

Topic 4

RECUPERO E RIUSO SOSTENIBILI DEL PATRIMONIO EDILIZIO ESISTENTE | SUSTAINABLE RECOVERY AND REUSE OF BUILT HERITAGE

L'obiettivo dei papers è stato quello di conciliare l'applicazione delle recenti tecnologie in tema di comfort e di qualità con il rispetto dei criteri di tutela secondo i principi della sostenibilità, richiede un approfondimento dei metodi e delle pratiche operative al fine di pervenire ad un target di performance compatibile con la salvaguardia dei caratteri tipologico-formali degli edifici storici.

Il recupero e il riuso rispondono a pieno alla necessità di ridurre il consumo di suolo e di materiali, valorizzando i volumi esistenti degradati, sottoutilizzati o dismessi.

Il riuso in particolare permette di attribuire una nuova funzione ad un edificio, rappresentando uno strumento virtuoso per la sua conservazione e per ingenerare redditività.

Al contempo la riabilitazione strutturale, anche al fine di praticare eventuali trasformazioni/ampliamenti dell'edilizia esistente, potrà consentire la fattibilità degli interventi in ordine alla prevenzione del rischio sismico.

The aim of the papers was to adjust the application of the recent technologies, in terms of comfort and quality, with the respect of the preservation criteria and according to the principles of sustainability, requires a detailed study of all the operating methods and practices, in order to reach a performance target compatible with the safeguard of the typological-formal characteristics of historical buildings.

The recovery and reuse fully meet the need to reduce the land and materials use, valorizing the existing degraded, underused or decommissioned buildings.

In particular, the reuse assigns a new function to buildings, representing a virtuous tool in order to its conservation and to create profitability.

At the same time, structural rehabilitation, in order to get possible transformations/extensions of the buildings, will allow the feasibility of the interventions for the seismic risk prevention.

Abandonment places. The resilience of small towns in Irpinia

by Clara Verazzo*, Giulia Molinario*

Keywords: abandonment, small towns, architectural renovation, protection

Topic: 4. Sustainable recovery and reuse of built heritage

Abstract

The abandonment in Italy is connected to the concept of “internal areas” that has acquired an important value, becoming the centre of the homonymous National Strategy and the subject of the Italian Pavilion. The research adds to previous studies, draft projects and focuses on Campania, in the area of Irpinia. The inland areas of the region host the small towns that share the same problems of the others Italian small towns: poor connections, lacking of services, low population density, social marginality. Furthermore, the earthquakes and the following reconstruction caused enormous damage to the artistic and cultural heritage and completely distorted the landscape. The project wants to give an overview of the landscape in order to empower the actions on the heritage. It also focuses on the recovery of a small city’s district called *Trappeto*, in which we can find the essence of Irpinia’s culture, with conservative and innovative interventions

1. Internal areas and smaller centers: the territory of Irpinia between past and present

The Italy of the smaller towns aroused great interest as a result of legislative measures, international conferences and development projects, and eventually became subject of several studies. These towns are made of landscapes not exposed to mass tourism, very little known but very well-preserved traditions, and an architectural heritage of immense value. All these features contribute together to the unique character of our country.

We are talking about 5,547 municipalities that do not exceed 5,000 inhabitants of which 41.3% are in the mountains, 40.7% in the hills while only 9% in the plains. They make up to 54.2% of the whole Italian territory (163.659 kmq) and in some regions, they can cover 75% of the overall area. The rural depopulation, or in some cases, the abandonment, affect both the mountainous and hilly inlands of the region, and dates back to the Second World War. The main reasons behind this process are the lack of job opportunities, infrastructures and services and the decentralization in favor of bigger towns. Although these may be considered common reasons, each case needs to be analyzed thoroughly.

Campania is the central-southern region of Italy that has the largest number of municipalities. There are 550 and 335 of them – about 60.9% – are under 5000 inhabitants. These small towns are mainly spread in inland areas, with low population density, while, close to the coastal strip, the urban structure includes the network of 19 medium-sized cities, with around 50,000 inhabitants, along with Naples and other important centers, where lives about two thirds of Campania citizens. This duality highlights a complex reality made up of several differences from both, demographic and territorial point of view. The heterogeneity – mountain territories on one side and coastal areas on the other, agricultural areas and highly urbanized areas, cities and villages – create objective problems but also provide great natural surroundings and represent the untapped potential of the region. The provinces of Avellino and Benevento, also known by the toponyms Irpinia and Sannio, host 60.9% of areas with small towns affected by depopulation. In Irpinia the phenomenon of abandonment has deep roots that cannot be traced back only to the post-war period or to the earthquakes that frequently happen on this area.

