Terremotos y reconstrucción. Proyectos y experiencias de Italia

Earthquakes and reconstruction. Projects and experiences from Italy

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Resumen
Esta contribución tiene como objetivo difundir la experiencia ganada por un grupo de profesores de la Universidad "G. d'Annunzio" de Chieti-Pescara implicados en la reparación de los daños producidos por el desastroso terremoto que afectó a la región de Abruzzo en 2009.
La experiencia se refiere en particular al trabajo realizado en algunos Planes de Reconstrucción de centros dañados, para cuya realización se han adoptado determinados principios de conservación y restauración que se consideran esenciales para cualquier intervención sobre el patrimonio histórico.

Palabras clave: Terremoto. Patrimonio Histórico. Reconstrucción. Restauración.

Abstract
This contribution aims to give an account of the experience gained by a group of professors from the University "G. d'Annunzio de Chieti-Pescara" which have been involved in the repairment of damage caused by the disastrous earthquake that affected the region of Abruzzo in 2009.
The experience refers to the work done within the framework of some Reconstruction Plans, whose implementation has been based on several conservation and restoration principles considered essential for any intervention work on Historic Heritage.

Keywords: Earthquake. Historical Heritage. Reconstruction. Restoration

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How much can we hope to understand those who have
suffered deeper anguish, greater deprivation,
and more crushing disappointments than we ourselves have known?
(Omar Pamuk)

1.- The center Italy, land of earthquakes

The start of the third millennium has been devastating for Italy because of the number and intensity of seismic events the country has experienced.

From the Molise earthquake in 2002, to the quake that struck the city of L'Aquila and much of the Abruzzo region in 2009, to the latest disaster on 18 January 2017 that disfigured the L'Aquila province yet again, this time with the villages of Montereale and Capitignano at its epicentres. Central Italy has been hardest hit by a series of earth movements that show no signs of stopping and that stands out tragically in the history of an area that has always been at high risk (Galadini-Varagnoli, 2016).

Orographically, the central Appenine region is one of the most impervious of the entire peninsula, with a complex genetic seismic structure that is often marked by landslides and slabs of rock[1]. This is why the areas affected extend far beyond the epicentre, including apparently peripheral areas. This was the case of the earthquake that struck Emilia Romagna and the Padan Plain in May 2012, and especially for the Amatrice earthquake in Lazio, where the magnitude of the series of shocks peaked on 24 August and 30 October 2016, and impacted a very large area to varying degrees, not only Lazio and Abruzzo, once again, but also Umbria and the Marche, that had already been wounded by the earthquake in 1997[2].

Many earthquakes of "historic" proportions have struck central Italy over the past millennium (Rovida-Locati-Camassi-Lolli-Gasperini, 2016). The city of L'Aquila for example, struck by the earthquake in 2009, was born of an intricate urban reconstruction plan after the "great earthquake" of 1703, so named for the extensive devastation caused to the entire L'Aquila basin by a quake measuring 6.8 on the Richter Scale. It was the echo of an earlier earthquake that struck the same area in the autumn of 1461.

Because of the recent nature of the events, the future of the areas struck in past months is still unclear[3]. This uncertainty is also due to the fact that Italy lacks not only a

[1] This is what can be seen on the Italian earthquake danger map published in 2004, in line with the actions taken following the earthquake in Molise two years ago.
[2] The epicentre of the first quake on 24 August, measuring 6.0 on the Richter Scale, was along the Tronto Valley between the villages of Accumoli (Ri) and Arquata del Tronto (Ap). Two powerful aftershocks were felt on the 26th of that month, with epicentres on the border between the regions of Umbria and Marche. The most powerful quake, felt across most of Italy, was on 30 October, centred between Norcia and Preci in the province of Perugia. Its magnitude of 6.5 was the strongest registered in Italy since the Irpinia earthquake in 1980. On 18 January, there was another series of quakes in the span of just a few hours measuring more than 5 on the Richter Scale, once again impacting all of the villages struck by the earthquake in 2009, in Abruzzo, Lazio, Marche and part of Umbria.
[3] The decree law issued by the Italian Government on 11 November 2016 on "new and urgent interventions for the people and regions impacted by the seismic events in 2016" revised previous measures issued after the Amatrice earthquake on 24 August, increasing the number of municipalities in the crater to 67 and the funds set aside for reconstruction to five billion euros.

prevention culture—as tragically demonstrated by the landslide that immediately followed the 18 January earthquake burying the Rigopiano hotel (built at the base of a gully between the Maiella mountains) in Farindola in the province of Pescara—but also a single legislative framework to guarantee a homogenous response not only during the initial emergency period but also, and more importantly, for the reconstruction of individual buildings and entire cities, with all the predictable consequences in terms of times and means. Parliament is currently examining the so-called "Casa Italia" project, which aims to protect all of Italy in the next twenty years. It shows great potential but comes up against the often repeated experience of delays that are detrimental for the fate of our architectural heritage and the social fabric that its very reason for existing.

