A Systemic District for Sustainable Tourism

Co-designing interconnected networks for enhancing the natural and cultural heritage of local ecosystems

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Abstract

The attention toward Sustainable Tourism has been spreading worldwide. Many policy actions and programmes have been set up to create international frameworks for cooperation towards Sustainable Tourism development. However, further work is needed to adopt these new approaches to tourism at a local level, by introducing innovative instruments for dialoguing with local communities and engaging all the stakeholders in this transition. The present research focuses on a specific case study and investigates the connections between the UNESCO sites of the Piedmont Region (Italy) to design the theoretical structure for building a regional Systemic District of the cultural heritage sites. The proposed methodology is based on a Systemic Design approach that enables to define a process of policy and governance for the creation of an open and fluid system that shapes itself according to the mutable nature of the cultural territories originated by the Piedmont UNESCO sites. The research defines the implementation pathway to be followed for implementing a pilot district that involves several stakeholders and citizens, thus proposing an innovative systemic bottom-up approach to Sustainable Tourism.

1. Introduction

Cultural heritage tourism represents an economic stimulus able to generate local jobs and foster positive social benefits to local communities, but can also disrupt the quality of life of local communities and undermine the authenticity of the sought cultural experience (Brebbia et al. 2015). Starting from the concept of Sustainable Development, the attention toward a Sustainable Tourism (ST) development has been spreading rapidly worldwide. International stakeholders are acting to promote a new type of tourism which, according to the definition given by Butler (1999), is developed in such a manner and at such a scale that it remains viable over time, without degrading or altering the social and physical environment in which it takes place. Much research has been carried out on this topic (Zolfani et al., 2015), and several policy actions have been set up to create international frameworks for cooperation towards ST development.

However, further work is needed to adopt these new approaches to tourism at a local level. If the implementation of precise strategies may help to address specific issues - such as mobility, catering services, communication - it is necessary to introduce new instruments for dialoguing with the community, putting together all the parties involved, from citizens to local businesses, no-profit organizations and regional authorities. Innovative forms of cultural heritage districts are needed to create sustainable local systems in which tourism represents a constructive component of the local environment, instead of a disrupting element.

World Heritage sites selected by the United Nations Educational, Scientific and Cultural Organization (UNESCO) brings international attention and increased tourism to local communities, with both positive and negative impacts. UNESCO is promoting a Sustainable Tourism Programme (WHC UNESCO, 2013) to build partnerships between the public, private and voluntary sectors to develop and apply a new approach to tourism at and around World Heritage properties. Despite the positive effects of this action, it is extremely hard to engage with different stakeholders at local and regional levels and to create and strengthen networks of cooperation among them. The specific features of each region and the complexity of social ecosystems make it necessary to address the issue from a local perspective, in order to actually implement ST models.

The present research has been promoted by the Piedmont Regional Council and aims at applying the methodology of Systemic Design (SD) to investigate the connections between the UNESCO "Man and Biosphere" and "Heritage" sites of the Piedmont Region. The final goal is to design the theoretical and implementation structure for building a regional Systemic District of the cultural heritage sites. The complexity of this challenge lies in the variety of sites involved and the number of stakeholders they engage: in Piedmont, there are 7 World Heritage sites - 4 UNESCO Heritage and 3 UNESCO Man and Biosphere sites - that overall involve more than 140 cities. The sites have different environments, from the regional lakes up into the Alps mountains, and therefore attract different kinds of cultural, natural and food and wine tourism. The different geographical, demographic and cultural configuration of UNESCO sites requires a flexible model able to adapt to highly diverse socio-economic contexts, enhancing their peculiarities and building a dialogue with different public, private and non-profit actors.

The paper presents the methodology used to analyse the Piedmont's UNESCO sites and establish the main connections between them to define the possible models that could be implemented to create a Systemic District. The results section illustrates two main achievements: (i) the assessment of different clustering models in the field of ST according to the SD principles; (ii) the design of the theoretical model of a cultural heritage Systemic District for the Piedmont UNESCO sites and the definition of the main design tools and guidelines to implement it.

