



Nobody Dies in a Ghost Town: Path Dependence in Japan's 3.11 Disaster and Reconstruction ゴーストタウンから死者は出ない 3.11災害と復興における経路依存

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The Asia-Pacific Journal, Vol. 11, Issue 44, No. 1, November 4, 2013.

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Introduction

Nearly three years have passed since the tsunami that accompanied the Great East Japan Earthquake of March 2011. However, no homes stand on the devastated plains of the afflicted area; 110,000 refugees continue living in temporary residences as of August 2013; large numbers of young people have lost hope and are leaving the places they grew up in in search of jobs and a new start. Why are these things happening?

It is not due to a lack of government funds. The Japanese state estimates the cost of damage inflicted by the tsunami at 16.9 trillion yen (\$16.9 billion). In response, the Liberal Democratic Party (LDP) confirmed in January 2013 that it would allot 25 trillion yen over a five-year period from 2011 towards a reconstruction budget; this sum is 6 trillion yen more than what the Democratic Party of Japan (DPJ), which held power at the time of the disaster, had earmarked.¹

Does the fault lie with bureaucratic malfeasance? Japan in recent decades has seen a decrease in corruption compared to the 1970s. No reports have surfaced about corruption tied to reconstruction. The news that part of the reconstruction budget had been diverted to a miscellany of dubious public-works projects outside the affected prefectures drew sharp criticism. But despite such diversion of funds, a vast majority of the funds have been spent on projects in the affected localities.

The typical Japanese bureaucrat is a serious and steadfast worker. The surviving employees of the cities and towns in the disaster-hit areas are working with even more dedication. Many municipal administrators died or were injured, weakening administrative capacity for relief and recovery. For example, Ōtsuchi Town in Iwate Prefecture lost its mayor and 32 out of its 136 member staff, while many surviving employees lost family members and homes. Even in such dire straits, these employees carried on with their work. Currently, they are also being supported by a large number of emergency personnel that have been assigned to the devastated localities from other prefectures.

However, in January 2013, a 45-year old employee in Ōtsuchi town administration killed himself. He had been assigned to Ōtsuchi as support staff from Takarazuka City, Hyōgo Prefecture. Before taking his life, he reportedly called the mayor of Takarazuka, telling him, "It's tough working in the disaster-hit areas. I'm giving it my all, but I don't know if what I'm doing is of any help to those here."²

This official's concerns hint at the lack of progress being made with reconstruction. It is true that money has been invested, and that government employees are dedicated to their work. However, the overall plan for and implementation of reconstruction efforts has not been appropriately implemented. This essay explores the causes of this situation from the twin perspectives of history and the present. Since the topic under consideration is limited to the post-tsunami reconstruction efforts, this essay is confined to an examination of Miyagi and Iwate Prefectures. It will not discuss the effects of the nuclear accidents in Fukushima Prefecture.

The Topography and Social Structure of the Affected Areas

As a preamble to the analysis, let us examine what kind of place the disaster-hit locales are. The Tōhoku region has historically constituted a hinterland of Japan's modern development.³ Even within this region, the tsunami-devastated Sanriku area possesses a unique topographical and social configuration.

The Sanriku coast is an agglomeration of small promontories and inlets. Along each inlet is a fishing village made up of tens of households. A typical village of this sort, stands on an inlet area a few hundred square meters wide, along with a fishing port that is flanked by an embankment about ten meters long. Rivers from the nearby mountains flow into the inlet, and there is also a small plain of about a hundred square meters that holds a little field and house, and is surrounded by craggy peaks. The same kind of inlet-village composition lies at the other end of the promontory. Connecting each fishing village is a winding road on which cars can travel along the top of promontories. There is no other way to get to and from the villages.

Each village regularly holds an assembly called 'The Meeting'. The heads of all the families gather at the house of the residence and make collective decisions about the village's future. As Japan modernised, these assemblies of village residents gained official recognition by the Japanese government as "neighbourhood self-governing organisations" (*jichikai*). In turn, their leaders became known as the heads of these self-governing organisations, tasked with the role of connecting residents to the administration. A similar type of "neighbourhood self-governing

organisation" termed *jichikai* or *chōnaikai* exists in Tokyo and cities all over Japan. However, the *jichikai* and *chōnaikai* in the Tokyo metropolitan area lost their substantive functions in the wake of a wave of new residents that migrated to Tokyo during the economic boom of the 1960s. But in the Sanriku disaster area, the *jichikai* remains the locus of local decision-making and attendance at assembly meetings remains high.

These numerous small inlets combine to form a comparatively larger inlet. That leads further to a larger river and a plain several square kilometres around. The latter area holds facilities such as the town hall, schools, fish markets, seafood processing plants, small shopping streets, farmland and train stations. It supports a population that ranges from thousands to tens of thousands. The basin nestled in neighbouring mountains may also lie adjacent to small farming villages. On either side of these rivers, basins and commercial settlements stand villages made up of several tens to several hundred households. Each village has its own *jichikai*, and a strong sense of independence from and competitiveness with other villages.

The basic structure of this area is as follows. Taking each small inlet as a unit, each unit will have a fishing village comprising tens of households. Every cluster of tens of fishing villages is centred on a large inlet, where facilities such as a town hall, elementary school and middle school are located. On moving further out to an inlet that is even larger, there will be a city hall and a high school. The area around an inlet of this size may also hold factories established by corporations based in Tokyo. In this region, the area around the largest inlet of all is Sendai, the largest city in Tōhoku with a population of 1,040,000. Sendai is also the seat of Miyagi Prefecture's administrative headquarters and Tōhoku University, as well as branches of various kinds of US and European banks and industries.

The areas affected by the 2011 disaster, known as the Sanriku coastal region, stretches from Miyagi to Iwate Prefecture. This saw-tooth coastline extends for about six hundred kilometres. In this broad area there is a tree-like social structure, with town and city halls that administer the villages, and a prefectural hall that, in turn, oversees those town and city halls.

At this juncture, the political position of modern Japanese municipalities requires some explanation. After the Meiji Restoration of 1868, the central government in Tokyo established an administrative office within each locality. However, in order to shoulder the duties of a modern administrative organisation, each office required a minimum number of three hundred to five hundred households. For that reason, a large-scale merger took place in 1889, which reduced the previous number of 71,314 towns and villages to 15,820, and created thirty-nine new cities, according to the Ministry of Internal Affairs and Communications.⁴ The municipalities created by this process, despite appellations such as "village" or "town", were actually clusters of multiple settlements grouped under a new administrative category. The village and town halls were administrative organs above the *jichikai* of each settlement, and were tasked with duties commissioned by the central government such as tax collection and resident registration.

Before the Second World War, the Japanese Imperial constitution contained no articles pertaining to municipal government. The prefectural governor was a high-class bureaucrat dispatched from the central government, not an official elected by residents. After the war, the reforms carried out under the US Occupation introduced the concept of municipal self-governance and the prefectural governor became an elected official. Nonetheless, under the current legal system, municipalities in Japan (prefectures, cities, towns and villages) are designated as "local public bodies" (Chihō Kōkyōdantai) and not as "self-governing bodies" (Chihō-Jichitai). Moreover, though the laws pertaining to municipal self-government are post-war creations, most local public bodies control the use of only 30% of their annual budget partly because of the structure of how municipal and national taxes were apportioned. The remaining 70% was given as supplementary funding from the central government, and even then, most of that money was restricted to specific purposes. For instance, local public bodies would apply to the Public Works Project in order to build infrastructure like roads or dams, for which – subject to approval by the central government – they would receive supplementary funds. This fiscal situation led to the common saying that Japan's municipalities only had the capacity for "30% self-governance". Such a situation essentially remains despite the fact that legal institutions experienced some changes in the last decade.

Further, large-scale municipal mergers continued in the post-war era. In particular, during the merger of 2005, the total number of cities, towns and villages decreased to 1,719. This is less than one-fortieth of the total number of municipalities that existed in the early Meiji period (1868-1912). Compared with the United States, whose population in 2005 was about 2.4 times that of Japan, and noting that the number of American municipalities was about fifty times higher in the same year – more than 87,000 – we see how few Japan's municipalities have been, and continue to be.

