The Italian National Register of Historical Rural Landscapes

Chapter 2
The Italian National Register of Historical Rural Landscapes

Mauro Agnoletti and Antonio Santoro

Abstract In recent years, the role assigned to rural landscapes has gained importance in Italy, both at scientific and political levels. Some political decisions in the field of agriculture and planning have recognized the multifunctional role of traditional rural landscapes. It is widely recognized by the scientific community that these landscapes can be of fundamental importance for the economy of many rural areas, for their connections with tourism, for high-quality productions, for the conservation of agrobiodiversity and for reducing hydrogeological risk. In Italy, one of the main changes concerning the Italian rural landscape is the Decree n. 17,070 of 2012 by the Ministry of Agriculture Food and Forestry Policies about the institution of the "National Observatory of Rural Landscape, Agricultural Practices and Traditional Knowledge". Among the tasks of the National Observatory of Rural Landscape can be found the surveying of landscape, of agricultural practices and of traditional knowledge considered to be of particular value, and the promotion of research activities for studying the values associated with the rural landscape, its preservation, its management and planning and even advancing the goal bio-cultural diversity. It must also develop general principles and guidelines for the protection and enhancement of the rural landscape with particular reference to action taken under the Common Agricultural Policy. In addition to the landscape, the decree is aimed at the preservation and enhancement of "agricultural practices and traditional knowledge", defined as "complex systems based on ingenious and diversified techniques, on local knowledge expressed by rural civilization, which have made a major contribution to the construction and maintenance of traditional landscapes". This decree has also established the "National Register of Rural Landscape, Agricultural Practices and Traditional Knowledge". Through this Register, the Ministry identifies and catalogs "the traditional rural landscapes or landscapes of historical interest present within the national territory and connected traditional practices and knowledge, defining

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J. Hernik et al. (eds.), *Cultural Heritage—Possibilities for Land-Centered Societal Development*, Environmental History 13,
https://doi.org/10.1007/978-3-030-58092-6_2

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

their significance, integrity and vulnerability, taking account both of the opinion of scholars and of the values ascribed to these landscapes, practices and knowledge by the concerned communities, subjects and populations". There are currently ~~13~~ 13 landscapes and ~~2~~ 2 traditional practices inscribed in the Register. The Register is also the first step to access international programs, such as the Globally Important Agriculture Heritage Systems (GIAHS) program developed by FAO or the UNESCO World Heritage List.

Keywords Cultural landscape · Rural development · Landscape monitoring · Historical landscape

2.1 Introduction

Italy still boasts a rich heritage of rural landscapes built up over thousands of years: landscapes that, while continuing to evolve, still retain evident testimonies of their historical origin and maintain an active role in society and the economy. These landscapes are indissolubly tied to traditional practices handed down from one generation of farmers, shepherds and woodsmen to the next, complex sets of ingenious and diversified techniques that have contributed in a fundamental way to the construction and conservation of our historical, cultural and natural heritage. These techniques were a means to continuously adapt to difficult environmental conditions to provide multiple goods and services, thereby improving people's standard of living as well as giving rise to landscapes of great beauty. Landscape heritage and the related traditional knowledge are fundamental resources that need to be safeguarded. The speed and extension of the technological, cultural and economic changes that have taken place over the last few decades are threatening landscapes and the rural societies associated with them. Multiple pressures are constraining farmer innovation and this often leads to unsustainable practices, resource depletion, productivity decline and excessive specialization, making the preservation of landscapes an economic, cultural and environmental resource in serious jeopardy. The result is not only an interruption in the transmission of the traditional knowledge required for local landscape maintenance but also socioeconomic destabilization of rural areas and a loss of competitiveness of agriculture.

2.2 The National Register

The research for the development of the National Register of Historical Rural Landscapes was meant as a testimony, not only of the importance of the Italian landscape as one of the most representative historical expressions of the country's cultural identity, due to the prevalent role of rural civilization in its history, but also of the universal value of the Italian rural landscape in the cultural heritage of humanity

(Agnoletti 2012). This is a value that seems to have been often forgotten today. The research intended to lay a foundation for the identification, conservation and dynamic management of historical landscape systems and traditional practices, in the face of economic and cultural globalization, climate changes and inappropriate policies, favors the creation of a national register of historical landscapes. Actually, the term "historical" in itself is not ~~especially~~ significant semantically. All areas that have been anthropized for a few decades can be legitimately said to have a historical footprint. But the landscapes of Italy, as we well know, reach back far beyond this minimal threshold. What distinguishes the complexity of the historical character of the Italian peninsula's landscape—even compared to other European landscapes that were anthropized in ancient times—is the multiplicity and stratification of the footprints left by so many distinct civilizations on our countryside. We only have to think of the changes determined by land reclaiming works carried out by Greek settlers, Etruscans, Romans and Arabs. In the course of time, these ~~same~~ civilizations provided such an incomparably vast contribution to our agriculture, in the form of new plant species, cultivation techniques, plantation and land delimitation methods, water collection and use, and buildings and land works that the historical character of our landscape acquired a special value compared to that of other European countries. We should also not forget that, just as a landscape merges in an original synthesis the beauty of a site or plantation with the historical character of its use and manipulation for economic purposes, the buildings scattered in our countryside, immersed in the most diverse habitats, are at once documents of past agrarian civilizations and artistically valuable constructions, aesthetically prestigious works, admirable for their magnificence and the genius of their builders.

