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THE ROLE OF  
TRADITIONAL KNOWLEDGE**

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# Traditional knowledge and the European Common Agricultural Policy (PAC): the case of the Italian National Rural Development Plan 2007-2013

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## Abstract

Europe has an extraordinary variety of cultural landscapes, whose origins date back to the continent's earliest civilizations. Although the degree of human influence varies according to demographic, socioeconomic and cultural factors, man has affected all the features of forests and woodlands, modifying their density, structures and species composition, developing distinctive, locally adapted, combinations of management practices and techniques supporting traditional societies. The industrial development affecting forestry and agriculture, as well as the socioeconomic development of rural areas has deeply affected cultural landscapes, slowly degrading their quality. In recent decades this process has been accelerated by inappropriate policies, pointing to a lack of effective research approaches and management strategies to preserve them. In the absence of a real strategy at European and national levels, a chance to affect this trend in Italy was offered by the recent reform of EU Common Agricultural Policy (CAP 2007-2013), requiring the development of a National Plan for Rural Development in each member state, in order to manage the use of European fund. In this framework the Italian Ministry of Agriculture and Forestry has created a working group on landscape, with the goal to prepare a document indicating strategies and actions to preserve and develop landscape resources that are considered of strategic importance for the economic growth and quality of the rural territory. The working group has also considered the importance of, and the need to preserve and promote traditional knowledge in order to protect landscape. The present paper is reporting a brief summary of the chapter concerning the actions promoted by the document.

## 1. Introduction

In Europe the human influence on the original "natural" landscape followed the development of civilization. Both the communities of hunter-gatherers that existed in Sweden in 10.000 B.C. (Seling 1994) and the Italian settlements of 120.000 B.C. left traces of the long lasting influence of man. But it was not until the second millennium before Christ that we find a development of practices not simply affecting the environment but suited to create cultural landscapes. The Roman conquest of a large portion of the European territory created a long term political organization in which the existing local heritage was affected by influences coming from the southern and the eastern part of the Mediterranean and reflected in the landscape (Di Berenger 1859, Rackham 1995). This process created new forest types, such as chestnut orchards (Pitte 1986), and the introduction of trees in the fields, especially under the form of agroforestry techniques, where coppice woods also played an important role, contributed to the development of complex landscapes, reclaiming large land areas for agriculture and turning them into pleasant places for living (Sereni 1994), without destroying the environment, as suggested by some authors (Hughes 2001).

This cultural heritage was still evident at the beginning of the last century, when landscapes were not yet strongly affected by timber production, but sustained by agro-silvo-pastoral societies, for

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whom forest resources served multiple functions. The persistence of a body of traditional knowledge until the early decades of the 20<sup>th</sup> century is linked to the relatively slow development of technology in agriculture and forestry in several countries, with traditional techniques still used in the 1960s<sup>2</sup>, evidenced for example by the extraordinary variety of tools traditionally used in forestry<sup>3</sup> (Agnoletti 1998). Forestry in particular has shown very slow technological development, mostly due the low value of wood and timber, especially in areas with limited and lower-quality timber resources, or where site conditions prevented efficient mechanization of forest operations. It must be noted that timber has not always been the most important product of woodland areas, as has been documented by research carried out in the field of forest history. There was a long list of products coming out from forests and trees, some of them reflecting common features of many in European landscapes, such as the production of acorns from oak to feed pigs (see fig.1). Charcoal production affected most of European forests, although with different impacts. The number of charcoal kilns existing in 1888 in the area of Falun (Sweden) was about 1 every 12 hectare, but in central Tuscany there were close to 1 per hectare in the countryside surrounding Siena as late as 1954, where all the forests were coppiced for charcoal production. The disappearance of a more varied uses of forests and woodlands is a relatively recent process, triggered by the development of industrial forestry, especially since the end of the 19<sup>th</sup> century, which spread to the rest of the world thanks to the “imperial forestry” model applied throughout the former British Empire.