Administrative mergers have taken place because of budget constraints. After the 1990s, Japan collected a decreased amount of tax revenue due to economic stagnation. On the one hand, there was a large-scale increase in public works combined with a decrease in income and corporate taxes in order to provide economic stimulus. This naturally resulted in a precipitous worsening of central government and municipal finances. The central government planned to strategically streamline the offices of the newly merged cities, towns and villages. It made several pledges to incentivize mergers: for instance, for municipalities that voluntarily merged before March 2005, Tokyo announced that it would not decrease the amount of supplementary funds (the portion of national tax allocated to regional governments) for ten years, and further, that regional bonds issued by local public bodies would be approved by the central government. Many cities, towns and villages responded by merging at the central government's instigation.⁵

As a result, cities, towns and villages of today are administrative organisations that encompass a large number of small collectives – that is, even more previously. To the average resident of a municipality created by a merger, the administrative organs of city, town and village halls have become even more distant entities. Moreover, the municipalities have become more concerned about the intentions of the money-providing central government than they are about the desires of their own residents.

Since the 1990s, Japan's manufacturing industry has been in decline. The number of employees in manufacturing peaked in 1992; by 2012, manufacturing jobs had dropped by 62%. The key causes for this are the end of the Cold War and the entrance of China onto the global market, which increased the industrialisation of East Asia as a whole. Japan's manufacturing sector has hollowed out by shifting production processes and factories to other countries in the region.

The effects of these changes have been felt in the Sanriku area. Kamaishi City in Iwate Prefecture has been known as the "Iron Town" since the Meiji government established a national ironworks there in 1874. Formerly, it housed the factories of Shinnittetsu (Nippon Steel), the largest iron and steel company in Japan. But in 1989, Kamaishi ceased to make iron. Nippon Steel relocated its factories to Brazil, Mexico, India and other places. Due to the negotiation by local public office, Nippon Steel maintains a factory in Kamaishi that handles the processing of steel fibre for high-precision instruments. However, the number of people it employs is less than 4% of what it used to employ during the city's economic peak in the first half of the 1960s.⁶

Local public works were carried out on a massive scale during the 1990s in order to salvage municipalities in precarious economic situations akin to Kamaishi's. For example, from 1987 to 1999, the number of art galleries increased 2.6 times nation-wide, while the number of museums

concomitantly increased by 2.2 over the same period.⁷ Most of these facilities are running deficits, and their maintenance costs burden the budgets of the local public bodies that run them.

Meanwhile, the decline of regional finances continues relentlessly. With the sunset of manufacturing, the number of small businesses nationwide declined by two-thirds from 1991 to 2007. There is a popular phrase, “shuttered streets”, that is used to describe the local downtown shopping areas that have closed down due to prolonged economic stagnation and depopulation. The middle-aged and young, who can no longer rely on farming, manufacturing or small-scale commerce for a living, have left to find jobs in cities, or have gone into public works construction. As a result, 11% of Japan’s labour force in 1998 was working in construction.⁸ On the other hand, while local shops declined dramatically, big shopping malls that serve branches of flagship stores in Tokyo, and which stand along large highways that were built as public works projects, have become a striking phenomenon of local areas in the twenty-first century.

Accelerating this phenomenon is the Structural Impediments Initiative carried out between the United States and Japan from the 1980s to the 1990s. In the 1980s, the American government, under duress from competition in exports by Japanese manufacturers, demanded that Japanese deregulate markets for farming and commerce, while increasing voluntary export restraints and expanding domestic demand. The Japanese government, in response, scrapped the restrictions on the number of franchises a large-scale business could own, a rule that had previously protected small businesses; simultaneously, it promised the US to expand domestic demand through fiscal stimulus, leading to an increase in public works.

How have these social structures and historical developments affected Japan’s reconstruction efforts in the wake of the 2011 tsunami? Before proceeding, let us first examine the history of disasters in Japan, along with the countermeasures and schemes that were designed to alleviate them.

The legal framework of disaster and reconstruction during Japan’s golden era

This section provides an overview of the history of disasters and reconstruction in Japan after 1945. Three periods can be identified in this time frame: the first is from 1945 to 1960, the second is from 1961 to 1994, and the third is since 1995. The second period, 1961 to 1994, dovetails with Japan’s rapid growth. I have omitted remarks on the situation before the Second World War, which is very similar to the first period under consideration, 1945 to 1960.

The first period was one of frequent disasters. Although Japan is prone to earthquakes, typhoons and tsunamis, a system of countermeasures had yet to be established at the time. Breakwaters and earthquake-resistant architecture were not widespread; rivers easily overflowed and claimed many victims. For instance, in the Mikawa earthquake of 1945, 2,306 people died; in the Makurazaki typhoon of the same year, 3,756 died. The next year, in 1946, the Nankai quake claimed 1,143 lives, and Typhoon Catherine’s victims numbered 1,930. The Fukui quake of 1948 caused 3,769 deaths.

Although Japan possessed a legal framework for emergency countermeasures and assistance during disasters, it did not have a similar set of laws for reconstruction. Disasters were the responsibility of offices of local public bodies, and the central government gave financial or other kinds of support where necessary on an ad hoc basis. Thus, when a large-scale disaster occurred, there were glaring differences in the quality of measures available, for example temporary residences for refugees in different regions, depending on the financial situation of the responsible regional government. This led to heightened dissatisfaction amongst survivors of disasters.

In the background of these developments stood the overall situation of Japan’s economic and political climate. Prior to World War II, the Japanese government had not been especially concerned with the welfare of the people, and had prioritized national security in disaster countermeasures. Rebuilding livelihoods was deemed the responsibility of individuals. During the war, funds and personnel had been channelled to support the munitions industry while afforestation and water conservation were slighted; this led to the high frequency of post-war disasters. Japan fell into dire economic straits after defeat, and the government had few resources to spare. From 1945 to 1952 the country was under occupation by US troops, and its political situation was unstable.

Compared to this first period, the second period, 1961-1994, witnessed political stabilization and an economic boom. It was the age of so-called “Japan as number one”. From the second half of the 1950s, Japan entered a period of high economic growth in which its GDP increased by almost 10% every year. In 1955, the fractured conservative parties merged to form the LDP, which became a stabilizing force in national politics until the early 1990s. Fertility also declined from the immediate post-WWII surge.

However, in 1959, the biggest disaster of this period happened. This was the Ise Bay Typhoon, which claimed 5,098 lives. Following this, the Basic Act on Disaster Control Measures was enacted in 1961, and various other regulations based on this act were crafted.

The Basic Act on Disaster Control Measures contains four key ideas:

First, the subject of reconstruction is not the individual, but regional society. More precisely, this refers to the communities under the jurisdiction of local public bodies such as prefectures and towns; these local public bodies are responsible for building infrastructure such as dams and roads for the communities they oversee. The rebuilding of individual and household livelihoods is in essence the responsibility of the people affected. The reason such a stance was adopted was that a policy of direct financial assistance from the state would have accrued to private individuals, potentially creating economic inequality, thus violating the Constitution.

Second, the agent of reconstruction is the administrative organ of the local public body, whether a prefecture, city, town or village. This public body is expected to provide support and resources, and the central government only steps in with additional financial aid or other assistance if the local state’s resources are inadequate.

Furthermore, civil society organizations recognized as supplementing the activities of public administration are prioritized. These include the Japan Red Cross, official neighbourhood and merchant associations (*jichikai*, *chōnaikai*, or *shōtenkai*). The heads of these organs are regional power-holders, and most are supporters of the Liberal Democratic Party, the conservative party that has ruled Japan for most of the time since 1955. Another key organ in this group is the civil fire corps organized by committees at the level of city, town and village, and which takes charge of fire-fighting and rescue operations until state officials arrive on the scene.

The members of this civil fire corps are all regular civilians, but technically they are part-time civil servants affiliated with the regional government, and the head of the corps is appointed by the mayors of city, town or village governments. The origins and first incarnation of this particular civilian corps lie in the Edo period (1600-1868), but in 1894 they became officialised by the new Meiji government same as *jichikai*. During the Second World War they were called vigilante corps and grew into an organ that cooperated with the police. Discredited, after surrender they were abolished. However, in 1947 they were revived in their original form as a civilian fire corps without the wartime vigilante

aspect.

Third, the government worked to bolster disaster resilience and take on the responsibility of promoting recovery in disaster-hit areas. In practice, this meant enforcing more stringent construction regulations for newly built residences and buildings to improve their disaster resilience and thus lessen damage in the event of a disaster. In addition, the central government provided financial aid to regional governments in the disaster-affected region for public works projects such as breakwaters and dams. The latter kind of contribution also included building port and road infrastructure with the goal of facilitating industrial development and modernization. In this concept, disaster resilience meant mainly robustness of infrastructure and supplemental aid for local public bodies.

Fourth, homogeneity is emphasized. The temporary residences provided to displaced victims and refugees are designed in strict accordance with regulations determined by the central government, and a certain level of standardization is demanded of every region.

