



Internal Areas and Smart Tourism. Promoting Territories in Sardinia Island

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Abstract. The paper tackle the issue related to the promotion of internal areas of Sardinia, considered the contrast existing between a strong, peak coastal tourism and a lower development in the internal areas. Considered the vast amount of cultural and environmental goods present in the territory, particularly in internal areas, in this paper we promote a mixed qualitative – quantitative method for highlighting more promising areas for targeting ad hoc policies of development. We start with a hot spot analysis of cultural and environmental goods in Sardinia Region, with particular reference to the internal areas. We then proceed with highlighting the municipalities or aggregation of municipalities presenting the highest concentrations of such goods. Then we qualitatively evaluate those events or sites generally more renown and appreciated, observing if local – municipal or regional – policies have been activated for their promotion. Observed that, we suggest possible interventions to enhance the touristic offer of such part of the Sardinia island.

Keywords: Smart tourism · Internal areas · GIS · Sardinia island

1 Introduction

The sustainability, the safeguarding of heritage and biodiversity, the concentration of the population in the cities and the fight climate change are just some of the issues studied and explored starting from the Second World War and in particular, with more attention and rigor in the last two decades. Specifically, the many different scientific studies have focused on the significant territorial imbalances between urban and rural geographical

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regions, which are often defined as peripheral, weak or marginal. A gap is increasing because of the continuous and significant transfer of people from the countryside to the cities: the first mostly lacking in job opportunities, and the second real driving force of economy and places able to offer more opportunities for cultural growth. Thus, the excessive concentration of the population in higher-ranking centres and the depopulation of rural areas prompted the European Union to develop restyling strategies able to renew the attractiveness of marginal areas and improving their competitive potential as a whole of localized assets (natural, human, relational and organizational). The “Europe 2020 Strategy” aims at an inclusive, sustainable and intelligent growth of European regions, to be achieved through the reduction of territorial gaps, the enhancement of diversity and the propensity towards a development of the entire European space [1–3].

In such sense, all the most important national and international debates - Biennial exhibition of Venice 2018, Chile 2017 – are to-date oriented to read and understand the diversity among strong and weak areas, in order to avoid useless runs towards homology, to prefer a tourist appreciation coherent with habitats and places, making of differences the distinctive and promotional force, by means of the vast collective material and immaterial heritage.

The interest of cohesion policies in Italy, in the wake of European spatial planning, is therefore aimed at reorganizing the territory, rethinking those spaces that live a condition of peripherality so-called “internal areas”. A peripherality understood as a marginal socio-economic conditions related to distance from the centres and that also finds expression in the problems of social exclusion due to the difficulty in accessing some significant social and economic opportunities. So we can define the internal areas at such a distance from the closest and most important centre to cause their disadvantage in terms of accessibility to basic and/or essential services, of competitiveness and social inclusion [8–13]. In recognizing an internal region of the Italian polycentric territory, it was fundamental to consider together the geographic and relational components that were well highlighted by the research group that worked to develop the Project “National Strategy for Internal Areas” (SNAI) launched in September 2012, within the framework of the regional cohesion policy for the 2014–2020 cycle. There are more than 4.000 municipalities (internal areas) identified according to the reference centres and at the presence of some factors such as mobility (a railway station with category Silver), Health (hospital with DEA headquarters – 1st level i.e. emergency centres and First aid), education (the presence of a secondary school institution) and Internet access. The availability of these essential services guarantees a fundamental precondition for development, but their absence or scarcity does not always imply that the areas concerned are marginal. In most cases they are small municipalities that have lost in time their economic and social “attractiveness”, due also to the often inadequate capacity to networking [16–18]. This disadvantage, which has a strong impact on their ability to be resilient to the thrust of economic growth set on traditional incremental pathways, could otherwise represent a strength to outline a new sustainable development of territory. These territories have long been in a situation of degradation and abandonment, but thanks to the presence of a rich and variegated landscape, could be understood not only as places to “use” but to “draw”. In these areas the heritage represents not only a remedy for the “recovery” of history, but a real resource for economic and social development

and a real possibility to increase the quality of life. This last is an indicator that is based on economic values and also considers the environmental sustainability, the health and well-being of the communities and the functionality of social networks [19, 20].

