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PROCEEDINGS

DRS LEARN X DESIGN 2019

insider knowledge

Fifth International Conference for
Design Education Researchers
9-12 July 2019
Middle East Technical University
Ankara, TURKEY

Editors
Naz A.G.Z. Börekçi
Dalsu Özgen Koçyıldırım
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Facing a Phytosanitary Emergency through Transdisciplinary Approach of Systemic Design

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Abstract: Nowadays the designer is called to face increasingly complex problems and multi-faceted challenges of great importance. This factor leads designers to redefine the boundaries of their profession through interaction with other scientific and humanistic disciplines, in order to integrate a holistic view of reality and achieve higher degree of results completeness. A transdisciplinary approach and the dissemination of research outside academia become important aspects of this new professional perspective, which encourages the designer to investigate new areas of research and collaborate on several levels with specialised stakeholders in different branches of knowledge. The purpose of this paper is to describe a concrete case of interaction between different disciplines - in the frame of Systemic Design - to eradicate the complex problem of the *Olive Quick Decline Syndrome* in Salento (Apulia, South of Italy). This phenomenon caused by the progressive proliferation of the pathogenic agent *Xylella Fastidiosa*, has compromised the environmental, economic and socio-cultural sphere of the territory and has solicited the attention of international authorities and institutions, such as the *European Food Safety Authority (EFSA)*. The paper explains the methodology and the results of a concrete Systemic Design project applied to infected territory.

Keywords*: systemic design; phitosanitary emergency; holistic approach; transdisciplinary approach; prevention strategies*

1 Introduction

Although designers carry out one of the oldest professions, very few critics still today consider them beyond the general idea of a professional involved in the production of a form and function of a product/service. Instead, nowadays, the designer is asked to face problems that present an ever-increasing degree of complexity. Facing large-scale challenges - which often include social, environmental, political and economic issues - they have embraced a new perspective that involves dialogues with other disciplines. In this way, design becomes a sort of *mediator agent* among languages, visions and cultures. An example of this transdisciplinary operational approach is provided by a

concrete case of Systemic Design approach in the resolution of a complex and multidisciplinary challenge, such as the contrast of a phytosanitary emergency.

2 Introduction of the Case Study: The Application of Systemic Design to the Agricultural Scenario of Salento (Apulia, Italy)

This study started in August 2016 during the research developed for a Master's Thesis project in Systemic Design at the Politecnico di Torino[1]. The aim of the thesis was the prevention of the *Olive Quick Decline Syndrome* (OQDS), a disease caused by the spread of the pathogenic agent *Xylella Fastidiosa* which still today affects the olive trees in Apulia, a region of Southern Italy[2]. The challenge was to tackle an agro-scientific topic using the methodology of systemic design research for a better reading of complexity. First, we addressed an environmental, economic, historical-cultural and anthropological study analysis. From the beginning it was necessary to organise meetings and brainstorming sessions with local professional figures related to the biological and agro-scientific sector. This phase was essential to increase data collection in the subject territory. Subsequently, the emerging relationships between the collected data were traced, with the aim of creating specific graphic maps that guided the planning phase and the joint interventions in the territory.

Olive Quick Decline Syndrome in Italy

The European and Mediterranean Plant Protection Organization (EPPO) classifies Xylella Fastidiosa as a quarantine pathogen[3], due to its ability to kill plants. According to the Council Directive 2000/29/EC, every indication of its presence on European territory obliges the member state to adopt drastic measures of eradication and containment. This microorganism, present for the first time in Italy, is extremely widespread in America, especially in Costa Rica, where it generally infects ornamental plantations. There are several subspecies of Xylella Fastidiosa, but the one that affects the Italian olive trees is the Pauca Subspecies, responsible for the Olive Quick Decline Syndrome (EFSA Panel on Plant Health, 2016). In the case of Salento, its diffusion is strongly related to the action of the vector insect Philaenus spumarius (Almeida, Altamura, Bosco, Cavalieri, Cornara, Dongiovanni, Palmisano, Porcelli & Saponari, 2016).