* University G. D’Annunzio of Chieti-Pescara, Italy, claraverazzo@gmail.com, giuliamolinario@libero.it

Irpinia has always undergone migration due to poverty and economic backwardness, which forced the population to emigrate. In 1958, the scholar and economist Manlio Rossi Doria defined the Irpinia area as “the land of the bone” as opposed to the “flesh”, that metaphorically refers the plains and the more developed and prosperous agricultural areas. This metaphor tells us how these areas were exploited and then left to their fate without protection or development prospects, but also highlights the close link between the flesh and the bone in a perspective of territorial totality. The inland areas in fact constitute both a resource and a danger for the coast and the plain: hydrogeological risk, seismic risk, floods may occur when not taken into account into territorial policies. Among the critical points of the area there is certainly the seismic risk.

Throughout the centuries, the earthquakes have influenced the development and the expansions of the Irpinia's towns, which have adapted to these calamities, rising and starting every time. The urban transformations can be traced back to two principles: the re-proposition of the existing, with the philological reconstruction of the urban centers on the spot, or the relocation and, in some cases, the total abandonment of old historical centers and settlements hit by earthquakes. In our research, we highlighted the earthquakes and the epicentral areas that affected the territory and we analyzed the urban development of some Irpinia's towns after the 20th century earthquakes (Fig. 1).

The history of these small towns reflects the typical history of the hinterland: villages and castles built on the hills, protecting the inhabited areas clinging to the ridges and strategically dominating all the surrounding valleys along the ancient routes of the Roman consular roads.