The study of the Snai, then, highlights how sustainable tourism is an excellent element of attraction of residents and tourists, and of activation of local development processes [21, 22]. The “rural” tourism activity, in order to represent an opportunity for the territory, must necessarily be started together with other elements characterizing the place (cultural heritage, food and wine, local renewable energy etc.). This start must follow a “participatory” project with precise purposes and means able to help the local communities without losing the traditional identities [5, 7, 23, 24]. The valorization of the natural and cultural heritage is therefore a primary role for the revival of an internal area and its fruition becomes the main objective in order to be able to converge towards a new and diversified sustainable offer. In doing this, the local planning policies must follow a resource based approach that considers the cultural system, not as a “museum object” to be protected from aesthetic, artistic and social fruition, but as an “investment” value generator and memories able to communicate with the specificity and the identity of the place [18]. This goal aims to transform the condition of peripherality of the internal areas making them emerge as “niche” destinations often flanked by consolidated tourist destinations at regional, national and international level [25].

Competing in a global market, therefore, is the *conditio sine qua non* to come out of isolation by developing a smart tourist industry where technological innovation and environmental sustainability are the two fundamental pillars. Smart tourism, Smart and IoT (Internet of Things), is based on the diffusion of ICT (Information and Communication Technology), a multimedia technology useful to create integrated development training platforms. A technology able to promote, share and extend the usability of territorial resources beyond the traditional channels, where they become the absolute protagonists and tourists play an active role in the cultural experience. In the wake of the concept of smart city one could rethink the internal territories, where there is an insignificant technological diffusion, like the smart region. Here the enhancement of the communication networks can guarantee the availability of essential services improving the indigenous quality of life.

This alternative approach of rethinking the tourist spaces moves public and private operators minds of different rural regions including the Sardinian internal areas that for more time tries to bring the holidaymakers of the 3s - sun, sea, sand - typical of the mass tourism model, to that of the 3L – Landscape, Leisure, Learning – Linked to the sustainability and enhancement of the local heritage.

2 The Selection of Sardinian Internal Areas

As we have stated, the internal areas of the national territory have been identified by the distance from the main essential service centres (secondary schools, health structures of DEA of II level, railway stations of type at least “silver”). On the basis, therefore, of an indicator of accessibility, calculated in terms of travel minutes compared to the nearest pole, the Italian municipalities were classified in 4 peripherality zones: peri-urban areas;

intermediate areas; peripheral areas and ultra-peripheral areas. In Sardinia on 377 municipalities 318 were classified as “internal areas”: of which 93 “intermediate areas” and 225 “peripheral and ultra-peripheral areas” with a population, at 2011, of 856,897 units, 52.27% of the total residents. This territorial division is determined by the situations of disadvantage and obstacle to the obtaining of rights and opportunities that the inhabitants of the internal areas bear, differently to those who live and work in the urban contexts or “belt” to the latter. There are many municipalities that, although they are located along the coastal area, are classified as internal (intermediate, peripheral, ultra-peripheral), as this requirement is not linked to the geographic position, but rather to the functional one, revealing a demographic, socio-economic and spatial marginality [29].

This first national analysis was redesigned in a second moment by the Sardinia Region (SRAI) on the basis of its territorial characteristics. The regional study, at first, applied rigorously the criterion of compresence and completeness of the services used by the national method that has led to the identification of only the poles of Sassari, Cagliari, Oristano, Nuoro, Carbonia and Iglesias. In a second phase of the analysis, the three SNAI indicators were revised considering the territorial structure and in particular the inadequate distribution of the settlements and the disadvantages of railway services. This has allowed bringing out as pole the city of Olbia that while being the seat of hospital (DEA) and having a railway station “Silver” presents a poor secondary school offer. In addition small centres have emerged (inter-municipal poles) of Alghero, Tortolì and Lanusei, which carry out service functions for the sub-regional reference areas (Fig. 1). After locating the main agglomerations, the internal areas were classified using the SNAI criterion of the distance from the poles measured in journey times. After locating the main agglomerations, the internal areas were classified using the SNAI criterion of the distance from the poles measured in journey times and taking into consideration further municipal discriminating identified on the basis of the social material deprivation indexes, in relation to the composite indicator of state of demographic malaise and on the assessment of the conditions of viability of the regional territory or better on the discomfort of access to services-DAS [31].

