



# HERITAGE AT RISK

IMPROVING RESILIENCE  
AND AWARENESS TOWARDS  
PRESERVATION, RISK MITIGATION  
AND GOVERNANCE STRATEGIES

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EDITED BY  
MARCELLO BALZANI,  
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## HERITAGE AT RISK

It is assumed that the impact of natural and man-made hazards on society in terms of damage is constantly increasing. In order to reduce the levels of potential disaster and to assess which policies and measures can generate positive impacts, it is necessary to make a careful comparison of experiences at an international scale in risk mitigation and management.

The international scenario of calamitous events that still characterise all areas of the globe is deepened together with the experiences of the earthquakes and floods that have affected the Pianura Padana area and the central regions of Italy in the last ten years, included in the training project Academy “After the Damages”. Following the results published in the first volume *Built Heritage in Post-Disaster Scenarios*, *Heritage at Risk* aims to continue the debate on recent innovations and advances in risk management to contribute to the definition of strategies and the implementation of increasingly effective tools in terms of risk mitigation.

The volume provides insights into the dynamics and negative effects of natural and man-made hazards (i.e., earthquakes, fires, floods, droughts, and volcanic eruptions), including more updated approaches to deal with post-disaster phases. The book also offers tools to deal with possible international crisis scenarios and mitigate the social impact of vulnerabilities through risk reduction.

*Heritage at Risk* is aimed at public administration managers, government agency representatives, international organizations, researchers, and professionals in architecture, engineering, and earth science.



# Heritage at Risk

## Improving Resilience and Awareness Towards Preservation, Risk Mitigation and Governance Strategies

*Edited by*

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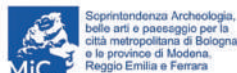
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## One-minute story: The landscape of reconstruction from place to condition

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**ABSTRACT:** After a traumatic event such as an earthquake, the link with history, time, culture, landscape and the relationship between people is totally dissolved. In the affected places, in an instant, all the stratification that created the place itself is completely destroyed.

The endemic fragility of the landscape is superimposed on that between people and the places they inhabit.

The architecture of reconstruction is called upon to operate in a scenario that no longer presents ties of any kind, and therefore questions itself on how to restore identity to the destroyed places.

The aim is to investigate the vicissitudes of the many people and places involved in the three major earthquakes that have occurred in Italy since 2009, from L'Aquila to Emilia-Romagna to the Apennines in Central Italy.

The occasion offered by the Italian Pavilion at the Venice Architecture Biennale 2021, curated by Alessandro Melis, for a reflection on the Resilient Communities affected by earthquakes was interpreted by the “One Minute’s Story” section as an opportunity to examine the always complicated theme of reconstruction outside the scope of the discipline and investigate new possible contributions that would shift the theme no longer to the design of the object but to the relational inclusion of communities.

The responses that have been given to the various reconstructions that have always taken place in Italy since 1968 have focused on a mostly physical reconstruction of places and only rarely on the reconstruction of communities so badly torn apart by trauma.

The earthquakes that are the subject of this section have shown the different response capacities of the affected populations, reactions that are unequivocally intertwined with the theme of inland areas. Living with the earthquake means, in fact, building a collective project that anticipates the future, organizing the present also on the basis of a careful historical perspective.

The paper explains how the History of a Minute section, dedicated to post-earthquake resilient communities, proposed a different look at reconstruction with a project based on the importance that Local Communities and Digital Data have within reconstruction paths in realizing community-type externalities.

*Keywords:* Community, Resilience, Reconstruction, Big data

### 1 INTRODUCTION

The Italian Pavilion entitled “Resilient Communities” at the 17th International Architecture Exhibition in Venice, curated by Alessandro Melis, deals with climate change and is conceived as a collective work proposing a multidisciplinary approach in which mainly marginal

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experiences are collected. The exhibition is divided into Nine sections and “Storia di un minuto”, curated by Alessandro Gaiani, Emilia Giorgi and Guido Incerti, deals with resilient post-earthquake communities with particular reference to the last three major earthquakes in Italy, those of L’Aquila (2009), Emilia (2012) and Central Italy (2016) with a focus on the role of communities in reconstruction.



Figure 1. Exhibition view of the Storia di un Minuto section at the Italian Pavilion, Venice Architecture Biennale 2021, project.

The theme of reconstruction has always been present within the Italian territory, which has territorial fragilities scattered throughout the peninsula.