Original canopy

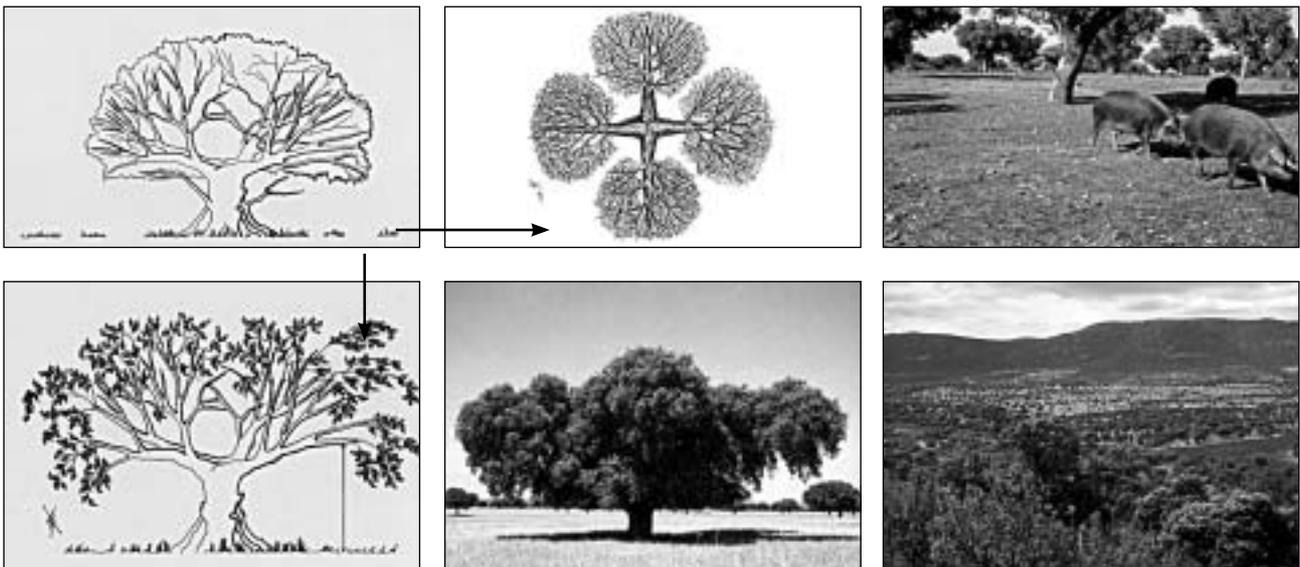


Figure 1. Salamanca, Spain. The management of oaks (*Quercus ilex*) to increase acorn production to feed pigs for meat production dates back to at least Roman times. It involved pruning and pollarding as well as silvicultural techniques. The conservation of this traditional knowledge, not formalized in official forestry books, would not only preserve cultural landscape, but also support an important economic activity linking production of high-quality “typical” products, with promotion tourism and quality of life in rural areas (Photos taken from: Fuentes Sanchez 1994).

## 2. Industrial forestry

The development of scientific forestry emphasized an economic approach to attaining maximum forest rent. The creation of pure, even aged conifer stands in place of mixed broadleaf stands, area regulation, a balanced distribution of age classes in the ‘normal’ forest ideal, a definite rotation length and the search for a maximum, annual constant yield, became the canons of forest manage-

<sup>2</sup> Water sawmills in Italy were still working in 1960, while the chainsaw was introduced in the same years.

<sup>3</sup> At least 161 different kinds of axes were classified in Italy in 1956 (Giordano 1956).

ment. The spread of conifers transformed the landscape of entire European regions (Agnoletti 2000, Spiecker 2004), replacing practices and traditions dealing with a large variety of woodland types and forest species, and creating monoculture of spruce, fir or pine while reducing old growth especially in areas important for timber production (Axelsson and Ostlund 2000). In Italy afforestation promoted by the state since 1862 has created about one-sixth of the forests existing in 1985 and 60% of the country's conifer forests<sup>4</sup>. The goal of reducing erosion on heavily deforested mountain slopes was accompanied by the intent to increase domestic timber production to reduce imports from abroad<sup>5</sup>. This goal was never achieved. Most of these new forests have not even been managed, but have left their mark in the landscape, evidence of the views and the power of state forestry to affect cultural landscapes. At the global level modern forestry has resulted in an increase in forest plantations, accelerated the loss of traditional knowledge and has favoured simplified forest landscape patterns, often creating conflicts with local populations, and reduced attention to offer alternative perspectives and approaches towards the role and the use of trees (Arnold and Dewees 1995). The trends in international timber markets, especially after the Second World War, affected the traditional production of timber in the alpine range, which could no longer compete with timber from Scandinavia or other regions outside the EU, mostly due to the costs of logging and transportation, and thereby reducing the utilization of both the ancient and the new conifer forests. Today in the best commercial Italian conifer forests, growing stock is often three times that of 1950, but there is no market for this timber.