The use of new variables and other indicators allowed to highlight a different municipal nomenclature (Fig. 1), compared to the previous one analyzed at national level. On a total of 377 municipalities were, thus, detected 6 “Poles”, 4 “Intermunicipal Poles”, 52 centres of “belt” and 315 municipalities of which 172 “peripheral and outlying” for a total of 824,054 inhabitants [33].

In the continuation of the work, it was also considered advisable to exclude from the calculation of the internal areas the 72 municipalities belonging to the coastal strip, because they were largely interested in an important bathing tourist activity, from highly seasonal characters.

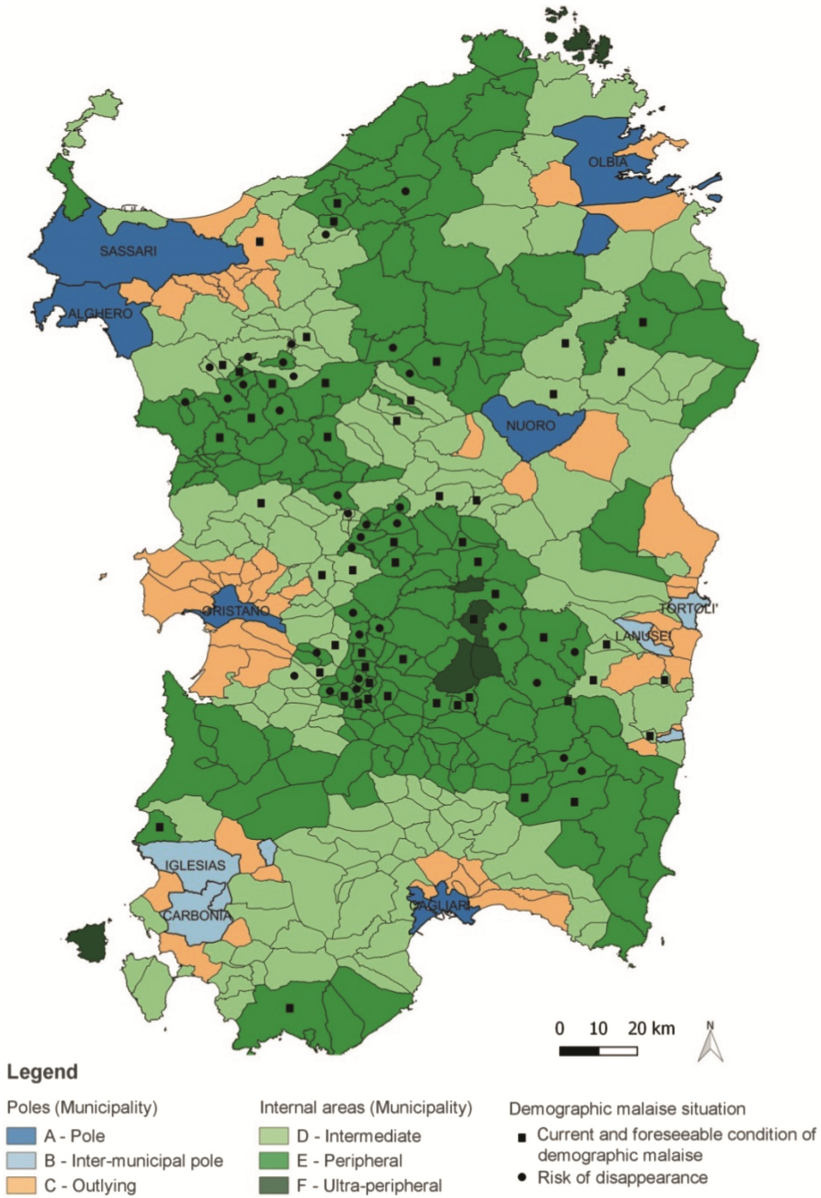


Fig. 1. Classification of municipalities according to the remodulation of Sardinia Region. Common with demographic malaise situation. Source: Our elaboration on Gis data from Opendata Sardegna [45]

