

Exploring Rural Heritage in Central Sicily (Italy). Proposals for Cataloguing, Protection and Valorisation: the case study of Fondaco Cuba

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Abstract

Rural architecture in Italy has a significant impact on the landscape, revealing itself through a vast and varied array of structures and building typologies that demonstrate a fundamental link between culture and natural context. Man and nature's interactions are manifested through a series of spaces designed for living and farming, along with other material elements that create recognizable historical and anthropological units. Besides being tangible signs on the territory, these structures also convey many intangible values associated with cultivation practices, traditional economies, ways of living, and crossing places. The rural landscape of Sicily maintains its essential character and specific identity. Recognizing important qualities from a constructive and formal point of view allows us to distinguish this landscape from others and identify a heritage that deserves to be preserved. This work summarizes the first results of wider research aimed at carrying out a cognitive investigation on rural constructions in Central Sicily to deepen the understanding of the settlement dynamics and transformations of this area. Following a census activity, carried out on recent guidelines established by the Italian Central Institute for Cataloguing and Documentation, the essay focuses on an emblematic case study where innovative knowledge activities were carried out to support conservative rehabilitation strategies and local development processes.

Keywords: rural architecture; landscape; cataloguing; conservation; valorisation; Sicily

1. Introduction

In Sicily, rural architecture is a mosaic of local and sectoral situations that are highly distinct from each other. The region's insularity may seem uniform, but it is not. Numerous and varied sub-regional territorial realities exist: many islands within islands can be counted, as Leonardo Sciascia pointed out while describing Racalmuto, his hometown (Sciascia, 1990). A Sicily composed of 'one hundred Sicilies', territories that are only apparently the same, but

in reality, always different, each characterized by customs, variations and typicality, which are the consequence of its historical condition as an 'island-crossroads': "a theatre of memory in which ethnic groups, codes and languages have alternated and overlapped" (Di Grado 2021, 24). Destination of countless invasions, dominations, and consequently of settlement and integration of different peoples, Sicily has, in fact, been shaped by different experiences and knowledge that have produced equally vast cultural stratifications: an

“immense archive of the peoples of the Mediterranean, in an articulation of spaces, in a peculiarity of landscapes, in portions of ‘togetherness’ that end up breaking up the regional individuality” (Campioni, 1992, p. 16). A palimpsest, not always easy to decipher, that, especially in internal Sicily, has been marked by the long persistence of the feudal-type landowner system. An organisation that has significantly influenced the way of understanding nature and using it: “that infamous Sicilian latifundium that, in truth, was able in other eras to reward, with copious and sought-after fruits, the assiduous care of the owners and the loving work of so many good farmers” (Pontieri, 1943, p. 50) but which still in the 19th century was a source of wealth only for the baronial class. Although the Sicilian Constitution of 1812 abolished feudal rights, this did not lead to a redistribution of the lands, but rather to their transformation into private property. The Sicily of the feudal system changed into the Sicily of the latifundium, and the old and confident feudal lords became the new and equally confident landowners. The agricultural landscape continued to be marked by the irredeemable character of what Giuseppe Tomasi di Lampedusa spoke of in *The Leopard*.

Following the establishment of the Kingdom of the Two Sicilies and the incorporation of the *Regnum Siciliae* into it, a series of administrative and bureaucratic reforms was initiated to improve the State’s efficiency. Road infrastructure investment was made, and trade and agriculture reforms were introduced. This quickly led to the birth of numerous scattered *masserie*, farmhouses and rustic agglomerations, characterized by a different typological conformation depending on the orography of the territory and the type of productive activity for which they were intended. However, for a long time and well beyond the unification of Italy, due to the powers acquired over time and in the absence of a strong State, the Sicilian barons, supported by the nascent mafia phenomenon and banditry, continued to exercise power over the

rural populations, preventing farmers from working the land, causing them enormous suffering and worsening their living conditions.