2. Methodology

The research methodology, shown in Figure 1, started from a well-established method of analysis of the local socio-economic context that is based on the Holistic Diagnosis method (Battistoni, Giraldo Nohra, & Barbero, 2019): this methodological tool focuses on collecting qualitative and quantitative data and carries out a double level of analysis of the energy, materials and information flows that characterise the local environment. The Holistic Diagnosis of Piedmont's UNESCO sites has kept the focus on the UNESCO Heritage and Man and Biosphere sites, but it also included the UNESCO Creative Cities (Turin and Alba) and the two Piedmontese UNESCO Chairs, to have an extensive overview of all the relationships and potentialities of the region. The economic, socio-cultural and environmental features of each UNESCO site were analysed through the collection of qualitative and quantitative information and the use of visualisation tools to facilitate the management and interpretation of the data collected. This made it possible to define the state-of-the-art of each site, establishing the specific geographic, socio-economic and cultural factors which make it unique and identifiable. The research has also investigated the connections of each site with the geographical sub-context in which it is located, aiming at defining the peculiarities of each regional sub-area.
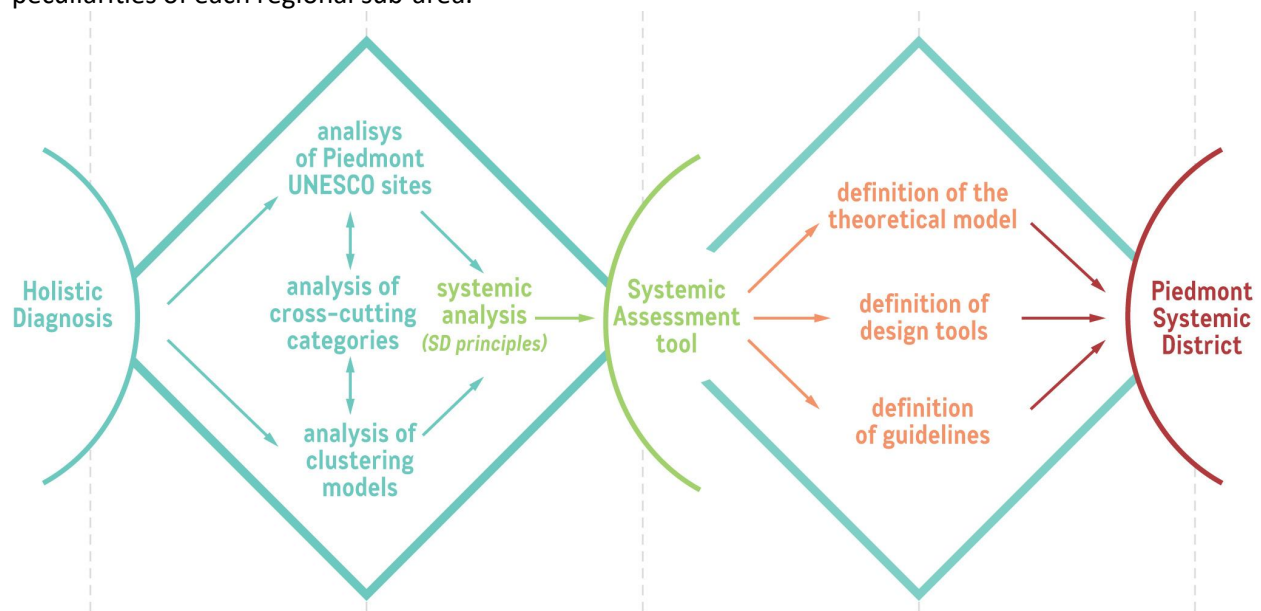

Figure 1. Graphical visualization of the adopted methodology.

Concurrently, the analysis of different models of economic and cultural clusters and districts was carried out to identify the most suitable ones for promoting a networked approach which integrates tourism with other territorial value chains (Arnaboldi & Spiller, 2011).