A legal framework guaranteeing this at the level of finance is also in place. The process of its establishment lies in enacting extraordinary laws each time a disaster occurs, which determines the amount of financial assistance that is given from central to public bodies. This process grew increasingly systematized from the 1950s through the early 1960s, and the ratio determining how the financial burden should be shared became fixed by strict rules. The lower the standard tax revenue of the local public body and the larger the scale of the public works needed for reconstruction, the higher the percentage of the cost borne by the central government. Specifically, for expenditures of less than half the standard tax revenue of the local public body, the central government provides two-thirds of the total cost. If the costs exceed half the standard tax revenue (up to twice as much of it), the assistance rises to three-quarters of those expenditures of over half the standard tax revenue. If the total costs exceed twice the standard tax revenue of the local public body, the central government shoulders the entire financial burden.

The legal framework above illustrates the schematics of disaster countermeasures in Japan. The financial burden on the central government for carrying out public works initially was far from light. In the first half of 1960, 8% of ordinary annual spending by the central state went to disaster prevention activities. However, municipal tax revenue increased during the period of high national economic growth, and the burden borne by the central government concomitantly decreased.

In civil society, too, economic growth caused a boom in the construction of new residences, and the accompanying spread of buildings with earthquake-proof architecture. In particular, 75% of residences in Kobe that met the revised earthquake regulation of 1981 escaped unharmed even in the powerful Hanshin-Awaji quake of 1995 – which had almost the same intensity as the Great Kantō earthquake of 1923.⁹

As a result of these disaster countermeasures, the number of deaths lost to disasters has dramatically decreased. By coincidence, from 1960 to 1995, Japan did not suffer any large-scale natural disasters. From 1984 on, public works for disaster prevention declined and disaster-related expenditure by the central government dropped below 5% of government spending.¹⁰

Generally, in developing countries experiencing economic growth, there is a marked increase in GDP after a disaster occurs.¹¹ Disasters, from an economic perspective, stimulate growth due to reconstruction spending and a consequent increase in demand. In Japan, too, the manufacturing sector of Aichi Prefecture, damaged in the 1959 Ise Bay typhoon, returned to its former levels of production just one month later. Nagoya City, the capital of the prefecture, witnessed a GDP growth rate of 18.8% the same year, and a rate of 30.1% the next year.¹² Compared with Japan's rates of economic growth in the same year, these figures are remarkably high.

Moreover, these kinds of relief schemes, which revolve around public-works construction, have also been affected by the successful experiences of urban redevelopment projects carried out after the Great Kantō Earthquake of 1923. In that disaster, there was a mass movement of people from the burnt-out, quake-devastated areas of Tokyo's eastern districts to the suburban western area.¹³ This happened because there were a great number of people who had come up from the countryside to work in the city, and who were living in rented dwellings. As long as they had occupations and new housing, they faced no problems in moving. In a situation like this, there are substantial merits to be gained by the residents of a disaster-hit area via a redevelopment scheme that gives aid to individuals and implements a system of land compensation. Through the redevelopment that happened in this case, Tokyo's urban planning was given a fillip and its infrastructure was improved, thus boosting economic growth. For this reason, some scholars and administrators regarded disasters as a good opportunity to promote redevelopment.

However, the situation differs in societies whose economic base consists of industries that are closely tied to the region, and where regionally-based systems of mutual aid and subsistence are in place. In such cases, redevelopment schemes that facilitate relocation of displaced households run the risk of destroying the fabric of local society. If this occurs, the losses experienced by the area will actually worsen. Young people with high adaptive abilities will face fewer problems in adjusting to changes, but in places with a high proportion of elderly residents with strong community ties and low adaptive capacity, the degree of potential damage rises. In addition, if national economic growth is stagnant, the dismantling of regional society may in fact invite worsened unemployment and poverty. In such a situation, even if the state tries to use disaster as a chance to improve public infrastructure, this will not be linked to economic prosperity, and the costs of building that infrastructure may not be covered.

Despite these problems, this scheme for recovery has become systematized, resulting in the twin evils of fragmentation and rigidity. The central government's disaster countermeasures and reconstruction support follow a fixed set of administrative procedures, where central administrative organs including the Ministry of Home Affairs, the Defense Agency, the Ministry of Transport, the Ministry of Construction, the Ministry of Agriculture and Forestry, and the Ministry of International Trade and Industry all played specific roles.¹⁴ The Cabinet was supposed to take charge of all these organs and make a study of the master reconstruction plan, as well as to evaluate the results of that plan. In reality, there was no organization that actually performed these tasks. This lack of an overall guiding mechanism created inflexibility in the roles and actions of the various organs within the system.

Moreover, this scheme provided a means for local public bodies with limited budgets – via proposals for large-scale public works reconstruction projects – to lobby for supplementary funding from the central government. In 1971 officials in the Ministry of Construction admitted that a kind of moral hazard termed "disaster anticipation" had occurred with some local public bodies deliberately seizing upon the occurrence of disaster as a chance to implement redevelopment and construction projects.¹⁵

These problems did not come to the fore during the period of economic expansion and political stability. Even without a concrete master plan, the continual increase in economic and population growth prevented any opposition to the construction of infrastructure like roads and harbors. Regional development thus took place in such a context. Local discontent was expressed to LDP local representatives who passed the message up the party hierarchy. Party leaders used their ties with senior officials to extract budget allocations. LDP representatives in local areas and agents in the construction industry formed collusive ties that effectively disadvantaged those not represented in the umbrella of

civilian organizations earlier mentioned. However, as long as economic growth continued, this did not cause problems so severe as to shake the entire structure.

After the Bubble: Japan in Decline

We turn next to the third period marked by a downturn in the Japanese economy and the destabilization of national politics.

In 1992, Japan fell into negative economic growth, and since the number of employees in manufacturing began to decline, a state of recession and deflation began which prevails to this day. The average wage paid by employers and the number of new cars sold within Japan peaked in the mid-1990s and then began falling. In politics, too, the LDP fractured in 1993, and since then a series of shaky cabinets have unsuccessfully tried to maintain control of the government.

Japan's population has also been shrinking since 2006, while its society keeps aging. The average age in Japan was 31.5 in 1970 and 32.6 in 1980; it rose to 44.9 in 2011, and in 20 years' time it is forecast to exceed 50.

The urbanization and decline of local communities accompanied the marginalization of rural regions and the ageing of the population. Immediately following the war, there were a total of 2 million members of local civil fire corps; in 1990 there were 1 million, and by 2013 this number had fallen to 874,000.¹⁶ Their numbers are also ageing.

In 1995, 6,434 people perished in the Hanshin-Awaji quake, which had Kobe City, Hyōgo Prefecture as its epicentre. Thereafter, disasters hit Japan one after another. In 2004 and 2007 the Chūetsu earthquake struck, and 2011 brought the joint calamities of the Great East Japan Earthquake and the Fukushima Daiichi nuclear power plant accident. The rest of this essay details the processes of disaster occurrence, reconstruction, and the problems presented thereby in each of these cases.

The Lessons of the Hanshin-Awaji Quake

This earthquake, which struck in January 1995, has been studied extensively, revealing insights on various issues. Most of them show that the disaster relief scheme completed in the 1960s was incompatible the society which had changed. For 35 years from 1960 onwards, it was a pure coincidence that no large-scale earthquakes occurred. The Hanshin quake was thus a wake up call, highlighting the disjuncture between disaster countermeasures and the realities of disaster.

In this case, the problems of shelter and residences were identified as follows:

1) The damage was concentrated on two social strata. 104,906 residences and 186,175 households were totally destroyed. Over half the dead were crushed under the fallen buildings. Many of these buildings were old structures built before the revised earthquake-proof regulations of 1981. As a result, the poor and the elderly formed a disproportionate number of victims.

2) With the spread of urbanization and residential development in the city, there was no spare land to temporarily accommodate 316,000 displaced victims. The government had to make do with using existing public buildings in the area, primarily educational facilities, for emergency housing.

3) There was no space available to build temporary residences for displaced households, delaying the construction of these facilities. During the earlier period of small-scale disasters, the government-mandated standards for building temporary residences were tightened, making it impossible to construct sufficient housing on short notice. Japan has a provision that only domestic manufacturers that meet government standards are allowed to build such housing. Orders for temporary residences are issued to pre-existing architecture consortiums that have signed disaster construction contracts with authorities in the prefectural office, and imports are only brought in under extraordinary circumstances.

