

9. Landscape and cultural heritage¹

The landscape and the historical and artistic heritage are common goods, and foundational assets of Italian identity, protected by the Constitution and the European Landscape Convention. However, the management of such an important heritage does not appear to be adequately supported by public finance, as the overall spending is lower than in other major European countries, poorly investment-oriented, and marked, at the local level, by strong inequalities, which penalise the regions economically less prosperous but equally rich in resources to be protected and enhanced.

The museum system, which faced an unprecedented reduction in visitors flow in 2020, has deployed strategies to allow remote access to its collections while promoting the training of new professional figures for the management and promotion of its assets. Agritourism farms, which also grew in 2020, are now a consolidated reality in support of rural development, guaranteeing the diversification of farmers' income and directly contributing to the protection of the territory.

Among the pressures affecting the landscape, illegal building rate continued to decline (though maintaining a significant incidence in the regions of Southern Italy), while the forest area destroyed by fires, which have become more frequent in Italy compared to the average of southern Europe, also increased in 2020.

In 2020-21 there was a decline in citizens' dissatisfaction with the landscape of the place where they live, perhaps mitigated by the rising of other forms of discomfort connected to the experience of lockdown or the rediscovery of possible alternatives to the usual place of residence. On the other hand, the concern about landscape deterioration remained stable, while most of the other environmental concerns were downsized during the pandemic.

The changes that await us in the near future, with the process of ecological transition and the implementation of the National Recovery and Resilience Plan (NRRP), represent a historic opportunity, first and foremost to strengthen public commitment to the protection and enhancement of the landscape and cultural heritage, but they also entail risks, which inevitably accompany the implementation of investment programmes of this magnitude and call for a renewal of the regulatory framework. The recent inclusion in the Constitution of the protection of the environment, biodiversity and ecosystems, which are placed alongside the landscape and the historical and artistic heritage in the text of Article 9, is a first step in this direction, affirming the need for an integrated approach to sustainable development, which includes the protection of the landscape and cultural heritage and the protection of the environment. In this approach, which must now take concrete form in the practice of planning at all levels, the landscape - the product of the interaction between nature and culture - becomes the most useful and functional category for interpreting the territory: no longer a catalogue of constraints but the matrix in which interventions must be placed and against which their sustainability must be assessed.

¹ This chapter was edited by Luigi Costanzo and Alessandra Ferrara, with contributions from: Francesca Budano, Elisabetta Del Bufalo, Alessandra Federici, Antonino Laganà, Stefano Tersigni, Francesco G. Truglia and Donatella Vignani.

Three new entries on the UNESCO World Heritage List

In 2021, Italy regained the top spot on the UNESCO World Heritage List thanks to three new recognitions: the *14th-century fresco cycles of Padua*, the *Porticoes of Bologna* and the city of *Montecatini Terme* (part of the *Great Spa Towns of Europe* trans-boundary property). The number of Italian properties on the List has thus risen to 58, of which 53 belong to the cultural heritage category and five to the natural heritage category². Italy was followed by China with 56 properties, Germany with 51, then by Spain and France with 49 (Figure 1a). Among the Italian cultural properties, 29 were classified as *cities* and eight as *cultural landscapes*³. Italy currently has 31 candidate properties, of which 19 cultural (including five cultural landscapes), nine natural and three mixed⁴.

Figure 1a. Properties inscribed in the Unesco World Heritage List, by criterion and country (first 20 countries by number of inscribed properties). Year 2021. Absolute values

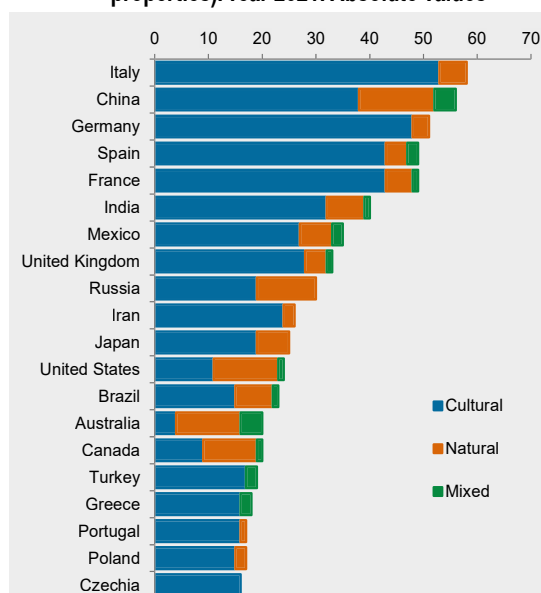
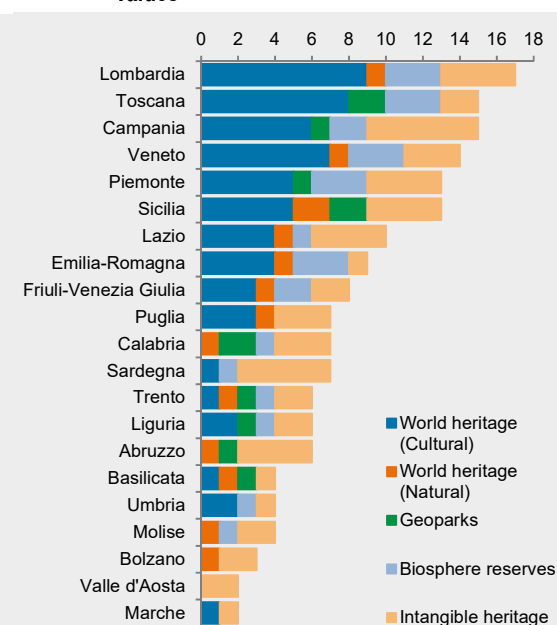


Figure 1b. Properties inscribed in the World Heritage List by criterion and other elements recognized by Unesco, by region (a). Year 2021. Absolute values



Source: Istat, processing on Unesco and Ministry of culture data

(a) Elements located in more regions are counted more times. The Intangible cultural heritage "Falconry", which is not located in a specific territory, is not represented.

Italy is also very active in other UNESCO initiatives that contribute to the protection and enhancement of cultural heritage and landscape: Italy has so far obtained the recognition of 20 Biosphere Reserves (including, in 2021, that of *Monte Grappa* and the extension of that

² The count includes seven trans-boundary properties, whose ownership is shared by Italy with other countries. There are 1,154 World Heritage List properties in 167 countries, of which 897 are cultural, 218 natural and 39 mixed (source: UNESCO, *World Heritage List* - data referring to 31/12/2021).

³ The theme of Cultural Landscapes was introduced in 1992, following a review of the criteria for selecting cultural heritage. The eight Italian Cultural Landscapes currently recognised are: *Amalfi Coast* (1997); *Portovenere, Cinque Terre and Islands* (1997); *Cilento and Vallo di Diano National Park, with the archaeological sites of Paestum, Velia and the Certosa di Padula* (1998); *Sacred Mountains of Piemonte and Lombardia* (2003); *Val d'Orcia* (2004); *Medici Villas and Gardens in Toscana* (2013); *Wine Landscapes of Piedmont: Langhe-Roero and Monferrato* (2014); *Prosecco Hills of Conegliano and Valdobbiadene* (2019).

⁴ Source: UNESCO, *World Heritage Tentative Lists* (data referring to 31/12/2021).

of the *Tuscan-Emilian Apennines*)⁵, 11 Geoparks (including, in 2021, those of *Aspromonte* and *Majella*)⁶ and 15 elements of the Intangible Cultural Heritage (including, in 2021, the *Truffle hunting and extraction in Italy, traditional knowledge and practice*)⁷. The territorial distribution of recognitions testifies to the extraordinary wealth and diversity of Italian cultural and landscape heritage, as all regions are represented with more than one item in the various UNESCO inventories (Figure 1b).

Public spending on landscape and cultural heritage far below the EU average

The resources allocated by public finance to the management of such a vast and widely spread heritage appear comparatively modest. In Italy, public spending on *cultural services* (which include the protection and enhancement of cultural heritage) was just over 5 billion Euro in 2019⁸. Among the other major EU economies, France and Germany spent much more (16.8 and 13.9 billion, respectively) and Spain also committed more resources (5.5 billion). Compared to the previous year, the amount spent by Italy decreased by 5%, compared to a 2.6% growth in the Union as a whole. Consequently, Italian public spending in this field remains among the lowest in Europe in relation to the Gross Domestic Product: 2.8 per thousand against an EU average of 4.8 per thousand. On the other hand, Italy ranked first in the Union for spending on the *protection of biodiversity and landscape* (2.1 billion Euro in 2019, against 2 in France and 1.8 in Germany)⁹. This item, however, is equivalent to just 1.2 per thousand of GDP and shows an overall downward trend over the last decade (Figure 2).

5 Biosphere Reserves (727 in 131 countries, united in the *World Network of Biosphere Reserves*) are areas that are home to terrestrial and/or marine-coastal ecosystems, managed in a way that combines the conservation of biodiversity with the sustainable use of natural resources for the benefit of local communities, through research, monitoring, education and training activities (source: UNESCO, *Man and the Biosphere Programme* - data referring to 31/12/2021).

