

Proposal
Towards the Enhancement of Resilience to
Disasters



22 September 2014

Subcommittee on Enhancing the Resilience to Disasters,
Committee to Assist Recovery from the Great East Japan Disaster
Science Council of Japan

Abstract

1. Background

The Great East Japan Disaster has reminded us that Japan still presents serious vulnerability to disasters despite the substantial effort to reinforce embankments and buildings, and that it cannot be overcome without comprehensive measures that include even software improvements or mental support. ‘Resilience’, namely the ability to maintain the normal practice under the extreme events as much as possible, that to minimize the damage by them even when it is unavoidable, and that to overcome it and to revive, should be enhanced without delay. It is essential to do it with a holistic view covering not only socio-economic systems, but also people’s daily lives and mentality. With these understanding, the present proposal is made in order to identify the existing problems and to propose the ways to overcome them and to improve the disaster resilience.

This proposal is being constructed on the basis of the G8 Academies’ statement of 10th May 2012. Science Council of Japan established a special subcommittee called “Enhancing the Resilience to Disasters” in the Committee to Assist Recovery from the Great East Japan Disaster, which was uniquely composed of specialists from diverse disciplines, discussed the designated wide-ranging issues, and formulated the proposal.

2. Current State and Issues

In the Great East Japan Disaster, failure in the prediction of earthquakes and warning of evacuation from the radioactive contamination caused by the nuclear accident unveiled the weaknesses of the country in the daily risk monitoring systems, information aggregation and decision making in the event of a disaster, and it made the people realize the importance of the well-balanced cooperation of the nation and the people and the coordination of the public support and the self-support. Regional cooperative relationships between the government and the people in disaster prevention are weakening. The insufficiency of the ability to understand the risk information and to send it out also hinders the improvement of resilience.

In the Great East Japan Disaster, the delayed control of, and the slow response to, the disaster accelerated indirect or secondary damage, resulting in further delay in the recovery from the disaster. The following points have also been revealed: a forecast for future risk has its own limitations in accuracy; people, even those who suffered badly, tend to forget their experiences of the disaster; a single mistake could generate fatal systems collapse if the system is too complex and is designed for too

narrow purposes.

Situation of mental health care for sufferers from the Great East Japan Disaster remains serious. First, government-led system for appropriate allocation of mental health professionals to disaster-stricken areas has not been established. Staffs pass the baton to the next ones in a short period of time, which prevents information sharing and transfer. Second, evidence-based post-disaster psychosocial intervention strategies have not been popular among mental health professionals in Japan. Third, mental health teams sent in from outside the disaster areas are active during the acute phase, but not so much so in the chronic phases, although the need for mental health care for the people suffering from depression, post-traumatic stress disorder, or PTSD, continues to be high.

Prefectural public health centres and municipal health centres have been contributing much to the promotion of public health in the community, and recently they are also expected to play a key role as one of the basic community organizations for crisis management to protect health of the people and re-establish medical and health services in the community. It has long been emphasized that sectors of health and welfare need to work together with close coordination. However, it has yet to be realized at community level. Moreover, despite the extensive involvement and remarkable achievements of volunteers after the Great East Japan Earthquake and Tsunami, coordination of these activities with the governmental administration has not been sufficient.

In the event of a disaster, communication technology generally plays an important role. However, it did not work as much as desired at the time of the Great East Japan Earthquake and Tsunami, because of the damages to the monitoring and control devices, creation of false data, bugs in the control systems, lack of emergency exercises, insufficiencies of emergency manuals, delay in manning the specialists, and systems degradation due to the lack of budget for systems renewal. Furthermore, even the existing security systems obstructed smooth communication, and confusions were caused by the complex mixture of various media environments and quality levels. A serious consequence of harmful rumours or misinformation is that vulnerability of the information environment, namely difficulty in circulating reliable information, has become evident as a result of suspicion or bias due to mismatch of perceptions and their complex interactions.

Development and strengthening of disaster prevention capacity at the community level have been specified in the aid program of JICA and the Hyogo Framework for Action adopted at the World Conference on Disaster Reduction held in Kobe in 2005. However, there are no established measures or guidelines for building the resilience of communities to disasters. Until now, it has been performed on a case-by-case basis. There is an urgent need for the establishment of the approach and methods to promote

effective and efficient development assistance based on the experience of the Great East Japan Earthquake, especially the knowledge of disaster prevention education.

3. Proposals

1) Improvement of regular risk monitoring and preparedness to risks

Multifaceted approach to reduce the risk and to strengthen the resilience is required: First, we should establish basic national level infrastructure for monitoring risks, sharing information and taking timely and appropriate action to mitigate/avoid disasters and crisis. Second, we should strengthen the community through disaster prevention studies and exercises of all age groups. Third, to make such data/information as hazard maps or remote sensing data open to the public, and to improve literacy for data and information for risk reduction and to enforce the relationship between the residents and the local government so that the local leaders can make decision quickly in the event of a disaster.

2) Promotion of disaster prevention and reduction for resilience improvement

We should have four activities for the improvement of resilience. First, we should enlighten the people who pay less attention to the disaster-related knowledge, and train potential experts for disaster prevention. Second, we should make efforts to establish a collaboration system among related people and organizations, and to set up headquarters for the system quickly at the stricken area when a disaster occurs. Third, we should introduce the “redundancy concept” into disaster prevention and reduction systems and to develop a "never die network". Finally, we should promote the remembrance education for disaster prevention and reduction using remains and natural history specimens which exist in the locality.

3) Need for mental health recovery from the disaster

First, a comprehensive community mental health system should be established in order to facilitate mental and physical health of people in the community. Second, disaster mental health care and management system should be established. Third, disaster mental health management should have both spatially and temporally dynamic perspectives. Spatial perspective ranges from mental capital of an individual through social capital of a community and the nation. Temporal perspective means transition from acute to chronic phases. At the acute phase, we should focus on the interventions to mental capitals. At more chronic phases, emphasis should be shifted to the balance between mental capitals of the individual's level and social capitals of the community/nation levels.

4) Improvement of public health systems

In order to improve the public health systems, we should first promote the function of the public health centre as a base for crisis management for the life and health. Second, coordination between the sectors of health and welfare at the community level should be promoted; In addition, strong and continuous coordination systems among self-support activities of people in the community, activities of NGO and NPO, and administrative activities of the local government shall be established. Third, we should provide theoretical basis for these activities, and academic analysis for them should be enhanced with the view of formation and promotion of social capital.

5) Full utilization of information and communication technology

In order to utilize information and communication technology for improvement of resilience, we should first have a solid plan to fill the gap of information between the supplier and the receptor of the information related with the disasters. Second, we should strengthen the service of information supply in the event of a disaster and to promote development of high-level IT systems for it. Third, we should consolidate the information environment that activates each person's resilience to disaster. Fourth, we should encourage the coordination and dissemination of lessons learned from the Great East Japan Disaster as global public knowledge.

6) Integration of resilience capacity into development assistance programme

Lessons of the Great East Japan Earthquake, particularly those of disaster prevention and community regeneration, can be of use in development assistance. First, we should work to consolidate disaster prevention education and the function of schools as local centres for resilience to disasters. Upgrading of schools for disaster preparedness should be addressed from the perspective of international cooperation. Second, we should have a clear vision when deciding the safest location for the rebuilding process and plan for the subsequent regeneration of the community. Third, in order to promote collaboration among universities, research institutes, NGOs and industries, we should establish the pairing support system and also strengthen the network of industry, academia and government at both local and national levels. Fourth, there is an urgent need to establish approaches and methods to effectively facilitate development assistance related to disaster prevention.