecnico of Turin has developed the objective to define possible criteria for a verification of the quality of architectural design at urban scale. In particular, by creating a sequence of thematic maps, those elements or constructive parts which connect the city's architecture with the river's architecture were put in evidence. In general those are the elements establishing a relation based on necessities between the earth's shape and the architecture: the roads along the river, the bridges, the terraces, the islands' formations, the fences and the accessibility from the river, the river's banks at different levels, the channels, basins and docks.

All these elements represent architectural archetypes which have a relation with the earth that leaves aside time and history. Their presence and their enhancement in a project are an instrument of verification, evaluation and production in the process of designing quality in architecture.

The research is applied the fluvial outskirts of Turin, in particular the *Bertolla-area*, and focuses on the theme of social housing. The intent was to produce a general protocol establishing the modalities which are leading to the construction of the different dyads, built of a thematic map and its specific *map-of-rules*. These are related to four different themes: morphology, green-system, water and streets.

The morphology's dyad and one of the students' designs related to it is here illustrated in detail: The morphologic theme-map considers three elements which are characteristic for the grounds moulding: the contour lines, the lots of the land register and those ones of the existing buildings which affix the soil. The identification of these elements reveals the formation of "islands" structured by a central spine, the watershed, which ends with the implementation of a particular ground-anchored construction, and the minor lateral spines. The morphologic *map-of-rules* requests to apply principles for the settlements able to re-design and enforce the islands' form and structure. The rules constituted by this map generate a great variety of different designs, which have all in common that they are directly relating to the fluvial territory by working the soil and thus restoring a greater spatial order for the landscape and its constructions.

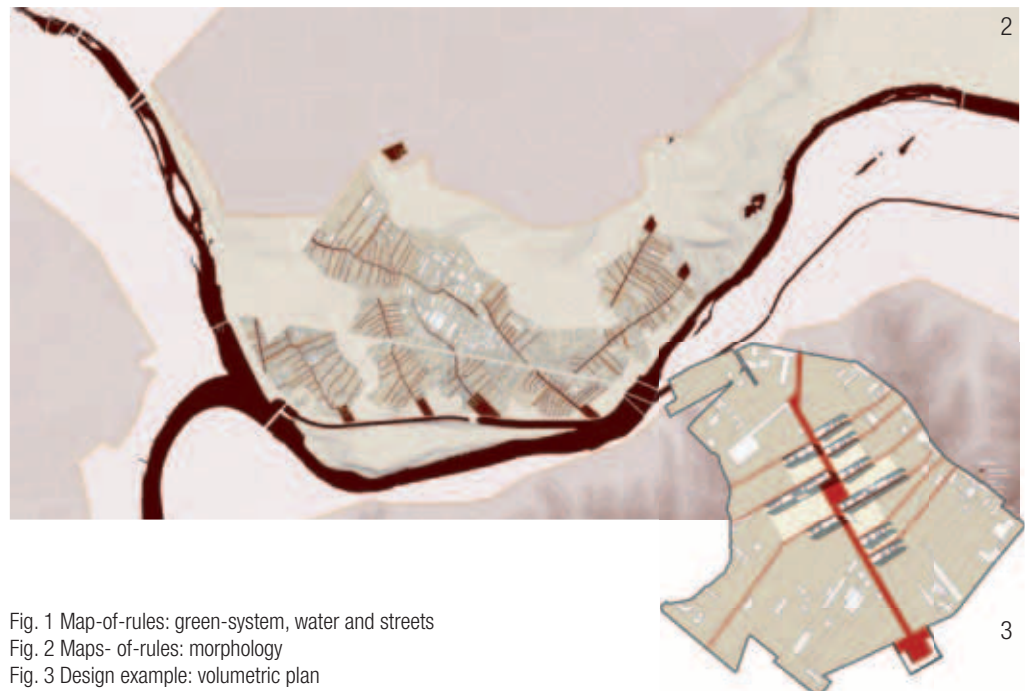
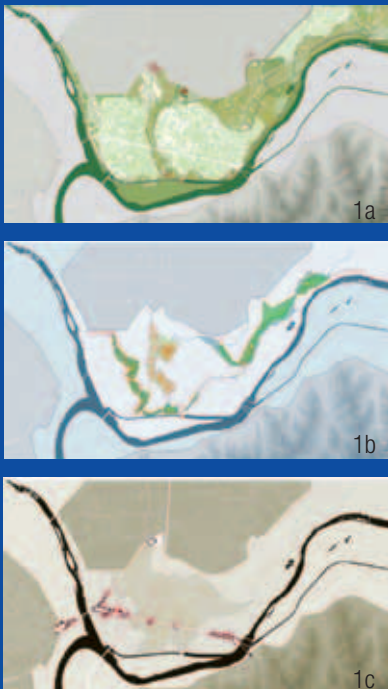


Fig. 1 Map-of-rules: green-system, water and streets

Fig. 2 Maps- of-rules: morphology

Fig. 3 Design example: volumetric plan

The upper valleys of Cuneo: researches for the knowledge, the recovery and the valorization of existing buildings

The *Atlanti dell'edilizia nelle alte valli del cuneese* (Scientific coordinator Prof. Lorenzo Mamino; so far, 5 volumes have been published: the valleys of Mondovì, the Varaita valley, the Pesio valley, the Tanaro valley, the Maira valley and those of the Stura, Vermenagna, Gesso valleys, etc. are planned) categorise everything that has remained "intact", that is considered significant and characteristic of the architecture of Alpine areas, that constitutes the collective memory of those who have resided in and visited these places.

An architectural heritage that represents a very useful repertory of types, techniques and materials for those who operate in these territories and who completely redesign, restructure and then build.

Art. 6 of the European Landscape Convention introduces specific measures to arouse awareness in civil society of the value of landscape, *training and education*, and *identification and appraisal* of landscapes.

In our opinion, the research carried out work points precisely in this direction; the information-packed collection of sheets are significant not so much for their originality and unique nature – there are many similar buildings in the Cuneo Valleys – but rather because these constructions bear witness to a way of doing things and living that is no longer practised, no longer modern.

More recently, within the framework of research financed by the Cassa di Risparmio Foundation of Cuneo (2007/2009) "Introduction of renewable energy sources in homes in the Province of Cuneo and related impact on the socio-economic system and territorial and architectural aspects", Scientific expert Prof. Maurizio Repetto (DELET), the work group coordinated by Lorenzo Mamino has dealt with the "recovery of existing buildings in the Upper Valleys of Cuneo".

This involves in-field experimentation of forms of recovery of traditional rural buildings, converting these and adapting them to current living standards through adoption of the most recent bio-ecological technologies.

This research has generated a publication that documents application of the recovery project to four case-studies (three in the Comune of Roburent, one in the Comune of Chiusa di Pesio): a guard house, a watermill and two drying rooms.

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Supporting planning with historical research on cultural landscapes

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Although the texts of the European Landscape Convention and its explanatory report make no explicit mention of the history of the territory and landscape as an instrument of knowledge, historical research can be viewed as an indispensable element for defining the characteristics of the identities and cultural heritage referred to in the document (preamble and art. 5). Perhaps it is no coincidence, however, that the recent Recommendation of the Committee of Ministers to member states on the guidelines for the implementation of the European Landscape Convention attention to the importance of historical analysis for knowledge of the landscape (RCM I.1.B; II.2.1), through development of integrated policies (I.4) and quality objectives (II.2.2.) and through training (II.2.3.C.).

History of the territory and cultural landscapes

The history of the territory is a specific discipline of the architecture historians at the Department of Housing and City - Politecnico di Torino. The first research carried out since the 1980s focused on a number of methodological guides which were later confirmed in the acquisitions of the ELC. In short, the anachronistic distinction between "historical locations" and "non-historical locations" is surmounted, with the focus targeted on the study of the "historical structure" of the territory, the interior aspects of the territory and all of its natural and anthropic components.

Research on landscape. Recent case studies

The result of the most recent experimentations went into a number of actual research projects:

- The Atlas of Piedmont Historical Landscapes: an interdisciplinary work on a framework of "transformation processes" characterising the Piedmont landscape, over a wide chronological period (from Roman colonisation to the current transformations). These processes gave birth to the search to define recognisable territorial cultural systems, subject to enhancement policies. The research was carried on identifying a series of historical dynamics that are considered to have had an impact on the landscape (political-institutional transformations, changes in agricultural and industrial production systems, population dynamics etc.), rather than analyzing buildings or listed assets.

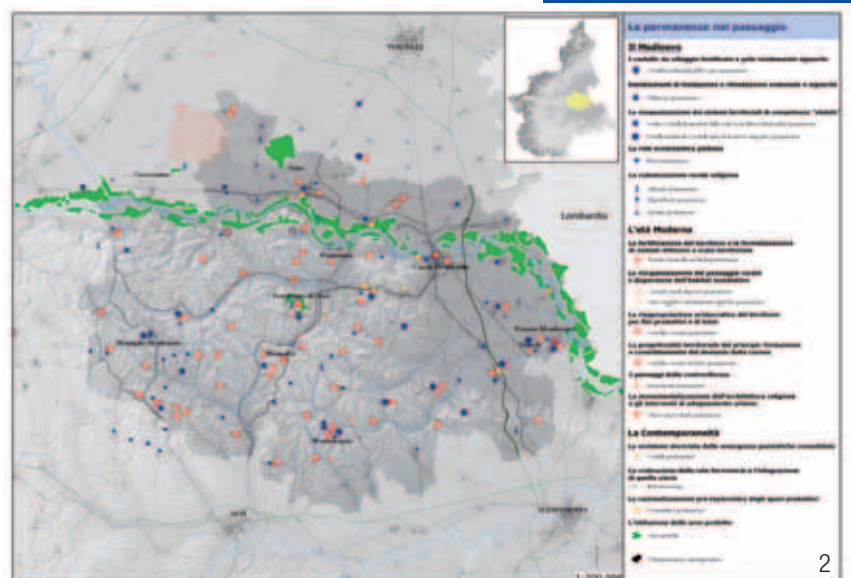
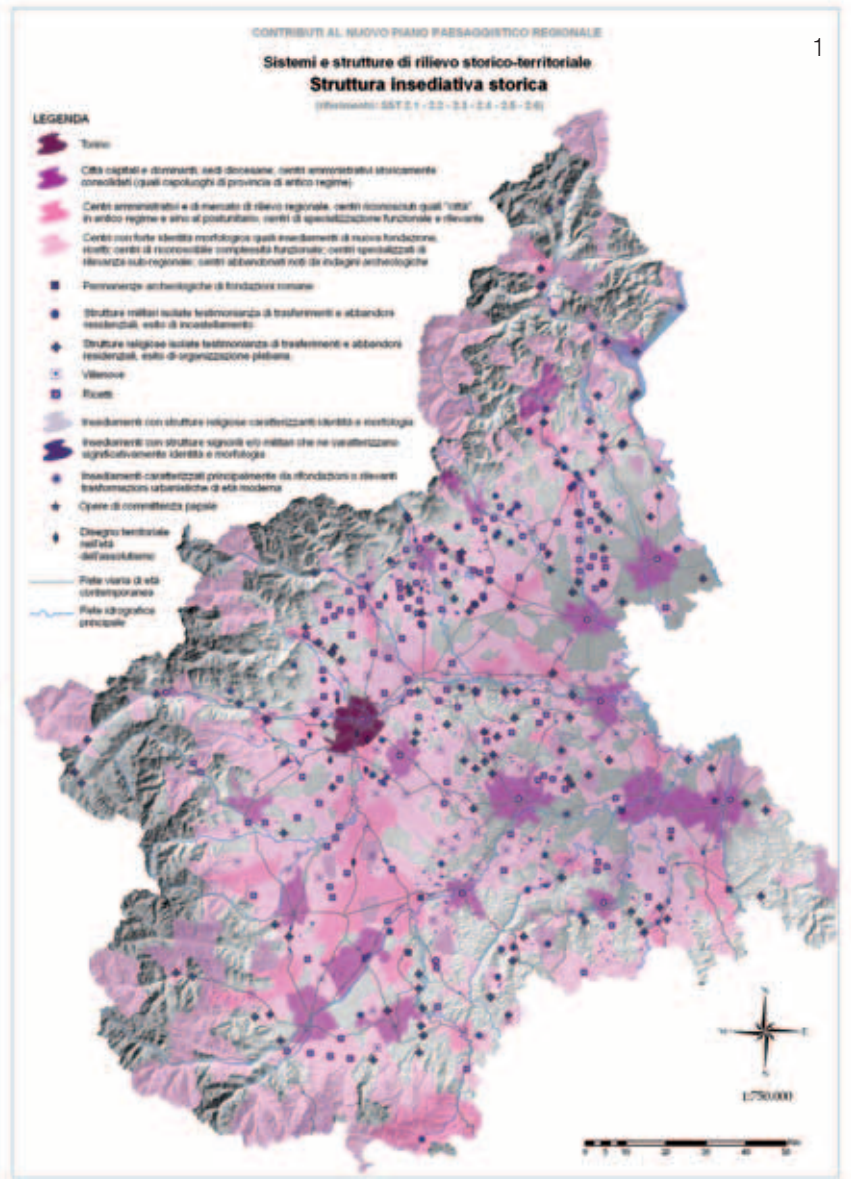
- The historical analyses for Piedmont Regional Landscape Plan. Historical research activities were organised along two lines, the first with the objective of defining a "structural" reading of the territory, by identifying articulated historical and cultural systems from frameworks of historically consolidated relationships with particular landscape relevance (to summarise the articulated reading of the plan, these are identified as: road network and related infrastructures; historical settlement structure; agricultural landscape; systems and places of craft and industrial production; territorial-based religious poles; fortification systems; territorial contexts for tourism). A parallel line of research, strongly cooperating with the first, addressed defining the historical and cultural characteristics of the regional territories ("ambiti paesaggistici"), with a view to recognising, rather than "the landscape", "landscapes" as the expression of plurality of local identities. Together, the two readings had concrete repercussions on the plan, the first converging into the regulations for "components", valid throughout the regional territory, and the second into the regulatory framework for landscape units, in line with the reference Italian Heritage and Landscape Code.



The historical-territorial systems of landscape value can be identified using the cartography produced by GIS software. This is one of the tables showing the historical-cultural aspects of the landscape. It is focused on the settlement and historical urban components: settlements and old town centres constitute a fundamental texture for the characterization of contemporary landscape.

Fig. 1 The historical analyses for Piedmont Regional Landscape Plan. Systems and structures of historical-territorial importance: Historical Settlement Structure.

Fig. 2 Map from the Atlas of historic Landscapes of Piedmont, regarding the case study Moferrato, an area characterized by many of the identity features of Piedmont. The work aims at the experimentation of an operative and conceptually consistent procedure for historical-cultural analyses and interpretation which can contribute to the development of atlases that are not only descriptive, trying to leverage and promote territorial assets, producing images and tools which can be put to effective use.



Historical sources for extensive landscape investigations. Interpretation of the modern land registry

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Community Initiative Programme
Interreg IIIA 2000-2006 ALCOTRA
Italy-France

Project: *Cadastrés et territoires.
Utilisation des archives cadastrales
pour la gestion des écosystèmes
et le développement durable des
territoires transfrontaliers.*

The stratification of historical marks enhances the cultural value of landscape. Interpreting these marks necessitates rigorous research procedures and tools based on both the study of historical documents and on direct evaluation of the territory. As the European Landscape Convention «applies to the entire territory of the Parties and covers natural, rural, urban and peri-urban areas» (art. 2), also historical research must investigate not only monuments, parks or historical centres of aesthetic interest, but indeed the entire historical structure of the territory. Hence the need to identify *extensive* and *systematic* sources of information covering large, continuous tracts of territory.

Fiscal sources help identify each item of real estate on the territory, with a description for evaluation purposes which indirectly also identifies architectural and cultural traits. Though not aiming to represent the territory, fiscal documentation is a major tool for recognising both the in-depth structure and the dynamism of the landscape and the built environment.

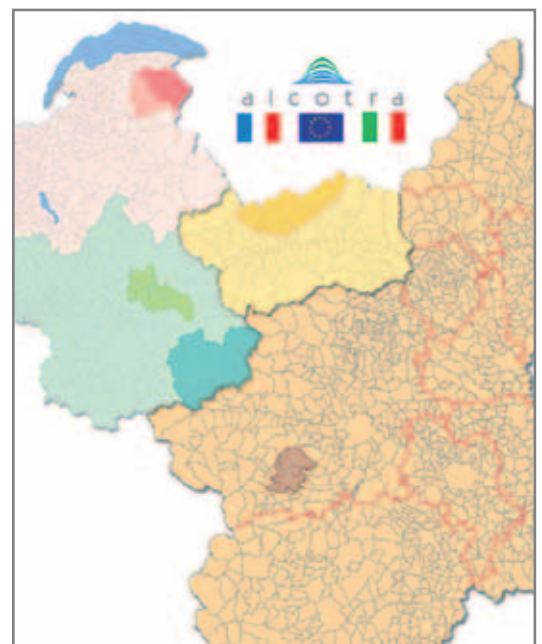
The extent and the serial nature of the source necessitate *information systems* for digitally processing the large amount of available data (descriptions, quantities, estimates and graphics). A critical interpretation of such orderly mass of data may yield overall and specific scenarios, both diachronic and synchronic, on the relationship of agro-grazing to environment, of land conversion to its perception in landscape terms.

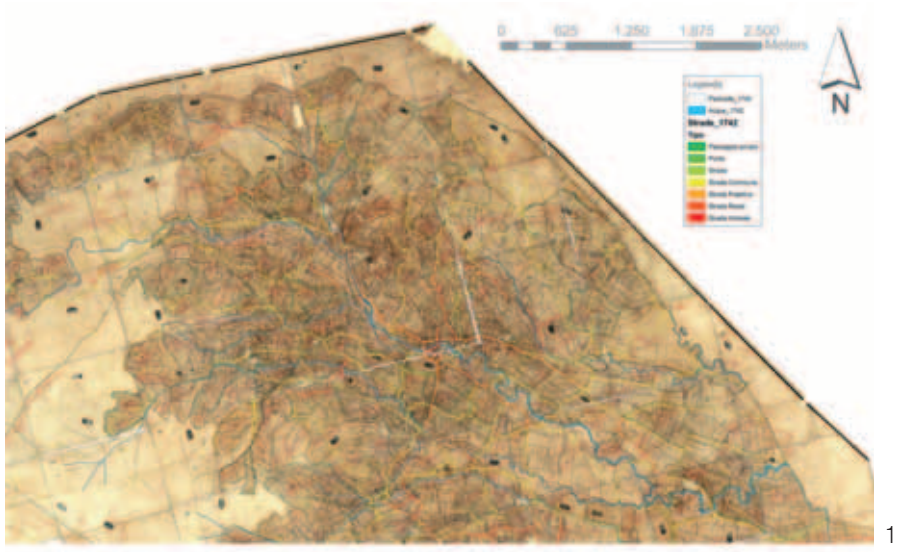
The Interreg project *Cadastrés et territoires* (Land Registry and Territory) resulted in an international study of the alpine and piedmont landscape covering Savoie, Haute Savoie, Aosta Valley and Piedmont. These regions (now politically separate) were a single State right up to 1860 and retain a historical fiscal system based on similar criteria. Thus, the investigation exercise covered:

- The land registry of the State of Savoie of the early 1700s, a pilot experience in modern European land registry organisation proven by cartographic representations (known in France as «Sardinian Maps», as the Dukedom of Savoie was part of the Kingdom of Sardinia).
- The land registries of the Napoleonic era («par masses de culture», 1803-1807, and «parcellaire», 1808-1814).
- The first Italian and French national land registries.

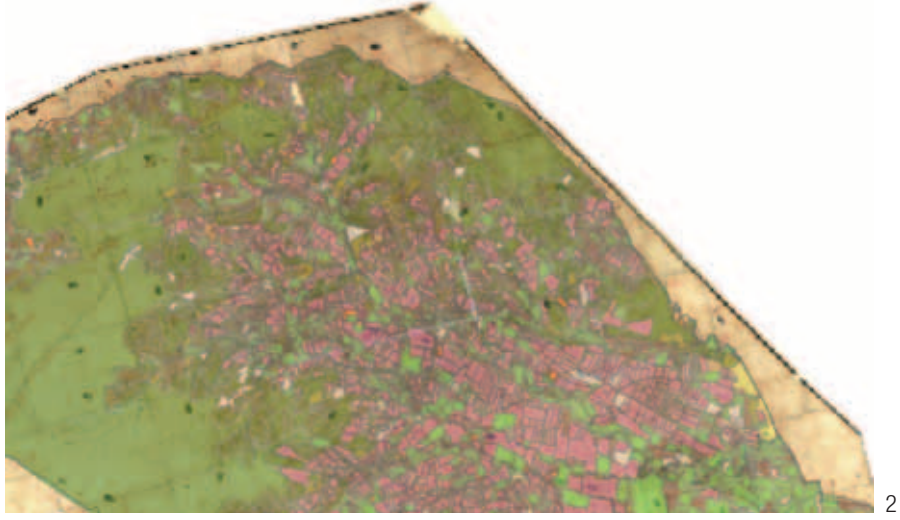
Discussion on the critical explanation of sources and sharing best practice of geo-historical analysis, plus proof of the usefulness of land registries, have brought a better understanding of current-day territory and landscape, especially for valorising historical assets, local planning and development, monitoring natural hazards (i.e. landslides, avalanches and floods), hydrographic regimens and climate changes.

