

PUBLIC HOUSING IN LANDS AFFECTED BY NATURAL HAZARDS: A COMPARATIVE ANALYSIS BETWEEN ITALY, JAPAN, AND THE USA / Ivan Allegranti

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Abstract: *In 2016-2017, an earthquake hit central Italy, in particular the Marche region. In 2011, Japan was devastated by the Fukushima nuclear disaster and in 2005 Hurricane Katrina struck the southwest coast of the United States. This work, starting from the analysis of public housing reconstruction process in Italy, will afterwards analyse the legislation adopted by the Japanese and the American governments in the same field. The aim of the work will be, on the one hand, to highlight the best practices adopted by the three governments in public housing buildings reconstruction process and, on the other hand, to understand which policies, used in Japan and in the U.S.A., can be "imported" in the Marche region, as far as public housing reconstruction process is concerned.*

Key words: *Civil Law; Natural Disasters; Public Housing; Comparative Law*

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1. THE MARCHE REGION

1.1 *A Country Full of Natural Hazards*

In the last twenty years, Italy underwent three major seismic events: the earthquake of L'Aquila in 2009 (Special Office for the Reconstruction of L'Aquila, n.d.),¹ the earthquake of Emilia Romagna in 2012 (Regione Emilia-Romagna. Earthquake 2012, 2014)² and more recently the seismic events in Central Italy in 2016-17 (Special Commissioner for the 2016 Earthquake Reconstruction, n.d.).³ After the 2016 earthquake,

¹ The 2009 L'Aquila earthquake occurred on April 8, 2009. The earthquake was 6.3 on the Richter Scale and caused the death of 309 people, over 1,600 injured, about 80,000 evacuees and over 10 billion euros of damage estimated.

² The Emilia Romagna earthquake struck the region on May 20, 2012, and on May 29, 2012. Both seismic events were on a scale of 5.9 and 5.8 on the Richter Scale. The crater affected 58 municipalities in provinces of Modena, Reggio Emilia, Bologna, Ferrara. Following the earthquake, 19,000 families left their homes, 16,000 people were assisted by Civil Protection, 14,000 homes were damaged, circa 13,000 production activities were damaged as well as 1,500 public buildings were damaged.

³ The earthquakes of 2016 were in sequence and followed respectively two and three months after the previous one. The first was on 24 August 2016 at 03:36 in the morning, the second on 26 October 2016 at

in order to proceed with a reconstruction of destroyed houses, the c.d. 'reconstruction plan' was adopted, which regulates both private and public reconstruction process of the buildings affected by the natural disaster. In the meantime, however, those who have lost their homes have had the opportunity to choose whether to receive the Autonomous Accommodation Contribution (CAS),⁴ live in an Emergency Housing Solutions (SAE)⁵ or containers for residential and/or office use,⁶ or stay in an accommodation facility that welcomes the earthquake victims until the end of the emergency.⁷ The natural disasters affected not only the lives of the people involved, but also the shape of towns which needed to be rebuild (Bonis and Giovagnoli, 2019, p. 14). The housing problem has therefore permanently changed the concept of living in these areas, generating in people an utopia of return to their original home (Giovagnoli, 2018, p. 50). In 2020, the occurring pandemic highlighted even more the problems related to the housing solutions for the people affected by the previous earthquakes (Valle and Mariani, 2020, p. 97). However, the problems related to the destroyed properties remained, also for the part of the population that lived in buildings part of the public housing. For example, most of the restoration works of the destroyed properties had been suspended and part of the population has been forced to continue living in temporary housing solutions and to see their dreams of "returning home" recede.

1.2 *Public Housing in the Marche Region*

Public housing is a public service created to offer to those in need and unable to access the free market housing in which to live in (Perin, 2001, p. 976; Perulli, 2000, p. 1). Introduced already when Italy was a monarchy with Law on Public Housing (1903), public housing has taken more and more a social connotation (Solinas, 1985, p. 4). Currently, as specified by Article 2 of the Decree on Urgent provisions for the implementation of Community obligations and the execution of judgments of the Court of Justice of the European Communities, the granting of public housing is "an essential element of the public housing system consisting of all the housing services aimed at satisfying primary needs." In fact, allowing the poorest to access to housing services aims to fulfil the constitutionally guaranteed social function of private property (Perlingieri, 2011, p. 50). The housing is leased, for a minimum of eight years, to those who apply and whose economic and social characteristics are among those identified by regional legislation pursuant to Article 60, para 1 e) of the Decree on Conferment of functions and administrative tasks of the State on the regional and local authorities. The allocation of an accommodation is made by the municipality of the place where the house is located, in light of the Article 95 of the Decree of the president of the Republic on Implementation of the delegation pursuant to art. 1 of the law no. 382 of 22 July 1975.