Unlike the coastal areas, where the development of citrus production strongly oriented towards export had transformed agriculture, inland Sicily, still dominated by cereal production, was affected by an increasingly important exodus from the countryside at the end of the 19th century. The price of wheat decreased because of the large amounts of stocks arriving from Russia and America. This situation, accentuated by important demonstrations of peasant struggle, particularly affected the internal territories of Sicily, where the exodus of people employed in agricultural and pastoral activities had greater relevance than in other areas of the island. Emigration, which mainly involved agricultural labourers and small tenant farmers, the progressive sterility of the lands irrationally deforested during agricultural colonization, and subsequently the disastrous decline in agricultural incomes accelerated the functional decline of farms and cottages. It caused, in the countryside, abandonment, solitude and desolation, as demonstrated by the numerous investigations conducted at the time, including the very famous one by two young Tuscan scholars and politicians, Leopoldo Franchetti and Sidney Sonnino (Franchetti & Sonnino, 1877). At the end of the First World War, a new subdivision of rural areas became necessary, driven by the urgency of making the land productive and ensuring the collective well-being of the population in economic, productive and social terms, recalling a nationalist patriotism. Fascist ideologies focused on the idea of returning to the land as a chance to restore social balance and traditional values of peasant society. Ruralisation took on a central role among the government lines of the fascist regime, positioning itself as a tool that was supposed to change the face of Italy and its territory and modify the mentality of Italians. The land reclamation laws of 1923, the colonization of the

Sicilian latifundium in 1940 and the Agrarian Reform started in 1950 continued an activity of fragmentation of the latifundium, contributing to the construction of villages and, at the same time, of numerous farmhouses, set on a scattered settlement system characterized by small plots of land to be cultivated (Guarrera, 2022).

The study of agricultural settlements was aimed at tackling the practical issue of the new rural constructions promoted by the fascist government in a more conscious manner. Giuseppe Pagano and Guarniero Daniel's 1936 exhibition on *Rural Architecture* resulted in a genuine discussion about how to make people understand the aesthetic value of rural houses and to promote the respect for this little-known heritage: a significant expression of Italian tradition in architecture, "clear, logical, linear, morally and also formally very close to contemporary taste" (Pagano & Daniel 1936). Thus an interest was reawakened in the study of a particularly varied and fragile heritage of our country which in Sicily would find expression in the research of numerous scholars, who would concentrate on the architecture and rural landscape of the hinterland, on the elements which had mostly disappeared from major architecture, but were precious for those who wished to follow their entire evolution: [the] most modest part of that building activity which commonly goes under the name of "minor architecture [...], the spontaneous fruit of the popular soul, permeated with naivety, often expressed with poverty of means by the small workforce or by the peasant himself who improvises as the architect of his own home" (Epifanio, 1939, pp. 7-8). Despite the tentative results of the post-war Agrarian Reform, this architecture became disused due to the economic boom and the subsequent de-ruralization of Sicily. In the period 1951-1970, over 400,000 jobs were lost in agriculture, and the internal areas of the region became empty and deteriorated (Amata, 2017).

Today, the rural landscape is still suffering the consequences of a period of great hardship in the sector that the rural development programs promoted by the European Union in the last thirty years have tried to fill through the implementation of a series of financing and new recovery plans, not always effective. Rural architecture is increasingly at risk due to the often-radical transformations carried out on the territory, as well as the numerous political and socio-economic changes. A heritage made up of a multitude of structures and building typologies that reflect centuries of history, culture and interaction with the natural environment and that express, at the same time, a mass of intangible values linked to cultivation practices, traditional economies, ways of living and crossing space. Following the impetus given by the census work promoted by the Italian Ministry of Culture, in implementation of the provisions of the National Recovery and Resilience Plan, a (parallel) activity of cataloguing of historical rural buildings was therefore conducted in Central Sicily. Focus was given to an area of great interest located in the province of Enna, emphasizing the municipalities of Centuripe and Catenanuova. An area dotted with a large nucleus of rural dwellings that are witnesses to the Sicilian peasant civilization, which the survey aimed to identify. The paper will describe an emblematic case study, the Fondaco Cuba, where innovative forms of study and analysis were experimented with to safeguard and recover it.

2. Rural heritage cataloguing for assessment and recovery

The study area is a rare example of an uncontaminated and intact environment in Sicily. The phenomenon of depopulation of the countryside that occurred after the war has effectively frozen the landscape as it evolved over centuries until the 1950s. New construction has been hindered by the failure to return to the countryside and poor humanization and almost only are remnants of vernacular tradition. In

addition to some mills and small homes, there are more complex settlements such as the *Masserie*, which includes the houses of the *Massari*, the internal *Bagli*, and the houses of the labourers. These places, often designated as farms, are linked to an extensive cultivation system associated with livestock breeding. The *masserie* “small fortresses in the middle of bare countryside: pivots or fulcrums of a medieval type and flavour of landed estates, in the process of disintegration” (Pecora, 1968, p. 340) are mostly located in low and medium hill areas, while their diffusion decreases considerably with the rise of the relief, until in the high Erei and in the culminating areas of the Nebrodi, as well as in the high Iblei, where they disappear.

