

DESTRUCTION AND RENAISSANCE OF THE URBAN SPACE: CREATING AND DISMANTLING URBAN POLICY FROM THE PERSPECTIVE OF JAPAN'S MODERNIZATION AND REPEATED NATURAL DISASTERS

Masato Tanaka

1. Introduction

Forests make up 67% of the land in Japan, and there are approximately 35,000 km of ocean coastline. Environments that are blessed with abundant natural beauty naturally contain a variety of hazards from natural phenomena. Rivers with steep banks generate landslides in mountain streams, and trigger flooding downstream. Coastal areas are lashed by high tides during high winds and inundated by tsunamis when earthquakes occur. Active fault lines jam against one another underground, and above ground active volcanoes heave up. Four plates collide on the floor of the oceans surrounding Japan. More than 20% of the planet's earthquakes and 7% of its volcanic activity occurs in the vicinity of this country¹.

Of course, natural phenomena are certainly hazardous, but they are not disasters in themselves. As Ben Wisner has said, the encounter between hazards and vulnerability brings on disaster (Wisner et al., 2003). Or, the coexistence of latent hazards and vulnerabilities becomes a risk. As we will describe later, in the process of modernization our country's urbanization advanced by altering nature and by intensive land use, so that these vulnerabilities were papered over. Of course, during that time many natural disasters occurred, and cities were repeatedly destroyed and rebuilt. However, by strange coincidence, from the period of high economic growth in the 1960s when the pressure to devel-

op was at its strongest, to the economic bubble of the late 1980s when investment and speculation was at its most heated, cities were spared large-scale disasters. In 1995, two events made us take notice of urban vulnerabilities – the experience of the Great Hanshin Awaji earthquake and the sarin gas attack on the Tokyo subway².

Japan went through a process of modernization from the Meiji era onward (from 1868). At the beginning of the 20th century, the concentration of population in the cities and congestion began, mainly in Tokyo. The population of Tokyo in 1920 was 2.17 million, indicating a population increase trend that was closing in on those of New York (5.6 million), Paris (2.9 million) and London (6.5 million). In fact, by 1940 the population had swelled three-fold, to 6.8 million. This was the context for the establishment of the country's first urban planning law in 1919. One hundred years have passed since that time. During this period, various disasters have struck the country. Each time, different urban and housing policies were created and implemented. The modernization of Japan proceeded in step with these natural disasters. Urban and housing policies and reconstruction policies were two sides of the same coin.

However, as the unusual "reprieve" from disasters continued from the 1960s to the latter half of the 1980s, urban and housing policies abandoned their missions. Concepts emphasizing cities became dominant, and the relaxation of regulations accelerated. Finally, from 1995 onward Japan again entered a period when disasters occurred frequently. Abnormal risks associated with excessive urbanization were exposed. For some reason, however, the concepts emphasizing city development were not retracted. Instead, urban and housing policy became increasingly lean. Their presence was significantly overturned at the hands of the forces of neoliberalism.

Table 1. Disasters and urban and housing policy from the beginning of the 20th century to the present

	Major Natural Disasters (including the missing)	Urban and Housing Policies	Recovery and Disaster Prevention Policies	Number of Victims (number of deaths/year)	
Period of frequent disasters 1900-1959	Period of Establishment of Urban Planning Policies (1900-1930)				
	Great Kanto earthquake (105,000 deaths)	City Planning Act	Doujunkai	9,136	
	The Kita Tango earthquake (2,925 deaths)	Low Standard Housing Clearance and Improvement Act	Imperial City Recovery Plan (1924-1930)		
	Urban Planning Under War Mobilization (1931-1945)				
	Sanriku earthquake (3,064 deaths)	Housing Corporation Act		858	
	Tottori earthquake (1,083 deaths)				
	Higashi Nankai earthquake (1,228 deaths)				
	Mikawa earthquake (2,306 deaths)				
	Typhoon XXXX (1,158 deaths)				
	Postwar Reconstruction Urban Planning Period (1945-1959)				
					3,600
	Nankai earthquake (1,143 deaths)	Comprehensive National Land Development Law	War Disaster Reconstruction Institute	1,695	
	Fukui earthquake (3,769 deaths)	Building Standards Act	Special Urban Planning Law		
	Makurazaki typhoon (3,756 deaths)	Housing Loan Financing Act	Disaster Relief Law		
	typhoon Kathleen (1,930 deaths)	Public Housing Law	The Fire Services Act		
Toyamaru typhoon (1,710 deaths)	Publicly Operated Housing Act	Disaster Countermeasures Basic Act			
Kanogawa typhoon disaster (1,269 deaths)	Housing District Improvement Act				
Isewan typhoon (5,098 deaths)					
1953 North Kyushu Flood (1,013 deaths)					