The first symptom coincides with a partial yellowing of the leaves, followed by a desiccation that tends to progressively extend to all the branches of the plant, leading to complete death (Figure 1). However, to understand the gravity of this phenomenon, it was necessary to investigate the importance of olive tree cultivation at the national level: today, in Italy there are almost 250 million olive trees, of which 60 million belong to Puglia. Of the latter, 11 million belong to Salento. In 2016, there were 2 million olive trees affected by OQDS, currently those at risk are more than 10 million, only one million less than the total number of olive trees present in Salento. In 2017 the voices of the institutions were different: the European Union called for targeted eradications and new investigations, the European Food Safety Authority (EFSA) reiterated the importance of investigating the presence of concomitant factors in Xylella, while the Scientific Community, especially Pietro Perrino, Director of the Germplasm Institute of the National Research Center, in Bari (Puglia, Italy), stated that the trees had become susceptible to bacteria, due to the use of wrong agro-technics and chemical inputs aimed at increasing production[4]. In November 2017, more than 250 phytosanitary experts met in Palma de Mallorca (Spain) to share the latest scientific developments for the contrast of Xylella Fastidiosa. It was the largest Scientific Conference[5] in Europe on this issue, aimed at finding a coordinated international effort to stem a problem that for the first time has been defined as global.

[1]Savina, A. (2016-2017). *Applicazione del Design Sistemico allo scenario agricolo salentino, mirata alla prevenzione/contenimento del Complesso del Disseccamento Rapido dell'Olivo (Ceppo CoDiRO), causato dalla diffusione dell'agente patogeno Xylella Fastidiosa.* Peruccio, P.P,. Bistagnino, L. Master's Degree in Ecodesign. Politecnico di Torino.

[2] More info about the development and spread of OQSD in Apulia can be found on the official website: www.emergenzaxylella.it

[3] All documents published by the *European and Mediterranean Plant Protection Organization* (EPPO) on the spread of *Xylella Fastidiosa* in Europe can be consulted on its official website: gd.eppo.int/taxon/XYLEFA/reporting

[4] Many information has been gathered through the selection, analysis and comparison of numerous national newspapers, in a period extending from August 2016 to January 2018. Being an extremely current subject, all the data related to it are updated constantly. For this reason, the data shown in this article may already be obsolete.

[5] More info about the results and topics addressed in the conference on the official website of the *European Food Safety Authority*: www.efsa.europa.eu/en/events/event/171113

Figure 1. The olive groves of Gallipoli (Apulia, Italy) after the spread of Olive Quick Decline Syndrome (by authors).

3 Olive Quick Decline Syndrome as A Wicked Problem: The Importance of Transdisciplinary Systemic Approach in Research of Design Solution

The systemic designer works to reach a clear understanding of a phenomenon, and evaluating the future repercussions at environmental, economic and socio-cultural levels. In most cases, the concerns of institutions have focused on the huge repercussions that the phenomenon has had on the local productive sector, totally neglecting the progressively developed social and cultural consequences. For this reason, an important challenge has been the attempt to make tangible the way in which a pathogen is able to damage the territory on several levels, compromising the material culture, the sense of identity of the local population, but above all representing a threat on a national scale. Moreover, a further difficulty has been the communication with a community characterized by different cultural backgrounds. In fact, the dialogue with figures belonging to the local administrative scenario has been fundamental for the dissemination of research. Likewise, interaction and comparison with other scientific and humanistic disciplines such as biology, agronomy, anthropology and sociology have been indispensable. In order to understand the actions of the designer in such a multidisciplinary context, it is good to start from an assumption: the expansion of Olive Quick Decline Syndrome in Apulia represents a complex problem, without defined limits. As such, it consists of a set of smaller but articulated issues. In this context the discipline of systemic design and that of systems theory have operated as an instrument for decoding such complexity. According to Rittel (Rittel & Webber, 1973), complex problems, defined as wicked problems, cannot be treated with a conventional approach. The case of OQDS, understood as a multi-disciplinary topic and not as a mere disease of olive trees, presents in all its aspects the typical characteristics of a wicked problem. In fact, there is no clear formulation of the phenomenon: it is difficult to trace its rigid limits, as they would be subject to continuous change and redefinition. For the same reason, it is not possible to define with certainty what are the correct actions to be taken by the designer (Jones, 2014). Moreover, being a problem with limited foreseeable consequences, as long-term visible, there is no range of reliable solutions and immediate proof of the effectiveness of the experiments to be undertaken to contain the problem. Most likely, the greatest difficulty lies in the uniqueness of this type of problem that, as in the case of Salento, places the designer, agro-technical professional and community in front of a situation of uncertainty. In this complex scenario, the systemic designer does not want to replace the role of agronomists and researchers in the agro-technical sector, but aims to collaborate with them. The purpose of this transdisciplinary approach is indeed the understanding of a complex phenomenon that is not limited to involving the agricultural context. In this way, the OQDS is dealt with in a unitary way, in its diversity, not only theoretically, but with an operational approach in which the borders between the disciplines collapse.