In general, in the Enna area, the *masserie* present an architecture like that widespread in other internal areas of Sicily, characterised by a large courtyard that connects the various parts of the building, composed of a massive and compact central body in the shape of a quadrilateral. The unique access to the courtyard seems to limit contacts with the outside and underlines the defensive nature of the structure, highlighted by the bare wall surfaces with rare openings. The sole entrance is made up of a double door, which is topped by a round arch and has the initials of the owner engraved on it. The courtyard, which is quadrangular in shape and never less than 500 square meters, has a paving made of stone slabs or cobblestones. In some of them there are also real religious chapels, in a harmonious synthesis between uncontaminated nature and human presence (Alleruzzo di Maggio et al., 1973). An important heritage of rural architecture that, only in part, appears to be in use because it has been transformed into agritourism or it is still dedicated to a residential function maintaining the relationship with the landscape cultivated with cereals, fruit trees and olive trees, but which for the most part lies in a state of abandonment. About twenty *masseries* with particular significance from historical, anthropological, and architectural perspectives have been listed in the

census. Among them are the Schembari farm in the Catenanuova area and Cuba, Diodato, Muglia, Burgi, Spitaleri, Sternazza, Grande, Cocuzza, Pernice, Mammana and Cantarella in the Centuripe area. In accordance with the provisions of the Central Institute for Cataloguing and Documentation of the Italian Ministry of Culture, the new Rural Architecture catalogue card has been compiled for each of these assets. The AR – Rural Architecture catalogue model, specifically developed for the project, can describe the different types of rural houses, return their specific characteristics, and allow the development of documentation that collects a lot of information. The peculiarity of the new AR card lies in the variety of data that can be inserted, ranging from those relating to the landscape to those of hydrogeological instability detection, from those relating to the analysis of the architecture to those of a historical-bibliographic nature.

The recognition has enabled the emphasis on a particularly significant typology of *masserie*: the so-called *fondaci*. In Sicily, these rural warehouses were located along the main connecting roads of the island with functions not exclusively linked to agricultural production and breeding activities but also intended for the storage of goods and the reception of merchants. Introduced during the Saracen domination, the warehouses represent an architectural typology of extraordinary importance, derived from the Arab model of the *funduq*, architectural complexes divided into a series of smaller buildings around a large courtyard. They arose at regular intervals, along the ancient *trazzere*, the public roads that served as strategic axes for transhumance, trade and transport between the different areas of the island (Tesoriere, 1993). Their development took place between the 12th and 18th centuries during the reign of Frederick II of Swabia, when, for the purpose of royal control of trade and for fiscal reasons, these structures were subject to concessions and precise regulations for their management. In fact, they

allowed the control of agricultural products from the places of production to the city markets and ports for export. The warehouses therefore became strategic for the government of the territories and responded to logistical and social needs: they were structures designed to offer refreshment to travellers, shelter for goods and animals, stables, carriage sheds, in addition to performing the functions of inn and post station. They were not configured only as simple places of rest, but as true centres of economic and social exchange: spaces in which commercial activities, essential for the community life, took place.

3. The Fondaco Cuba case study

The Fondaco Cuba fits into this context, located in the district of the same name that arose along the dirt road that connected Palermo to Catania, along the stretch passing through Catenanuova, a city founded by Prince Andrea Giuseppe, firstborn and heir of the Riggio-Saladino and Statella-Paternò families. The name of the village *Terra della Nuova Catena* (later Catenanuova), built in execution of the imperial diploma issued in 1726 by the Viceroy Count de Palma is a clear reference to Aci Catena, of which he was prince. Its existence is documented in a notarial deed dated February 9, 1733, relating to a sale of land, which confirms the existence of the new settlement that had a community of about 500 inhabitants, mostly from Centuripe (Fig. 1).

