
Academic Research Paper

The Troglodyte Sperlinga village (Italy): challenges to sustainable development tourism oriented

Laura Genovese

Institute of Heritage Science (ISPC), National Research Council of Italy (CNR), 20125 Milan, Italy, laura.genovese@cnr.it. ORCID: 0000-0002-3901-1765

Roberta Varriale

Institute for Studies on the Mediterranean (ISMed), National Research Council of Italy (CNR), 80134 Naples, roberta.varriale@cnr.it. ORCID: 0000-0003-3217-4008

Abstract: Troglodytism is one of the most representative cultural expressions in Sicily and in the area between the Nebrodi Mountains and Val Demone several significant examples of this approach to urban development can be found. Sperlinga village is an archetype of rock settlements in rural and remote areas. It represents a precious treasure chest of information and an example of living heritage, but it is very fragile and risks disappearing. It is a worldwide issue regarding folk villages in remote areas between conservation and sustainable development, and tourism might be both an opportunity and a risk, particularly in those situations where a development strategy is lacking and both life needs and community expectations are ignored. The paper introduces the recent research experience led by the CNR to support the Municipality of Sperlinga in identifying an innovative approach to heritage-led sustainable development. The experimentation in Sperlinga village is part of a long time research by the authors, still ongoing, aimed at defining a general framework to support the definition of heritage-led sustainable development strategies in this type of context. The motivations that led to the selection of Sperlinga case study will be illustrated. Furthermore, the multi-phase strategy for the census and classification of caved dwellings – through Underground Built Heritage (UBH) methodology -, urban regulation, and territorial integration management, up to the final phase of enhancement and tourism promotion, will be outlined and discussed.

Keywords: Sicily; troglodyte village; regeneration; sustainable development; cultural tourism.

1. Introduction

Troglodyte culture is one of the most representative expressions of cultural heritage in Central and Southern Italy. This aspect is so remarkable that, on the basis of 59 sites inscribed in the UNESCO World

Heritage list, eight include the word “rock” in its description and four the word “cave”.

In Sicily, the archaeological evidence of cave life dates back thousands of years and, in particular in the area between the Nebrodi Mountains and Val Demone, several significant examples of this approach to urban development can be found. This is the case of the Necropoli Realmese, in Enna province, from the same typology of the most famous “Necropolis of Pantalica” (UNESCO site in 2005), and dating back to the 9th-6th centuries B.C. This long-term dynamic was mainly determined by the characteristics of the soil (Montanari; 2004), and the availability of food and natural resources nearby, providing good conditions for life since prehistoric times. Today, there remain sporadic examples of the “troglodytic lifestyle”, even if this approach to the territory stands at the basis of the urban experience, defining a cultural landscape with a strong identity character (Basile et al.; 2010). Despite the high importance of these formidable cultural expressions, Sicilian troglodyte settlements are largely underestimated and undervalued, putting this heritage at risk of disappearing. Nonetheless, most of them still host inhabitants tenaciously tied to their land, living with the proceeds of a very poor rural economy, and with few prospects of development.

Tourism is the development hypothesis that almost everyone aims for to revitalize themselves. But it might be both an opportunity and a risk, depending on how it is planned and managed.

Is it possible to identify models of sustainable development? Is it possible to curb the dynamics of depopulation? Is it possible to update the living standards of these populations so as to bring them into the future without them having to fall behind? Is it possible to enhance this troglodyte culture by clearing it with respect to negative preconceptions?

The issue is very complex. A balance between conservation and development must be found, and a paradigm change is needed. In this perspective, minor settlements not exploited can be the places to test a change in paradigm by experimenting innovative pathways for regeneration and culture-led development strategies that reuse and enhance troglodyte architecture and engage with local citizens to reinforce local culture and community’s sense of pride and local identity.

Sperlinga is a small caved village in the province of Enna. It stands at the foot of the southern slope of the Nebrodi Mountains, rising 750 meters above sea level, excavated in a rocky lobe - a great Miocene turbidite (Montanari; 2004) - and dominated by the medieval castle, which is leaned on and partially excavated in the stone (Fig. 1).

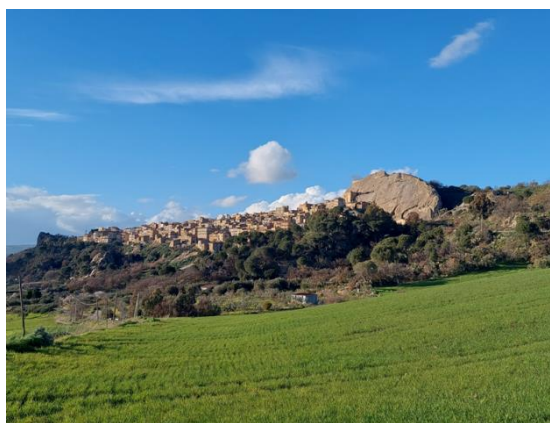


Figure 1. Sperlinga. South-Eastern view of the settlement. *Source: L. Genovese 2023.*