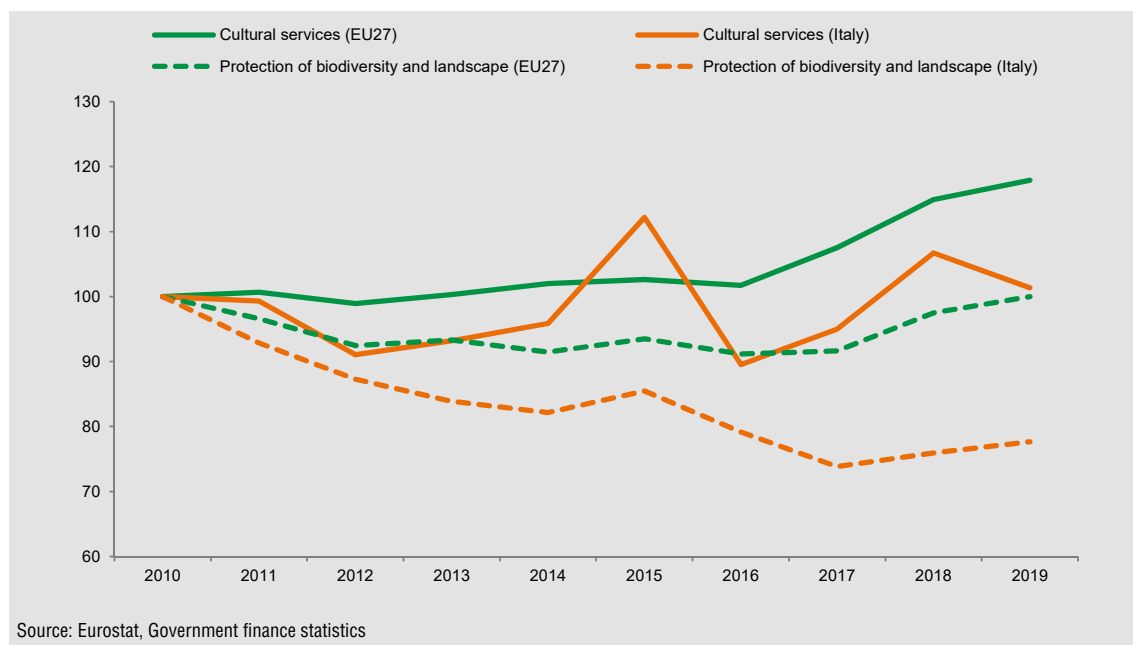
6 The UNESCO World Geoparks (169 in 44 countries, united in the *Global Geoparks Network*) are sites characterised by the presence of geological landscapes of particular value for their scientific interest, rarity and aesthetic or educational value, managed according to an integrated approach to the protection, promotion of knowledge and sustainable development of the territory (source: UNESCO, *UNESCO Global Geoparks* - data referring to 31/12/2021).

7 The Representative List of the Intangible Cultural Heritage of Humanity includes 630 elements in 140 countries, relating to one or more of the five domains of human creativity and diversity considered by the *Convention for the Safeguarding of the Intangible Cultural Heritage* (2003): oral expressions including language, performing arts, social practices, rites and festivals, knowledge and practices concerning nature and the universe, traditional crafts (source: UNESCO, *Representative List of the Intangible Cultural Heritage of Humanity* - data referring to 31/12/2021).

8 General government expenditure for class 08.2.1 of the International Classification of Public Expenditure by Function (Cofog).

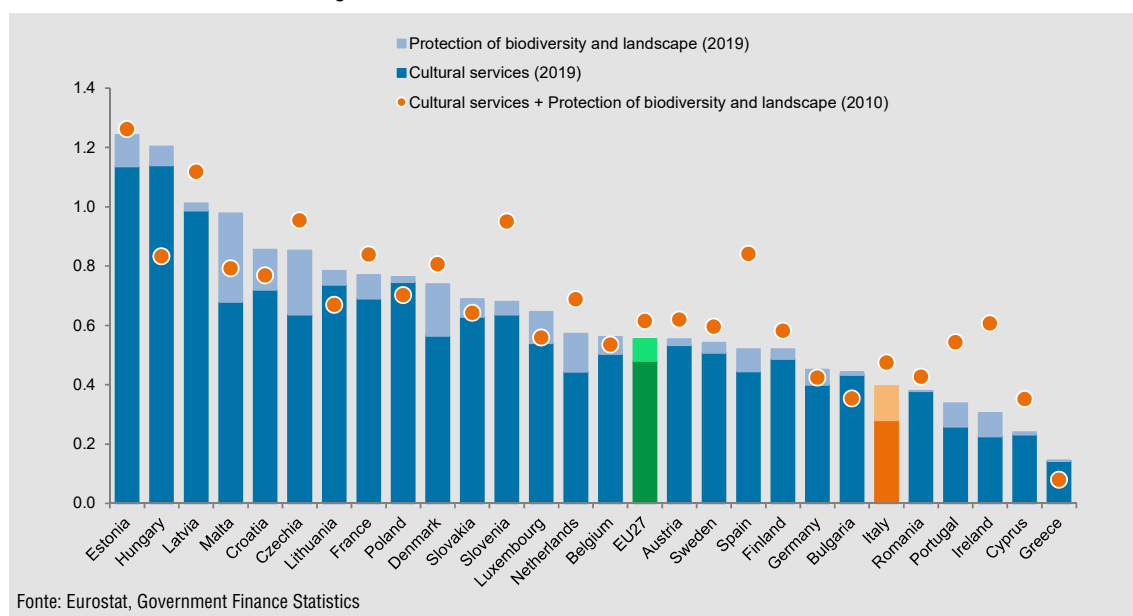
9 General government expenditure for class 05.4.1 of the International Classification of Public Expenditure by Function (Cofog).

Figure 2. Public expenditure on Cultural services and Protection of biodiversity and landscape in Italy and EU27. Years 2010-2019. Index, 2010=100



In a ranking of public spending on landscape and cultural heritage, formed by relating the sum of both expenditure items to GDP (which in any case define an area of intervention that is much broader than that strictly referable to the scope of protection and enhancement), Italy ranks only 22nd among the 27 countries of the Union. Moreover, in 2019, like most Member States, Italy spent a lower fraction of its GDP on cultural services and the protection of biodiversity and landscape than in 2010 (Figure 3).

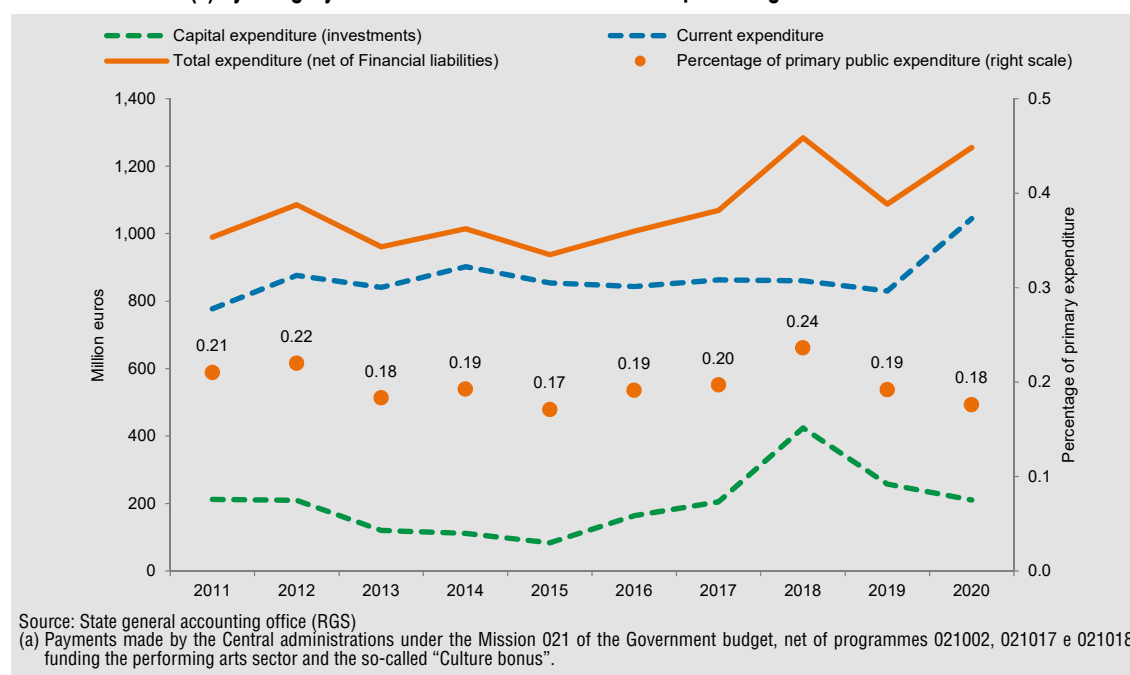
Figure 3. Public expenditure on Cultural services and Protection of biodiversity and landscape in EU countries. Years 2010 and 2019. Percentage of GDP



Less investment and more current expenditure for culture and landscape in the State Budget

The classification of public expenditure by missions makes it possible to identify an aggregate related to the management of cultural heritage and landscape more precisely in the State Budget¹⁰. In 2020, the exceptional expansion of primary expenditure linked to the impact of the pandemic also affected State expenditure for the *Protection and Enhancement of Cultural and Landscape Heritage and Activities* mission, which grew by 15.4% compared to the previous year, reaching the amount of 1.26 billion Euro¹¹. This increase, however, only partially makes up for the drop recorded in 2019 and, unlike the previous increases that occurred between 2015 and 2018, is not due to a growth in investments (budgeted as capital expenditure), but to a considerable increase in current expenditure (+25.8%, Figure 4)¹².