21:18, the third on 30 October 2016 at 07:40 and the last on 18 January 2017 at 11:14. 299 people died as a result of the earthquake. This article will concentrate on public housing reconstruction process after this earthquake.

⁴ Article 3 of the Ordinance of the Head of the Civil Protection Department on First urgent civil protection interventions following the exceptional seismic event that has hit the territory of the Lazio, Marche, Umbria and Abruzzo regions on 24 August 2016 (2016).

⁵ Article 1 of the Ordinance of the Head of the Civil Protection Department on Further consequent urgent civil protection interventions following the exceptional seismic event that hit the territory of the Regions Lazio, Marche, Umbria and Abruzzo on 24 August 2016 (2016).

⁶ Annex 1 of Explanatory note protocol n. 44398 03 September 2016 of the Civil Protection Department of the Council of Ministers.

⁷ Article 1, para 2, a), b) and c), of Ordinance of the Head of the Civil Protection Department on First urgent civil protection interventions following the exceptional seismic event that has hit the territory of the Lazio, Marche, Umbria and Abruzzo regions on 24 August 2016 (2016) together with point 5 of Explanatory note protocol. n. 44398, 03 September 2016 the Civil Protection Department of the Council of Ministers.

While the national law has remained the same, the regional legislation on social housing in the Marche region has recently been reorganized by the Regional law on Amendments and additions to the regional law on Reorganization of the regional system of housing policies and the regional law on Amendments and additions to the regional law on Reorganization of the regional system of housing policies (2018), which incorporates the changes brought by Constitutional Act on Amendments to the Title V of Part Two of the Constitution (2001), which has changed the structure of competences between state, regions and municipalities. Although modified in some parts, to date the Regional law on Reorganization of the regional housing policy system (2005) remains the reference text for public housing in the Marche region.⁸ The recent regional public housing building plan for the three-year period 2014-16, prior to the earthquake, had provided for the allocation of new resources for the housing programme.⁹ In particular, the action of the three-year plan was aimed at the recovery and enhancement of the 159 unused Ente Regionale per l'Abitazione Pubblica (ERAP) properties, thus launching a unitary and also experimental program in the field of residential construction. In order to achieve the goals set out in the plan, three lines of action were planned. The first one was to implement the maintenance of the existing building and its energy efficiency (intervention line A). The second one aimed at increasing the supply of low-rent housing and facilitate access to first-home ownership (intervention line B). The third one was focused on recovering the existing properties and buy new estates (intervention line C). Then the earthquake came.

1.3 *The 2016 Earthquake and the Reconstruction Process of Social Housing in the Marche Region*

Following the earthquake events of 2016-2017, the Special Commissioner for Reconstruction (Commissario Straordinario per la Ricostruzione) adopted, in the field of public housing, both the Ordinance on Measures relating to the restoration of public buildings which may be used for residential purposes (2017) and the Ordinance on Second public works programme on the rebuilding of public buildings susceptible to housing use (2020).

The Ordinance on Measures relating to the restoration of public buildings which may be used for residential purposes stated that, in order to accelerate the reconstruction process of buildings part of the public housing programme, there had to be a coordination work between the Special Commissioner for Reconstruction and the Deputy Commissioners for Reconstruction (the presidents of the regions hit by the above mentioned earthquakes and part of a so called seismic crater), so that the latter would draw up a list of the public housing buildings estimated to be reconstructed. The abovementioned Ordinance needs to be read in coordination with the Interministerial Committee for Economic Planning (it. original: *Comitato Interministeriale per la Programmazione Economica* - CIPE) resolution,¹⁰ with which 350 million euro were allocated, pursuant to point 2.1 of the resolution, for the renovation and redevelopment of buildings part of the Italian public housing programme. However, the breakdown of the funds was as follows: A) within the meaning of point 2.1, letter a), EUR 250 million were allocated for all the regions of Italy for a maximum of two renovation interventions per

⁸ To have an overview on Marche public housing regional legislation see *Marche Regional Council. Laws*.

⁹ The plan was approved by the Regional Council Resolution 07 July 2014 n. 804.