The castle itself would have been the *fulcrum* of the current settlement, known in the news since the events of the Sicilian Vespers (Patti; 2021). The village further developed between the 17th and 18th centuries towards the valley below until it reached its current size, which includes various districts in the

surrounding countryside. Towards the early 18th century, a certain uninterrupted flow of international travelers began, who have left significant testimonies, being struck not only by the particular morphology of the village, but also by the lifestyle of its inhabitants. Last, but not least, in the 20th century, the war photographer Robert Capa, immortalized its scenic beauty during the Allied reconquest during the Second World War (Scalisi; 2005; Id.; 2004). Despite its peculiarity and history, Sperlinga presents all the demographic and economic critical issues and typicality of internal areas, such as territorial isolation, demographic decrease, progressive delocalisation of services, abandonment. It is a predominantly farm based economy, and this factor also contributes to the migration of younger generations, in search of more comfortable services and lifestyles. It has been estimated that, between 2017 and 2021 the inhabitants of the historic center went from 1070 to 697, due to multiple factors, both natural and anthropogenic (Istat; 2023).

Over the years, the administrations have tested various solutions to deal with Sperlinga's depopulation and economic underdevelopment, mainly aiming to invest in cultural tourism. Until now, the attempts were unsuccessful and did not bring the desired results.

The collaboration between the CNR and the Municipality of Sperlinga began in 2020, starting from an Italy-Japan project (Varriale et al.; 2020). which was followed, in 2022, by a technical/scientific collaboration agreement between the CNR - Institute for Studies on the Mediterranean (ISMed) and the Municipality of Sperlinga (Prot. ISMed 49/22). The premises are that Sperlinga can be considered an archetype of small villages in internal Italian areas. Furthermore, in its current state, it has the advantage of still being inhabited by its residents and being safe from gentrification processes. The working hypothesis is that the village can become a potential role model in the attempt to balance the survival, the preservation of its tangible and intangible values, and their adoption in enhancement projects for the benefit of local communities. The focus of the CNR' intervention is the interpretation, classification, analysis and enhancement of its relationship with the subsoil, by applying an innovative theoretical approach based on the class of Underground Built Heritage (UBH) (Genovese & Varriale; 2023; Varriale; 2021). The paper illustrates some results from the ongoing research, based on several inspections carried out by the authors during the last two years and it represents a step of a broader comparative research between Western and Eastern countries, aimed at identifying elements supporting the creation of a general framework of heritage-led strategies for developing sustainable troglodyte settlements in rural areas, particularly based on cultural tourism (Varriale & Genovese; 2021; Genovese et al.; 2019). The goal of the paper is to provide a first classification of tangible and intangible elements that can support the reinforcement of the sense of community (McMillan; 1996) and the sense of place (Shamai & Zinaida; 2005) of inhabitants in order to stimulate their involvement within button up projects addressed to the enhancement of the village with positive demographic effects.

2. Sperlinga village: a living site to be saved

The toponym Sperlinga derives from the Latin *spelunca*, and means cave, and the organization in caves is the most striking feature of this settlement, probably dating back thousand years ago. The castle itself was partially carved into the rock, thus obtaining multiple underground spaces (storage, prisons, water deposits, residences, etc.). Its core dates back to the indigenous Sicilian populations while the first certain documentary mention is of medieval origin and dates back to 1081. The Castle was particularly important in 1282, during the war of the Sicilian Vespers, which saw the inhabitants of the region rebel against the Angevin domination (Patti; 2021; Paterno-Castello; 2008). It was the only stronghold in which the

Angevins found shelter from the revolting Sicilians, who came to besiege the Castle. In memory of the fact, an epigraph remains on the entrance architrave of the fortress, which reads: "Quod Siculis placuit sola Sperlinga negavit - What pleased the Sicilians was denied by Sperlinga alone". The village developed at its base, in close relation to it, with a top-down approach. It is organized in overlapping rows of caves - approximately nine levels in the Western portion of the town and five in the Eastern portion - along the level curves of the rocky ridge. The village developed along the line of the hill in a West-East direction, with a "spindle" layout and the historical connections are ensured by narrow streets and steps obtained by modeling the rocky lobe. Only in recent times has it reached its current size, including modern roads and various hamlets in the surrounding countryside.

The castle has historically been considered the most significant element of the settlement and, for this reason, has been the subject of greater attention. In 1973 it was sold to the Municipality by its last owners so that it could be recovered and enhanced, being accessible to the public. Inside the fortress some rooms have been dedicated to celebrating the history of the castle and the village, as well as the famous travelers who visited the settlement from 1700 to the present day.

The first focus of the exposition within the castle is the Museum of Rural Civilization, established in 1982 and consisting of an ethno-anthropological museum created at the castle base, in a large 165 m² cave, also recovered. The exhibition is organized thematically based on the different production cycles widespread in the country in ancient times, which correspond to the original objects of peasant work and domestic use (Fig. 2). It forms part of the cultural offer included in the castle ticketing. The second focus is the gallery of historical pictures located in the main hall of the castle, the third is the former church, now adopted as a conference hall and to host temporary contemporary expositions.