Period of reprieve from disasters 1960 - 1994	High Economic Growth Period (1960 to 1969)			
	July 1967 flood (371 deaths)	Section Ownership Law	Act concerning Special Financial Support to Deal with Designated Disasters of Extreme Severity	183
		1 st Comprehensive National Development Plan		
		New Urban Residential Area Development Law		
		New City Planning Act		
		2 nd Comprehensive National Development Plan		
	Economic Stagnation Period (1970-1985)			
	July 1972 flood (442 deaths)	Urban Redevelopment Act	Law establishing measures to promote group relocation for disaster mitigation	100
	Nagasaki flood disaster (345 deaths)	Revised Building Standards Act		
		3 rd Comprehensive National Development Plan		
		Housing and Urban Development Corporation	83	
	Bubble Economy Period (1986-1994)			
	Hokkaido Nansei Oki earthquake (230 deaths)	Private Sector Resources Utilization Law		26
Resort Law				
4 th Comprehensive National Development Plan				

Period of frequent disasters 1995-	Post-bubble Period (starting in 1995)			1,127	1,127
	Great Hanshin Awaji earthquake (6,434 deaths)	Revised Public Housing Law	Concentrated Urban Areas Development Act		
	Great East Japan earthquake (18,434 deaths)	5 th Comprehensive National Development Plan	Act on Special Measures for Handling Nuclear Power Disasters		
	Great floods in Kii Peninsula (98 deaths)	Urban Renaissance Agency (UR)	Landslide Disaster Prevention Act		
	Kumamoto earthquake (267 deaths)	National Spatial Planning Act	Natural Disaster Victims Relief Law		
	July 2018 flood (232 deaths)	Basic Act for Housing	Nankai Trough Special Measures Law		
Housing Safety Net Law					
Housing Loan Corporation abolished					

2. The first period of frequent disaster occurrences - the quickening of urban and housing policies

Japan experienced many disasters in the first half of the 20th century (Table 1). From 1923 to 1959, the following disasters struck the Japanese islands: The Great Kanto earthquake (1923), the Kita Tajima earthquake (1925), World War II (1939-1945), the Mikawa earthquake (immediately before the end of the war), the Makurazaki Typhoon (immediately after the end of the war), the Nankai earthquake (1946), Typhoon Kathleen (1947), the Fukui earthquake (1948) and Typhoon Isewan (1959). According to the author's calculations, during this period natural disasters killed an average of 3,600 victims per year³.

Before the war, Japanese cities were already burdened by the problems of population concentration, congestion and urban sprawl. The government eagerly absorbed urban planning ideology and technology from Europe and the United States, resulting in the 1919 City Planning Act, which is in its 100th year this year. Four years after this Act was established, the Great Kanto earthquake occurred⁴ as if to question its real value. In 1924, the Doujunkai, which later transformed into the Japan

Housing Corporation⁵, was established. At that time, under the auspices of the imperial capital reconstruction plan spearheaded by Goto Shinpei, then mayor of Tokyo, a land readjustment project was implemented on a large scale covering 90% of the area that had been burned as a result of the earthquake. The plan developed 52 major highways, 122 secondary highways and 55 public parks, building the skeleton of present-day Tokyo. It was a huge remodeling of Tokyo under the name of “creative reconstruction”. Meanwhile, the Doujunkai offered the housing option of reinforced concrete apartment houses, which were different from the single-family wooden houses that had been the standard. (Kenchiku Shiryo Kenkyusha Co., Ltd., 2000) This innovation was significant because it did not stop at simply reconstructing the housing in the areas affected by the disaster. In 1927, with the Low Standard Housing Clearance and Improvement Act, initiatives to construct public housing, in order to improve the living environments in discriminated communities and slums, began.