The Holistic Diagnosis of the Piedmontese sites and the analysis of clustering models allowed to define the set of cross-cutting categories that are common to the different sites and can give rise to a regional system. In particular, the definition of the cross-cutting categories focused on four socio-cultural areas: (i) gastronomic culture; (ii) general culture; (iii) traditions, history and architecture; (iv) productive chains, mobility and leisure activities.

Afterwards, a set of systemic criteria based on the Systemic Design principles (Bistagnino, 2011; Barbero, 2018) was defined to carry out the model assessment. Figure 2 shows the five main areas addressed: output/input, relationships, autopoiesis, acting locally, human-centred design. The Systemic Assessment tool enabled to evaluate the models analysed and to define the most suitable one for the theoretical

definition and implementation of a Systemic District able to foster ST within the Piedmont Region and, at the same time, to be scalable and transferable to different socio-economic contexts.

In the second phase, the research focused on the theoretical definition of the Systemic District, that aims at meeting some key requirements emerged from the Holistic Diagnosis:

- conservation and restoration of cultural heritage;
- collective promotion of local production;
- incentive plans to promote ST;
- tools to enhance self-generation.

Top-down programmes can strengthen and boost the creation of a cultural heritage cluster in Piedmont that brings together the World Heritage sites, but SD methods can stimulate the flow of ideas, knowledge and applications to push the local stakeholders

output/ input	material flows	energy flows	information flows
relation- ships	governance/ subject	associative trends	producers/ territory
autopoiesis	local education	local investments	local wealth
local stakeholders	local products	local market	local supply chains
human- centered	production/ subject	social gap	policy/ subject

Figure 2. Evaluation criteria of the Systemic Assessment tool

to pursue the excellence and uniqueness of their local cultural experiences. Indeed, the development process of the Systemic District can only be achieved gradually, through the involvement and empowerment of all stakeholders. To that end, the design process poses a dual challenge: first, each cultural site involves undetermined territories that need to be mapped for identifying all the stakeholders involved; secondly, an effective co-design process should be set to allow the engagement of a complex regional community.

Therefore, the research has better defined the system boundaries and has identified different design tools focused on Systemic Design, participatory design and place identity. The results achieved have made it possible to define guidelines for the implementation of systemic models of tourism clusters, with attention to the environmental, social and economic sustainability of regional value chains.

The final outcome was the theoretical definition of a Systemic District for the Piedmont region and the implementation steps for its deployment, starting from a pilot case study.
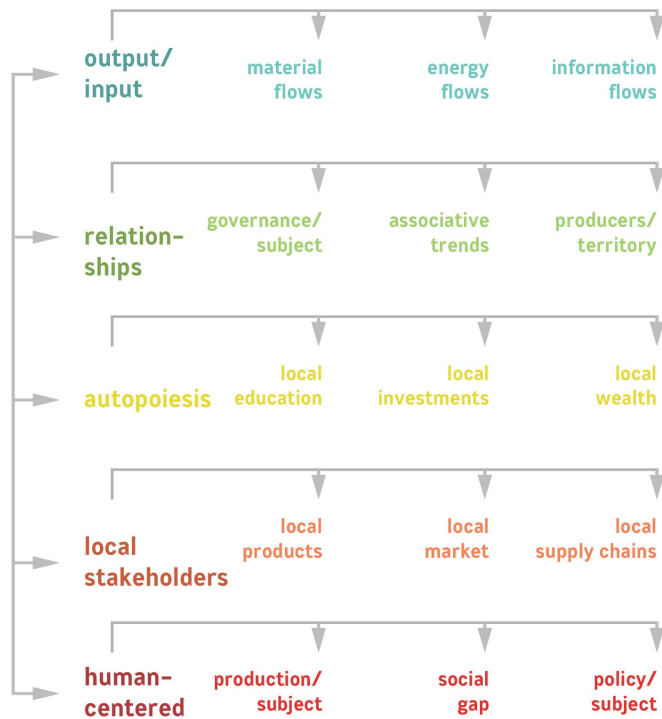
3. Results