4 Systemic Design as a Reading Tool of Phytosanitary Phenomenon

In order to fully understand the negative effects of the Olive Quick Decline Syndrome for Apulia, a meticulous scenario analysis was carried out, using typical methodology of systemic design, therefore investigating the areas of the economy, natural, anthropological and social sciences. In fact, it is possible to define systemic design not only as a design tool, but also and above all a very effective tool for reading the complexity. Within this project, the methodology of analysis pursued has provided for three basic steps (Figure 2):

1. DATA COLLECTION
   Data collection on the territory, about its productive activities, its culture, its traditions, its geographical features, etc. This collection was made by reading texts and publications on the Salento area, but above all through repeated inspections and interviews with local professionals. Finally, between December 2016 and

February 2017 a questionnaire was administered to a sample of 110 citizens of Salento in order to understand the local opinion about the phytosanitary emergency in progress.

2. ASSESSMENT OF INTER-CONNECTIONS
   After a data collection conducted by compartments, separating economic, environmental, anthropological, socio-cultural data, an evaluation of the connections between the different sectors was carried out. This has allowed a clear detection of the interdependence between all the elements that make up the territory.
3. REALIZATION OF GRAPHIC MAPS
   Conscious of the identified interconnections, a graphic visualization of the present relations among the territorial elements was realized. These graphic maps have made tangible the numerous links between all the social, environmental, economic and cultural components of Apulian territorial system.

Figure 2. Methodology adopted in the systemic analysis of the Apulian territory (by authors).

Going into more detail, it was essential to evaluate the relationships among olive oil sector, Salento and Italian national territory. Olive growing has always been one of the major productive activities of the Italian agri-food scenario: in fact, Italy is the second largest producer of oil after Spain, with an annual production of 467,000 tons, 538 cutlivar and 41 *Denominations of Origin Protected* (DOP). In Italy, Puglia is confirmed as the top producer with 1.8 million: the olive production of Salento has contributed to this record, producing about 35% of the apulian oil and 10% of the national one with about 97.000 hectares of olive groves, 65.730 olive farms, 358 olive mills and 75.000 producers[6] (ISTAT - Istituto Nazionale di Statistica, 2010).

However, the links between olive trees and Salento do not extend only to this sector of production. They involve an extremely varied cultural scenario, characterized by rural architecture, typical dishes, tourism and more generally, by a material culture handed down by a people of olive growers and currently still strongly rooted (Figure 3). In the past, the flourishing olive-growing activity has allowed the construction of thousands of underground oil mills that can still be visited, rural buildings such as shelters, fortified farms and small chapels. Extra-virgin olive oil dominates the local cuisine made up of the products of the earth and on which the Messapian, Greek and Byzantine traditions have had a very strong influence. The union of such a strong culinary culture and the presence of these suggestive places, have allowed Salento to develop a typically rural tourism, thanks to the majestic presence of thousands of ancient olive trees. Through a systemic reading, which evaluates the relationships between the components and the properties emerging from them, it has been possible to demonstrate how all the territorial aspects to which the olive tree is linked are inter-dependent elements that cannot exist and perpetuate the one without the other.