Nowadays, we are witnessing increasing interest in the subject at the European level, as stated by the European Landscape Convention,[1] signed in Florence in 2000, which addresses the deep changes in course in modern society. As Roberto Gambino explains, the need to preserve the identity and meaning of places expressed by the current "demand for landscape" reflects a deeper malaise that certainly has to do with globalization processes and their effects: on the one hand, homologation and modernization, on the other, imbalances and inequalities that need to be addressed (Gambino 1994). In this perspective, the introduction of landscape in the national rural policies reflects a change in the conception of the role of this resource, as well as that of rural territory in general. The role of landscape and its perception has indeed changed over time. Today it is no longer an elite aesthetic and cultural construct, isolated from its socioeconomic context; it has become, instead, an essential element in the definition of an adequate development model for the national rural context.

[1] The research has received the patronage of the Council of Europe for its contribution to the implementation of the European Landscape Convention. Article 6.C.1 of the convention requires identification and assessment, which states that each party undertakes.

– a. i to identify its own landscapes throughout its territory;
ii to analyze their characteristics and the forces and pressures transforming;
iii to take note of changes;
– b. to assess the landscapes thus identified, taking into account the particular values assigned to them by the interested parties and the population concerned.

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

The prevalence of aesthetic considerations in past conceptions of landscape, as well as their more recent superimposition on the concept of "nature", has led to an emphasis on deterioration caused by urban dynamics, or criteria for the assessment of landscape quality based on its ecological characteristics, reductively understood as its flora and fauna, or as a series of natural habitats. All this has pushed in the background both the strong human print on our country's landscape and the fact that, while urban expansion certainly played a role in this, the transformation of the rural landscape was largely endogenous, something that few have remarked. While it is evident, as Emilio Sereni explained (Sereni 1961), that the agrarian landscape is "the form that man, in the course and for the ends of his agricultural productive activities, impresses on the natural landscape", it is equally evident that not all agricultures produce good landscapes. Unfortunately, ordinary conservation legislation based on protected area systems or landscape restrictions is ineffective as a means to preserve the rural landscape. It is this realization that persuaded all of the scholars who contributed to our catalog of the need to draw it up, that it is finally time for the issue to be addressed by agricultural policies. Conserving the quality of a rural landscape, which by its own nature is always evolving, can only be done by setting up a socioeconomic system capable of supporting and reproducing it; hence the decisive importance of strategies and actions undertaken in the framework of agricultural policies. The new guidelines for rural development policies associating them with local development are a major step forward in this direction. The objective is to make the most of all the resources of rural areas, emphasizing the local dimension, the new role of farmers and the involvement of new actors in the social and geographical space designated today as "rural" (Ploeg 2006). Important landmarks for the rise of this new vision of rural policies in Europe were the *Rural White Paper* published by the English government in 2000 and the *National Agenda for a Living Countryside* produced by Holland (2004)—a country where the preservation of the rural landscape is entrusted to the Ministry of Agriculture. Both documents indicate landscape conservation and restoration as a priority in national rural policies (Moreira et al. 2006).

In the local dimension of Italian rural policies, the landscape dimension plays a paradigmatic role, as it corresponds to the transition from individual business projects to projects at territorial scale, for which a landscape-oriented approach is undoubtedly more suitable, because of the peculiar characteristics of our country, than an industrial or environmental one, even in a development perspective. Indeed, today the notion that conservation is an obstacle to development in any form has given way to the realization that conservation is the new face of innovation in contemporary society. An authentic innovation is one that adds to a store of values slowly accumulated over the ages. Conversely, there can be no authentic conservation without the production of new values. In this perspective, the restoration and promotion of actions implemented in Italy by the ~~recent~~ National Rural Development Plan (2007–2013) have already introduced instruments by which the Italian regions can begin to modify the orientation of Rural Development Plans to address landscape issues, although at this initial stage the new landscape orientations of regional agricultural policies, especially in regions with vast and valuable landscape heritage, do not appear very effective (Fig. 2.1).

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

Fig. 2.1 1:250,000 map of the Italian territory resulting from an interpretation of Corine Level 4 data. The map highlights the polarization of the rural landscape, which today appears divided between forest areas (in green), prevalently located in mountain areas, and agricultural areas (in beige). Although the adopted scale overemphasizes the phenomenon, socioeconomic dynamics have indeed undermined the historical integration among woods, pastures and agriculture, reducing the complexity of Italy's landscape mosaic and biodiversity by favoring, instead, simplification and structural homogeneity (Agnoletti 2010)

2.3 The Investigations

Our research is not meant as an exhaustive overview of Italy's landscape heritage. Rather, it is intended to contribute to the development of a methodology for the identification and classification of landscapes of historical interest, and, at the same time,

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

to provide a preliminary sample of the substance and state of the country's landscape heritage. This will hopefully be the first step in the drawing up of a truly comprehensive inventory of the Italian rural landscape, on the desirability of which there appears to be a wide consensus today among both scholars and agricultural policy makers. We decided not to focus on the strictly environmental features of Italian rural landscapes—climate, geomorphology and vegetation—since these have been examined in depth in the existing literature. We strove, instead, to take a more detailed look at the structure and organization of rural landscapes. Thus, we did not focus on ecological and naturalistic aspects, nor aesthetic ones, although these are also mentioned in the individual area descriptions. Rather, we adopted as our landmark Emilio Sereni's pioneering work (1961), which examined the "forms" impressed by ~~man~~ on the natural substrate, but left open the question of their characterization and conservation at a national scale. Our purpose was to carry forward Sereni's work by combining traditional historiographies of agriculture, forestry and, more in general, the landscape with approaches highlighting the material elements of landscape structure, as found in important studies by European scholars, especially English ones such as Oliver Rackham (1986), and also in some remarkable investigations conducted in Italy by workgroups led by Moreno (1988) on the agropastoral sector and Pietro Piussi on forests (1990).