3.1 Systemic assessment of different clustering models

In order to define a possible framework for a systemic integration of the cultural heritage and local communities, the research analyses strictly economic and then cultural aggregation models (Figure 3). Modern models of territorial aggregation were born to enhance the economic and industrial impact of the territory in question. One of the first models was the development pole, i.e. an area where a driving company generates cascading development on the territory (Perroux, 1949; Friedmann, 1972). However, this development is often uncontrolled and contributes to an unbalanced relationship with the territory. The supply chain is a series of vertically integrated and sequenced companies that together contribute to a given production. It represents the linear model as opposed to the systemic one, where waste and location are not considered in the process definition (Bistagnino, 2009).
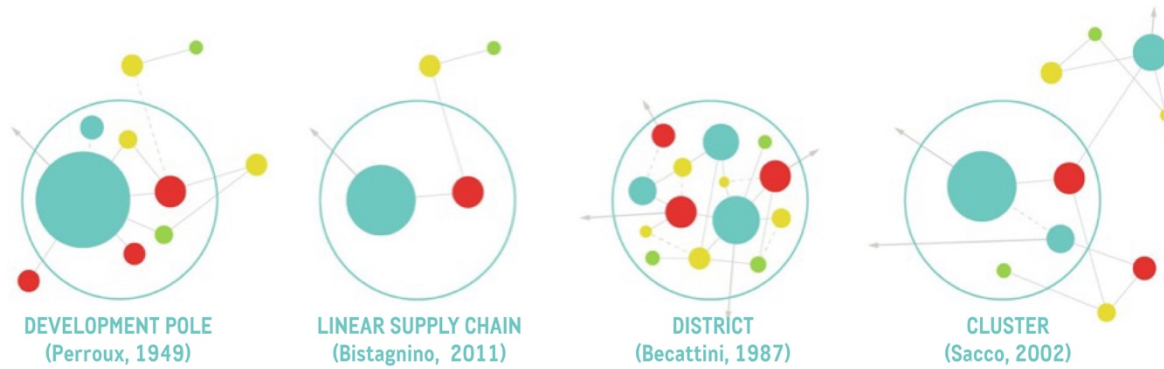
Figure 3. Visualization of clustering models

The district (Marshall, 1890; Becattini, 1987), and the cluster for larger areas (Sacco, 2002), have instead managed to best interpret the needs of different Italian territories. They integrate a dense network of relationships of collaboration and competition in the local context, generating a continuous exchange of resources and know-how. These virtuous processes are the industrial atmosphere, which has allowed industries to control key positions in specific sectors and to provide widespread wellbeing within them. Both districts and clusters can be found in the Piedmont region: for example, it features five mechanical districts, while rice and wine production are organized through cluster models.

Given the excellent economic and social results related to industrial districts, many have tried to implement similar models but related to the cultural landscape. The cases are different and their success strongly depends on the context in which they are inserted.

The cluster of activities is born from spontaneous relationships that assume relevance to represent the territory and attract innovators and creatives. Hollywood is one of them. The designed district is instead implemented with a top-down approach, pooling activities for cultural production and consumption in an area. This model struggles to function in the Italian context (Santagata, 2000), consisting of a predefined solution rather than growth tools.

The cultural supply chain theorized by Valentino (2001) is based on a series of coordinated actions of policymakers aimed at channelling above all the tourist impulses. This, however, does not give space to innovation, providing little growth and difficult management, as in the case of Italian cities of art.

The model proposed by Santagata (2002) places cultural capital as an engine for the community (Figure 4). The model is self-determined by systematizing the cultural landscape and the economic, social and environmental relations of the territory. Of the four networks - museums, industries, institutions, cities - one can think of a unified proposal: the internal micro-systems no longer act independently, but with a synergistic and symbiotic attitude.