In particular, the research teams worked on a shared procedure for the digitalisation and interrogation of fiscal sources on a GIS platform. This tool permits the spatialisation of historical and current information by associating quantitative and qualitative data – namely description of parcels, owners, use of the ground, size, quality of the ground, borderlines, valuation, presumed rateable values – to graphical data (historical parcel map), referred to the current territory configuration and dynamics. The digitalisation of non-graphic sources, namely texts and numerical data, permits evaluations hitherto unobtainable from cartographic sources alone, including reconstruction of real estate assets, investigation of economic strategies, identification of premium rural areas, ratio of buildings to building plots. The resulting GIS platform permits project implementation in other areas covered by modern land registries.





1



2



3

Lead Partner: Université de Savoie (Chambéry), EDYTEM Laboratory.
 Project partners: Politecnico di Torino (lead Italian partner), Department of Housing and City, in cooperation with Inter-university Department of Territorial Studies and Planning; Comunità Montana Grand Combin; Municipality of Pinerolo; Comunità Montana Pinerolese Pedemontano; Association Montanéa (Chambéry, France).
 Web page: www.polito.it/alcotra-cate

Fig. 1 The parcels and the different legal status of the infrastructure.
 Fig. 2 The land use, digitally designed on the basis of land registry data (1753-1755).
 Fig. 3 The XVII century rural landscape: land use of a farm (Castle of Marsaglia) in the plain of Cumiana (digital processing of land registry data, 1753-1755).

	almeno
	bosco
	bosco e gerbido
	campo
	cappella
	casa e corte
	corte
	gerbido
	giara
	orto
	palude
	prato
	sito della formace

Corsi d'acqua al 1742	alvei
Infrastrutture al 1742	strade
	Strada Reale

Valle Cerrina: a landscape map focused on the urban regeneration

Research

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The main objective of the research project - carried out within the “Bando Alfieri 2007” by a research team coordinated by Gabriella Peretti (DINSE - Department of Human Settlements Science and Technology) - was both the development of a methodological approach for assessing the environmental impact of the urban landscape and the development of an action plan focused on the sustainable urban regeneration.

In order to characterizing as best as possible the methodological approach the research was put into a specific context: Valle Cerrina, a valley located in Piedmont Region in Province of Alessandria.

Within Valle Cerrina, Cerrina Monferrato can be assumed as one of the most representative town in the valley. Such importance is due to agricultural, industrial and tertiary activities located in its territory. At the same time Cerrina Monferrato shows many matters in character with other cities and towns, growth very quickly between the late fifties and the seventies of the past century.

The urban sprawl is not only a problem affecting the bigger cities and their suburbs, Cerrina has several disadvantages and their effects concern clearly the landscape. (figure 1 and figure 2)

In order to reduce some environmental and social impacts, strategic tools are necessary aimed both at assessing the environmental sustainability at urban scale and at improving the quality of the urban policy. In particular the research was addressed towards the analysis of social and environmental issues of the territory. The social analysis – carried out by means of interviews and meeting with citizens - was helpful to know the subjective perception by the Cerrina’s population of Cerrina itself and its surrounding. The environmental analysis was strictly related to the social outcomes and split up into 6 systems: the mobility system, the green system, the public outdoor spaces system, the waste system, the agronomic system and the settlement system.

Specific requirements and indicators were devised in order to characterize each system and an assessment procedure was carried out. Such procedure was based on a twofold approach: qualitative (e.g. absence vs. presence of specific services) and/or quantitative (e.g. evaluation of thermal comfort level of outdoor spaces, such as a square).

The synergy among requirements, indicators and the assessment procedure allows to perform each system as well as gives the opportunity to balance the weak and the strength aspects.

An all-encompassing assessment is also available in order to compare the performances of each indicator and get a synoptic evaluation.

Finally the “Urban Landscape Action Cards” were developed on the outcomes of the analysis stage. The action cards are aimed at providing a set of guidelines consistent to specific objectives shared by each system took into account. For one or more guidelines some “best practices” are shown through photographs, maps and sketches. (figure 3).

Both the analysis of social and environmental aspects and the specification of the urban landscape actions were applied on Cerrina Monferrato in order to assess which actions are more suitable and the priority assigned. Such priority was accorded by the Cerrina Monferrato’s citizens themselves thanks to the organization of focus groups.

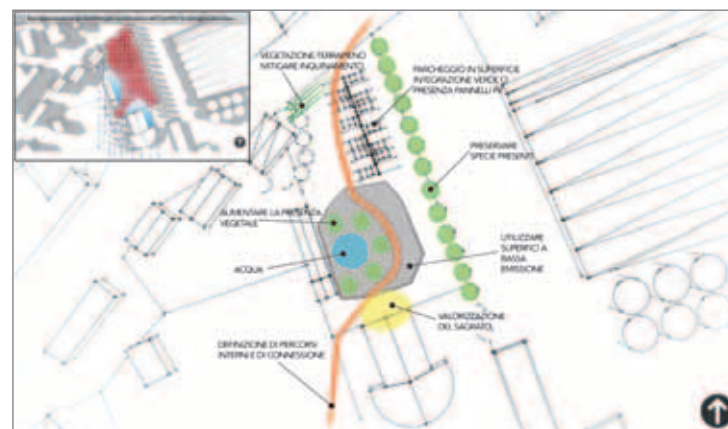


Fig. 1 e Fig. 2 The urban sprawl in Cerrina Monferrato.

Fig. 3 Example of application of the Urban Landscape Action Cards on a square placed in Cerrina Monferrato (AL).

Producing environment. New rural paradigms among policies, tools and practices

Policies

Rural development programming 2007–2013 (RDP), the second pillar of the new Common Agricultural Policy (CAP), is in progress and all over Europe the Regions are implementing their own RDP (88 RDP in total).

In Italy, rural territory has always been representing not only the primary economic sector to produce “food” but a patchwork of characterizing landscapes and one of the main cultural and ecological richness of the regional territories.

A strong series of reforms of the CAP (in an environmental sense) have been carried out in recent years, toward a stronger environmental orientation. These new challenges put environmental and landscape issues at the centre of the European farming policy.

It is the case of the recent Health Check (HC) of the CAP, which has shift the emphasis of the European Commission even more towards protecting the environment, encouraging farmers to manage their land in a more environmentally beneficial way (Figure 1). The new policy assigns in a sustainable regional rural development an important role in confronting new challenges such as climate change, water management, renewable energies and biodiversity. More funding has been diverted from production subsidies towards targeted measures which will improve rural landscape and biodiversity.

Tools

The rural development regulation specifies that Member States shall establish a system of ongoing evaluation for their RDPs.

According to the Rural Development programming framework Member States are now in the *mid-term* evaluation stage.

For this programming/evaluation phase, through the integration of the “toolbox” offered by Rural Development Programming 2007/2013 and its related Strategic Environmental Assessment (SEA) procedure, the focus of the study is on RDPs fall back on environment and landscape.

Mid-term evaluation consists of three major elements:

- continuous evaluation activities at the programming level;
- accompanying thematic studies to analyse certain measures, indicators, methodologies or specific aspects of the rural development policy, including territorial and geographical aspects;
- an evaluation expert network and information support infrastructure.

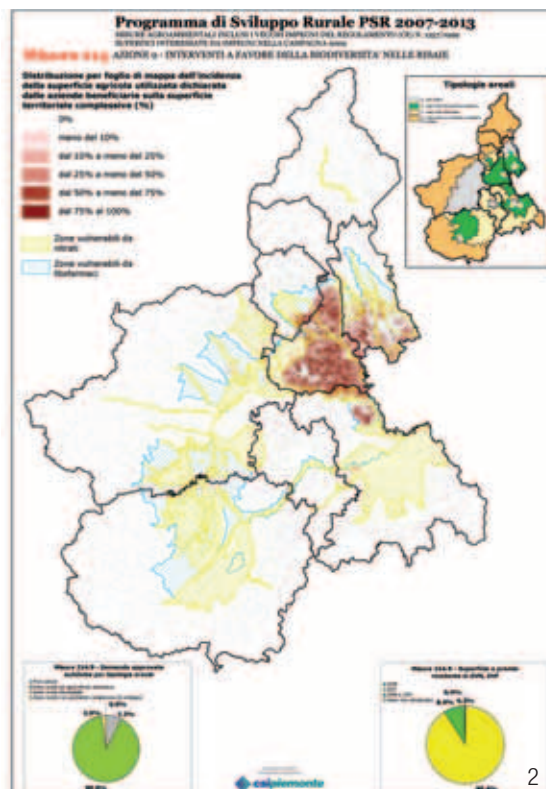
Practices

In the mid-term programming/evaluation stage of the Piedmont RDP 2007/2013 one of the focus items is on the territorial distribution of Axis and Measures and particularly on its monitoring.

The images shows an example of the Measure 214.9 “Actions in favor of the biodiversity in rice paddies” territorial distribution (Figure 2).

Fig. 1 The transformation of rice paddies to restore landscape and natural environment which had been degraded by the introduction of intensive rice cultivation.

Fig. 2 Territorial distribution of Measure 214.9 “Actions in favor of the biodiversity in rice paddies”.



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Results of the research “Support to the ongoing SEA of the Piedmont Rural Development Program 2007/2013”.

The research is the result of a collaboration between the working groups of DITeR, the Agriculture and Environment Directorates of the Piedmont Region and CSI Piemonte.

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Landscape indicators. Assessing and monitoring the landscape quality

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The research is being published in
the volume:

Peano A. and Cassatella C. (eds.)
(2010) *Landscape Indicators.
Assessing and monitoring the
landscape quality*, Springer,
Dordrecht.

To side, the categories of indicators
proposed by the study.

Landscape policies and planning have grown increasingly in Europe over the last decade, especially due to the European Landscape Convention. The ELC promotes landscape knowledge and assessment, policies, and planning and the creation of Observatories or Centres for the landscape. Consequently, the need for indicators to evaluate and monitor the effects of landscape policies and plans is urgent. Furthermore, landscape is one of the components considered in environmental reporting, but – unlike matters such as air, soil, or water – it is difficult to measure using quantitative methods (see, especially, the perceptive and cultural dimensions). As a matter of fact, studies concerning landscape indicators are very rare and recent, the main references being scientific reports about the environmental indicators of International Organizations (such as OECD, EEA, Eurostat, and UN-CSD), for whom landscape is not the main subject, or articles about single indicators.

The research has been carried out by the Inter-University Department of Urban and Regional Studies (Diter) of the Politecnico and Università di Torino (Italy) under the patronage of ENELC (the European Network of Local and Regional Authorities for the Implementation of the European Landscape Convention), and has been supported by Fondazione CRT Torino and Regione Piemonte (2007-2009). The research outcomes are addressed, in particular, to European researchers, scholars, practitioners in landscape and regional planning and in landscape architecture, and regional and local government officials who are responsible for landscape and regional planning, Strategic Environmental Assessment, and Environmental Impact Assessment.

The results are in print: the volume deals with the definition and use of specific indicators for landscape assessment and monitoring. In order to deal with the diverse dimensions of the landscape (whose complexity is well known), the subject is developed by a multidisciplinary team of experts in landscape ecology, landscape history, landscape perception, regional planning, strategic environmental assessment and environmental impact assessment procedures, and multi criteria assessment methods.

Contents

Purposes and methodology. The assessment and monitoring of the landscape

1. The Systems of Evaluation
2. Landscape Indicators
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4. Indicators for the Assessment and Evaluation of Historic Landscape
5. Measuring Visual and Social Perceptions
6. Land Use Indicators for Landscape Assessment
7. The Economic Aspects of the Landscape
8. Proposals for a Set of Landscape Indicators



Indicators	Pressure	State	Impact	Response
Ecological		L1 Evenness L2 Biological Territorial Capacity		
Historic and cultural		L3 Preservation of the assets L4 Use of historic and cultural heritage		
Visual and social perception		L5 Visibility of the sky at night and silence	L5 Obstruction of view from viewpoints	
Land uses	L7 Land consumption L8 Degraded Landscapes			L9 Sensibility of the planning aims for the landscape
Economic		L10 Recreational benefits	L11 Housing prices	L12 Conservation costs

Indicators	Pressure	State	Impact	Response
Ecological		R1 Evenness R2 Biological Territorial Capacity		
Historic and cultural		R3 Preservation of the assets		R4 Promotion
Visual and social perception		R5 Fame	R6 Obstruction of view from viewpoints	
Land uses	R7 Land consumption R8 Degraded Landscapes			R9 Landscape Protection
Economic		R10 Tourism Flows R11 Employment		

Denomination		Indicator name
Description		Indicator description
Profile of interpretation		Profile of interpretation of the landscape provided by indicator: ecological, historical, perceptive, land use, economic
DPSIR category		DPSIR category: Driving forces (D), Pressures (P), State (S), Impact (I), Responses (R)
Aims pursuant to landscape		Indicator aims pursuant to landscape individuation, acknowledgement, assessment
Data necessary for construction		List of data required for indicator
Calculation algorithm		Formulas, equations, statistical methods, calculation algorithm and any software instruments necessary for calculating the indicator
Unit of measure		-
Source		Body elaborating the indicator
Type of representation		Type of output information provided by indicator (table, graph, thematic paper, maps, etc.)
Temporal characterization	Temporal coverage	Historical series of the indicator: specify period (periods) for which the indicator is available
	Update period	Interval of reference
	Date of the last elaboration	-
	Level of temporal aggregation	Minimum temporal fractions for which the indicator is available. Example: daily, weekly, monthly
Spatial characterization	Spatial coverage	Territory for which the indicator is available. Example: national, regional, provincial, local, basin or other
	Level of spatial aggregation	Maximum level of territorial detail at which the indicator is available. Example: clusters of one km squares, municipality, province or other
Reference standards		Correlated regulations, any thresholds, values of reference, goals and target established by regulations
Bibliographic references		Bibliography providing information or in-depth study on indicator
Field/work in which indicator was used		Field/work in which indicator was used: organization responsible, authors, year, site of publication
Web site of reference		-
Accessibility		Method of access to indicator
Restrictions / limit of use		For example: excessive complexity of the indicator and the consequent high competence required by user; impossible to represent the spatial distribution of indicator values in the territory (lack of data homogeneity in different territorial units/different data quality), historical series of values unavailable
Significance of the indicator		Capacity of the indicator to represent, in whole or in part, the phenomenon or goal of reference
Difficulties in the construction of the indicator		For example: difficulties in obtaining data, high cost of data gathering and management and other
Variations in the method of elaboration		Variation in the methods of elaboration/calculation of the indicator in the period in question



To side, sample meta-documentation summary table for the assessment of the indicators. On the top, the sets of indicators proposed for monitoring on regional (on the left) and local (on the right) scale.

Landscape scenarios in local town planning schemes

Research

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The research is supported by the
Italian Ministry of University (PRIN
2007 Research Project of National
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To side, the “interpretation” and the
“characterization and assessment”.
The image below shows values
and indicators for landscape
assessment:

1. Panoramic value,
2. Tranquillity,
3. Perceived naturalness,
4. Sense of history,
5. Landscape significance,
6. Ecological quality,
7. Visual diversity

The study aims to provide answers to the following questions:

- how the indications emerging from large-scale landscape planning can be transferred to the local, project-specific scale; the most effective ways to ensure that the targets of landscape quality are pursued at all levels;
- how landscape projects can be integrated with the town planning scheme;
- how landscape values can be represented and communicated in order to involve the various operators and stakeholders.

Representation and communication are strategic issues for the purpose of:

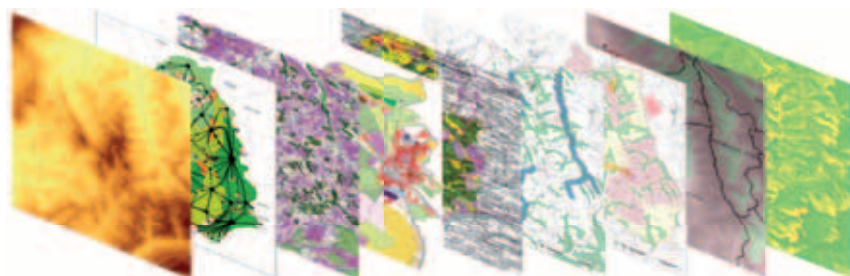
- enabling the interpretations, rules and criteria identified by landscape experts to be understood by other local professionals, including local administrators (whose task it is to adapt town planning schemes to the new landscape plans and evaluate the compatibility of landscape projects in areas subject to restrictions).
- make the results of the plans and projects involving a greater local commitment that will be “visible” to the public, by means of simulated landscape scenarios, including alternatives. This would enable real participation in decisions, and sharing of the “landscape quality objectives”.

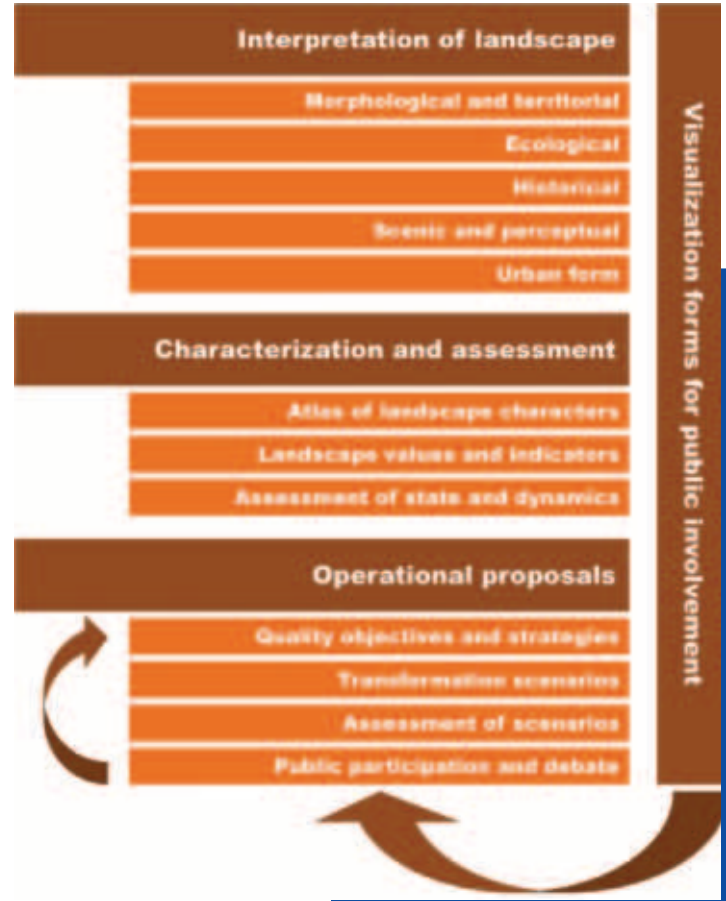
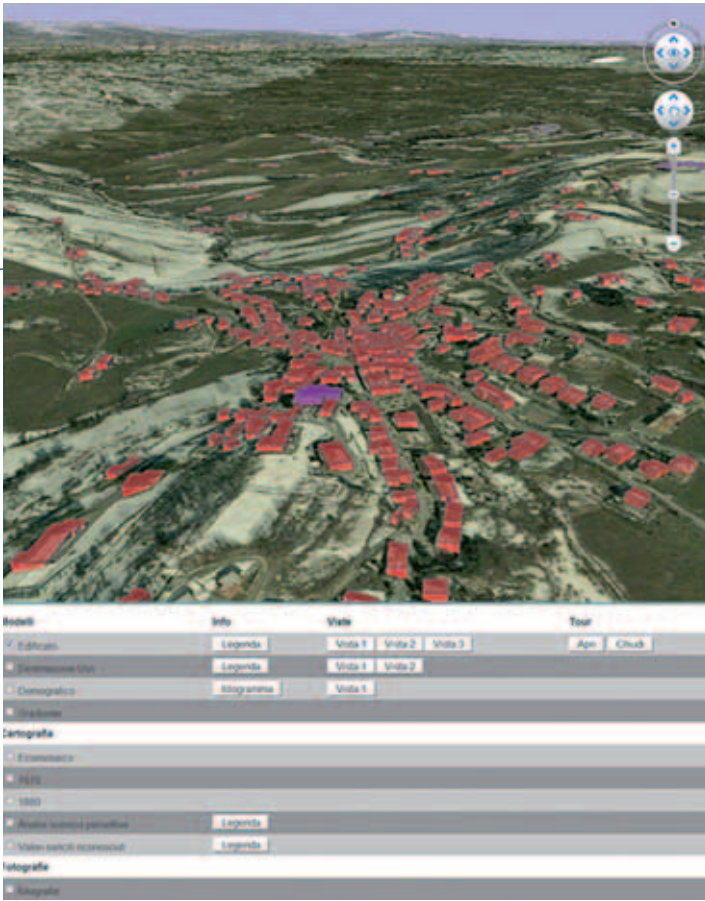
The study involves an applicational phase, i.e. the elaboration of a town planning/landscape project on a local scale, involving the following:

- Transposition to the local scale of indications emerging from the landscape plan in force and the one in the pipeline, and integration with other interpretations
- Elaboration of town planning schemes incorporating the landscape content
- Representation of planning decisions through alternative landscape scenarios (including virtual models)
- Descriptions of the planning content, diversified according to the target, in order to raise awareness and dissemination campaigns to non-experts and public authorities.

The case study will be a rural landscape dotted with small to medium-sized towns. This situation is very common in Piedmont, a region with a large number of small towns. These towns, set in a context that is still predominantly rural, have preserved, at least in part, a positive environmental image, the historical structure, the profile of the skyline and the structure of access roads with landscape value, etc. Monforte d’Alba is located in the Langhe hills, whose vineyard landscape is a relevant touristic brand.

However, this is a very fragile image. In addition, they often have no specialised technical personnel nor the financial means to rely on consultants, therefore they struggle to cope with the growing demand for further investigation of landscape issues: they are the target of this focus on communication.