4) A new problem gaining the attention of researchers was the double mortgage burden that falls on the propertied middle class in their 30s and 40s whose housing had to be repaired extensively or replaced. These people, unlike the elderly, were often unable to fully pay off their original home loans and also assume new loans needed to secure new housing. For small business owners who both lived in and worked out of their residences, the damage was especially great. There were many cases of a double mortgage burden, meaning that individuals had to repay loans on destroyed homes, while also repaying loans to rebuild since many people did not have earthquake insurance and those that did found that compensation from insurers is inadequate. The government did not provide relief in such cases because the law specifies that disaster compensation could not be paid to restore personal assets, thus property owners could not directly receive state aid for rebuilding their residences. The only help they could receive was through other kinds of public finance and subsidized rates of interest.¹⁷

5) Addressing the issue in 4), a program of temporary refugee rent assistance was carried out in public and private rental dwellings. 48,300 temporary residences and 42,137 public housing buildings were also constructed. Under the provisions of the Basic Construction Law, the temporary residences would have been dismantled after 2 years, but this was extended to 5 years. However, the average cost of constructing and dismantling one of these houses was about 5 million yen.¹⁸ For people living in temporary residences and receiving rent assistance for public housing, the government's financial burden per household was around 30 million yen, after including the cost of purchasing the land to build the public housing.¹⁹ It has been pointed out that these funds would have been much better used if they had gone to the costs of rebuilding personal residences.

6) The following year, in Hyōgo Prefecture, construction plans for 80,500 public housing lots were drawn up (of which 42,137 were actually built).²⁰ The planned figure comprised 80% of the total number of personal residences that were completely destroyed. As earlier mentioned, the scheme in place from 1961 onwards specified that the amount of government aid granted must be directly proportionate to the amount by which the cost of public works undertaken as part of disaster countermeasures exceeded the financial capacity of the municipality handling these efforts.

7) The construction of public residences was delayed, and the land on which they were finally built was inconveniently located for commuting to urban workplaces. For that reason, there were far fewer applications for residency in those buildings than had been anticipated.²¹ A large number of low-rent public housing units was constructed, which led to an excess in the

supply of rental properties, ultimately becoming an obstacle to the regional economy's recovery.²²

8) Priority was given to applications from the elderly and the poor in filling the temporary and publically built residences. In any case, young employed people did not wish to live in these inconveniently located buildings. Thus, the newly built public housing complexes ended up becoming colonies of the socially vulnerable. A survey conducted by Hyōgo Prefecture in 2002 showed that the percentage of residents aged 65 and above living in prefecture-run residences built as part of disaster reconstruction measures was 38.1%, with 1.9 members per household, and a large number of elderly couples or individuals.²³ This population had a high occurrence of alcohol dependency, suicides and depression. Volunteers from outside the affected areas made frequent visits to alleviate the sense of isolation, but this did not provide a long-term solution.

Further, the following problems were encountered in the course of reconstruction:

1) In redeveloping the disaster-affected area, government reconstruction policy focused on public works projects: the building and rebuilding of the airport, harbour, railroad and road infrastructure, as well as public housing. However, large construction companies from outside the area took on most of these projects, limiting the local benefits of reconstruction. Of the 7.7 billion yen spent on such projects until 1998, about 89% went to entities outside the region.²⁴

2) Employment mismatch occurred. Reconstruction projects concentrated on construction generated temporary jobs for younger workers. However, many of those seeking employment were white-collar, middle-aged people. Because of this, unemployment increased, causing an

outflow of population. The government attempted to resolve this by passing a law requiring companies that handled public-works projects to hire unemployed victims of disasters, but it was hampered by a lack of penalties and had little effect in addressing the mismatch.²⁵

3) The region's industrial configuration could not undergo transition. Kobe's main industrial sectors were in the harbour and heavy industries, which were exposed to competition from other Asian countries. In 1980 Kobe ranked third in the world in the amount of container freight it handled; by 1993 it had fallen to sixth place, overtaken by Hong Kong, Singapore, Kaohsiung and Pusan. Kobe City as a whole needed to transition to a higher level of industrial configuration in this period. However, the reconstruction-works construction sector created artificial demand, and was a factor in derailing such a transition. Meanwhile, the city's existing industries experienced accelerated decline. By 2003, Kobe's container handling volume fell to 32nd place in the world.²⁶

4) The decline of industry and the outflow of population depressed the regional economy and adversely affected small businesses. Taking the GDP of quake-hit areas in 1995 and Japan's national GDP as an index of 100, in 2003 the former stood at 88 and Japan at 103.²⁷

5) Unsuitable redevelopment occurred. In Nagata District, Kobe City, where the shoe industry was concentrated, 80% of related industries were completely or severely devastated. This was an inner-city area with the sobriquet "Street of Widows", comprising single women who rented cheap homes and made a secure living through their diligent labor and dexterous needlework.²⁸ After the fire, a large-scale urban redevelopment plan was implemented, but due to Kobe's overall depression, the new shopping malls did not receive an influx of tenants. Of about 50,000 employees in the shoe industry, about one-third of these lost jobs and left the area. The costs of redevelopment did not produce commensurate returns, and the effort was deemed to have had an adverse impact on the regional society's subsistence capacity.²⁹

6) The redevelopment process insufficiently reflected local residents' desires. The government decided on the original plan and then secured residents' approval as a mere formality. This was one reason why large-scale redevelopment that did not meet the actual requirements of regional society.

7) Some of the public works carried out as reconstruction efforts adopted pork barrel projects dreamed up by the municipal government before the disaster. These were implemented under the umbrella of reconstruction projects and were paid for by the central government. Kobe Airport, built as a "locus of disaster prevention", is an instance of this. Due to the stagnant Japanese economy and fierce competition among airports throughout the country, the actual usage of the airport facilities was far lower than projected, and many experienced deficits. Including this, government expenditure on projects earmarked as requiring disaster relief funds was 16 trillion yen, which, it is estimated, would have amounted to giving 40 million yen to each individual victim of the quake. This vast spending has been criticized for not producing commensurate results.³⁰

Let us now consider the case of an individual who manifests the overall situation outlined above. Seven years after the Kobe earthquake, the 38-year old owner of a local tavern died of liver cirrhosis. His passing was uncounted in the death toll claimed by the disaster. The following narrative is drawn from an essay written in 2011 by a friend, a newspaper journalist.³¹

In February 1995, I went to Kobe and had a long, sober conversation with him. The tavern in the basement had flooded, and he had apparently borne the entire costs of repairing the destroyed electrical systems. "This is my castle. I'll keep it going no matter what." So he asserted, with tears in his eyes.

After two years, the streets acquired a certain degree of repairs and services, city- and prefecture-run residences to facilitate construction began being built in larger numbers, and the number of people living in temporary shelters started decreasing. However, though reconstruction was supposed to be progressing, customers were not returning to the tavern. I spent much time talking to him about the reasons for this.

He did not depend only on his night business, but also sold lunches in the afternoons, and even got a part-time job running post office deliveries in his spare time to earn all the income he could. However, his debts kept piling up, and in 2000 he was forced to close his tavern and separate from his wife and two children. Before shuttering his business, he had not been eating proper meals and had attempted to drown his sorrows in drink, in order to avert his eyes from the mountain of misfortunes before him. One of his regular customers discovered him in a swoon in his tavern, and for a while he had to be hospitalized. After losing his tavern, his drinking intensified. According to his father, his last words were "Why'd it become like this?" Today, almost a decade after his death, I still feel like weeping every time I pass by his old tavern.

As described in the previous section, the disaster counter measure legal scheme was completed in the early 1960s. The scheme was based on continued economic and population growth, and centred on promoting construction projects as the economic growth model of Japan in that time. But these assumptions no longer fit the Japan of the 1990s. The scheme of disaster reconstruction that was dis-functional at Kobe in 1995, caused tragedies like that of the tavern.

Disasters and Reconstruction in Japan in the 2000s

Heretofore, the Japanese government pursued a policy of redeveloping disaster-hit areas through constructing temporary residences and public-works facilities, while refraining from providing assistance to individuals. However, after the massive damage caused by the Kobe quake, movements demanding a legal system to provide direct relief to victims emerged from outside the central government.

Soon after the quake, Hyōgo Prefecture began investigating provision of direct assistance to victims through a fund for rebuilding residences, and in 1997 a proposal for a system of emergency livelihood assistance to disaster victims was presented at a meeting of the National Governors' Association. Under this plan, a movement to lobby the Diet was started. It garnered over 25 million signatures and presided over the formation of a trans-party association of parliamentary representatives. The broad-based citizens' movement that grew up around Kobe, worked in sync with this association. This group raised objections to the basic reconstruction scheme conceived by the Japanese government.

In 1998, the Act Concerning Support for Reconstructing Livelihood of Disaster Victims was passed. This provided 1 million yen as living expenses for households whose residences were completely or severely destroyed. However, households with an annual income of over 8 million yen were ineligible for this aid. An annual income of 8 million yen puts households into the upper-middle income class bracket in Japan, but this group was burdened by the double mortgage burden of debt (paying off existing loans and new loans to rebuild damaged residences) so that the income ceiling on assistance hit an already hard-hit group of survivors.