So, what could happen if the olive trees were lost due to the spread of the Xylella pathogen?

Removing the element represented by the olive crop within the graphic maps, it was possible to verify which relationships and territorial elements of various entities could be compromised if the OQDS seriously destabilized the olive oil sector. Just think that nowadays there are more than 2 million infected olive groves. This number has allowed thousands of eradications and a massive use of chemicals that have contributed to the alteration of the habitat of native species and the reduction of 50% of production. As a consequence, there have been very strong repercussions on the economic and social system. The generation of a deep crisis in olive oil cooperatives led to the closure of 450 farms, the relocation of entrepreneurs and hundreds of layoffs. For this reason, the community of Salento has been forced to reinvent itself through new activities far from the local ones. Through the relationships drawn in the typical

[6] The numerical data on Italian olive production have been extracted from the *6th General Agricultural Census* carried out in 2010, in Italy. This census is repeated every ten years and highlights the structure of Italian agriculture, fundamental for the definition of new development policies. The next census will take place in 2020. More info on the official website: censimentoagricoltura.istat.it

representations of systemic design, it is possible to understand how an apparent small perturbation belongs to a single sector of the territorial system, in this case the agricultural one, can represent a much wider disorder. But what was the real origin of this phenomenon? Through a close comparison between systemic design and the agro-scientific disciplines, a contemporary reading was conducted, pursuing a further analysis of the agricultural system and of the inputs used in it. According to ISTAT Data, in 2008 the province of Lecce was the most polluted[7] among the Apulian province. Through various inspections conducted by systemic designers and agro-technical experts and through the use of the same methodology previously exposed, it has been possible to trace the critical issues of the local agricultural system, to which high-impact agronomic practices have caused a general instability of the local micro eco-system. As a consequence, not only Olive Quick Decline Syndrome has spread, but also a larger block of parasites, which in an extremely weakened agricultural system have found the ideal condition of proliferation.