Figure 4. Primary government expenditure on Protection and enhancement of cultural and landscape heritage and activities (a) by category. Years 2011-2020. Million euros and percentage values



¹⁰ This aggregate corresponds to the Mission 021 of the State Budget, net of the Programmes 021002, 021018 (relating to the entertainment sector) and 021017 (so-called "Culture Bonus"). It is not comparable with the sum of expenditure for *Cultural Services* and *Protection of Biodiversity and Landscape*, which includes a broader scope of activities and refers to the classification of expenditure by functions (Cofog), used in international comparisons. Moreover, in the international comparison the total expenditure of Public Administration is taken into account and not only that of the Central Government.

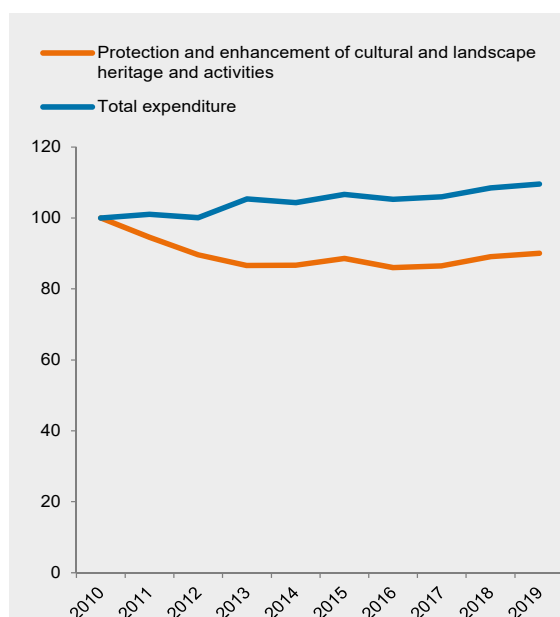
¹¹ Accrued payments of the Central Government, net of repayments of financial liabilities.

¹² Compared to 2019, current expenditure for the *Enhancement of the cultural heritage and coordination of the museum system and Coordination and direction for the safeguarding of the cultural heritage*, in particular, almost doubled (+89.2% overall). The growth in current expenditure for the Mission 021 is in line with the expansion of primary State expenditure recorded in 2020 (+26%, compared to an average increase of 1.5% over the previous five years), to which, however, a strong increase in capital expenditure also contributed.

Expenditure of Municipalities for culture recovers ground, but the North-south gap remains wide

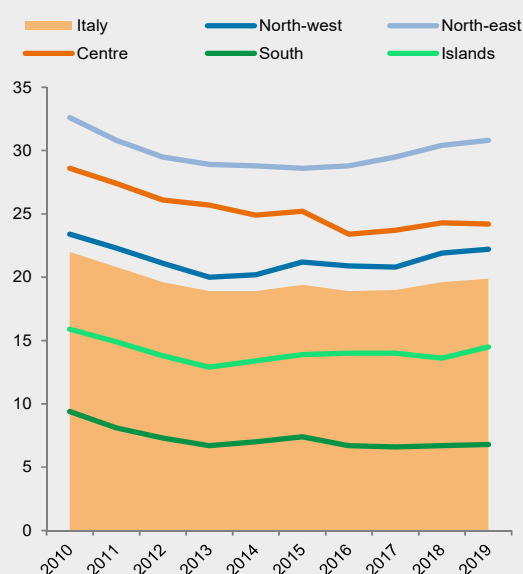
In 2019, the current expenditure of municipalities for the management of cultural assets and activities continued to climb the slope after the low reached in 2016, standing at 19.9 Euro *per capita* (0.3 more than the previous year)¹³. In recent years, at the national level, the trend of this expenditure item follows that of overall expenditure: the share allocated to culture in the budgets of Municipal Administrations, therefore, remained unchanged, standing at 2.8% since 2013 after having been reduced in previous years (Figure 5a). At the territorial level, the differences remained very wide: compared to the previous year, in fact, *per capita* spending increased in all geographic areas (except the Centre), leaving a picture of strong inequalities substantially unchanged. At the two extremes we find the municipalities of the North-east,

Figure 5a. Current expenditure of Municipalities (a), in whole and on Protection and enhancement of cultural and landscape heritage and activities (b). Years 2010-2019. Index, 2010=100



Source: Istat, Final balance sheets of Municipalities, Provinces and Metropolitan areas
(a) Payments made by Municipal administrations.
(b) Until 2015, Functions relating to culture and cultural heritage.

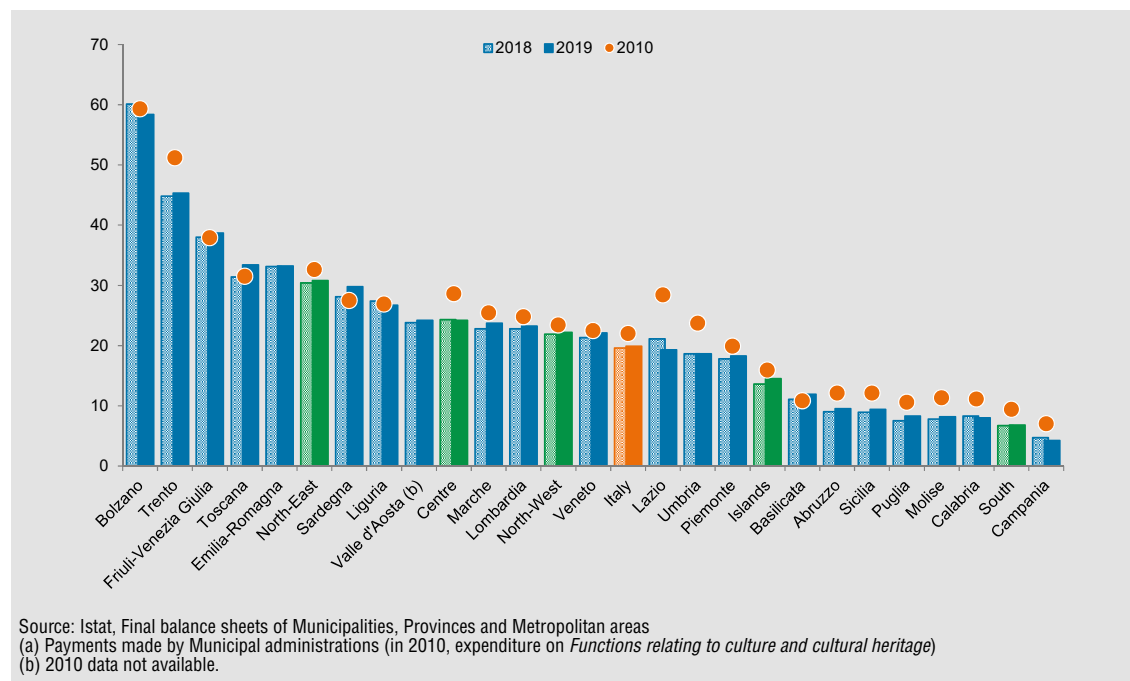
Figure 5b. Current expenditure of Municipalities (a) on Protection and enhancement of cultural and landscape heritage and activities (b) by geographic area. Years 2010-2019. Euros per capita



which spent an average of 30.8 Euro *per capita* (over 50% more than the Italian average), and those of the South, which spent only 6.8 (about one-third of the Italian average, Figure 5b). The gaps increased at the regional level, where the highest value (58.4 euro *per capita* in the autonomous province of Bolzano) was 14 times higher than the lowest (4.2 euro *per capita* in Campania). Among the regions with ordinary statutes, Toscana and Emilia-Romagna were in the top positions with 33.4 and 33.2 euro *per capita* respectively, while all the southern regions, except Sardegna, were well below the Italian average (Figure 6).

¹³ The indicator considers current expenditure (accrual payments) for *Protection and Enhancement of Cultural and Landscape Heritage* (until 2015, expenditure for *Functions related to culture and cultural heritage*).