Some UNESCO sites have already been included in agglomeration models or have made use of tools such as the Historic Urban Landscape (HUL) method (WHC UNESCO, 2016) to integrate in a sustainable
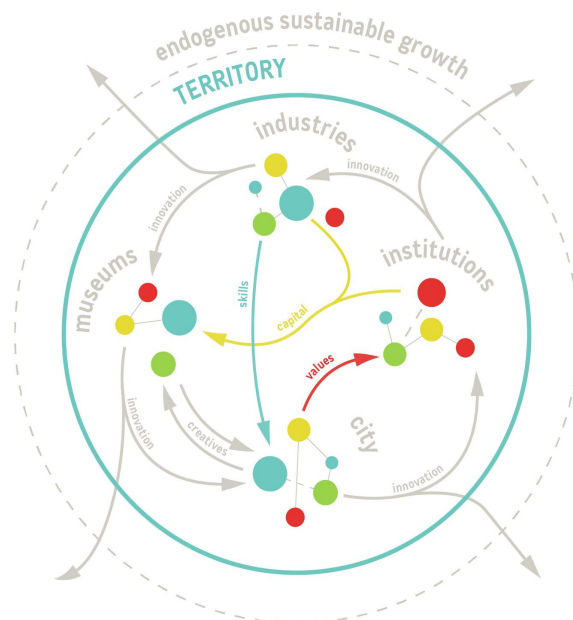

Figure 4. Visualization of Santagata's cultural district

way with the territory. The HUL method foresees a precise implementation schedule, starting from a series of surveys and evaluations to a series of collaborations between stakeholders and local administrations. Among the other networks established among several UNESCO World Heritage Sites, the objectives are limited to the enhancement of tourism and/or the preservation of heritage, putting relations with the region in second place.

This analysis revealed the demand for a renewed way of integrating cultural and natural heritage with the socio-economic fabric of the territory. In particular, the need is to rethink a model of linear fruition of culture through the systemic approach. If a systemic solution (Figure 5) is possible within the limits of an industrial supply chain, the challenge is to reconfigure it for the natural and cultural landscape. This requires rethinking the three fundamental spheres of sustainable development, adding to the economic, social and environmental dimensions the cultural one. This implies the crucial role of information flows to analyse the cultural sustainability of a system.

Figure 5. District flows map

3.2 A fluid Systemic District for Piedmont Region

One of the issues to effectively implement cultural districts lies on the means of production. In the cultural district, heritage and cultural ferment coexist: in particular, the latter is characterized by a high volatility that contrasts with the attempts to consolidate culture within the boundaries of a district. In addition, cultural life requires great flexibility and cannot survive without external contamination. To meet these requirements, the structure of the district must not be fixed in geographical boundaries, but must be fluid (Figure 6), i.e. include parallel levels of action: tourism-based economies, business fabrics, social inclusion policies, cultural calendars. In particular, the district dynamics must depend on the actors involved. As in the same system coexist administrations, cultural associations, artists and technicians, users and citizens and so on, each actor does not necessarily have to participate in the totality of the district's dynamics and everyone needs different spaces and opportunities. For this reason, a layered structure guarantees more access opportunities, a stratified and diversified identity in the same territory, and more generally provides the community with the most suitable microsystems for the different needs. A reasoned

