

## Reflecting on disaster management policy based on lessons learned during and after the GEJET

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In Japan, disaster prevention measures have been systematically implemented under the Disaster Countermeasure Basic Act and other related laws to protect national land as well as life, body and property of the citizens. Storm and flood disasters with over 1,000 casualties were frequent up to around 1960; however, no disasters of similar scale have occurred since then. This fact can be explained by continued improvement in flood control facilities and structures as well as non-structural measures such as weather and flood forecasting.

Although tsunami hazards are less frequent than flood hazards, the Sanriku area, for example, has repeatedly suffered from tsunami disasters, and both structural and non-structural tsunami-disaster prevention measures have been continuously implemented. However, during the GEJET, the tsunamis were far higher than coastal structures, and more than 15,000 people were killed or missing. In this great devastation, what happened to two coastal districts, Taro and Fudai, was very different. Taro experienced huge tsunamis of 14.6 m in 1896 and 10.1 m in 1933 and has installed 10-meter-high seawalls. Fudai also experienced huge tsunamis in the same years and has installed a 15.5-meter-high tsunami gate designed to protect the area from a large tsunami in 1896. When the 3.11 disaster occurred, Taro was devastated with many victims, but Fudai suffered almost no damage except for the gate facility. Most coastal areas were destroyed severely and are still struggling for recovery in a very difficult situation. Local residents have been enduring considerable inconvenience for a long time. The long-term, as well as initial, impact of the disaster has been very severe on the residents, particularly on the disaster vulnerable. Quick recovery has been recognized as one of the pressing issues in the devastated areas.

In August 2012, the Cabinet Office announced anticipated tsunami heights and inundation areas in the event of a Nankai Trough earthquake. Most tsunamis are projected to be higher than existing seawalls built along the coastal line southwest-ward from the Tokai area. In addition, the tsunamis are anticipated to reach the coast faster than the ones of the GEJET. Local governments have been working on an evacuation plan to cope with the anticipated tsunamis. In Tokai and its neighboring areas are concentrated industrial zones and major transportation arteries such as Sinkansen and National Highway Route 1. It is urgent to take necessary measures to protect these areas from the anticipated tsunamis as well as to prepare effective evacuation plans.

In June 2012, a private company made a donation of 30 billion yen to build a tsunami embankment of 17.5km long along the Hamamatsu coast based on updated projection results on the anticipated tsunamis. Since it is crucial to minimize disaster damage as much as possible, the company deserves great praise for its intention. Tsunami hazards are infrequent but can cause extreme damage when it occurs. It is very important to continue preparing for them steadily.

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