

PLANNING THROUGH A GIS THE POTENTIAL RECOVERY OF RURAL BUILDINGS FOR THE DEVELOPMENT OF NEW FORMS OF TOURISM HOSPITALITY

Pietro Picuno, Salvatore Margiotta

School of Agricultural, Forest, Food and Environmental Sciences (SAFE), University of Basilicata, 85100, Potenza, Italy

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Abstract

The results of the territorial analysis on an agricultural area located in the Province of Matera (Southern Italy) with significant historical and natural interest, (*i.e.*, the “*San Giuliano*” protected area) are here reported. The study has been focused on the census of farm buildings and related rural infrastructures in this area, even though most of them are currently in a state of abandonment. Indeed, through their potential static and functional recovery - which appears technically feasible, given their intrinsic architectural and structural attributes – they would be re-considered, even owing to the progressively growing tourist vocation of this area, led by the attractive role that the City of Matera is currently playing. This analysis has been conducted through the implementation of a Geographical Information System (GIS), associated with detailed survey techniques and dendrochronology analysis of the existing wooden construction elements. Thus, it has been possible to conclude how an adequately supported process of analysis and planning of territory can reveal as a valid tool to be used in decision-making dynamics. This recovery and reuse process would be especially valuable, if conceived in a perspective of new fruition purposes, such as those leading to the achievement of an increased diffused tourist hospitality.

Key words: Rural tourism; Landscape planning; Built heritage; Tourist offer; Scattered Hotel

Introduction

Many Italian regions have a considerable heritage of rural dwellings distributed throughout their territories, built during the last centuries, but now often abandoned (Statuto & Picuno, 2015; Picuno P., 2022). If individually considered, these buildings don't appear to be in a suitable condition to be reconverted to mass rural tourism. However, if suitably connected to an adequate network of tourist facilities, completed with meeting centers and connecting infrastructures, they could ensure a level of hospitality comparable to that of the major seaside resorts, and thus be part of possible specialized tourist circuits. In this paper, a study has been conducted, in order to highlight the aspects, construction types and possible recovery systems of disused rural buildings in one rural area (“*San Giuliano*” protected area) of the Municipality of Matera (Southern Italy).

Material and methods

The study area occupies a central-southern position in the Region of Basilicata (fig. 1). It is characterized by extensive agricultural areas devoted almost exclusively to cereal cultivation, olive growing and sheep farming. These places, although scarcely profitable, intrinsically preserve a marked naturalness, within which typical landscape elements, such as the bright edges of the ravines and gullies, merge with more rounded and harmonious forms, typical of the low hills. Considering the large extension of this area, and in function of the purposes of this work, the analysis was conducted on a limited area capable of collecting and synthesizing in a significant manner a good part of the typical elements of local architecture and landscape, involving 6,324 Ha, within which there is the S. Giuliano Dam and a SCI-SPA area extended on 2,200 Ha.

The survey of rural buildings in the study area (Picuno C.A. et al., 2017; Cillis et al., 2020) has been carried out by means of remote sensing operations (fig. 2), using colour aerial photographs that allow the identification of building number and planimetric projection, associated with field surveys. This latter operation was carried out on holdings selected according to a systematic sampling, for each of which a datasheet was drawn up, containing information on the coverage, the presumed or verified age of the building, the materials used, the dimensions, the types of internal rooms and the state of maintenance.



Fig. 1: The study area ("San Giuliano" protected area – Province of Matera).

A dendrochronological study of the building beams, compared with the surviving specimens of the tree species (holly oak - *Quercus Ilex*), allowed to date the investigated artefacts. For this analysis, a *Pressler's* sucker, capable of drilling cores on beams and plants with a radius of up to 15 cm, has been used as a probing tool.