The errors committed and acknowledged, especially during the consolidation phase for damaged buildings that were destroyed to varying degrees by earthquakes and other accidents, have led to a few attitude changes regarding the search for greater and better physical and structural compatibility between the proposed interventions and the historic buildings. However, they have not prevented new damage to our heritage by both earthquakes and flooding (often tragically linked). Some recent examples include the Nera River that rose to dangerously high levels following the 18 January earthquake, or Torbidone Creek, which reappeared on the Santa Scolastica plain in the Marche after decades of absence. Awareness has been growing in recent decades of just how vulnerable our physical environment is and of the ensuing need to establish new regional policies. Sadly, it has not resulted in any critical mass capable of reflecting on the causes of the disasters or defining a coherent approach to deal with the problems. A long-ago—nonetheless pertinent—example, is the response of southern intellectuals to the earthquake that struck Calabria and Sicily in 1783. Another is the animated debate that arose in response to the devastating Lisbon earthquake in 1755, with a fatalistic Voltaire on the one hand, intent on demolishing the naïve optimism that all is for the best in "the best of all possible worlds", and the historicist Rousseau, who pointedly retorted that "it was hardly nature who assembled there twenty-thousand houses of six or seven stories" (Tagliapietra, 2004; Placanica 1985).

Therefore, as more or less recent history teaches us, every earthquake in Italy is unique in terms of destruction and reconstruction, and each one demands empirical approaches related not only to the scope and type of damage, but also to the geomorphological variances of the affected areas, to their social and economic structure and therefore to their resulting potential for recovery and development. The Abruzzo earthquake in 2009 is exemplary in this regard[4].

The actions following the 2012 earthquake in Emilia Romagna responded to a need to quickly rebuild huge numbers of manufacturing buildings in one of the country's most heavily industrialised regions, particular because of the economic crisis[5]. In 2009, however, the reconstruction that was planned and begun after the earthquake, concerned a provincial capital, L'Aquila, one of Italy's most beautiful and important cities, as well as a multitude of towns and villages scattered throughout the entire Abruzzo area[6]. So,

[4] The epicentre of the earthquake measuring 6.3 on the Richter scale was just a few kilometres outside L'Aquila in central Italy; it killed 308 people, injured 1 660 and caused an estimated ten billion euros in damage. About 80 000 people were left homeless, half of whom were residents of the provincial capital.

[5] For a summary of the reconstruction, which is well underway, of both monuments and homes, see the report by the Emilia Romagna Region "L'Emilia dopo il sisma. Report su 4 anni di reconstruzione", published in May 2016.

[6] There was a useful discussion of post-quake experiences in Abruzzo and Emilia Romagna at the opening of the Salone del Restauro di Ferrara in 2013.

on the one hand, we had a city prestigious for its regional institutional role, as a nationally renowned university city with students from around the world living in its historic centre, and for its wealth of civil and religious monuments due to the intense Baroque rebuilding campaign after the 18th-century earthquake. On the other hand, we have a network of towns and villages, disadvantaged from an orographic viewpoint and outside any traffic and communications networks, and so abandoned—though almost never entirely. These tiny centres come to life every summer with vacationers returning to their summer residences, one of the areas' few economic lines of defence.

The distance, hardly ideal, between L'Aquila and the towns and villages was also increased by the unique time in history in which the earthquake occurred, just before the G8 summit. The meeting was initially to be held at Island of Maddalena in Sardinia, but the government changed the venue to the wounded provincial capital in a brilliant media *coup de théâtre*. In this way, the city served not only as a paradigm of good politics and patriotism, but also as a stage for an international event with the ruins as a backdrop. Pain and piety were put on full display but were sterile compared to the concrete problems the region and its thousands of displaced citizens faced (Mazzoleni-Sfardini, 2009; Travaglio, 2009; Andreassi, 2012; Felice, 2010).

Beyond the stereotypes and the clichés, and promises made but rarely kept by major world powers to adopt monuments and finance their reconstruction, it is clear that this event shone a spotlight on the city like never before. There was unanimous recognition, even after years of controversy and delays, that L'Aquila is a "unique monument of absolute cultural value"[7], and of the need to preserve its specific identity through targeted and well-thought-out reconstruction and restorations. The same cannot be said, however, for the towns and villages, whose reconstruction immediately appeared uncertain, bogged down by questions of costs and benefits, as well as concrete economic feasibility (Bulian, 2009, pp. 10-11; Spagnesi, 2010, pp. 31-42; Aa.Vv. 2010; Montanari, 2013, pp. 68-73, Settis, 2014, pp. 89-93).