Figure 6. Current expenditure of Municipalities on Protection and enhancement of cultural and landscape heritage and activities (a) by region and geographic area. Years 2010, 2018 and 2019. Euros per capita



In 2020 more than 90% of museums were open for at least part of the year

In 2020, 3,924 permanent exhibition facilities (-19.6% compared to the previous year) were open to the public at least for part of the year (1.3 museums and galleries, archaeological areas and parks, monuments and monumental complexes every 100 km²). These welcomed more than 36 million visitors (-72.3% compared to the previous year) during the periods not subject to the pandemic containment restrictions¹⁴. The impact of the pandemic was therefore severe, even though 92.0% of the structures guaranteed physical access for visitors for at least part of the year and about 30% made it possible to enjoy the collections through virtual tours¹⁵.

Italy is historically characterised by a capillary diffusion of museum structures (more than a third of which are located in municipalities up to 5,000 inhabitants and almost 40% also in areas of difficult access)¹⁶ but also by a strong concentration of flows: only 12.0% of structures are located in metropolitan cities, which nevertheless welcomed 43.0% of visitors in 2020, while about 70% were concentrated in “pole” municipalities, which are more accessible¹⁷. It is therefore evident how the infrastructure deficit contributes to limiting the

14 The total number of museum facilities, including those that in 2020, due to *COVID-19*, carried out only administrative or online activities, without any in-presence service for the public, was 4,265.

15 Through the activation of virtual tours, guided video-visits and/or alternative ways of visiting the museum/institution. 14.0% of the facilities also made the catalogue of their collections available online in digital format; 23.9% provided online services such as workshops, training courses, seminars, etc.; and 39.1% activated online services of interaction and involvement of the public such as video interviews, in-depth examinations of the collections, streaming meetings, etc.

16 *Intermediate, peripheral and outermost* municipalities according to the classification of Inland Areas adopted by the Italian Agency for Territorial Cohesion.

17 According to the classification of Internal Areas adopted by the Italian Agency for Territorial Cohesion.

fruition of a significant part of the museum heritage. In 2020, the indicator of density and importance of museums' heritage presented a less concentrated territorial distribution than in 2019 (Figure 7)¹⁸.

Of the seven regions that were above the average value (1.3 per 100 km²), those traditionally most visited by international tourism (Lazio, Toscana, Campania and Veneto) recorded the greatest losses. Within this quite exceptional framework, the regions of the North-east (in particular the autonomous province of Trento and Friuli-Venezia Giulia) and Valle d'Aosta seem to have held up better, maintaining comparatively high values for the indicator and positive changes compared to the previous year. The recovery of flows expected in the next few years should be accompanied by a redistribution strategy to enhance the value of minor centres, and reduce anthropic pressure on the great "magnets" of international tourism. Some of the initiatives for the presentation of facilities already implemented in 2020 go in this direction: the museums have activated at least one online activity for users by making use of internal staff who already had the necessary skills (in 85.4% of cases), investing in training (11.7%) or hiring new resources (24.3% of cases). They plan as a priority the recovery and strengthening of the relationship with the public in presence through integrated tickets, promotions or facilitated access (29.2% of facilities) and they plan to invest in the organisation of flows and safe access (12.2%).

Figure 7a. Density and importance of the museum heritage
(a) by region and geographic area. Years 2019 and 2020. Museums and similar facilities weighted by the number of visitors per 100 km²

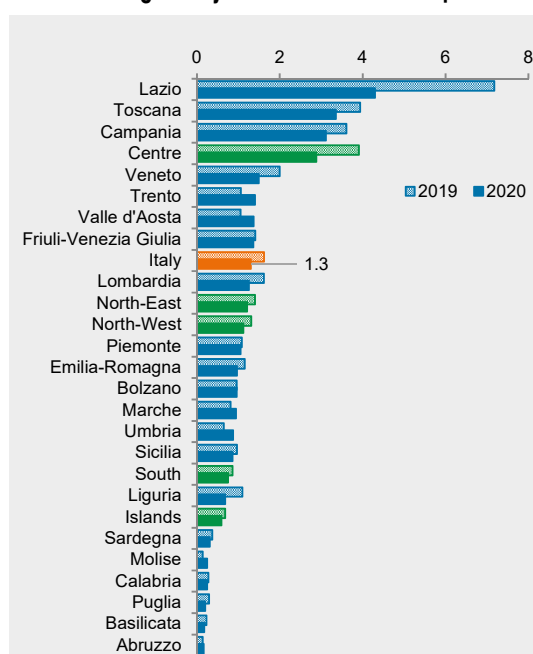
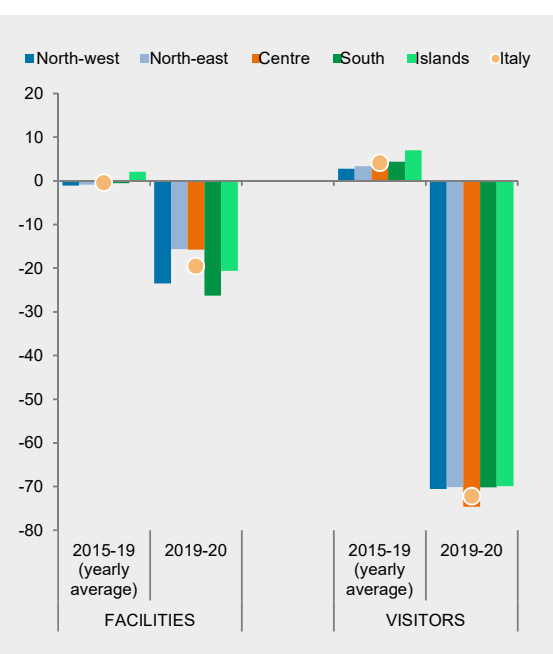


Figure 7b. Museum facilities and visitors by geographic area. Years 2015-2019 and 2019-2020.
Percentage change



Source: Istat, Survey on museums and other cultural institutions.
(a) Museums and galleries, archaeological sites and parks, monuments and monumental complexes.

¹⁸ The indicator is calculated as a territorial density weighted by the number of visitors. For the formula, see the definition of the indicator at the end of the chapter.

Rural tourism facilities continued to grow despite the pandemic

The farms practicing rural tourism formed an important sector of the agricultural economy in 2020, numbering more than 25,000 units (+2% compared to 2019) even though, as a result of the travel restrictions imposed by the pandemic, there has been a significant drop in the movement of tourists (- 41.3% compared to 2019). The positive trend has continued for more than ten years (at a rate of 2.3% on average per year), accompanied by a diversification in the range of services on offer. In particular, in 2020, farms organising activities related to proximity tourism experienced an increase (wine tasting +7.6%; horse riding +1.8%; excursions +2.4%, trekking +5.8%; mountain biking +2.8%, classes +16.3%). It is precisely the versatility of these activities, permitted by a legislation that aims at promoting the diversification of farmers' income, that has helped to qualify the offer of rural tourism over time¹⁹. A further incentive for the growth of agritourism, with potentially positive effects on the rural landscape, may come from the NRRP's investment line dedicated to the *protection and enhancement of rural architecture and landscape*, which finances the eco-sustainable recovery and rehabilitation of degraded or abandoned rural buildings. In 2020 there were 8.3 rural tourism facilities per 100 km², of which over 30% in mountain areas and over 50% in hill areas, with at least one presence in 63.0% of Italian municipalities (and 84.1% of municipalities in the Centre). The number of the farms that practice rural tourism is growing in all the geographic areas except the Islands and particularly in

Figure 8a. Spread of rural tourism facilities by region and geographic area. Year 2020. Average number of farmhouses per 100 km²

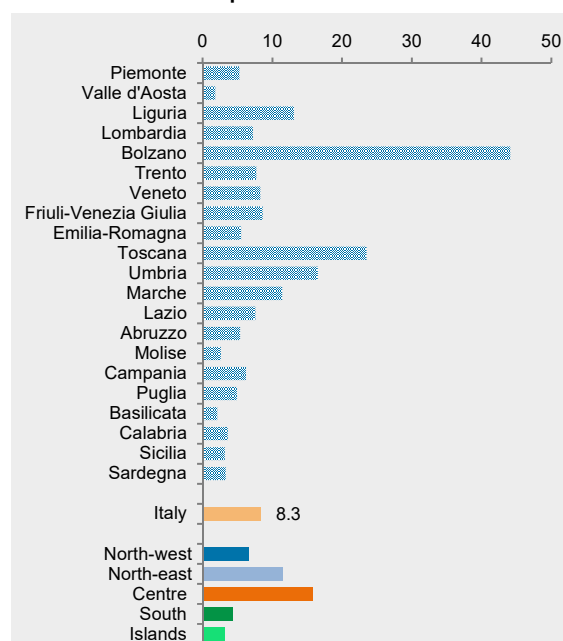
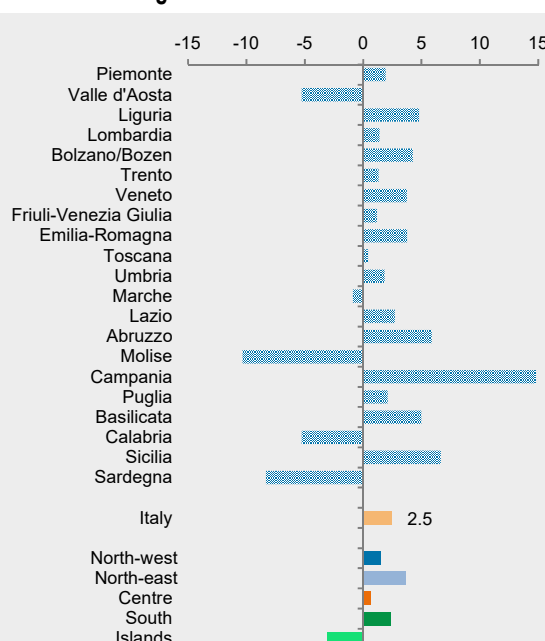