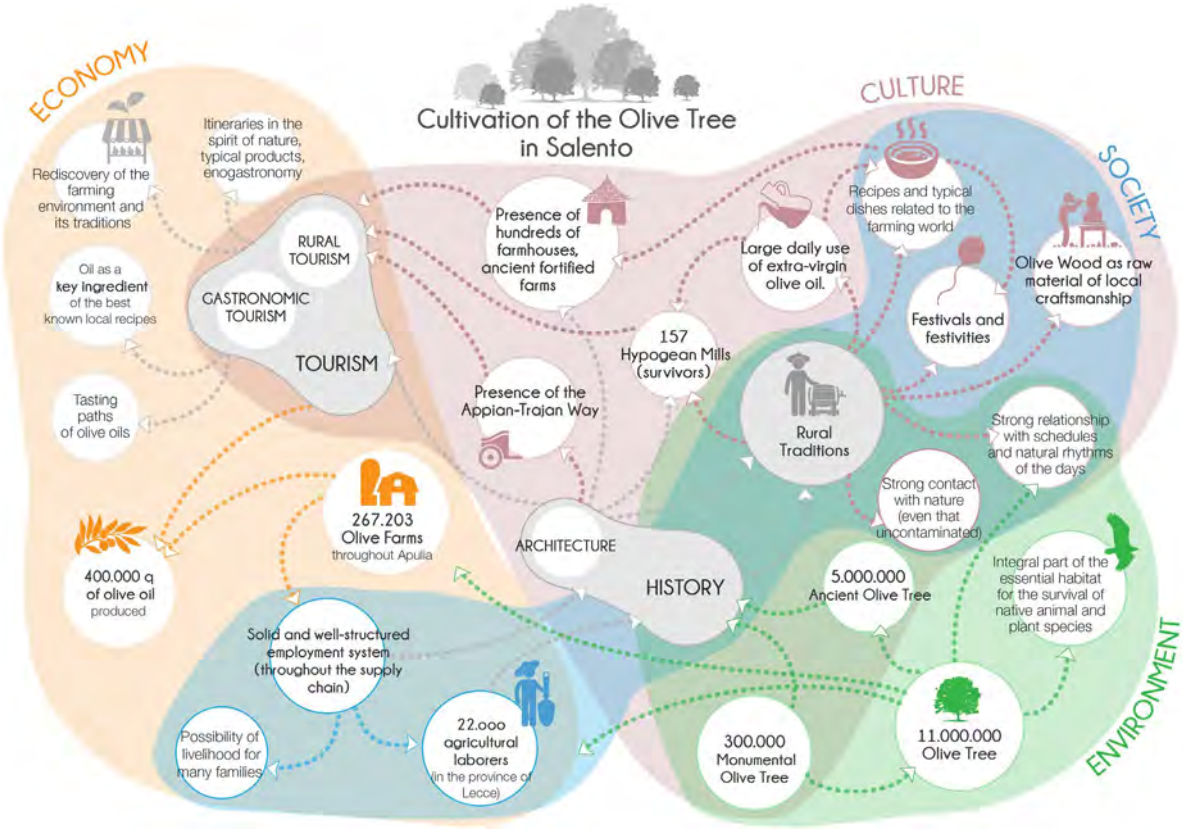

Figure 3. A synthetic example of a graphic map of the Salentinian territorial system based on the culture of the olive tree. This type of maps can reach much greater levels of complexity (by authors).

5 Transdisciplinary as an Operational Approach: The Collaboration between the Systemic Designer and the Agro-Technical Professionals

In order to face this phytosanitary emergence, the actions pursued on the territory were mostly abatements and invasive attempts to eradicate the insect vector. As designers, readers of a complex scenario in which to plan a socially and environmentally sustainable solution, it was correct to carry out surveys in the most debilitated areas, interacting with local farmers, knowing their skills and their independent experimentations. Through this field research it was possible to divide these interventions into two categories. The first category includes the use of copper sulphate, iron sulphate and hydrated lime, solutions that have led to a further weakening of the plant, with temporary and weak signs of recovery. Instead, the second category has predicted completely natural practices with surprising results. Getting in contact with local farmers has allowed the creation of a network of contacts that are profitable for research purposes. In this context collaboration with local professionals, agricultural experts and biological inspectors

[7] According to the national report of the Institute for the *Protection and Environmental Research* (ISPRA) on the presence of pesticides in Apulian waters, between 2011 and 2012, 175 toxic substances were detected, showing a wide contamination. In fact, according to ARPA PUGLIA Data, Puglia is the fourth in Italy for pesticide use, with a threshold of 155,000 quintals of plant protection products used. The situation is equally alarming in the herbicide sector: in 2008, the same region used 2,904,419 kg of product, of which 573.465 only in the province of Lecce.

(recognized by the *Ministry of Agricultural, Food and Forestry Policies*) was born. Through the comparison of their knowledge, it was possible to conduct independent experiments based on the logic of systemic design, according to the principle *care of nature with nature*. These figures are united by a strong belief in agriculture without poisons and in practices belonging to organic and biodynamic agriculture[8]. Highlights to be respected were the attention to the natural rhythms of vegetation and the evaluation of local resources. Therefore, through the territorial reading performed previously, it has been possible to evaluate the local resources and their medical properties, rediscovering ancient methods of care belonging to the past traditions of Salento.