Therefore, confidence in the possibility of rebuilding L'Aquila was reflected in the choice of an existing urban development plan from the 1970s. For the towns and villages, however it was decided to draw up totally new plans, under the illusion—disproven by the facts, one might say—that reconstruction might be faster and easier, at least for L'Aquila, and above all backed by an already defined legislative framework.
Below, we will describe the efforts of the Faculty of Architecture of Università "G. d'Annunzio di Chieti-Pescara" to propose essential preservation and restoration rules for any type of work on any historic asset. In this case, this concerns not just L'Aquila, but also its neighbouring towns and villages, not only major monuments but also ones forgotten by official written history, and not just beautiful churches and palaces but also the fabric of buildings that have for centuries formed the warp and weft of urban life, and that often preserve the innermost markings of the cities that rise from the rubble after earthquakes.

[7] This was the definition given the city in the document drafted by 1 000 art historians who met in L'Aquila on 5 May 2013 to forcefully demand the "civil reconstruction" of L'Aquila, "a martyred city of European artistic heritage", which must be considered the top priority of national policy more than four years after the earthquake. The document echoes the huge mobilisation of the more informed culture on the need to avoid making major changes to ancient and historic sections and to aim for a reconstruction as faithful as possible to former systems, materials and construction techniques.

The activity we are referring to concerns the experiences of a group of professors, including the author, led by Claudio Varagnoli, who were called to draft some of the reconstruction plans for the L'Aquila crater. These plans were unique in that they refused to adopt an entirely engineering and/or urbanistic approach to reconstruction, but chose to adopt a multidisciplinary view to address the complex transformations underway and bring together conservation bodies with the sacrosanct security and innovation authorities that are essential for regions like Abruzzo that have remained on the outskirts of the national economy, especially in certain areas. Here, not only must homes be rebuilt, but meaning has to be restored to things, to recovery efforts started with an understanding of the value and scope of complete operations to resume life in human capital, social and productive terms (Clementi-Fusero, 2011; Clementi-Di Venosa, 2012, pp. 17-35. Varagnoli-Serafini-Verazzo, 2012, pp. 1-10; Varagnoli, 2013, pp. 257-262)[8].

2.- The main earthquake of L'Aquila

The main earthquake in 2009 had major repercussions for the entire region and not only its epicentre, located near Onna (a village located in the middle of the Aterno Valley, some ten kilometres from L'Aquila). Of the four provinces of Abruzzo, only Chieti escaped the seismic crater: 42 urban centres were hit by the earthquake in the province of L'Aquila, eight in Teramo, and seven in Pescara, for a total of 57, including the regional capital.

As already mentioned, these are towns and villages that have lost their identity over the ages due to the emigration process during the Post-WWII period which led to the neglect and deterioration of historic buildings.

L'Aquila was also affected by emigration. But while, with its wealth of history and monuments, it was able to make up for its lost inhabitants by adopting an institutional and university role, other towns and villages have been cut off from the rest of the region and from all of Italy over the past half century and almost totally forgotten. The number of residents has declined to just a few hundred or even a few dozen, especially in the ancient villages. The resulting desertification proffered a vulnerable platter of ancient buildings already made fragile by neglect, a lack of upkeep and previous wounds that were never healed or were hastily patched over. There are many cases of houses collapsing because the reinforced concrete pillars and beams installed to strengthen them and/or increase space for new purposes, actually punctured and tore the ancient walls apart.

Most of the areas struck by the earthquake were densely populated, clinging to the mountain sides on which they were built and to Abruzzo's unique geomorphological makeup, which is mainly mountainous except for a narrow coastal strip extending from the border with Marche in the north to the Molise in the south. They are often true "fortified villages" surrounded by walls.

[8] Here, we refer to the plans for the towns of Castelvecchio Subequo and Castel Di Ieri, in L'Aquila province, coordinated by C. Varagnoli, and for the town of Ofena, in the province of L'Aquila, coordinated by L. Serafini. These plans were drafted in accordance with the guidelines of the Mission Engineering Structure, which was established after the earthquake by an order of the Prime Minister to support the Commissioner charged with handing the emergency and the reconstruction, including with the aim of economically relaunching the struck areas.

Figura 1. Castel di Ieri (L'Aquila), 2011 (L. Serafini).

The villages' compact nature is due to their construction on mountain slopes. Homes—each generally measuring only about 20-30 square metres—nestle against each other to form continuous lines, with openings only on their street side. The result is a dense hive where individual elements are lost in an overall organism with unified strength: a sort of latticework with a checkerboard of cells that work together to minimise efforts.

Figura 2. Ofena (L'Aquila) 2011 (Google Earth).

Centuries of experience with earthquakes, and the need to tackle them using increasingly refined contrivances, have produced architectures in these areas that are

marked strongly by a mishmash of construction types that still constitute one of their unique characteristics, despite all the transformations they have undergone. They include walls that are scarped sometimes all the way to the roof, especially in homes on the edges of the historic centres, so-called "case muraglia" ("wall houses") or "a muro di fortezza" ("with fortress walls"), some buildings four or five storeys tall and often with wooden "reinforcements" in the walls.