¹⁰ Notice for the collection of expressions of interest to participate in the "Integrated social housing program" (2017), hereinafter referred to as "CIPE resolution".

region; B) pursuant to point 2.1, letter b) up to EUR 100 million for the reconstruction of social housing buildings in the four regions affected by the earthquakes of 2016-2017.¹¹

However, this resolution raised three problems in its application. The first was that it allowed the regions affected by the earthquake, within the meaning of point 5.1., to request access to funds only 'once the emergency phase was over'. The problem raised by this phrase has had major consequences. In fact, the Marche region (as well as the others involved in the seismic events), were already in a state of emergency following the deliberations of the Council of Ministers that had declared emergency status. The last extension of the state of emergency had occurred following the entry into force of the Decree on Urgent provisions for economic growth in the South, with which the effects of the emergency state were extended, pursuant to article 16 para 2 until February 28, 2018.¹² In practice, the possibility of access to the funds allocated by the CIPE resolution was determined by an indeterminable factor, time, thus delaying the entire reconstruction process. The second problem was that under point 5.2., the same regions of the crater had to divide by themselves, through mutual agreements, the funds allocated, because the CIPE resolution did not give any indication on the funds allocated, thus highlighting the uncertainty about its applicability. Lastly, the resolution did not prohibit or allow the regions of the earthquake to request, but only for a maximum of two interventions, access to the fund of 250 million euro allocated for public housing ex point 2.1., letter a), thus creating doubts about the application of the resolution. In fact, the question was if the regions involved in the seismic events could not access or not the 250 million euros funds allocated at point 2.1., letter a) for all the regions of Italy or were allowed only to use the funds of 100 million euros allocated at point 2.1., letter b). In practice, it was very difficult for the regions involved to proceed with the reconstruction process of the properties part of their public housing programme.

Perhaps a new direction has been taken as reported in the recitals of the Ordinance on Second public works programme on the rebuilding of public buildings susceptible to housing use. In fact, the regions involved have both drawn up the definitive list of buildings referred to in Ordinance on Measures relating to the restoration of public buildings which may be used for residential purposes (Annex 1 of the Ordinance) and they have found an agreement to allocate the EUR 100 million as stated in Article 2.1. lett. a) and lett. b) of CIPE resolution. Ordinance on Second public works programme on the rebuilding of public buildings susceptible to housing use, moreover, has speeded up the time for the reconstruction of buildings part of the public housing buildings, shortening, for example, the time for the delivery of the final project that cannot exceed 150 days from the publication of the calls for tenders. This provision was finally confirmed financially by the decree of the Ministry of Infrastructure and Transport (2020). The aforementioned decree, in this regard, pointed out, for the purpose of reconstruction, that the interventions must receive the indications referred to in point 2.1. letter a) points 4), 6) 7) 8) and 9) of CIPE resolution. New buildings, therefore, must be destined for permanent renting with social rent; have building characteristics of high sustainability, with energy efficiency referred to in EU Directive on the energy performance of buildings (2010); pursue the safety of the structural components of buildings by means of seismic

¹¹ In any case, the works would have begun, in mind of the chrono-program referred to in point 3. 1 from 2019 and would be finished in 2023.

¹² The state of emergency was then further extended by one hundred and eighty days by Article 1 of the Resolution of the Council of Ministers on extension of the state of emergency as a result of the exceptional seismic events that hit the territory of the Lazio, Marche, Umbria and Abruzzo Regions on 24 August 2016, 26 and 30 October 2016, and 18 January 2017, as well as the exceptional meteorological phenomena that affected the territories of the same regions starting from the second decade of January 2017 as well as by Article 1, para 988 of the Act on Budget (2018) until 31 December 2019. Moreover, with the emergency caused by the COVID-19 epidemic, the emergency state lasted, in fact, until 31 March 2022.

adjustment or improvement; raise the standards of living quality as regards the overcoming of architectural barriers, technological innovation and self-sustainability and finally contribute to the improvement of the urban quality of the context of degraded neighbourhoods, through the recovery or implementation of secondary urbanization (crèches, nursery and primary schools, sports facilities, etc.). Public housing buildings affected in the areas of the crater recovery interventions were initiated with the recent Regional Decree of the Urban Planning and Landscape director (2021) of the head of the urban planning landscape and construction director that has decreed the identification start of social housing interventions in the damaged territories.