The disasters continued, however. World War II started with the 1931 Manchurian Incident and eventually all of Japan was caught up in it. Modern urban planning was aborted early on in Japan. Meanwhile, as a tool of the Greater East Asia Co-Prospersity Sphere, it played a role in materializing the colonization of nearby countries. (Ishida, 1987) Almost all the cities in Japan were destroyed by aerial bombing and the dropping of nuclear bombs on Hiroshima and Nagasaki, which ushered in the end of the war. Due to the 1945 Basic Policy of War-Damaged Area Reconstruction Plans and the 1946 Special City Planning Law, land readjustment methods that spurred reconstruction after the Great Kanto earthquake remade every nook and cranny of cities all over the country. This is what established the infrastructure of regional cities. At the same time, it is said that this also ushered in an overwhelming loss of regional characteristics (Ishida, mentioned above). While control of space by means of urban planning caught on widely, because there was a lack of 4.2 million houses, slums were pervasive and black markets and barracks lined the streets (Matsudaira, 2019; Murakami et al., 2017).

During this chaos, the “three pillars” of housing policy were established. In 1950 the Housing Loan Financing Act, in 1951 the Publicly Operated Housing Act, and in 1955 the Japan Hous-

ing Corporation Act were established for the purpose of resolving the housing shortage and improving living environments. While support schemes were developed for each income level in the form of government loans for owner-occupied income levels, publicly operated housing for low income levels and public corporations for middle income levels, the targets of these schema greatly overlapped. The level eligible for publicly operated housing initially included 80% of households starting from the lowest income level. Furthermore, the Housing District Improvement Act, which succeeded the prewar Low Standard Housing Clearance and Improvement Act, was established in 1960. Housing policy went beyond “dwellings” as physical objects. It targeted “living” in a wide sense and was heavily tinged with social policy attributes. One must also keep in mind that during this period many tremendous disasters killed thousands of people, as mentioned earlier.

During the “first” period of frequent disasters, cities and houses lost their contexts both historically and spatially, so the break with the landscape was absolute. The breakdown was due to natural disasters or to war, a man-made and intentional disaster, but the recovery policy was to push for the recreation of the context and build up new spaces. This break was not due to nature’s fury, it was caused by our choices. Therefore, through this process urban planning was born, recovery plans were put into practice, implemented and enhanced. Housing policy was a recovery policy for supporting the housing environment during the prolonged life of evacuees, and it was also social policy.

3. The period of reprieve from disasters - Absence of basic laws and absence of disasters

For the 30 years after the 1959 Isewan Typhoon, our Japanese cities were spared large-scale disasters. (Maki, 2011, Oguma et al., 2015) However, wind and rain disasters and earthquakes, which produced less than 1,000 victims, occurred intermittently. In 1961, there was the Second Muroto Typhoon (202 people dead or missing), in 1972 there was the Flood of Showa 47 July (442 people dead), in 1982 there were the Nagasaki Floods (345 people dead), in 1993 there was the Hokkaido Nansei Oki earth-

quake (230 people dead or missing), etc. Even so, the average number of victims during this period was never more than about 100. Compared to the 3,600-person average in the first period of frequent disasters, the difference is obvious.

What was destroyed during the so-called disaster “reprieve” was not urban space. It was the natural environment. During the economic bubble of high economic growth, huge amounts of capital shaved down mountains, moved rivers, filled up coastlines, dug into the earth, and made use of the sky. The significant expansion of urban areas and the execution of an immense number of development projects, and the destruction of the natural environment that went along with them, and furthermore, the swelling and invisibility of vulnerabilities, which could be considered reflection effects, accelerated.

The Comprehensive National Development Plan began in 1962, and work was started on the Pacific Belt Industrial Zone⁶. Coastal areas became frontiers for industrial sites rather than points of contact with the large-scale natural expanses of ocean. That same year, the Section Ownership Law was enacted, and in 1963, the following year, the New Urban Residential Area Development Law was enacted. These became the foundation for the development of condominium apartments and new suburban towns and created the housing complex construction industry. Ultra-high-speed trains and expressways connected cities, and the distribution of goods expanded and accelerated. The 1964 Tokyo Olympics and Expo 70 in Osaka triggered, catalyzed and motivated their development.

After that, the economy entered a period of stagnation from the oil shock of 1973. The third Comprehensive National Development Plan came out with the “settlement zone structure,” a portent of change in direction, from the ideology of large-scale real estate development. In 1968, the New City Planning Act was established. Even though it was inadequate, it cleared the way for a process of citizen participation. However, the 1969 Urban Redevelopment Act the following year put in place the conditions for continued promotion of urban renewal, and the 1970 Revision of the Building Standards Act eliminated restrictions on absolute height⁷.