structure, aware of its own borders and its participants, is the first step for the realization of a functioning district system. The fluid structure, unlike the traditional district, is able to adapt more easily to the complex cultural dynamics it has to include.
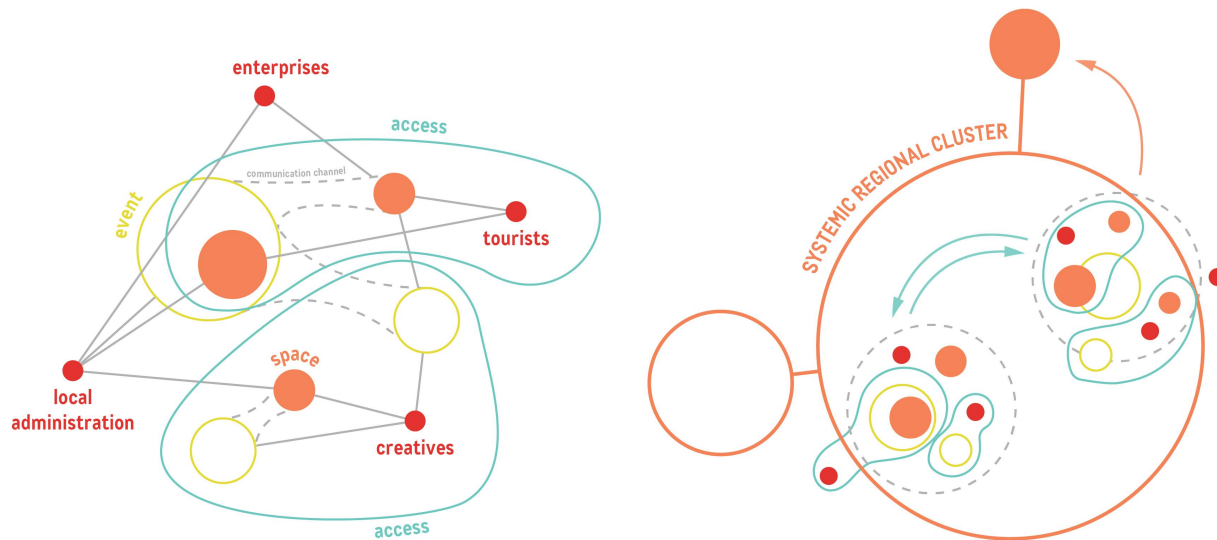

Figure 6. Left: the fluid district. Right: the systemic regional cluster.

A first substantial division must be made between the real districts as cohesive territorial units and the superstructure that networks the individual UNESCO sites. The latter is fundamental for the coordination and design of the units and above all to give the necessary tools and stimuli for a wide participation and for the achievement of common objectives.

The systemic regional cluster is the network among the assets of a wide territory, in our case the Piedmont region. Its main purpose is to coordinate the single district units, providing tools and guidelines always updated also thanks to a continuous exchange both inside and outside the territory.

This superstructure must be the first to open the dialogue both with associations, businesses and local administrations and with European and international networks. The objective must be to generate a feedback loop through a continuous mapping of local units and international case studies.

The systemic regional cluster must first be in charge of defining the district units of which it is composed, using historical, cultural, natural and economic factors. These resulting districts need a second phase of design, which will involve the figure of the systemic designer, coordinator and moderator of the community.

The aim is to provide local administrations with the tools to steer the territory in the right direction. Among the factors that can be emphasized that revolve around the natural and cultural landscape, lies the ST but also the care of the intangible heritage, the gastronomic potential, the local productive vocation and so on.

As mentioned above, these tools are in particular SD, participatory design and place branding. SD should be used on the one hand to cultivate feedback loops with holistic diagnoses of the territory, and on the other hand to highlight possible local virtuous networks and new opportunities for collaboration. Once again, the challenge is to translate the existing methodology to adapt it to cultural input and output, often of immaterial nature.

Participatory design must be used to distribute decision-making power in the community and at the same time stimulate a feeling of involvement. The moderator-designer has to benefit from the swarm intelligence of the group and extract critical insights into the territory and community sentiment.