1.4 *The Programmazione Sociale Regionale¹³ and the New Strategies to Rebuild the Public Housing Buildings*

In order to create strategies to rebuild the regional social context, every three years, the Region promotes the Programmazione Sociale Regionale (PST). The scope of this document is to analyse the critical points of many social aspects and to decide how to proceed in order to eliminate problems affecting the region. The PST 2020-2022 'Priorities and strategies for the development and innovation of the Marche welfare and for the strengthening of social services interventions'¹⁴ was approved by the Marche region on 27 February 2020.¹⁵ Divided into strategic objectives and sectoral development guidelines,¹⁶ the PST 2020-2022 identifies as strategic objective n. 7 (OS7) the 'support to the phase of reprogramming of network of services in the areas affected by the earthquake.' The first action (A1) identified by PST OS 7 is aimed at developing, among others, new services for public housing new forms. The respective direction of development, however, the n. 7, is related to housing policies related to housing deprivation.

The current PST must be read alongside with the Pact for Reconstruction¹⁷ which, among its areas of intervention, provides for the "area 1 - services for social cohesion", actions aimed to "support to social and/or shared building initiatives through redevelopment and creation of spaces for collective use and related services". The importance given by the Pact for Reconstruction to public housing is not marginal, as the

¹³ Regional Social Programming.

¹⁴ Translated from Italian original: *Indirizzi prioritari e strategie per lo sviluppo e l'innovazione del welfare marchigiano e per il rafforzamento degli interventi in materia di servizi sociali*. Hereinafter referred to as 'PST 2020-2022'.

¹⁵ The PST is a social policy legal instrument introduced by the Marche region in Article 13 of the Regional law on tourist accommodation structures and regulations on tourist enterprises (2014). Approved on a three-year basis, the PST aims, on the one hand, to identify the objectives to be pursued, with programmatic actions, to eliminate social contrasts and, on the other, to ensure economic support to people in poverty (even extreme) thus combating social exclusion due to the absence or lack of income. The Marche's Regional Law fully transposes Act on framework law for the implementation of the integrated system of social interventions and services (2000). The latter, in line with Articles 2, 3 and 118 of the Italian constitution, creates the national legislative framework aimed at combating social exclusion due to inadequate income, social difficulties and conditions of non-autonomous status.

¹⁶ The strategic objectives concern specific 'system actions' to be implemented over the three-year period and are provided for by a specific regulatory reference, detailed and described in the expected outputs. The development guidelines are actions aimed at implementing the evolution of sectoral actions and policies. Objectives and guidelines are connected: the achievement of an objective leads to changes in the guidelines and policies implemented to date to achieve the objectives.

¹⁷ The regulatory references made by the PST in the matter are the Pact for Reconstruction' approved by the Marche regional council resolution on Pact for reconstruction (2018) and the Marche regional council Resolution on Programming 2014-2020 of the Internal Areas - Approval of the strategy proposal and the intervention proposals connected to it from the pilot internal area of the lower Apennines of Pesarese and Anconetano (2016).

reprogramming of the areas of the crater, in the perspective of social housing, contains other integrated actions, which are strengthening of educational, social care, health services and support and social mediation in favour of the populations affected by the earthquake. The macro-areas of focus, in fact, provide a reconstruction that aims to strengthen resilience and permanence of the population in the territories affected by the earthquake disaster, social cohesion with particular attention to both forms of social economy such as social agriculture, cultural activities, green caring and sport (Marche regional council, 2018, p. 19).

Returning to the PST, with regards to public housing, the main objective is to create a policy programme that aims to respond to the housing need, not only for the person living outside the crater, but with a strong economic discomfort, but also for those whose property is located in the areas of the crater.

1.5 The Results on the Reconstruction Process of Social Housing in the Marche Region

To date, however, the criticalities found – except for two examples of success already present in the territory of public housing, which are "Abitare Solidale Marche", founded by the Auser Marche and the Municipality of Osimo, and the Progetto Cives - is the lack of coordination between the various parties involved in the construction process: public administration and private initiatives. As noted, there is no 'regional social network of services with a strong public connotation' (Piano Sociale Regionale, 2020, p.104).

Speaking of the reconstruction process of public housing in the Marche region, in 2020, out of 174 necessary interventions of social housing, 86 interventions were not started. Of the 174 total, only in 9 cases the tender for the design has been started, in 29 cases the design has been started, the final project has never been approved; (of the remaining 145 buildings), in 4 cases the tender for the works has been started, while in 25 buildings the works have been started.¹⁸ Only 21 buildings were completed (Special Commissioner on Reconstruction, 2021, p. 46).

Perhaps, in order to find solutions that can be adopted in the Marche region, it may also be useful to analyse the Japanese and the US experience.