Scenarios of transformation

1. Ecological enhancement
2. Protection of scenic assets
3. Improvement of fruitive networks
4. Rehabilitation of existing landscapes
5. Creation of new settlements
6. New energy landscapes



Above, the scheme of the process and the visualization forms for public involvement.
Below, scenarios of transformation about the rehabilitation of existing landscapes.

**CED PPN European Documentation Centre on Nature Park Planning:
research activities**

Research

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Fig. 1 Minorca landscape (Spain -
photo by Grazia Borrini-Feyerabend)
Fig. 2 Monti Sibillini National Park
(photo by P. Orlandi - Archive
Ministero dell'Ambiente-Italy)

The CED PPN has been formally set up in 1994 at Dipartimento Interateneo Territorio (Politecnico e Università di Torino), to promote knowledge about Nature Park, Protected Area and Landscape planning and management in Europe.

The Centre's work concerns:

- gathering, updating and processing documentation on protected area and nature park planning in Europe, for scientific, teaching and informative purposes;
- promotion and organization of joint European initiatives on this subject;
- organization of information services, debates, cultural activities and training.

In particular, since the beginning of the '90s, the Centre has developed a multi-annual research on European Protected Areas, that has been the subject of several publications and international meetings, creating a systematic archive which is continuously updated.

On these basis, the Centre has been often engaged in consulting activities for the elaboration of plans and projects concerning Nature Parks and Ecological network (i.e. National and Regional Parks plans: Gran Paradiso, Cilento and Vallo di Diano, Val Grande, Po River; Landscape plans for Regional Authorities: Valle d'Aosta, Piemonte; Territorial plans for Provinces: Venezia, Trento, Napoli).

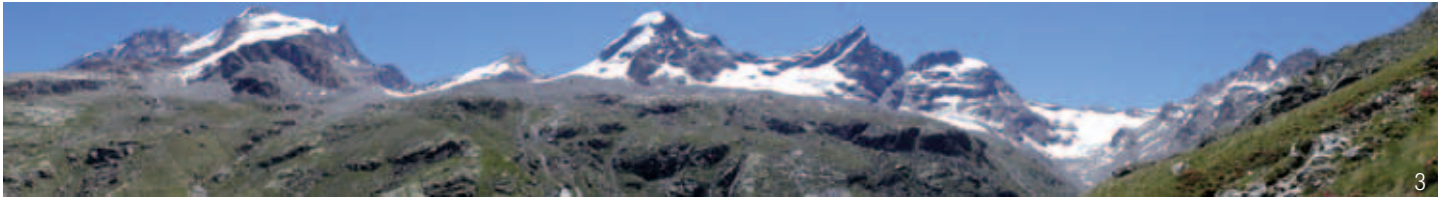
More generally, such activities have been also related to Landscape issues, considering Landscape policies both inside and outside Protected Areas, with a special focus on their relationship with territorial management and planning.

The Centre is availing of the collaboration of a wide European network of contacts and collaborates with many Universities, Research Centres and international and national institutions operating in the field of Protected Areas and nature conservation: Ministero dell'Ambiente e della Tutela del Territorio e del Mare (Italy), IUCN (The World Conservation Union) – WCPA and CEESP Commissions, EEA (European Environmental Agency), CIPRA (International Commission for the Protection of the Alps), EUROPARC Federation, Federparchi (Federazione Italiana Parchi e Riserve Naturali), AIDAP (Associazione Italiana Direttori e funzionari Aree Protette), Legambiente, WWF (World Wild Fund), INU (Istituto Nazionale di Urbanistica).

Keywords:

- Nature Conservation
- Nature Parks and Protected Areas
- Cultural Heritage
- Environmental and Landscape Policies
- Environmental and Landscape Plans and Projects





3

Main researches:

- *Draft of Statutory Framework for the MAB-UNESCO “Biosphere Reserve” Programme of Alpi Marittime Natural Regional Park and Mercantour National Park. The Biosphere Reserves as an international category of protection* (in partnership with Alpi Marittime Natural Regional Park, Regione Piemonte, 2001-2002).
- *APE. Apennines Park of Europe: creating environmental infrastructures and enhancing the Apennines’role in Europe* (in partnership with Ministero dell’Ambiente, Italy, 2000-2002); published by Alinea Editrice, Firenze, 2003.
- *AP. The national system of Protected Areas in the European context: classification, planning and management* (in partnership with Ministero dell’Ambiente, Italy, 2000-2002); published by Alinea Editrice, Firenze, 2003.
- *Rural landscape of Provincia di Torino: relation between settlements and natural environment* (in partnership with Coldiretti Torino, 2003-2004); published by Alinea Editrice, Firenze, 2003.
- *Atlas of Piedmont landscapes. An Atlas for the management and enhancement*, (Alfieri Project, in partnership with Fondazione CRT, 2005-2007); published in Urbanistica, n° 138, by INU Edizioni, Roma, 2009.
- *Transformation of landscape and tourism development in protected coastal areas. Changes in coastal landscape and sustainable tourist development* (National Research Programme, 2005-2007); published by Gangemi Editore, Roma, 2009.
- *Parks for Europe. Towards a European Policy for Protected Areas* (in partnership with Federparchi e AIDAP, 2007-2008); published by Edizioni ETS, Pisa, 2008.
- *Making landscape: from regional to local planning and design. Landscape scenarios in local planning* (National Research Programme, 2007-2009).
- *Landscape Indicators. Assessing and monitoring the landscape quality*, (supported by Fondazione CRT, Regione Piemonte, RECEP/ENELC, 2008-2009); is being published by Springer, Dordrecht.
- *European Parks and landscapes: a territorial research programme* (in progress).
- *Protected Areas and Natura 2000 Network* (in progress).

Fig. 3 Gran Paradiso National Park (photo by . E. Massa Micon - photo Archive PNGP)

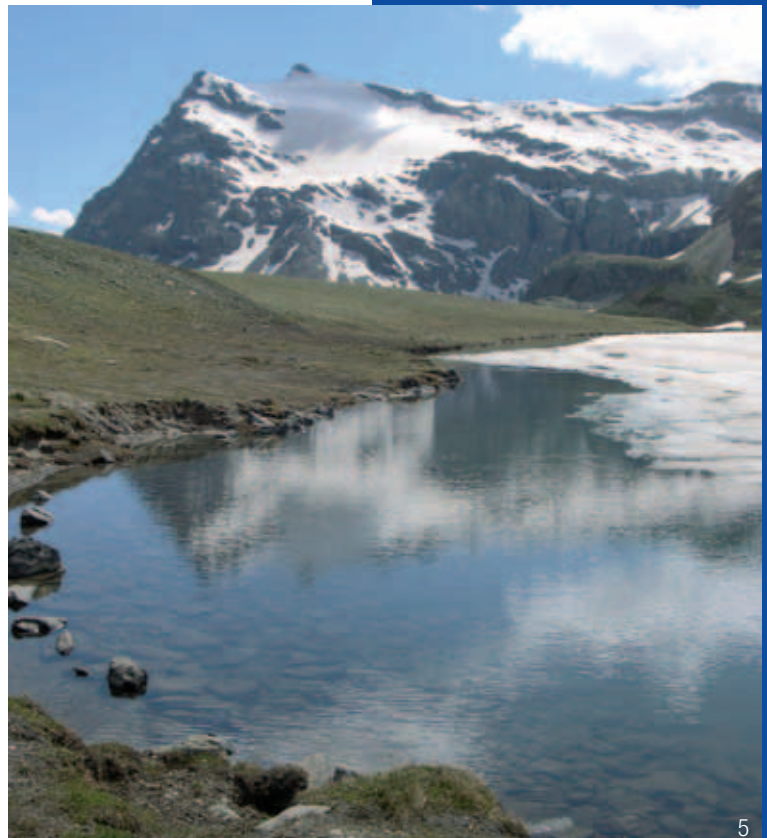
Research

Fig. 4 Map elaboration by CED PPN, 2008

Fig. 5 Gran Paradiso National Park (photo by . M. Ottino - photo Archive PNGP)



4



5

Rural architecture and landscape between tradition and innovation

Research

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The research *Rural Architecture and Landscape between tradition and innovation* has been carried out inside the European Program "Culture 2000" between Italian, French and Polish partners, under the co-ordination of the Politecnico di Torino.

The project springs from the belief, shared by all research units, that the architecture and the landscape in rural areas constitute fundamental and inimitable components of the culture and the identity of locations in all Countries participating in the project.

The issue of the protection and enhancement of the countryside and rural architectural heritage has been dealt with by the various research units in a coordinated way. The aspects which have been emphasized in this project are mainly linked to the architectural and landscape components of the issue, with particular attention to factors linked with know how, laws, and methodological and operative instruments in support of work on building constructions in the rural regions, aimed at the restoration of existing architecture in line with the eco-compatibility and the control of the quality of the environment.

The main objectives of the project can be summarized as follows:

- to identify the common elements and the technical and cultural diversities that characterise the rural building heritage of every country and the problems related to its sustainable rehabilitation;
- to develop strategies that aim for sustainable rehabilitation and valorisation of the rural building heritage;
- to identify and advance the methodological structures and technical procedures to support the rehabilitation activity, applicable to the various countries, with attention paid to the use of innovative energy technologies (renewable and eco-compatible energy sources).

Main results are:

- the publication of a book and the edition of a web site (www.eurarc.com), in order to set up a data bank that can be progressively implemented.
- The dissemination of a "best practices code," not purely technical but also with a cultural and economic framework for the sustainable rehabilitation and valorisation of the landscape and rural architecture.
- The itinerant exhibition that has been set up in each of the participating countries and it is available to be eventually shown at other locations.



Civilization of the Alps area in the Piedmont Region

The landscape is a complex system and, like all systems, it is dynamic: it is in a state of continuous transformation, under the action of both nature and man. In the past, the relationship between the built environment and the “natural” environment was balanced, based on our empirical but profound knowledge of nature and its workings, natural resources and their characteristics.

Now, all too often, this balance is no longer clear in built landscapes, at times because they have been transformed according to rules that do not respect the natural dynamics, at times because they have been abandoned.

In the research project “Civilization of the Alps area in the Piedmont Region”, founded by *Fondazione Cassa di Risparmio di Torino*, the dynamics of actual mountain landscape transformations were reconstructed, starting with a study of alpine landscape transformations and with analysis of the numerous historical buildings. The research treats particularly the topic of the alp, important not only for the productive aspect, but also for landscape conservation and the historical, cultural and tourist aspects. Research has also tackled the study of the Alpine landscape and its changes, due in part to the abandonment of mountain settlements and territories and to the changing management of Alpine farming.

The mountain settlements have been designed by the mountains and by natural events, in addition to the needs of human lifestyles and his work. The physical characteristics that form the identity of human settlements in mountain regions are linked not only to the use of local resources (materials, technologies, altitude, exposure to the sun and wind, etc.), but also to the type of economy prevalent in the area as well as many other factors.

The process of modification of grazing management, the partial abandonment of mountain agricultural-pastoral activity, the technical-economic possibility to reach high pastures with motorized transport and more comfortable means of communication (transporting men, materials and animals), as with production regulation with specific regulatory apparatus, are all elements that help shape the deep changes borne by the medium-high altitude constructed landscape.

Almost all of the seasonal settlements, placed at the upper limit of the forest, are now completely abandoned (sometimes entire villages). In contrast, new high-altitude tourist settlements have recently arisen (at least in the valleys of low Piedmont) that are not always created in harmony with the delicate Alpine context in which they are inserted.



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The candidacy of the “The wine-grape landscapes of Piedmont” for the UNESCO World Heritage List: analysis and methods for landscape interpretation

Research

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The project of candidacy of the Piedmont wine-grape landscapes (supported for almost four years by the Piedmont Region, the Regional Directorate for Cultural Heritage and Landscape of Piedmont and the Province of Alessandria, Asti and Cuneo) in the UNESCO World Heritage List consists of a proposal for the inscription of a serial site, made up of 9 core zones spread within Langhe, Monferrato and Roero territories.

The study and the interpretation of the landscape character have been made through the elaboration of different kinds of analysis, in order to point out the different components of the landscape itself.

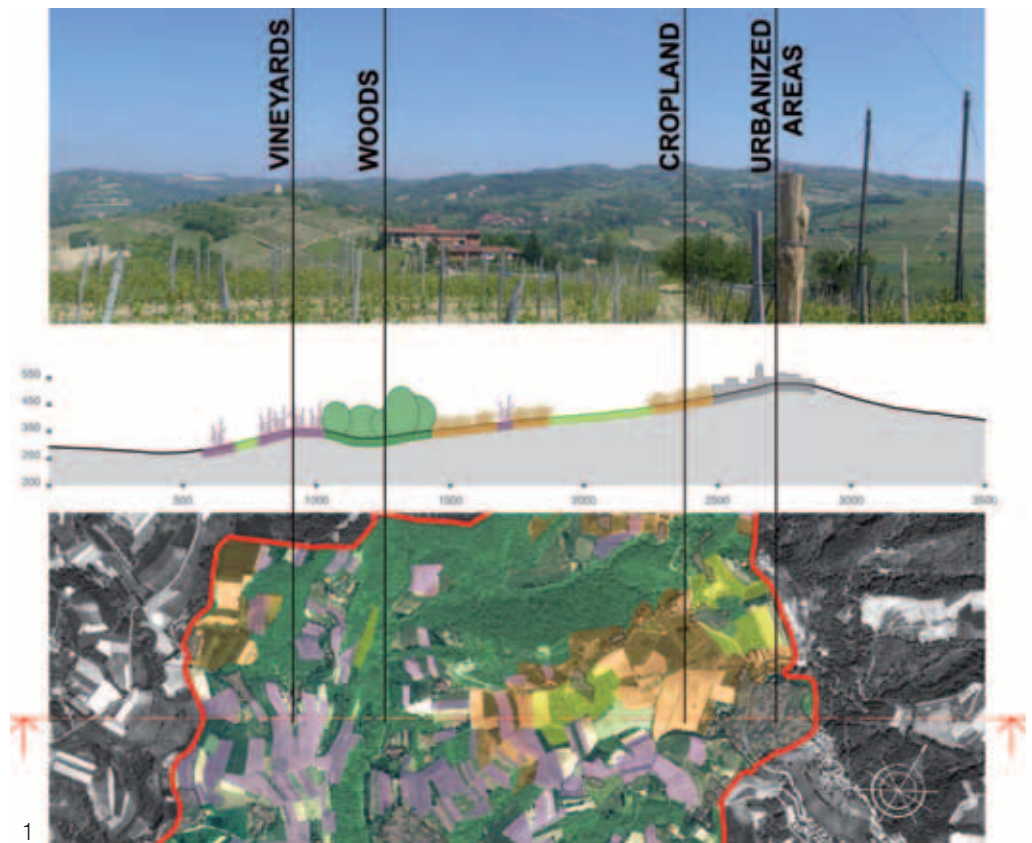
One analysis concerned to check the permanence of viticulture in the zone. It was realized through the comparison of the surfaces that were covered with vineyards - as drawn on the IGM map in 1884 - with the present land cover. In this way it has been possible to underline (using a Geographical Information System tool) which are the zones where there is a continuity of wine-growing practise and which aren't. This study was useful not only for the selection of the core zones, but also to demonstrate that this landscape is a “continuing” landscape.

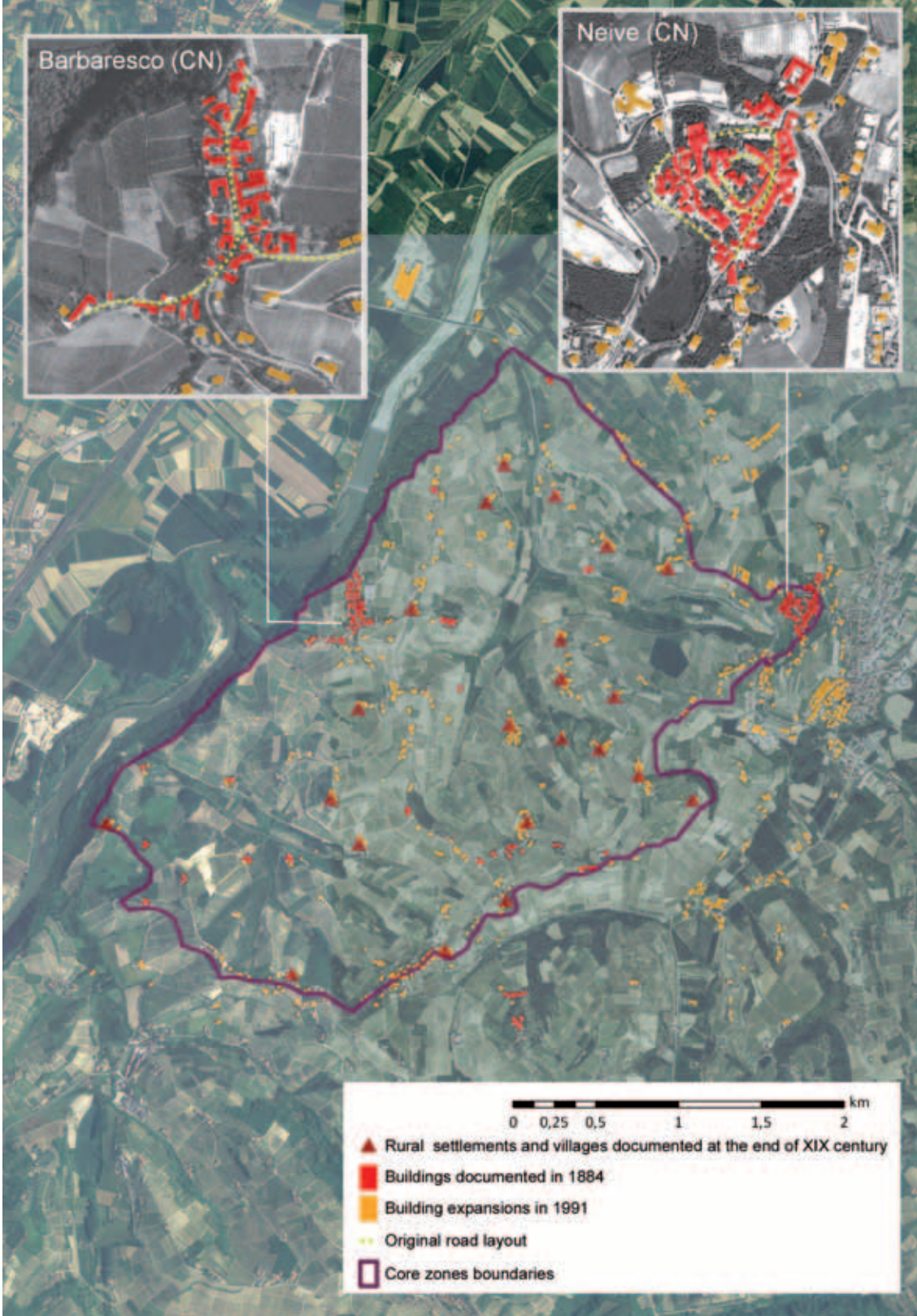
Another kind of analysis was about the settlement structure, through a comparison between the data on buildings taken from the IGM cartography (1884) and the current aerial maps (fig. 1). In this way it was possible to verify the conservation of the historical characters of settlements.

Moreover, analysis of “formal” type have been elaborated with the aim of synthesize the characteristics of each core zones with some elementary schemes. Starting from a land tridimensional elaboration, to which information related to the land have been overlapped, some simplified sections of a “standard” profile of each area were made (fig. 2). The comparison between the different profiles is useful to easily show the main differences between the areas, most of all about morphology, principle land cover, distribution of crops, settlement typology.

Fig. 1 Analysis of the “formal” characters in the Freisa area.

Fig. 2 Permanence of historical settlement in Barbaresco area.





A new GIS procedure for peri-urban landscape change detection

Research

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In this work Geographical Information Systems (GIS) are used to investigate the landscape evolutionary dynamics to improve the reading and interpreting of the territory for urban planning purposes. The test area is the municipality of Grugliasco (Torino, Italy), that suffered from heavy changes during the last 60 years.

The basic idea is to proceed to define a suitable way to formalize and represent spatial dependent functions for territory (or landscape) qualification by recognizing, from existing maps, those themes describing, directly or indirectly, the conditioning factors. This makes possible a change detection analysis between consequent periods, permitting the planners to evaluate and quantify (both in strength and direction) the forces that drive the urban growth. According to this purpose the proposed methodology is mainly in charge of generating graphical representations (maps) showing explicitly the dynamics of the urban expansion towards the rural areas.

It is worth to stress that the main goal of this work is to show how GIS approaches operate effectively in this context; it is not the authors' will to face and solve the problem of the definition of an opportune landscape quality function. The one used during the tests has to be assumed just as an example useful to show how the procedure runs. From this point of view GIS can represent a useful device in the hands of the planners to make their decisions more objective and their plans clearer. This purpose is obtained by mapping space dependent landscape quality functions whose definition is strictly related to the information derivable from existing maps. Their numerical nature permits to consider them as universal descriptors. Tests were done considering two maps dated 1968 and 1992. Landscape features (roads, land use, built areas, etc.), useful to qualify the territorial context, were extracted (by GIS editing) from the original raster maps to generate vector layers.

For each time a landscape quality function was defined as a regular sampling of an opportune numerical index obtained combining partial indices mapped from the extracted vector layers. They were used to generate raster maps of landscape qualifying indices that were successively combined to describe the global landscape quality at the considered time. Landscape quality maps of the two periods were then compared to generate change detection maps and effective representations were given.

Fig. 1 Technical raster maps showing the area in two different periods.
Left: I.G.M. 1:25.000 map (1968); right: CTR 1:10.000 map (1992).