Figure 8b. Rural tourism facilities by region and geographic area. Years 2019-2020. Percentage changes



Istat, Survey on farmhouses

¹⁹ The current Regulations on agritourism (Law No 96/2006) allow this activity to be carried out only on farms, "in connection with land cultivation, forestry and animal breeding activities" (Article 2). The previous Framework Law (no. 730/1985) added that agricultural activities "must, in any case, remain the predominant ones", while the law of 2006 made this constraint less stringent, entrusting the Regions with the definition of "criteria for assessing the connection relationship between agritourism activities and agricultural activities, which must remain predominant" (Article 4).

the North-east (+3.5%), where there is also a high territorial density (11.5 facilities per 100 km²). In the Centre, where density is highest at just under 16 facilities per 100 km², the phenomenon seems to be stabilising. In this particular year, in the South, where density is still far from the national average, a growth of 3.4% was observed (Figures 8a and 8b).

Progress made in the National Register of Historic Rural Landscapes

Five new sites were entered in the National Register of Historic Rural Landscapes and Traditional Agricultural Practices in 2021: two in Emilia-Romagna (*La Corona di Matilde-Alto Reno terra di castagni* and *Praterie e canali irrigui della Val d'Enza*), one in Veneto (*Colline terrazzate della Valpolicella*), one in Toscana (*Paesaggio collinare policulturale di Pienza e Montepulciano*) and one in Molise (*Il paesaggio del grano-Area cerealicola di Melanico*). In addition, the traditional practice of *Irrigazione tramite sistema di rogge "Waale" sulla Landa di Malles* (autonomous province of Bolzano) has been registered. Currently, 27 historical rural landscapes in 12 regions, with a total area of more than 126,000 hectares, and four traditional agricultural practices are inscribed in the Register. In terms of landscapes, the most represented regions are Toscana (with six sites totalling 32 thousand hectares), Veneto (four sites totalling 30 thousand hectares) and Lazio (four sites totalling 21 thousand hectares)²⁰.

Funds for *Borghi* and historic green spaces from the NRRP

The NRRP assigned 6.68 billion Euro to relaunch the culture and tourism sectors, equal to 16.6% of the funds of the entire Mission 1 (*Digitisation, Innovation, Competitiveness, Culture and Tourism*)²¹ and 3.5% of the entire amount of the *Recovery and Resilience Facility* assigned to Italy. A first line of activities, of particular interest for the analysis of the relations between well-being and cultural heritage, was addressed to the enhancement of historical and cultural sites with the aim of improving their attractiveness, safety and accessibility, with specific attention to the protection and enhancement of minor historical centres, namely the so-called *Borghi* (474 in 2020-21, considering the realities certified by the two main initiatives)²². The potential of minor centres is witnessed by the distribution of the museum system: over 50% of the exhibition facilities open to the public are located in municipalities with up to 10 thousand inhabitants, and over 16% of the museums and 25% of the archaeological areas in *peripheral* or *outermost* municipalities according to the

20 The Register is kept by the National Observatory for Rural Landscapes, established at the Ministry for Agricultural, Food and Forest Resources (Mipaaf) in 2012. Entries in the Register are made following the evaluation of applications made by local players and can be revoked when the characteristics that motivated them no longer exist (source: Mipaaf, *Rete rurale nazionale* - data referring to 31/12/2021).

21 Mission 1, Component 3 - *Tourism and Culture 4.0*.

22 Reference is made to Mission 1, Component 3, Investment 2.1 of the NRRP (*Attractiveness of Borghi*). The small towns that were awarded the *Orange Flag* certification by the Italian Touring Club were 247 (June 2020), those qualified among the Italy's most beautiful *Borghi* by the association of the same name were 334 (February 2022). The TCI awards *Orange Flags* to places with a valuable historical, cultural and environmental heritage offering quality tourist accommodation. The association of *Italy's Most Beautiful Borghi* has been promoted since 2001 by ANCI's Tourism Council and includes municipalities that apply policies to preserve their historical and cultural heritage, limit new artificial surfaces, maintain traditional agricultural practices alive and focus on sustainability. Both initiatives only consider for certification municipalities with up to 15,000 inhabitants (and, in the case of *Orange Flags*, only if located in the hinterland).

classification of inland areas.

Another important component of the diffuse landscape and cultural heritage, which is also the subject of a funding line under the NRRP²³, is urban greenery and, in particular, historic green areas²⁴. This important and fragile part of the cultural heritage, referred to in the Plan as a "hub of public beauty and identity places for urban communities", contributes to the green endowment of most provincial and metropolitan city capitals and, overall, accounts for more than 12% of it (over 67 million m²). These are villas, gardens and parks of artistic or historical interest, with features of uncommon beauty permeated into the urban fabric, which represent a distinctive feature of the urban landscape of Italy.

Pressure from mining and quarrying activities rose before the pandemic

The slowdown in economic activity caused by the pandemic had a limited effect on mining and quarrying activities: according to provisional estimates of Material flow accounts, in 2020 domestic extraction of non-energy minerals decreased by 5.9% in Italy and even less in the EU as a whole (-1.5%)²⁵. In the previous year, the survey on the activity of quarries and mines recorded an increase in extracted volume²⁶, which reached the proportion of 287 m³ per km² (+7.6% compared to 2018, marking a reversal of the negative growth in 2013-2017). Lombardia was the region with the highest extraction intensity (559 m³/km²), followed by Umbria (491) and Molise (428), but values more than one third above the national average were also found in Veneto and Puglia (Figure 9b). Generally speaking, the intensity of extraction tends to decrease along the North-south axis (from 398 m³ per km² in the North-west to 191 in the Islands, Figure 9a), but the increase in extracted volume was found in all regions except those of the Centre. Other significant increases (between 20 and 25% compared to 2018) were observed in Sardegna, Campania and Sicilia, while Friuli-Venezia Giulia was the only region to record a sharp reduction in extracted volume (- 26.1%). Mining and quarrying activities also have a significant impact on the landscape due to the spread of extraction sites, the vast majority of which are quarries (3,475, compared to 93 mines). On average, there are 1.2 active sites (quarries and mines) per 100 km² throughout Italy, but more than 1.5 in Trentino-Alto Adige, Marche, Puglia and Lombardia, and almost two in Veneto.

23 In Mission 1, Component 3, investment line 2.3: *Programmes to enhance the identity of places: historic parks and gardens* have as their objective "the action of knowledge and recovery of Italian historic parks and gardens with a view to their proper maintenance, management and public enjoyment" (...) due to the "relevance of the public function that these assets, like other places of culture, play and can play in the context of community life in terms of well-being, social inclusion and economic benefits".

24 Green areas bound under the Cultural Heritage and Landscape Code (Legislative Decree 42/2004 as amended).

25 Source: Eurostat, *Environmental Statistics: Material Flow Accounts*. The indicator considers domestic extraction of non-energy, metallic and non-metallic minerals (in tonnes).

26 Like the indicator used for international comparison (based on estimates of material flows), the Bes indicator is a measure of extraction intensity but considers the volume of materials extracted rather than their mass.

