2019 Sanriku Risk Reduction and Reconstruction Project
An Outline of the First Symposium

Date: Saturday, June 1, 2019

Venue: Kamaishi Civic Hall TETTO, Hall A (Kamaishi City)

Theme: The Future of Disaster Mitigation: A New Model for Disaster Mitigation in the Wake of the Great East Japan Earthquake and Tsunami and Global Natural Disasters

Keynote Speech: Building Resilient Cities: The Status of Disaster Prevention Systems and Local Disaster Mitigation Planning in Taiwan

Professor Shao Pei-Chun, Department of Land Management and Development, Chang Jung Christian University

Summary

The need for both public and community-based disaster mitigation is growing.

After Taiwan was rocked by the 9.21 earthquake in 1999, the country passed a Disaster Prevention and Protection Act. This act established a public emergency service system and highlighted the need for community-based responses. It signaled the beginning of a cooperative approach to building resilient cities, in which both the government and communities would play a role.

This has led to an increased awareness of disaster prevention among the public in Taiwan, and has encouraged discussions about disaster mitigation strategies. However, there still remain four challenges to building resilient cities: (1) the appropriateness of community-based disaster mitigation, (2) the importance of citizen participation experiences, (3) the integration of disaster prevention education and budgets, and (4) the fostering of disaster mitigation leaders and disaster prevention technology.

I would like to share the following points with the hope that they will lead to improved disaster prevention.

First, it is essential that those working towards community-based and cooperative disaster mitigation are able to play their part.

Second, disaster prevention education must be integrated. In order to improve disaster mitigation capabilities, disaster prevention activities and integrated disaster prevention education must be linked not only to the community, but to local businesses and organizations as well. Furthermore, all of these organizations need to cooperate with one another.

Third, a goal must be set for reducing disasters. This must be decided based on scientific measurements and evidence.

Lastly, by cooperating with the international community and pooling our knowledge of disaster prevention, we can work together to build safer communities in all regions. In order to protect Asia from natural disasters, Taiwan and Japan must work together.

Panel Discussion

Theme: Building Communities That Will Be Strong Against Disasters for Years to Come: Building communities based on the lessons learned from past disasters and reconstruction efforts

Coordinator

Dr. Itsuki Nakabayashi, Professor Emeritus, Tokyo Metropolitan University

Panelists

Professor Shao Pei-Chun, Department of Land Management and Development, Chang Jung Christian University

Ms. Hafnidar, Head of the Aceh Tsunami Museum, Indonesia

Yoshiki Hiruma, Vice President, Director, Enterprise Resilience Rated Loan Program (BCM rating), Sustainability Planning & Support Department, Development Bank of Japan Inc.

Professor Masaaki Minami, Department of Civil & Environmental Engineering (Research Center for Regional Disaster Management), Iwate University

Summary

1. Objective

So far, in the 21st century, Japan has faced a series of natural disasters while simultaneously grappling with an aging population and generational divides.

What kind of communities will be built for the next generation, and the generation after that? And how will future generations be prepared for the next great disaster? In looking at initiatives currently underway in Taiwan and Indonesia, we will consider the ways in which we might build resilient communities for the future.

2. Action Reports

(1) Indonesian initiatives: Ms. Hafnidar, Head of the Aceh Tsunami Museum

After their community was ravaged by a tsunami in 2004, the people of Aceh, Indonesia, came up with the idea of building a museum that would preserve artifacts from the disaster and tell the history of what happened for generations to come. It would be Indonesia's first large-scale museum dedicated to the history of tsunami disasters.

The museum is designed to raise awareness about tsunamis on an educational level. Visitors to the museum can expect to learn about past disasters, disaster mitigation strategies and the importance of local wisdom. This year, the museum had 600 students design evacuation maps for the government as a part of its map-making project, thereby preparing them for future disasters. The museum hopes that the lessons gained from such initiatives will spread throughout the community and provide local people with accurate disaster mitigation knowledge.

(2) The Great East Japan Earthquake: Professor Masaaki Minami, Department of Civil & Environmental Engineering, Iwate University

As someone who engaged in the recovery efforts after the Great East Japan Earthquake I have spent a lot of time considering what I can do to help while participating in emergency responses, disaster surveys, community needs surveys, and the drafting and

implementation of reconstruction plans. The key is finding “a disaster mitigation strategy that encompasses the whole community”.

Each person can contribute to disaster mitigation in their own way, whether that be through public cooperation or multi-actor partnerships. Communities affected by disasters each have their own history and culture. But while action must start from the local community, the central government and other external support groups can facilitate that action and help deal with multi-faceted and ever-changing challenges. For example, universities have specialists, students and organizations that have built up a lot of trust with the community over a long period of time, so they can be useful in initiating cooperative efforts with communities to take all-encompassing disaster mitigation action.

What we must do now is prepare the next generation by fostering community leaders. This will also help other communities to prepare for future disasters. Furthermore, I believe we should form a network of communities that have experienced disasters in the past or may experience disasters in the future. This will help to build a cooperative framework for one’s own community.

(3) Supporting Reconstruction and Rebuilding Communities: Yoshiki Hiruma, Vice President, Director, Enterprise Resilience Rated Loan Program (BCM rating), Sustainability Planning & Support Department, Development Bank of Japan Inc.

A disaster illustrates the two sides of a community’s vulnerability. One cannot prevent an earthquake from happening, but how can one make sure that those communal assets that have been exposed to hazards remain safe and resilient? When safeguarding one’s own community, one needs to think in terms of the whole community. Right now, with the reconstruction that is needed in communities affected by the Great East Japan Earthquake, we need to be thinking about contributing in a way that such a tragedy will not be experienced by future generations.