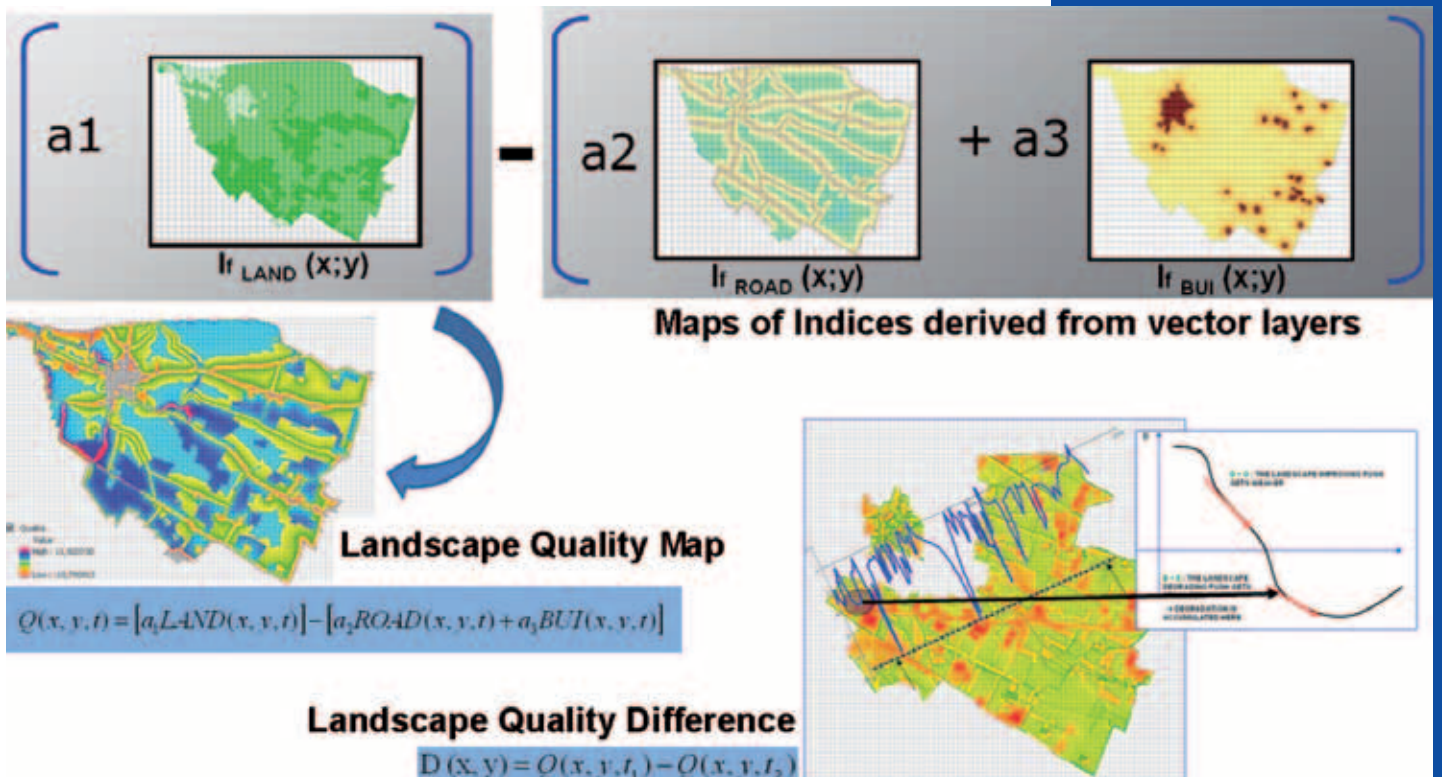


Fig. 2 Landscape features (roads, buildings, land use) vectorized from the original raster maps.
 Fig. 3 Methodology for representing the Landscape Quality and its difference in time as space dependent functions (raster maps of indices).

2



3



Proposal for a University Bike Master Plan

Research

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Bicycling and walking issues have grown in significance in recent years and public agencies and interest groups have been working to identify the most appropriate ways to guarantee to both pedestrians and riders a safe, convenient and comfortable access to every destination within the municipality.

Public opinion surveys have shown a strong support to increased planning, funding and implementation of shared use paths, sidewalks and on-street facilities.

Research and practical experience in designing facilities for bicyclists and pedestrians have been generating numerous national, regional and local design orientations and resources. An increasing number of professional planners and engineers are familiar to this item and are applying this knowledge in towns and cities as well as through the country.

Despite these many advances, levels of bicycling and walking remain low and our cities continue to grow in ways that make travel by means other than the private automobile quite challenging.

University centres are widespread in the city of Turin and only Agricultural and Veterinary Medicine departments as well as Economy and Law faculties are placed into campus-like compounds. Indeed different centres are placed at considerable distances and this turns sustainable mobility into a great challenge.

As far as our reality is concerned, it is supposed that over 70% of the personal trips to reach campus structures involve cars, which generate substantial greenhouse gasses and toxic pollutants, use valuable resources and result in a variety of other problems such as road congestion, needs for parking areas and spaces.

The sustainable mobility plan would both tie the University to the community and allow the University program to serve as a prototype for a larger system in the metropolitan area and for other university towns as well; university communities are ideally suited to initiate movements towards a sustainable environment.

The goals of the bicycle plan include reducing or eliminating driving on campus, encouraging walking or bicycling to campus, reducing the conflicts between bicycles and pedestrians and making bicycling to/on campus more accessible.

As for the University departments and offices in the City of Turin, the purpose of the Bicycle Master Plan is to set a framework for establishing a bicycle and pedestrian friendly system that safely allows people to move around the buildings linking together the different sustainable transport resources in relation to the municipality sustainable transportation programme.

Bicycle lanes and pedestrian paths should be well lit, provide ample spaces for bicycles/pedestrians to move and provide properly spaced emergency call boxes. Additional amenities such as bicycle lockers, water fountains, and enhanced landscaping can also help. Streetscapes are among the most important campus and urban design features because with their appearance, character and the impressions they create the University public image. That image is significant to how residents and visitors think and feel about it.

All street interested in the plan should consider installing either a bicycle lane or a separate bicycle path. For the travel between different structures of the University, bicycle lanes had to be preferred for routes where there are frequent intersections/driveways and a separate bicycle path is preferred for routes with infrequent intersections. All new constructions on campus should include bicycle shelters or at least bicycle racks as an integral part of the design. The University should establish a capital budget for bicycle and pedestrian facilities.

Increased use of bicycles instead of cars may substantially improve this situation, and short-term bike loans (via a "bike-share" program) can be an important part of this solution. While it is unrealistic to expect all people to substitute bikes for other forms of transportation, it is realistic to expect a significant number of people to use bikes if these are readily available.



1a



1b



2a



2b

Fig. 1 Bike lane (a) and racks (b).

Fig. 2 Shared path (a) and bike sharing (b).

Citrus trees as witness of the historical rural landscape of Cannero Riviera (VB), Italy

In Cannero Riviera, Piedmont region, there has been a historical tradition of citriculture since the XVII century, thanks to a favourable microclimate due to the presence of Lake Maggiore.

Paolo Morigia (1525-1604) in the "*Historia della Nobiltà, et degne qualità del Lago Maggiore*" (1603) described for the first time the shore of Cannero as rich in citrons, oranges, lemons and other fruits.

After P. Morigia many other authors wrote about Cannero Riviera citrus fruits and thanks to the documents kept in the "*Archivio Borromeo Isola Bella* (ABIB)" we know that citrus trees were introduced for the first time to the Lake Maggiore area from Liguria, in particular from Genova.

The arrival of citrus on the Lake Maggiore shores was probably due to Lancillotto Borromeo, son of Giovanni Borromeo. At the beginning of the XVI century, he decided to introduce on the Madre Island some citrus trees as a gift to his wife, Lucia Adorno (Pisoni, 1999; 2005). After a few years, the citrus plants used only as ornamentals, became important also for the production of fruits.

On the Lake Garda, where the production of lemons was very important for the economy in the past centuries, the "*limonaie*" (the lemons green houses) are the typical architectural structures that characterized the landscape. In Cannero Riviera, instead of greenhouses, we can find in the gardens of the oldest villas, wall niches where the plants have been planted, metallic structures that were employed as support for the sheets used to protect the plants from the chilling damages, terracing for the citrus culture. Unfortunately, many of these villas have been bought by foreigners, that in many cases didn't care about the conservation of the rural landscape. Many plants have already been cut and the landscape has been modified.

For that reason, the Dipartimento di Colture arboree of the University of Turin, in collaboration with the Cannero Riviera municipality and the Piedmont Region, is carrying on a project which aim is the molecular, nutritional and eating quality characterization of the local germplasm and the building of a didactic and scientific *Citrus* garden, in order to enhance the knowledge of the germplasm and maintain the local plants.

These plants grow at the furthest northern latitude in the world, endure winter cold and represent an important and unique genotype for Piedmont rural landscape and for the economy of the area.

Forty-four accessions were selected, georeferenced and labeled for the study. They belong to different species (included the genus *Fortunella*): *Citrus sinensis* (L.) Osbeck (sweet orange), *C. aurantium* L. (sour orange), *C. limon* (L.) Burm. F. (lemon), *C. reticulata* Blanco (mandarin and clementine), *C. paradisi* Macfadyen (grapefruit), *C. medica* L. (citron), *C. limonimeditica* Lushington (lemon x citron), *Fortunella margarita* (Loar.) Swing (chinese mandarin).

One of the most important species that was found in Cannero Riviera belongs to the *C. limonimeditica* species. The fruit is morphologically similar to the *C. limonimeditica* Canarone, an old species described for the first time in the fifty century. Samples of that species from the "Villa Medicea di Castello" (Florence), one of the main collection of old citrus cultivars in Europe, were taken to be compared with the one of Cannero Riviera by molecular analysis.

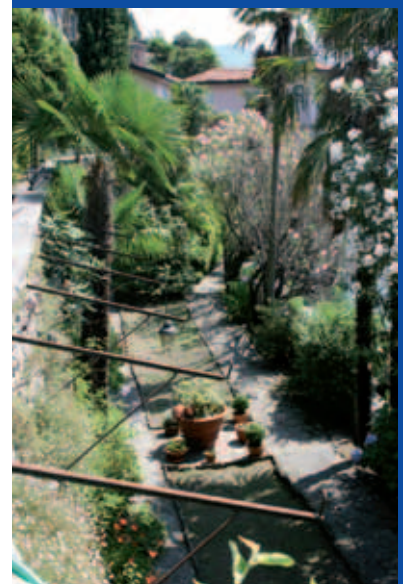
Chemical, sensorial, nutritional and morphological analyses have been carried out since 2008 season. The results show the good quality of the fruits, that could be used for the promotion of the regional economy as niche products.

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Natural and anthropogenic disturbances: interactions and effects on the structure of european larch forests

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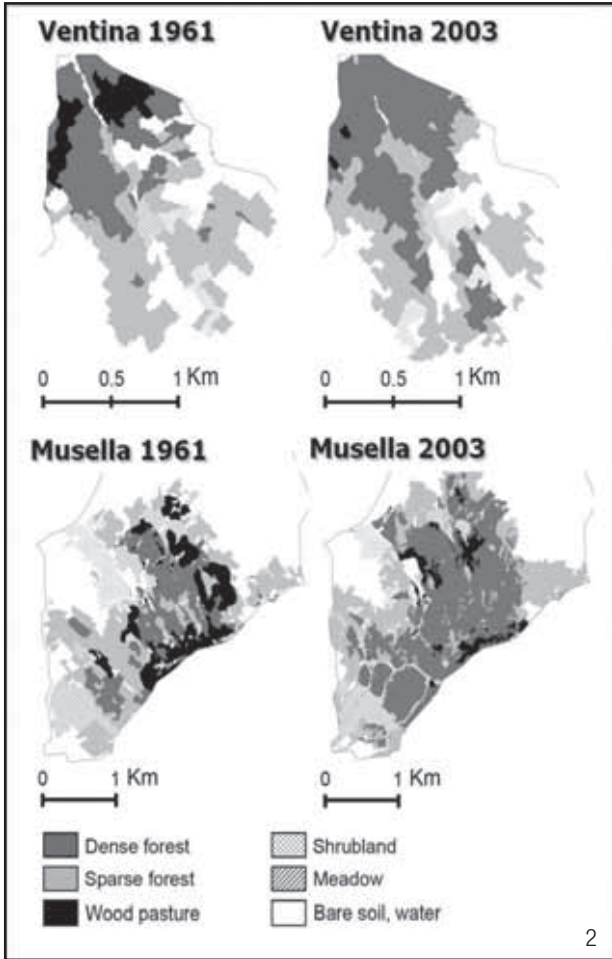
Human-dominated landscapes are characterized by complex interactions among environmental conditions and anthropogenic factors. The European larch forest is a cultural product of several land use practices and is transforming due to the recent socio-economic changes. The objective of this study was to understand the relative influences of grazing, thinning, and abiotic factors for shaping forest structure in mountain landscapes. In the Italian Alps, such landscapes are characterized by strong climatic and topographic gradients as well as a long history of human settlement.

The research area consists of two watersheds of the upper Val Malenco, an inner valley of Valtellina (Central Alps, Lombardy, Italy). The Musella study area occupies 1150 ha in the eastern Malenco valley and elevation ranges from 1650 m a.s.l. and 3050 m a.s.l. The Ventina study area occupies 1124 ha in the western Malenco valley with an elevation range from 1650 m a.s.l. to 3570 m a.s.l. (Figure 1).

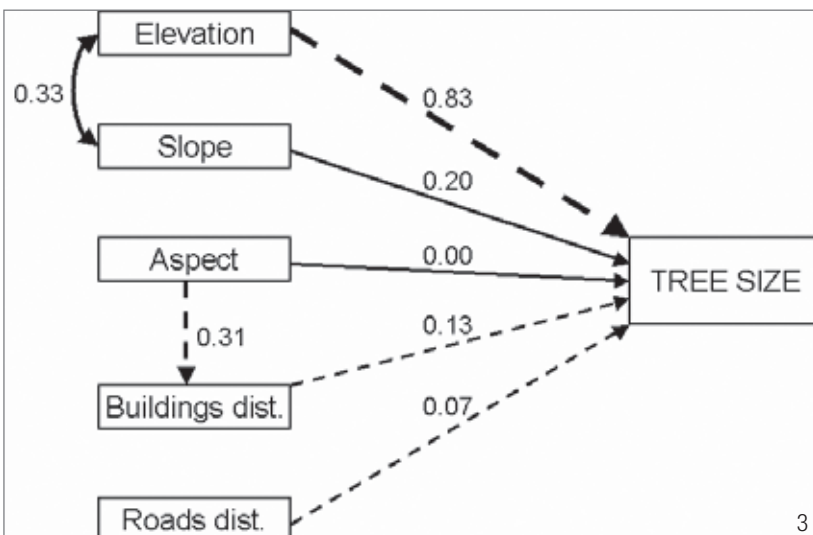
All trees and saplings were measured and mapped within 70 stand structure plots. Cluster analysis and ordination methods were used to classify stands according to dominant patterns of structural variation. A combination of structural diversity indices and classical stand structure measures was used to classify different stand types. Topographic, climatic and anthropic variables were derived and measured from a 10-m digital elevation model (DEM). Relationships between stand structure, environmental and anthropogenic sets of variables were analyzed using path analysis, a specialized version of Structural Equation Models. Path analysis allowed us to quantify and graphically illustrate relative influences of topographic, climatic and anthropogenic variables on stand structure, which was our response variable.

An amount of 4 structural types resulted from a classification based on stand descriptors such as basal area, density, vertical evenness and larch age. Stand structural types varied from sparse, larch-dominated forests with young trees at high elevations (Type 1), to denser stands at lower elevations where spruce is more common (Type 2). Ventina had slightly more sites belonging to Type 1 (28% vs. 21%), while Musella had more sites belonging to Type 3 (29% vs. 18%), mixed-species stands with large trees. PCA was used to relate stand structure to environmental and anthropogenic influences. A biplot of the first two components at Musella showed a strong negative correlation of elevation ($r = -0.74$) with the dominant axis, while distance from roads was weakly and positively correlated with the second axis ($r = 0.23$). Results showed a strong influence of the anthropic component on stand structure at one of the watersheds (Musella) (Figure 2). A different pattern was exhibited by another watershed (Ventina) where models based solely upon environmental variables provided the most parsimonious fits to the data.





Abiotic environmental gradients, described by simple topographic variables including elevation, slope, and aspect, proved to be good predictors for forest structure even in forests that are still recovering from recent, intensive human influence. Despite the importance of abiotic factors in shaping forest structure, anthropogenic influences play a critical role for most regions of the world. For some areas in the Italian Alps, historical human influences are important for understanding current patterns of forest structure across mountain landscapes. Our study highlights the importance of landscape context for modeling and interpreting influences of anthropic disturbances on forest structure and land cover changes (Figure 3).



Plant biodiversity recovery, conservation and valorization of alpine landscape: the case of Stura Valley of Demonte

Research

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Cultural landscapes are the result of the continuous re-planning of the land in order to better adapt its use and spatial structure to the changing demands of society. Mountain landscapes, considered as a cultural and historical heritage by the European policies, are very important for the populations. The Stura Valley of Demonte (Cuneo Province, North West Italy) is the example of a landscape that has been changing during the last decades. The several social and economical problems that characterized this area, mainly the depopulation of the mountain areas and the consequent abandonment of agricultural activities, have determined many transformations in the landscape structure. The present work has been performed with the aim of improving the knowledge about the local plant biodiversity in order to valorize the alpine landscape for its preservation and for a future sustainable development.

The territorial framework, the study of the farms and their characteristics (ISTAT; 1990-2000), and the identification of protected areas located in the studied region allowed on the whole to analyse the cultural heritage of the Stura Valley. In this study the bibliographical and cartographical information present in this area were also analysed to identify the endemic plants and their locations. The present research was carried out by analyzing documents and references that were found in Piedmontese historical archives and libraries to understand the changes in the land use, landscape transformations and the past uses of ornamental plants through an ethnobotanical study.

The historical, botanical and cultural analyses were performed to find out the typical landscape features and any traces of the local identity of the Stura Valley. The thorough analysis of the iconographical and historical documents that were found allowed to identify any changes in the agricultural activities and landscape transformations in the land use. In this area, during the XVIII and the XIX century, different plants (vine, chestnut, walnut and mulberry) were cultivated and used. The ethnobotanical research highlighted many areas (medicine, veterinary medicine, food preparation, fabric dyeing) in which large numbers of secondary plants were put to use, e.g. *Asclepias syriaca* L. was used as a textile fiber, *Isatis tinctoria* L. for dyeing, while *Colchicum autumnale* L. and *Tamus communis* L. had medicinal properties. In fact, the Stura Valley showed a wide botanical heritage for its morphological, geological, and environmental features: it is characterized by many endemic plants (*Aquilegia alpina* L., *Eryngium alpinum* L., *Saxifraga florulenta* Moretti, *Saxifraga purpurea* All., *Hieracia pedemontana* L. and *Adiantum capillus-veneris*) most of which are now protected species.



Fig. 1 The Stura Valley of Demonte. Aisone Municipality

The applied methodology, through the analysis of the cultural heritage of the Stura Valley and the study of the landscape structure, allowed the suggestion of strategies to improve the local development. In fact, the biodiversity restoration and conservation, and the valorization of local plants are considered priorities for the development of the alpine landscapes (PSR, 2007-2013). In order to develop the potential germoplasm of the Stura Valley, programs of recovery, conservation, and propagation of these plants will be considered as sustainable activities for the local population. Finally, this approach aims to preserve plant biodiversity, recover ancient crop varieties and improve farming in marginal alpine areas. This research was a pilot study for the analysis of the connections between the Stura Valley and other protected areas nearby and the creation of an environmental network.

Fig. 2 Landscape transformations in Pietraporzio Municipality between the XX and the XXI century.

Fig. 3 Endemic and official plants of Stura Valley. *Allium narcissiflorum* Vill., *Campanula spicata* L. and *Gentiana acaulis* L.



The use of scenarios for the evaluation of rural landscape transformations: a pilot study in Monferrato (Asti Province)

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Since 2008 a two-year research project titled 'Decision-making for rural landscape' was developed. The aim of the multidisciplinary research was to address the decision-making process towards the conservation and valorisation of the rural landscape quality. In particular, the project was conducted with the aim to analyse rural, ecological, historical, economical, and social features of a Monferrato area (Asti Province) characterized by hilly vineyards. In this area 6 Municipalities, Antignano San Martino Alfieri, Calosso, Moasca, Cassinasco and Rocchetta Palafea were studied.

In order to support local planning policies, one of the specific goal of this study was to analyze people awareness of social, economical, and political forces affecting rural landscape in the next years.

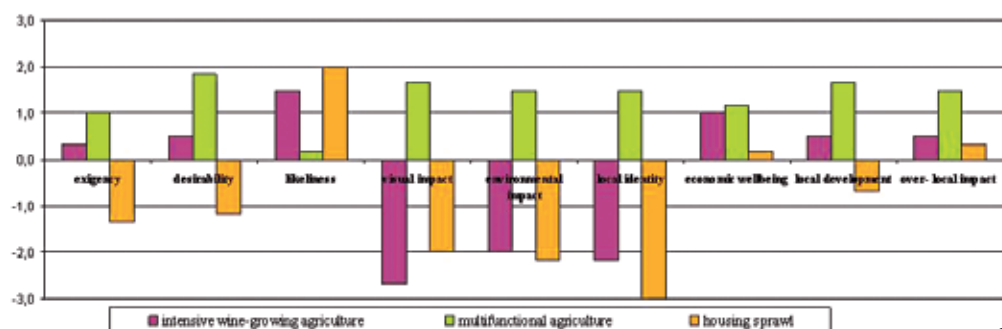
The aim of this part of the work was to compare different future landscape scenarios using a participatory approach. By means of focus group technique two meetings with the aim to analyze people expectations and real needs were organized. In June 2009, two different groups of participants (8 for each focus) were involved: the first composed by local policy makers and provincial and regional officials and the second composed by local stakeholders. Three different possibilities of transformation were individuated as future scenarios. Status quo and the three different future landscape scenarios were showed to the focus participants using photo-montages.