2. JAPAN

2.1. The Japanese Public Housing Regulations between Ordinary and Emergency Regulations

In Japan, housing policies have changed since World War II. Indeed, faced with a large shortage of available housing units after the conflict, Japan has made home ownership more attractive to citizens by basing government actions on three pillars. The first was to create, following the promulgation of the Government Housing Loan Corporation (GHLC) Act of 1950, a facility on mortgages to purchase on the first house through long-term contracts with low fixed interest rates. The aim of this measure was to encourage the middle class to buy a house. The second was the adoption of the 1951 Public Housing Act, which authorized local government units (LGUs) to build social housing buildings and lease them at fixed rent prices for low-income people. The last pillar was the adoption of Japan Housing Corporation (JHC) Act of 1955 which promoted

¹⁸ Analysing the whole crater, however, almost five years after the earthquake, out of 312 social housing interventions (for the four regions affected by the earthquake), 134 interventions have not been started. Of the 312, the project for the design of 42 has been launched, while of 63 the design process has been started, of 4 the final project has been approved (of the remaining 243 buildings), of 10 the tender for the works has been started while of 36 buildings the intense activities have been started. Only 23 buildings were completed (Special Commissioner on Reconstruction, 2021, p.12).

the construction of housing for more middle-class families in large urban centres (Hirayama, 2017, p. 15; Kobayashi, 2016, p. 19). The Public Housing Act has, pursuant to Article 1 of the Act, the objective of contributing to the stability of life and social well-being of disadvantaged people by providing sufficient housing for a healthy and adequate life for low-income persons, with a rent lower than the rents available on free market, through the cooperation between national and local governments. The local government builds, buys or rents housing and places it for low-income people. It is subsidized by the national government (Article 2). According to Article 7 of the Act, the national government subsidy amounts to half of the amount used for the construction of buildings and, in the case of disaster victims, to the destruction of social housing buildings, reimbursement is 2/3 (Article 8).

Japan, however, has always been characterized by being a territory likely to be the victim of natural disasters. Therefore, over the years, it has equipped itself with several protocols to deal with the emergency period (Japanese Government Cabinet Office, 2021, pp.4-6). On a normative level, the Japanese state has equipped, following the disaster caused by typhoon Isewan, the Disaster Countermeasures Basic Act of 1961 that has laid the foundations for the current management of natural disasters.¹⁹ The criteria of the protocols used for the management of natural disasters are those contained in the Basic Disaster Management Plan of 1963, subsequently amended in 1995. The plan clarifies the tasks assigned to government, public authorities and local government in disaster relief measures implementation of. For an easy reference to countermeasures, the plan also describes their sequence: preparation, emergency response, recovery and reconstruction according to the type of disaster (Japanese Government Cabinet Office, 2021, p.9).

2.2. *The Fukushima disaster and the social housing reconstruction process*

Recently, Japan was hit by the triple disaster of Fukushima on March 11, 2011 (Koshimura and Shuto, 2015, p. 3). The catastrophe was characterized first by an earthquake of magnitude 9 (Richter scale), then by a tsunami because the earthquake raised the level of the Pacific Ocean and finally by a nuclear disaster that destroyed the Fukushima nuclear power plants, with the consequent dispersion of nuclear waste in the surrounding environment. The legislation designed for this disaster consists mainly of the Basic Act on Reconstruction (2011) and the Basic Guidelines for Reconstruction in response to the Great East Japan Earthquake of 29 July 2011 (Koresawa, 2012, p. 111). To these laws, the guidelines on the outline of the System of Special Zone for Reconstruction (2011) have been added, which lowered the eligibility criteria to access the public housing for people who were homeless and/or impoverished by the disaster, and the Act on Special Measures for the Reconstruction and Revitalization of Fukushima (2012) governing the particular situation of Fukushima Prefecture, torn by the radiation of nuclear power plants. Both as an approach to reconstruction and as legislation, the disasters caused by the earthquake and tsunami have been regulated together, while the

¹⁹ Just as curiosity for the reader, the Disaster Countermeasures Basic Act of 1961 introduced the 'Disaster Management Day' in the Japanese calendar and during the week from August 30 to September 5, there is the 'Disaster Management Week' in addition to a series of events such as the Disaster Management Fair, the Disaster Management Seminar and the Disaster Management Poster Contest, precisely to prepare the citizen for the event of a disaster.

nuclear disaster has been regulated on its own (Report of the Reconstruction Design Council, 2011).²⁰

The reconstruction was based on 7 pillars that can be summarized as follows: 1) learning the lesson from the disaster; 2) rebuilding based on the community; 3) rebuilding looking at the future of the Tohoku region; 4) rebuilding with resilient communities in mind, but also in an energy efficient way; 5) reconstruction and economic revitalization go hand in hand, so that one pushes the other and *vice versa*; 6) concentrating specific resources to uplift the areas affected by the nuclear disaster; 7) rebuilding in a spirit of solidarity and mutual recognition (Report of the Reconstruction Design Council, 2011).