Our project's board of advisors gathered scholars with competences in the domains of history, geography, agrarian and forest science and architecture. Coordinators were nominated for one or more regions, each of whom selected collaborators to conduct investigations at a local scale. About 80 researchers from 14 universities thus contributed to the catalog, as well as some professional studios and independent researchers. An international committee of experts was formed to assess the work. Some foreign institutions were also involved in the project, including the Committee for Cultural Heritage and Landscape of the European Council, the European Society of Environmental History (ESEH) and the International Union of Forest Research Organizations (IUFRO).

One of the methodological problems we had to deal with in the initial stage of our research was the definition of its spatial and chronological scale. As regards the chronological scale, no limits were set. The origins of the landscapes under investigation were traced as far back as available sources allowed. As regards the spatial scale, we decided to analyze areas with extensions between 300 and 5000 ha, large enough, that is, to include management units such as the typical Italian sharecropping farm or the *latifundium*, and to encompass spatial relationships between land uses, in consideration of the importance of the spatial scale in UNESCO parameters for world heritage sites. In the area descriptions, we decided to indicate only the geographical coordinates of the center of each area, ~~leaving the construction of a GIS database to a later stage~~. The main reason for this was the difficulty, which we will discuss further on, of accurately determining the geographical boundaries of areas with non-contiguous cultivated zones.

Each area was illustrated in a separate descriptive text. ~~The information provided in the individual area descriptions was then summarized in the texts that appear in the present book.~~ Although the area descriptions were based on a common template,

due to the many different competences of the scholars involved in the research, there were differences in individual sections of each description. The collected information was hence homogenized to make published descriptions of equal length and make sure they contained the same kind of data, also for the purpose of making them more easily comparable. It is important to specify that the photographs ~~in the present book~~ are meant as an accompaniment to the text, but are not themselves the object of the catalog. They are merely meant as a support to the descriptions, not having been taken with the highlighting of aesthetic parameters in mind. This reflects the general approach followed in this work, which is to highlight mostly the historical character of landscapes in connection with aspects such as aesthetic quality, typical products, tourism and biodiversity.

By the end of the first 12 months of the project, 123 areas had been singled out. The number of areas per region ~~in the present volume~~ varies from a minimum of 2 to a maximum of 8, which were the limits we set for local researchers in their choice of representative areas. We tried to reduce the effect of differences in the relative abundance of historical landscapes between one region and the other by carefully employing selective criteria.

2.4 The Major Transformations of the Rural and Forest Landscapes of Italy from Its Unification to the Present Day

For the reader to fully understand not only the situation "photographed" by our catalog but also the urgency of such an investigation, we need to briefly go over the evolution of the Italian rural landscape since the country's unification, not so much in terms of socioeconomic changes, but rather as regards land use, which gives a measure of the dramatic changes that occurred in this period. It is undoubtedly a limited time frame, considering the remote historical origins of the Italian landscape. However, as environmental historians have shown, this is the period when the abundance and intensity of changes at the global level occurred with a speed that had no precedent AQ1 in the history of human civilization, and Italy is no exception (McNeill 2000). At least until the second postwar period, much of the country's rural landscape was still strongly influenced by traditional agro-silvo-pastoral models developed during the previous century, and sometimes going all the way back to the Etruscan period and Greek civilization. The following decades, however, witnessed deep transformations. Due to demographic growth and the expansion of agriculture into mountain areas, the rural landscape attained the peak of its development in the decades between the late nineteenth and early twentieth centuries. The resulting landscape was one of great complexity, enhanced by the stratification of the prints left by so many civilizations on the land, and the country's complex orography and climatic variability. In the second postwar period, however, we observe a gradual simplification and homogenization of the rural landscape that can be analyzed in terms of its effects on its two main components: woods and crops (Agnoletti 2010).

2.4.1 The Evolution of Agricultural Surfaces

The image of rural Italy at the time of the country's unification is one of great complexity. Adaptation to different and difficult local conditions, as well as differences in economic and social structures, had diversified the national territory over the centuries. Except in a few limited areas in the country, the history of Italian agriculture had been one of continuous and laborious adaptation to a difficult natural environment, mostly made up of mountains and high hills, originally covered with impenetrable forests and extensive marshes, to create favorable conditions for agriculture. The result was an extraordinary landscape whose value has been recognized by the Western culture at least since the sixteenth century. At the end of that century, Michel De Montaigne, going through the Garfagnana in Tuscany, observed in amazement that the land was cultivated and terraced from the foot of the mountains to their summit, appearing to him as a garden (Trechmann 1929). Those who followed in his wake echoed his admiration, from Grand Tour travelers of the eighteenth and nineteenth centuries—who were impressed not just by Italy's monuments but also by its rural and forest landscapes—down to present-day tourists.

Morphological differences, farming systems, settlement patterns and local styles of rural buildings placed their distinctive stamp on the landscape of rural areas. The main agricultural systems, such as those revolving around local types of the farmhouse—the Lombard *cascine*, sharecroppers' farms and farmhouses, the farmhouses of the grain-growing latifundia of Maremma, the Roman *casali*, or the *masserie* of southern Italy—are the most visible manifestation of a much more complex reality. In spite of Italy's great variability, however, there were some common traits, such as the extension of arable land with a prevalence of cereal cultivation. Italy's vast "bread lands" (*terre da pane*) reflected a strong orientation of agricultural production toward self-consumption and maintained their prevalence in the agricultural landscape until the 1960s, even in mountain areas. Another unequivocal sign of the importance of production for self-consumption was the multiplicity of crops and mixed cultivation, as well as the presence of extensive terracing providing horizontal surfaces to allow crops to be sown in acclivitous areas, an enlightening example of ingenious adaptation to difficult environmental conditions to solve the food problem. In this context of low-intensity farming (Moreira et al. 2005), agriculture in the post-unity period appears as the country's main economic motor, and displays strong continuity going back several centuries (Fig. 2.2).