Figuras 3-4. Wooden "reinforcements" (L. Serafini).

Above all, there are the "street arches": veritable technical features designed to withstand earthquakes, punctual structures connecting facing buildings, or, more often and more effectively, forming veritable tunnels over the streets to provide mutual resistance for the rows of buildings. It is certainly these adaptations that guaranteed a primarily box-like behaviour in the structures during the earthquakes, with collapses almost never due to tumbling walls, but almost always to cutting actions. These were sometimes accompanied with collapsing attics and roofs, especially when they had been weakened by the insertion of chimneys that imploded inside buildings that still appeared whole from the outside.

Figura 5. "Street arches" (L. Serafini).

The phenomenon of neglect and the priority given after WWII (or after earthquakes) to less impervious sites and more comfortable houses—including because of the traditional

Abruzzo attitude that ancient town centres are slums to escape from—resulted in many urban and construction layouts in many areas remaining virtually unchanged until relatively recent times (Galadini 2016, pp. 69-114).

While ancient centres were bordered by the circle of wall houses, 19th and 20th century expansions moved further and further downhill, and obviously have completely different layouts and identities, also due to morphological circumstances that allowed a less compact and enclosed layout. The separation of the ancient centres from the "modern neighbourhoods" and the basic preservation of their layout mean that they must also be considered monuments in their own right. Their main value lies in their clustered nature, since the "tight weave" of the houses and streets reduces the separation between the parts to the extreme. In with this cluster-like layout are valuable structures that always contrast with the fabric of buildings. They also lack any significant stylistic and formal expression but are nevertheless dignified and worthy of protection and attention. One need only think of our rich heritage of churches and palaces present in every town and city, that despite the damage they have suffered, and often precisely because of it, clearly display evidence of the many reconstruction programmes.

3.- The contribution of the restoration

The reconstruction plans drafted by the Faculty of Architecture in Pescara were based not only the geographic circumstances of the earthquake and the university campus's proximity to the damaged areas, but also—and above all—on the wealth of studies on the region conducted throverough decades of teaching and professional experiences in the historic centres and local construction techniques, which were also examined in light of the centuries of experience with earthquakes and the measures developed to mitigate their effects (Varagnoli, 2008; Varagnoli-Serafini-Verazzo, S.D.: 281-293; Varagnoli-Serafini-Verazzo, 2104: 139-160. Varagnoli 2008; Serafini, 2008. Verazzo, 2015; Di Nucci, 2009).

These studies brought together the necessarily urbanistic characters of the various plans with the more modern demands for the restoration of the historic centres; they impacted methods and objectives in both the study and design phases.

Following the earthquake, the crater area was subdivided into nine homogenous areas, located within a territory of close to 3 000 square metres, close to 20% of the entire regional area. L'Aquila was excluded from this territory, as we already mentioned, because it was considered too complex in terms of the quantity and quality of its monuments to not constitute an example in its own right. The areas of intervention were defined based on their geographic homogeneity and the landscapes that characterise the many basins and valleys typical of the Abruzzo region. However, their express aim was to simplify relations between the regional authorities and the towns and villages, in the hopes of establishing a regional government based on cohesive forms considered essential for the social and economic renewal of the entire crater[9].

In compliance with the methodological approach that considers the historic centres and the broader areas to which they belong as necessarily inseparable, the reconstruction

[9] Cf. the Decree no. 3 of the Delegated Commissioner for the earthquake in Abruzzo dated 16 April 2009, supplemented by Decree no. 11 on 17 July 2009.

plans were proposed as strategic and integrated plans, that is with a multitude of approaches and skills (Clementi pp. 17-35; ID., 2016: 129-140): from the State represented by the Delegated Commissioner, to the Regional and Provincial authorities, to the Regional Directorate, the Superintendents, National and Regional Parks, and even the municipal technical offices and the citizens of each affected village, who are necessarily the key stakeholders in any discussion on reconstruction.

The extent of the damage in each individual village was the main consideration in defining the perimeters, so-called "red zones", which were established in cooperation with the administrations and the Mission Engineering Structure with a focus primarily on ancient areas and on buildings of historic and artistic value, which are covered by protection laws. The state of emergency in which the perimeters were drawn immediately following the earthquake explains in part their often hasty outline, dictated more by a need to maximize reconstruction than by a consideration of the damage based on the urban organism. Therefore, while the perimeter followed the ancient city walls in L'Aquila and in other centres and therefore enclosed the entire historic centre, the many types of damage led to a patchwork of perimeters in other cases. Once example is the centre of Ofena, in the province of L'Aquila, where the plan includes portions of the historic centre that were damaged must worse than others as well as monuments outside it, like churches and convents, that are isolated from the area and have strong landscape characteristics. It is clear that in this case more than in others, it was difficult to define and identify so-called structural aggregates, understood as interacting and continuous buildings from a static viewpoint, that had to be dealt with necessarily as single units (Serafini 2013: 268-275).