In order to recover from the catastrophe, a time frame of 10 years has been suggested. At the government level, moreover, the entire emergency was managed on three levels with a bottom-up approach: municipality, prefecture and reconstruction cabinet led by the Prime Minister. The municipalities, already equipped with their own emergency plan directly on the ground, focused on interventions aimed at reconstruction and relocation and targeted interventions on the community; the prefectures coordinated the individual municipalities and these, in return, were coordinated by the central cabinet (Ranghieri and Ishiwatari, 2014, p. 15).

With regards to public housing, in point 5.1.4.v) of the Basic Guidelines for Reconstruction in response to the Great East Japan Earthquake, it was foreseen that, in a first phase, "certified" wooden houses would be built in flat areas away from tsunami risks and with an evacuation system in the event of a further disaster. For the densely populated areas, however, it was planned to adjust the reconstruction on the general plans planned for reconstruction.

The approach to public housing in Fukushima Prefecture was different. In this case, in fact, according to Article 25 (1) of the Act on Special Measures for the Reconstruction and Revitalization of Fukushima (2012), if it was not possible to offer temporary accommodation for evacuees who had been entitled to join the social housing programme, they were to be relocated to another prefecture in the country, so that they could be sheltered and protected from the radiation caused by the Fukushima nuclear disaster.

2.3. *The City of Soma and the Results on the Japanese Social Housing Reconstruction Process*

An example of public housing best practice may be the city of Soma in Fukushima Prefecture, where over 30% of all homes used for social housing programmes were damaged by the disaster. Financed entirely by the Government, in August 2012, a public housing building was completed and established for disaster victims (the first of the crater). The building consisted of 12 living units of two rooms each, based on the principle of mutual assistance, and it was also equipped with common spaces, as a dining room and a conversation area, with the aim of preventing the isolation of the elderly and trying to recreate a sense of local community. In order to cope with future situations in which the residents may require low-level nursing care, the facility has been designed so to eliminate architectural barriers, incorporating the principles of universal design i. e. equipped with handrails and toilets suitable for people in wheelchairs (Reconstruction Promotion Committee, 2013, p. 3). To date, analysing the report of the Japanese Government of 07 December 2020, it is possible to find that out of 29,654 public housing

²⁰ The Act consists of 24 Articles divided as follows: Title I, the General Provisions (Articles 1 to 5); Title II, Basic Measures (Articles 6 to 10); Title III, the Reconstruction Headquarters in response to the Great Earthquake in Eastern Japan (Articles 11 to 23); Title IV: Basic provisions on the establishment of the Agency for Reconstruction (Article 24) and finally a supplementary provision promulgating the law.

interventions needed to bring the affected areas back to the *status quo* before disasters, 100% of the same have been completed. To achieve this result, different construction techniques and architectural plans have been alternated. In fact, beyond large buildings, many apartments have been built in order to speed up not only the process of reconstruction of the building itself but also the purchase of land that, at times, is complicated. In the prefecture of Rikuzentakata only one-story apartments were built, creating a new problem: the isolation of the respective inhabitants (Kuroishi, 2018, p. 7). In fact, efficiency of the reconstruction process has been at the expense of population, especially the older ones, who have not been able to integrate in the new environment thus rebuilt.

3. UNITED STATES OF AMERICA

3.1. *The American public housing regulations between ordinary and emergency regulations*

In the United States, the Public Housing Programme was introduced by the United States Housing Act of 1937, which aimed to provide housing for people in need of housing after the Great Depression of 1929 (Wood, 1982). The beneficiaries, at the time of the Great Depression, were those who had lost their jobs or were unable to pay a rent according to free market rates. Initially, they were Euro-Americans and then, over the years, the demographics of the residents changed, as a prevalence of African Americans can be registered. These social housing estates, in addition to not being sufficient to meet the real needs of the population, have turned into real 'ghettos', marginalizing their inhabitants completely (Weesep and Priemus, 1999, p. 7). The structure of the program is crafted like this: there is a central authority, the Department of Housing and Urban Development (HUD) based in Washington, D.C., and several local agencies, Public Housing Agencies (PHAs), that manage on-site social housing programs. It will be the local agencies that will create suitable programs for the community living there, with wide discretion. The only limitation imposed on them is the respect for fundamental rights. Existing contracts between HUD and PHAs are called Annual Contributions Contracts (ACC). Under these agreements, the PHAs administer, in exchange for federal funding in the form of operational and capital contributions, their properties entrusted to them by the government according to federal rules and regulations (McCarty, 2014, p. 9).

