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Integrating historical and social knowledge for restoring and planning traditional fruit landscape in Piedmont (Italy)

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Abstract

The restoration and conservation of traditional rural landscapes is considered a priority at both the international and national level. Maintaining traditional features of agricultural activity and adopting a sustainable approach are imperative tools. Combining historical identity and sustainability is a big challenge for our society. In order to preserve and safeguard fruit growing in traditional rural system in Piedmont (North-West Italy) a multidisciplinary, integrated study was carried out. This research analyzed alternatives for the restoration of traditional orchard systems and proposed an innovative approach for maintaining traditional values and forecasting future land use changes. For identifying traditional landscape elements an historical study was performed. For analyzing public awareness concerning the future change factors and transformations affecting the traditional fruit landscape, one focus group meeting and five student workshops were conducted. Globalization, economic crisis of the local fruit market, agricultural trade and plant diseases were the main future change factors perceived by focus group participants. During focus groups, orchards disappearance/transformation and permanence/maintenance scenarios were built and discussed. During students' workshops, several change factors and future landscape scenarios were identified. The study showed that the historical knowledge and the participation and empowerment of multiple stakeholders can suggest solutions and strategies for the sustainable development of rural landscapes. Participatory approach might contribute to rural landscape planning policy and our results can be included in the future landscape planning programs and researches.

Keywords: rural landscape, students, focus group, historical permanence, sustainability, fruit growing

INTRODUCTION

The concept of historical rural landscape is largely debated and the idea of traditional rural landscapes is difficult to define. In fact, these sites continuously evolved and changed rapidly in relationship mainly to economic, environmental and social needs. In Europe, many agricultural landscapes are denoted as cultural landscapes, which are typically defined as landscapes managed by traditional agricultural techniques, historical cultivations or practices. Overall, 16 rural landscapes with Outstanding Universal Value are included in the World Heritage List and recognized as Cultural Heritage by UNESCO (Gullino et al. 2015). For these sites, the interaction between land uses and the natural environment was considered as a unique universal value, maintained in time (Gullino and Larcher 2013). Italy is characterized by a rich diversity of rural landscapes that were shaped by historical cultivations and traditional land uses (Barbera and Cullotta 2014; Agnoletti et al. 2011). The restoration and conservation of traditional rural landscapes is considered a priority at international and national

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level. Maintaining traditional features of agricultural activity and adopting a sustainable approach are imperative tools (Paracchini et al. 2016). Fruit growing is an example of traditional cultivation practiced in Cuneo Province (Piedmont Region). Currently, in the area studied, 31.000 hectares are cultivated fruit with an annual production estimated at 350.000 tonnes. Most of the production is represented by apples (100.000 tonnes/year), peaches (100.000 tonnes/year) and kiwi fruit 80.000 (tonnes/year). In order to preserve and safeguard fruit growing as a traditional rural system, a multidisciplinary and integrated study was carried out. The research analyzed alternatives for the restoration of historical orchard systems and proposed an innovative approach for maintaining traditional values and forecasting future land use changes.

MATERIALS AND METHODS

With the aim to identify traditional landscape elements and historical permanence, historical research was performed. In this first step, ancient documents, many unpublished, (iconographies, cartographies, maps and bibliographical descriptions) were found in historical private (fruit farms) and public archives and libraries were collected and analyzed. With the aim to analyze people's awareness concerning the driving forces and transformations affecting the traditional fruit landscape, a participatory study was performed. This participatory concept has received attention in scientific literature about landscape planning (Opdam et al. 2015). In this context, for exploring different perspectives, representative local stakeholders and students should be involved (Jensen and Simovska 2005). In our study, one focus group meeting and five student workshops were organized. Landscape is differently understood and perceived by each stakeholder and for this reason, different local stakeholders were consulted. In Table 1 the different sessions related to the focus group meeting and student's workshops were reported.

Table 1. Questions proposed during the Focus group (A-B) and the student workshops (C-D).