Figura 6. Ofena, Reconstruction Plan. Drawing of the main fronts (F. Nardelli).

The reconstruction plan, which was introduced after the earthquake by Law 77 of 24 June 2009[10], has a long history in Abruzzo, since it is actually an update of the plan established by Law 154 in March 1945—before WWII had even ended—to repair the damage caused by bombing and to mend the fabric of buildings that was often irreparably torn apart. Then, as now, the stated objective was to bypass the bureaucratic machine that hobbles along for normal urban works, through a more agile instrument of an extraordinary nature to coordinate physical reconstruction programmes and economic and social renewal plans for the damaged towns and villages. That aim was backed by an urgent need for residents to return to their homes, to avoid the major risk of loss of social ties, and to preserve the viability of surviving businesses. Unfortunately however, just like after the War, the bureaucracy once again reared its unwieldly head; almost eight years after the earthquake, not all of the 56 planned reconstruction plans have yet completed the procedures to receive financing before they can move on to actual reconstruction[11].

The delays in L'Aquila were just as serious. The 1970s urban development plan on which the reconstruction is based has been unable to get reconstruction started, bogged down in years of arguments and discussions, and tangled up in red tape that was unravelled only recently, coinciding with the opening of the Basilica di San Bernardino, numerous historic palaces and part of the centre, especially along Via Vittorio Emanuele in spring of 2015 (AbruzzoWeb. L'Aquila, 23 June 2016; Parisse, 2016).

In order to make best use of remaining resources and design a future scenario that's both possible and necessary, the Plans project used the following as references: regional law of 1983[12], the quality objectives of the Landscape Plan of the Abruzzo Region—entirely relevant in areas like those studied where the blending of nature and culture, buildings and the environment creates an extraordinary marriage of shapes and values—as well as urban programs (when they exist) drafted for individual villages prior to the earthquake, which were naturally updated to include demands made necessary by the post-earthquake situation.

One of the strengths of the Plans was the assessment of the degree of vulnerability of the centres that were analysed; it was an essential premise for planning project actions seeking to guarantee security and resilience, both at the level of the organism as a whole and in its constituent parts (Vale, 2005). One response along these lines was provided by the identification of so-called "minimum urban structures" (SUM) (Fabietti, 2011; Id. 2012; ID., 2013; Fabietti-Spacone-Staniscia, 2017), understood as sets of strategic buildings, routes or spaces that are essential to guarantee the survival of the cities struck by the earthquake or another disaster; in other words, areas needed to guarantee vital functions and that resemble protected islands within the surrounding context. This is

[10] Delegated Commissioner for the reconstruction, President of the Abruzzo Region, *Testo coordinato della normativa relativa alla riconstruzione in Abruzzo*, Law 77/09, Art. 2, par. 12 bis: "The municipalities […] prepare […] re-planning for the municipal area, defining strategic guidelines to guarantee its social and economic renewal, urban renewal and guaranteeing a harmonious recovery of the residential and productive urban fabric, while also considering housing settlements created pursuant to paragraph 1".

[11] Currently, in February 2017, only 45 plans have successfully made their way through bureaucratic channels. Source: Province of L'Aquila. This is also illustrated by the fact that of the twenty-one billion euros earmarked for the entire earthquake reconstruction phase, just twelve billion have been spent. Another example of serious delay is this: 70% of the reconstruction of the 14 centres in the crater, all in the province of Campobasso, is still at a standstill in nearby Molise, more than fifteen years after the 2002 earthquake.

[12] Regional law 18 of 12 April 1983, on the standards for the preservation, protection and transformation of the Abruzzo Region.

why special care was reserved for the buildings listed in the SUM, in order to guarantee the working of infrastructures, the practicability of escape routes and the general state of buildings: this is no easy task in villages with an extremely compact fabric of buildings, built on mountainsides and often terraced and covered by street arches.