Reconstruction, especially after an earthquake, must deal with the physical elements, but also and above all with those ones linked to the relationships between people affected by the trauma, to the communities. This has not always been the case in Italy. There have been experiences that have been able to combine physical reconstruction with social, economic and cultural reconstruction, others, on the other hand, have produced spurious solutions in which there was no such link because the constructed solutions were authoritatively imposed from above.

A very short time in which the earthquake manifests itself in all its destructive force is contrasted with a very long time for reconstruction. Very often temporariness becomes permanence, a permanence uprooted from one's own places, one's own memory, one's own culture, one's own loved ones and ties.

In the phase just after the violent event of the earthquake, reference was made to the system established and verified in the occasion of the earthquake in Friuli in 1976, which determined, for the post-earthquake reconstruction we are going to deal with, similar approaches in the first emergency phase, but completely different in the temporary phase and in the just started reconstruction one in Central Italy.

If in L’Aquila 19 New Towns were built to provide answers to the first residence without services, in Emilia modest ‘containers’ were used, the so-called PMARs (Prefabricated Modular Removable Housing Units), lined up one next to the other in areas such as sports fields or in other areas specifically set up for residential use. In addition to PMARs, primary services such as civic centres, schools and some churches have been built in the suburbs, but being these totally out of context, even though some of these buildings have been designed by talented architects.

In Central Italy, a method similar to that one used in Friuli was used: part of the population was relocated in accommodation facilities on the coast, part in MAP, agglomerations without any type of service to provide an initial response to residential emergencies, on agricultural land.

Reconstruction in these places, in a nutshell, has taken place or is taking place, for the most part, according to the most reassuring and easy-to-consensus method, of ‘as it was’ ‘where it was’, close to the spatial experience of the inhabitants and taken from the experience of Friuli. We are well aware, however, that Sartogo’s project for Venzone was based on a “*careful reconstruction of the formative project*” (Sartogo F., 2008). That left ample discretion, within clear typological rules on the existing palimpsest, to architectural interpretation and above all was a method desired and shared with the population. Newly founded cities have not been widespread in reconstruction, as the examples of the new Gibellina in Belice, or Irpinia, or Monteruscello in Pozzuoli show.

It was precisely the experience of Friuli that was the reference for proposing an inclusive approach to reconstruction that was no longer ‘cast’ coldly from above into the territories, but arose from a ‘mixture’ between those who lived in those places and the planning and administrative system, like the approach proposed by Francesco Venezia for the reconstruction in Salemi in which “*beauty, the orderly composed distribution of the bodies and parts of a building, is the first factor of resilience to the earthquake*”(Venezia F., 2016) and consequently what will be rebuilt will be a contemporary interpretation of the characters present in the historical and cultural heritage that the design of the new will complement. Is it then possible to involve the affected communities in a conscious reconstruction that succeeds in recomposing the essence of what has been lost, but also to interpret the desire for redemption of those who have remained through an over-planting in which new interweavings are composed between memory, spaces and relations of contemporaneity.

## 2 AIMS

The Biennale of Architecture in Venice is an exhibition in which objects of architecture are displayed through various forms of representation, from drawings to scale models, from photographs to digital representations.

The reconstruction that has taken place since Friuli has, in most interventions, been dropped from above without initiating any relations with the communities affected by the traumatic event, whether the reconstruction has taken place exactly in the same place and with the same rules as the pre-existing one, or whether it has been implemented through a brand new built city.

The anthropocentric approach of man has then exalted more the design attitude oriented towards a reconstruction that only takes into account the aspects of “objectual” and infra-structural reconstruction and does not relate to the habitat modifications, due to the tectonic components, also modified by the earthquake, not considering how these also contribute in large part to the increased fragility of these territories.

At the same time, the projects proposed and implemented “*have made use of urban structures and architectural figures dear to us*”(Zucchi C., 2016). but have rarely been interested in the relationship with communities, identifying in this presence the relationship and interaction between man, gathered in collectivity, and the space in which he recognises himself, thus not finding in the proposed solutions the support of the inhabitants (Emanuele Quinz, 2022).

“*As in the ‘niche construction principle’, so each presence on the territory - individuals, collectivity, plants and wind - is an active agent of change, which can contribute to the resilience of communities*”(Melis A., 2022).

The aim of opening up reconstruction to a multitude of subjects was then to move away from the demiurgic vision of the architect used to date and to look at reconstruction with different eyes open to any form and to the inclusive relationship that the spaces of the city establish with its inhabitants.