3.2. *Hurricane Katrina and the social housing reconstruction process*

On August 25, 2005, Hurricane Katrina hit Florida, Mississippi, Alabama and Louisiana, devastating an area the size of Britain. The damage caused by the hurricane to the properties amounted to 300,000 condemned units, with an overall estimate of the disaster of \$ 100 billion (Townsend, 2006, p. 7). The United States Government, however, at the time, was not unprepared for disasters. In fact, in 2002, following the terrorist attack on the Twin Towers in 2001, the Homeland Security Act was adopted, which regulated the entire emergency protocol to be applied in the event of a disaster. Later, in 2004, the National Response Plan was adopted, a general-use protocol that would govern the US response to natural disasters. The protocol's ratio is based on a bottom-up approach, whereby local authorities will provide an initial response to each hazard, including disasters of human and natural origin, and when their resources are insufficient, they may request assistance from neighbouring states. Only when accidents are of such magnitude that these resources are insufficient will the central state intervene, which will be able to make use of its internal emergency response capabilities or ask for assistance to neighbouring states, through mutual assistance agreements. In the latter case, it will

be a presidential disaster, as declared directly by the President of the United States of America. In 2006, the Post-Katrina Emergency Management Reform Act of 2006, amending the 2002 HSA and the 1988 Stafford Disaster Relief and Emergency Act, centralized the Federal Emergency Management Agency (FEMA) with national emergency management, also with regard to housing within the meaning of Section 683 of the Department of Homeland Security Appropriations Act.²¹ The rule provided for coordination between FEMA and national sectoral organizations, in order to create and implement solutions that could help those who had lost a home, having an eye also to people with disabilities or whose economic condition was very disadvantaged (sect. 683 b, 5).²² However, after the disaster, there was no synergy between individual government organizations, which effectively prevented an effective coordination between them (Townsend, 2006, p. 38). The Federal Emergency Management Agency (FEMA), in fact, acted without confronting other organizations such as the Departments of Veterans Affairs (VA), Housing and Urban Development (HUD) and Agriculture (USDA), which had offered housing for displaced persons, transferring many of them but not all, on cruise ships or in hotels. This lack of coordination and inadequacy in resolving the emergency have given rise to expropriations and discrimination to the disadvantage of evacuees (Finger, 2015, p. 603; Henrici et al., 2010). And for those who left, or had access to the house, the help received was not enough because, very often, rents were more expensive than market standards (Seicshnaydre, 2007). As for Public Housing, only \$15 million was allocated under Article 1437g of the Public Housing Act (Lindsay and Nagel, 2019, p. 46; Pierre and Stephenson, 2008).

3.3 *The National Housing Locator System*

Almost three years after the disaster, the US National Disaster Housing Strategy was approved on January 16, 2009, in order to give a unified strategy to the real estate reconstruction. The NDHS has a "vision, supported by certain goals that will direct the nation to solve the disasters related to housing and the communities involved" (National Disaster Housing Strategy, 2009, p. 1). The plan offers an interesting idea: the National Housing Locator System. The National Housing Locator System is in fact a website, accessible to everyone, that can help individuals and families who would have access to public housing programmes to find, following a natural disaster on a local or national scale, on the whole territory of the United States housing leased at a regulated rent or for sale at a competitive price. The NHLS allows the HUD and its business partners, in particular other federal agencies and PHAs, to provide housing assistance by quickly locating rented housing and government-owned homes ready to be sold or rented during an emergency. Through lenders, approved by the Federal Housing Administration (FHA) of the HUD, the Department offers insured mortgages for disaster victims, to rebuild substantially damaged or destroyed homes, or to rehabilitate less damaged homes. FHA

²¹ The Department of Homeland Security Appropriations Act, entered into force on October 4, 2006. The scope of this law is to "following sums are appropriated, out of any money in the Treasury not otherwise appropriated, for the fiscal year ending September 30, 2007, for the Department of Homeland Security and for other purposes". This law, besides providing provisions in regards to the 2007 fiscal year of the Department of Homeland Security, amends at Title VIII "Emergency Communications", Subtitle D, the Stafford Disaster Relief and Emergency Act of 1988. The 2007 Act introduces to the Stafford Act, Section 683. The scope of this new article is to create a National synchronized communications system that can provide an effective and cost-efficient housing assistance to the people affected by the natural hazard who have lost their home and need a shelter.