For the evaluation of these landscape scenarios they had to assign individually one of a range of given values (from +3 to -3) to specific items related to each scenario: exigency, desirability, likeliness, visual impact, environmental impact, local identity, economic well-being, local development, and over-local impact.

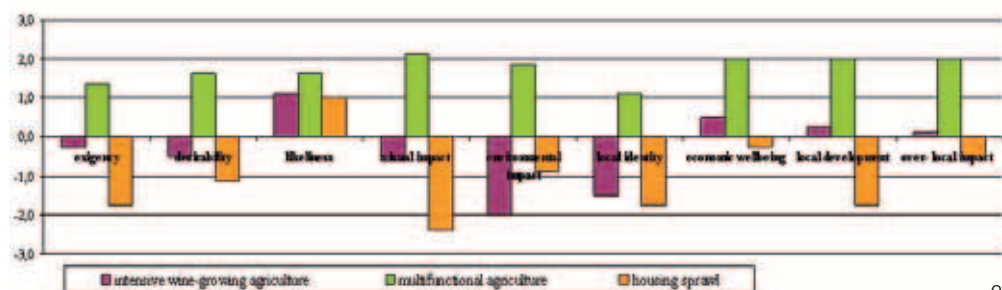
Results highlighted the expectations and the preferences of local policy makers and stakeholders about possible future landscape. These results will be used, combined with data coming from the other parts of the research project, in order to suggest strategies for decision making in rural landscape.

Fig. 1 Focus group of public administrators.

Fig. 2 Average ratings assigned to evaluation items by public administrators (a) and stakeholders (b)



2a



2b





Fig. 3 Landscape scenarios visualization. From the top: status quo, intensive wine-growing agriculture, multifunctional agriculture, and housing sprawl.

From Environmental and Landscape Management System (ELMS) to Eco-Land-Web-Scape Management System (ELWSMS)

Research

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In 2005 the Department of Commodity Science has formed a multidisciplinary team, with the Piedmont Region, to develop the Guidelines for environmental and landscape management systems (ELMS), useful for the design and implementation of ELMS by local authorities concerned to identify and keep under control the environmental and landscape aspects related to activities of municipalities or group of municipalities. The methodology integrates the systems of environmental management (ISO14001 and EMAS) and the European Landscape Convention. The analysis of the results and of the processes undertaken has driven the researchers to define an improvement path related to the goals of two new research project:

- a Prin 2008, entitled “Natural extracts from medicinal plants and textile-dyeing: characterization and innovative uses of Nettle, Daphne, Lavender and Chestnut tannin”
- a transboundary cooperation project Italy-Swiss 2007-2013, called “V.E.T.T.A. - enhancement of best practices and transboundary touristic products in mountain areas”.

Both of them cover macroeconomics aspects (local government) and microeconomics ones (of interest for companies or alpine huts involved in project); they focus on some specific cases, on which economists, architects, naturalists, biologists, landowners and managers work together aimed at improving environmental and landscape quality.

The recent definition of a statement list has led to the evolution of ELMS, called the Eco-Land-Web-Scape Management System (ELWSMS). The undergoing activities are focused on:

- Scatol8: Developing the prototype of Scatol8, that integrates the Arduino, an open-source electronics prototyping platform, with sensors, displays and interactive devices;
- Eco: application of remote sensing technics, through Scatol8, to monitor resource consumption and pollution.
- Land: Studying environmental and landscape evolutions with Intelligent Geographic Information Systems, Artificial Neural Networks, Fractals, and Artificial Agents;
- Web: The Web is the platform that lets you create Scapes, view maps of landscape-environmental quality, store data allowing the study of complex dynamics, to share results with stakeholders, to raise awareness, to train and manage changes through an organized communication.
- Management: Encouraging a shared decision process, thanks to Stella modelling system and easing the implementation of the management system, introducing user-friendly interfaces.

The real landscape, the territorial transformations create a landscape in the internet, where quantitative, qualitative, perceptual aspects are assembled and kept in communication, encouraging a shared path for continuous improvement, made possible through the use of dynamic models which, starting from the real lead to the development of future scenarios. A complete kit, consisting of detection tools, interfacing with web-sw management, and dynamic modeling tools, gives consistency to the idea.



Guidelines for an Environmental and Landscape Management System (ELMS)

The Regulation CE n.761/2001, known as EMAS, is a valid tool of management and audit for the environmental qualification of the territory. After investigating the environmental facts set about by the local government, by the management authorities of parks, and so on, a straightforward commitment to identify, make explicit, and ameliorate the environmental aspects was noticed. Nevertheless, a similar care towards the protection and the maintenance of the landscape is still unregistered. This work offers a methodological suggestion for the integration of the Environmental Management and Audit System-EMAS-with the European Landscape Convention – ELC - recently adopted in Italy.

The project for the creation and registration of an Environmental-Landscape Management System (ELMS) implemented for the “Unione di Comuni Colline di Langa e del Barolo” has been designed to give weight and tangibility to the ELC by introducing a managerial tool based on the concepts propounded by the Convention.

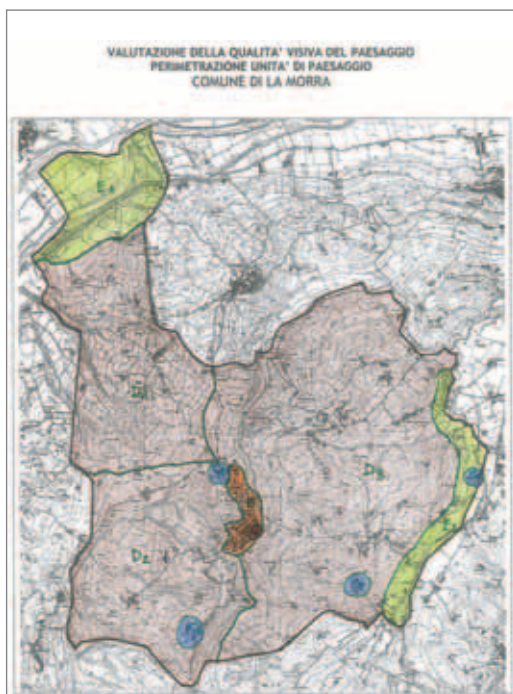
By means of this tool and of the subsequent guidelines, we aimed to promote the integration of environmental and landscape protection policies, to create a dialogue between the ELMS and traditional regional government tools and to contribute, at the same time, to the implementation of the general objective of the ELC, referred to above.

A combined reading of the EMAS Regulation (CE n. 761/2001) and the ELC underlines the presence of similar concepts in both normative tools, from which the ELMS derives.

The EMAS is aimed at the environment, but the integration with the ELC expands its scope, incorporating the subject of landscape, not only with respect to the management of landscape impacts, but also with respect to analysis methodology.

The first moment of integration stems from the identification of the content of the “Analisi Ambientale-Paesaggistica” (AAP) or “Preliminary Environmental and Landscape Analysis” (PELA). Point 7.2 of the EMAS Regulation (CE n. 761/2001) lists five key-sectors that must be investigated during the environmental analysis:

- Laws, regulations and other norms with which the organisation must comply
- Identification of all environmental-landscape aspects that have a significant environmental and landscape impact in accordance with Attachment VI, qualified and quantified if need be, and compilation of a register for those deemed to be “important”.
- Description of the criteria according to which the importance of the environmental impact is assessed in compliance with attachment VI, point 6.4
- Examination of all existing managerial practices and procedures concerning the environment
- Assessment of the lessons learned from the analysis of previous incidents.



Starting with these points, it has been possible to introduce several observations that have been helpful in formulating the requisites of the PELA. Each point of the environmental analysis has been discussed and adapted to integrate landscape aspects, foreseeing the application of quantitative tools for the evaluation of environmental and landscape quality and promoting the active participation of the stakeholders in the construction of the ELMS; therefore the Guidelines provide a detailed description of practical tools to implement a detailed PELA.

In addition, a complete documental system has been developed, to open the possibility for the concerned organization to be registered or certified by a third independent party. The continual improvement approach, typical of environmental management system has also been adopted by ELMS, in order to have a positive impact on traditional regulatory tools of Public Administrations and to promote a broad participation in the definition of land management policies.

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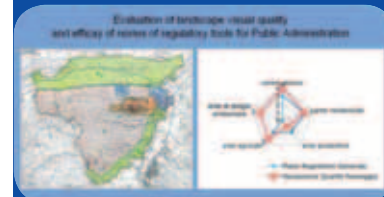
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LIVELLO DI QUALITA' DEL PAESAGGIO	LIVELLO DI ATTENZIONE DELLE NORME DEL PRA	MODALITA' DI RISPONSA DELLA PUBBLICA AMMINISTRAZIONE
ELEVATO VALORE	BUONA	NORMA ADEGUATA, NEGLIGENZA INTERVENTO
	MEGNA	MIGLIORARE LA NORMA
MEDIO VALORE	BUONA	INSERIRE NORMA PER LA MIGLIORAZIONE DELLA QUALITA' DEL PAESAGGIO
	SCARSA	NORMA ADEGUATA, NEGLIGENZA INTERVENTO
BASSO VALORE	BUONA	NORMA ADEGUATA, NEGLIGENZA INTERVENTO
	SCARSA	INSERIRE NORMA RIVOLTA AL RECUPERO DELLA QUALITA' DEL PAESAGGIO

The Territorial Integrated Quality Management System (TIQMS)

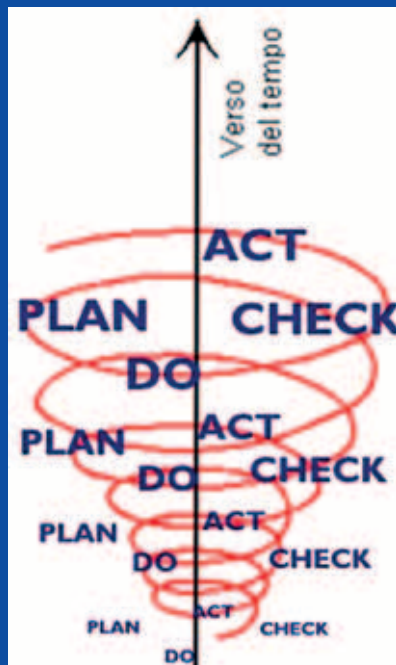
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Territorial Integrated Quality Management System (TIQMS) offers a methodological proposal for the integration of Quality, Environment, Landscape, Occupational Health and Safety and Social themes for the Public Administrations. TIQMS is the latest evolution of the Environmental-Landscape Management System (ELMS) which was invented, designed and implemented in the *Unione di Comuni Colline di Langa e del Barolo*, from 2005 to 2009 by introducing a managerial tool based on concepts propounded by the European Landscape Convention (ELC) and the Environmental Management Audit Scheme (EMAS) Regulation (CE n. 761/2001). The integration of international standard ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007, SA 8000:2001, all of them devoted to sustainability, has been possible thanks to the similarity of their structure, capable to take into consideration specific technical topics and to start an improvement process (Deming Cycle) through a planned system of relations among public and private sector and citizens.

"Quality" is the capability of the organization to meet the needs of the citizens and sustainability indicators; TIQMS is a governance tool whose efficacy and efficiency have been assured by a monitoring process of indicators related to the evaluation of the "Quality of life". TIQMS (thanks to its Integrated Territorial Analysis – ITA) foresees a deep study of the organization, through these steps: identification of the activities carried on by the organization; determination of Inputs and Outputs by means of appropriate diagrams, check-lists and interviews; description of activities management; identification of relevant laws and compliance degree, to fill an initial data set of the organization and to choose the significant aspects that will be managed.

Environmental quality of the activities performed by the organizations has taken into consideration energy, water and waste management; fuel consumption; noise; air emissions; electromagnetic pollution.

Landscape quality has been evaluated by a double steps approach: at first, an analysis of urban planning norms has been performed, providing a score on the basis of the accuracy and of the importance assigned to landscape conservation and landscape damage prevention; then, a check-list has been prepared and applied to measure landscape perception, divided in the same areas considered by urban planning norms: Old town; Residential areas; Productive areas; Agriculture areas; Conservation areas. Moreover, a questionnaire has been sent to the population, to detect the awareness about local landscape policies and to select positive and negative landscapes. Occupational health attention has been measured on the basis of the degree of compliance to national laws in this topic.

Social responsibility care has been detected through a questionnaire for the General manager of *Union of the Municipalities of Langa and Barolo Hills*, where the eight requirements fixed by SA 8000:2001 have been considered.

ITA quantitative results have been processed to highlight the strengths and weaknesses of the organizations in order to formalize an Integrated Territorial Policy, to identify objectives to be reached by programs and actions and to prepare TIQ manual.

Advantages of TIQMS are: Continuous control on law compliance; Continuous control on sustainability key-indicators which are the basis for strategic planning of Public administrations; Clear structure to be customized on the organizations' requirements; Planning of communication activities, traceability of outcomes and implementation of pertinent actions; Skills improvement through activities of awareness raising and training.

Critical aspects related to the implementation of TIQMS are: Shortage of financial and human resources available for the system management; Needs of differentiated training for public administrators, officials and technicians; Difficulty in the application of cost and benefit analysis.



Visual mitigation of sheds impact in rural landscape: a preliminary study to conduct a choice experiment in Asti Province

During the last decade, a growing number of buildings spread in the countryside in Piedmont. Rural sheds are examples of buildings located in rural contexts that are economically useful but determine important visual landscape impacts.

Furthermore, no proper planning policies and the absence of mitigation interventions are the main problems for the quality of landscape perception. For these reasons in 2010 a project aimed to estimate the economic benefit of some visual mitigation interventions in the consortium of municipalities “Comunità collinare Colline Alfieri” (Asti Province) was started.

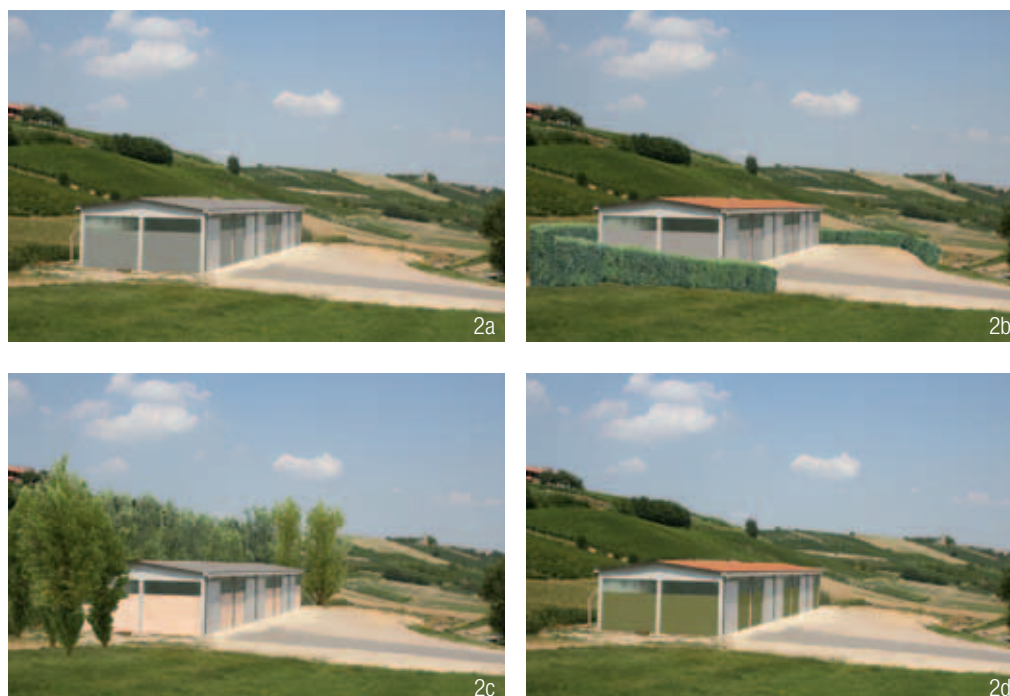
The study uses a choice experiment approach to investigate local residents’ preferences for different visual mitigation solutions.

In the preliminary part of the research a census of sheds located in the study area was completed and different types were found. Then some mitigation solutions were studied, using photo-montages (software Adobe Photoshop 7.0). In particular, for the status quo, a typical shed characterized by the absence of plants as barriers, concrete (grey) walls, and concrete (grey) roof was chosen. Then, some different mitigations were reproduced. For example, different colour of walls (salmon, green) and roofs (tile brick-red) and different ways to use plants as vegetable barriers (tree roof (h>2 m), formal hedge (h=1 m) and plant green walls) were proposed.

In the next months a representative sample of local population (total 200 interviews) will be asked to answer a questionnaire in order to investigate their preferences for different landscape mitigation interventions. In particular, their willingness to pay for different combination of mitigation measures will be investigated. This study will quantify the economic benefit produced by these interventions and provide local policy makers with different possible solutions for mitigating the impact of rural sheds in their territory.

Fig. 1 Examples of sheds located in the “Comunità collinare Colline Alfieri”

Fig. 2 Examples of mitigations solutions. Status quo (a) and different possible transformations (b, c, d).



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Stone guardians: an exhibition on the morainic landscape near Turin, after the proposed law on the protection of the erratic blocks in Piedmont

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The erratic boulders are recognizable and characteristic elements of some glacial landscapes. The Susa Valley Glacier has carried enormous blocks as far as the Po plain, in the morainic amphitheater between Avigliana and Rivoli, the glacial landscape nearest to Turin that can be found.

Many blocks are in isolated positions, and their surfaces show a strange morphology that has been attracting the attention of men all along. The erratic blocks represent landmarks, centres of magical rituals, supports of religious symbols. Moreover, the scientific dispute on their origin determined the birth of their geomorphology in the XVIII-XIX centuries.

Therefore, the Royal Decree 778/1922 prohibited the destruction of the erratic blocks, threatened to at that time by the quarrymen. The law has successfully protected the surviving rocks, hence the Rivoli - Avigliana landscape is, in Italy, the area where most erratic blocks are found. But today, since the law is no more enforced, the progressive urbanization of morainic hills is seriously threatening the blocks.

Several boulders have been destroyed, and many are losing their fascination, being by now in the outskirts of towns. For a long time the conservation organisations have been trying to promote new laws for the protection of the blocks and the morainic landscape.

Since 1997, at the University of Turin, Motta Michele and Motta Luigi have studied the methods for a sustainable increase of the boulders value, within the PRIN programs: "Tourism enhancement of physical space as a means of environmental protection" (2000), "Climate and geomorphologic risk in tourist areas" (2002), Analysis of the patrimony of landscape and its tourist use in North-West of Italy: quality, limitations, risks (2004), and ex-60% research program: "Methods of geomorphologic risk analysis in environmental protection areas and outdoor sports areas" (2006). These studies have produced a great number of data, such as the complete list of the still existing blocks, along with the origin of their superficial morphologies, their cultural value (myths, landmarks...), etc. Many of these data are visible on Myblog, the website of the University of Turin.

During a workshop on the presentation of the protection law 485/2007, a collaboration between Department of Earth Sciences and Pro Natura Torino began. Following the procedure for the approval of the law proposal, the "Sentinelle di Pietra" (Stone Guardians) exhibition was organized, in order to promote the awareness of the values of the erratic blocks and their need for protection.

Objects and audiovisual aids were exposed, from 31 March to 29 August 2010, in the Natural Sciences Regional Museum of Turin. They show the natural, historical, archaeological, sport value of the erratic blocks and the landscape between Rivoli and Avigliana.

Collateral events were also organized during the exhibition: 4 workshops, 4 shows, 7 trips and sport events.

The exhibition and the events have meaningfully contributed to advertise the value of the erratic blocks, in support of the new law proposal 6 /2010 "Protection of the erratic blocks of the Morainic Amphitheater of Rivoli-Avigliana that have high natural and historical value".



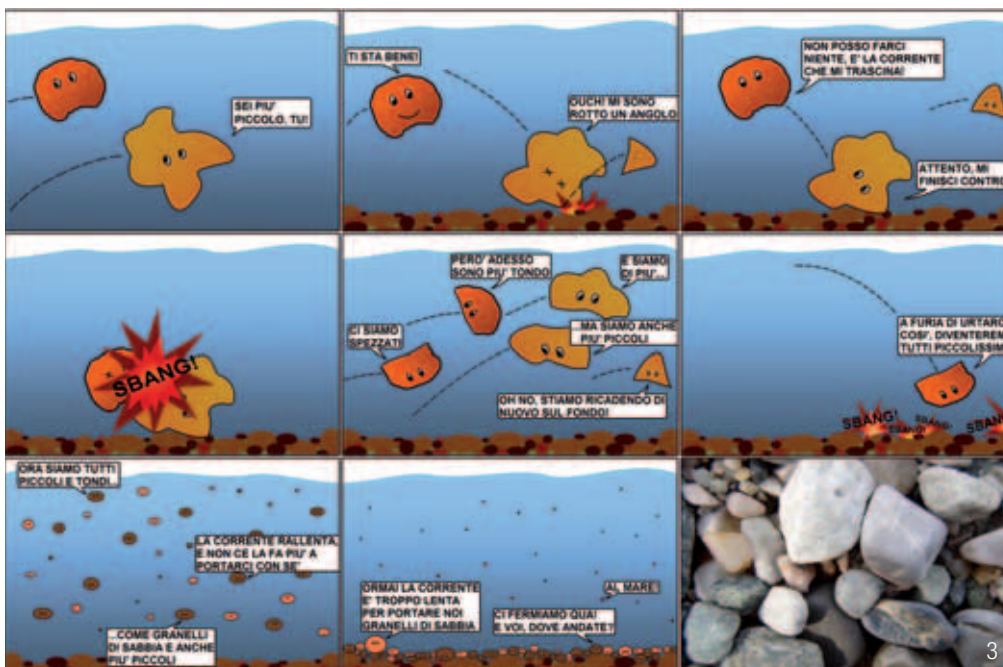
Fig. 1 The exhibition explains the glacial origin of the erratic boulders and the differences with other similar blocks.