Precisely because the city and its spaces are where people’s lives take place and where a contemporary spatial regeneration can take place, as Bachelard quotes “what persists is always what regenerates” (Bachelard, G., 1973).

Investigating this reversal of perspective has led to an open and inclusive process of sharing on a possible different approach to reconstruction in which the participating subjects are no

longer and only the architects, but the inhabitants, the associations that worked in the field after the earthquake and that formed spontaneously in search of a dialogue with the institutions to bring to light the requests of those who had experienced the trauma, sociologists, economists, geologists, urban planners, with the intention of pluralising the process and initiating an open dialogue with otherness to contribute to the formation of an ecosystem.

### 3 METHOD

Within the History of a Minute section, we opted then, for a different choice, precisely because we wanted to present a paradigm shift in the approach to reconstruction in which resilient communities, the characters, their culture, the stratification of relationships and history, were placed at the center as the engine of the projects.

There was a reversal of perspective with respect to both the analytical exploration that precedes the project and a project approach to reconstruction.

The involvement of ActionAid International Italia Onlus (Action Aid Italy working group composed of Claudia Mazzanti, Lucia Romagnoli, Sara Vegni, Elisa Visconti), which has been working in the earthquake territories for some time, the research team of the GSSI (Gran Sasso Science Institute) (Research Centre Gran Sasso Science Institute, University College of Special Education, L'Aquila, Social Sciences Area, working group comprising Sara Carmaschi, Fabiano Compagnicci, Marco Modica, Adriana C. Pinate), the Goethe-Institut of Rome (For the Goethe-Institut, Roma Antonella Perin), the Ferrara Department of Architecture and After the Damages International Academy, is intended to underline how the section was conceived as an agora, a place for aggregation and exchange of different ideas and approaches.

The meetings that took place in preparation for the exhibition were the driving force behind the definition of the section's exhibition methods, which focus on the people who live, struggle, resist and define new practices of self-organisation and coexistence (Giorgi, E., 2022).

Working with and for real, fragile and unstable communities implies a continuous navigation and mediation between history, present but lacerated, and the contemporary condition as a producer of shared desires, of new forms of relationships (Norris F.H., et al. (2008).

It means re-finding a new space of human relations, a new social interstice, it means activating an approach to the project that results in the 'overwriting' of history for the benefit of plural narratives.

This approach implies an openness to multi-disciplinary knowledge, in which methods, theories and tools of the different disciplines are interwoven to better define the relations between the different spheres and whose aim is not the object but the inclusion of all the elements of the context, living and not, united in a continuous metamorphosis.

The synthesis led us to choose as the most interesting path to represent the crisis of a territory, that of condensing and synthesising digital data within a framework of union, albeit partial, in which to analyse certain parameters considered fundamental to trigger future reflections on the relationship between communities and their resilience, and also to make use of art, in particular photography and film, not to depict the disaster, an experience already used in the past, but to introduce a new way of thinking about the entire horizon of relations that a disaster brings into play (Catucci S., 2019) and to verify the possibility of creating new relations between places and people (Ciorra P., 2019).

This has made it possible to recount the visible but also the invisible and the formless, to partially overcome the shock of trauma and to activate the ties that have frayed and new proximities.

The authorship of the artist's gaze has opened up a different understanding of what happened that is not only linked to the building aspects, but through the gazes of the people and the overall representation of their lives, past and new, has achieved a restitution of a sense of familiarity with the places where reconstruction will take place, capable of generating a multiplicity of perspectives of dialogue not only with the present but, above all, with a future vision. The decision to use an image-generating device also becomes a critical yet operational moment.

The works presented turned out to be a device capable of transforming, more or less powerfully, an immaterial vision into a material one starting from communities, minimal units of social cohesion, and containing a renewable energy that is able to express relations of inclusion that are fundamental for approaching a project of spatial reconstruction of a territory.

*“Our task is to elicit the dialectical synthesis of the complex cultural world of which we are part, creating an artistic environment that sincerely expresses today’s reality (and its problems)”*(Rogers E.N., 1954).

The images of the photographers Goran Gnaudschun in Onna (AQ), Alessandro Imbriaco in the Ussita area (MC) and the short film by Antonio Ottomanelli in L’Aquila describe the physical alteration of the environment and of every living species, from human beings to animal and plant species, and also how relations between people have become frayed and how, only through the birth of inhabitants’ associations, it is possible to reform the identity system proper to communities.