²² This provision has to be read together with Section 101 "Congressional Findings and Declarations" (42 U.S.C. 5121) of the Stafford Act.

can also provide home property opportunities through discounted sales programs. Access to HUD-assisted housing advisory agencies is also available.

In practice, however, even such an intervention has only increased the difficulties, which can be summarized as follows: the first was to create even more inequalities between those who could afford to leave and those who could not; the second concerns the fact that those who left could not return, because the reconstruction did not take place in fact, thus no longer creating a temporary, but permanent situation of detachment from their homeland. And if someone had returned, he would still not have been able to return to his home, as it was not available or even demolished or under reconstruction (Quigley and Godchaux, 2015). In so doing, as in fact, ten years after the disaster, the population has drastically decreased by 50% in the areas affected by the hurricane due to a slow and uncoordinated reconstruction (Sastry and Gregory, 2014).

4. LESSONS LEARNED AND FINAL REMARKS

The present paper has made possible to compare and to investigate the policies regarding public housing following a natural disaster in three distant countries: Italy, Japan and USA. Now, it could be questioned which foreign practice should be imported into Italy, more specifically in the Marche region, to mitigate the damage of a dramatic event such as a natural disaster with specific reference to the problem of public housing reconstruction. The question allows us to make some hypotheses.

From the Japanese experience, we could take into account the rigor and methodology that allowed, after only 10 years from the catastrophic event, the completion of public housing reconstruction process. This was made possible by a clear organization scheme and division of the functions between each Governative organization involved in the reconstruction process. However, above all, the success in this field was given by an upstream preparation on the possibility of a sudden disaster, allowing both the population as well as the government to be ready for the worst. What cannot be imported by the Japanese reconstruction process is the lack of attention provided to people in the public housing facilities rebuilding. In fact, the efficiency of the reconstruction process has been at the expense of the population, especially the older ones, who have not been able to integrate in the new environment thus rebuilt.

On the other hand, however, the American experience taught us the importance of effectiveness of the measures adopted. The case of Katrina has in fact highlighted numerous gaps on the social and Governmental side of the United States of America that have meant that, in a period of emergency, the weakest segment of the population has found itself almost helpless. Still a best practice that can be 'imported' from America is the National Housing Locator System. In fact, the possibility to provide, for those entitled to social housing, the access to a user-friendly website that allows access throughout the nation to public housing services, can be a great resource for evacuees.

This type of service, also if not adopted directly by the Marche region, has already been launched in Turin. It is called Io Abito Social (www.ioabitosocial.it). Created by the Fondazione Compagnia di San Paolo. This website is dedicated to the exploration and research of emergency and temporary housing solutions of Social Housing in the northern part of Italy (Lombardy, Piedmont and Veneto regions), allowing the poorest segment of the population to find a shelter in hard times. This type of intervention, already existing, could be strengthened and improved, extending it on a national scale, thanks to the interventions proposed by the Italian National Recovery and Resilience Plan.

Mission 1, Component 1, "Digitalization, Innovation and Security in the PA" of the PNRR provides, among other interventions, the creation of a national digital data platform (PDND) to enable the interoperability of data between each public administrations in the

country, thus benefiting both citizens and other public bodies (Piano Nazionale Ripresa e Resilienza, 2021, 90). The funds allocated to the establishment of the PDND amount to EUR 556 million and see both state bodies, including regions and individual citizens, as beneficiaries of this measure. On this point, the recent project "DigiPALM" approved by the Marche Regional Council on 14 December 2020, in order to encourage digitization in the municipalities of the region, could actively and concretely, implement even on a local basis, an initiative similar to IoAbitoSocial thanks to the funds allocated to this initiative that would allow to put into practice a synergy between population, municipalities, region and national digital system. In particular, by applying this measure, it will be possible to rebuild the community using a participatory method, allowing, on the one hand, citizens to be 'active players' of the reconstruction process²³ (Bonetti, 2014, p. 129; Spanicciati, 2017, p. 721), while on the other hand, to remain in their own homeland (Allegranti, 2022, p. 7).

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²³ See Article 2, para 3 and Article 16, para 2 of Decree on Urgent interventions in favour of the populations hit by the 2016 seismic events (2016).

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