3 Sardinia Inner and Non-coastal Areas

Inner areas, although understandable as weak in the economical and social meanings, are characterized by strong peculiarities, also because of their peripherality, as gradually the relations of living have been weakened in favour of other places. The same abandonment of places is fueling this peculiarity [47]. In most of the cases such places are resources exploited in a very limited way, that can be elements of attraction for residents, tourists and private operators that can be recalled to revitalize such places. In such sense the Sardinia Region, in characterizing SNAI approved and founded 4 Projects of Territorial Development (PST) involving 38 municipalities in total: such projects deal with different elements as (1) “Parte Montis – Culture, Handicraft, History, Agri-food sector”; (2) “The city of Villages of Gallura”; (3) “Marghine al centro – Tourism, Sport, Culture and Nature”; (4) “Ogliastra, Long-life trials”. Each of these projects is characterized by a model of governance aims at promoting inner areas starting from the exploitation of the existing territorial capital, involving actively all the local operators [34]. The ‘less important’ places of culture are able to attract more and more tourists, aiming at short-time travels and in search for a quality holiday [35]. Sardinian natural environment and cultural heritage represent therefore the most important attractiveness for tourism. Cultural heritage are source of dynamic and active sources of income, not related to climate changes or seasonality and therefore enjoyable in every period of the year [36, 37].

Sardinian territory is full of culture, represented by basic resources as the tangible, real estate, religious goods – churches, monasteries, temples – monuments bridges, castles, palaces, houses, squares – and historical ones – streets, historical centres, archeological sites; to these categories we have to add the mobile goods as dialects, food, events and feasts [38, 39] (<http://whc.unesco.org>). Such an heritage has been the object of a catalogue by the Autonomous Region that, together with the Italian Ministry of Cultural Heritage and Tourism, realizes and updates constantly the database of cultural heritage, containing 4 sections: Landscape, Identity, Cultural Architectural and Cultural Archaeological heritage. This database contains 9,566 items involving 322 municipalities of the total 377,66% of which lay in the territorial areas of the 305 non coastal municipalities (Fig. 2 – <http://www.sardegnaterritorio.it>).