Finance has an important role to play in this. What is most important is to build mechanisms for stimulating investment. Recovery means “to go back to the beginning”, but reconstruction means “to build anew” and “to build back better”. It is therefore necessary to change the way money is given out depending on the phase one is in.

The Development Bank of Japan’s products cannot be measured by only translating company value, such as environmental ratings and disaster mitigation/BCM ratings, into financial information. We invest not only with consideration given to sales and profits, but also in disaster prevention and business continuity initiatives.

We do not evaluate disaster prevention solely in terms of cost, but also in terms of the long-term value of disaster prevention itself, and the value that this creates, not only for individual companies but also for common social capital.

(4) Professor Shao Pei-Chun, Department of Land Management and Development, Chang Jung Christian University

In Taiwan, the government has shown flexibility in the building of resilient communities. Essentially, they broke down the 2011 UN guidelines into sub-guidelines, such as guidelines for systematic resilience, infrastructural resilience, social resilience and economic resilience. Then, recognizing that these sub-guidelines were not necessarily compatible with each other, they applied them according to the circumstances of communities and local governing bodies. The sub-guidelines are not just different on a

quantitative level but also on a qualitative level, which is the most important. In the future, when we evaluate resilience, I would like to see us move away from seeing evaluation as mere numbers and rather try to understand problems through interviews and other such activities.

3. "Soft" community initiatives

(1) Iwate and the Sanriku Coast: Professor Masaaki Minami, Department of Civil & Environmental Engineering, Iwate University

Evacuation procedures are extremely important. Simulations predict that in the event of an evacuation due to a tsunami, depending on the evacuation procedure, not all evacuees will be able to be housed in shelters. But if we can establish a clear set of rules, such as the prioritization of people belonging to certain groups, like the elderly, we can save, at least in theory, all lives. We must continue to work on this.

We also need leaders. Aside from the leadership program we offer at Iwate University, which is open to high school and university students, we also invite disaster mitigation experts to lecture and provide practical knowledge on emergency responses.

(2) Aceh, Indonesia: Ms. Hafnidar, Head of the Aceh Tsunami Museum

We must think in terms of both "soft" and "hard" initiatives. After all, people's lives are at stake, and they are our priority.

The architect of the Aceh Tsunami Museum always envisaged the museum as functioning not just as a museum but also as an evacuation shelter, and this concept has been well-received by the surrounding community.

Even after the earthquake in 2004, some residents of Aceh decided to return to their homes. For them, the museum is a safe place and a shelter. It is also an education center, as it provides residents with local wisdom and information on how to protect themselves and others. Some members of the community even joined the museum staff. For them, the museum has become a place for solving problems that emerged in the wake of the disaster.

(3) A comment from Professor Shao Pei-Chun, Department of Land Management and Development, Chang Jung Christian University

Risk identification and risk communication are two things that are going to become very important.

I believe that citizens, local governing bodies and the central government need to communicate while mutually identifying disaster risks. This way, they will be able to come up with appropriate preventative measures.

(4) A comment from Yoshiki Hiruma, Vice President, Director, Enterprise Resilience Rated Loan Program (BCM rating), Sustainability Planning & Support Department, Development Bank of Japan Inc.

Japan has issued various types of hazard maps and has taken measures to reduce disaster risk by providing evacuation training. But let us say the expected flooding area is home to 35,000,000 people. When you combine aging and declining populations with aging infrastructure, your community is that much more vulnerable. That is why we need a drastic overhaul of our disaster mitigation strategies. In order to effectively use our limited financial and social resources, we need to integrate our social security and medical policies. As it is

difficult to solve this problem using the existing national and regional policies, we need to start adapting them to each location.

There needs to be a shift from public-based disaster mitigation to a new community-based and cooperative model. Our current framework does not know how to utilize the thinking of young people and those looking towards the future. Should we not be making policies that function as a form of community strength?

4. Conclusion: Dr. Itsuki Nakabayashi, Professor Emeritus, Tokyo Metropolitan University

In order to build resilient communities in Japan, a minimum amount of hard (structural) measures need to be put in place, and soft measures also need to be implemented alongside them. However, when the soft aspects are decaying all over the country, the challenge becomes: How do we connect these to the future and build resilient communities?

Protection, especially in the “hardware” sense, can only serve its purpose during normal times. We should not be building safe cities only after lives have been lost. We should be building during ordinary times.

Also, with community-based action, everybody helps to reduce disaster risk in whatever way they can. The energy that is born of this cooperative action makes assistance possible. In an aging society, with fewer people working for local administrative bodies, independent and cooperative action becomes the backbone of a community. When a community is powered by independent and cooperative action, it can use public-based disaster mitigation resources more effectively. This is something we must work towards in the future.

We also need human resources. We should be building communities in which disaster mitigation education ties together all levels of education, from elementary school to university.

And we need to pass down lessons. Education is our most important means for passing down lessons, which is why it is important that we build places of learning, such as museums, archives and tsunami memorials.

In order for communities to survive disasters, it's important that the people in them find ways for the region to prosper so that they can generate a steady income to maintain their livelihoods . By looking past the surface value of investments, and finding their intrinsic and most essential value, one can figure out how to use money effectively and build communities for the future. This is important.

Lastly, everybody needs to work together. Every member of society has a role to play. That is to say, one may be on the giving or the receiving end of support. Every person does what they can, and helps others with what energy they have, and by doing so the entire community emerges from a disaster. The times may change and technology might improve, but we cannot overestimate the need for taking the right action and building resilient communities for the future.