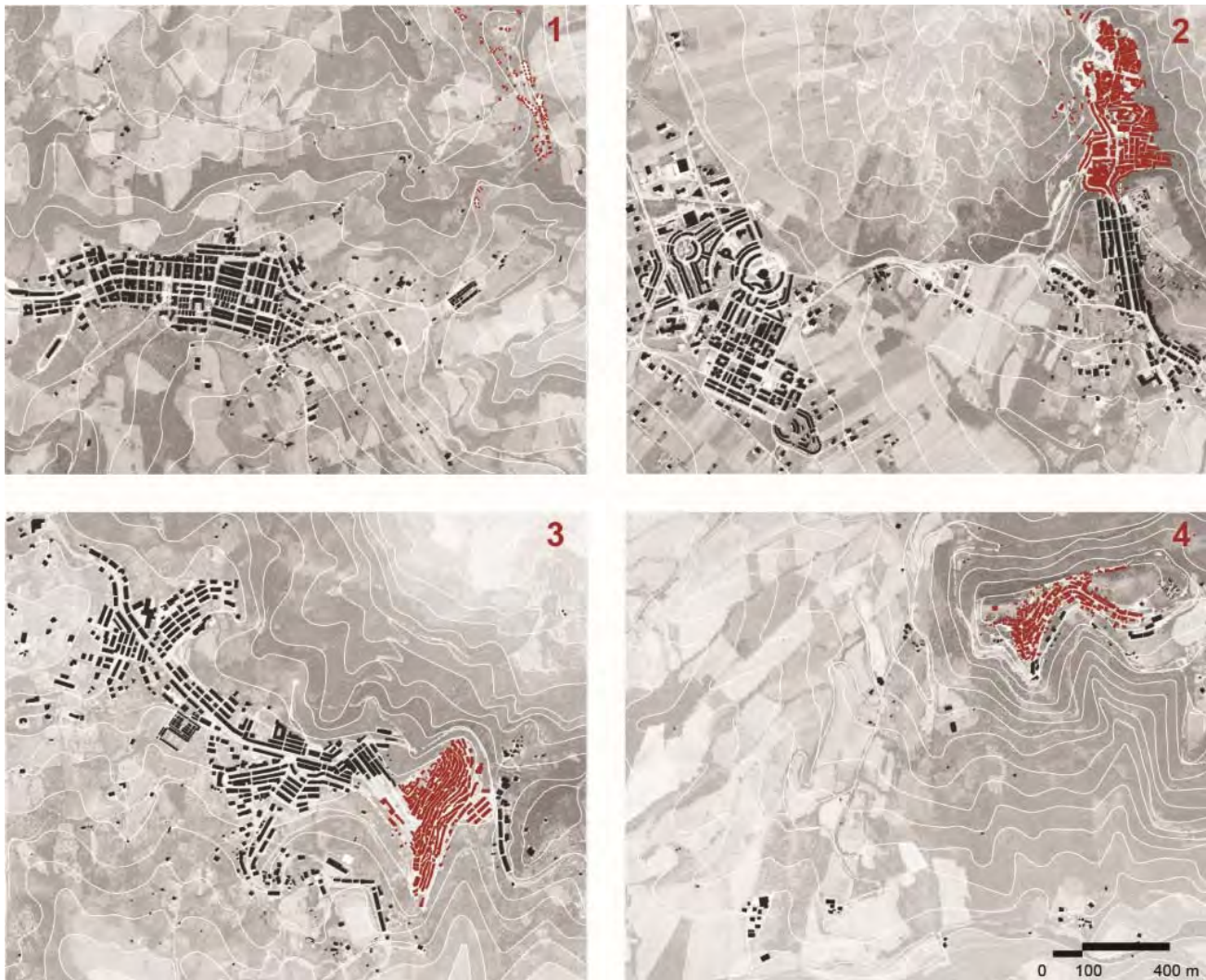


Fig.1 – Schemes for urban transformation analysis of Aquilonia (1), Bisaccia (2) Calitri (3) Cairano (4)

Among all the earthquakes of the twentieth century, the one that took on 23rd November was certainly the most devastating. The endogenous damage to the buildings, caused by the 1962 earthquake and never correctly

quantified, caused many houses to collapse. Moreover, the poor state of the infrastructures and the geographical isolation have delayed the rescue. On that evening no masterpieces were lost but countless urban and architectural testimonies of minor importance got destroyed. However, their presence was essential to define the historical and cultural character of the territory.

Very little was recovered from the ancient settlements after the 1980's earthquake. The indiscriminate demolitions of the so-called emergency plan were added to those contained in the planning instruments and legalized by the special law n. 219 of 1981. The reconstruction was a tragic example of building speculation that erased historical memories and natural places. The territory was attacked in its morphology and in its aesthetics and many areas lost their characteristic identity to become an immense and anonymous suburb with settlements scattered along its main arteries. In the post-seismic chaos, ancient cities were ransacked, and we lost a precious heritage that today would have been the starting point for a high-quality tourist recovery. What is left is a small, precious and fragile patrimony, accessible those who do not possess yet a specific culture of recovery. (Fig. 2)



Fig.2 – Examples of abandoned small towns, from left to right, Conza della Campania, Montecalvo Irpino, Melito Vecchia, Senerchia vecchia.

The knowledge of the territory and its historical sedimentations is an essential condition to propose a correct recovery that guarantees the quality of the changes in continuity with the past, with a balance between conservation and innovation.

The theme of building and landscape recovery is closely linked to the theme of seismic improvement and adaptation of buildings. As for the case of the pre and post-earthquake areas of Irpinia, it is necessary to consider local values by studying them in their historical-technical perspective, paying due attention to the structural types, construction systems and nature of the materials and finally examining the complex aspect of the construction site and the construction process itself.

In the preliminary researches, we identified some recovery initiatives that can be valid examples to follow for the other Irpinia municipalities such as the recovery of the villages of the Mountain Community *Terminio-Cervialto* and their castles. The municipalities share mutual interests and are motivated by the desire to regain their own identity and to build an urban characterization that represents the place of an ancient tradition.

In this perspective, the Access City Award 2019 won by Monteverde Irpino is also very important. This small town wanted to integrate the architectural and naturalistic beauties of the village with the concept of “accessible tourism” for the disabled, in particular for blinds and partially sighted people. The 3.5 km touristic route includes tactile-plantar itineraries (loges-vettel-evolution) as well as 8000 info points. Blind people will be accompanied by audio guide and tactile maps, while the deaf will use LIS language with fiber optic and Wi-Fi connected systems.

Zungoli Irpino, on the other hand, was the first village in Irpinia to receive the Orange Flag from the Touring club deserving to have designed an efficient and stimulating tour. To ensure that these project initiatives do not become isolated and insufficient, it is necessary to promote them all over the territory and to follow them as an example.