Figure 2. Sperlinga, Museum of Rural Civilization. From the left to the right the first and the second underground chambers with the original objects of peasant work and domestic uses together with educational posters and photographs. *Source: L. Genovese 2023.*

The troglodyte village, instead, hosts a permanent installation dedicated to the Sperlinga's troglodyte lifestyle. The Cave dwellings-Museum stands in the North-Eastern portion of the village, on the ridge on the rocky lobe and where most of the dwellings without brick extensions or closings can be found (Varriale & Genovese; 2023). There, a permanent exposition was created by the Municipality with the dual aim of preserving the memory of the local past and organizing a cultural offer for tourism with dedicated billboards. When inspected, in 2022, the most impressive segment of the troglodyte village, and the only one illustrated by a billboard, was closed to the public due to a collapse Figure 3 a). More, the scenic path which should connect the troglodyte village and the castle in the upper side of the village was obstructed by debris and

vegetation and closed to the public as well (Fig. 3b).



Figure 3. Sperlinga, historical core of caved settlement. Both photos show the signs indicating the historic portion of the village with the troglodyte caves. Picture on the left shows an area recently subjected to a collapse due to hydro-geological instability. In the second picture, the sign was removed due to the area being unusable. *Source: R. Varriale 2022.*

On the upper side the municipality arranged a setting that simulates private troglodyte houses with the support of original equipment: pots, fire set, tables and chairs, bed and cribs, also these caves are at risk of collapsing due to the closure of the houses during Covid19 (Fig. 4).



Figure 4. Sperlinga, Eastern district of the village. Collapse risks in the cave for exposition. *Source: R. Varriale 2022.*

These were inhabited until the middle of the last century and are still privately owned, with the exception of six, which were purchased by the Municipality and recovered to host the exhibition. A few are still inhabited (Fig. 5, 6).



Figure 5. Sperlinga, Eastern district of the village. Troglodyte dwellings still inhabited.

Source: R. Varriale 2022.

The development of tourism has always been conceived by the Municipalities as the alternative source to the agro-pastoral vocation of the site. With this objective, in 2017 Sperlinga became a member of the "Borghi più belli d'Italia" - i.e. Most beautiful villages in Italy (Borghi più belli d'Italia; 2017) - network. It is an association that promotes small Italian towns that decide to join the network with a qualification of "marked historical and artistic interest". The network's aim is to contribute to safeguarding, preserving and revitalizing small settlements and municipalities with great value, which, being outside the main tourist circuits, risk being ignored with consequent degradation, depopulation and abandonment. Very recently a special agreement between the Sicilian villages inscribed into the list was held with the aim of developing shared strategies for the improvement of sustainable tourism (Borghi più belli d'Italia in Sicilia; 2023). Also in 2017, a candidacy was submitted to the UNESCO tentative list for the serial site "Nicosia and Sperlinga rock cut dwellings", together with its neighbor cave-town of Nicosia (Tentative list submission format, June 19, 2017). The submission included eleven sites from Nicosia, while Sperlinga was nominated as a single site, roughly including the historic center, that is: the castle, the historic village attached to the castle and included into the medieval wall, and a small area of natural and man-made rock dwellings just under the castle. Even if the attempt failed, Sperlinga's long-term aspiration to become a UNESCO site has led it to orbit between the two nearby UNESCO Global Geoparks, that of Madonie and the Rocca di Cerere. Nonetheless, this networking activity has not yet motivated the municipality to align itself with UNESCO standards for the protection, management, enhancement and internationalization, nor to activate a territorial integration strategy.

On a minor scale, a series of other initiatives have aimed to attract regional and national attention to the village, such as the organization of religious celebrations, historical and gastronomic festivals. This is the case of the "Corteo Storico delle Dame dei Castelli di Sicilia/Historical procession of the Ladies of the Castles of Sicily" each August 16th (The "Corteo Storico delle Dame dei Castelli di Sicilia/Historical procession of the Ladies of the Castles of Sicily"; 2023). The event recalls the episode of 1282, when, during the Sicilian Vespers, a French garrison in the rock castle of Sperlinga resisted the siege for a year. About twenty Sicilian municipalities with castles take part in the procession of ladies, accompanied by flag-wavers, musicians and figures. Among the noblewomen representing the Municipalities, the Lady of the Castles of Sicily is crowned. The event ends with an evocative fireworks display from the castle terraces. In the circuit of Sicilian medieval castles it is one of the most successful events, also thanks to the less touristic and more cultural approach given in recent years. This event also coincides with the festival of "Tortone" (The "Tortone" festival; 2003): it is a food and wine festival, which takes place at the foot of the castle. Here stands are set up where homemade pastries - the *tortone*, a typical dessert with ancient

origins - are served together with local wine and among the stalls of artisan products.

But the potential of the site, if adequately integrated into the territory, would be many. From a naturalistic point of view, the so-called "Sperlinga Forest", a green area of national interest, falls within its area of competence, representing a potential point of interest for eco and nature tourism. Not far away there is also the "Sambuchetti - Campanito Oriented Nature Reserve" - towards the North between the territories of Cerami and Nicosia - and the "Monte Altesina oriented natural reserve" - further south, towards Cacchiamo and Leonfonte -.