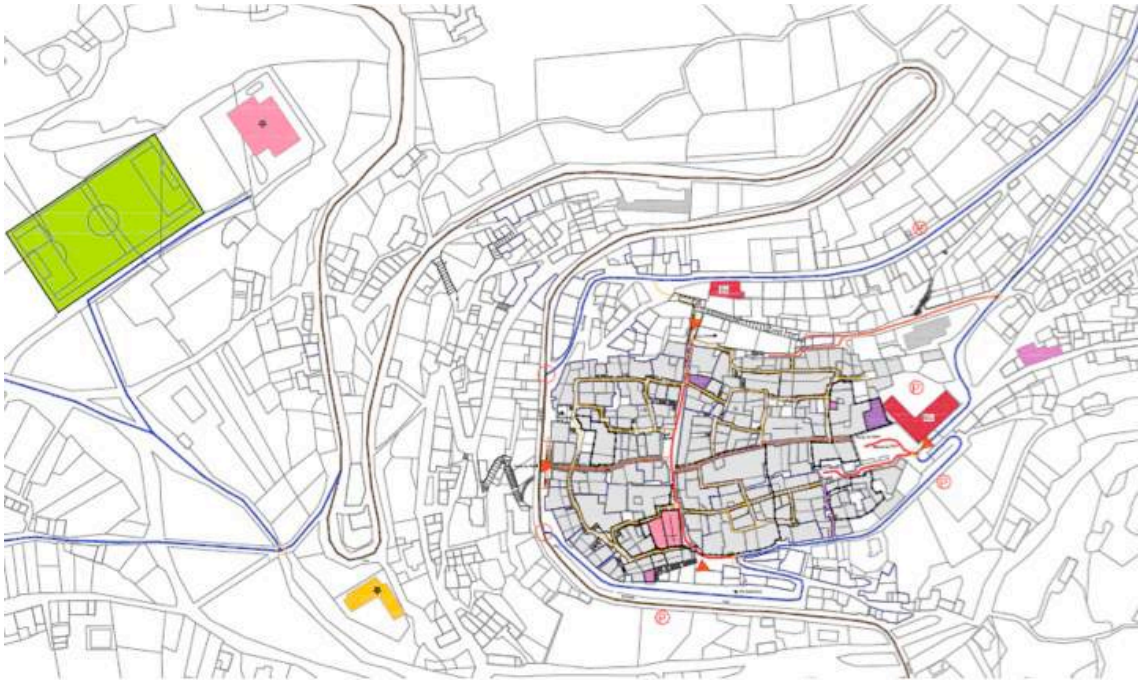


Figura 7. Ofena, Reconstruction Plan. Project of the SUM (L. Serafini).

During inspections, the conservation aim meant gradually moving from an urban scale to a building scale, all the way to the details of traditional techniques. This is indispensable to maintain as many pre-existing material and formal elements as possible, and to limit any additional demolitions than have already been done following other events, whether disasters or not. New technical standards were drafted with a view to reconstruction that complements rather than replaces existing structures. They were designed as veritable handbooks, sorts of instruction manuals suggesting a range of possibilities, rather than establishing a list of prohibitions (Varagnoli-Verazzo, 2012: 94-99).

The aim was to create synthetic standards allowing the use of local materials for rebuilding, but encouraging, in specific charts, the construction logic underpinning historic buildings and their stratification. The standards basically exclude demolitions and guarantee the preservation of ruins of buildings that cannot be rebuilt—especially from previous earthquakes—and their use in new design contexts, like parks and urban gardens. The same applies for construction elements like scarped walls and street arches that not only deserve to be reinforced statically through effective shoring along their street facades, but also valued as precious elements of urban and material culture. Obviously, the tradition focus does not rule out the use of innovative technologies, provided they are compatible with existing structures, from a static and structural viewpoint, and a formal and aesthetic one.