From the twentieth century onward, the percentage of the population employed in agriculture, which used to comprise almost the total working force, slowly began to decline under the impulse of great socioeconomic changes. Today, the sector employs only 4% of the working population and its share of the GNP is equal to ca. 3%. These changes, however, occurred with different speeds and intensities in different parts of the country. The trend established itself much earlier in the industrial regions of the Northwest, where between the two wars workers employed in agriculture were already down to 35% of the total working population. In the rest of Italy, the tipping of the scales between the primary and the secondary sectors only occurred

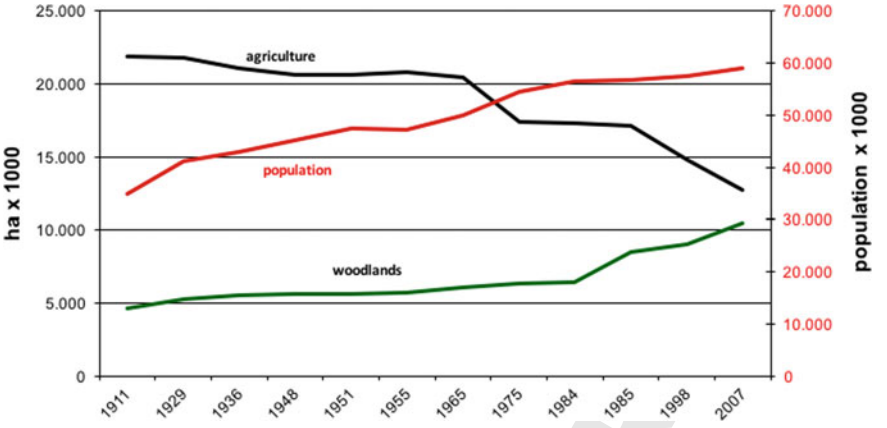

Fig. 2.2 Evolution of agricultural, wooded and unproductive surfaces and of the Italian population from 1861 to 2007. One can observe the strong reduction of agricultural surfaces and the increase of woodland. The increase in woodland is due to the abandonment of farmed land and pastures

on the morrow of the Second World War. Accordingly, landscape transformations of different areas of the country followed different timelines. As shown by the graph on the evolution of agricultural, forest and unproductive surfaces, the importance of cropland makes it a dominant element in the Italian landscape, down to the present day. Nevertheless, today it has lost millions of hectares to the expansion of woods and unproductive surfaces, a category that also includes urban areas. In their turn, agricultural surfaces have undergone internal transformations that have changed the landscape fabric.

From the second postwar period onward, available data show a sudden decrease of agricultural surfaces, the symptom of a transformation reflecting the dominant role of socioeconomic factors in the Italian landscape. The increase of unproductive and urbanized surfaces, on the one hand, and the increase of forests, on the other, are just different facets of the same problem, namely the abandonment of agriculture. They are the result of an epochal transformation of our landscape that took place in just one hundred years, and which has gone largely unnoticed.

Within agricultural surfaces, the most significant reduction was of arable land, followed by that of meadows and pastures. The decline of grain-growing has special significance and symbolic relevance in a country that fought a "battle for grain" in the 1920s. The decrease of grain field surface was only partially compensated by increases in productivity, so that today Italy imports most of its grain. Various factors intervened in bringing about this deep mutation of the rural landscape. Among these, especially worthy of mention are demographic evolution, the spread of important technological innovations such as chemical fertilizers and pesticides and mechanization, which ended up favoring rather than limiting the exodus from the countryside. The employment of mechanical farming equipment, which considerably reduced labor requirements, along with the country's industrialization contributed to

the abandonment of many cultivated surfaces, beginning with marginal mountains and high-hill areas. This evolution went hand in hand with a change in the structure of farming businesses, whose number declined sharply, although the average surface per farm has not changed much, a distinctively Italian trait that contrasts with the trend in countries like Spain or France. The low-to-middle size typical of sharecroppers' holdings and family-run farms has given way to a growing gap between large and small farms. An increasing trend to use externally hired rather than resident labor is breaking the bond between farmers and their holdings. From the 1970s onward, changes made to the Common Agricultural Policy (CAP) to limit surpluses favored the spread of non-food crops such as soy, colza and sunflower; vast industrial monocultures that have accentuated the simplification of the agricultural mosaic and are now facing a crisis.

In the second half of the twentieth century, along with the reduction of cultivated surfaces, there were radical changes in crops, livestock and the activities of the agricultural sector. One of the most significant phenomena was the internal transformation of agricultural surfaces, with a trend toward specialized cultivations. This transition applied to all the typical sectors of agricultural and food production. New cultivation techniques were introduced to increase productivity and product quality: a quality, however, in which the landscape and its specific environmental contents played no role. Wine-, olive-, vegetable- and citrus-growing, as well as livestock and dairy farming, have all been impacted by these new trends, which have led to an intensification of production that is often incompatible with landscape quality. Slope-wise planting has replaced terraces (Romero Díaz et al. 2007). Tree rows, mixed cultivations and widely spaced cultivations have made way to intensive specialized cultivations with reduced labor costs.

In the years of postwar reconstruction, Italian agriculture adopted a development model aimed at maximizing production to meet internal food demand and compete on foreign markets. At first, the policies of the European Union had the same objective. However, today this "battle for production" has been lost. The sector has proved unable either to meet the national food demand or to compete on international markets in terms of quantity. Over recent decades, the fate of both the grain and livestock businesses has depended on the changing moods of CAP funding rather than on the free market. The livestock industry, in particular, has become almost entirely independent of meadow and pasture resources, once abundant in the Italian landscape and much reduced today. In the context of this "imperfect" market, influenced by the orientations of the CAP and external global phenomena, the need and opportunity have arisen to associate product quality with landscape quality, to take advantage of an added value that the competition cannot reproduce, and, at the same time, implement low-intensity agricultural models more compatible with environmental quality and revive extensive livestock farming methods.