The 1978 Miyagi earthquake prompted concerns about the earthquake resistance of structures. Buildings and man-made

structures became deadly weapons, and we became aware of the risks they posed in urban areas. In 1981, the Regulations for the Enforcement of the Building Standards Act were revised, and the earthquake resistance standards were substantially strengthened. These revisions were naturally important and necessary. However, at the same time they strengthened the perception that disaster risk could be controlled by policies and technology. While the Miyagi earthquake was the only urban disaster that shook the system of laws and regulations during the period of reprieve from disasters, ironically what caused it was the illusion that it was possible to overcome disaster through laws and regulations.

Then the bubble arrived. Beginning with the 1986 Private Sector Resources Utilization Law and the 1987 Law for Arranging Integrated Recreational Areas (Resort Law), urban planning and building regulations were relaxed without limit, and national lands were sold to the private sector. Ultra-high-rise buildings were densely planted in city centers, and strange resort condominiums appeared in regional areas (Photos 1 and 2). Development for the sake of development repeated again and again, and space was literally transformed into financial securities.

On the other hand, during the succession of development from the period of high economic growth to the bubble, concern for protecting the environment increased. In 1980 Japan joined the Ramsar Convention, and the Kushiro Marsh was registered as the first domestic wetland. In 1981 the first Environmental Impact Assessment Bill was presented to the Diet. However, it was repealed in 1983. Discussion was restarted, but it did not become enacted until 1997, after the Great Hanshin Awaji earthquake.

The warning was more than enough. The so-called four major pollution diseases were harsh evidence of excessive urban activity transformed into a terrifying man-made calamity⁸. These included the Minamata disease (1953-1960), Yokkaichi asthma (1960), and the New Niigata Minamata disease (around 1964) (Ui, 2006). The Chernobyl nuclear power plant's No. 4 reactor exploded on April 26, 1986. On September 26th of that same year, Ulrich Beck published "Risk Society". Seven years and four months after that, on January 17, 1994 the magnitude 6.8 Northridge earthquake struck Los Angeles California, causing



1. High-rise architecture
in city center. All the
photos are by Masato
Tanaka.

2. Regional resort
condominium.

the deaths of 57 people and injuries to 5,400 people, and causing portions of major freeways to collapse. However, these warnings were collected as isolated incidents and concealed, or taken to be events that had nothing to do with us.

The Great Hanshin Awaji earthquake, one year after the Northridge earthquake, signaled the end of the disaster reprieve period in our country. As described above, Japan did not yet have adequate, enforceable laws and regulations to contain development and protect the natural environment. The regulatory systems addressing disaster risk also greatly diverged from scientific knowledge. Meanwhile, the urban space had expanded ceaselessly. In the end, the earthquake caused the collapse of expressways, the destruction of 100,000 houses, and the human toll was the 6,434 lives that were lost.

Urban planning during the disaster reprieve period had produced an extremely incongruous situation based on economic growth. One of the reasons for this was the original absence of a basic law, as Ishida (mentioned above) points out. The disaster reprieve period created the thinking that urban disasters do not exist. On the other hand, what happened to housing policy? Based on the Housing Construction Planning Act, from 1966 Japan overcame a critical housing shortage, by means of quinquennial plans. In 1968, the number of dwellings throughout Japan exceeded the number of households, and in 1973 this was the case in all prefectures. While the core of the problem moved from quantity to quality, the social policy characteristics became attenuated. Housing policy in the period of economic growth can be seen as industrial policy charged with the development of large-scale housing projects. In periods of stagnation it can be seen as economic policy playing its part in resolving the stagnation. Furthermore, during a bubble period, it can be seen as having attributes of financial policy.