Furthermore, the internal road system is such that it is compatible with slow tourism, particularly that of the paths. Not by chance, an important cultural route passes through Sperlinga' territory, the "Via Francigena" of Sicily, leading from Palermo to Messina. However, data relating to the registration and reception of pilgrims or tourists are completely absent, due to the absence of sector studies and, more generally, to the underestimation of the importance of these data for the purposes of planning tourism development. The same can be said for the castle's ticketing data. Moreover, to underline a disconnect between the aspirations of the municipalities that have followed one another so far and the community, is also the fact that the reception is limited to a single bed and breakfast, with a capacity of only two rooms - one double and a single - and the total absence of restaurants. Thus, hospitality and tourist accommodation are mainly concentrated in Enna or other places in the province. Faced with this situation, recently, a certain tourist interest in the village has begun to grow. Significant and at the same time alarming is the case of a tour operator from Palermo who organizes daily trips Palermo/Sperlinga with a private guide, defining the village as the "Matera" of Sicily (Bus Eventi Sicilia; 2020).

This is a very frequent strategy in the promotion of little-known sites, that of evoking iconic sites by analogy, so as to stimulate curiosity and expectation in the public. However, this reference to the Lucanian city to evoke its merits and elements of success also foreshadows all the model's risks.

3. Analysis of the global scenario

Troglodytism is one of the most widespread living experiences in the world. From place to place many typologies have been tested and perfected, resulting in an extraordinary variety of features. Exploiting those characteristics, human abilities and craftsmanship have turned the critical natural issues into an extraordinary variety of geo-architectures. Despite the high potential and values, both tangible and intangible, of those sites, very few cases have been valued and appreciated both locally and/or internationally. This is the few ones listed in the UNESCO World Heritage List, i.e. "The Sassi and the Park of the Rupestran Churches of Matera" in Italy (UNESCO 1993) and "Göreme National Park and the Rock Sites of Cappadocia" in Turkey (UNESCO 1985).

In the last twenty years, on the basis of these famous cases, a certain appreciation for underground cultural places has spread, as testified by the increasing proposals of experiential tourism. In this sense, worldwide the tourist offer has progressively proposed visits at ex-mining sites having been valued, temple grottoes and rocky and religious places, underground cellars, and caved settlements, and the list of types may continue. In the very last few years, the offer has included accommodation in geo-architectures. Online travel agencies – such as Booking.com – or online sharing platforms – such as Airbnb – have started offering caved spaces, in particular in Europe and the Middle-East areas. Not always these spaces were created as living spaces, frequently they were transformed and reused for tourist purposes. On a macro scale, that's what has happened also in many urban contexts. Tourist market has stimulated local policies towards the adoption of practices to make places attractive to

tourism. However, the mirage of short-term economic interests related to tourism has pushed both private owners and local policy makers towards unsustainable solutions, in terms of physical conservation, quality of life – i.e. availability of services for residents, overcrowding, pollution, etc. – and safeguarding the sense of place.

And the problem is felt worldwide, as the international community pushes towards models for sustainable tourism development, respectful for livability and place identity, as recommended by the Agenda 2030 for Sustainable Development (Agenda 2030; 2023; Tourism in the 2030 Agenda; 2023) and the ICOMOS International Charter for Cultural Heritage Tourism 2022 (ICOMOS; 2022). The UNESCO Commission is also proceeding in this direction in evaluating sites with living heritage connotations to be included in the Cultural Heritage List. It has recently been demonstrated by the nomination of the Iranian "Cultural Landscape of Maymand", valley characterized by troglodyte agro-pastoral settlements, still inhabited (UNESCO 2023), and by the submission of new candidatures, such as for the candidacy of "Cave dwellings and the world of ksour in southern Tunisia", in 2020.

The collaboration between the CNR and the Municipality of Sperlinga fits exactly into this direction, having been born under the slogan "beyond Matera". This motto embodies the possibility of overcoming, through the proposed intervention, the limits of the Matera' role model which emerged in all their gravity later to the nomination of the town as European Capital of Culture 2019 (Matera European Capital of Culture 2019; 2019). In fact, Matera 2019, despite having brought the rocky world under the spotlight, at the same time highlighted the degeneration and risks that these types of villages run in terms of loss of identity following their depopulation and their exclusive use as cultural assets, after the abandonment of the resident population (Varriale; 2019). This happened also in the Göreme case, which was inscribed on the UNESCO list in 1985, only after having lost its residents and its vital soul.

In this perspective, CNR theoretical approach to the elements of cultural heritage that can be included in the newborn class Underground Built Heritage - UBH (Varriale; 2021), provides several instruments for the functional classification and the static and the dynamic analysis of all those artifacts coherent with the given definition, while introducing several criteria for their reuse and the evaluation of connected enhancement processes as well. On a more general level, the contextualisation of these settlements in a broader geographical scale, in terms of Underground Cultural Landscape - UCL (Genovese; 2021) could better evaluate the potential of these areas, in terms of criticalities and strengths, supporting the identification of sustainable development strategies, for example based on cultural tourism and geo-tourism.

4. Materials and methods

The methodology adopted in this paper was elaborated in order to provide innovative elements to adopt within future actions addressed toward the enhancement of the village in the touristic sector according to a sustainable approach from the cultural point of view. This approach, applied for the very first time to a village rather than to single or series of elements, consists in two different steps as follow:

1. Adoption of UBH approach to Sperlinga village;
2. Classification of values that can be at the basis of touristic development strategies.