Obviously, there are places, settlements and municipalities that are characterized by less competitiveness as they are too isolated and too limited in their extension to be able to develop public initiatives. In order to redeem from this situation is necessary to create a network that includes all the small municipalities, “Borghi in Rete” initiative. The association consist of 34 municipalities and was set up to promote the area through shared local development projects, in order to fight depopulation by increasing the accommodation supply and promoting the territory's potential. Among these municipalities, there is also Montecalvo Irpino where our case study was identified.

2. Montecalvo Irpino and Trappeto district: an architectural heritage to protect

The aim of this work is to try to recover the architectural heritage that escaped the planned destruction of post-seismic reconstruction and that has been abandoned. The case study examined is the Trappeto neighborhood in Montecalvo Irpino, located in the province of Avellino. The town of 3591 inhabitants falls into the category of Small Municipalities and has been experiencing depopulation since 1951, reaching its peak in 2018. The medieval center, rises on the top of a hilly ridge stretched towards NO-SE, delimited by Miscano's Valley from west to north, and from the Ufita Valley from south to east. Because of its location, the town is part of the Comunità Montana. The castle, which later became the Palazzo Ducale, rises on the highest part of the hill, showing that the first residential nucleus developed along the ridge path and then progressed with building constructions that follows the contour lines (Fig. 3).



Fig.3 – Montecalvo Irpino (Av) The town centre's planimetry

If the town still survives, the Trappeto district, a place of identity of the culture of the place, risks to be erased due to the progressive degradation and the absence of a maintenance action. The name Trappeto derives from the vernacular term *trappito* which in the Irpinia's dialect means "oil mill". That is due to the high concentration of rural population houses – the 80% of the all constructions. Trappeto developed in 1646, after the birth of the town, when the plague invaded the entire Kingdom of Naples. The few survivors fled into in the Trappeto area, which was initially characterized only by caves dug into the sandstone. These were used by the survivors as back-dwellings and subsequently they became permanently inhabited, creating a real neighborhood. Hit by earthquakes of the twentieth century, Trappeto was evacuated after 1962, when the PRG declared it an "abandoned area" and converted it into a public green area. The population was entirely moved to the districts destined to the construction of public housing (Rione Fano and Rione S. Pietro) but many refused to leave their homes. It was further damaged by the 1980 earthquake and forgotten by the following PRGs. Nowadays, the ancient settlement is in a state of advanced degradation due to the lack of post – seismic interventions rather than to the earthquake itself. This degradation also involves the upper housing unit. The geometric and architectural relief was fundamental to acquire all the information useful for the knowledge of the artifacts and their general state of preservation and to be able to trace back the geometric shape and allow the analysis of the construction details (Fig. 4).



Fig.4 – Evaluation of southern facades from top to bottom, via Sottocarmine, via Angelo Cammisa

Today the vegetation freely proliferates, and some access roads are no longer viable, so it was necessary to carry out a digital survey, in addition to a direct and instrumental survey. The program allows to obtain texturized 3D models through two-dimensional images realized with a drone, thanks to a technique called “Structure for Motion”. As a result, it was easier to get an overall understanding on how the town is structured today. From the relief emerges a “row” aggregation of the buildings that gives rise to a series of long curtains that follow the plano-altimetric progression of the sites, becoming a terrace along the slope.

The scheme is that of the slope house that uses the height difference of the ground to allow access to the various levels with external stone stairs, close to the façade or placed laterally, in the case of high slope. In other cases, the levels are connected by an internal wooden staircase called “scalandrone”. From the architectural relief we have emphasized the presence of a center that 40 years after the complete abandonment still maintains intact its typological characteristics, despite the state of advanced degradation (Fig.5).



Fig.5 – Architectural evaluation of ruins along via Angelo Cammisa

The landscape value of the place does not go unnoticed and, together with its decadent aspect stopped in a timeless dimension, creates a very suggestive environment that can capture the attention of those tourists who love to seek for these places. The project offers two possibilities: one is aimed at securing and recovering the usability of the paths and the other one pursues the partial recovery of pre-existing architectures, with punctual refuncions. One solution does not exclude the other, considering that an initial restoration of usability could be followed by a recovery of the buildings and that the partial recovery requires the securing and usability of the routes.

The identified criticalities concern the isolation of the country, which suffers from the condition of geographical marginality with respect to the regional context. The marginality is accentuated by an inadequate infrastructural network that affects all the Irpinia's area. As a result of our researches, we believe that is not possible to rehabilitate an abandoned settlement that is progressively deteriorating, without a project that puts the territory in a network starting from the infrastructures.