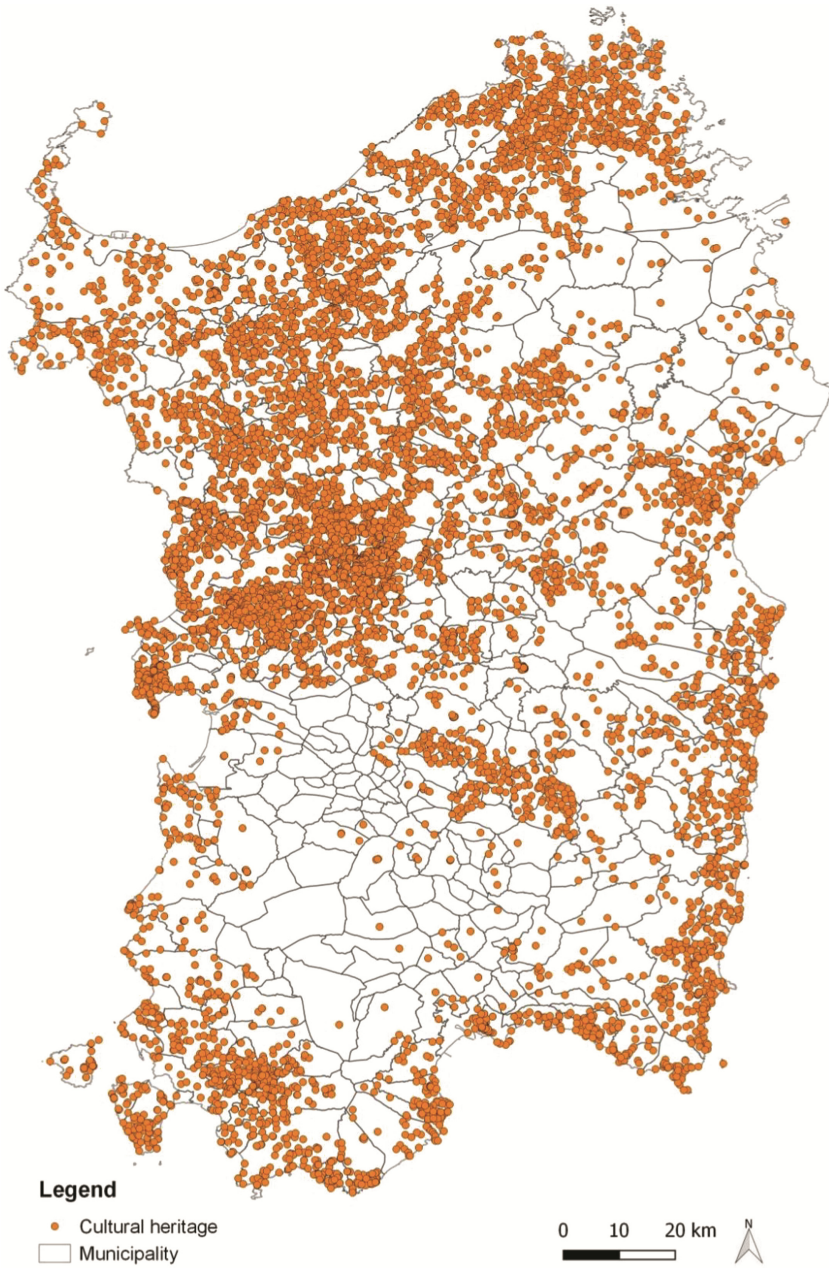


Fig. 2. Spatial distribution of cultural heritage in Sardinia. Source: Our elaboration on GIS data from Opendata Sardegna [45]

4 The Main Areas of Concentrations of Cultural Elements

The elaboration of a density map (Fig. 3) allows to highlight the areas where more numerous and intense is the presence of a cultural heritage.