Goran Gnaudschun’s photographic project stems from the desire to reconstruct the identity of the village of Onna, severely hit by the earthquake in 2009, portraying portraits of people alternating with archive photos, shots from family albums and images of the urban landscape.

Alessandro Imbriaco realises a project born out of a dialogue with the community of Frontignano di Ussita, hit by the 2016 earthquake. The exploration of places with the community leads to the photographic representation of Castelfantellino, a village completely destroyed by the earthquake, no longer inhabited, whose ruins are now part of a landscape where nature has taken over.



Figure 2. Image taken from “Voices that are Wanted” by Goran Gnaudschun, a project commissioned by the Goethe- Institut (in collaboration with Onna O.N.L.U.S.) in Onna, 2019.

The short film by Antonio Ottomanelli, recounts through the testimonies of the young people of the 3e32 collective, founded in L’Aquila after the 2009 earthquake, the difficult relationship between the total control wanted by the institutions and the desire for a more immediate and free coexistence among the people in an attempt to rebuild a community identity more in keeping with the needs of the people and the place, squeezed between collapse and reconstruction. This story, through places and people, can be considered emblematic for all the towns and cities affected by the earthquake.

The digital data panel created with the collaboration of the Gran Sasso Science Institute and other public bodies, placed at the beginning of the section’s exhibition itinerary has the ambition

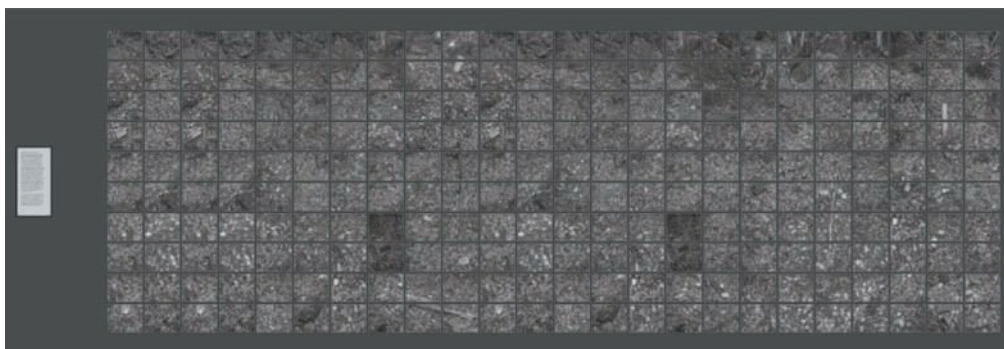


Figure 3. “This part of Forest”, by Alessandro Imbriaco, Castelfantellino Frontignano di Ussita, Marche, 2021.

of providing an initial reading of a multidisciplinary approach to the seismic phenomenon through the data provided by a series of resilience indicators of earthquake-affected, vulnerable and fragile areas, combining approaches relating to the economy of the territory, territorial planning, sociology, the state of buildings according to the date of their construction and the costs/benefits of reconstruction.

The first image identifies the size and intensity of the most recent major earthquakes in Italy L’Aquila, Emilia and Central Italy, assisted by a time line highlighting the most intense earthquakes in Italy since 1968. Inside the graph are Qr-codes that refer to how architectural publications have dealt with the theme of reconstruction each time, trying to outline the strategic lines that have been used during reconstruction, underlining the criticalities and differences. A first reading can be associated with a second, parallel one, which allows us to investigate how and whether architectural design has related to the communities created after the calamitous events.

The next five sections of the panel are articulated through key topics that are significant for understanding the direct interaction between human activities and the natural event, of geological origin, which is the earthquake:

- the territorial vulnerability: visualised through the reading of parameters on seismicity, hydrogeological fragility, the presence of landslides and soil consumption, before and after the earthquake;
- social vulnerability: represented through the pre- and post-earthquake trend of the resident population and the density of built-up areas before or after 1980, the date of the first seismic classification of the territory;
- economic vulnerability: defined, Added to this is the data on the estimated earthquake, with people’s physical incomes and income declarations, and with the economic consequences in the primary, secondary and tertiary sectors in the areas affected by the earthquake analysed, again before and after the earthquake.

Added to this is the data on the estimated damage, not only economic but also related to the victims, the injured and displaced persons who have been relocated elsewhere, and the economic resources needed for reconstruction organised according to the costs incurred for temporary housing solutions, reconstruction of public, residential and productive buildings.