As mentioned above, urban expansion partially accounts for the increase of unproductive surfaces in our country. Urban growth is often branded as the main enemy of the rural landscape, something on which there is usually a broad agreement among the public, farmers and environmentalists. While it is true that the permanence of agriculture acts as a barrier against urban expansion, it is equally true that the most

significant changes in the rural sector are due to abandonment, on the one hand, and endogenous changes that are not as obvious, but much more in-depth and enduring, on the other. Urban surface, according to the most up-to-date European mapping system (Corine Land Cover 2000), does not exceed 5% of the total surface of Italy. It is true, however, that scattered urbanization eludes Corine. The Italian Ministry of Agriculture, Food and Forest Policies hence resolved to establish a new category of the rural area labeled *poli urbani*, including areas still classified as rural, but with high settlement densities. Table 2.1 details surface extensions for the five first-level CLC classes in 2000 and 1990. As one can see, agricultural areas are not only the prevalent category in terms of the total surface but also the category that changed most significantly, with a 1434 km^2 decline. In relative terms, instead, the class that evolved the most from 1990 to 2000 is that of artificial surfaces, with a 6% increase.

Table 2.1 Land cover changes in Italy from 1990 to 2000 as recorded by the Corine satellite system, promoted by the European Environmental Agency

Land cover, CLC Level 2	2000 (km^2)	1990 (km^2)	2000–1990 (km^2)	(2000–1990)/1990 (%)
Residential urban areas	10,819.60	10,315.70	503.9	4.88
Industrial and commercial areas, and infrastructure	2,631.90	2,377.90	254	10.68
Mineral extraction, construction and dump sites; artificial and abandoned areas	565.1	514.7	50.4	9.79
Artificial non-agricultural vegetated areas	299.6	281.1	18.4	6.56
Arable land	83,121.90	83,760.60	−638.7	−0.76
Permanent crops	21,780.00	21,871.20	−91.2	−0.42
Permanent pastures	4,475.30	4,552.20	−76.9	−1.69
Heterogeneous agricultural areas	47,075.60	47,702.90	−627.3	−1.31
Forests	79,025.60	78,190.40	835.2	1.07
Areas with shrub and/or herbaceous vegetation	36,685.90	36,969.50	−283.6	−0.77
Open spaces with little or no vegetation	11,112.30	11,065.00	47.2	0.43
Inland wetlands	159	158.5	0.6	0.36
Coastal wetlands	531.8	532.3	−0.4	−0.08
Inland waters	2,186.20	2,175.10	11.1	0.51
Marine areas	945.5	947.9	−2.4	−0.261

Extending the analysis to the second level of Corine, the land use class that expanded the most in absolute terms is that of wooded areas (by over 800 km^2). Interestingly, over 900 km^2 of shrublands and herbaceous areas evolved into woods. Within the class of artificial areas, although urban areas for residential purposes have expanded the most in absolute terms (over 500 km^2), in percentage terms the largest expansion was that of industrial, commercial and infrastructure areas (10.68%). This bears witness to the strong impulse to urbanization over the last years, whose visual impact on the general public is higher than that of changes in agriculture, since these can only be perceived by a trained eye, capable of interpreting changes in the rural landscape mosaic. In other words, while the great majority of the public can perceive the higher aesthetic quality of a Tuscan farmhouse compared to a suburban condominium, not all can appreciate the difference between a mixed cultivation area and an industrial monoculture area. This is why the solution of Italy's "rural landscape question" depends on the degree of cultural maturity of its society and on its understanding of landscape evolution.

2.4.2 The Evolution of Wooded Surfaces

The Italian forest landscape can be historically interpreted as the result of changes brought about by human beings to the natural vegetation, following a well-defined historical sequence of culturally determined landscapes. The beauty of Italian forest landscapes was celebrated by Grand Tour travelers as much as that of the country's rural landscapes. Stendhal and Shelley were impressed by the splendid, dense chestnut groves extending down the slopes of the mountains around the Como Lake almost to its banks. Edward Lear describes with admiration groups of huge oaks, as well as the incredibly diverse landscapes he encountered during a journey to Calabria in 1847, which he contrasts with the "forests dense as carpets" and "monotonous expanses of greenery" found in other countries (Lear 1964). Like its agricultural landscape, the wooded landscape of Italy today appears simpler and more homogeneous than in the past. Its diversity is presently mainly a matter of specific composition rather than spatial arrangement. This is partially a result of the presently clear-cut separation between the woods and agriculture, after many centuries of integration. The natural substrate of the Italian forest landscape was modified long before the Roman period, but the general public is largely unaware of our forests' historically determined character. This is partly due to the scientific trends of recent years, which have seen a prevalence of environmental approaches in the study and management of forests, constantly looking for "natural areas" to be protected: a quest that fails to take adequate account, however, of centuries of human influence. The truth is that the actions of human beings in historical and protohistorical times constantly modified the ecosystem. Identifying truly "natural" landscapes in Italy is thus not an easy task (Moreno 1988). The last few decades have witnessed a trend in forest studies to relegate the historical reality of wooded landscapes to the background in favor of a naturalistic interpretation. This of course has affected management policies and led

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

to conflicts with farmers and livestock breeders. Significantly, our catalog highlights many cases of woods that are losing their historical characteristics due not only to the abandonment of traditional practices but also to management policies aimed at transforming them into more natural formations.