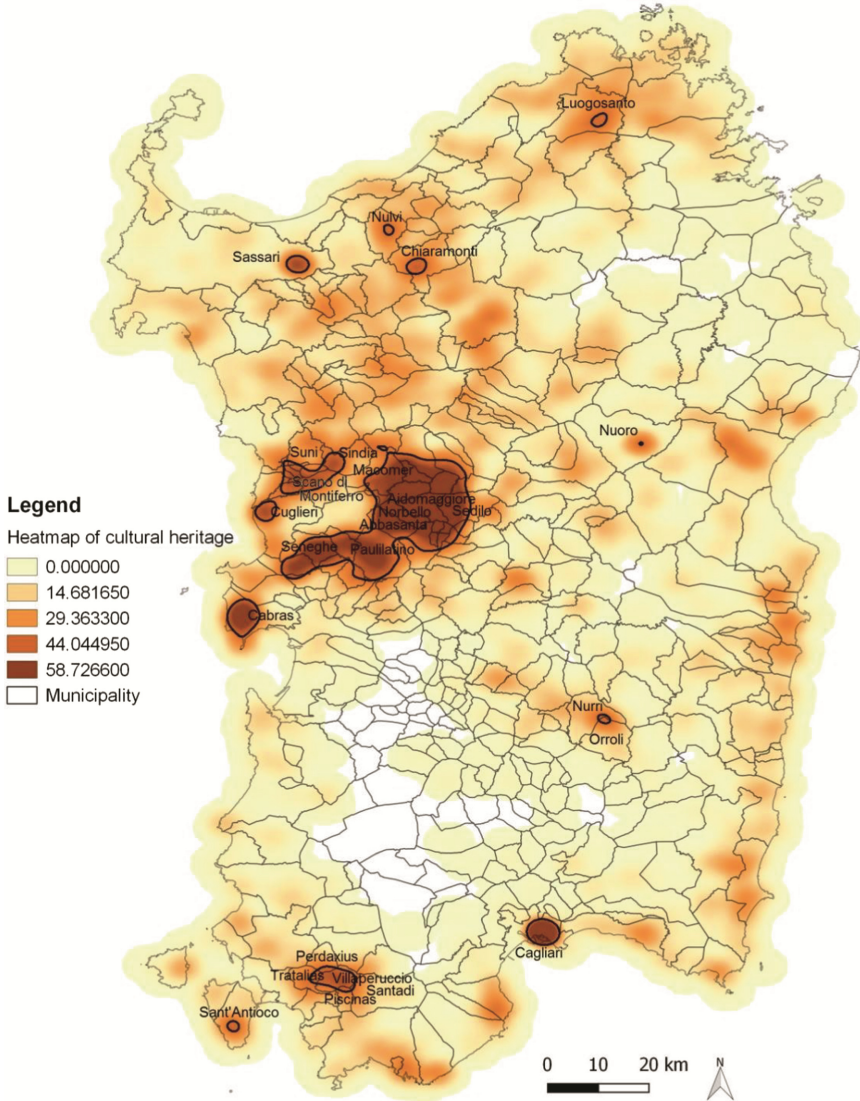


Fig. 3. Heatmap of Cultural Heritage. Source: Our elaboration on Gis data from Opendata Sardegna [45]

The analysis was performed using a heat map function in QGIS and using the cultural heritage database of Sardinia Region.

In the North of Sardinia the historical sub-regions of Alta Gallura and Anglona can be highlighted. Luogosanto is the main place for cultural heritage in Alta Gallura, while Anglona hosts Chiaramonti and Nulvi. Sassari presents the higher concentration in the internal area, in the old units of Romangia and Coros. Heading South, Nuoro can be highlighted, with the regions of Planargia, Marghine, Montiferru and Barigadu. Within Planargia a high level of concentration can be found in Tresnuraghes on the coast and Flussio and Sagama in the internal area.

In Marghine 8 municipalities can be highlighted for the presence of cultural heritage and this is particularly clear for the case of Macomer. Cuglieri on the coast and Seneghe in the internal area characterize the high density of Montiferru. The high number of such heritage in the municipalities of Aidomaggiore, Paulilatino, Sedilo, Abbasanta and surrounding ones justify the high presence in Barigadu. The historical subregion of Sarcidano shows the highest concentration in places as Nurri and Orroli, while in Campidano subregion highest values can be spotted in Cabras (Oristano) and Cagliari, the Region capital. Last, in South Western part of Sardinia, Sulcis-Inglesiente Sant'Antioco on the coast and Villaperuccio in the internal part characterize for the presence of cultural heritage. The inner part of Sardinia, although favored by a rich and unique cultural heritage, is suffering in terms of tourist infrastructure¹.

From this, it arises the need to incentive the competitiveness of such territories, in particular where the presence of cultural heritage is more intense, actuating forms of sustainable tourism based on rural and cultural characters [41].

The supply of a cultural heritage must respond to the challenges of the web 4.0, where these must be integrated and available also through the most advanced and now standard technologies used by tourists: smartphones and tablets, also integrated with 3D viewers on the hardware side, open data and open access data and information, user generated contents and social networks on the software side².