Lastly, place branding is the process of communicating the image and values of a place aimed at a market target. Using the above described tools, place branding is built in different steps: research and concept, language design and establishment of a Place Brand Development Centre. The objective is to synthesize the different identities present on the territory and to offer a modular image that addresses both external and internal users. In the long term, the place brand must be able to transform local landmarks into love-marks.
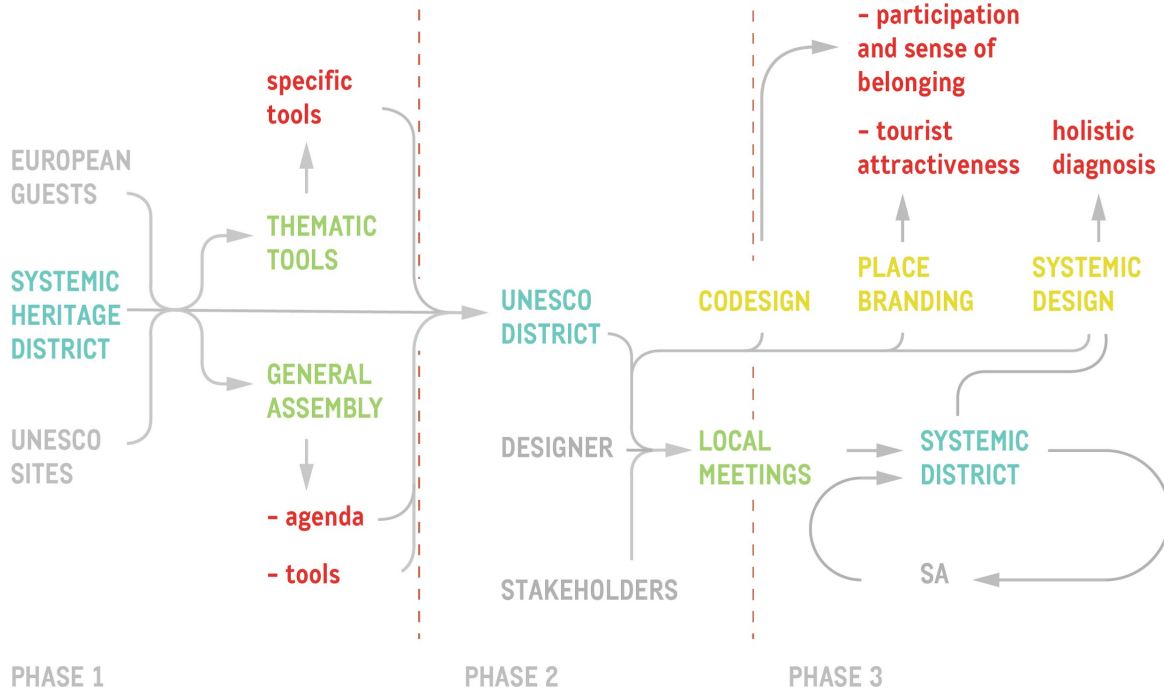
Figure 7. Implementation schedule for the Piedmontese systemic district.

The above tools must therefore be included in a clear agenda that integrates multi-level steps and dialogue with stakeholders, as shown in Figure 7.

When implementing the systemic district and its tools, however, some guidelines must be followed. These refer in particular to the SD principles and the UNESCO guidelines for heritage management.

First of all, knowing the outputs and inputs of the territory is a prerogative for the creation of virtuous intra and inter-district networks. Secondly, information flows must be transparent, flexible and accessible to different stakeholders. This is particularly important to cultivate cultural ferment and to strengthen the cluster's position on the international scene. However, the focus must remain local: collaborations are preferred if they are internal to the territory, in order to exploit the cascade effect and build a sense of belonging in the community. For the same reasons, local formation must reflect the vocations of the district, in economic but also cultural terms, enhancing intangible assets. However, local attention must be accompanied by a global outlook, in order to sustain the innovation of the territory. These two points therefore contribute to the creation of an autopoietic system. As for the image, it must reflect the identity of the place, communicate sincerely to the outside world while remaining a reference point for the community. In material and immaterial production, quality is preferred to quantity, striving to build value in the community's know-how. At the same time, resources and products are to be preferred autochthonous, cultivating diversity in opposition to homologation, meaning the loss of local identity. Especially within the territory, sustainable mobility must be promoted and strengthened, as it is the backbone of internal exchange. This also promotes sustainable tourism and improves the reputation.

However, all the above points must be based on the active participation of the citizen, the true cultural unit of the district and primary asset.