After a first analysis of regional mobility, we are therefore connected to two design hypotheses envisaged in the National Strategy for Internal Areas, that fight the marginality by strengthening mobility through the use of 2014-2020 community funds. A first mobility project concerns the Naples-Bari High Speed line which would also have an intermediate stop in Irpinia. The "Hirpinia" station, like the ancient toponym, will be located between the towns of Grottoaminda and Ariano Irpino. Another part of the funds was destined for the reopening of the d Avellino-Rocchetta Sant'Antonio railway line. The route can be turned into a "touristic track" to promote the rediscovery of the territory through a slow mobility that overlaps with cycling routes that may be.

This line only involves the territory of Alta Irpinia, therefore the project identifies another one in the study area, abolished in the eighties that could be reopened. In fact, the Naples-Foggia line has many intermediate stations that have been abandoned, including that of Montecalvo Irpino, which also served neighboring countries. Simultaneously a network has been designed between the Trappeto district and other countries, that have the same building typology, assuming to connect them to strengthen the territorial network, capable of highlighting the potential of the natural and anthropic landscape. The territorial network branches off into local routes, involving ancient sites, creating a sort of *fil rouge* between landscapes and architectures.

The safety of the visit routes becomes the core of the project hypothesis: the routes will lead the visitor, solving accessibility problems and physically or visually connecting episodes of formal incompleteness. For the flooring and street furniture, the types already used for some projects in Irpinia countries in accordance with the sustainability of the materials have been studied and re-proposed. (Fig.6)