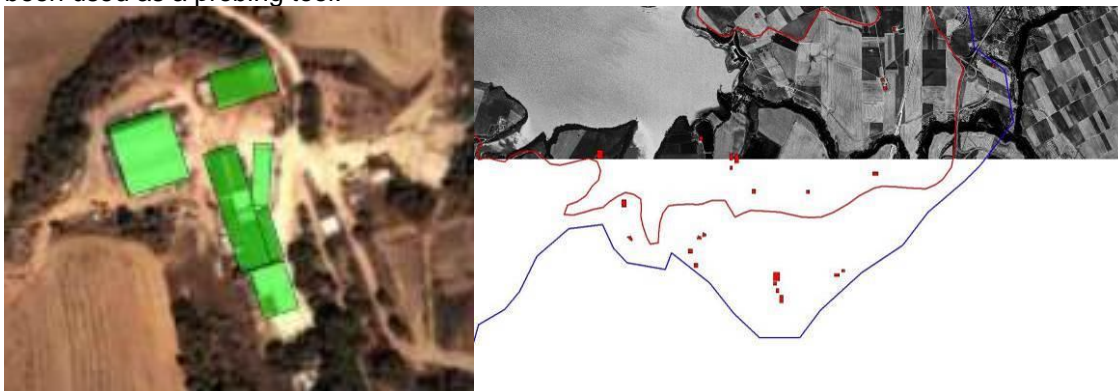


Fig. 2: Survey of farm buildings through remote sensing.

All information has been implemented into a Geographical Information System (GIS), aimed at identifying the areas characterized by a greater suitability to host a system of diffuse tourist residences, through the recovery of rural dwellings and connecting road infrastructures (Statuto et al., 2013; Picuno C. et al., 2019). The information layers were first converted to Grid (raster images), then weighted and finally interpolated with the 'Sum' function using a Spatial Analysis procedure. All the information levels were grouped by typology, in order to create intermediate analysis maps, useful for highlighting the suitability related to the infrastructure network and rural building morphology and land use (fig. 3). The morphological suitability map was obtained with the Spatial Analysis procedure of slopes, slope exposures and elevation bands (Statuto et al., 2019; Picuno C. et al., 2020). The construction of the GIS was completed with the creation of the infrastructural suitability information layer, obtained by spatial processing of the buffers pertaining to the different types of elements surveyed on the territory.

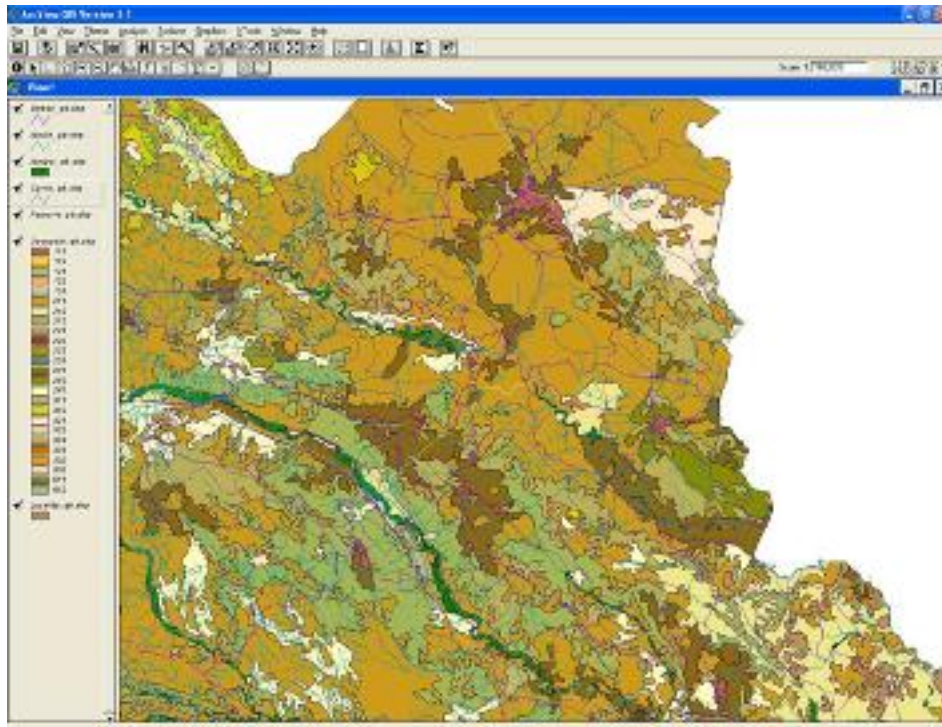


Fig. 3: Processing stage of information layers in the GIS.