The statistical data available show that in the period between the unification of Italy and the years immediately preceding World War I there was a significant reduction of Italian forests, mainly due to the expansion of agricultural land and pastures as a consequence of increasing demographic pressure in mountain areas. One of the interesting elements highlighted by the graph in Fig. 2.1 is the relationship between forest surface and demographic trends. As we can see, from the unification of the country to ca. 1910, demographic growth went hand in hand with a shrinking of the wooded surface. This is a typical landscape trend in developing countries, where the woods give way to pastures and fields to meet the urgent food demands of a growing population. In spite of some not negligible problems in the data-recording criteria, it seems certain that from the 1920s onward there was a stable reversal in this trend, with a more than twofold increase of forest surface, although accurate statistics are not available (Agnoletti 2005). Thus, in this period the ratio between population and woods extension changed, since the latter continued to expand independently of demographic growth, an indication that Italian society's food supply no longer depended on the availability of cultivable land. The 1920s thus marked the end of the last phase of surface reduction in the history of Italian woods, which had seen several expansion and reduction cycles from the Roman period onwards. The new expansion was the result of the gradual abandonment of mountain and high-hill areas, a trend that is already apparent during the Fascist period and became unstoppable in the second postwar period. The secondary, post-cultural forestation process affected all of the country's regions, especially those where the abandonment of agriculture and animal husbandry was more intense, even extending to lower altitudes. This led to a gradual reduction of the pre-existing landscape mosaic, a strong and often uncontrolled increase of wild fauna and a strong decrease of cultivated land. Today, Italian agricultural products are grown on much smaller surfaces, thanks to yield increases. Above all, however, the country imports them massively from abroad, a model it shares with Europe, North America and other industrialized countries, including some in Asia. All these countries have been experiencing for years a gradual growth of forest surface, a concomitant shrinking of agricultural surface and growing recourse to external resources.

Along with the reduction of agricultural surface, to which it is indissolubly tied, reforestation is one of the most important phenomena to affect the Italian rural landscape in the last century. The expansion of the woods from 10% of the national territory in 1920 to the present 34% has changed the face of whole regions. This statistic, however, also partially reflects changes in the notion of "woods". The forest inventory of 2007 regards as "forest formations" populations of trees or shrubs meeting all three of the following requirements: a surface larger than 5000 m^2, a foliage cover percentage higher than 10% and an area width higher than 20 m.[2] The inventory

[2] Ministry of Agricultural, Food and Forest Policies, Inventory of Forests and Carbon Reserves, http://www.sian.it/inventarioforestale/jsp/home.jsp.

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

includes the following categories: woods and other wooded areas; prairies, pastures and uncultivated land; sparsely vegetated areas; lumber farms, isolated groves and linear formations (tree rows). The land classified as "woods" accounts for 83.7% of the total forest surface, "other wooded areas" for 16.3%. According to this new classification, the forest surface of Italy is about 10,528,000 ha. Clearly, however, the above criteria also gather under the heading "woods" shrub and areas that are actually pastures or wooded pastures with trees or shrubs. These would require distinctive management approaches to adequately preserve their role in the landscape.

Among landscape changes induced by forestation, the almost threefold increase of woods in Sicily and Emilia Romagna is especially remarkable. The Italian territorial districts with the higher percentage of land surface classified as "woods" are Alto Adige, Trentino, Friuli Venezia Giulia, Liguria, Tuscany, Umbria, Abruzzo, Calabria and Sardinia. The most densely wooded regions are Liguria and Trentino, with a respective cover percentage of 62.6 and 60.5%, while the less wooded regions are Puglia (7.5%) and Sicily (10%). "Other wooded areas" are constituted by 58.0% of shrubland, with a large component of Mediterranean maquis and shrubland. If we consider the sum of all the surfaces classified as "woods" in the inventory, however, the most wooded region in Italy is Sardinia, because here "other wooded areas", that is sparsely treed areas and areas with shrub vegetation, mainly used for grazing, are the most extensive in Italy. The "woodland" of this region thus abounds with features classified as "low woods", "low-density woods" and "shrubs", making it very distinctive among Italian landscapes. This is a very interesting example of the unsuitability of the traditional concept of "woods" to a situation where wooded or treed pastures, maquis and pollarded groves—a vegetation perfectly adapted to the needs of the local economy—dominate the landscape, rather than woods intended as continuous and clearly bounded cover. Typically, this kind of vegetation is seen as a deterioration of "natural" vegetation, intended as tall woods, and is hence frequently steered to evolve in that direction.

Forestation is advancing in Italy at a rate of ca. 70,000 ha per year, which is also indicative of the rate at which agricultural surfaces are being abandoned. The advance of woods contributes to reducing the landscape diversity of complex rural landscape mosaics, at such a rate that in Tuscany about 70% of this diversity has been lost since the nineteenth century (Agnoletti 2007). This diversity, as indicated by studies of the Tuscan landscape monitoring system on some mountain areas in the region, arose from a great variety of land uses that have given way to a homogenization and banalization of the landscape (Agnoletti 2002). It is true, although not always, that the expansion of woods can increase biodiversity as a result of the increase in the number of tree species. Concomitantly, however, there is a decrease in herbaceous species associated with meadows and pastures, and in animal species populating cultivated habitats, as well as a reduction of diversity at the landscape scale. Farina (1993) provides significant testimony about this trend. His research indicates that the replacing of olive groves with woods has determined a reduction of avifaunal diversity. From a silvicultural and landscape perspective, it would be much more desirable to have less woods, but better managed ones, with a higher level of spatial diversity. Furthermore, reforestation occurred on dry stone terraces due to the crisis

of traditional agriculture which was identified as the main cause of failure during heavy rainfall events causing landslides in the Cinque Terre area (Italy) in 2011 (Brandolini et al. 2018) (Fig. 2.3).