The first treatment started in October 2016 and involved the use of *garlic, caper* and *thyme*. Through a collaborative study, the beneficial properties of these typical products of Salento were rediscovered, evaluating especially their bactericidal and antibiotic properties. The administration of thymus was fundamental: in fact, being an expectorant, it stimulated the passage of polyphenols inside the lymphatic vessels of plants, an action generally counteracted by the presence of Xylella Fastidiosa. Between March and August 2017, two parallel treatments were stratified: one based on *propolis* (coming from local beekeeping activities) to promote self-defense of plants and one based on *colloidal ionized silver*, a further powerful bactericide. The experimentation was conducted on 41 olive trees affected by OQDS, located in a plot of the village of Galatone (Province of Lecce, Apulia, Italy). The first treatment was administered to all specimens, while, in the case of subsequent stratification treatments, the plot of land was divided into the northern area, treated with propolis, and the south area, treated with silver. In July 2017 the experimentation was strengthened with a treatment based on *hydrogen peroxide*, administered by radical route to counteract the anaerobic properties of the soil. Finally, after about three months, a fourth soil polluting treatment was undertaken. It is based on *zeolite*, a volcanic mineral that not only enriches the soil, but also represents an excellent substrate for the activity of new beneficial microorganisms. The signs of recovery were amazing: it was possible to notice the suspension of drying, the reduction of the fall of the leaves, but above all the generation of fruit buds and new superficial shoots, which led to the development of new branches (Figure 4). Moreover, during the fruiting period, the olive fruits did not show any signs of desiccation or fall, representing perhaps the most interesting result. Beyond colloidal silver and hydrogen peroxide, which represented a strong support for experimentation, all the elements used represent resources widely present in the local territory. After about two years of cadenced natural treatments, today the plants show a wonderful self-defense capacity and a good fruiting, resisting the continuous attacks of the pathogen agent Xylella Fastidiosa. These outcomes represented the result of adopting a transdisciplinary approach in understanding and addressing a multifaceted problem such as that of the OQDS.

Figure 4. Sign of recovery after treatment tested through collaboration with specialized figures in the agro-technical field (by authors).

They demonstrate how this approach, going through different disciplines and escaping from any sectoral categorization at the same time, can lead to results of superior validity. In fact, they demonstrate not only the solution to the problem itself, but also that of the complications that revolve around it. However, this general outcome is only possible through a capillary understanding of the question taken in analysis and of all its implications. Through a transdisciplinary approach, the flexible planning capacity of systemic design not only leads to a functional and sustainable project, but also to a coordination of the efforts made by all the figures involved, mediating different

[8] Biodynamic Agriculture is a form of alternative cultivation compared to traditional agriculture. It was elaborated by the esoteric philosopher Rudolf Steiner and is considered in greater balance with the terrestrial ecosystem. It incorporates the concept of O*rganic Farming* and is characterized by a holistic approach that considers the soil and the life that develops on it as a single system.

languages, tools and knowledge. Therefore, even the results obtained through this attitude and methodology avoid any disciplinary categorization, becoming the consequence of a common decoding and resolutive effort.

6 The Five Principles of Systemic Design Applied to the Protection of a Disrupted Territory

The five principles of systemic design (Bistagnino, 2011) represent the cornerstone of this transdisciplinary design process, but first of all, they were indispensable tools for the pursuit of a wide phase of research and analysis. The methodology adopted within the project phase has addressed these five elements in a very specific order (Figure 5).

Figure 5. Systemic design principles adopted for the protection of the olive trees of Salento, Apulia, Italy (by authors).