4. The second period of frequent disasters - the implementation of disaster housing policy

After 30 years of disaster reprieve, Japan again entered a period of frequent disasters. Twenty four years have passed since the Great Hanshin Awaji earthquake⁹. Between then and now,

there have been the Miyakejima volcano and the Western Tottori earthquake (2000), the Niigata-Chuetsu earthquake (2004), the 2005 Fukuoka earthquake (2005), the Noto Peninsula earthquake (2007) and the Niigata Chuetsu-Oki earthquake (2007), the Great East Japan earthquake and tsunami disaster (Tohoku Pacific Shore earthquake) and the Fukushima Daiichi nuclear power plant disaster (2011), the Hiroshima floods (2014), the Kumamoto earthquake (2016), the Northern Osaka earthquake (2018) and the 2018 Japan floods (2018) and the 2018 Hokkaido Eastern Iburi earthquake (2018). There are always evacuation shelters and temporary housing (Photo 3) in operation somewhere in Japan, and people who live harsh lives in shelters. From 1995 to the present day, the average number of victims per year has risen 10-fold and exceeds 1,100. It is not known how long this “second” period of frequent disasters will last. However, in any case, it is certain that a Tokyo near-field earthquake or Nankai megathrust earthquake¹⁰ or volcanic disaster will be added to this.

The Great Hanshin Awaji earthquake made clear the huge risks facing large cities with high-level infrastructure. The M7.3 near-field earthquake took the lives of 6,434 people. The tremor began early in the morning at 5:46 am, so 80% of the victims died in their homes. In other words, the strength of their dwellings determined whether they lived or died. The cause of death in 80% of the cases was due to being crushed by collapsing buildings (Office of the Hyogo Prefecture Medical Examiner, 1995). There were relatively few deaths due to fires, but the multiple fires that started at the same time in crowded districts of wooden buildings overwhelmed the capabilities of the fire-fighting services, and even though there was almost no wind the earthquake caused multiple fires.

The landscape of modern cities that was mercilessly destroyed reinforced the words of architect Arata Isozaki that “deconstructionism is over”. On the other hand, the spaces that were subsequently built called to mind “La Ville Radieuse” of Le Corbusier. These were wide open public squares surrounded by clusters of high-rise buildings (Photo 4). However, this kind of intensive investment was only carried out in a tiny percentage of the area struck by the disaster. In general, most of the remaining areas were left to be reconstructed by the disaster victims them-



3, 4. Example of temporary emergency housing (3. Koriyama, Fukushima Prefecture; 4. Otsuchi Town, Iwate Prefecture).

selves. Public emergency temporary housing and disaster-relief public housing were set up for households that were too poor to secure housing. About 50,000 emergency temporary housing units and 38,600 disaster-relief public housing units were built. Most of the dwellings of the disaster victims had been low-rise wooden single-family houses and row houses, but in the interest of economic rationality large-scale high-rise buildings were employed for the disaster-relief public housing (Photo 5). The total number of these housing units amounted to 35% of the public housing stock of 110,000 units in the prefecture at that time.

Sixteen years after the Great Hanshin and Awaji earthquake, on March 11, 2011, the Great East Japan earthquake and tsunami disaster occurred. In the meantime, while Japan was in the midst of economic doldrums, it was hit by the worldwide economic downturn sparked by the bankruptcy of Lehman Brothers. Top-level government officials were replaced at a dizzying pace. There was a large growth in unstable jobs with little employment security, and the annual number of suicides continued to top 30,000. In 2008 the overall population shifted into decline, and cities and housing policies began to face the need to downsize, an issue with which they had no experience. The population outflow from agricultural and fishing villages started long ago, but due to the aging of the residents in the few households that remain, cases now exist where even the maintenance of community functions has become almost impossible. Akira Ono (2008) has called this phenomenon the “marginal village”¹¹.

The Great East Japan earthquake and tsunami disaster was catastrophic for the countless cities and agricultural and fishing villages that had already entered into a phase of depopulation (Photo 6). The shaking due to the M9 intraplate earthquake and the tsunami caused a disaster amounting to over 18,000 dead and missing people and triggered the Tokyo Electric Power Company Fukushima Daiichi nuclear power plant disaster. This disaster was rated Level 7 (most significant) on the International Nuclear and Radiological Event Scale (INES), on par with the 1986 Chernobyl nuclear power plant accident. Due to the dispersion of radioactive substances, the municipalities where the nuclear plant had been erected (Okuma-machi and Futaba-machi) and the nearby areas continue to be off limits and even areas in the vicinity cannot be approached, even though eight years



5. High-rise building clusters made by recovery and redevelopment projects (Kobe City, Hyogo Prefecture).



6. Example of disaster public housing after the Great Hanshin and Awaji Earthquake (Kobe City, Hyogo Prefecture).

have passed since the nuclear disaster (Photo 7) (Tanaka, 2016; 2017).