Results

The final database of the GIS made it possible to interrogate the system so as to highlight, farm by farm, the degree of specific aptitude that each rural building intrinsically possesses to allow the reception of rural tourism, organized through a system of diffuse residency in association with other farms. The rural buildings detected in the study area (fig. 4) have been then classified into three orders of suitability: high, medium and low. Specifically, 22 rural buildings fall in the high-suitability class (characterized by a high potential to be converted and recovered for tourism purposes), while 42 rural in medium class and 71 in low-suitability class (non-typical constructions, or far from valuable environmental and social components, or absence of infrastructures, etc.) were found.



Fig. 4: Rural dwellings examined in the study area

Finally, three larger rural constructions, having the minimum dimensional and architectural characteristics to be recovered as potential Management Center for a "Scattered Hotel" (fig. 5) – i.e., a system based on accommodations typically spread throughout the countryside, where proprietors refurbish them, as short-term rentals for travelers - have been identified as well.

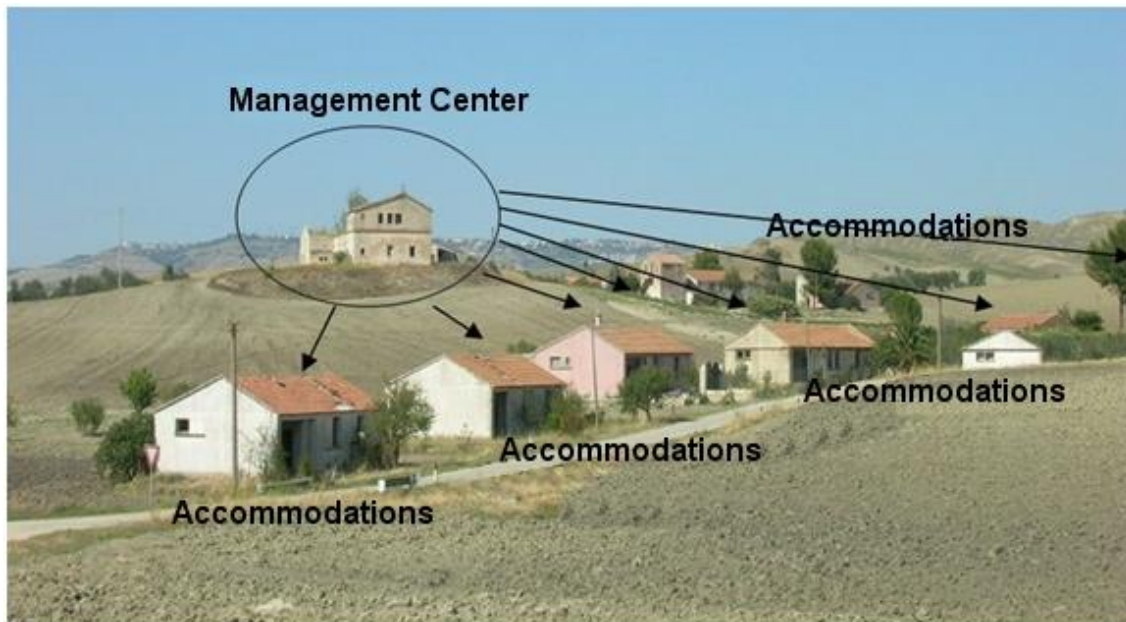


Fig. 5: Diffused rural hospitality (“Scattered Hotel”) system.