The first step refers to the adoption of the UBH approach in Sperlinga (Genovese & Varriale 2023;

Varriale; 2021). This newborn class includes all those elements of cultural heritage that result from the excavation rather than the traditional building techniques. This class includes elements historically excavated to solve eight different functions: water and sanitary managements, food conservation or production, cult and burial artifacts, transport networks, defense infrastructures, some productions and traditional living spaces. In Sperlinga, several elements can be included into the UBH class with reference to four different historical functions. Their inclusion provides elements for both static and dynamic analysis of those elements and provides quantitative and qualitative data for their comparison at national and international level, pointing out both of their primitive functions and to the historical re-uses as well.

The second step refers to the classification of tangible and intangible values of the village connected to its troglodyte culture. Tangible values considered were all the typical characters of Sperlinga's troglodyte architecture. Intangible values studied were: relationship between the rupestrian castle and the village, role of the village in the past, the typical language, troglodyte lifestyle - including food, family life, typical clothes, etc. -, folk and cultural traditions, Sperlinga in the world, and histories of migrants and local manufacturers.

For each value the state of the art, that is to say the complex of actions already undertaken for their enhancement, has been analyzed on the basis of results of the inspections carried out by the authors and several documents provided by the local municipality.

5. Results

According to the UBH classification, all elements were historically excavated in the underground to manage:

- three types of environmental conflicts - water management, sanitary and living issues;
- three types of social interactions - issues connected to burials, rituals and cults; defense and economy;
- and two that involve both of them - food conservation and seasoning and transports;

These elements can be included if they are part of the local cultural heritage on the basis of their tangible and intangible values. Elements included can result from several historical reuses that can be traced by adopting this methodological approach. Contemporary reuses have been classified at a methodological level as well. With reference to troglodyte settlements the scale of current situation has been updated as follows with reference to the previous classification (Genovese & Varriale; 2023):

- 1) still inhabited troglodyte houses;
- 2) former troglodyte houses at the core of enhancement projects;
- 3) troglodyte houses included in protected areas (typically geoparks or natural reserves);
- 4) abandoned troglodyte houses;
- 5) former troglodyte houses reused for other functions, generally as stables, shops, diffuse hotels, expositions or services for tourists;
- 6) new troglodyte houses built by adopting traditional excavations techniques.

With reference to the primary function, in Sperlinga four types of UBH elements can be classified

(red in Fig. 7): the rupestrian castle, included in the defense function, the troglodyte village, included in the living spaces function (Varriale & Genovese; 2023), underground water pipes, channels and the central cistern that can be classified within the water function and several caved stables, carpet factories, shops and other local manufactures adopted to support local economic activities.



Figure 6. Sperlinga, Western district of the village. The photo illustrates a series of cavities subjected to a variety of historic and contemporary uses. *Source: L. Genovese 2023.*

With reference to the current reuses, only few troglodyte houses are still inhabited (level 1 of reuse), some, as already described in the introduction, have been at the core of enhancement projects dedicated to troglodyte lifestyle (level 2 of reuse), some are abandoned (level 4 of reuse) and some have been transformed into shops, stables or deposits (level 5 of reuse).

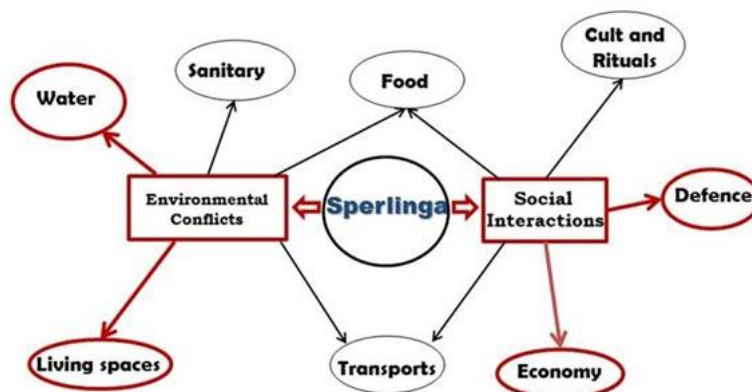


Figure 7. The UBH chart. *Source: R. Varriale 2023.*

Once UBH elements have been classified, a first attempt in the classification of tangible and intangible values connected to those elements have been carried out. The aim of this classification is to provide innovative instruments for their interpretation. These elements can be adopted in various actions connected to the future sustainable development of Sperlinga and the safeguard of its troglodyte culture, both within its urban development and its transformation into a tourist attraction. With reference to the last option, the classification of tangible and intangible values could support: museum setting of major artifacts, sustainable re-use of diffused elements and the urban storytelling to support touristic development. Tangible values are all the result of the adoption of local skills in the attempt of optimizing the performances of limited local natural resources in terms of urban development. First, the adoption of the troglodyte approach results