The center required the reclamation of the Dittaino marshes and the creation of a new section of the royal *trazzera* towards Catania and Syracuse, creating a new route downstream from San Filippo d'Agira and Centuripe - in the direction of Paternò (Virzi, 1989). The Fondaco Cuba has a more ancient history, and the complex architectural stratification suggests construction phases prior to the current phase; it is mentioned for the first time in a deed of sale of 1408 as the property of Giovanni Esquifanio, it later passed to the family of the Biscari princes, who owned it from 1633 to 1919.



Fig. 1 – *The Fondaco Cuba and its territory, rich in masserias* (Firenza).

Originally it was only a farmhouse that was transformed into a warehouse in the 18th century following the new route of the *trazzera* and strongly transformed by interventions carried out perhaps also because of the damage caused by the earthquake of 1693 (Virzi, 1989). From the 18th century onwards, the warehouse was often described and cited in the travel reports of visitors on the Grand Tour. The chronicles tell that Victor Amadeus II of Savoy, King of Sicily, and his wife Anna Maria of Orleans stayed there for an entire night in the spring of 1714, accompanied by their royal entourage (Ansaldi 1981). Johann Wolfgang Goethe also stopped there on 30 April 1787, mentioning it in his Italian Journey. He described it as a solitary farmhouse where he stopped to refresh himself with his travel companions and where he was struck by seeing the farmers intent on extracting, with the tip of small pocket knives, the pulp from the upper end of wild cardoon plants (Mistretta, 2023). The Fondaco di Cuba is recognizable in the famous Historical Atlas of Sicily by Liliame Dufour and in subsequent maps, a sign of its importance in the island's connection system until the 20th century. In 1935, a transfer of ownership of some portions of the warehouse was recorded, sold by Nicolò La Noia to

Commendator Prospero Mammano, through a deed of sale drawn up by the notary Rosario Sciuto (one of the founders of the Pia Opera di Centuripe). In 1936, finding the building in a state of decay he began its restoration. Today, despite the recognition of its historical value by the Superintendency of Enna in 1985, and its classification among the assets of historical-artistic and ethno-anthropological interest in 2005, the complex is today in a state of abandonment, with serious risks of collapse. This state of degradation, repetitively denounced by scholars and local officials, makes it urgent to intervene, not only to safeguard the building, but also to reconstruct the historical and infrastructural memory of an area often marginalized in historiographical narrative.

3.1. The survey for knowledge

The knowledge project is the basis of any intervention that involves cultural heritage. The collection, analysis, and interpretation of historical, architectural, and technical-constructive data on the built asset is the basis of a methodological approach, which aims to ensure its conscious conservation and effective enhancement. To protect and return Fondaco Cuba to the community with renewed awareness of its value, it has been necessary to first recognize its material and immaterial components. This is why, through a rigorous documentary analysis and a 3D survey of the existing building, the adopted methodological approach was aimed at understanding both its typological and technological characteristics (Fig. 2).



Fig. 2 – The 3D model created with UAV systems.

Modern digital surveys and diagnosis technologies have made it possible to acquire data with great accuracy and high precision. The creation of 3D models has allowed not only to analyze in greater detail the state of conservation of the structures, but also to advance reconstructive hypotheses about the different constructive phases that have characterized it. Documenting the status of Fondaco Cuba through digital survey methods will be useful not only to preserve and promote its memory, but also to acquire useful data for its conservative rehabilitation and functional recovery. Through aerial photogrammetry and laser scanning high-resolution models were obtained. They have constituted the scientific basis for the study of the geometries, of the wall textures, of the materials used and the degradation and alterations phenomena that have compromised the building and its relationship with the surrounding spaces. In particular, the UAV (Unmanned Aerial Vehicle) survey using Remotely Piloted Aircraft Systems (SAPR) was essential to overcome the limitations of accessibility of abandoned rural area such this one, which are in general hard to measure with other systems due to the high vegetation and the risk of collapse of the roofs and vaulted parts. The 3D survey, therefore, has represented then an essential tool for the work of the restorer in an era in which the conservation of the architectural heritage requires increasingly complete methodologies obtained through integrated analysis with different sensors. One of the most relevant aspects of the study was the possibility of combining the acquired data with archival sources, thus creating a dialogue between the digital dimension and the historical documentation; the digital survey was not only a technical-analytical support but a real key to understanding the past and guiding future choices. The digital analysis, combined with an interdisciplinary approach, has given the opportunity to tackle with a scientific method the problems related to the protection and enhancement of the rural complex, thus ensuring