The tourists themselves become the users and promoters of places. Such link between real and virtual tourism can be made explicit by means of the bloggers, able of story telling a tourist destination. Among them, "Sardinia Mood", born in 2016, promotes

¹ In 2016, Sardinia hosted 4,787 hotels and non-hotels of which only 25% in the internal area, where bed places – 209,896 units in total – are limited to 7% (www.istat.it). Non coastal municipalities present mainly little dimensions structures - B&B, agritourism – with an average value of "beds per structure" (pl/es) 13. Along the coastline such value is higher (54 pl/es) and sets up at 44 pl/es at regional level. Internal municipalities are characterized by the 6% of arriving tourists and 3% of regional presences (2,879,495 and 13,485,744). The average staying time in the internal municipalities is 2.2 days versus 4.9 in the coast. This count does not consider second houses that are generally present mainly in the coastal area. This kind of hospitality determines a higher demand than those officially registered by regional institutions [42].

² A project can be cited in this sense as the "Homogeneous System of Visual Identity - Cultural Heritage Sardinia" that led to installing in museums 117 information points with video, photos and 3D reconstructions of the cultural and identity heritage of the island.

territories and offers suggestions useful for visits also on social networks and media platforms [27, 43] (<https://sardiniamood.com>).

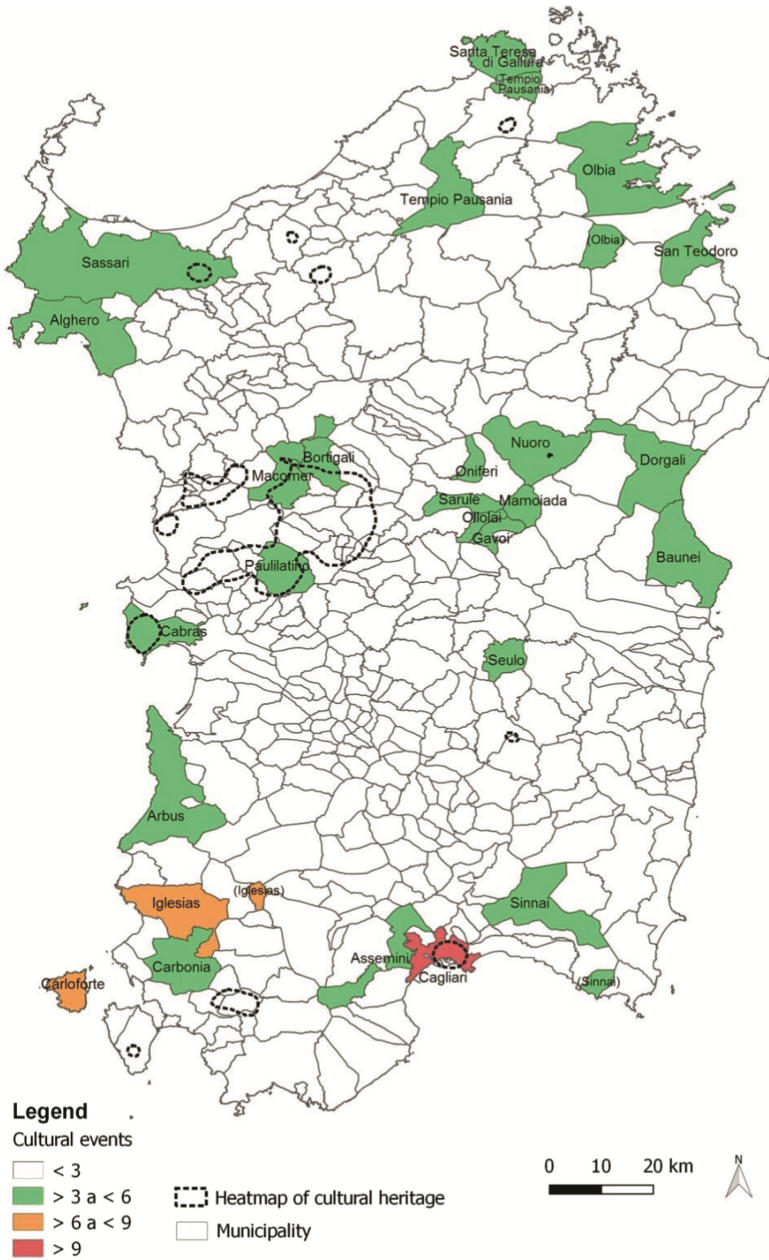


Fig. 4. Distribution of cultural events. Source: Our elaboration from www.sardegnaicultura.it, www.sardegnaifesta.com, www.sardegnaandieventi.it