Fig. 2 Several materials of the exhibition come from the University.

Fig. 3 Audiovisual aids and comic strips are prepared in order to capture the children's attention.



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3

In the words of the European Landscape Convention: values and social changes

Research

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It may seem unusual for someone who normally deals with linguistic phenomena to intervene in a field beyond the usual boundaries of analysis and scientific production. However, linguists have a habit of believing that, in order to speak, we need words, and that languages cross bridges and oceans... And, if we wish to resort to the power of poetry, we can quote Baudelaire

“Ta tête, ton geste, ton air

Sont beaux comme un beau paysage ...”

Here, our corpus for analysis is the official text of an international institution on its tenth anniversary: the European Landscape Convention.

Our research is carried out in and on the French language, but the phenomena that we intend to bring to our readers' attention are linguistic ones, which can be easily detected in the two languages of the Convention, French and English.

Our areas of research are lexicology and discourse analysis (with reference to the French school for the latter). As is usual in the official discourse of great international institutions, we can see how the reduced “performativity” of a politically correct style of language has helped to soften any strong contrasts. These are documents which mediate to a remarkable extent between the parties involved; they contain proposals and are occasionally gnomic, with parts that are overtly procedural (saying what is to be done and how).

The lexical data are the first to strike us. In the Convention we are celebrating, a whole lexical “cartography” comes into play, showing a well-modulated network of data that reflect contemporary social concerns and changes in sensitivity: the landscape is considered a “basic component of the European natural and cultural heritage” (worthy of note is the *patrimoine commun culturel et naturel* of the French version [where the adjective *culturel* is placed before *naturel*]), the landscape is a “foundation of (people’s) identity”, both as individuals and collectively – we wish to specify –, no landscape is excluded from the Convention: a grammatical structure expressing a comparison of equality joins “landscapes that might be considered outstanding as well as everyday or degraded landscapes”. Landscape historians will devote a quick thought to the evolution of the concept of landscape over the centuries.

Through these few examples taken from the lexical surface of the Convention’s text we can observe forms of discourse in which positive evaluation is privileged, and so we will find a predominance of euphoric data: “protection, management and planning” for all European landscapes, “strong forward-looking action”, “essential component of people’s surroundings”, “particular values assigned [...] by the interested parties and the population concerned”. The phrastic device providing balance between euphoria (positive linguistic data) and dysphoria (negative linguistic data) is almost completely absent. The diverse political and economic situations of the countries that have drawn up the text have required a strong element of mediation and this provides us with a text which is particularly rich with positive action proposals: terms such as knowledge, identification, safeguard and requalification are used.

In reading the document, another observation that we have made is that the Convention mentions new value theories which are part of our daily and social lives. These are new positive values, which are broadly shared up to the point that they do not create interpretative friction in a text meant to be harmonious, the result of dialogue and of intellectual open-mindedness: the linguistic collocation of “cultural diversity”, “everyday landscape”, even “natural and cultural heritage”, the landscape as the foundation of the identity of the peoples who inhabit it. If we check monolingual dictionaries, diachronically (say over the last fifty to sixty years) it is difficult to find examples of such sequences. And it is a well-known fact that dictionaries are the construction and testimony of a society and its ideologies.

Does the text of the European Landscape Convention reveal something of society? Undoubtedly so, as well as updating the rich sociological and linguistic notion of “social representation”.



Landscape and tourism in the hill area of Piedmont: perspectives for scientific research and teaching

Tourism growth in rural areas is linked to the rise of *new* motivations driving the tourists who, through the tourist experience, are looking not only for *distinction* (Bourdieu 1979), but for authenticity, uniqueness, and meaning as well (Cohen 1979, MacCannel 1976).

Therefore, in order to become a tourist *attraction*, a tourist *resource* (whether it is a landscape or a building) has to be associated by tourists to an attribution of a meaning that gives authenticity and uniqueness to it.

In the last decades in the hill area of Piedmont, in the Northwest of Italy, a new niche of tourism is growing consisting of *expert* tourists (that is with a significant previous tourist experience) who are interested in a *mix* of stimuli: from landscape to food and wine, from local popular culture to nature (through hiking, biking or horse riding). Relevant parts of the *mix* are also the product quality, the friendliness in reception and the slowness in consumption.

Such a type of tourist *product* needs both reception capability, which has to be tailored upon the specific needs and desires of the tourist segment, and capability to coordinate the various elements of the *mix* in order to make them available to the tourists in an easy and friendly way. In order to achieve this goal, several different actions in various fields are required: such as quality in reception; landscape protection; capability of *narration* of local tourist resources; analysis, planning and management of the local tourist system.

This situation asks for actions on three different, but correlated, levels. First, the local actors (both private and public) should implement, both individually and collectively, actions that can satisfy the needs and desires of the tourists. It is not just a translation into the local society of actions implemented somewhere else, but a more challenging task, which needs production and diffusion of knowledge about the local tourist system (Ercole 2007). Second, education and training institutions play a relevant role in making the various local actors –whether in the tourist sector or not– aware of the characteristics, needs and desires of the tourists; and in making available the tools that can make their stay a memorable one.

Third, the scientific research is challenged to go into depth (and showing systemic relations among local tourist actors) in analysing tourism, and its relations to the local society, in order to achieve a better understanding of how the tourist phenomenon is shaped locally, and to produce knowledge that can be transferred to local teaching institutions and tourist actors.

The University of Eastern Piedmont has focussed its teaching and research activity on the skills that are necessary for building and managing of local tourist systems in an area characterized by the presence of: a) rural environment and mid size towns, and b) a *mix* of tourist resources as the ones above mentioned. These skills may contribute to the growth of a sustainable local tourist system, both in its economic, social and environmental *pillars*.

In this scenario the role of landscape –in its broader meaning– is relevant, as it no longer is simply a container, or one of the components of the *mix*, but rather a characterizing and unifying element of the *local tourist product*.

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Fig. 1 Image by © Mark Cooper,
Piemonte Landscapes,
 [www.succi.it/cooper/piemonte_
 landscapes]

Fig. 2 Image by Regione Piemonte



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The Botanical garden of Turin: communicating the “culture of plants”

Research

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History

Turin's Botanic Garden, founded in 1729 by wish of Vittorio Amedeo II, was originally created as a teaching resource for medical students and designed as a “Garden of Simples”. It was laid out on a geometrical pattern with two large ponds toward which the beds and paths converged.

In 1796 Vittorio Amedeo III gave a new area on the north side; the full use of this zone dates back to 1831 when around one hundred trees, most of which exotic, were planted to create the “Boschetto”. In the same period some greenhouses were built.

Today

Recently (1996) the decision was taken to give the Botanic Garden a new dimension whilst maintaining its function as a centre for learning without making major changes to its layout. Many works of modernization were carried out including the predisposition of new signs.

Today most of the medicinal herbs are situated in the covered flowerbeds: the collection consists of native species mainly used in traditional therapies in the alpine valleys and on red signs the scientific name, the common name, the part used, its active ingredients and therapeutic action are indicated.

As a living Museum, the Botanical Garden will continue to provide public displays of native flora as well as flora of various origins in systematic beds, in the “*Alpinetum*”, in the Greenhouses (Tropical house (Fig. 1), Succulent plant house (Fig. 2)) also to implement a plan for the conservation of biodiversity. The “*Alpinetum*” contains species that are typical of the alpine belt plain of several mountain chains; one sector is dedicated to species that were described by great Botanists who worked in Turin Botanical Garden, such as Carlo Allioni and Giovanni Battista Balbis. The Tropical house hosts a collection of Orchidaceae, Araceae and Bromeliaceae, also epiphyte, while in the Succulent plant house are present 450 species of 20 families (Cactaceae, Aizoaceae, Crassulaceae, Liliaceae, etc.). They show that water stress causes the same morphological changes even in very taxonomically different species, following a convergent evolution.

Recently (2007) the “New glasshouse” (Fig. 3) was built to show some of South Africa's most significant and characteristic environments (Tsitsikamma Forest, Fynbos, Swartberg Pass, Cape Region, Karoo, Namaqualand, Richtersveld). South Africa was chosen for the beauty and scientific importance of its flora: this region is home to 30.000 plant species, 60% of which are endemic; moreover 3 of the world's 34 biodiversity hotspots can be found. In the “Boschetto” an area of plain woodlands has been created to reproduce the vegetation of the Western areas of the North Italian Plain, trying to highlight the evolution of the flora that result from the changes that took place during the previous Ice ages: the presence of species that are now extinct in the area has been made possible by palynological studies.



In 2003 in the “Boschetto” several ancient fruit orchards were planted, according to the pomological collection of Garnier-Valletti, to recall the richness of the genetic heritage. Various studies are currently underway on these cultivars: phenological observations allowed to gather information on the sensibility and response of plants to the climatic variations and to identify the cultivars that can better adapt to the local situation.

Didactic activities are organized for visitors of any age or level, in particular for schoolchildren and university students, as well as for a general and also specialized public to sensitize people towards the culture of the plants and of the environment.



Landscape heterogeneity in the Map of vegetation series of Piedmont

Research

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Environmental complexity due to climate, lithology, morphology, flora and fauna, and to the long human history, produced the extraordinary landscape diversity that we can observe in Italy. The landscape is mainly characterized, outside urban areas, by plants, and consequently vegetation maps are fundamental tools to represent landscape diversity. Recently the Italian Ministry of Environment developed the National programme "Completion of Base Ecological Information in Italy"; in this framework has been developed a project for a 1:500.000 "Map of the vegetation series of Italy", coordinated by the Plant Biology Department of the University of Rome "La Sapienza" (Blasi, 2010). A group of Botanists, responsible for each Italian Region, carried out this project, as a document representing this landscape diversity.

The basis for the mapping of potential vegetation was provided by a hierarchical land classification, obtained integrating litho-morphological and phytoclimatical GIS layers, and, for the heterogeneous Piedmont region, also other layers, such as altitudinal belts, micro-climates, due to orientation of alpine valleys and slope.

This classification leads to a map of Land Units: each unit is thus defined by the overlay of a sequence of thematic maps. Every type of land unit is characterized by a peculiar vegetation serie.

The Department of Plant Biology of the University of Turin produced the map of the vegetation series of Piedmont. The map is a synthesis of the knowledge of the regional vegetation and is based on the phytosociological method. Each serie is intended as all the vegetation types which tend, if not disturbed, to the same mature stage. The most mature stages are woods or, for the highest lands of the Alps, pastures or debris communities. Overall, 31 vegetation series have been mapped over the whole region. Each of the series has been described in the text considering its distribution, structure of the mature stage, lithomorphology and climate characteristics. Influence of human impact on different vegetation stages have been analyzed highlighting the vegetation landscapes which result from land use.

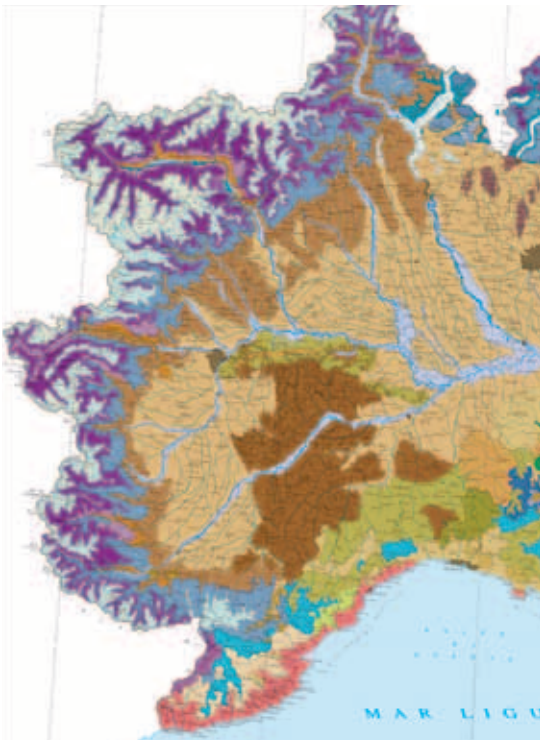
This work can be used to evaluate landscape heterogeneity in the various Italian regions and to compare landscape and biodiversity levels not only related to mature, natural vegetational stages, but also to the intermediate stages as prairies and pastures, due to traditional agricultural land use.



Fig. 1 Blasi C. (ed.), 2010. La vegetazione d'Italia – con Carta delle Serie di Vegetazione in scala 1:500.000. Palombi, Roma.



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Fig. 2 Map of Vegetation series of Italy.
Fig. 3 Zoom for the North West Regions of the map.

A Land Island in the Vezzolano Area

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Fig. 1 Core Zone and Buffer
Zone in the Freisa "Terroir"
Fig. 2 The Land Island
Fig. 3 Saint Lawrence small
Church in Mombello

Land Island is the proposed name for a small rural area, recalling the historical County of Radicati House, and encompassing 17 municipalities mostly comprised in the "Alto Astigiano" Hillside Community.

Main landscape features

Detected in a many-year field work done by scholars and grass-roots volunteers, they include:

- a highly preserved natural environment (geological strata, fossils, forests, woods, waters, spots of high biodiversity and ecological complexity);
- a typical agrarian landscape, moulded by "Freisa" vineyards
- villages, castles, churches, chapels: remnants of a social and religious history going back to the Middle Ages;
- the past of the local peasant society: mills, rural buildings, small museums and archives, immaterial culture (name of places, plants, animals, legends, proverbs etc.)

Old and New Tourism

The main tourist flows are focussed to the birth places of St. Giovanni Bosco (Becchi di Castelnuovo) on one hand, on the other to Romanesque churches, the principal being Saint Mary in Vezzolano (originally a Church of Regular Priests then an Abbey in the Savoy Domains), inserted in the Major Cultural Route "Transromanica" of the Council of Europe.

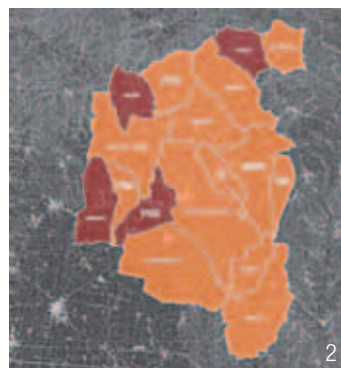
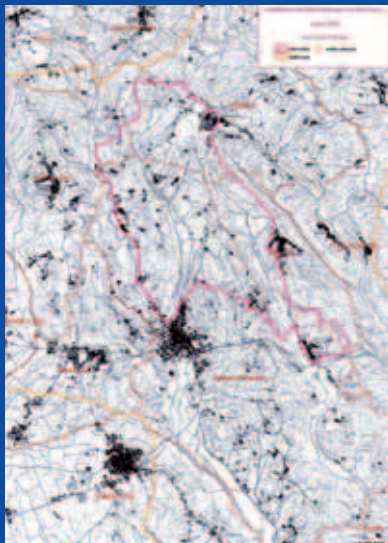
New offers and opportunities have been designed and partially implemented to promote an integrated tourism experience, drawing attention to:

- walkscape in forests and "Muscardia" woods, owned and managed by a local voluntary association;
- geosites exploration and "white paths" crossing the vineyards;
- rivers, small lakes, springs, to be re-evaluated for environmental quality;
- gardens and land architecture, such as the Apple Tree Garden outside the Abbey;
- minor religious buildings and worships places of traditional Saints, and the historical evidence of the "social Saints" who lived in the area;
- memorials of contemporary history, especially celebrating the two World Wars' popular participation.

Present and Future

The Vezzolano Basin is included in a safeguard Plan (according to Law 431/1985), confirmed by Piedmont in 2002. The area of "Muscardia Woods" has been declared "of a high natural interest" in the Land Use Coordination Plan approved by Asti County in 2003. Local Governments, Piedmont and the Italian Ministry for Cultural Heritage, now pursuing the admission to UNESCO World Heritage List for the "Wine Landscapes of Southern Piedmont", have set the "Freisa Wine Terroir" - just at the center of the Land Island-as one of the nine zones to be proposed for universal acknowledgement.

However, a homogeneous and high quality landscape texture does not automatically hinder risks of fading and pollution, the damages of industrialised agriculture or poor building practices, unaware of landscape values. Policies of Heritage conservation, international approval and new tourism aim to establish the basis for a NeoRural Hillside Society, where landscape values and goods actively support identity and change. A coalition of small associations, heartfelt inhabitants and public institutions striving for Heritage is at work. But supplementary effective action is needed to gain-from agriculture and business stakeholders and local opinion leaders- the necessary consent in order to strengthen a positive link between the active protection of common goods and local socio-economic development.



Integrating soil data and landscape metrics: a tool for soil management in urban and periurban areas

The management of urban and suburban soils is often a complex endeavour. On the one hand soils of urban and periurban areas are characterized by several environmental problems: compaction, low organic matter and contamination are among the most frequent deficiencies that prevent these soils from carrying out their ecological functions. On the other hand social and demographic pressures, together with economic interests, influence the use of the land with scarce consideration for ecological functions.

In most cases soil quality and functioning are evaluated on the basis of chemical, physical and biological properties independently from geographic or geometric land properties such as location, patchiness, size of patches. In this work an attempt is presented to incorporate soil properties in landscape measurement so to provide a tool for a more ecological and sustainable management of urban and suburban areas.

The tool evaluates the land use potential on the basis of soil inherent properties and land anthropization. A multi-criteria GIS model is tested that helps defining the criteria and the methodologies for decision making processes. Soil quality was expressed in terms of soil chemical properties (pH, organic matter, particle-size distribution) and some soil contamination parameter (pseudo-total content of Pb, Cu e Zn) obtained from the monitoring network of Arpa Piemonte. Land anthropization was evaluated on the basis of the territorial database of the Regione Piemonte by calculating and selecting the landscape metrics through FRAGSTATS (Spatial Pattern Analysis Program for Categorical Maps) program.

The study area (18000 ha) was selected to represent the transition from a totally urbanized area to fully agricultural or natural land to test the precision and accuracy of the model and to ensure its transferability and extension to wider areas. The availability of thematic maps for the area was also considered. Parameters were calculated for a 500x500 m grid and the landscape metrics were selected using correlation.

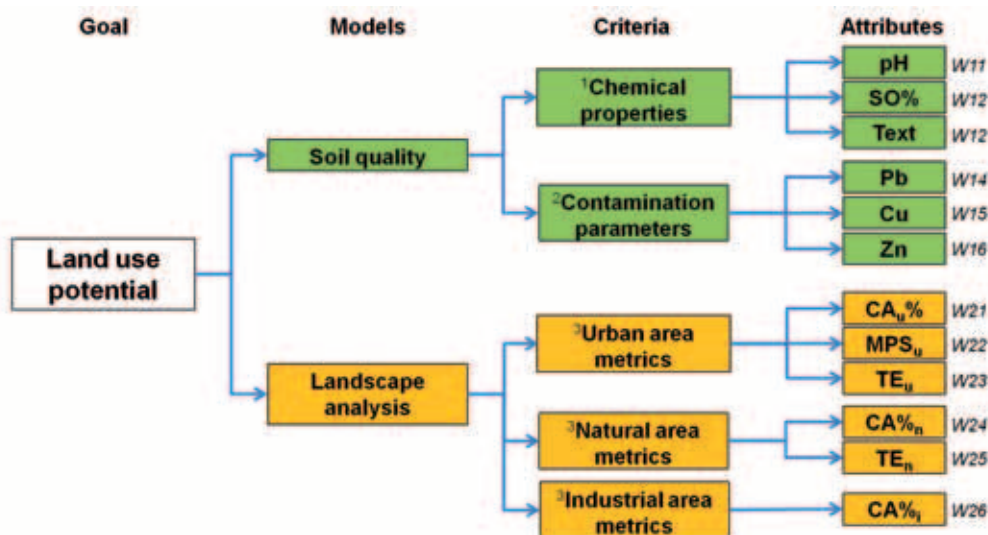
Preliminary results indicate that the crucial step of the process is the establishment of the classes and weights for the parameters both of soil quality and landscape metrics. The model appears to be apt at discriminating soil quality depending on the location of the field. For example, whatever their environmental quality, the soils that are enclosed in densely built areas have a lower quality score than comparable open fields in non urban areas. On the contrary small soil patches that support a green area and are loosely connected to other green areas may receive a high score for their recreative and aesthetical function.

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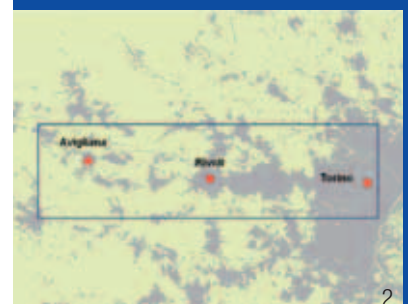
Research



¹ Piemonte soil map 1:50000, ² monitoring network of Arpa Piemonte, ³ database of the Regione Piemonte

Fig. 1 An example of the multi-criteria GIS model.