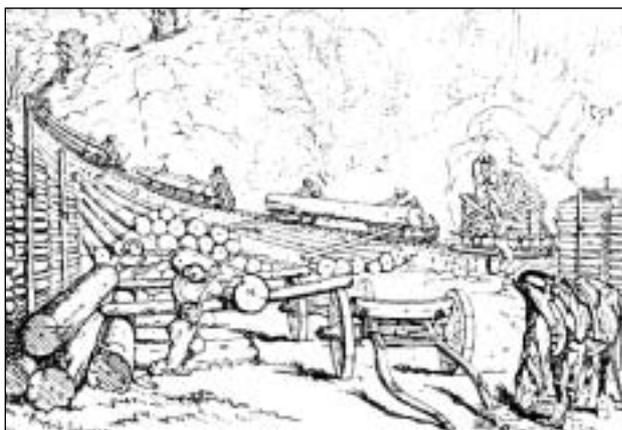


Figure 2.  
Vosges mountains (Michiels and Schuler 1857). In all the most important forest regions, complex systems to carry out logging were developed using traditional techniques. These are also part of the cultural heritage expressed by European forests.

### 3. Landscape patterns

The disappearance of complex landscape patterns is linked to the changes that have occurred in the economy and the social structure of rural areas. Industrial products have replaced many of the traditional ones coming from forests and woodlands. Mechanization and organic fertilizers have made the presence of trees in the fields both useless and problematic. The abandonment of many rural areas and the disappearance of traditional agri-silvo-pastoral systems, which occurred after the Second World War, has favoured the extension of forests into former fields and pastures. Forest suited for production are managed with industrial methods, while forests not suited for this are evolving towards natural models, supported also by environmental legislation. This is reducing the diversity of traditional landscape mosaics and leading to a simplification of forest patterns, a trend that has been observed in the United States as well (Foster et al. 1998). It is interesting to note how forestry has been able to incorporate the issue of natural biodiversity in the theory and practice of

<sup>4</sup> It is difficult to calculate the real amount of conifer, as many forests have been inventoried as mixed stands. The year 1985 has been chosen because in the new forest inventory (2005, still underway) different formations have been considered as forests areas.

<sup>5</sup> Italy imported about 90% of timber from abroad in 1900, this amount is not changed.

management while there have been a very little recognition of the diversity due to cultural factors. In this respect the development of “material culture” and the birth of many forest museums in the sixties have not really affected forestry, but rather anthropology and ethnography. This has much to do not only with the scientific approaches developed in the last decades, but also with the role of forests today, mostly related to production and ecology.

The monitoring system for landscape quality developed for Tuscany and based on 13 study areas analysed from 1832 to 2004 (Agnoletti 2006) covering 1% of the region (and expected to cover 10% in the next few years), has shown a significant reduction of the diversity of spaces due to the extension of woodlands. The reduction is confirmed by the number of patches, which have decreased 17%, and increased 11% in their average size, since 1832. These data, together with the calculated decrease in Hill's diversity index of 36% over this period, confirm the simplification of the landscape mosaic. This reduction of diversity in relatively small areas makes the present diversity of the regional landscape mostly based on the features of larger subsystems inside the main geographical areas, confirming the change from a fine grained to a coarse grained landscape in many countries (Angelstam, 1997).

In Tuscany, as in other parts of Italy, it was possible to find up to 60-70 different land uses in about 1000 hectares in 1832, while in the fields the number of trees could be as high as 150-200 per ha. It has been estimated that in the last 150 years traditional land uses have decreased at the rate of 1 land use every two years. The number of land uses that include trees have decreased from 63 to 6 in several study areas, while 76% of the area is today is comprised of two forest land uses. Thus woodlands have been affected by a simplification of their structure due to the interruption of traditional management practices. The trends reported for Tuscany are quite representative of all Italy, as reported in the study made by the working group on landscape, established for the National Strategic Plan of Rural Development 2007-2013. Italian forests have more than doubled their total extension, according to the different statistical sources used, from about 3.500.000 ha in 1920 to almost 10.000.000 according to the last forest inventory that has included areas usually not considered “forest” (Agnoletti 2006).