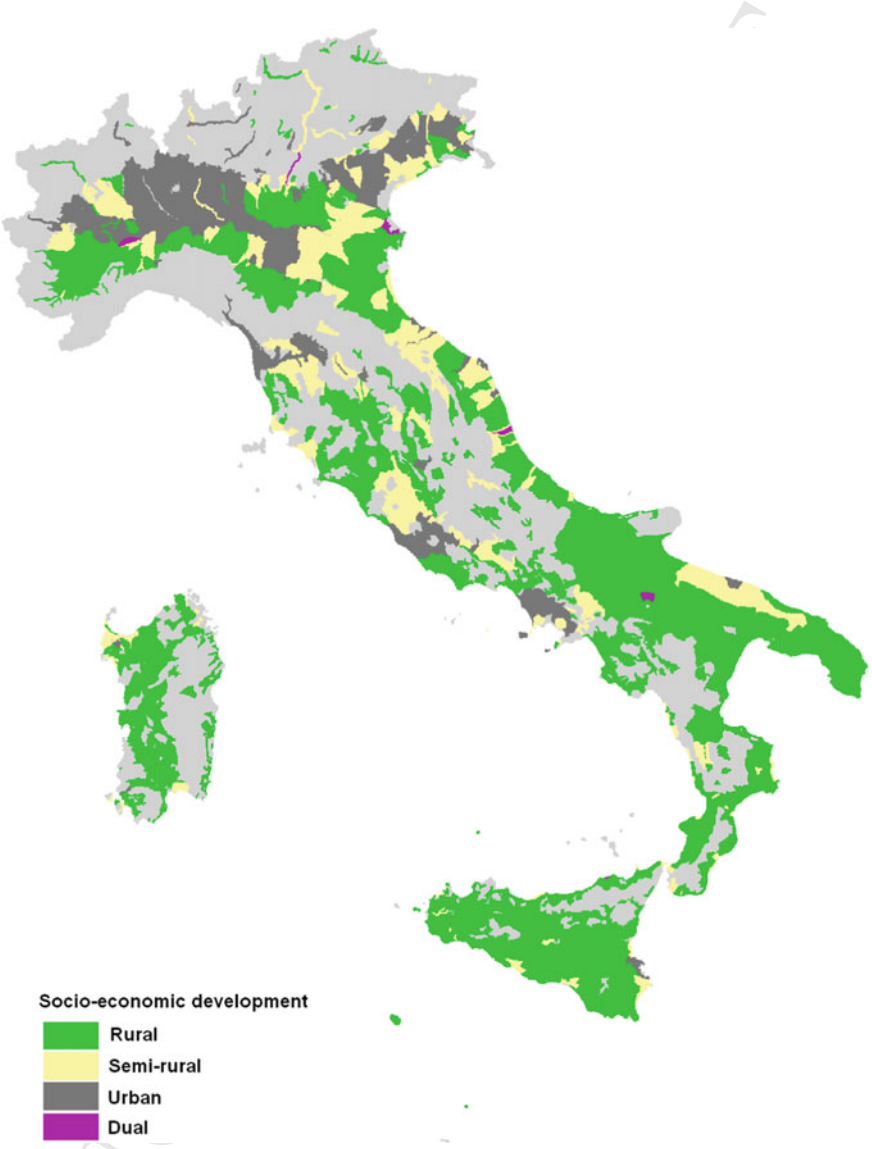

Fig. 2.3 In prevalently agricultural areas (see map on Fig. 2.1), the development model is no longer entirely rural. There are now vast zones with diffuse urbanization and semi-rural settlement patterns. All this emphasizes the many functions of the rural landscape and the value assigned to it today, adding to the difficulty of adequate planning, but making it all the more necessary

2.5 The Analysis of the 123 Study Areas

The research has identified 123 areas, distributed in all the Italian regions, characterized by the presence of historical landscapes. The aim of the research was not to carry out a complete survey of the Italian historical landscapes but to give an idea of their wealth and variety. The size of the 123 areas varies from 218 to 5,750 ha. All these landscapes are characterized by forms of cultivations that date back to ancient times, most of them to the Middle Ages, but some of them date back to Roman or even pre-Roman times (Fig. 2.4).

The analysis of the landscapes of the 123 areas carried out on the 2007–2010 orthophotos represents the first database at the national level of historical rural landscapes. The data collected developing the first land use layer highlighted a differentiation in landscape characteristics, according to the altimetric and geographical localization and to the land use typology. It is possible to identify some characteristics, which allow a possible grouping into homogeneous classes. Agricultural activities are mainly located in hilly and flat areas, where agricultural activities are more economically profitable. These areas are characterized by a fine-grain structure of the landscape mosaic and by high complexity, with an average size of the patches equal to 1.12 ha and the average number of land use equal to 22. Mountains are mainly characterized by mixed landscapes, with grazing, forestry and agricultural activities often distributed equally. Here, agriculture is practiced on small surfaces by small-holder farmers, but the structure of the landscape consists on average of larger patches (5.5 ha) due to forests and pastures. Mixed landscapes are also common in the central part of Italy, where traditionally the landscape consists of the coexistence of agro-silvo-pastoral activities due to the organization of the territory into small farms (*poderi*). Overall, it is possible to state that the Italian historical landscapes are characterized by a high number of different cultivations and land uses, often carried out on small patches, as a consequence of the traditional management and high fragmentation of the properties. The high-quality products that come from this cultivation and from animal husbandry, which in some cases are found only on some tens of hectares in the whole national territory, justify and guarantee their maintenance, even if they are always products that risk disappearing in near future. The results are landscape mosaics with high complexity and diversity of the landscape structure. This complexity is a fundamental component of the bio-cultural diversity expressed by these landscapes, which include animal and vegetal species related to the traditional agricultural practices, as also described by the FAO GIAHS program.