Fig. 2 The study area. On the far right the city of Torino, in the middle the city of Rivoli and on the left the city of Avigliana



Land and landscape maintenance services provided by farmers in the Piedmont mountain and hill regions

Research

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Multifunctional agriculture becomes a particularly interesting option for mountain and hill regions in view of the fact that financial, social and environmental resources for various rural activities are often limited in such areas. One additional economic opportunity open to farmers is that of offering paid service provision for land maintenance and preservation, an activity which can become extremely significant both in terms of socio-economic and environmental/landscape importance. Thus, certain national legislative tools are greeted with keen interest, such as the Italian Decree on “Reorientation and Modernisation of Agriculture” (n. 228/01) and “New Rules for the Development of Mountain Areas” (law 97/94). These acts formalised the public authorities’ decision to make agreements with farmers regarding the supply of land and landscape maintenance services for public land (territorial farming agreements).

This study examines the legislative conditions posed on such sustainable service provision and analyzes the land maintenance service demand and supply within the Piedmont mountain and hill territories.

Most of the survey was carried out via direct interviews with the two parties involved – the public authorities (source of demand for land and landscape services) and farmers (suppliers of services). Two questionnaires were compiled for this purpose.

The first questionnaire was aimed at the Piedmont Mountain and Hill Communities (82 municipality consortiums within mountain or hill areas). These communities make up 67% of the regional territory. The objective was to analyze the ways in which the authorities (“implementing authorities”) managed farming agreements in their territories. At the same time, an investigation was made into why the other “non-implementing” authorities decided not to follow through with the proposed agreements, and their intentions for the future.

The second questionnaire, on the other hand, was given to a sample of a hundred mountain and hill land farms. In this case, the objective was to define the economic and structural characteristics of farms which had won public tenders for land maintenance (“farms with expertise”), in addition to the attitudes/inclinations of the farmers involved. Interviews were also carried out with farmers who have never supplied this type of service (“non-expert farms”) in order to understand why this is so, and to identify the technical/management aspects which may place restrictions on this activity or discourage potential service providers.

The results reveal how various economic, environmental and institutional contexts play a vital role in both the current state of implementation and potential of legislative agreement tools, and, consequently, in the possibility of reaching set targets regarding land and landscape management.

Fig. 1 Demand survey, implementing authorities (IA) and non-implementing authorities (NIA)

Fig. 2 Demand survey, type of land maintenance works

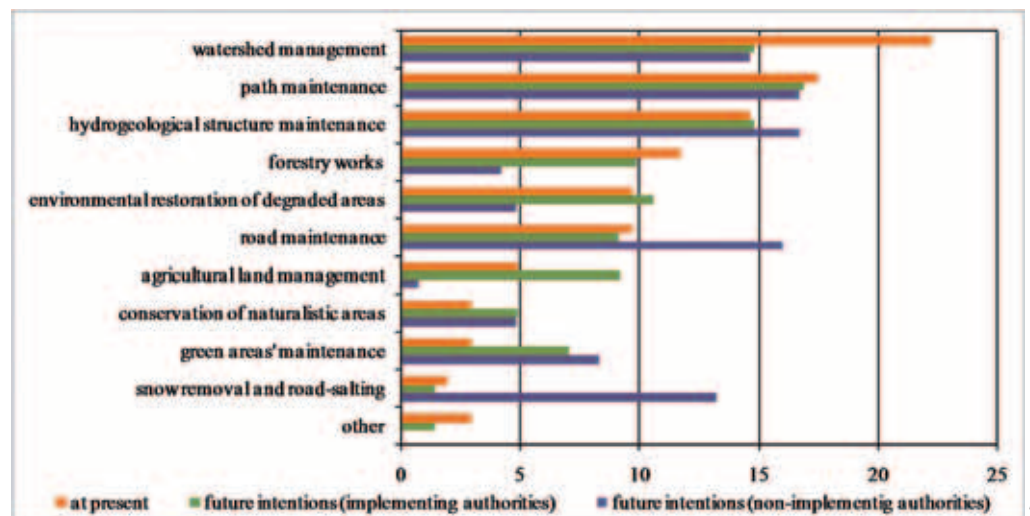
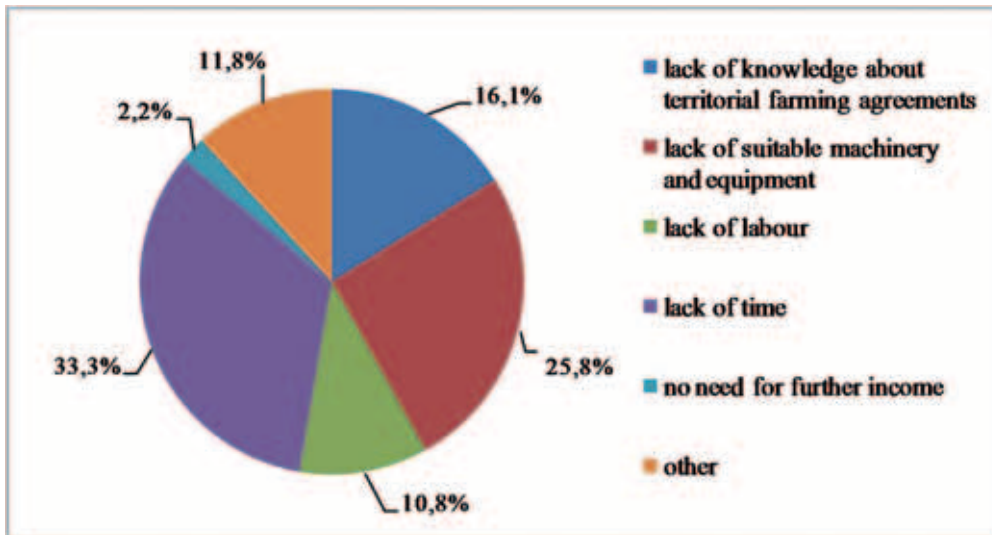
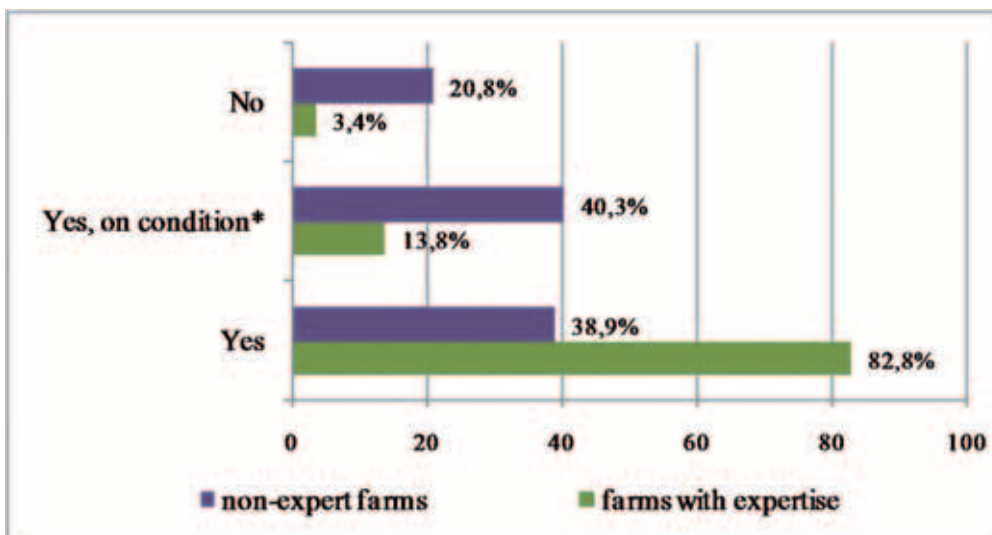


Fig. 3 Supply survey, reasons given by non-expert farms for their unwillingness/failure to participate

Fig. 4 Supply survey, willingness to supply land maintenance services in the future (* examples of stated conditions are: machinery provided by the public authorities, higher remuneration, better coordination and organisation by the public authorities)



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REGIONE PIEMONTE

Regional Landscape Plan

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The Regional Landscape Plan (Piano paesaggistico regionale, Ppr) refers to the European Landscape Convention and the Cultural assets and landscape Code, which put landscape planning in the middle of protection policies and demand its effective integration in regional spatial planning. It is the first planning act, extended to the whole Piedmont territory, which recognizes landscape as an unrepeatable value and as a resource for cultural and economic development, defining the necessary measures for its protection and valorisation.

Functions

As an instrument of territorial governance, the Ppr has three main functions:

- cognitive, aiming at both addressing conservation, management and valorisation policies, and at increasing awareness on landscape values;
- normative, aiming at translating those values into rules that can have a direct and indirect influence on transformation processes;
- strategic, aiming at suggesting to a wide audience of public and private stakeholders visions, goals and possible sets of actions.

Structural frame and landscape assets

The Ppr defines the structural framework for enabling the analysis of the impact of spatial transformation processes on landscape and environment, and defines the landscape assets protected by the Code.

Studies, analysis and governance process

The Regional Landscape Plan has primary been developed through a study aimed at understanding and evaluating Piedmonts landscape features, which helped to organize the related information and assessments based on a structural landscape analysis, to establish criteria for identifying the landscape areas, and consequently to formulate a draft plan.

This activity has been managed by Turin Polytechnic, through the Inter-University Department of Territorial Studies and Planning, and the Departments of Architectural and Industrial Design and Housing and City.

The 8 Provinces of Piedmont Region have been likewise involved in preparing the plan following agreements and arrangements which ensured the sharing of information and of planning choices.

In implementing the Code by signing a Memorandum of Understanding, the contents of Ppr have also been shared with the Ministry of Cultural Heritage and Activities, who participated in the various stages of the plan drawing.

Thematic approaches

The Plan is not focused only on single goods of peculiar relevance. The whole Regional territory is there considered, so to include all those components that contribute to the protection and valorisation of landscapes. The different landscape components that the Plan considers can be grouped into four classes:

- physical-naturalistic - it includes the different regional landscape typologies;
- historical-cultural - it includes most of regional cultural heritage;
- urban and settlement - it includes a wide and heterogeneous set of areas where settlements and infrastructures have historically been concentrated;
- perceptual and identity - it includes a set of places and relations that the Plans considers as constitutive of regional identity.

Landscape ambits

The Ppr divides the regional territory into 76 landscape ambits, analysed with regard to natural, historical, morphological and urban features, so to spot out the different structural, qualifying and characteristic traits of each landscapes. The identification of those characters is necessary for the definition of respective sets of norms.

Normative setting

The Ppr contains instructions on types of settlement, best practices and strategic choices, defined in accordance with the territorial planning, essential to outline active policies for landscape protection and valorisation. It is divided into rules, directives and guidelines, and oriented towards local authorities - which are directly responsible of territorial transformations.



REGIONE PIEMONTE

Landscape valorisation

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Projects for landscape quality

The Regional law n. 14/2008 “Norms for landscape valorisation” co-finances the realisations of projects that work on landscapes quality as a mean for strengthening local identity, that understand their nature of cultural values, that spot out their historical meaning, their dynamic characters and their transformation potentials.

Ideas and planning competition

The Region promotes the use of instruments that can help reaching the best planning solutions, and that can stimulate the debate and confrontation among different visions and project ideas. Through those competitions it is also possible to spread information on high quality projects which suggest solutions, also innovative, on the restoration and regeneration of landscapes, as well as on the creation of new ones.

Typical Piedmont wine landscapes: the nomination for the UNESCO World Heritage List

Piedmont intends to point out to the World a landscape moulded by man who, from generation to generation, step by step, has created and honed an unique and unrepeatabe culture. This nomination proves once more that the distinguishing characters of any land derive from the nature, the human history and especially the relations that connect them strictly together.

The senses landscape

That is: how to savour the landscape with all our senses and in every sense. Maria Chiara Zerbi has edited the homonymous volume of the series “Themes for the landscape”, editorial enterprise thought as a popular-scientific instrument addressed to a community more and more sensitive to landscape questions.

Local landscape commissions

The Region has set norms about the local landscape Commission that Municipalities must follow in order to manage authorization procedures in those areas which have a landscape restraint.

The new institutional framework will involve more local communities, which must take part in assessments weighing upon the landscape.

Piedmont's monumental trees

Superb, majestic, sometimes lonely, loaded with memories, witness of centuries of history, Piedmont's monumental trees are characteristic of its landscape. The Region has identified and, far-back, takes care of them, and increases their environmental, perceptual, historic, cultural and natural values.

New instruments for landscape management

The Region establishes, as soon as new instruments for landscape management come into force, a suitable support plan, for assuring their diffusion and enforcement.

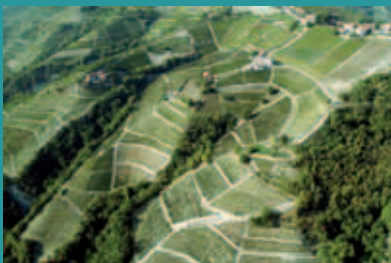
Referring to local governments and their dynamics, guidelines will be produced for addressing the implementation of landscape protection and valorisation policies.

The landscapes of raw earth

Raw earth houses, charming structures and ruins, last for centuries, with their primary forms or transformed by men, who adapt them to modern needs. Their presence strongly characterises the landscape of a large portion of Piedmont's southern areas, and the Region intends to protect and valorise them. Recently Roberto Mattone has edited on this subject the volume “The landscape of raw earth houses”, belonging to the series “Themes for the landscape”. This publication is as a popular-scientific instrument to promote the knowledge of those particular buildings.

Piedmont landscape points

The Region has taken part in the European project PAYS.DOC. “Good Practices for the Landscape”, which aimed at constituting an Observatory for the recognition and study of Mediterranean typical landscapes. The result of our Region's work is “Piedmont landscape points”, a collection of fifty reports about as many particular observation points which enabled to appreciate the landscape variety of Piedmont, but also their environmentally critical situations.



LANDSCAPE OBSERVATORIES NETWORK OF PIEDMONT

Landscape observatories: the piedmontese experience in a changing scenario

Experiences

Working group:

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Different kind of Landscape Observatories in Italy

There are currently different kinds of landscape observatories in Italy and, to simplify, we will call “bottom-up” those which are the local expression of the civil society, and “top-down” those established by the Public Administration. The following text will describe the experience of the Piedmont Landscape Observatories network and will briefly outline the situation of the institutional observatories at the national and regional level. “Bottom-up” observatories outside Piedmont are not included here.

The Piedmont Landscape Observatories: ELC as common denominator and their functions

The Piedmont Landscape Observatories (PLOs) are “bottom-up observatories”. They are the expression of civil society and non-profit organizations. They act in the area of awareness-raising and generally do not have a direct link with the Public Administration.

The PLOs share many principles: they are all “bottom-up”, and most of them were established after the launch of the ELC in 2000. Even if the PLOs have varying juridical status, they have the common goal of spreading out the “ELC’s concept” and implementing it. The commitment to the ELC is also the common denominator of the Protocol of Intents they signed on July the 2nd 2009.

Since they were established, the Piedmont Landscape Observatories have committed themselves to various initiatives that can be summarized as follows:

1. Participation in and organization of seminars and meetings
2. Organization of guided excursions of various kinds
3. Publishing initiatives
4. Awareness-raising projects of various types, aimed at schools and/or the general public
5. Development of projects to boost integration between local and expert knowledge
6. Training and consulting for the Public Administration
7. National and international cooperation with sister agencies.

Also for the Piedmont Landscape Observatories, 2009 has been a crucial year: they have been called on by Regione Piemonte to establish a more formal and ongoing cooperation and to discuss the potential of the SPR-grid. In July the PLOs formally adopted a Protocol of Intents that strengthen and underline the link between the PLOs action and the ELC principles.

In 2010, outside Piedmont, in Liguria, the Osservatorio del paesaggio della riviera dei fiori (OSPARF) was born. As soon as possible a cooperation between the Observatories of Liguria and Piedmont will be established.



SETTORE GRANDI OPERE DEL VERDE OF TURIN MUNICIPALITY

The Project “Cantiere a Impatto Zero – Inquino, quindi compenso!”

In the complex of Spina 3 in Turin, the park area represents the heart of the large urbanistic transformation, defining itself as a connection element between the new settlements of the project; with its surface of 456.000 square metres this park will represent as well one of the largest green lungs of the city. The park, that will be realized on areas that were one time occupied by ample production settlements, will combine naturalistic environments with significant elements from the industrial past.

The project of the park is the result of an international contest, launched in the spring of 2004, that was won by the group directed by Peter Latz - already author of the Thyssen post industrial park (situated in the Ruhr Basin). The group is formed by Servizi Tecnologie Sistemi S.p.a., Latz+Partner, Studio Cappato, Gerd Pfarrè, Ugo Marano, Studio Pession Associato.

The lots in progress are: Ingest, Michelin, Mortara, Vitali e Valdocco.

The last sector extends on 73.000 sqm and in this area will be realized a large square planted with trees, with freely accessible green turfs, and a system of promenades along the river, protected by gabionades.

Inside this area a very important initiative takes place, sustained by the Settore Grandi Opere del verde of Turin Municipality, aiming to compensate the environmental impact of this project using the estimate of the CO2 emissions that the Parco Dora Spina 3 – Lotto Valdocco sub A. yard will produce.

The calculations performed by ETM EUROPEAN TREE MANAGEMENT Srl values:

Generation area of the emissions and energy vector	tCO2 eq
Machines and Yard Equipment	241,4769
Autovehicles e trucks	7,8619
Global electric consumes	4,6463
Global hydric consumes	0,8640
Wastes similar to urban non differentiated wates	2,1840
TOTALE	257,0331

The compensations consist in financing projects to reduce, using the forest conservation mechanisms, the same quantity of gas generated with the yard processes, in a way that the global balance of the emissions will result null. The compensation projects presented as a contest improvement by Consorzio Stabile Litta di Milano are the following:

- **The “Local” Compensation**

Plantation approx. 110 trees of 20-25 cm diameter in the Arrivore Park , in order to compensate for approximately 5% of the produced carbon dioxide. Practically, considering an implant area of approx. 16sqm for tree, a park area of approx. 2.000 sqm will be covered.

- **The “Global” Compensation**

Acquiring CDM certificates (Clean Development Mechanism) as specified by the Kyoto protocol, in order to finance projects of forestation managed like Plan Vivo (a scottish Onlus) and warranted by international certification (Gold Standard), and so compensating approx. 95% of the carbon dioxide produced.

The GOLD STANDARD mark is released by the homonymouds swiss NGO to selected CO2 compensation projects.

The proposed projects are located in Mozambic (Gorongosa National Park), Mexico (Oaxaca and Chiapas) and Uganda (Bushenyi, Hoima and Masindi).

Moreover, in the park the reduction of the produced CO2 is planned using photovoltaic panels and LED based illumination.

The photovoltaic implant will be realized on the roof of Tettoia 18, a metallic structure preserved as a witness of the previous industrial activity, and will allow the production at zero costs of the energetic equivalent requested by the LED based illumination system. This technical choice will allow to reduce by 9.300 kg the yearly CO2 consume, as compared to the traditional illumination system.

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Experiences



PARCO FLUVIALE DEL PO TRATTO TORINESE

From Progetto Po to operative Master Plans. A Landscape Observatory and a Touristic Brand in the Turin area

Experiences

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Fig. 1 Po River from Verrua Savoia, photo by S. Zaghi

At the end of the Eighties Piedmont Region adopted the *Progetto Po*, a new tool for the local government meant to recover the landscape and the ecological characteristics of the Po river and of its floodplains; in the Nineties the project became an institutional planning tool to preserve natural and territorial aspects by the regional law no. 28/1990, which established the Po river system of protected areas.

Progetto Po includes:

- *Progetto Po* first proposal (IRES, 1989);
- *Progetto Territoriale Operativo per la fascia fluviale del Po* (PTO, Regione Piemonte, 1995);
- *Piano d'area del Parco del Po* (PdA, Regione Piemonte, 1995);
- *ampliamenti del PTO* (on the affluents Sangone, Dora, Stura);
- *progetti operativi locali*, concerning 10 areas of specific interest;
- the local developments, in particular the *Contratti di fiume*, based on specific agreements among the involved municipalities and other stakeholders.

Project guidelines

- A central role in the project process has been plaid by the concept of the territory to be reserved to the river dynamics and evolution.
- A complementary concept concerns the *networking* of natural and cultural resources, both in longitudinal and transversal direction.
- A third concept concerns the *diversification* of measures for the active protection of habitats and single resources.
- A fourth concept concerns some areas that, for the critical gravity of the risks and damages to be faced (mainly due the extraction activities). Or the relevance and complexity of the needed or expected transformations, require a thoroughly projectual investigation, and specific agreements with the involved operators, on the basis of more flexible rules.

Advice procedure

Thanks to a large amount of work done implementing and monitoring the plans part of the *Progetto Po* carried out by the Management Authorities of the River Park, that manage and control also the advice procedure (a tool used to verify the compatibility between the park plan and the municipalities requests about landscape and territory modifications, that must be obtained before all other bureaucratic steps), it is possible to give direct the decisions concerning the use of land, both under its quantitative and qualitative aspects.

Landscape Observatory

Recently, advice procedure is oriented by the principles of The European Landscape Convention and in 2006 the Turin Po River Park has started an initiative called 'Po River and Hill Turin Parks Landscape Observatory', together with the OCS of the Turin Polytechnic School and the Turin Hill Park. The Observatory has its study area not only in the administrative jurisdiction of the two parks, but also in the territories that connects them and in all the area connected because of its homogeneous landscape and territorial characters. *Recently the Laghi di Avigliana Park* (Avigliana Lakes Park) joined the Observatory.