#### **4. The Italian rural development plan 2007-2013**

Despite the evident importance of the rural regions for landscape quality and socioeconomic reasons, we can easily conclude that rural policy in the past decades has favoured the degradation of cultural landscapes. Although the European Landscape Convention, the UNESCO World Heritage List and the recent MCPFE Vienna declaration for the forest sector, as well as other specific documents, clearly addressed these issues, there has not been any real policy to reduce this trend. The importance given to productive issues and technological development, and the favouring of set-aside<sup>6</sup> and tree plantations in areas removed from production, have accelerated disappearance of traditional cultivation practices, homogenizing landscape and sometime introducing new landscape degradation. There has been little recognition not only of the importance of cultural landscapes, but also of the advantages coming from a closer relationship between local landscapes and production of typical products, as well as services supporting agritourism. Comparatively more emphasis has been placed on nature conservation, often identified with landscape conservation. The new EU countries of Eastern Europe will probably experience these same trends, with similar losses of cultural landscapes from their territories with the help of EU directives, while probably creating many protected areas.

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<sup>6</sup> The abandonment of agric



In Italy policies promoting the conservation of rural landscapes do not exist. There is, however, an interesting opportunity to address this in the actions and strategies developed for the National Strategic Plan for Rural Development 2007-2013, according to the EU new Common Agricultural Policy (CAP). Although the introduction of the new rules allowing subsidies to farmers independent of production will probably further favor abandonment of traditional landscapes, the new CAP offer some opportunities to promote traditional landscapes through the national plans. These documents are required of all member states by the European Commission, and they represent the framework in which all the initiatives concerning the development of the rural territories are planned, supported by the EU funds of the Common Agricultural Policy. In the case of Italy, the plan is managed by the Ministry of Agriculture and Forest Policy. Five working groups were established, each with the task of addressing one relevant issue for the development of the rural territory. One of these was dedicated to landscape.

The creation of the landscape working group is a real innovation in the way rural development and landscape resources have been perceived and interpreted in recent decades. All the laws and regulations concerning landscape enacted between 1923 and 2004, including those to promote nature conservation, aimed at preserving portions of the territory by limiting human activities that are potentially damaging valuable landscape, and certain land use changes. The conservation of traditional knowledge and their landscape can be better achieved, however, not simply placing limits on private or public activities, but by including them in an economic development process in which the advantage of preservation are superior to the benefits of degradation. This can be done with initiatives acknowledging the importance of services linked to landscape and slightly changing the traditional role of farmers often seen simply as “producers”. The outstanding growth of employment in “landscape services” in the USA in the last decade (Chang et al 1998) shows the economic potential of service, especially for marginal areas. It is worth remembering that in Tuscany the added value of agritourism is higher than agriculture and forestry production in many rural areas.

The document produced by the working group on landscape presents a state of knowledge report based on a survey at the national scale, but also reports the results of more detailed analyses at the regional level, as the one carried out in Tuscany, discussed above. The document also analyzed forest, agricultural and environmental policies and their influence on landscape, as well as the economic importance of landscape resources. The final chapter of the document includes a list of strategies and actions for preserving and developing landscape resources, related to each of the 4 main axes in which the Common Agricultural Policy is organized. It is the first time that Italy is developing a program like this, and while this is a positive step, there are inherent weaknesses that are related to the current situation of state-region relationships and the structure of the National Plan. Although the main frame of the document relates to all Italy it does not require the regions to accept all the strategies and actions. Therefore, the documents produced by each working group are basically providing a number of possible actions that the regions may choose to include in their rural development plans. This situation is due to the present constitutional framework of the Italian State regulating the relationship between the central government and the regional governments. Another problem is the inadequate coordination between the Ministry of Culture, officially in charge of landscape conservation, and the Ministry of Environment, which is in charge of protected areas, where 20% of Italian agriculture occurs. There is also insufficient interest of several public administrations that are still unaware of the role of landscape resources.

