

Chapter 47

Building back better and housing recovery: learning from international comparisons

Field of expertise: Housing, disaster recovery

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Summary

Japan has used similar programs to provide housing recovery support for the life recovery of disaster survivors, after previous disasters from the 1995 Great Hanshin Awaji Earthquake and onward. Facing the large scale devastation after the Great East Japan Earthquake and tsunami, temporary and permanent housing projects included several new approaches that encompass the ideas of building back better for survivors, which have the flexibility to support the needs of all survivors and their choices, continuity in the housing recovery process with no gaps, and long term community sustainability. The Sendai Framework for Disaster Risk Reduction, the international guideline established in 2015, also emphasizes building back better, along with the importance of a people-center housing recovery process. Some of the novel approaches that were part of housing recovery after the GEJE are also similar to housing recovery programs after disasters in other countries.

Keywords: Build back better, housing recovery, people-centered housing recovery, life recovery, recovery with continuity.

Introduction

Even with Japan's long history of disaster and past experiences with reconstruction, community and housing recovery after the GEJE was a vast, and complex challenge. Building back better does not just mean safer and stronger, but also housing that supports the holistic recovery of the lives of disaster survivors, which is shown in several approaches after the GEJE, and similar international cases.

1: Problems revealed by the Great East Japan Earthquake

What happened

Japan has a long history and experience of disasters caused by natural hazards, including many earthquakes and multiple tsunamis. Japan has established policies to support the reconstruction of housing after disasters, which is very important to support the life recovery after disaster survivors. Housing recovery after the GEJE was challenging because of the large number

of new houses needed, but also because of the varied conditions of affected communities, and the long time that people were displaced while waiting for permanent housing.

The GEJE and tsunami was a mega-disaster on an international scale, similar to other disasters such as the 2004 Indian Ocean Tsunami, 2006 Hurricane Katrina in the United States, and 2013 Super Typhoon Yolanda in the Philippines. Although disaster survivors share the need for housing recovery as a foundation for life recovery after a disaster, housing reconstruction projects vary from country to country. Some aspects of Japan's housing reconstruction programs are unique, based on the Japanese legal system and recovery precedents. Yet, there are also several similarities in innovative housing recovery projects that are shared across cases in different countries.

The reality of the damage

The Great East Japan Earthquake and tsunami caused nearly 20,000 deaths and missing people in the affected area, and 470,000 people evacuated from their homes. Many houses were partially or completely destroyed by the tsunami, and because of the nuclear meltdown at Fukushima Daiichi Nuclear Power Plant, many more people had to leave their homes, often moving multiple times, and staying in evacuations for many years. Even almost 10 years later, there are still 43,000 people who are still living in evacuation. After the severe tsunami damage in 2011, recovery programs for affected municipalities included a lot of collective relocation programs, as well as large scale modification of the townscapes, such as raising the land area or cutting into the mountains, and building extensive infrastructure projects such as massive sea walls, as well as new roads, highways, bridges, and town areas. Housing reconstruction projects took a long time to complete, as in some cases they had to wait for large-scale infrastructure projects, combined with large-scale use of housing relocation projects. In addition, evacuees from Fukushima's nuclear meltdown also had to wait a long time for housing programs, and have additional uncertainty about the future livability of their towns.

2: Paradigms Destroyed by the Earthquake

Conventional wisdom and necessary responses

In Japan, the government provides support for the shelter and housing of disaster survivors in several phases. First is evacuation centers, which are safe places to stay in an emergency, usually a school or public building. Then, temporary housing is built where people can stay until permanent housing can be rebuilt. After the 1995 Great Hanshin Awaji Earthquake in Kobe, the Japanese governments' support for permanent housing recovery focused almost exclusively on public housing for disaster survivors. Several years later, the law was changed so that the government could also provide some funds to support survivors' rebuilding of their own houses. The housing recovery programs used after the Great East Japan Earthquake were similar to those after earlier disasters in Japan, including the provision of temporary housing, public housing, and some support for people to rebuild their own houses. There were also unique aspects of how each program was used after the GEJE.

Many of the issues and challenges for housing recovery after disasters in other countries are similar to that of Japan. Housing recovery programs from different countries include similar examples, and also cases that are different from each other and Japan. The programs are different in different countries, but many good examples of cases that support the life recovery of disaster

survivors better housing recovery includes key points of 1) flexibility: multiple housing options which the survivors can choose and 2) high-quality building materials and designs that help make living environments that are comfortable and pleasant. These aspects can also be connected and also contribute to the future sustainability of the community.