To these guidelines, three more should be added, particularly with regard to UNESCO sites. The first one suggests an integration between cultural ferment and cultural heritage, also through new but always responsible uses of historical landmarks, as a competitive advantage of the territory. This obviously requires a high degree of usability of the heritage itself, which must be deeply interconnected with the host territory. However, the heritage must also be networked with other assets of the district and cluster.

4. Conclusions

The deployment of ST networks for the development of local communities raises significant challenges related to the involvement of local stakeholders and the definition of flexible models adaptable to specific socio-economic contexts. The research has designed a process of policy and governance for the creation of a cultural heritage Systemic District. The emerging network is an open and fluid system that shapes itself according to the mutable nature of the cultural territories originated by the Piedmont UNESCO sites. The research outcomes lay the theoretical foundations for future implementations of new tourism district models. More work is needed to test the model developed through real-world case studies that can involve only the Piedmont region or wider international networks. The research will certainly focus on the creation of a regional pilot case, but this can eventually be developed within joint projects with other UNESCO districts and neighbouring European regions.

Therefore, the definition of the model made it possible to determine four potential districts (Figure 8) within the Piedmont region that could serve as a basis for the regional Systemic District. Future work will focus on the implementation of a pilot district on the site of Langhe-Roero and Monferrato: the area has, indeed, important district qualities and already includes an industrial cluster, bound to the production of wine and other typical food products. The current economic setting of the area, largely based on tourism, the unique historical and natural heritage, and the strong material culture related to the winemaking world make it an interesting case for the development of a systemic model.
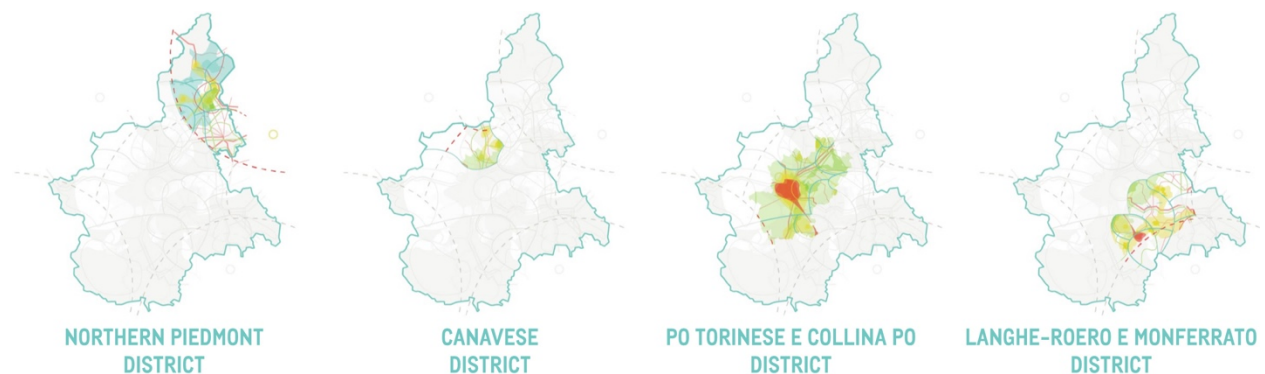

| NORTHERN PIEDMONT DISTRICT | CANAVESE DISTRICT | PO TORINESE E COLLINA PO DISTRICT | LANGHE-ROERO E MONFERRATO DISTRICT |

Figure 8. Potential districts in Piedmont Region

The research has also started exploring other good practices in Europe to define future opportunities for exchanging experiences. Specifically, existing European UNESCO sites have been considered to identify possible districts that could share new development models focused on the environmental, social, economic and cultural sustainability of cultural heritage tourism. The European networks that already

involve Piedmont (Interreg, DUNC, NECSTour, Nrg4SD) and those with environmental and social affinities were also deeply examined.

Many regions and cities at European level have been undertaking a sustainable path based on a strong focus on their cultural heritage and the intrinsic value of local culture, nature and creativity. Together with these European regions, Piedmont can build shared growth opportunities and jointly promote a new systemic vision of existing tourism models.

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