in a perfect sustainable urban development *ante litteram*, both in terms of reuse of preexistent artifacts and with reference to the adoption of the negative building culture to the local rocks to manage climatic excursions. With reference to the first aspect, while the upper part of the castle results to be built on the top of the hill and it is only partially excavated, mostly in the connection galleries, its lower part, such as the houses which served the castle originate from a preexistent necropolis. The adoption of this reuse, result to be a solution for the management of several environmental linkages that characterize the natural landscape where Sperlinga is located: strong annual, seasonal and daily temperature ranges, scarcity of water sources and edification on very steep terrain. The adoption of the troglodyte style, guaranteed from the best possible thermal insulation. Furthermore, the system adopted for the collection and the management of rainy waters, through the use of underground pipes and cisterns, provided the optimization of the natural source and, last but not least, this building method allowed the edification of the village with the minimum expenditure of energy sources. To provide scientific data to support the thesis of the thermal insulation performances of the troglodyte houses, their monitoring is at the moment at the core of a project that results to be one of the first outputs of the current cooperation between CNR and the local Municipality. Three climate monitoring stations have been installed in October 2023. They are expected to detect, on an annual basis, all temperature variations among the inside of cave dwelling, the outsides and some reinforced concrete buildings taken at the same exposure. With reference to the state of the art of the strategic approach to the enhancement of tangible values some critical issues have been detected during the inspections. Several cave dwellings collapsed or are at risk, even if some billboards have been arranged they are not exhaustive with reference to the potentialities of the site, the lighting of the site is poor and some paths are obstructed. As a conclusion, even if the troglodyte village hosts some annual festivals based upon the tangible elements of the settlements, such as the Nativity Scene, they are advertised only at a local level and do not impact on the local economy on an annual basis. The new landscaping and urban development plan is expected to provide rules for the transformation of those tangible values in best practice to be adopted within the village. The CNR is expected to support the local Municipality in facing this challenge. Even if the morphology of the village and their tangible values are so unique at national and international level to deserve its touristic development, the value of Sperlinga can be implemented with the inclusion of some intangible values in the process. To support this action, intangible values have been summarized as follow:

- The language: Sperlinga is one of the six municipalities where the Gallo-Italico language is still spoken;
- Troglodyte lifestyle: families, food, etc.;
- Folk and cultural traditions;
- Migrations: roots tourism;
- Local manufactures (carpets, fabrics, baskets, etc.);
- Special foods (cheese, desserts, etc.);

With reference to the first element in the list, Sperlinga is one of the 14 Sicilian municipalities where Gallo-Italico language, a still alive and currently spoken language which mixes some words of Celtic origin

with the local dialect (Sornicola; 1997). To arrange and manage common actions in the direction of safeguarding this intangible value, a memorandum of understanding was signed in Nicosia on the 28th April 2022 by all the municipalities involved. (Telenicosia news; 2022). In Sperlinga there are not folk events connected with this unique language like the one organized yearly in San Fratello (The San Fratello folk festival; 2023) while only the local primary school organizes some thematic special classes and small events for kids. Nevertheless, this linguistic factor could reinforce the identity profile of the settlement and should be considered within the strategy adopted. Life in the troglodyte village had special habits and rituals: cohabitation with animals, care of the fire set, organization of internal and external spaces, preparation and conservation of foods. Each of those activities was connected to the adoption of dedicated hand-made tools: doors with a small opening for cats - the *gattaiola* - to allow the entrance to the only way the family had to keep mice away, pots for water and to host the typical prickly pear plant at the entrance, special chimneys, etc. Troglodyte lifestyle could be in the future the focus for the development in the sector of experience tourism (Otto & Jr Brent; 1996). Folk and cultural events can have a significant role in the promotion of the village. Recently the representation of the Nativity Scene has been introduced by the municipality and the local *pro-loco* – i.e. the municipality's office dedicated to tourist information -. It takes place on the 5th and the 6th of January and it is getting more and more popular. On that occasion several temporary shops and stands are opened to the public (The "Presepe vivente/The representation of the Nativity Scene"; 2022). Every year, on the 16th of August other festival takes place - as above mentioned, the *castellana's* (the lady of the castle) and *tortone* ones - attracting people from the surrounding area. Also demographic data can be considered as sources for the development of tourism. In particular, since Sperlinga experienced significant emigration rates since the beginning of 20th Century, this demographic decline today can be an opportunity in the sector of roots tourism (Cannas; 2022). Typical production, such as pottery and carpets, are strictly connected to the caved settlement and for self use rather than exported. However, this tradition is still alive and a local association of weavers is active in preserving typical patterns and looms. Traces of this tradition can be found in the exposition of the Museum of Rural civilizations (Fig. 2). In the future, the values connected to these productions could improve the village's tourism competitiveness (Teixeira & Ferreira; 2019). Last but not least, food traditions in Sperlinga reflect the character of the poor internal area where it is located rather than the opulence of Sicilian foods. Seasonal vegetables, such as artichokes, cardoons, peas and wild vegetables, accompanied by local dairy products, are the basis of the traditional diet. The essentiality of this diet is represented by the typical local dessert: a simple bread dough fried in olive oil and dusted with sugar and cinnamon. Despite the simplicity of this preparation, known as *tortone*, it is the symbol of the local culinary culture and is celebrated annually in a dedicated festival - as mentioned above. The peculiarity of the Spelinga's diet in the Sicilian scenario, could be a focus in the touristic development as well.