Figure 9a. Pressure from mining and quarrying activities by geographic area. Years 2013-2019. m³ of mineral resources extracted per km²

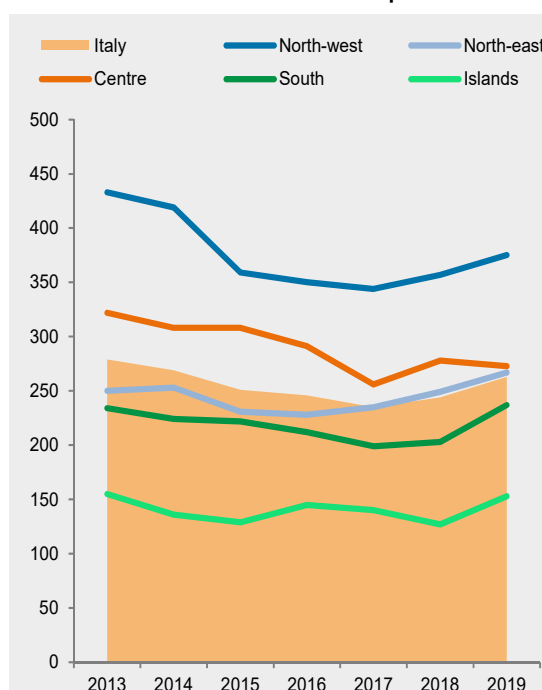
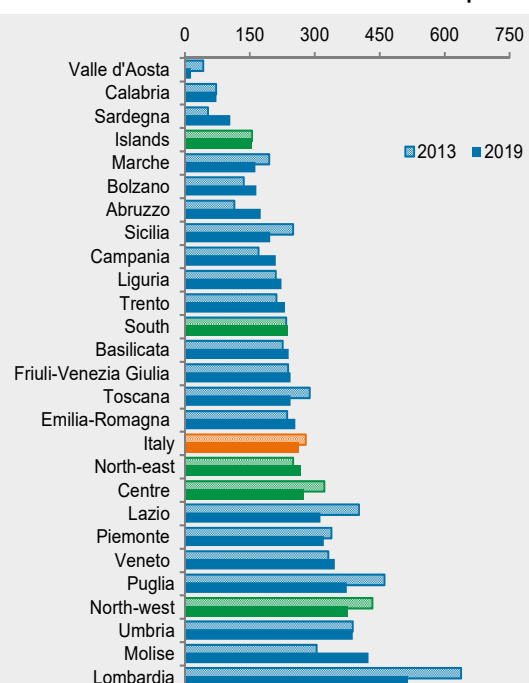


Figure 9b. Pressure from mining and quarrying activities by region and geographic area. Years 2013 and 2019. m³ of mineral resources extracted per km²



Source: Istat, Anthropic pressure and natural hazards. Mining and quarrying extraction activities

Weather and climate conditions favoured an increase in forest fires in 2020

The cyclical trend in forest fires (Figure 10) is naturally affected by the variability of weather and climate conditions. In 2020, the forest area affected by fires in Italy was equal to 1.8 per thousand of the national territory. The value, growing for the second year in a row, was recorded in a year characterised by higher temperatures and lower than average rainfall (about +0.3 °C and -132.1 mm compared to 2006-2015)²⁷. The problem was shared with other European countries, particularly in the Mediterranean area, among which only Portugal and Croatia recorded a higher incidence of areas affected by fire in 2020 (7.3 and 4.2 per thousand of the national territory, respectively). Even in 2020, however, the impact of forest fires remained much lower than the average of the 2010-2019 decade²⁸, which was affected by the peaks recorded in 2012 and 2017. The phenomenon, which sees Italy among the most exposed in Europe, can be contained through proper management of agricultural and forest areas and awareness-raising among the population. The number of fires (4,865 in 2020) and the causes reported (only 2% attributable to natural phenomena such as lightning and the remainder to human activity: agricultural practices, hunting and recreation, as well as malicious actions)²⁹ describe an overall picture of low attention and awareness. At the national level in 2020, fires affected about 56,000 hectares of forest are-

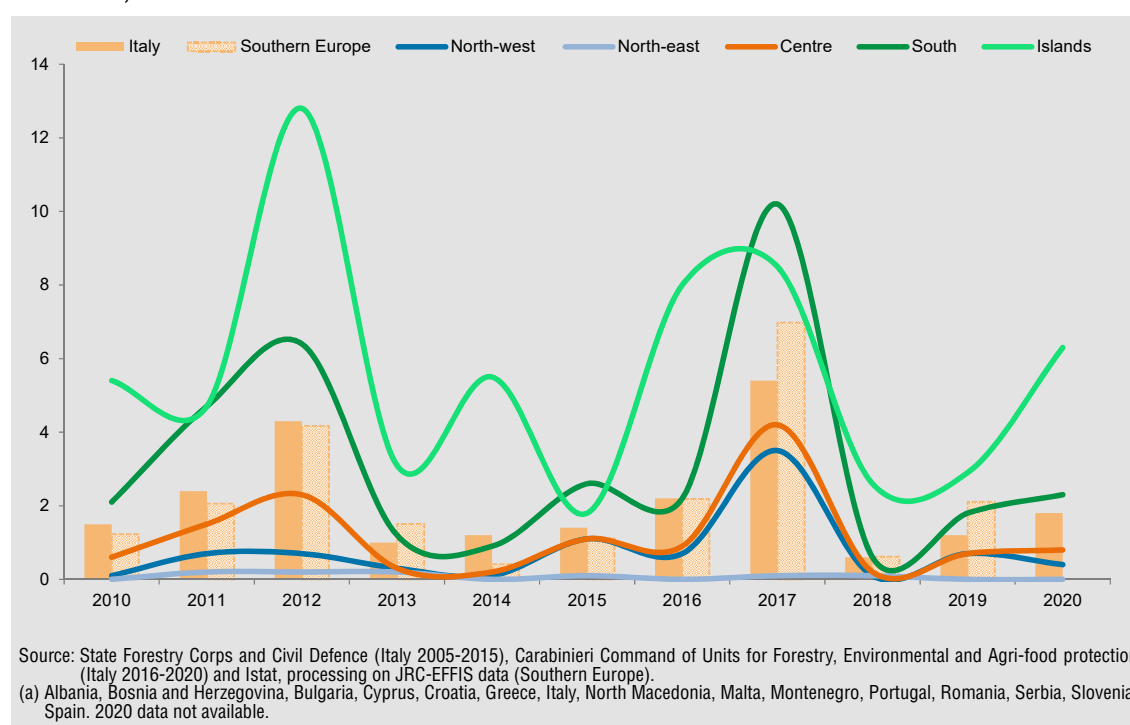
²⁷ Source: Istat, Meteorological and Hydrological Data Collection. Average 2020 difference measured for regional and metropolitan capital cities.

²⁸ Source: Joint European Research Centre, *European Forest Fire Information System* (Effis).

²⁹ Source: Comando Carabinieri Tutela Forestale, Forest Fire Information Unit.

as, almost 90% of which were located in Southern Italy (56.5% in the Islands, 31% in the South). The impact was significant and manifested itself both directly, in terms of destroyed or damaged ecosystems³⁰, and indirectly, in terms of the loss of ecosystem services: at the regional level, the highest values were recorded in Sicilia (more than 9 per thousand of the regional territory), Campania, Sardegna and Calabria (between 3 and 4 per thousand).

Figure 10. Area covered by forest fires in Italy by geographic area and in Southern Europe. Years 2010-2020. Km² per 1,000 km² of total land area



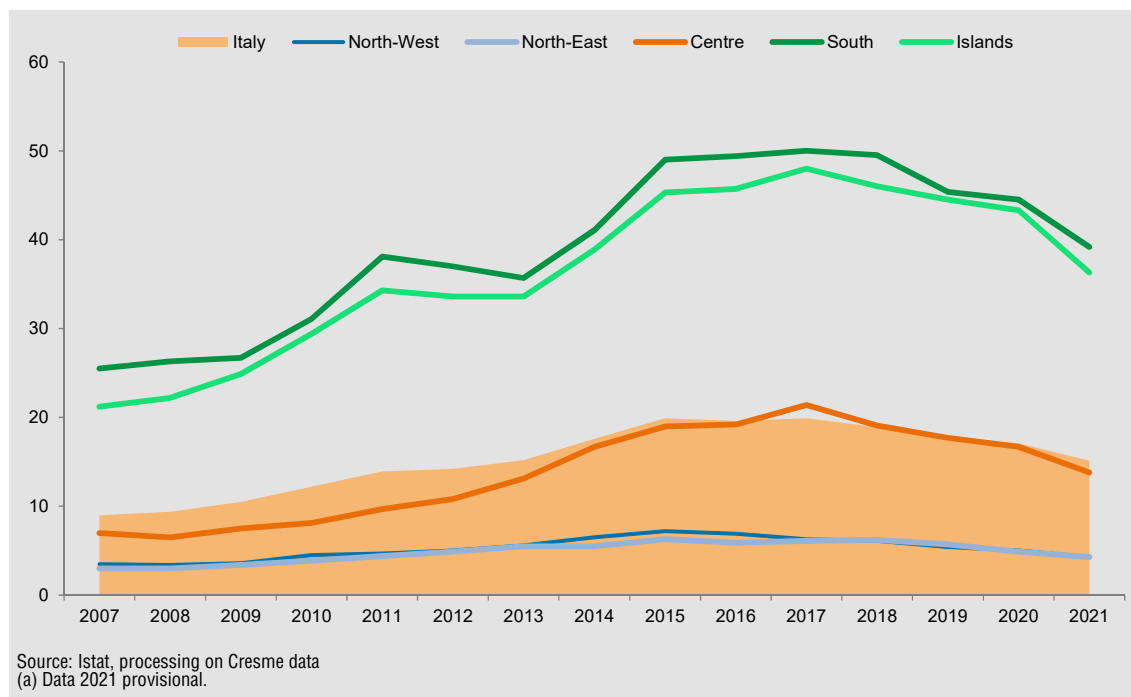
Illegal building in decline also in 2021, but the situation remained critical in Southern Italy

Estimates for 2020 and 2021 confirm the positive trend of the illegal building rate, which has been falling since 2018 after a ten-year growth phase. In 2021 the ratio was 15.1 illegal new houses every 100 authorised, still high but moving away from the levels reached in 2015-2017 when new illegal houses were estimated at about 20% of the authorised ones³¹. The downward trend is consistent in all the geographic areas, but the territorial differences are extremely marked: in fact, the phenomenon of illegal building is concentrated above all in the South and the Islands (where it maintains alarming levels, with a rate ranging between 35 and 40) and is present to a not negligible extent in the regions of the Centre (where the rate is close to the Italian average), while it can be considered marginal in those of the North (Figure 11).