a significant contribution to its understanding and transmission to future generations. The first step was, however, the direct survey, intended as a moment of inspection and ‘unfiltered’ contact with the warehouse, aimed at knowing the space within which to design, as well as to acquire a first overall picture, not only of the dimensions of the various compositional elements, but also of their material consistencies. All of this, as mentioned, was integrated with the historical-documentary study, made possible thanks to the consultation of the documents preserved in the Archives of the Superintendence of Enna, of the Municipality of Centuripe of the Opera Pia Pietrangelo D’Amico of Centuripe. The graphic restitution was declined both in geometric form (with the aim of obtaining Mongian projections useful for understanding the relationships between the parts, the metric links of proportionality and reciprocity, as well as analyzing the sequence between full and empty spaces), and in architectural form (to investigate orders, styles and decorative elements of the different ornamental components), to understand the quality and specificities of the place.

The survey provided the required information for material mapping, structural failures and degradation analysis; the analysis of the latter was conducted through an experimental technique, processing the datasets of images with Deep Learning approaches for inspection and recognition, to characterize the surfaces and identify surface alteration phenomena. For the automatic identification and classification of objects, the YOLO (You Only Look Once) technology was adopted, a pretrained neural network, known for its ability to detect and categorize elements in real time. The experiment was conducted using the Roboflow platform, specifically used for training images to identify the elements to be classified. Automatic recognition of some construction elements was then performed, such as sandstone ashlars, plaster, roof and openings (Fig. 3).

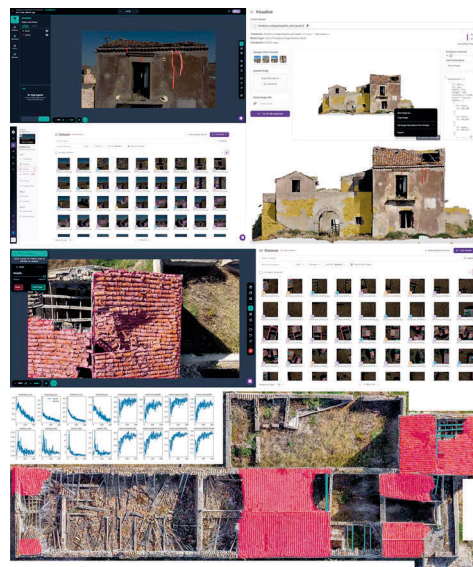


Fig. 3 – Manual annotation steps for dataset creation, results and final test on orthophotos.



Fig. 4 – Orthophotos and 2D drawings for materials' mapping.

The experiment allowed for an initial automatic mapping of the images but highlighted some limitations, in the system's ability to accurately distinguish materials in variable lighting and texture conditions. This made it necessary for the operator to intervene, using traditional techniques, to correct and finalize the final mapping (Fig. 4). Enhancing the use of rapid survey techniques, which are based on innovative digital acquisition systems like drones and LiDAR technology, seems fundamental from this

perspective. Already widely tested in the infrastructural and industrial fields, these solutions prove to be extremely effective also for the reconnaissance of rural architectural heritage, often consisting of isolated and difficult to access artifacts, offering new opportunities for systematic mapping and more extensive protection of the territory.

4. Conclusions

The research carried out on the Fondaco Cuba and, more broadly, the rural architecture of central Sicily emphasizes the importance of rethinking the strategies for documenting, protecting, and enhancing this cultural heritage. It is not just a matter of preserving material structures, but of rediscovering and reactivating a stratified cultural heritage that reveals the deep bond between community and landscape. Physical isolation and structural degradation aggravate the risk of oblivion, which makes knowledge a tool for resistance and regeneration.

The adoption of integrated methodologies – including historical research, digital survey and data analysis– represents not only a technical opportunity, but a cultural and political choice to restore centrality to marginal territories, promoting a new form of rural habitability. In this perspective, the reuse project of the Fondaco Cuba, which relaunches its function as a place of rest and reception through respectful and compatible interventions, demonstrates how this heritage can return to being an active resource and not remain a victim of abandonment. The aim is to use these experiences to develop new operational scenarios for the protection of the agricultural landscape and to raise awareness of the widespread value of our built heritage.

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