In the areas that were not affected very much by the nuclear power plant accident, the reconstruction projects and rebuilding of lives is polarized. While in some cases life quickly returned to the way it was before, there are other cases where people have lost their families, their homes and their jobs, and were driven to suicide. In the background were countless disaster victims who died after experiencing physical and mental trauma, even though it did not lead to suicide (Tanaka, 2018).

Polarization occurred not only among disaster victims, it also occurred among regions. While some regions recovered quickly, other regions were completely left behind. The areas that were left behind most pronouncedly were the small villages far from urban areas dotted in remote peninsular areas. In these villages only the construction of tide embankments has progressed steadily. These newly constructed defensive embankments on the edges of coastal areas where community life has disappeared, who on earth are they for and what are they defending? The landscape looks just like a painting by Rene Magritte, where bizarreness appears on an outlandish scale (Photo 8).

The landscapes where dwellings are not going to be rebuilt are not only affected by the low pre-disaster potential of the area, they are also affected by government policies. This is the designation of “disaster hazard zones” in areas inundated by the tsunami, where rebuilding of housing is prohibited. The policies established by Article 39 of the Building Standards Act (enacted in 1950), were enforced occasionally, starting from the 1950 Isewan Typhoon. However, in many of these areas habitation is permitted under certain conditions, such as if buildings satisfy structural limitations. However, after the Great East Japan earthquake and tsunami disaster¹², housing construction in itself was restricted. As a result, the extensive areas of vacant land in coastal areas have become even larger (Photo 9).

Options were limited for disaster victims who had nowhere to go. Disaster-relief public housing was the dominant option. As with the Great Hanshin and Awaji earthquake, plans for large-scale housing supply were laid out, and in a short time construction of in excess of 30,000 units of disaster-relief public housing in the eight prefectures affected by the disaster was in process.



7. Damage caused by the Great East Japan Earthquake and Tsunami Disaster (Minamisanriku Town, Miyagi Prefecture).

8. Barricades preventing entry into an area with high levels of radiation (Tomioka Town, Fukushima Prefecture).



9, 10. Seawall constructed after the earthquake and tsunami disaster (Miyako City, Iwate Prefecture).

11. Urban ruins designated as a disaster hazard zones (Sendai City, Miyagi Prefecture).

The difference between this and what took place after the Great Hanshin and Awaji earthquake was that diverse variations of housing other than large-scale high-rise construction were built. Apart from housing formats such as single-family houses and row houses, the spaces were designed to support a diverse variety of residential buildings and dwelling units, including ties with welfare functions such as nursing care or childcare, and arrangements to encourage interaction among residents (Photo 10). Just how far these spaces contribute to reproducing the original way of life will need to wait for future assessment. However, in the design of the disaster-relief public housing after the Great East Japan earthquake and tsunami disaster, there was certainly a sense of purpose in attempting to design housing that would function as more than simply physical shelter. This resembles the urban and housing policies of the prewar and postwar periods, which targeted “living” in a wide sense and was heavily tinged with social policy character. However, the policies this time were not widely disseminated as general policies. They were confined exclusively to the disaster areas. They were developed as the reverse side of the coin from recovery policy. Moreover, this is where the decisive difference from housing policy lies.

5. Is this the death of urban and housing policy?

In 1997, two years after the Great Hanshin and Awaji earthquake, the Public Housing Law was revised. The two-tier rental system, which set Type 1 and Type 2 housing, was abolished and replaced by a system that determined rents on a case by case basis, according to household income. At first glance, the transition to a system that appeared to be rational did an extremely good job of laying the groundwork for cutting down on the number of eligible renters and enabling the transition to a market system. The Japan Housing Corporation, which picked up the flow of the prewar Housing Corporation, underwent numerous name changes after that, and in 2004 became the Urban Renaissance Agency. Its tasks were limited to maintaining the existing public housing stock. Its past role as a public-sector group of technocrats for research and development of housing, working on coming up with new housing formats, was for all practical



12, 13, 14. Example of disaster public housing after the Great East Japan Earthquake and Tsunami Disaster (12. Otsuchi Town, Iwate Prefecture; 13. Shichigahama Town, Miyagi Prefecture; 14. Tamura City, Fukushima Prefecture).

purposes dismantled. With the 2006 Basic Act for Housing and the housing Safety Net Law the following year, the government came out with policies that left most of the housing supply to the private sector market. New construction of public housing was arrested, and the dismantling, demolition and liquidation of the significantly aged buildings from the early period proceeded. In 2007, the Housing Loan Corporation was abolished, and went from being a national government institution to an incorporated administrative agency.