³⁰ Ecosystems are homogeneous ecological units that generate regulation (water, atmospheric gases, climate, erosion, etc.), supply (food, raw materials, biological variability, etc.) and cultural (aesthetic, recreational, identity values, etc.) ecosystem services. The time to restore them to their pre-deterioration ecological conditions is in the order of a hundred years and their destruction potentially irreversible.

³¹ The 2021 data are provisional. The unauthorised building rate is a flow measure referring to housing construction, which expresses the proportion of unauthorised buildings built in the reference year in relation to those authorised by the municipalities. Therefore, it does not represent the share of unauthorised buildings in the total number of buildings built in the reference year (nor, indeed, in the stock of buildings).

Figure 11. Illegal building rate by geographic area. Years 2007-2021 (a). New unauthorised housing units every 100 authorised



The continuity of the downward trend over the last two years, indifferent to the impact of the pandemic on the construction sector, can be considered a further positive signal, given that the rise observed between 2007 and 2015 (from 9 to 19.9 unauthorised new houses every 100 authorised) had occurred in the context of a crisis of housing production³². In any case, concern remains about the situation in Southern Italy, where a significant share of building activity continues to take place in partial or complete illegality, producing degradation of the landscape, seismic and hydrogeological risk, and irregular employment.

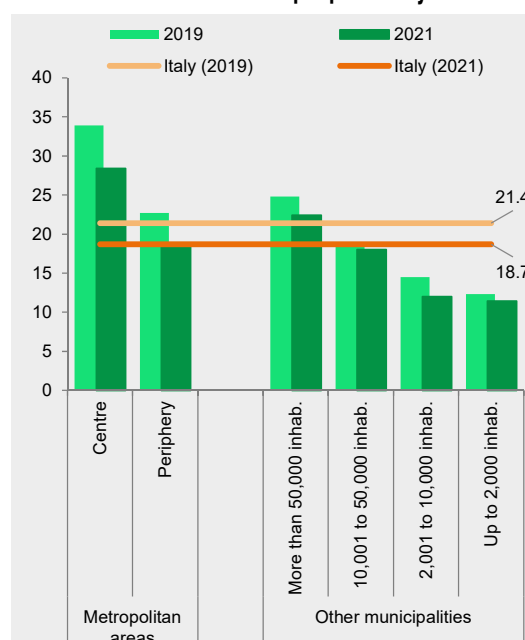
The pandemic reduced the perception of degradation but not the concern for the landscape

The percentage of people that are not satisfied with the quality of landscape of the place where they live, which for the majority of the population is identified with urban space, continued to fall in 2021, standing at 18.7% (almost 3 points lower than in 2019). In the last two years, marked by the impact of the pandemic, there has thus been a reduction in the perception of degradation, perhaps also compressed by the emergence of other forms of discomfort during the lockdown experience. The percentage of dissatisfied people tended to increase along with the size of the municipality of residence: from 11.4% in towns of up to 2 thousand inhabitants (almost unchanged compared to 2019) to 28.4% in metropolitan centres (more than 5 points lower than in 2019, Figure 12a). The dynamics were similar but less pronounced, in the other types of municipalities, as well as in the sub-populations

³² From 2007 to 2015, building permits for new housing constructions decreased by about 80% in terms of usable living space, while the production of unauthorised dwellings is estimated to have decreased by about 35%: at that stage, therefore, the growth in the unauthorised building rate was not caused by an increase in illegal housing production but by the collapse of the legal one.

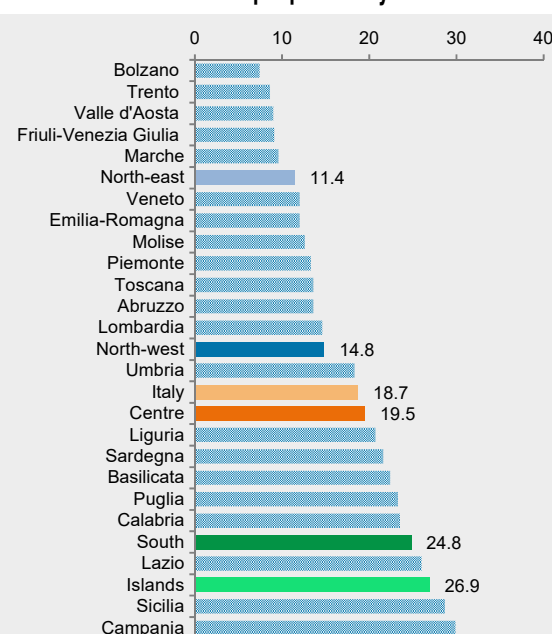
homogeneous by gender, age and education attainment (among which, however, no significant differences in level were observed). The indicator's variability was geographically concentrated in the southern regions, with a range of more than 20 percentage points between the lowest in the autonomous province of Bolzano (7.4%) and the highest in Campania (29.9%). In the other regions, the people who believed they lived in places "affected by evident degradation" were more than one in four in Sicilia and Lazio, less than one in ten in Friuli-Venezia Giulia, Valle d'Aosta, Marche and the autonomous province of Trento (Figure 12b).

Figure 12a. Dissatisfaction for the landscape of the place of living by type of municipality. Years 2019 and 2021. Per 100 people of 14 years and over



Source: Istat, Survey on Aspects of daily life

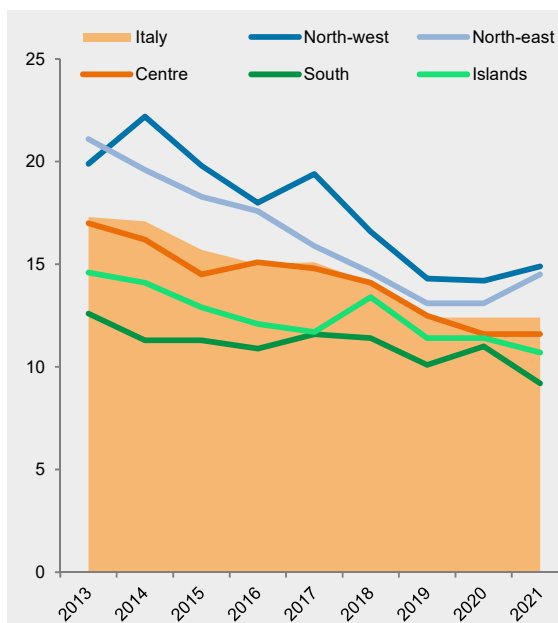
Figure 12b. Dissatisfaction for the landscape of the place of living by region and geographic area. Year 2021. Per 100 people of 14 years and over



In contrast, the indicator of concern about landscape deterioration remained stable over the pandemic period, standing at 12.4% since 2019 but steadily declining in previous years (Figure 13a). Despite being one of the least prevalent "environmental concerns"³³, the concern about the landscape was among the few that were not downgraded during the pandemic, along with concerns for biodiversity loss and forest destruction (both up from 2019). This indicator can be interpreted as a measure of social consideration for the value of the landscape and, in contrast with people that are not satisfied with the quality of landscape of the place where they live, generally recorded higher values in the North (14.9% in the North-west and 14.5% in the North-east) and lower values in the South (9.2%) and in the Islands (10.7%), although the territorial variability, in this case, appears to be more contained and has gradually decreased in recent years (Figure 13b). Concern for the landscape was more widespread among people with a higher education attainment (15.1%

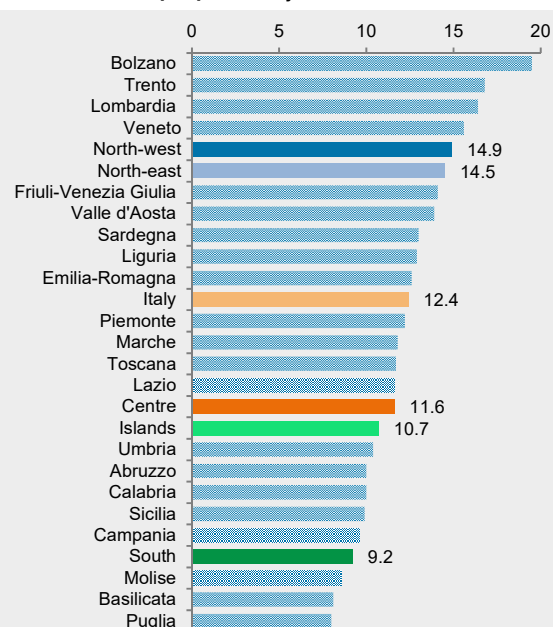
³³ The indicator is calculated on the basis of a question from the Multi-purpose Household Survey *Aspects of Daily Life* (ISTAT), which lists 14 "environmental problems", among which respondents have to indicate those (up to five) "that worry them most". The most frequently reported concerns are climate change and air pollution, expressed by more than 50% of the population.