Firstly, an *evaluation of the relations between* the components of the territorial system was pursued, assessing the importance that the cultivation of the olive tree has for Salento. These relationships are not only present in the landscape sector, but they also have very strong connections especially with the local economic system, also involving the social and cultural level. The second fundamental principle was the *analysis of output and input.* By evaluating the output of the local agricultural system from which the perturbation began, it was possible to trace the input. The evaluation of the output and its critical aspects was essential for the evaluation of undeclared inputs, harmful to humans and the agricultural system. For this reason, a backward path was made, supported by numerous inspections, by listening to the local small farmers, but above all by the direct vision of alarming toxic administrations on the crops. In this case, the reference output is complete unproductiveness of the olive sector, hence the origin of a disease that is difficult to eradicate. In this way, it was possible to understand that incorrect starting input are not only identified in the abuse of weed killers, pesticides, chemical fertilizers, but also in the general adoption of harmful agronomic practices. The third principle is the *positioning of man at the centre of the project.* If design means planning starting from the needs of the user and evaluating the inadequacies of everyday objects and services, within the systemic approach this concept is strengthened. In fact, the territory is the maximum example of product, service or strategy that man has designed and constantly modified for his own well-being[9] (Norman, 2004). Thus, the territory becomes a tangible example of a project whose designer is not the individual, but the community that lives in it and develops through it. This project aims to reduce the social costs suffered by the population of Salento, linked to the spread of a constantly expanding disease. The systemic designer does not seek the solution to the problem in the community, but through it: listening to the voice of the wisest farmers, digging in the old local peasant traditions not written in books or on the web, welcoming different disciplinary languages through comparison with biologists, agrarian experts, anthropologists, etc. The fourth principle pursued is represented by *acting locally*, from the micro to the macro (Bistagnino, 2014), starting from the territory to treat and protect the territory itself. In fact, in this project it was fundamental to integrate concretely into the agricultural scenario and to collaborate fruitfully with agricultural experts who operate according to the principles of systemic design. Therefore, the importance of a transdisciplinary approach emerges: indeed, the systemic designer does not work individually but through a multi-disciplinary working group.

[9]In the epilogue of the book *Emotional Design* (2004), Donald A. Norman states that a space can be transformed into a place only by its occupants, reiterating that what a designer can do is only provide them with the necessary tools. The concept of territory and territorial development is fully reflected in this statement. In fact, every man or community of individuals manipulates his environment or territory so that it can better meet his needs.

Nowadays the comparison with figures that still operate according to ancient local agricultural traditions, respectful of the Earth and its times, is not obvious. Thus, only through this collaboration was it possible to support a territorial project based on biological experiments, which a designer cannot face and manage alone. The disciplinary contamination, collaboration, and joint research are the key to projects that require holistic and flexible solutions, with permeable limits. In this case study, with the support of local professionals, the designer evaluated the local resources and their beneficial properties. Except for the case of hydrogen peroxide and colloidal ionized silver, elements allowed in organic farming, all the elements used in the experiments carried out come from Salento. Garlic and caper are widely cultivated locally; thyme is an aromatic shrub that in Salento, as in most Mediterranean areas, develops spontaneously and in large quantities. Propolis used in subsequent treatments was also recovered from the local beekeeping sector. This research wants to communicate a very strong message that is the concrete possibility of modifying the contaminant input in natural input, in order to design a program of self-defence and prevention not only for plants but also for the health of local citizens, who are victims of persistent chronic diseases caused by an increasingly industrial agriculture. Working with propolis, garlic, thyme and caper in this area of south Italy has strengthened the existing relationships and has generated new opportunities for interaction and cooperation between local actors and production activities at risk. Finally, the fifth principle is that of *self-generation*, reacting to damage and perturbation through tools and resources from the territory. In the case of the Olive Quick Decline Syndrome talking about a recovery plan is not exactly accurate: in fact, having certain and lasting results takes a very long time, with the risk that everything is thwarted by further natural phenomena.

However, talking about a prevention system is certainly more correct. In this case, prevention means acting directly through the use of local natural resources and only in some cases of resources from outside, in order to defend the plants, the soil, therefore the overall environmental system, preventing the spread of harmful phenomena. Using local resources means implementing the network of relations between different productive activities of the territory, reinforcing the latter's ability to react to the presence of a disruptive input.