SESSION A Regarding future change factors (1 (low importance) to 5 (high importance)
1. Which future change factors will effect fruit landscape in the next twenty years? 2. What effects will those factors have on rural landscape? 3. Which score do you assign to each future change factors?
SESSION B Regarding landscape scenarios
1. Which conservative strategies do you select for maintaining fruit landscape? 2. Which transformational strategies do you select for maintaining fruit landscape?
SESSION C Regarding fruit landscape (from 1 (low probable) to 10 (high probable))
1. Which elements characterized your rural landscape? 2. Which change factors affected fruit landscape? 3. Which score do you assign to each change factor?
SESSION D Each group of students was asked one question regarding landscape scenario one:
1. How will your rural landscape change in the next twenty years?

In particular, during focus group meeting, 13 representative local stakeholders were involved (policy makers, fruit farmers and transformers, fruit association and cooperative and research organization). Future change factors and their effects were identified (SESSION A) and different landscape scenarios were built and discussed with participants (SESSION B). Then, during workshops, 295 local students (13 years old) affiliated with 5 different Lower Secondary Schools located in the Municipalities (Lagnasco, Manta, Saluzzo, Scarnafigi and

Verzuolo) were consulted. Students worked in group of 5-6 members. During student's workshops, landscape elements linked to fruit landscape and changes factors were identified (SESSION C) and future landscape scenarios were forecasted (SESSION D). Numerical and descriptive results were analyzed comparing focus group and student's workshops.

RESULTS AND DISCUSSION

The analysis of historical documents and cartography (XIXth – XXth centuries) confirmed the importance of fruit growing in the studied area. The historical permanence and landscape structure, with particular attention to the orchard settlement and to fruit cultivation types were identified. Moreover, our study allowed for the reconstruction of the evolution of fruit growing over time in the studied area (data not showed).

The analysis of the focus group's results permitted the identification of shared future change factors and the effects on rural landscape (SESSION A). Globalization, economic crisis of the local fruit market and plant diseases (Kiwi fruit diseases) were the main factors perceived by stakeholders. By contrast, land surface aggregation and static mind-set factors were considered less impactful and important. Related to these future change forces, several landscape effects were identified. Land use changes and the abandonment of traditional and historical fruit varieties are the main negative effects linked to economic crisis of local fruit market. Introduction of new, more productive fruit varieties is positively linked to globalization. Regarding SESSION B, two different landscape scenarios were discussed. Concerning disappearance/transformation scenario, few possible scenarios were forecasted. Fruit growing landscape could transform in other traditional/not traditional fruit cultivations. Moreover, focus group' members underlined that their landscape will not disappear, but could change to grow other types of trees. Concerning permanence /maintenance scenario, for ensuring traditional agricultural landscape's sustainability, conservative and transformational strategies were identified by stakeholders: transforming fruit products, improving innovation in agricultural system and linking the landscape values with food marketing.

In SESSION C, students' perceptions were identified and analyzed. Orchard features (flowering of fruit trees in the spring period, fruit tree disposition in rows and mechanization), the presence of buildings (castles, rural buildings and shed and storerooms), land morphology (geological and climate aspects) and irrigation system (artificial and natural) are considered the most representative landscape features that characterized fruit growing. Regarding the future of fruit landscapes, several change factors were identified by students. In particular, pollution (Rating average: 7.7/10), urban sprawl (7.7/10) and climate change (7.4/10) could affect their landscape. In SESSION D, different landscape scenarios were forecasted. In the next twenty years, traditional fruit landscape will change, few groups (1.3%) thought they will be the same. In particular, urbanization is perceived as the more probable scenario (32%), secondly more intensive and technologically based fruit growing (30%) and land degradation (16%).

CONCLUSIONS

The following conclusions can be drawn from the study:

The historical knowledge and the participation and empowerment of multiple stakeholders can suggest solutions for the sustainable development of rural landscapes. In particular, some landscape features identified by students offer historical permanence (Figure 1).

Concerning future change factors, focus group participants and students have different opinions. The sustainable values linked to socio and economic trends might be in contradiction with historical values. Therefore, for ensuring the sustainability of traditional agricultural landscapes, the identification of shared strategies, policies and practices is a primary goal.

Stakeholder ideas should be considered a useful source of feedback for supporting expert knowledge. According to several authors (Larcher et al., 2013; Pinto-Correia et al., 2013), a

participatory approach contributes to rural landscape planning policy from the local to the regional and national levels and our results can be included in the future landscape planning programs and research.

Figure 1 Historical permanence recognized by students as traditional landscape features: from the left flowering orchards, rows patterns, historical buildings.

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