Revisions to this plan, made in 2003, provided a maximum of 2 million yen for costs incurred in dismantling damaged buildings and clearing land to build new ones. However, the costs of rebuilding residences themselves met with resistance from the Ministry of Finance and were thus jettisoned from funding. In the revised guidelines of 2007, restrictions on usage and income limit were abolished, and the funding ceiling rose to 3 million yen. But in Japan, this was widely considered to be completely insufficient for rebuilding residences.

Moreover, a second change occurred in 1998 with the passage of an NPO law (the Act on the Promotion of Specified Non-profit Activities) that promoted specially designated non-profit activities. Until then, administrative approval to acquire the status of an NPO in Japan had been necessary. Even after gaining this status, the relevant government agency would often step in to steer the activities of the organization, which restricted what its members could do. In response, a citizens' movement demanding a legal status that would allowed greater freedom to conduct NPO activities emerged. On the other hand, the orthodox government-sanctioned groups – that is, neighborhood associations (*jichikai*) and civil society organizations (*chōnaikai*) – lost influence due to the greying of their personnel and members, and also due to an increase in the population that did not participate in community life.

The Kobe earthquake garnered widespread media coverage, and a spontaneous welter of volunteers from outside the region poured into the city. Yet the municipal government and orthodox civil society organizations lacked suitable experience and knowledge to organize the influx. Instead, non-governmental organizations supported the volunteers and drew attention to their efficacy. Through this experience, an NPO law was established after the quake, and helped to galvanize the formation and activities of non-governmental organizations.

However, from another angle, it is hard to say that the lessons of Kobe have been actively practiced. One reason for this is that Kobe's experiences were not widely shared. Though Kobe's industries had deteriorated, only its streets were rebuilt, turning it into a residential suburb for the nearby urban center of Osaka. For that reason, the damage it suffered was not obvious, and the phenomenon of the marginalised elderly in its temporary residences was reported as an isolated tragedy, thus limiting structural understanding of the issue.

As earlier described, entering the 21st century, disasters have been occurring frequently in various parts of Japan. Most of these disasters struck villages in rural areas. Many of these places had already been experiencing a decline in their agricultural and fishing sectors, an ageing population, and a lack of industries other than public works construction. The construction industry employs about 8% of Japan's labor force in 2013, fostering a tendency to favor public-works projects.

Due to the ageing population and depopulation, many areas have become "marginal villages". In a national survey conducted in 2006 by the central government, villages with more than 50% elderly residents (aged 65 and above) were 12.7% of the total, while 4.7% of villages were unable to maintain their administrative functions because of these trends. Many such areas, because of the decline of regional society brought on by population ageing, are especially vulnerable to disasters.

The 1961 scheme for disaster reconstruction was implemented in these disaster-stricken areas from the 1990s to the 2000s. Okushiri Island, Hokkaido, had its fishing harbor damaged by a tsunami in 1993. Its population of 4,700 received a total of 76 billion yen for infrastructural projects such as repairing the harbor, constructing breakwaters, and building elevated residences. But by 2011, the population had dropped to two-thirds of its pre-disaster level, while the number of fishing cooperative members decreased by half.³² Many locals, even those who were fishermen in name, had turned to construction work to make a living.

Presently, there is a wealth of restrictions on the possible uses of subsidies given by the central government to assist in disaster reconstruction. Most of this money is limited to the construction of public-works facilities, with little room for discretionary spending by local public bodies. Administrative offices of local public bodies tend to go along with the intentions of the central state, and there are insufficient channels for local residents to participate in reconstruction decision-making. Many cases are implemented exactly according to the original administrative plan. Local politicians and construction companies thus tend to support these large-scale public works projects.

Again, as observed above, according to legal regulations, a large amount of central government aid is given to local public bodies with weak finances that undertake costly public-works projects. In Yamakoshi Village, a casualty of the first Chūetsu quake in 2004, the central government bore 99.8% of its disaster reconstruction projects undertaken that year.³³ Because large-scale public works provide short-term employment, local residents of an affected area tend to welcome such initiatives rather than sustainable recovery projects carried out on a smaller scale.

However, the maintenance costs of the public facilities that are built through this scheme must be borne by the locality, and this eventually causes municipal finances to worsen. It goes without saying that this also strains the central government's finances. Japan's central and municipal government debts have soared to 2.4 times GDP.

Moreover, the reconstruction aid given under this scheme frequently obstructs the recovery of the trades in the disaster-hit area, and ultimately

results in warping the industrial configuration of the region it is intended to help.

For instance, take the case of Ojiya City, which was hit by the Chūetsu quake in 2004. The rate at which local industries resumed operations was as follows: 24% after 3 days, 83% after a month, and 100% after 5 months. However, material support and uncompensated volunteer labour continued beyond the emergence period, and this became an obstacle to the full recovery of local businesses in the retail, food and beverage and service industries because of continuous influx of free foods, goods, and labour service such as barbers. On the one hand, the manufacturing sector was mostly unaffected, and 40% of the sales in construction were in disaster-related projects. An overall view of industry in the area also shows that corporations with more employees had a faster recovery rate³⁴. In short, manufacturing industries did not have to compete with free aid goods or volunteer labour, construction businesses received big orders, and big companies generally recovered with relative ease.

The fact is that, given Japan's social structure and its established scheme of disaster countermeasures, small-scale industries in retail, food and beverage, and service are especially hard-hit by disasters, whereas major construction companies reap large benefits. Given this, it becomes clear what kind of industrial structure this brings about, and how the regional economy is affected. Monopoly and dependence on public construction work, in other words, loss of subsistence of local society and dependence on central government, drain youth who leave for big cities.

Nagata District in Kobe faced this situation. In 2007, Nagata's shoemaking industry recovered 80% of pre-disaster production sales. However, related companies only recovered by 60%, and employment dropped by half.³⁵ The hollowing-out of small-scale industries, corporate mergers and relocation of factories to overseas locations constitute a powerful riptide for local economies that is not addressed by reconstruction efforts. Nagata District originally had a large population of elderly, single women who ran small shoemaking shops; the average age of its residents was 51, and 66% of its lower and lower-middle classes earned a total household income ranging from less than 2 million to up to 5 million yen respectively.³⁶ Consequently a not insignificant number of people who lost their occupations and dwellings needed temporary residences and welfare to survive.

Furthermore, in the second Chūetsu quake of 2007, Niigata Prefecture's nuclear power plant suffered severe damage. However, TEPCO kept the circumstances of this incident secret and lessons from the accident were not widely disseminated.

In the midst of all these issues, the Tōhoku area was assaulted by a massive earthquake and tsunami on March 11, 2011. As mentioned earlier, however, this essay sets aside the effects of the meltdown at the Fukushima Daiichi nuclear power plant and confines itself to a discussion of reconstruction efforts related to the damage caused by the tsunami.

Sanriku's Stagnant Recovery

The main issues arising from the Sanriku disaster now are not fundamentally different from those raised by the Hanshin earthquake in Kobe, discussed. These are: the tardiness of constructing temporary shelters, the path-dependent nature of 1961 schemes for disaster relief, and the overreliance on large-scale construction implemented in a top-down fashion.

As mentioned at the outset of this essay, about 110,000 people in the Sanriku area were still living in prefabricated temporary residences more than two years after the disaster. But the Sanriku climate is not temperate like Kobe's; it is sweltering in summer and freezing in winter, so that shelters originally designed for temporary housing require upgrades, especially winterizing with insulation for warmth and to protect water pipes from freezing. Therefore the costs of building one temporary residence, with this additional construction included, rose to about 7,440,000 yen. Even so, many of these prefabricated shelters – with a projected use of about two years – are already experiencing rotting floors and mould growth.³⁷

In addition to the 3,000,000 yen set aside for each household in the Sanriku region, following the Act Concerning Support for Reconstructing Livelihood of Disaster Victims established after the Hanshin quake, there were municipal contributions to the support fund of 2.5 million yen per household. When this is added to the construction costs of a temporary residence, 7.5 million yen, each household thus requires a budget allocation of 13 million yen. If the government built a permanent residence or provided aid for refugees directly with the same funds, in the words of the mayor of Ōtsuchi Town in Iwate Prefecture, "that would have been the best kind of assistance".³⁸ The reason this was not done is due to the aforementioned path-dependent nature of disaster countermeasures. Japanese governmental aid must be used to construct public works, including temporary residence, not to create private assets.