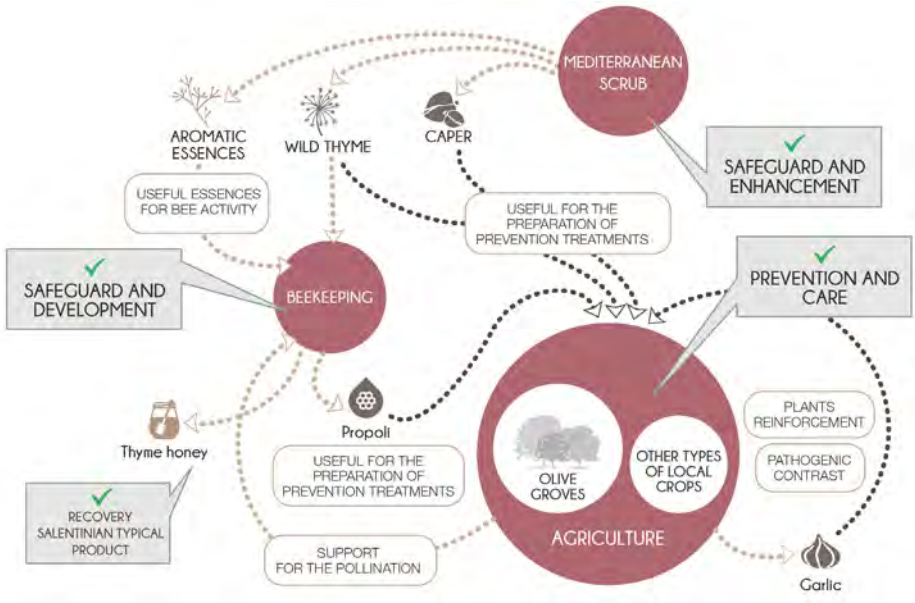

Figure 6. Hypothesis of interaction between local activities and resources. It has been elaborated through the methodology and transdisciplinary approach of Systemic Design (by authors).

The hypothesis developed in this path of transdisciplinary systemic design is a broader holistic project (Figure 6): in fact, by enhancing the Mediterranean forest, where thyme and essences are useful for bees' activity, beekeeping would strengthen considerably. Indeed, currently bees are strongly threatened by the conspicuous reduction of useful essences and the huge use of pesticides. In this way, the production of propolis would increase for the purpose of preventive treatments, and consequently the restoration of thyme honey, a typical local product almost lost, could be feasible. A greater production of propolis and wild thyme would represent the possibility of extending this prevention plan to other agricultural crops threatened by Xylella Fastidiosa, in order to have an overall strengthening of the agricultural sector. In addition, the administration of propolis as a plant phyto-protector, would promote pollination, showing an effective attractiveness to bees, so there would be benefits also for the activity from which the same propolis originates.

7 Conclusion

The purpose of this article is to present to the design community, the results of an Italian case study that has adopted a theoretical and operational transdisciplinary approach in solving an environmental problem, connecting the sphere of design, that of the agricultural sciences and finally, that of socio-anthropological sciences. The results obtained from this planning attitude, typical of systemic design, have led to the development of a systemic model of care and prevention of *Olive Quick Decline Syndrome*, based on local cultures to be revalued and on ancient local traditions. This model wants to become a real help for all local olive growers in difficulty due to the spread of this disease.
For this reason, following the experiments carried out, the Mayor and the Municipal Administration of Leverano, one of the small towns of Salento (Puglia, Italy) invited the team of several figures involved in this research project to disseminate the results obtained to the local population. The conference was held on 7 December 2017 at Community Theatre and witnessed the speech of systemic designers, design historians, agricultural experts, agronomists and farmers. The aim of this meeting was to make open source the tested treatments, also welcoming a new and more intense comparison through the active participation of additional professionals in the agricultural field, administrators of environmental associations, farmers and local olive cooperatives. In its complexity, this project becomes testimony to the extreme potential of a transdisciplinary approach in the field of systemic design and its dissemination. In this way, the obtained design result acquires completeness and greater effectiveness. Educating in design does not just mean teaching students and researchers of this sector, but also communicating to a heterogeneous public outside the academic world, the potential of a flexible and permeable discipline, able to create mediation between languages and skills. Therefore, by becoming a testimony to the validity of the transdisciplinary approach in the project act, the case study presented in this article is intended as an incentive for a new design education, which involves a greater disciplinary contamination and a constant dialogue between different backgrounds both in the meta-design phase and in the planning phase. Only through this permeable aptitude for the project, future generations of designers will be able to respond to complex problems of a different nature which will require a shared decoding and operational effort.

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