Discussion

The analysis which has been conducted would contribute to ensure:

- a recovery of abandoned rural buildings;
- the repopulation and rediscovery of inland rural landscapes and villages;
- new economic revenues and new jobs for landowners in marginal areas, by virtue of a new multifunctionality of farms;
- a new tool for enhancing the regional tourist offer;
- the strengthening of existing accommodation facilities;
- the valorization of the historical/environmental identity heritage of agriculture;
- a more effective land protection function.

The weaknesses of the intervention seem to be:

- difficulty in finding credit and/or financing for interventions to restore farm buildings and relevant infrastructures;
- difficulty in developing new forms of cooperation and associationism of farms;
- inability to use facilities for agricultural purposes at certain times of the year;
- current lack of suitable specific tools for planning the necessary interventions.

Conclusion

The creation of an analysis and planning tool aimed at the identification of interventions for the geographical location, organizational and procedural methodology and aesthetic/functional recovery of farm buildings and infrastructures is expected to significantly contribute to the rediscovery of new ways of experiencing rural tourism. It would also offer a decisive contribution to the positive development processes of degraded and abandoned agricultural areas, through new ways of public recreation in the rural landscape.

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Souhrn

Tento článek uvádí výsledky územní analýzy zemědělské oblasti v chráněné oáze "S. Giuliano" (provincie Matera - jižní Itálie), která je významná z historického a přírodního hlediska. Studie se zaměřila na soupis budov a souvisejících venkovských infrastruktur v oblasti, přestože jsou převážně ve stavu opuštěnosti, u nichž se však vzhledem k jejich vnitřním architektonicko-strukturálním atributům jeví jako proveditelná statická a funkční obnova. Analýza byla strukturována na základě GIS spojeného s podrobnými průzkumnými technikami a dendrochronologickou analýzou dřevěných konstrukčních prvků. Pro zajištění integrované konstrukční a architektonické kvality zaměřené na potvrzení kulturní identity při respektování symbolických, estetických a tradičních hodnot je třeba hledat a definovat určité vhodné technické normy pro obnovu venkovských staveb a infrastruktury. Taková místa, která se vyznačují definovanou identitou, lze obnovit tak, aby se posílila jejich vlastní výrazová síla, tvořená pravidly a stavebními prvky schopnými konotovat místa, materiály a tradiční techniky. Cíle, které by tato iniciativa mohla realizovat, lze vysledovat v následujících strategických liniích:

- podpořit vazbu mezi zemědělstvím, venkovem a společností, posílit jejich vztahy a poskytnout nezbytné záruky udržitelnosti;
 - dále snižovat zaostalost zemědělských podniků v nejvíce znevýhodněných (zejména horských) oblastech;
 - posílení a zvýšení zemědělsko-potravinářského potenciálu se zvláštním důrazem na kvalitní produkty, a to i prostřednictvím vhodných marketingových kampaní;
 - podporovat součinnost mezi různými subjekty, a to jak na úrovni sdružení, tak na úrovni integrace dodavatelského řetězce, a upřednostňovat vytvoření "regionálního systému", a to i pro jednotlivé organizace producentů;
 - podporovat a posilovat rozvoj zemědělských postupů šetrných k životnímu prostředí a v jejich rámci postupů prováděných ekologickými metodami, se zaměřením na několik důležitých opatření s prokázanou účinností z hlediska dopadu na životní prostředí;
 - motivovat k produkci kvalitních a širou konzumovaných potravin (také zavedením specifických opatření na podporu sledovatelnosti produktů), aby si je spotřebitelé mohli koupit za přijatelnou cenu.
- Závěrem lze říci, že vytvoření analytického a plánovacího nástroje pro identifikaci zásahů do geografické polohy, organizační a procesní metodiky a estetické/funkční obnovy zemědělských budov a infrastruktury může významně přispět ke znovuobjevení nového způsobu prožívání venkovského cestovního ruchu a odhalit jej jako příspěvek k procesům rozvoje degradovaných a opuštěných zemědělských oblastí.

Contact:

Prof. Pietro Picuno

E-mail: pietro.picuno@unibas.it

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