The main tool to advertise the Observatory activity is the web site www.paesaggiopocollina.it, which can lead the visitor on a virtual visit with photos, videos and descriptions, but can also provide reports and documentation of scientific researches. The Observatory is a member of the Piedmont Regional Network of the Landscape Observatory. The two-years initiative *Paesaggio zero* is an occasion to share e information and provide communication in order to promote the fluvial area in its territorial, ecological, cultural and artistic aspects.

From a Touristic Brand to a Master plan

To implement fruition and touristic aspects, in association with *Turismo Torino e Provincia* (the joint public-private non-profit tourins promotion board with jurisdiction over the city and over the whole province of Turin) the Turin Po River Park created the touristic brand *Po Confluenze Nord-Ovest* (www.poconfluenzenordovest.it); it is organized in three homogeneous areas, that are part of a wider plan whose task is to coordinate services, operators and structures in order to make possible to use natural, cultural, recreational and educational equipments in the best possible manner. This three areas are *Po dei Laghi* (Po river in the quarry lakes area), *Po dei Re* (Po river in the Turin urban area) and *Po delle Colline* (Po river in the hill area of province of Turin).



The first operative step is the start of the *Po dei Laghi Master plan* in September 2010: in this area between the towns of Carmagnola and Moncalieri (a 20-km-long strip in the southern part of the Turin metropolitan area), in less than fifteen years, a surface of 800 hectares of quarry lakes will be transferred to public fruition and the plan aims to coordinate the required environmental recovering and a new fruition layout. It must also set up the most suitable managing framework to create a virtuous economic process in the area, and become stable over time to guarantee an high level of quality in maintenance, safety, accessibility and fruition. A structure that grows with these objectives will not necessarily be just a public board, but also a joint venture between different subjects (including private enterprises) from the neighbouring area.

Socio-Economic Plan

Such a strategic approach like this is the point of view adopted by the Turin Po River Park to set up its *Piano Pluriennale Economico Sociale* (Pluriannual Socio-Economic Plan - www.paesaggiopocollina.it/piano), which is an administrative action carried out according to the law of the regional protected area; the starting phase is going on at the moment and its target is to create a wide integrated development framework.

All these initiatives are part of the larger strategic programme called *Corona Verde*, which started in 1997 thanks to Turin Po River Park, to direct the planning process in the Turin metropolitan area, in particular the part concerning the ecological and cultural aspects and the landscape protection and promotion.

These are many ongoing projects whose common strategic aim to find the way to link different environmental protection actions with the territorial development initiatives, thus enhancing a virtuous process that implies 'using' and 'living' landscape and joining *saying and doing*.

Fig. 2 *Progetto Po* first proposal (IRES, 1989), Planning Coordinator prof. Roberto Gambino

Fig. 3 Turin from the bridge in San Mauro, photo by A. Miola

Fig. 4 Lorenza Zambon tells the Po River, photo Archive Parco del Po Torinese

Fig. 5 The bridge, Carignano, photo by di R. Borra

Fig. 6 The *Po morto* area, Carignano, photo by A. Miola



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“Corona Verde” (Green Crown) Strategic Project

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The *Green Crown* Strategic Project was launched by Regione Piemonte in 1997 as an integrated program concerns the metropolitan area surrounding Turin. The proposal focussed principally on valorisation of the sites and open space systems, characterized by historic landscape and ecological qualities.

In a first phase, numerous projects were undertaken to establish cycle/footpath links and to insert green wedges on the urban edge. At the end of this first phase a Strategic Scheme was drawn up in order to promote a cohesive approach in continuing the strategic actions of the Project (2007). The *Strategic Scheme* overthrows the traditional urban-centric approach, shifting focus to the open spaces of the suburban countryside in order to propose new urban planning and infrastructural guidelines and new sustainable development strategies, with also positive spillover on the urban settlements.

One of the main aspects of the Scheme was the ancient structure of the non-urbanised territory, starting from the so-called - as from the XVII century - “*Crown of delights*”, the circuit of court residences around Turin, where not only the monumental complex but also the natural environment is still well preserved. These factors were considered a powerful resource for urban edge qualification in the context, and reference points for the metropolitan suburban areas (forming just a *Green Crown*).

The *Strategic Scheme* was developed on the basis of a complex cognitive and interpretative survey (from three points of view: ecological, historical-cultural and landscape-perception). It incorporates a fully-articulated suite of strategic proposals, with basic scenarios and options and guidelines (for the entire area and for each of the 17 project areas). The Scheme traces two distinct types of action:

- those that can be managed locally (in any case, at supra-municipal level),
- those that, require all-round governance involving vast area issues (ecological or fruition networks or the impacts of infrastructures).

The *Strategic Scheme* was drawn up by a University research team on the basis of an appointment assigned by the Regione Piemonte to the Dipartimento Interateneo Territorio– Politecnico e Università di Torino; it has been adopted by Regione Piemonte as a reference framework for governance processes and for Regional action plans of the second phase of the Strategic Project.

Fig. 1 General Master Plan Fig. 2/3 Actions of Regional scope: ecological, fruition network, excellence projects

Fig. 4 Actions of local scope: local projects



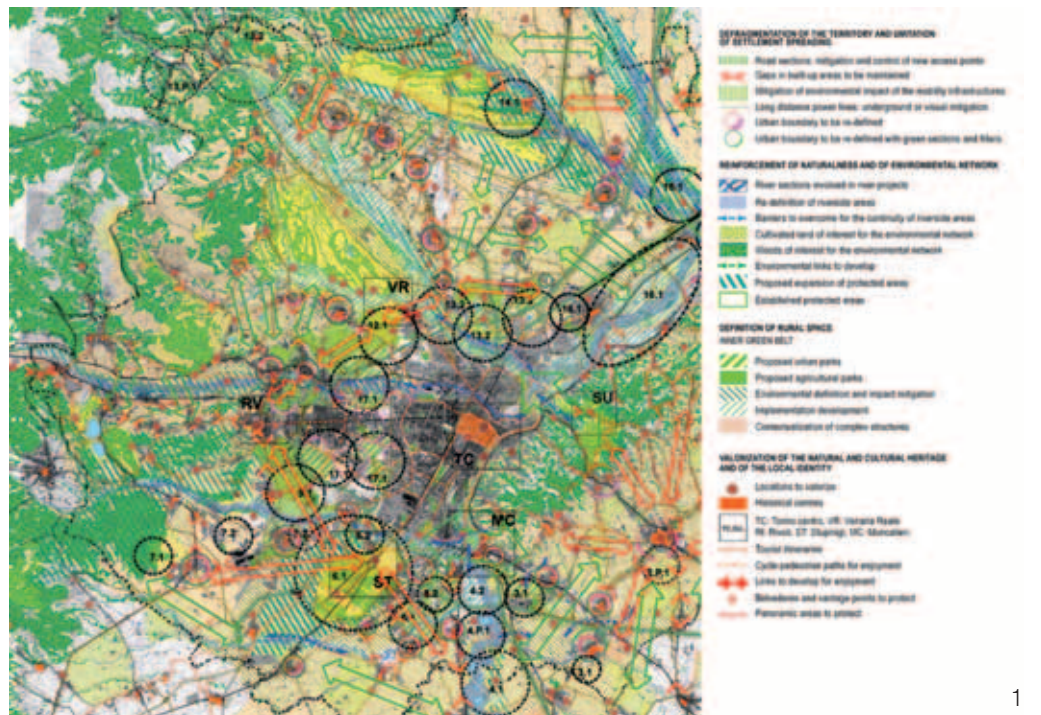
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“Corona Verde” (Green Crown) Strategic Project: executive phase

In 2009, the Regione Piemonte launched in a Program the executive phase of the Green Crown strategic project. The program aims to share the strategic guidelines with the local authorities and to identify priority intervention projects to be financed with POR FESR 2007-2013 funds.

The Green Crown Protocol drawn up to ratify the criteria of this participative process, establishes the methods of integrated management and medium-long term operating strategies in which the actions envisaged by the program must be inserted. The Protocol is now being signed by more than 80 Municipalities in 6 all-round environments, and by the vast area territorial authorities involved.

One of the first results of this cooperation has been the sharing of a basic scheme for territorial organisation of the strategies which refers to and updates the 2007 Strategic Scheme and which is integrated by the local authorities to create for each project area a specific Master Plan.

These specific Master Plans highlight potential implementations of Green Crown strategic actions. Projects that correlate methods of intervention are proposed for:

- valorisation of river and hill belts and of other contexts of naturalistic, landscape or historical-cultural value,
- completion of environmental and recreational greenways,
- elimination of critical nodes due to the combined presence of naturalistic or cultural and landscape assets and urban edges or infrastructural axes at the gateways of the settlements.

The technical and methodological materials produced for management of the executive process are the outcome of inter-institutional cooperation between the Region and DIPRADI Department of Politecnico di Torino. These materials can be considered of an experimental nature on the Italian scene which, so far, has demonstrated little attention to the organisational aspects of management processes in territorial strategy.

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Fig. 1 Primary area of intervention: areas of naturalistic interest, river belts, greenways and urban gateways



The Reggia and the Gardens of La Venaria Reale

Experiences

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While the palace was used as a barracks until the 1950s, the park was turned into a military exercise ground with a shooting range, warehouses and stores, storage tanks for fuel. It was finally abandoned, with the result that the entire palace was almost surrounded by thick undergrowth before restoration work started. In a similar pattern of decay, the surrounding countryside has been transformed and altered by new developments, industrial expansion and the creation of an airfield used by army helicopters. The strategic choice made in 1997 by the Ministry for Cultural Heritage and Activities and Regione Piemonte to use the Reggia di Venaria as the driving force in the cultural regeneration project for the Savoy royal residences in Piedmont has opened the way to a large-scale restoration plan that also includes the gardens which are seen as a key component in the territorial system.

The state of the gardens at the start of the project posed considerable problems when drawing up the guidelines for the intervention: the extent of the destruction was so great that it ruled out the possibility of restoration, and reinstatement did not seem an appropriate way to interpret the refined sensitivity accumulated by Italian and European culture in the sector of historic parks and gardens. Indeed, it was clear that this was not a question of tackling a situation of decay to re-acquire plants, sculptural elements, architecture and functional elements that would lead to a historically appropriate composition. In this context, the key element able to identify the garden and fully express its relations with the built and natural environment would be the recovery and enhancement of its characteristic design which, in the case of Venaria took the form of the seventeenth- and eighteenth-century layout, as documented by the historic iconography dating from the early nineteenth century.

An aerial photograph, which was mentioned earlier, confirmed the correctness and, consequently, the feasibility of the hypothesis; the shots documented the line of the main axes of the composition, the design of the “squares”, and even the foundations of the Temple of Diana. The potential archeological findings, the verification of available iconographical sources and comparison with aerial photographs have not only enabled specific episodes to be identified within the complex but also to reinterpret the territorial structure of the gardens at the Reggia di Venaria, the axes of the project, its “hunting routes” and relations with the surrounding area.

It was then necessary to define how to interpret the various parts of the composition “in elevation”; having ruled out the possibility of treating the various parts of the grid of avenues as undifferentiated areas of grass, and also excluding a recomposition in “period style”, a contemporary interpretation was chosen that would match the old layouts. The aim was to create a space that would not only be appreciated from the palace for its territorial layout, but which was a “living” garden capable of communicating knowledge, evoking atmospheres and providing entertainment and leisure.

The first part of the work consisted in liberating the original area of the gardens from any inappropriate additions, restoring the original quotas and levels, building the infrastructure, recomposing the general design and locating the first archeological findings, mainly around the Temple of Diana. The identification of these “sensitive” points allowed a more detailed search for further architectural elements that characterised the gardens of Venaria Reale after removing the unwanted vegetation and completing the levelling operation. The first excavations allowed an assessment to be made of the actual ruins and a plan of action to be drawn up. This concentrated on reinstating the sites of the Fountain of Hercules and the seventeenth-century masonry structures used to support the upper park as described by Amedeo di Castellamonte. The importance of the first archeological findings, but also the size of the area involved, highlighted the need for a detailed study with the aim of recovering these elements as part of the overall project. The potential offered by these findings called for further reflection on the complex nature of relations between the Reggia, the gardens, its architecture and the surrounding area. It is important to use this concept as a starting point to examine individual cases but also in an attempt to understand the synergies between all the components. It was clear that the relations between the above mentioned parts had to be preserved since they regulated the dynamics of the system and also determined the complexity and aided an understanding of what had been the Residence of Pleasure and Hunting at Venaria Reale.





**The Atlas of Piedmont's garden
Census and former filing of historic and botanic interest gardens
of Piedmont**

Experiences

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The Piedmont is a region rich of gardens which form a large and complex heritage built over time and which unexpectedly includes much more than the well known gardens of the Savoy residences. Integrated in the Piedmontese landscapes - vineyards, countryside, mountains, lakes and cities - these gardens form important territorial systems which define the appearance of the area and can sometimes be a great starting point for its redevelopment and requalification.

Since 2004, the heritage of the gardens of Piedmont has been the subject of an in depth study realized by the Archivio Ville e Giardini del Museo del Paesaggio di Verbania which conducted an inventory and a pre-tabulation of the botanic entities. In fact, according to "L. R 22/83 Interventi per la salvaguardia e lo sviluppo di aree di interesse botanico" (Interventions for the protection and the development of botanic areas) the Regione Piemonte has entrusted the Institution of Verbania with the census of the regional garden heritage which is the first step of a cognitive and strategic process aiming to the protection of the landscape.

The primary objective of this activity is the valorisation and conservation of the heritage from a quantitative (about 1400 toponyms of different types of public and private gardens annexed to: castles, urban buildings, villas, factories, hotels, churches, etc) and from a qualitative point of view considering the value of the architectonic, historic, sociologic, anthropologic, botanic and environmental components.

The inventory of the heritage has been divided into two phases: a historic-bibliographic survey and a direct territorial survey through the synthetic tabulation of each entity which comprises the description of each characteristic specified by the Ministry of Culture.

For both surveys, all the gardens of Piedmont have been identified and the study has today been completed for the entire territory.

The philosophy of the work (thought by Antonio Massara, founder of the Museo del Paesaggio in 1909) is one of not assigning hierarchies of value to the identified entities, being convinced that every cultural asset is rooted in its territory. As a result, the acknowledgement of each entity is crucial and needs to be realised through the study of the entire cultural and historic factors that define it in order to be able to valorise it correctly.

The work of the Archivio dei Giardini, which also includes the compilation of an atlas of the gardens of Piedmont and a study of the content of a regional law concerning gardens, defines the boundaries of an important part of the Piedmontese landscape and enables the setting of conservation and valorisation programs of the public administration.





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Fig. 1 Saint Peter Rectory garden, Cherasco (CN) (Ph. Giorgio Olivero)
Fig. 2 Villa Motta, Orta San Giulio (NO) (Ph. Carola Lodari)
Fig. 3 Cavour Park, Santena (TO) (Museo del Paesaggio di Verbania Archive)
Fig. 4 Villa Era, Vigliano Biellese (BI) (Ph. Antonio Canevarolo)



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REGIONE PIEMONTE, MUSEO REGIONALE DI SCIENZE NATURALI CENTRE FOR THE DOCUMENTATION AND VALORISATION OF THE HISTORICAL GARDENS OF THE BIELLA PROVINCE

Valorisation of the green heritage of the Biella province: project of a network of the local historical gardens and nurseries.

Experiences

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Fig. 1 The Burcina Park (Pollone): English landscape garden style in the Rhododendron Valley

Fig. 2 The steel glasshouse in the garden of Villa Piacenza (Pollone)

Fig. 3 The gardens of Villa Il Roc (Trivero), designed by Pietro Porcinai

The Biella province in Piedmont has a rich heritage of parks and gardens, strictly linked to the historical events that took place starting from the XIV century, when the area became part of the Savoy property: the local development, even though keeping a certain autonomy, followed the royal one with the uprising of new mansions and their gardens. In particular, the typical Piedmontese garden style started delineating itself in the XVI and XVII century, characterized by a mixture of baroque and French style formalism, and was then, between the XVIII and XIX century, influenced by the English landscape garden.

The evolution of the gardens of the Biella province followed these same steps, but was definitely set mainly between the end of the XIX and the beginning of the XX century, with landscape style and eclectic gardens designed for the mansions of the wealthy local textile industrialists. In many cases, famous designers were called to plan the grounds, such as Giuseppe Roda and Pietro Porcinai (fig. 1). Next to these gardens, two other kinds of gardens can be found in the area: in some cases, ancient castles were modified in the XVII and XVIII century, due to the loss of their military function, and were restored and transformed in noble mansions with the attached gardens (e.g. the castles of Gaglianico and Castellengo); at the same time, some rural abodes on the wine cultivated hillsides were chosen by some of the gentry as their homes, and the so called “giardini di vigna” (vineyard gardens) were also born (Cossato, Cerreto Castello, Vigliano).

Along with the gardens local nurseries developed too, as they were essential for the maintenance of the various parks, and most times it was the same gardeners who built up their own business, that gradually gained autonomy. This “green heritage” is, along with the textile production, so typical that can help defining a strong local identity, thanks to its connoting stylistic and botanical characteristics: the gardens follow the principles of the English landscape gardens, enriched with eclectic elements and composed mainly of acid loving plants (fig. 2) that so well thrive in the area due to the chemistry of the soil, and exotics that were brought back by the plant hunters from all around the world.

Such a heritage has to be protected and valorized, and the aim of the project is to create a network of itineraries along the various parks and gardens, as it is happening already e.g. in Lombardy and in Veneto, and many garden owners have showed interest in the initiative and are available to open to the public.

The networks are being elaborated on the base of specific criteria such as:

- “Author gardens” designed by Roda and Porcinai
- Style: formal gardens, informal gardens, mixed style gardens
- Architecture in the garden: presence of historic glasshouses (fig. 3) or winter gardens
- Structural/plastic elements: grottoes, fountains, sculptures
- Botany: collections of acid loving plants, exotics, monumental trees

At the same time, the garden network will be linked to a nursery network. As many gardens are in need of restoration, the awareness of the nursery business is very important: for example, since several ancient trees can be found that might need replacement in the near or far future, the owners must be able to find the same historical species on the market.

Apart from the restoration issues, the nursery-garden network system could also become a way of exploiting the local territorial identity making it a cultural tourism route, thus further valorising this unique heritage.



Goals, finalities and activities

AIAPP – Associazione Italiana Architettura del Paesaggio – represents since 1950 Italian professionals working in Landscape matters and gathers to date 600 adherents circa. Considering their different specialist competences, they are committed in ward, preservation and improvement of our Country landscape quality. Landscape Architecture is the professional discipline that deals with the analysis, design and management of outdoor environment and open spaces, from gardens to parks and large – scale landscapes. The Association is a member of both the International Federation of Landscape Architects (IFLA) and the European Foundation for Landscape Architecture (EFLA) and currently has approximately 540 members (link to AIAPP members) engaged in protecting, conserving, and improving the quality of Italian landscape. AIAPP evaluates applications for membership based education and professional experience according to European regulations. Association documents include a Statute, Regulations and Rules of Conduct. The holistic vision of EFLA demands it establishes, supports, and promotes the landscape architectural profession across Europe, contributing to an international discourse, shaping and disseminating European initiatives, facilitating the exchange of information, whilst promoting excellence in professional practice, education and research culminating in a culturally rich, diverse and sustainable Europe. The European Foundation named above deals in the promotion of the profession “Landscape Architect” in the European context. The representation of the profession at the European Union Public Institutions, among the Council of Europe and at the other pan European organizations as promoter of landscape policies, directives and agreements. Moreover it means to give an active structure of widespread information about the role of the landscape architect both inside and outside of his profession and, in particular, to guarantee high and comparable standards in education as well as in the professional practice according to EFLA declaration (Bruxelles, 1989) and IFLA (Banff, 2003) both dealing about the definition and the role of the profession of the Landscape Architect. Today, AIAPP, through the appointment of its own members and affiliates, is active in the diffusion of a more widespread and qualified knowledge of landscape discipline through professional education, specialist update, promotion of cultural activities and Landscape Architecture research. The AIAPP Section of Piedmont and Valle d’Aoste is currently one of the nine regional sections being part of the national AIAPP organism and, to date, is composed by about 50 members committed in landscape themes dealing about the same national targets. The activity and representation, with triennial season, is managed by the Section Chairman Council. The Piedmont section, according to the National Chairman Council and General Assembly, attends to some important roles deemed necessary for the prestige of the Association and the professional qualification of its members. These roles deal about information spreading and education in synergy with other Institutions. The quality of the activities lies in the ability of following the cultural and professional aims of its members and is frequently and by many acknowledged. The spreading activity is granted since 1998 by the bimestral review “Architettura del Paesaggio”, edited by Paysage editore. It is the first Italian review fully involved in landscape planning themes, made by and for professionals of this sector. It publishes several projects, from urban to great scale land planning; all of them linked to the profession of landscape architects.

Fig. 1 Santa Croce in Gerusalemme Monastery Garden, Roma - 2004 (Paolo Pejrone, ph. D. Lanzardo)
 Fig. 2 Environment Park Garden, Torino (TO) - 2004 (Gianluca Cosmacini con Davide Giachino)
 Fig. 3 Villa della Regina, Restoration of Gardens and Park (XVII-XVIII sec.), Torino (TO) - 2000-2006 (Federico Fontana, Renata Lodari)
 Fig. 4 Casino Barolo Garden, Torino - FLORMART AWARD, Padova 2009 (M. Minari, P. Mighetto con S. Fioravanzo, M. Vitale and A. Aires, F. Capitani)

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