3: A New Approach

International cases and housing recovery programs after the GEJE include various examples of advances in these aspects of 1) flexibility and choices and 2) quality design and building materials. Being able to make their own choices from multiple options of housing recovery is important for disaster survivors and one of the best ways to match the support with people's actual needs at different phases in the housing recovery process. After the Great East Japan Earthquake and tsunami disaster, the system of deemed temporary housing was one of the new options for people used for the first time on a large scale to meet the needs of temporary housing. Unlike the newly constructed temporary housing typically used in Japan, using the system of *minashi kasestu*, the government pays the rent for survivors to stay in private apartments instead. Using this system, people can have more choices about where they live, and also can be more comfortable living in an apartment. It is also an efficient and economical use of existing housing units, especially in places without space to place temporary housing.

Using this kind of system could help to provide housing in urban areas in the case of a disaster in Tokyo, for example. In the United States, after Hurricane Sandy in New York City, they also tried to use this kind of system; using hotel rooms for disaster survivors has worked well in the United States, but it is more difficult to use apartments in a city without many empty apartments like New York City. In another example of disaster survivors having different choices for their temporary housing options, after Typhoon Yolanda in the Philippines, an NGO provided multiple options to survivors who could choose: rental support, building materials to fix their own housing, or moving into temporary houses.

From the point of view of high-quality design and building materials, the large-scale use of wooden temporary housing was another example of a new approach used at a large scale after the GEJE. Unlike prefabricated temporary housing, which became the standard after the Hanshin Awaji Earthquake, when all Japan's prefectures made contracts with the prefabricated builders association to be able to provide temporary housing quickly after a disaster. After the GEJE, there were multiple examples of the use of wooden temporary housing throughout the disaster-affected area. Fukushima prefecture especially supported the use of wooden temporary housing, as the promotion of local industry and natural resources, as well as a more comfortable housing environment for people. Some of the wooden temporary housing could also be reused again, including a few cases where the same temporary units were converted and combined to become permanent public housing (Figure 47-1). For continuity within the housing recovery process, there have also been attempts in other countries to make temporary housing that can be converted to permanent housing. In the United States, one program that tried to do this was the Mississippi Cottages after Hurricane Katrina in 2006 (Figure 47-2), used first as temporary housing, and then converted to permanent housing by upgrading the foundation. Although not all the temporary cottages were converted, residents of the converted cottages were very satisfied.



Figure 47-1. Temporary wooden housing converted into disaster recovery public housing in Aizu Wakamatsu City.



Figure 47-2. Mississippi Cottage converted into permanent housing

In another more recent example from the United States, the RAPIDO project included an initial core built as temporary housing, which can be expanded by additional construction for permanent housing. The Rapido house is designed so that its construction can also be easily funded by the separate types of funding for temporary and permanent housing. There are other international examples of the use of expandable core houses post-disaster, including in the case of Indonesia, where core houses were used after the 2006 Central Java Earthquake near Yogyakarta City, and also after the 2010 volcanic eruption of Mount Merapi. Initially, residents were provided with the simple core house, a structure made from reinforced concrete blocks, which they could then expand and modify as they wished.

4: Achievements and the Future

A new approach to disaster science

Ratified in 2015, the Sendai Framework for Disaster Risk Reduction was the first international guideline to emphasize the importance of a people-centered, inclusive approach, as well as building back better, and the connections of recovery to development. The inclusion and emphasis of Build Back Better in the Sendai Framework demonstrate an increasing focus on the importance of the recovery phase post-disaster in the international community. The Sendai Framework also explains other important aspects of recovery for the life recovery of survivors, such as the importance of including all people, and understanding the recovery holistically, including the connection to development and livelihoods, not just building strong and safe buildings and structures. As the cases have shown, there are good examples in Japan and in other

countries that show advances and improvements in housing recovery that can support people's lives more holistically. If housing recovery programs, including temporary and permanent housing, are designed to work together well, it benefits disaster survivors. So does having multiple, flexible options, and giving people the ability to make their own choices that best match their needs. However, these cases are just individual examples, and housing recovery policies in Japan and other countries still need significant improvement. In the case of Japan, especially the people who have been displaced by the Fukushima nuclear meltdown are still facing an uncertain future without a clear answer for their life recovery as well as housing recovery.

Conclusion- From the author

The understanding and knowledge of important issues for housing reconstruction have been growing in Japan, in other countries, and within international organizations and agencies. Through international frameworks and also Japan, we have a better understanding of what needs to improve in housing recovery to help people recover their lives, but not all problems are solved yet. Hopefully, through considering examples and cases from other countries, future housing reconstruction can continue to improve to help people recover after future disasters.