Figure 13a. Concern for the deterioration of landscape by geographic area. Years 2013-2021. Per 100 people of 14 years and over



Source: Istat, Survey on Aspects of daily life

Figure 13b. Concern for the deterioration of landscape by region and geographic area. Year 2021. Per 100 people of 14 years and over



among university graduates, up by 1.4 points from 2019) compared to 11.1% among people with an elementary/middle school degree or no degree at all), but this gap has also been gradually narrowing, while no significant differences are observed in relation to age, gender or type of municipality of residence.

Indicators

1. **Current expenditure of Municipalities for culture:** Current expenditure for protection and valorisation of cultural properties and activities in euro per capita.
Source: Istat - Processing of data from Final balance sheets of Municipalities, Provinces and Metropolitan areas.
2. **Density and importance of museums' heritage:** Number of permanent exhibition facilities per 100 sq.km (museums, archaeological sites, and monuments open to public), weighed by the number of visitors.
Source: Istat - Survey on museums and other cultural institutions.
3. **Illegal building rate:** Ratio of the number of unauthorised buildings built in the reference year to the number of building permits issued by the Municipalities.
Source: Center for social, economic and market research for building and the territory (Cresme).
4. **Erosion of farmland from urban sprawl:** Percentage ratio of rural areas affected by urban sprawl to the total of rural areas ("rural areas affected by urban sprawl": rural areas with increasing population and decreasing agricultural land).
Source: Istat - Processing of data from General Census on Agriculture, General Census on Population and Housing, Census Mapping.
5. **Erosion of farmland from abandonment:** Percentage ratio of abandoned rural areas to the total of rural areas ("abandoned rural areas": rural areas with decreasing population and decreasing agricultural land).
Source: Istat - Processing of data from General Census on Agriculture, General Census on Population and Housing, Census Mapping.
6. **Pressures of mining and quarrying activities:** Volume of non-energy mineral resources extracted (cubic metres) per sq.km.
Source: Istat - Anthropic pressure and natural hazards. Mining and quarrying extraction activities.
7. **Impact of forest fires:** Burnt forest area (wooded and non-wooded) per 1,000 sq.km.
Source: Istat - Processing of data from Carabinieri Command of Units for Forestry, Environmental and Agri-food protection.
8. **Spread of rural tourism facilities:** Number of farmhouses per 100 sq.km.
Source: Istat - Survey on farmhouses.
9. **Presence of Historic Parks/Gardens and other Urban Parks recognised of significant public interest:** Percentage ratio of the area of parks and gardens classified as "historic" and/or "of a significant public interest" by the Legislative Decree no. 42/2004 to the total area of the provincial capital Municipalities.
Source: Istat - Processing of data from Survey on urban environmental data and Census Mapping.
10. **People that are not satisfied with the quality of landscape of the place where they live:** Proportion of regional population reporting that the landscape of the place where they live is affected by evident deterioration.
Source: Istat - Survey on Aspects of daily life.
11. **Concern about landscape deterioration:** Proportion of population reporting, among the environmental problems for which they express more concern, the decay of landscape due to overbuilding.
Source: Istat - Survey on Aspects of daily life.

Indicators by region and geographic area

REGIONS GEOGRAPHIC AREAS	Current expenditure of Municipalities for culture (a)	Density and importance of museum heritage (b)	Illegal building rate (c)	Erosion of farmland from urban sprawl (d)	Erosion of farmland from abandonment (d)	Pressure of mining and quarrying activities (e)
	2019	2020	2021	2011	2011	2019
Piemonte	18.3	1.05	4.1	18.5	41.4	334
Valle d'Aosta/Vallée d'Aoste	24.2	1.37	4.1	-	66.5	14
Liguria	26.7	0.68	6.3	31.8	57.4	223
Lombardia	23.2	1.25	4.3	24.0	31.0	559
Trentino-Alto Adige/Südtirol	51.8	1.16	3.2	-	28.4	198
<i>Bolzano/Bozen</i>	<i>58.4</i>	<i>0.96</i>	<i>....</i>	<i>-</i>	<i>31.3</i>	<i>165</i>
<i>Trento</i>	<i>45.3</i>	<i>1.40</i>	<i>....</i>	<i>-</i>	<i>24.9</i>	<i>236</i>
Veneto	22.1	1.49	4.7	56.9	23.1	380
Friuli-Venezia Giulia	38.7	1.36	3.2	7.0	54.2	246
Emilia-Romagna	33.2	0.97	4.2	27.0	42.6	273
Toscana	33.4	3.35	6.5	14.2	47.7	306
Umbria	18.6	0.87	10.4	8.3	50.0	491
Marche	23.7	0.94	10.4	14.7	38.8	163
Lazio	19.3	4.30	18.9	53.6	15.4	350
Abruzzo	9.5	0.16	28.9	16.3	43.1	193
Molise	8.2	0.25	28.9	6.9	74.4	428
Campania	4.2	3.11	48.8	29.6	34.2	210
Puglia	8.3	0.20	33.7	33.1	17.1	374
Basilicata	11.9	0.18	47.7	14.5	38.2	240
Calabria	8.0	0.25	47.7	22.0	54.3	77
Sicilia	9.4	0.86	45.8	16.9	29.5	216
Sardegna	29.8	0.31	23.2	6.5	27.1	163
North	25.8	1.17	4.3	24.3	37.5	339
North-west	22.2	1.12	4.3	20.9	40.0	398
North-east	30.8	1.21	4.3	27.4	35.2	285
Centre	24.2	2.88	13.8	25.1	37.0	323
South and Islands	9.3	0.68	38.4	18.8	34.2	220
South	6.8	0.75	39.2	23.6	38.1	241
Islands	14.5	0.59	36.3	11.8	28.3	191
Italy	19.9	1.30	15.1	22.2	36.1	287

(a) Euros per capita.

(b) Number of museums and similar facilities per 100 km², weighed by the number of visitors.

(c) Illegal buildings per 100 authorized buildings. Values for Piemonte and Valle d'Aosta, Trentino-Alto Adige and Friuli-Venezia Giulia, Umbria and Marche, Abruzzo and Molise, Basilicata and Calabria refer to the two regions as a whole.

(d) Percentage of total land area.

(e) Cubic metres extracted per km² of total land area. Data on extractions from quarries not available for Lazio and Calabria (reference year: 2018).

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Impact of forest fires (f)	Spread of rural tourism facilities (g)	Presence of historic parks/gardens and other urban parks recognised of significant public interest (h)	People that are not satisfied with the quality of landscape of the place where they live (i)	Concern about landscape deterioration (i)
2020	2020	2020	2021	2021
0.3	5.3	3.8	13.3	12.2
..	1.8	0.9	9.0	13.9
0.2	13.1	1.0	20.7	12.9
0.6	7.2	2.3	14.6	16.4
..	27.5	0.2	8.0	18.1
..	44.1	0.1	7.4	19.5
..	7.7	0.3	8.6	16.8
0.1	8.3	3.0	12.0	15.6
0.1	8.6	6.0	9.1	14.1
..	5.5	0.7	12.0	12.6
0.2	23.5	1.4	13.6	11.7
0.2	16.5	4.2	18.3	10.4
0.1	11.4	1.4	9.6	11.8
2.3	7.6	1.0	26.0	11.6
1.6	5.4	0.7	13.6	10.0
2.3	2.6	0.1	12.6	8.6
3.7	6.2	1.7	29.9	9.6
1.8	4.9	0.6	23.3	8.0
1.3	2.1	4.4	22.4	8.1
3.0	3.6	0.5	23.5	10.0
9.1	3.2	1.3	28.7	9.9
3.3	3.3	0.3	21.6	13.0
0.2	9.2	2.3	13.4	14.7
0.4	6.6	2.6	14.8	14.9
..	11.5	2.2	11.4	14.5
0.8	15.8	1.4	19.5	11.6
3.9	3.9	1.1	25.5	9.7
2.3	4.4	1.1	24.8	9.2
6.3	3.2	1.1	26.9	10.7
1.8	8.3	1.7	18.7	12.4

(f) Area covered by forest fires, values per 1,000 km².

(g) Number of farms per 100 km².

(h) Square metres per 100 m² of built-up area.

(i) Per 100 people of 14 years and over.