While the former “three pillars” system continued to shape a framework that assumed levels of income, the targets greatly overlapped. At the beginning, 80% of citizens were eligible to live in publicly operated housing. This number has shrunk to 20% at present¹³ Housing policy has adopted a market system across the board, and the remaining public housing remains as a safety net for the class that has been left out of the market (Hirayama & Izuhara, 2018). As a result, communities are formed of old people, the disabled, single-female-parent households, etc., in addition to low income households; a collection of people living together and struggling with some sort of lifestyle risk.

Housing policy is attempting to withdraw from the public sector. Housing policy should have been motivated by the second period of frequent disasters to once again take up its mission of creating initiatives to support “living” in the broader sense. The large-scale damage to housing from the Great Hanshin Awaji earthquake sharply questioned the social value of dwellings. The Great East Japan earthquake and tsunami disaster shook the whole concept of society itself. These tremors, along with the Fukushima Daiichi nuclear power plant disaster, has caused a decisive paradigm shift. In fact, all the nuclear power plants in the country have been shut down. Each and every one of us knew the inevitability of living alongside risk. Despite this, at least in housing policy, absolutely no substantive conversion has taken place.

6. Conclusion

Throughout Japan’s modernization, the destruction and rebuilding of urban spaces due to wars and natural disasters has

occurred in sequence. This has always been the motivation for creating new urban and housing policies. However, the overwhelming current of commercialization in the post-modern period has dismantled urban and housing policy itself.

Currently, the disaster risks that accumulated during the period of disaster reprieve have come to light, one after the other. The diversification, intensification and broadening of areas affected by natural disasters is not simply a problem of abnormal weather due to climate change. It is clearly caused by excessive urbanization during the period of disaster reprieve. It was thought that exposing the vulnerabilities of urban spaces would greatly change urban and housing policy. Housing policy in the locations affected by disasters has certainly played an important role. The attempts of disaster-relief public housing to consider the “living” of the disaster victims brought the meaning of social policy back to housing policy. However, this was confined to the special space of the disaster areas, and its development was confined to the regions where the recovery policies were applied. The housing policies of the disaster areas were not extended to unaffected urban spaces. They only supported the needs of the disaster victims. Even so, the fact that they could be implemented in urban spaces is very significant. The efforts of each municipality are immeasurable. That is why we need to ask ourselves why we do not take this as an opportunity.

References

- BECK, U. (1986), *Risikogesellschaft - Auf dem Weg in eine andere Moderne*, Frankfurt/M.
- KENCHIKU SHIRYO KENKYUSHA CO., LTD. (2000), *Design of Doujunkai*.
- HIRAYAMA, Y., IZUHARA, M. (2018), *Housing in Post-Growth Society: Japan on the Edge of Social Transition*, London, Routledge.
- MURAKAMI, S., ET AL. (2017), *The Aspect of Dependent Housing and Military Dispositions in the Occupied Japan*, «Journal of Architecture and Planning», 82(739), pp. 2441-2450.
- TANAKA, M. (2016), *The Process of Living in Evacuation and Difficulties of Decision-making in Residential Choices in a Nuclear Power Plant Stricken Area: Case of Kawauchi Village, Fukushima Prefecture*, «Journal of Social Safety Science», 29, pp. 155-164.
- TANAKA, M. (2017), *Realities and Background of Residents' Returning Process in a Nuclear Power Plant Stricken Area: Case of Kawauchi Village, Fukushima Prefecture*, «Journal of Social Safety Science», 31, pp. 137-146.

- WISNER, B., BLAIKIE, P., CANNON T., DAVIS I. (2003), *At Risk: natural hazards, people's vulnerability and disasters* [second edition], London, Routledge.
- 石田義房 (1992) 「日本近代都市計画史研究」 柏書房.
- 宇井純 (2006) 「公害原論」 亜紀書房.
- 大野晃 (2005) 「山村環境社会学序説—現代山村の限界集落化と流域共同管理」 農山漁村文化協会.
- 小熊英二・赤坂憲雄 (2015) 「ゴーストタウンから死者は出ない, 東北復興の経路依存」 人文書院.
- 田中正人 (2018) 「被災地の「孤独死」問題からみた生活空間デザインの課題」 2018年度日本建築学会大会都市計画部門研究協議会「復興まちづくりと空間デザイン技術」, 89-92.
- 西村幸夫 (2008) 「風景論ノート, 景観法・町並み・再生」 鹿島出版会.
- 牧紀男 (2011) 「災害の住宅誌, 人々の移動とすまい」 鹿島出版会.
- 松平誠 (2019) 「東京のヤミ市」 講談社.