488809_1_En_2_Chapter ☑ TYPESET ☐ DISK ☐ LE ☑ CP Disp.:7/10/2021 Pages: 35 Layout: T1-Standard

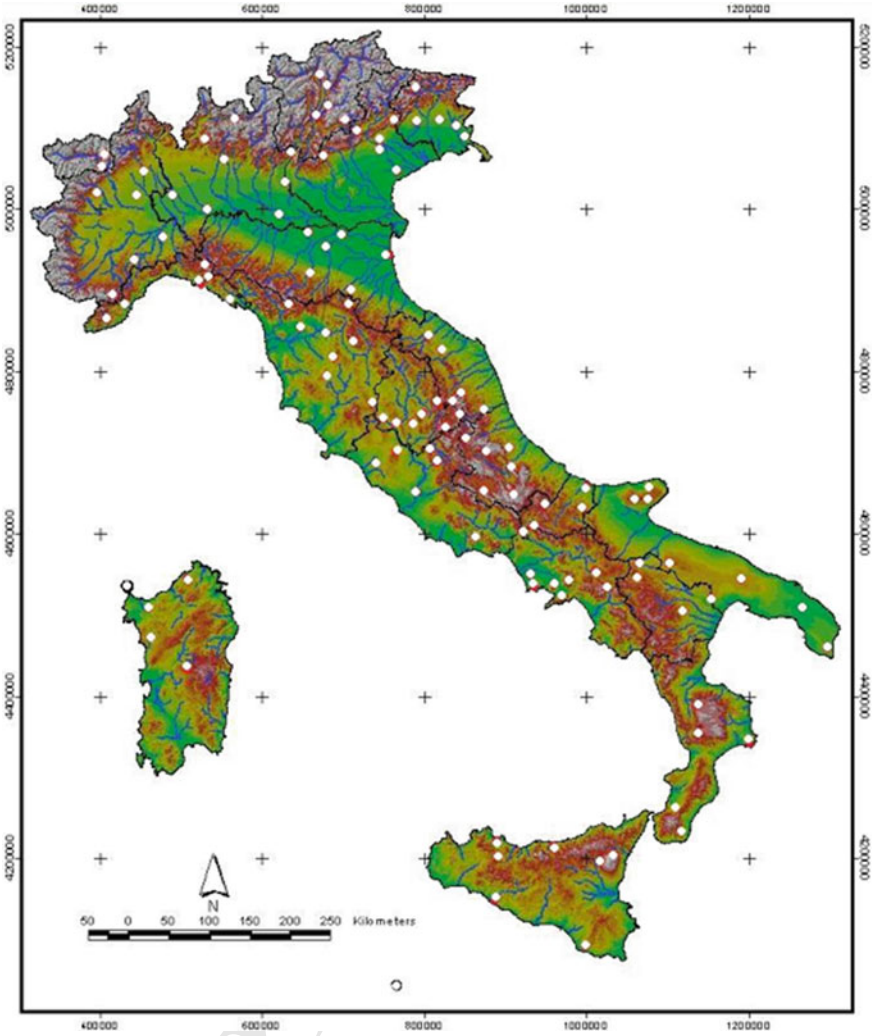

Fig. 2.4 The localization of the 123 areas (~~yellow symbols~~) selected for the National Catalogue of Historical Rural Landscape ~~and the division of Italy into north, center and south (islands are officially part of the south)~~

2.6 The National Observatory and the Register of Historical Rural Landscapes

One of the main results of the previous study is the fact that the Italian Ministry of Agriculture Food and Forestry Policies established in 2012 the "National Observatory of Rural Landscape, Agricultural Practices and Traditional Knowledge" (Decree n. 17,070 of 2012). Among the tasks of the National Observatory of Rural Landscape

can be found the surveying of landscape, of agricultural practices and of traditional knowledge considered to be of particular value, the promotion of research activities for studying the values associated with the rural landscape, its preservation, its management and planning, even in order to preserve bio-cultural diversity. It must also develop general principles and guidelines for the protection and enhancement of the rural landscape with particular reference to action taken under the Common Agricultural Policy. In addition to the landscape, the decree is aimed at the preservation and enhancement of "agricultural practices and traditional knowledge", defined as "complex systems based on ingenious and diversified techniques, on local knowledge expressed by rural civilization, which have made a major contribution to the construction and maintenance of traditional landscapes". This institution finally acknowledged the threats to the conservation of these cultural landscapes, as also occurring worldwide due to land abandonment, agricultural intensification, afforestation and urbanization which constitute threats to their diversity, coherence and identity (Antrop 2005). Rural areas losing their traditional landscapes, characterized by a small spatial scale, mixed cultures, limited technology, low use of fertilizers and pesticides and high biodiversity (Vos and Klijn 2000), require effective intervention, while also requiring dynamic conservation as suggested by many researchers (Farina 1998; Green and Vos 2001; Grove et al. 1994; Naveh 1993, 2005).

The same decree has also established the "National Register of Rural Landscape, Agricultural Practices and Traditional Knowledge". Through this Register, the Ministry identify and catalog "the traditional rural landscapes or landscapes of historical interest present within the national territory and connected traditional practices and knowledge, defining their significance, integrity and vulnerability, taking account both of the opinion of scholars and of the values ascribed to these landscapes, practices and knowledge by the concerned communities, subjects and populations". The Observatory, through the Register, has also the task of managing the "collection, analysis and classification of the data, ensuring its conservation for future generations and accessibility to potential users through a dedicated website as well as other means".

There are currently ~~13~~ 1 landscapes and ~~2~~ 1 traditional practices inscribed in the Register.

The Register is also the first step to access international programs, such as the Globally Important Agriculture Heritage Systems (GIAHS) program developed by FAO, the UNESCO World Heritage List and the UNESCO Network of Biosphere Reserves (MAB Program).

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Chapter 2

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