6. Conclusion

Some famous stories in the field of troglodyte settlements, such as the urban regeneration of Matera and Göreme, which have captured the attention of the world, motivate local policies towards the adoption of practices to make these places attractive to tourism. The mirage of short-term economic interests may drive local policies towards unsustainable or unsuccessful solutions. A balance has to be found and minor settlements not exploited can be the places to test a change in paradigm by experimenting innovative pathways for regeneration and culture-led development strategies that reuse and enhance troglodyte architecture and engage with local citizens to reinforce local culture and

community's sense of pride and local identity. Sperlinga's case can be considered an archetype of small villages in internal Italian areas in many senses. On the one hand, due to the multiple risks, both natural and anthropogenic, to which it is subject and which hinder its conservation and survival. On the other hand, for the uncoordinated attempts made in the past aiming for the mirage of development in the tourist sense. Nonetheless, the factor of still being inhabited by the historic residence, as a result of a strong attachment to the territory, places the village in an advantageous position and in line with recent UNESCO recommendations. The initial premise, that is to make Sperlinga a role model in the attempt to balance the survival, the preservation of its tangible and intangible values, and their adoption in enhancement projects for the benefit of local communities, remains valid and the experimentation and research actions for the future will be based on this.

In the analysis carried out several innovative elements that could support this effort have emerged, both as an effect of the analysis according to the UBH approach and with reference to tangible and intangible values of the village.

With reference to the first group, the classification of the Sperlinga's UBH class, not only allows the inclusion of the villages and its excavated elements in the worldwide scenario (COST ACTION 18110; 2019-2023), but provides also element for the sustainable reuse of the corresponding artifacts, thus avoiding the risk that tourism development would irremediably accentuate the effects of gentrification - as occurred in Göreme and Matera -.

With reference to the classification of tangible and intangible values, the analysis provides some suggestions about the approach to be carried out both for the preservation of the village and its sustainable development, and for the implementation of cultural services for tourists, for the diversification of economic activities connected to this sector, and the scheduling of events on an annual basis. These outputs are expected to implement the current landscaping and urban development plan and the strategy adopted by the Municipality for the enhancement of the village. This strategic approach seems to be the only possible solution to contrast the abandonment of the last inhabited troglodyte village in Sicily and, eventually, its late enhancement.

References

Agenda 2030 for Sustainable Development. (2023). [accessed: <https://sdgs.un.org/2030agenda>; consulted on: 18/08/2023].

Basile; B. et al. edited by (2010). Atlante Ennese. Regione Sicilia.

Borghi più belli d'Italia. (2017). Sperlinga, Borgo più bello d'Italia. [accessed: <https://borhipiubelliditalia.it/?s=sperlinga&lang=it>; consulted 20/08/2023].

Borghi più belli d'Italia in Sicilia. (2023). Facebook [accessed: https://m.facebook.com/story.php?story_fbid=pfbid0h5LtAPaHvJHdWoGXr8F69YcrnzAoHnGk5VWQMosyFVAhFZaDCTjNLdZp66X7kVxl&id=100037508120629&sfnsn=scwspwa; consulted 25/10/2023].

Bus Eventi Sicilia (2020). Facebook [accessed: <https://www.facebook.com/AgenziaBusEventiSicilia/photos/a.1024167621069224/19444648490>]

[39492/?paipv=0&eav=AfaoNQBjsD_heibTXFLvO2XM8XN9zOdYyeuvDKtwU2Oo01zpJuDz8YL-aG6MezpxGI0](https://www.siciliainfesta.com/manifestazioni/sagra_del_tortone_e_corteo_storico_della_castella_na_sperlinga.htm); consulted 18/10/2023].

Cannas; R. (2022). Roots Tourism as a Means to Foster Sustainable Development of Small Destinations: A Focus on Italy; *Journal of Hospitality and Tourism*; 20.2: 91-105.

The "Corteo Storico delle Dame dei Castelli di Sicilia/Historical procession of the Ladies of the Castles of Sicily". (2023). [accessed: https://www.siciliainfesta.com/manifestazioni/sagra_del_tortone_e_corteo_storico_della_castella_na_sperlinga.htm; consulted 15/09/2023].

COST ACTION 18110. Underground Built Heritage as catalyser for Community Valorisation. (2019-2023). [accessed: <https://underground4value.eu/>; consulted on: 20/08/2023].

Genovese; L. (2021). The Underground Cultural Landscape as an essential component of local identity. An implementation solution of the UNESCO Recommendation of Historic Urban Landscape; in *Underground Built Heritage Valorisation A Handbook*. Pace; G. & Salvarani; R. ed.s. CNR Edizioni; Rome; pp. 133-140.

Genovese; L.; Luvidi; L. et al. (2019). Italy and China sharing best practices on the sustainable development of small underground settlements. *Heritage*, 2(1):813-825. <https://doi.org/10.3390/heritage2010053>;

Genovese; L.; Varriale; R. (2023). Troglodyte settlements on the Loess Plateau of China: challenges to sustainable development tourism oriented; *Journal of Chinese Architecture and Urbanism*; 5(2):0940. <https://doi.org/10.36922/jcau.0940>.