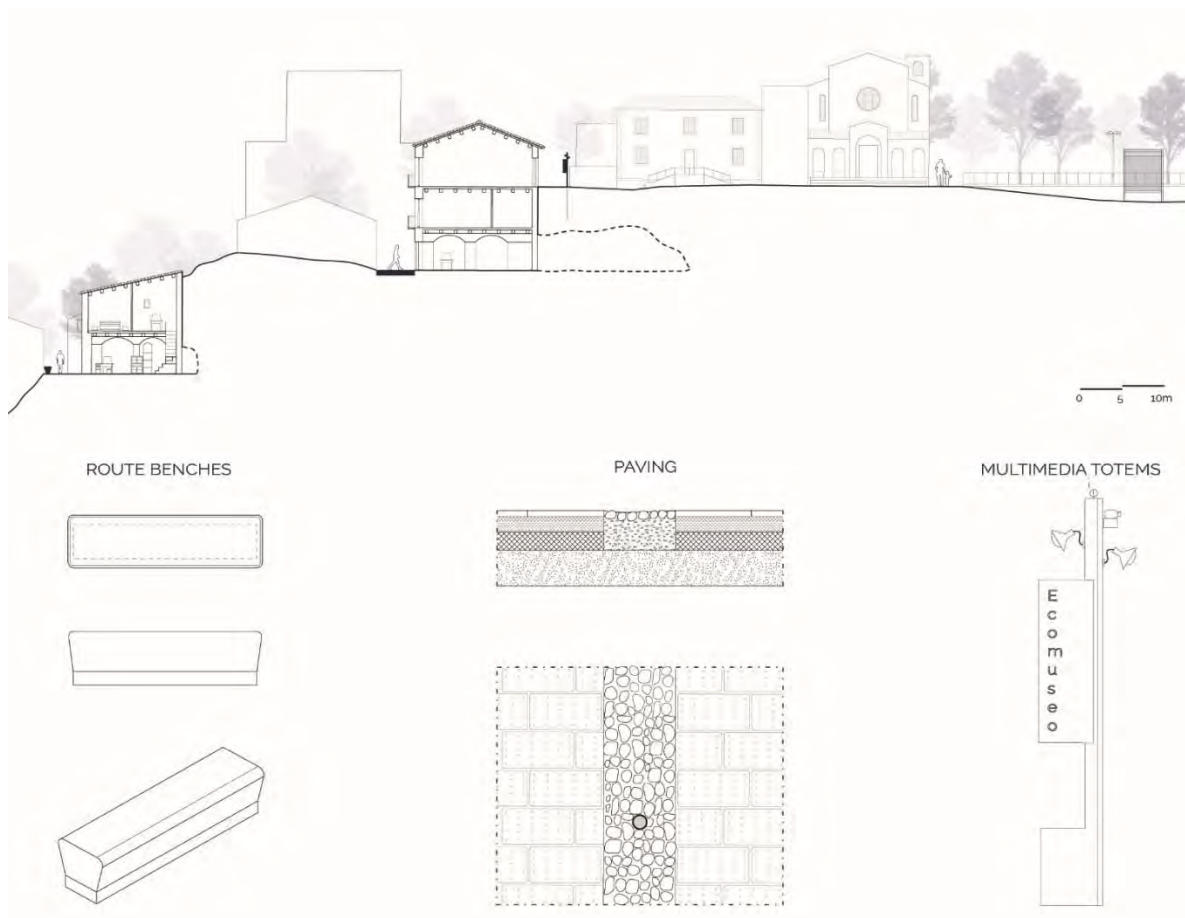


Fig.6 – Project section and project details

To support the safety of the route network is provided the consolidation and conservation of the ruins, as part of the museum arrangement. To this end, interventions are planned on the walls and surface treatments, stone shaved on the buildings that are exposed and plastered for the others. (Fig. 7)



Fig.7 – Project hypothesis: full of gaps in the facades along via Angelo Cammisa

In addition to the consolidation of the walls, a tricky theme was that of deteriorated elements' issue. They have been replaced by maintaining the system present in the area as the “*porta e portella*” but by changing the materials. The door, formerly in wood, becomes glass and allows the view of the ecomuseum houses from the outside during the visit, while the *portella* remains in wood. For the remaking of the roofs and interior floors we have chosen a typology in line with the one on the site. In line with the municipal administration strategies, oriented to the recovery of its ancient building heritage, we envisaged a second phase of the partial recovery of the district with the re-functionalization of some buildings. The aim is to combine the environmental landscape values with the cultural and architectural values by converting the site to the Ecomuseum, as the example of

national and international projects. The district, linked to a rural culture, becomes both a place of research and promotion of the territory is a place that witness a certain way of life. The method pursues the restoration according to the criteria of minimum intervention, distinguishability, compatibility and reversibility to make architectural emergencies usable again, attributing destinations of use compatible with the new function.

The chosen area is on the (town's) south side and is easily accessible from the main street of the inhabited center, where selected a few cases studies: a still usable cave house; a partial collapsed cave house and a two-level in-line building.

All the cases analyzed are refunctioned as accommodation activities. The first involves only a few small routine maintenance operations, while in the second and third cases we paid great attention to the consolidation of the masonry walls and to the reconstruction of the roofs with traditional materials and techniques.

In substitution of some ruins that once were buildings and that collapsed after the earthquake, we decided to do not rebuild the housing cells, but to redesign these spaces as green areas, which reconnect the inhabited center with the landscape context. The project reintegrates it with the design of a common space that takes up the old traces of the buildings that were destroyed.

The design refers to the form of that ancient presence and its spatial relationship with the environmental context, avoiding any slavish imitative reconstruction, evoking without giving back. From the top it instead returns the planimetric arrangement of the ancient town hoping for a visual continuity of the whole district. (Fig. 8)



Fig.8 – Project planimetry with refunctionalization hypothesis of buildings

The urban regeneration project tries to combine the theme of the route with the theme of the recovery and restoration of housing cells, such as the cave houses, also involving the local population. The goal is to try to get out of oblivion and reverse the process of emigration, especially of young people, to other countries. In this sense, several cases have been tested in Italy, such as Santo Stefano di Sessanio in Abruzzo, Castel del Giudice in Molise, Craco in Basilicata, or in Europe like Ruesta in Spain. They are different examples for historical events and territorial dimensions, but that have in common with the district Trappeto the landscape and architectural potentialities.

Conclusions

The issue of abandonment, as we have tried to explain, concerns the entire Italian peninsula with peculiar repercussions on the central-southern territories. This situation is similar to other European nations, such as Spain.

In the Irpinia's area, the abandonment is linked to the social and economic marginality that has always characterized this territory. Furthermore, the earthquakes and the related post seismic interventions have erased the historical memory of the places, marked by repeated demolition and seismic adjustments, that often were not compatible with the traditional construction techniques.

This is the first step towards the recovery project for the district, which aims to make housing cells safe in full compliance with traditional building characteristics. The partial restitution of some portions of the existing architectural heritage has allowed us to think of a process of re-functionalization of the building fabric in a cultural and tourist view.

The urban-scale recovery project is part of a project to restore the urban center of Montecalvo on a territorial scale, connected to the small towns in Irpinia. In this sense, the project includes both interventions to upgrade existing infrastructures and interventions to create new ones to promoting the territory's potential.

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