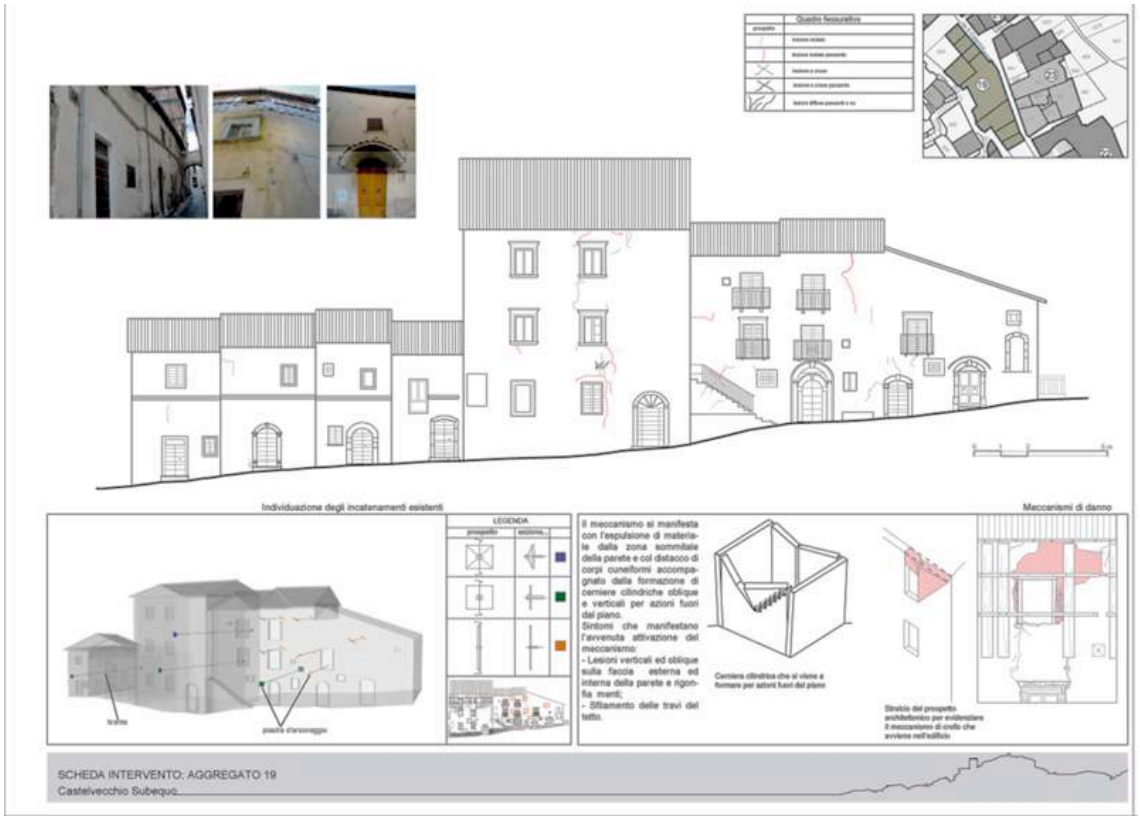


Figura 8. Castelvecchio Subequo, Reconstruction Plan, 2013. Aggregate 19. Synthesis of interventions (© C. Varagnoli).

The reconstruction of homes in the historic centres would be senseless unless it included a strengthening of the network of relationships between population centres and their territories. It is obvious that rebuilding villages must also have a functional purpose, or it would be reduced to a simple question of surface area. While technically shrewd, it would be impractical in the current period of economic crisis. This is why the Plans also examined innovation and development systems to be established through large-scale hospitality and tourism projects. Another of the Plans' strengths is the suggestion to transform abandoned or underused homes, both inside and outside the historic centres into "scattered" hotels (called "*alberghi diffusi*"), in a relationship of mutual complementarity with the strengthening of local agricultural systems, the redevelopment and promotion of exceptional landscapes, and the restoration of historic and cultural sites capable of establishing new connections and generating new resources.

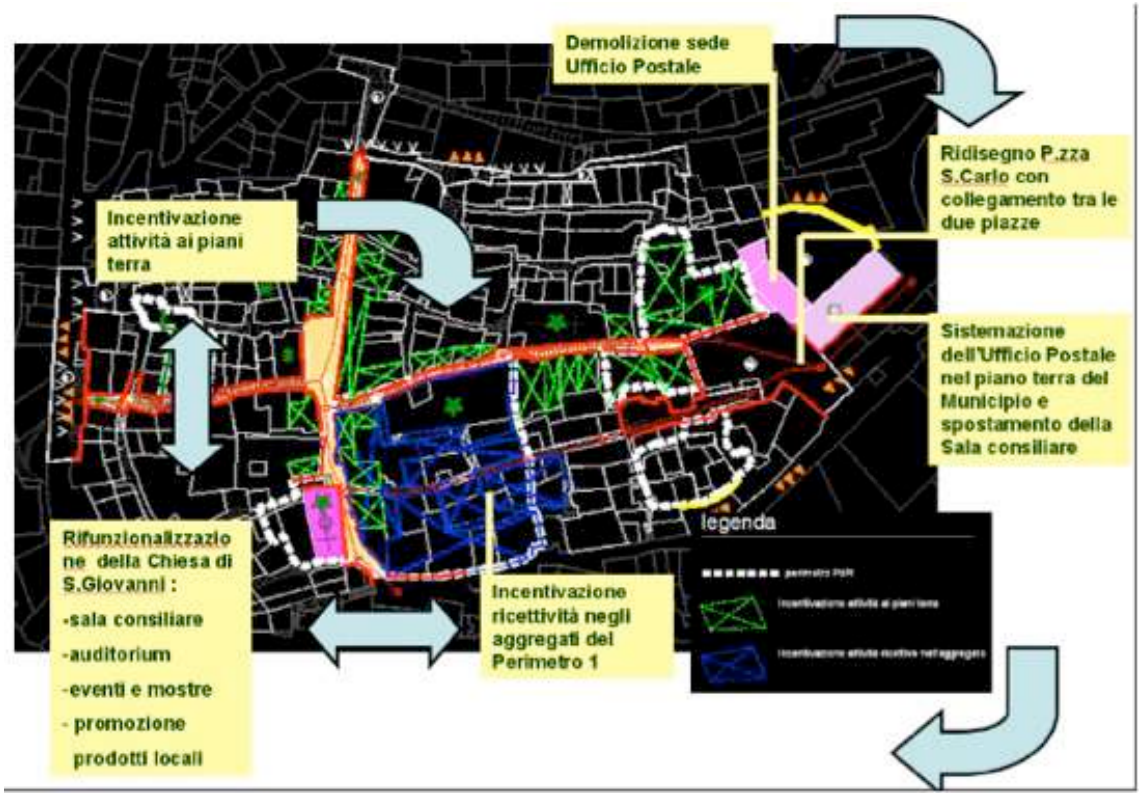
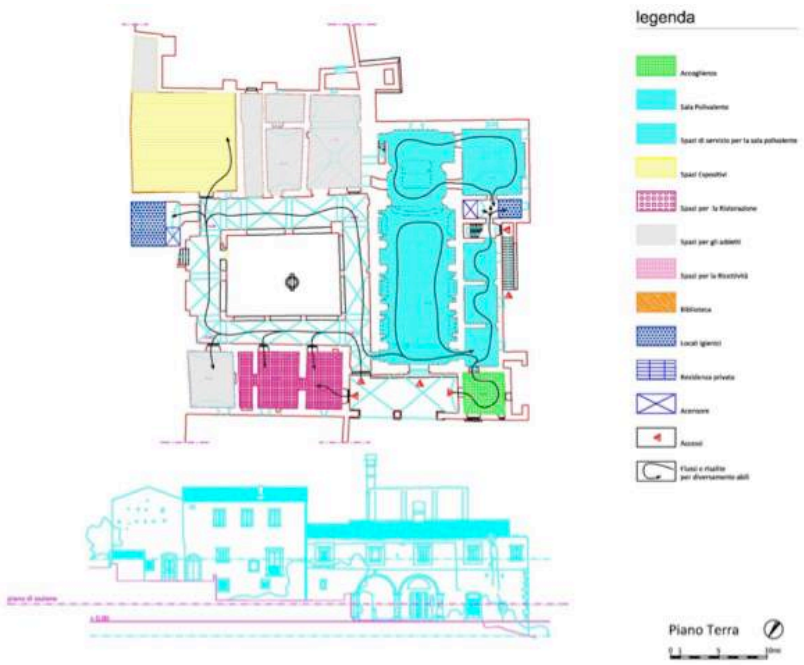