The ICOMOS International Charter for Cultural Heritage Tourism 2022. (2022). ICOMOS. [accessed: <https://www.icomosictc.org/p/2022-icomos-international-cultural.html>; consulted on: 15/09/2023].

Istat (2023). Report Popolazione Sperlinga 2001-2021. Istat [accessed: www.tuttitalia.it/sicilia/98-sperlinga/statistiche/popolazione-andamento-demografico; consulted on 20/08/2023].

Matera European Capital of Culture 2019. (2019). [accessed: <https://www.matera-basilicata2019.it/it/>; consulted on: 20/08/2023].

McMillan; D.W. (1996). Sense of community; *Journal of community psychology*; 24.4: 315-325.

Montanari; L. (2004). Geologia sicula. Un intreccio tra rocce e storia. Agenzia Regionale per la Protezione dell'Ambiente – Sicilia.

Otto; J.E. & Jr Brent; R. (1996). The service experience in tourism; *Tourism management*; 17.3: 165-174. [http://dx.doi.org/10.1016/0261-5177\(96\)00003-9](http://dx.doi.org/10.1016/0261-5177(96)00003-9)

- Paterno-Castello; S. (2008). Nicosia, Sperlinga, Cerami, Troina, Adernò. Istituto Italiano di Arti Grafiche: University of California.
- Patti; D. (2021). "Luoghi forti" nel territorio ennese in età medievale. Organizzazione del territorio, strategie difensive e politico-culturali nella Sicilia medievale; in *Il Regno di Sicilia in età Normanno Sveva*. Colletta; P.; De Angelis; T; Delle Donne; F.; Basilicata University Press; Potenza; pp. 365-387.
- The "Presepe vivente/The representation of the Nativity Scene". (2022). [accessed: <https://sicilyenjoy.com/listing/presepe-vivente-a-sperlinga/>; consulted on 15/09/2023].
- The San Fratello folk festival. (2023). [accessed: <https://www.clicksicilia.com/blogclicksicilia/blog/?tra-i-monti-dei-nebrodi-nella-sicilia-orientale-un-paese-dalla-lingua-gallo-italica,-con-dolci-dal-nome-suggestivo-ed-una-festa-particolare>; consulted on: 15/09/2023]
- Scalisi; T. (2004). Sperlinga. 100 immagini della nostra storia. Edizioni Tomaselli; Ragusa;
- Scalisi; T. (2005). Sperlinga. Ricordi per immagini. Edizioni Tomaselli; Ragusa.
- Shamai; S., & Zinaida; I.; (2005). Measuring sense of place: Methodological aspects; *Tijdschrift voor economische en sociale geografie*; 96.5: 467-476.
- Sornicola; R. (1997). Tra tipologia e storia: i pronomi soggetto e le colonie gallo-italiche; in *Materiali e ricerche dell'Atlante linguistico della Sicilia*. Ruffino; G. Centro di Studi filologici e linguistici siciliani. Università di Palermo. pp. 67-83.
- Teixeira; S.J. & Ferreira; J.M. (2019). Entrepreneurial artisan products as regional tourism competitiveness; *International Journal of Entrepreneurial Behavior & Research*; 25.4: 652-673.
- Telenicosia news. (2022). MoU on safeguarding of intangible value [accessed: <https://www.telenicosia.it/nicosia-aderisce-alla-rete-dei-comuni-del-gallo-italico-il-30-aprile-la-firma-a-san-fratello/>; consulted on: 15/09/2023).
- The "Tortone" festival. (2003). [accessed; https://www.giraitalia.it/sagre/6226_sagra_del_tortone.html; consulted on 20/08/2023]
- Tourism in the 2030 Agenda. (2023). [accessed: <https://www.unwto.org/tourism-in-2030-agenda>; consulted on: 20/08/2023].
- Varriale; R. (2019). Re-Inventing Underground Space in Matera. *Heritage*, 2, 1070-1084. <https://doi.org/10.3390/heritage2020070>.
- Varriale; R. (2021). "Underground Built Heritage": A Theoretical Approach for the Definition of an

International Class; *Heritage*; 4: 1092-1118. <https://doi.org/10.3390/heritage4030061>.

Varriale; R.; Parise; M.; Oguki; C. edited by (2020). Damage assessment and conservation of underground space as valuable resources for human activities use in Italy and Japan, *Opera Ipogea*, Special Issue.

Varriale; R. & Genovese; L. (2021). Underground Built Heritage (UBH) as Valuable Resource in China, Japan and Italy, *Heritage*, 4(4): 3208–3237. <https://doi.org/10.3390/heritage4040180>].

Varriale; R.; & Genovese; L. (2023). Sperlinga, the last inhabited cave dwelling in Sicily; *Quaderni di Abitare la Terra/Dwelling on Earth*; forth.

Turistica - Italian Journal of Tourism applies the [Creative Commons Attribution \(CC BY\) license](#) to everything we publish. Developed to facilitate Open Access, this license lets authors maximize the impact or their research by making it available for anyone, anywhere in the world to find, read and reuse. Under this license, authors agree to make articles legally available for reuse, without permission or fees, for virtually any purpose. Anyone may copy, distribute, or reuse these articles, as long as the author and original source are properly cited.