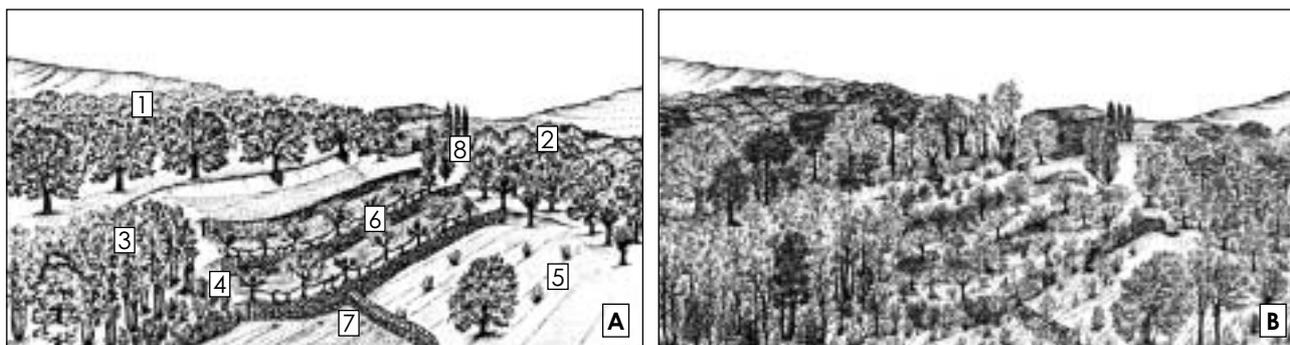


Figure 3. Tuscany, Italy. Picture "A" shows the complex landscape of a typical holding managed by one or more family of farmers in central Italy from 1300 to 1960, according to the sharecrop system. Concerning the landscape patches we have: 1) chestnut grove, 2) pastured wood, 3) coppice woods, 4) shrubland managed as coppice, 5) wood pasture, 6) mixed cultivation with vines bound to maple trees, 7) sowable land 8) fruit trees, 9) pollard trees. Picture "B" shows the effect of the abandonment of the area by man and the disappearance of the traditional landscape mosaic. According to a different point of view this could be of a positive process of renaturalization.

#### 4.1. Measures for axis I – “Improving the competitiveness of agriculture and forestry sector”

The strategy developed in this chapter considers the added value represented by landscape resources. The market value of wood products, but also traditional foods coming from the forest, cheese coming from wooded pastures, as well as tourism, can be strongly supported by the added value of the cultural landscapes from which they are derived. This is a crucial factor in the increasing competition at national and international market level. Landscape resources represent a unique factor of competitiveness for each country or region that cannot be reproduced by a competitor in another country. This is particularly important for typical products. A cheese produced in a specific landscape pattern can increase its market value if the producer is also caring for the conservation of the cultural landscape. From this point of view, foods like raspberry, blueberries, honey, chestnut, mushrooms, as well as meat coming from wild animals, sheep and cows grazing in historical landscapes can all be supported. An interesting case of this added value is the role played by woodlands in wine regions. Market studies shows that most of the reason why consumers buy a bottle of wine in Tuscany is not related to quality, but rather to the cultural values represented included in the bottle, recalling historical and cultural factors. In areas like the district of the Chianti in Tuscany is unthinkable to separate the landscape of coppice woods from the vineyards, not only for the stakes produced by these woodlands to support vines, but for the historical association that has always existed between forest and farming. Therefore, preserving historical landscapes is an economic action equivalent in importance to increased or improved production or the quality of wine. The economic actions proposed in this chapter support the conservation of the relations between landscape and products, but also services linked to the maintenance of landscape, offering subsidies not only to farmers but also to administrations and local groups for the promotion of typical products. The initiatives concern also training courses on traditional practices, teaching courses to develop local expertise, support is also given to the conservation of material evidence, rural architecture and the use of traditional raw materials in the farms.

#### 4.2 Measures for axis II – “Improving the environment and the countryside”

This axis is characterized by agri-environment and forest-environment measures, payments to farmers for constraints imposed by the NATURA 2000 network of protected areas, and afforestation of non agricultural and agricultural land. In the Italian context this axis has been interpreted

as a way to recover the structure and the patterns of cultural landscapes, with a correct interpretation of the role of nature in the Italian landscape. The actions financed try to counterbalance not only the high rate of abandonment renaturalizing the Italian forests and the countryside, but also the consequences of inappropriate policies that deny the role of traditional forest landscapes for biodiversity. For this reason, and taking into account the rate of abandonment and the continuous growth of forest cover, a further extension of forest through afforestation is not always considered a positive action. Detailed studies based on a multitemporal approach must be undertaken to select the correct measures in order to avoid further degradations of landscape by inappropriate actions. The conservation of landscape mosaics originating from traditional practices linked to the management of wood pastures, chestnut orchards, pastured woods, various forms of coppices, as well as hedges, tree rows and managements of single trees (e.g. pollarding, shredding etc.), or the conservation of veteran trees, are all financed. These measures are at least partly consistent with those of the working group on biodiversity, which also stresses the need to reduce the increase of forest land on pastures and afforestation. However, the scope for restoration of landscape diversity is limited due to the legislation forbidding, or strongly limiting, the possibility of converting woodland to former pasture or field conditions.