³⁹ Based on these guidelines, cities, towns and villages inside the disaster-hit area of the prefecture began applying to the central government's Great East Japan Earthquake Reconstruction Fund, established in December 2011 for reconstruction financing.

Seawalls are cubic structures. In straightforward calculations, raising the height of a seawall by three times entails enlarging it by twenty-seven times its previous size. However, increasing the height of an existing seawall is regarded as repairs on extant infrastructure, rather than a new construction project. For this reason, the environmental assessment regulations imposed on newly-implemented public works projects were ignored. This raises concerns about the impact of seawall constructions on the region's fisheries and the environment.

Furthermore, building seawalls and levees on the plains through which the small inlets flow reduces the surface area on which residences can be built. For example, the Tadagoshi District in Kakuwa Peninsula, Kesenuma City, Miyagi Prefecture, is slated to have a levee along its banks and rivers 11.3 meters in height, and a landfill 4.5 metres wide along its coast. If this plan were to be implemented, it has been calculated that 39% of the area of the designated flood zone (in fact all of the plain zone where something can be built) in the Tadagoshi District would be covered with concrete as part of the levee structure.⁴⁰ The area remaining for residences and industries would consist of mere packets of land, standing out like cavities in a surrounding blanket of mountains and levees.

Until such construction ends, the plains will continue to be designated danger zones, where the building of residences is barred. For construction to occur, the collective and private consent of the refugees who lived in the area has to be obtained, and privately-owned land has to be bought by public authorities. Only after such negotiations are completed can building begin – but the number of years required for this to occur cannot be estimated. In the meantime, the former residents of the area must continue to live in shelters built for temporary residence.

There is also the option of leaving the temporary shelters drawing on one's own resources. Those who choose this route can purchase land and a residence in a new location. This may, however, leave some people with a dual burden of mortgage for a new home as well as repayment of loans taken out on the home destroyed by the tsunami. The government does not in principle provide public assistance for managing private assets, with the exception of some provisions to assist with interest payments. If there is a population exodus while the

region's industries have yet to recover, local revenue will decrease. Towns and cities in this situation may not be able to bear the costs of maintaining the infrastructure built as part of reconstruction works. The 2012 revenue of Minami-sanriku Town in Miyagi Prefecture, for instance, declined by 61% from before the earthquake.

In the case of small inlet settlements, if their residents move to higher elevations, the seawalls and levees built there will mostly be protecting roads and farmland. Even before the earthquake, there were a considerable number of deserted farms, the result of population decline and ageing. Many residents of such places wonder why the relevant public authorities are fixated on seawall construction in areas that have become unliveable.⁴¹

Moreover, the administration is not making residents' options clear to them. Consider, for instance, the case of Ogatsu District in Ishinomaki City, Miyagi Prefecture. An opinion survey was conducted there from October to November 2011 by a bureau of the Ishinomaki City Office on moving residents to higher elevations. The first question in this survey asked, "Where do you want to live?" and the options available as answers consisted of the following: 1) Ogatsu District; 2) Outside Ogatsu District; 3) Undecided. After this question appeared the statement that "For people who choose options 2) or 3), the survey is finished."⁴² Those who were considering living outside the district were thus unable to participate in the survey.



A view of Ishinomaki after the tsunami

A question-and-answer session hosted by Ishinomaki City Office was held in Ogatsu District from November to December of 2011. The reconstruction plan unveiled by the city authorities involved a combination of components: moving residents to higher mountain sides far from their original working place, land purchase, and the building of infrastructure such as seawalls, levees, landfills, embankments and sports facilities. Since this was the first time such plans had been revealed to a majority of the residents, they raised many questions.

The reconstruction plan for Ogatsu District – with slight modifications – eventually earned the consent of its residents. In June 2012, the residents of a village, including the people of Ogatsu District, met with the officials from the city office in a televised discussion.⁴³ The statements made by residents at that session revealed that this was the first occasion where people who had lived in the same district, and who had been dispersed across temporary shelters in various areas, were able to gather in the same place. From the administrative delegation came a statement to the effect that, if Ogatsu District did not endorse this plan, it would be "forgotten" by the central government and prefecture. In other words, it

would lose governmental assistance. A hearing to clarify the collective decision was thus held at the meeting. Some residents were doubtful about whether the decision should be made in this setting under duress, but a vote was taken and a majority voted in favor of the plan.

In this way, the residents' official consent was obtained. But from October to November of 2012, an opinion survey conducted by the administration found that just 36% of residents planned to live in Ogatsu District after it had been rebuilt according to this reconstruction plan. Regarding some settlements, the figure was less than 10%.⁴⁴

The residents who consented to the plan included those who intended to sell the land they owned to the city government and use the resulting compensation to move out of the district. Since it was unclear how many years it would take for the reconstruction plan to be realised, and since they would not be able to build residences or conduct commercial activities till then, one can hardly fault residents for such intentions. However, these considerations indicate that the public works in Ogatsu's proposed reconstruction, starting with the seawalls, will be built for a place where most people do not intend to live again.

The majority of people who expressed a desire to live in Ogatsu again after reconstruction are elderly. The total population of Ogatsu before the earthquake was 4,300. The November 2012 survey mentioned in the preceding paragraph shows that the future number of residents is set to decrease to 1,565.⁴⁵ But as these statistics become known, the number of people willing to return to Ogatsu will probably decrease even further.

The troubling question is whether it is possible for villages or towns in this situation to continue existing. Already, municipal bodies within the disaster-hit area are witnessing large drops in income due to population outflow and the loss of their industrial bases. According to a report in May 2012, the income of Minami-sanriku Town in Miyagi Prefecture is only 39% of what it was before the earthquake, while the towns of Ōtsuchi and Rikuzen-takata in Iwate Prefecture are drawing revenues around 45% of their former levels. The probability that municipal incomes will shrink even further is high.⁴⁶ There are abundant supplementary funds available to offset the costs of reconstruction of public works, but there is ample concern about the funds needed to maintain normal administrative services. Yodokawa Yutaka, the mayor of Ōtsuchi, has gone to various places to seek donations for his town, stating that the money required is not for public facilities but for the ordinary costs of everyday administration.⁴⁷

In villages with a high proportion of elderly residents, municipal income may drop even more precipitously. A tragic situation may well arise, depending on the total spending of the local administration on welfare services for this population.

Some residents have opposed such plans for reconstruction. The residents of the Isatomae District in Minami-sanriku Town have petitioned their town council pleading for a reconsideration of the plan to construct seawalls. Their letters included statements casting doubt on whether an 8.7 metre-high seawall is really necessary in the district if people can no longer live there, along with concerns about how the construction would affect marine life if it proceeded. In November 2012, the town council with a majority of votes in favour of it.⁴⁸ It is rare that the town councils of Japan urge the prefectural or central governments to reconsider public-works construction projects.

There are also cases where residents came up with a plan of their own in opposition to the administration. Mouné District in Kesenuma City is a small fishing community where forty-four out of fifty-two households lost their homes to the tsunami. A month after the earthquake, twenty-six households made a plan of their own to move to a nearby elevated area. It gained the support of all the area's residents by March 2012. Then, before the city office administration made the first move to notify residents



Residents of Minami-Sanriku carry relief goods in the wake of 3.11

about reconstruction plans, in April 2012, residents of Moune district called a meeting with city and prefecture offices.⁴⁹

At this meeting, the relevant authorities of Miyagi Prefecture and Kesennuma City, together with the city councillors and the area's residents met for a question-and-answer session. At this time, the administration announced their intention to build a 9.9-metre high seawall in the Moune District, asserting that even if the district's residents moved to a higher elevation and the low-lying lands became uninhabited, the seawall would still be needed to protect roads and other public property. The Moune residents filed a petition for the seawall construction to be scrapped, which they submitted to Kesennuma City in June 2012. At present (October 2013), it remains unclear whether the plan will be withdrawn.⁵⁰

Misallocation of resources is only part of the problem of stagnation that besets the Sanriku Coast. Consider the case of Ishinomaki City in Miyagi Prefecture; it has a population of about 148,000 and a surface area of 555 square kilometres. It is the second largest city in Miyagi Prefecture after Sendai. In the centre of its old urban district is the Kitakami River delta, and the town has flourished as a transport hub for rice since the Edo period (1600-1868).

The city grew to its present size following the administrative merger of 2005. Six towns in the surrounding areas of mountains and fishing communities were absorbed into Ishinomaki to form the new municipality. Before the merger, Ishinomaki City's surface area had been 139 square kilometres, and its population about 120,000 people. Afterwards, its area increased by four times, while its population grew by 1.5 times.⁵¹ The merger created a dispersed municipality that included numerous villages with small populations from the mountains and fishing areas.