Such rich ‘internal’ heritage is promoted also by the organization of small and medium cultural events stimulating the curiosity of ‘soft tourism’ lovers, aimed at increasing the visibility of the territory on a large scale. Religious feasts, carnivals, art exhibitions, literature festivals and food events are some of the examples for attracting new travelers. This can be related to the initiatives of active tourism promoted for the first time by Sardinia Region, aimed at putting together sport, cultural heritage and traditional and not traditional events. (<https://www.regione.sardegna.it/j/v/2611?s=1&v=9&c=7106&na=1&n=10&va=2%20>).

The Internet hosts several webpages dedicated to promotion and development of such events, as “Sardegna Cultura”, (www.sardegnaicultura.it), “Sardegna Grandi Eventi” (www.sardegnagrandieventi.it) e “Sardegna in Festa” (www.sardegnainfesta.com). These three websites host 550 cultural events. In internal areas names as Bortigali, Gavoi, Macomer, Mamoiada, Nuoro, Ollolai, Oniferi, Paulilatino, Sarule, Seulo and Tempio Pausania for a total of 51 events (Fig. 4).

These and other inner municipalities adhere to different initiatives and thematic itineraries to discover territories and their landscape values. We can remind here “Primavera nel cuore della Sardegna” (Spring in the heart of Sardinia) involving from April to June 20 municipalities from the historical regions of Marghine, Ogliastra and Baronia; “Autunno in Barbagia” (Autumn in Barbagia), a project followed by nearly 30 municipalities that promote their traditions and productions. Lastly the project “Open Monuments” (Monumenti Aperti), born in 1997 in Cagliari, and to-date involving more than 50 municipalities and 15 thousands students that, for two days, promote their territories. Around 600 monuments are open to the public during such event.

5 Conclusions

From the territorial reading and analysis it emerges that inner areas, for their constant weak socio-economic face, several cultural elements have been considered which, possibly, would have been lost in case the coastal - location would have been furtherly implemented. These elements represent a cultural heritage that is older if compared to the coastal one, these latter areas being traditionally more accessible and therefore easier to have access to cultural and artistic contaminations.

A first question arising deals with the reasons behind the little choices expressed by tourists for internal areas, so rich in terms of cultural heritage.

A first reply deals with the fact that most of these municipalities are considered internal areas (Fig. 1) and as such show serious difficulties within the regional mobility, being nearly isolated from coastal and more accessible centres and logistic nes. Inner regions present critical demographic situations that seem putting difficulties also to cohesion policies set up by the Region and aimed at fostering local development. The touristic supply however does not seem yet present and widespread, still concentrated on few municipalities.

Quantity (Fig. 2) and concentration (Fig. 3) of Sardinian cultural heritage do not appear yet able to determine a significant number of cultural events (Fig. 4). This is to be found partly in the above mentioned problems, but also on the “quality” and

“attractiveness” of the cultural goods themselves. A question arises therefore on the activity of recovery, restoration and renewed accessibility of such cultural heritage and on its capacity of igniting the interest of the potential visitor. However, reinforcing a ‘smart’ tourism can favour the knowledge and evaluation, also from a socioeconomic point of view, of the internal regions. The dynamics of to-date international scenario, in fact, impose Sardinia region to follow the path of competitiveness that must adopt innovative approaches involving all the possible stakeholders. Setting up a system of integrated players, enhancing the image of Sardinia also in terms of internal areas, invest time and money in ICT are the directions to be consolidated. Also, Web 2.0 and 4.0, virtual marketing and social networks are only some of the possible ICT applications able to supply on-line information by means of fitted for purpose apps for smartphones and tablets. The physical channels of communications must be however maintained and enhanced, particularly in rural areas where the supply of cultural heritage is localized. There is also the need for a vision for Sardinia, half a way between local and global, important to break a the logic of a touristic system highly seasonal and coast-located.

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