Particular attention has been given to the conservation of distinctive, locally adapted, management practices and techniques that contribute to agricultural biodiversity, natural and cultural heritage, and sustained provision of multiple goods and services, food and livelihood security. The measures are organized in 18 actions for agricultural land, 4 actions for pastureland and 15 actions for woodlands. Subsidies are given not only to the conservation of specific forest formation having cultural origins, but also to the conversion of woodlands degrading landscape in different land uses, or in different forest types (e.g. the transformation of an afforestation with pine into an oak wood), as well as the opening of “visual cones” to appreciate scenic views. The opportunity to develop effective actions is obviously linked to the local level and the selections of the initiatives to promote, considering also the contradictions with other actions supported.

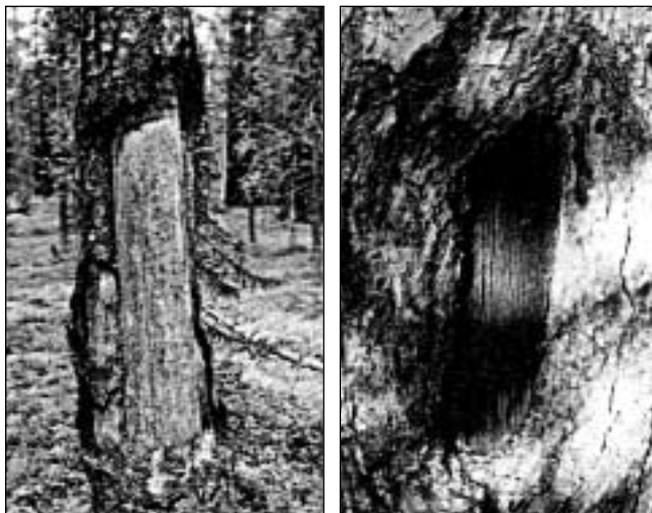


Figure 4.  
Culturally Modified Trees (CMT) for food production (left) and wrappig sinews (right) in the Sami land (Sweden) (Axelsson et al.2001). CMT are a common European heritage, they can be found from Sweden to Sicily.

#### 4.3. Measures for axis III – “Diversification of rural economy and the quality of life in rural areas”

The conservation and development of landscape resources can play a crucial role in the Italian context, as most of the appreciation of rural areas by the public and tourists is related not to the environmental quality of single elements (e.g. air, soil, vegetation etc.) but to the integration of economic, social and economic aspects represented by the physical structure of the landscape

and its cultural significance. What is of utmost importance in this context is the recognition of the cultural identity of the places and the development of a strategy to counterbalance globalization forces that are affecting landscape, putting together private and public administrations in order to develop common initiatives. Therefore the actions promote the development of economic activities for the conservation and promotion of landscape resources, infrastructures, services and marketing of landscape resources. In this respect activities concerning the realization of museums or public initiatives recalling traditional practices and economic activities strongly connected to local landscape are promoted. The actions are also supporting studies for management and planning of local landscape, but one of the most innovative tools proposed is landscape certification. Current certification standards, both in forestry or in agriculture, are inadequate to ensure the conservation of cultural landscapes. This initiative is also very closely linked to the current efforts to include cultural values in the criteria and indicators for sustainable forest management (SFM) by MCPFE, trying to resolve some contradictions. Concerning Italy it has been noted that the conversion of landscapes characterized by a relatively low presence of forest and trees, but very well known for their beauty and historical values into forest areas, could formally receive a certification from all the major forest standards existing in the world. The certification proposed does not take into account as a primary objective the quality of air, water or soil, but rather the maintenance of landscape assets representing the cultural identity of the areas. This tool could be applied to promote food and tourism, as well as for sustainable management strategies. There is also the hope to promote new jobs and open new sectors for foresters, not limiting their activity to planting or cutting, but developing the management and conservation of landscapes, as well as services and activities related to the promotion of historical and cultural heritage.

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