The topography of the central portion of Ishinomaki is divided into three strata: low-lying plains, a central plateau, and a higher elevation. The delta created by the Kitakami River constitutes the first strata, which is also a coastal area that is surrounded by mountains. This low-lying area is also an industrial belt, equipped with factories for paper, seafood processing, harbour facilities, and residences for workers. The middle stratum holds the old urban district, with railway stations, city administration offices, fish markets, and shopping streets. Finally, the third strata in the mountains is a newly-built space with modern institutions such as shopping malls, large-scale roads, suburban residential areas built from the 1990s onwards, and the Ishinomaki Senshū University established in 1989.

The low-lying plains received the most damage from the tsunami, losing almost all buildings. The middle plateau bore some damage, and though it retained its buildings, they were covered in piles of mud and debris, making them unfit for use. By comparison, the higher elevation remained untouched. The volunteers and aid groups, largely from Tokyo, made Ishinomaki Senshū University into their base, and began stockpiling relief resources there.

Right after the earthquake, in April 2011, I conducted an observation of Ishinomaki City with the guidance of an aid group. In the urban area within the middle plateau were scattered the remains of broken cars and buildings, while the seafood processing plants in the low-lying delta were choked with debris mixed with a large quantity of stinking, decaying fish. While the aid group distributed relief materials to the refugees, the volunteers organised themselves and bailed out the mud from the buildings without causing further damage.

When I visited again in April and August 2013, the mud had been completely cleared away. However, reconstruction had not progressed. The coastal low-lying areas that held the industrial belt were designated danger zones with restrictions on construction, leaving abandoned houses and vacant lots. Industrial facilities not used for residential purposes were allowed to be constructed, so a portion of businesses had recommenced operations, such as the paper-making factory, which had restarted from August 2012. However, because of the delay in implementation of reconstruction plans such as the building of seawalls and landfills, no progress had been made in obtaining the consent of the residents to be moved, or on the purchase of private land. Given the lack of progress in implementing a redevelopment plan, the recovery of the area's industrial base has also been delayed.

The businesses in the old urban district of the middle plateau, lacking a restored industrial base, are like flowers without roots. The shuttered windows of stores and empty sites stand out. The main road that stretches from the railway station to the city centre has acquired a statue of manga characters that were created by an artist born in Ishinomaki, as one arm of the municipal efforts to revive the economy. However, there are few people around.

On the one hand, the higher elevation, with large roads and shopping malls, is becoming the new centre of Ishinomaki. Former residents of the low-lying and middle strata, as well as from places in surrounding villages such as Ogatsu District, which was earlier mentioned, are moving to newly-built residences in the higher elevation. The shopping malls are filled with customers from surrounding fishing and farming communities, who travel there by car. One reason for the increase in people going to the elevated land is that the rail service that leads to the old urban area was not restored until October 2012.

[Ishinomaki reconstruction plan](#)

Land prices in the high elevation zone are soaring. Prime Minister Abe Shinzō, who had assumed power from the end of 2012, carried out a policy of large-scale monetary easing. Rumours abounded that this was stoking speculative land purchases. If true, such processes would obstruct refugees' moving to higher elevations by spurring inflation in those areas, Ishinomaki included.

Although the recovery of the region's industrial base was delayed, unemployment was not high due to reconstruction work. The fisheries and seafood processing plants have reopened, but wages in construction are higher, so most places have not attracted a critical mass of workers. Not a few fishermen have switched occupations to become construction workers. However, the economic benefits of the construction industry are not long-term. Many young people, facing insecurity about their futures, have moved to Sendai or to Tokyo.

Simply put, the harbour town formerly centred on fishing and seafood processing is turning into a suburban residential area that revolves around construction. These changes were already taking place prior to the tsunami, but the reconstruction projects are accelerating this process. Another factor causing shifts to happen faster is an ageing population that is also declining. According to the Ishinomaki city office, the population of the old Ishinomaki city area before the merger of 2005 declined to 10,400, down 8% from October 2010. The decline of

population of merged areas including Ogatsu district is greater.

⁵² The tsunami has speeded up this process. Ōtsuchi Town in Iwate Prefecture had lost 15.6% of its population seven months after the earthquake, by October 2011. The town's mayor has said that his town has no way of stopping the population outflow, and that the town is at "the crossroads of existence or perish"; furthermore, the age of a falling birth rate and ageing population had descended thirty years in advance on Ōtsuchi.⁵³ (Kahoku Shimpō 2011)

Social Structures as Contributing Causes

The primary reason why reconstruction has ended up in this state is the path-dependent nature of the existing scheme for disaster countermeasures. There are several reasons for this. The first is that regional politics and regional economies have become over-reliant on public-works construction. As mentioned earlier, local public bodies succumbed to the tendency of "disaster anticipation" in order to receive supplementary funds to develop their local infrastructure via disaster reconstruction works. The recession that set in from the 1990s and the construction undertaken in an attempt at economic stimulus in various localities created a structure that facilitated the spread of this system. In the 2000s, the central government reduced its funding of public-works projects due to a financial squeeze; however, this led to the collapse of the LDP regime in 2009 partially due to growing discontent with regional economic stagnation.

The 2011 tsunami and earthquake provided a fantastic excuse to revive public-works construction on a large scale. The LDP, returned to power in the general elections of December 2012, appears to have decided to carry out public-works construction under the heading of disaster prevention in order not to repeat the "failure" that cost them their mandate; this policy was decided in disregard of the dire fiscal situation. The LDP, in May 2013, submitted a proposal to the Diet for investing in the construction of infrastructure related to disaster prevention. This was the "Basic Law for Strengthening National Resources By Contributing to Disaster Reduction and Prevention"; the law is to be implemented over a ten-year period, at a cost of 200 trillion yen.

Secondly, if city and town administrators buck the will of the prefectural and central governments, they are in danger of losing their supplementary funds. In particular, as tax revenues have fallen dramatically following the earthquake, these towns have become especially reliant on central government reconstruction assistance. According to a news report in May 2012, Rikuzen-takata City in Iwate Prefecture lost 55% of its tax revenue after the earthquake, but its budget for the year increased by six times thanks to relief funds for reconstruction provided by the central government.⁵⁴ In any case, there were many cities and towns whose autonomous income from tax revenue, minus supplementary funds, constituted only about 30% of their total budgets. In this situation, with the halving of tax revenues and the scaling up of the total budget to six times its previous size in purely quantitative terms, Rikuzen-takata's total tax revenue would not constitute even 3% of its new total. Given this, it is surely difficult to see how municipal offices would protest the reconstruction plans made by prefecture office and central government.

Even if the administrative budget of local public bodies runs a deficit, expectations that this will be reversed with central government funds may give rise to a state of moral hazard. This reflects a history in which local public bodies were not locals' self-governing organizations, but were the product of the strong nature of central government branches in the locality. With 70% of local budgets coming from central assistance, it is entirely understandable that local public bodies would have a weakened sense of responsibility toward their finances. This situation, which reflects this aspect of local public bodies, is compounded by the relative weakness of the participatory inclinations of the residents.

Moreover, most employees in city and town offices have not been involved in large-scale redevelopment schemes, and lacked comprehensive knowledge of such measures. Yet the employees of disaster-hit cities and towns were suddenly tasked with carrying out precisely such schemes, via a vastly increased budget and administrative tasks in the midst of disaster countermeasures. Given this, it would be far from surprising if these employees had simply followed orders from their superiors, mechanically carrying out their tasks. The reconstruction plan ended up being similar in every locale due to a manpower shortage everywhere. This situation has led to a "copy and paste" approach toward the basic plan of the prefectural and central governments in the localities affected by the disaster.⁵⁵

In June 2013, Shindō Yoshitaka, the Minister for Internal Affairs and Communications, came to inspect the Tōhoku region, where he also held a press conference. It was reported that he made the following statements about the state of employees of the local public bodies in the disaster-hit areas: "There are not enough of them. We are requesting personnel dispatches from municipalities the whole country over, including from business associations". Furthermore, he stated that, "The scale of the budget for disaster-affected municipalities has ballooned by a factor of ten. In order to facilitate reconstruction, ascertaining manpower supply is of critical importance."⁵⁶

At the start of this essay it was mentioned that a 45-year old employee from Takarazuka City in Hyōgo Prefecture, dispatched to Ōtsuchi Town in Iwate Prefecture, had committed suicide in January 2013. That staff member had formerly worked in the Urban Planning section of the Takarazuka city hall. While in Ōtsuchi, he conducted opinion surveys on land readjustment and shifting residences. His responsibilities included persuading the town's residents to move away from where they had lived before, in line with redevelopment works that included levee construction and relocating people to higher elevations. Again, right before he killed himself, the employee is reported to have lamented the difficulty of working in an area affected by the disasters of 2011; he had given it his all, he said, but had no idea whether what he was doing really was of any assistance to the people he was serving.