Notes

- ¹ According to Cabinet Office, "2010 White Paper on Disaster Management". Number of earthquakes of magnitude 6.0 and above that occurred from 2000 to 2009. Compiled by the Cabinet Office based on epicenter source data from the Japan Meteorological Agency and the United States Geological Survey.
- ² Indiscriminate multiple simultaneous terrorist attacks carried out by a religious cult. On March 20th, 1995, during the morning rush hour, a highly toxic chemical agent was sprayed in five subway cars on three subway lines running through Kasumigaseki, Tokyo's government office district, killing 13 people and injuring 6,000.
- ³ Statistics on natural disasters that killed over 100 people (including the missing).
- ⁴ Occurred at 11:58 am on September 1, 1923. It killed 105,000 people. Most deaths occurred in the fires that broke out after the earthquake.
- ⁵ Government organization that was established based on the Dōjūnkai, which had technically steered housing reconstruction after the Great Kanto Earthquake. It was dissolved by GHQ after the war, but in the 1950s it had a strong influence on the Japan Housing Corporation, one of the "three pillars" of housing policy.
- ⁶ The band-shaped area traversing the "four major industrial zones", the Tokyo capital area, Chubu, Hanshin and Kitakyūshū. It was created in order to develop even more heavy industry. This policy caused the reclamation for industrial sites of the coastal areas of regional cities, not just large metropolitan areas, and a great deal of natural coastline was lost.
- ⁷ Originally the building height restrictions were introduced because of technical issues of structure, but they went on to be abolished out of the perception that the problems had been solved. Originally, the restrictions were to be zoning for each type of building use, ensuring daylight and upper limits on floor area (rate of building volume to lot) in residential areas, but in the end height restrictions were accepted. However, for all practical purposes the restrictions disappeared in commercial and office zones and large parcels of land.

⁸ The four diseases, designated as the “four major pollution diseases”, are Minamata disease, which occurred on the Shiranui coast of Minamata City in Kumamoto Prefecture, New Niigata Minamata disease, which occurred in the Agano River basin in Niigata Prefecture, Itai-itai disease, which occurred in the Jinzu River basin in Toyama Prefecture, and Yokkaichi asthma, which occurred in Yokkaichi City in Mie Prefecture. The causes were methylmercury compounds, cadmium and sulfur oxides discharged from heavy chemical factories, and they caused serious health damage to the citizens of those areas.

⁹ The Great Hanshin Awaji Earthquake, which was centered on the city of Kobe with a population of 1.5 million, was the first postwar disaster to strike a modern metropolitan area. Its human toll was at that time the worst of the postwar period.

¹⁰ Earthquake caused by a trough located in the Pacific Ocean shore of Japan. The Nankai Trough has triggered repeated earthquakes and tsunamis, about one every hundred years. The last one was the 1946 Nankai earthquake. It is predicted that there is a 70 to 80% probability that the next Nankai Trough earthquake will occur within the next 30 years. According to the Cabinet Office Central Disaster Prevention Council, if one occurs the death toll will mount to 323,000 people.

¹¹ According to Akira Ono, “marginal villages” are defined as “settlements where the elderly account for the majority of the population and where maintaining community life is difficult, as reflected in few weddings, funerals, or coming-of-age ceremonies; where residents find it difficult to cooperate in the management of farmland, and where it is difficult to maintain community roads”.

¹² However, variations in the disaster hazard zone designation, such as if structural limitations in a similar way to past operation are satisfied or if repairs to existing dwellings, are permitted. In any case, in most cases any type of dwelling is prohibited, and many of the disaster victims whose homes are designated as disaster hazard zones did not have places to move to at that point in time.

¹³ Even though in the past 80% of the population was eligible to live in public housing, the people who actually live there are the poorest segment of the population, and problems with stigmatization and discrimination have been there from the beginning.