Figura 9. Ofena, reconstruction Plan. The interventions in the historic center (L. Serafini).

The pilot projects of each Plan focussed on restoring buildings symbolising the local communities, often monuments of real artistic and documentary value. Initially requested by the Mission Engineering Structure, these projects actually sought to determine the most useful methodological approach for the entire Plan, using the restoration techniques applied to an individual building-monument in order to anticipate guidelines and developments for the future. This was done in the pilot projects for Castelvecchio Subequo and Ofena, among others, which focussed on buildings of different sizes and locations but all of which were promising in terms of their quality and quantity for the entire reconstruction plan for their towns, for which they aspire to be critical and methodological syntheses. In Castelvecchio, the pilot project was applied to the baronial palace, a building complex built around a massive 12th-13th century keep. It was proposed that it be used as the town hall offering services to residents, in order to attract citizens to the town centre, as well as house institutions that are currently located outside the original centre. In Ofena, the project focussed on a Franciscan convent south of the historic centre, in an extraordinary landscape outside of town. In this case, its recovery as a museum, exhibition centre and recreation complex, suited to the building's complex stratification makes an indispensable contribution to re-establishing a network of relationships between the centre and the surrounding area, which has been needed for a long time, and that only a preservation focus opened to the government of transformation can, in this like other cases, support and guarantee (Serafini-Varagnoli, 2012: 186-19).



Figuras 10-11-12. Ofena, Franciscan convent: restoration and reuse project (L. Serafini).

4.- Conclusions

As we have said, the Abruzzo reconstruction plan projects are far from completed, if they ever will be. If we look back on the errors made in the post-World War II period, we see that the bureaucracy wanted local administrations to handle the executive phase, with all its risks of delays, changes made along the way and possible distortion of the original proposals. We can learn a valuable lesson from this that is far from surpassed by the events that at the time of writing continue to shake up the central regions of Italy and add more arguments to those made here. This lesson is precious because, paradoxically, the ruins produced by the earthquake offer the possibility to bring new arguments to the local construction culture, but also because the earthquake confirms their absolute necessity. So, once again, we need to rethink how we manage our heritage in the perspective of caring for it in every way.

This care might even form a starting point for the Guidelines that are being written for the reconstruction following the Amatrice earthquake of August 2016. It is clear that reconstruction is needed, that buildings must be rebuilt where they stood; that memory must not be removed from the places, or from the people who live in those places; that rebuilding must be based on modern earthquake-proof methods while respecting the specific local identities that have to be re-examined in a measured and pragmatic manner. This means not only rebuilding but also marking the beginning of a period of earthquake risk prevention that is itself the first form of care for both our constructed and natural heritage.

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