I reiterate the observation that most civil servants in Japan are not corrupt, indeed many are devoted to their occupations. Before he killed himself, this particular employee had worked 80 to 90 hours of overtime for two months. Ōtsuchi Town had lost 20% of its municipal employees in the five years after the administrative merger of 2005, and another 20% more from tsunami-induced deaths. For that reason, personnel dispatched from external organisations constitute 40% of its administrative staff. It is reported that he had left the following written message: "Thank you, everyone. Ōtsuchi is a wonderful town; *ganbare (Hang in there) Ōtsuchi!!*"⁵⁷ One can infer that this employee felt severe anxiety about the work he was tasked with doing. Yet lacking authority or leeway to re-examine the project he was supposed to contribute to, he finally killed himself after intense overwork.

This is the face of overwork leading to lack of rational thinking and path-dependence. The man in Ōtsuchi ended up taking his own life in this vicious cycle. This, unfortunately, symbolises the current situation of the areas affected by the disaster.

Every project needs to be planned in light of available manpower resources. Nevertheless, administrative personnel had been reduced. If a project is so huge that it requires budgets and personnel ten times previous levels, the plan should be reconsidered. Local residents already voiced their desires: they felt that the restoration of the pre-disaster seawalls would suffice, as would the earmarking of their municipal budget to rebuild their livelihoods, especially given the strain on the national finances

But many in the local administrations of the disaster-hit areas are of the opinion that the present plans should be shored up in order for reconstruction to proceed faster, even if there are problems with the current situation. Because of overwork, it is likely that administrative personnel are unable to listen to questions and critiques that point to a reconsideration of the plans they are already working with. From their perspective, it is precisely because they are already exerting their best efforts that constructive criticism cannot appear as anything but unhelpful opposition. Even residents critical of the plans, exhausted by life in the shelters, may desire that reconstruction go ahead as quickly as possible, regardless of what is entailed. Researchers familiar with the disaster sites have noted that, when residents are told by their prefectural governor and administration that urban infrastructure cannot be built without first constructing seawalls, this creates a situation where even those who question the need to build the seawalls are unable to raise opposing views.⁵⁹

Fourth, the will of residents is not reflected in decisions of the administration. This tendency has become glaringly apparent since the merger of 2005. Take, for instance, Ishinomaki City, which absorbed five towns that were in turn agglomerations of fishing and farming collectives. These towns lost their mayors and town councils by merger, and came under the administration of branches of the Ishinomaki City Office. The reconstruction plans were decided by Ishinomaki's City Office and its city council, and passed down to the various communities through the branches in the towns. Ishinomaki City re-hired some of the employees of the towns that were absorbed in its branch office, but after the merger the city cut 15% of its staff, mostly in the branch offices. The Oshika District, a collection of small fishing villages, had only 4% of its pre-merger staff at the time of the earthquake.⁶⁰

There are several reasons why the protests of local residents did not result in large scale movements in this situation.

First, even if elements of the reconstruction plan did not make sense, it was backed by ample funding. The central government continued to add extra facilities, creating plenty of jobs in construction. It is difficult to oppose a plan presented by the government, but easy to request money in the guise of promoting the reconstruction project.

In this current reconstruction project, too, each locality has formed "urban construction councils" comprising the settlement chairmen, the heads of fishing cooperatives, the power-holders of local industries and other influential agents. First those councils carry out negotiations with their administrative authorities and then hold question-and-answer sessions for the residents they represent; however, "explanation sessions" where no substantial exchange of opinions is carried out are the norm. Even if individual residents have dissenting ideas, it is hard to give them momentum. Communities such as the Moune District that request that the reconstruction plan be scrapped are in the minority. Often the person in charge of the local meeting is an elder, and many elders in the community give him a stable base of support. Young people and others who feel at odds with this end up in a situation where it is easier to move away to urban areas than to change the direction in which their present community is going.

At present, in disaster-hit areas, the notion of "respect for human life" is being used to justify everything that happens. Whether it is the construction of seawalls, embankments, or shifting residents to higher elevations, plans that allow no leeway for questions are facilitated and implemented in the name of "respect for human life". It is precisely this idea that makes it difficult for local residents and the mass media to publicly critique the reconstruction process.

In reality, out of "respect for human life," temporary shelters meant to be pulled down are being built complete with fittings for the winter season, to the tune of a costly 7.5 million yen per household. If even one refugee dies because of a lack of proper insulation in the shelters, all the justifications will crumble. Even if it would be more rational to use this money to help the refugees build new permanent residences, the government's policy is not to use public funds to help individuals acquire personal assets.

Despite facing a similar situation, Kobe managed to make progress in rebuilding its urban landscape as a suburban area of Osaka. But Japan's economy, compared to fifteen years ago, is fatigued, and the Sanriku coast is facing marginalization and an ageing population more intensely than Kobe did. At this rate, a ghost town covered by the concrete of public works may arise. Even so, "respect for human life" will have been served. After all, nobody dies in a ghost town.

Conclusion

Disasters are the process of the collapse and restructuring of the framework of a local society. The issue at stake is arguably the extent to which reconstruction can be implemented without harming the affected region's capacity for autonomy and subsistence.

From an economic perspective, reconstruction aid is a large-scale gift, such as free goods and free labor. Gifts from others can provide an opportunity to expand market-based trade with the outside world. This potentially revitalizes the local economy and at the same time it potentially democratizes local politics. If these things happen, we can say that reconstruction has achieved a sufficient level of success. But the deeper the dependency of disaster-affected communities on external sources of support, the greater the tendency to implement top down planning that ignores local preferences.

If gifts and other forms of aid are inappropriately given, this creates a dependency situation and a subsidy addiction. This in turn impedes the recovery of trade in the affected area, and ultimately damages the autonomous nature of the local economy. The increase in trade with the outside world may lead to deterioration of industries in the affected area and nurture a power relationship where outside forces dominate, causing an outflow of jobs and population. Moreover, if relief is carried out under the auspices of pre-existing power-holders in the area, causing inequities in aid distribution and the strengthening of predominant forms of authority, democratization suffers.

Japan's 1923 Great Kantō Earthquake was an instance of an urban disaster that occurred in a developing region. The number of deaths from fires reached a peak of around 142,000, and the damage was concentrated in the urban-dwelling lower classes. However, the stratum that had lived in rented housing moved out to the suburbs, and the disaster also served as a good opportunity to implement a large-scale plan of urban development. Disasters that take place in a developing country inflict devastating losses in terms of human lives, but through redevelopment and inflows of aid from external sources, there is a large potential for economic growth to take place. In Japan, the scheme that was established after 1961 turned this success into a system. The country also witnessed rapid post-disaster economic growth, as in the case of Nagoya City after the 1959 Ise Bay typhoon, as mentioned.

However, from the 1990s on, this scheme grew increasingly unsuitable. A growing number of cases appeared which experienced low cost performance of infrastructure building, and where this scheme in fact damaged the subsistence capacity of the regional society, causing a dependent relationship with external sources of aid and an increase in population outflow. Even now Japan remains locked into this path-dependent scheme for recovery, which has led to a ballooning fiscal deficit and an overall public debt to GDP ratio of about 240% as of 2013.

Other Asian countries might envy Japan's problems precisely because financial support for disaster reconstruction is generous, administrators apparently fulfill their responsibilities beyond the call of duty, communities develop a strong sense of unity, and there is a stable political

structure. . However, as we have argued, Japan's reconstruction has been characterized by a spirit of compliance with top down guidance and rigid guidelines that ostensibly value "respect for human life". The lurking reality requires us to question the benefits of this approach and ask the fundamental question, at what cost?

The Sanriku disaster area shows how resources have been squandered due to the path dependency of an approach that took root during the epoch of economic growth. Reconstruction cannot escape this path dependency because no leeway has been allotted for reflection and reconsideration. As a consequence, Japan has accumulated a swelling fiscal deficit, and people are abandoning their hometowns. This situation is a portrait in miniature of Japan today: trapped in the mire of past success, groaning under the burden of economic slump and the fatigue of overwork. Nevertheless, Japan possesses the potential to improve this state of affairs via a reconsideration of how to utilise its extant resources and experiences."

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Recommended citation: Oguma Eiji, "Nobody Dies in a Ghost Town: Path Dependence in Japan's 3.11 Disaster and Reconstruction," The Asia-Pacific Journal, Vol.11, Issue 44, No. 1, November 4, 2013.

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