The last section attempts to systematise this information and digital data (taken from real life) to propose a first, albeit partial, definition of what resilience is, highlighting the capacity of a socio-economic system to adapt and recover from trauma so as to reduce the impact of the disruptions that affect the system.

The resilience indicator is a composite indicator that takes into account thirteen territorial variables (Density of business, Wealth, Poverty, Homeownership, Unemployment, Productivity, Sectoral dependence; Government effectiveness, Institutional capacity, Public Dept, Healt, Education, Social capital)-typically considered by socio-economic resilience literatures-which include the economic, social and institutional sectors and those related to territorial vulnerability (Seismic, Hydrogeological, Landslides, Land consumption), to social vulnerability



Figure 4. Image taken from 'The first thing the horse will go into is a vacuum', by Antonio Ottomanelli, L'Aquila, 2021.

(Resident population Before/after, Building Stock/before/after start Seismic law), to damages (Victims, Injured people, Displaced people, Damage to public and residential Buildings), and to reconstruction costs (First emergency, Emergency housing solution, Public, Residential and Productive buildings/sector reconstruction).

The process through which a seismic event alters a local environment brings architecture back to its natural role of mediation and negotiation tool between the habitat and the man who inhabits it, constantly striving towards the creation of an ecosystem.

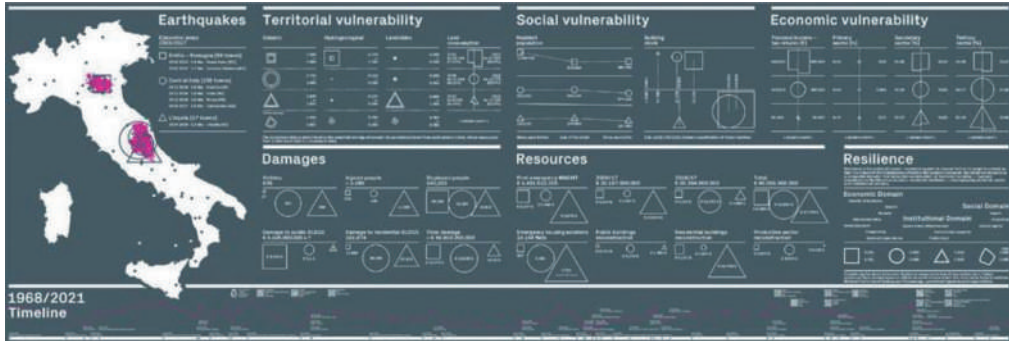


Figure 5. Digital data panel showing first a map of the earthquakes that have occurred in Italy since 1968 and the following five sections of the panel articulated through: territorial vulnerability; social vulnerability; economic vulnerability; damage estimation; definition of resilience through the intersection of indicators from territorial, economic, institutional and social variables.

#### 4 CONCLUSION

The physical site of the exhibition has been conceived as an agora, an inclusive space of creativity as an engine of change, a polymorphic space in which communities, placed at the margins, can demonstrate that they can create unexpected adaptive relationships, a garrison of cultural commitment, and a laboratory in the territories affected by the earthquake to spread the awareness that only a multidisciplinary and ecosystemic approach is capable of regenerating a territory and originating reconstruction projects attentive to the identity of places and people (Alessandro Melis, 2022).

The reconstruction | mutation operation involves those resilient | resistant communities that no longer only become part of a participatory process but co-authors | producers of the reconstruction process through the implementation of a complex multidirectional interweaving that authorises the transition from memory to contemporaneity, from object to act, from a condition of marginality and exclusion to one of inclusion, nourishing the incredible weave that is the city.

In an era in which we increasingly work on what remains, working with and for real communities through the artists' gaze implies a continuous adaptation and mediation between history, current and in the case of the post-earthquake reconstruction torn, and the contemporary condition, a producer of shared desires and new forms of relationships capable of to activate a creative layer that superimposes itself on the trauma, producing new relationships.

The digital data panel and its graphicisation was an initial starting point for defining the parameters that determine "resilience", to be followed by a further development in which data will be implemented, also by introducing new categories, useful to those who will operate within the reconstruction process so that this heritage does not remain solely and exclusively within digital databases, but is really used for an "augmented" and ecosystemic reconstruction of the places affected by the earthquake.

This first experimentation is intended to be a basis for knowledge of the problems and their effects on the places and the population and a support for the decision-making processes of the Public Administration.

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