Special feature: Are its lessons being adequately applied? Follow-up on the ten-year anniversary of the Hanshin-Awaji Earthquake

- Reforms which have ensued in the social structure -

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Birth of the concept of "self-help, mutual aid, and public assistance"

At the time of the Hanshin-Awaji Earthquake, many people were angered at the slow progress of the rescue and relief efforts as they watched the stricken regions on television. They were witnessing the events and failures that take place in the social system when a large-scale disaster strikes a modern city. After the earthquake, a sociologist stated that self-advocacy will be an important social theme in the future. Self-advocacy refers to standing up for oneself and taking action on one's own. This concept was brought forward as the missing element in modern society and cities. The concept is now more fully expressed by the phrase "self-help, mutual aid, and public assistance." This is a deeply meaningful concept, indicating that individual residents must first take action on their own, that they must help each other, and that public institutions must function effectively; and that self-help, not public assistance, must come first.

In the past, mutual aid was performed by neighbors helping each other or by the activities of youth organizations, women's groups providing hot meals, and other social organizations; but in modern urban society, these functions have completely disappeared. Volunteer activities by private citizens have emerged in their place. In addition, volunteer work by corporations such as Daiei Inc. has drawn a great deal of attention.

The central concept in efforts to prepare for predicted large-scale earthquakes, such as a Tokai, Tonankai, or Nankai earthquake, calls for achieving the proper balance among the measures of self-help, mutual aid, and public assistance. In the past, measures to prevent earthquake disasters were focused on earthquake prediction and on improving the earthquake resistance of facilities, but this focus has changed. Today, the aim is to devise a variety of measures to deal with social systems as a whole. For example, these measures include the use of information technology to supply information in the area of self-help; the training and strengthening of disaster prevention volunteers in the area of mutual aid; and measures under the Rehabilitation Aid for Victims Law (enacted in May 1998) in the area of public assistance. Of course, major changes have also occurred in the area of government organizations.

Birth of the Security and Crisis Management Office and related issues in Japan

At the time of the earthquake disaster, the Japanese people severely criticized the poor initial response by government authorities, and the prime minister's crisis management capabilities were increasingly called into question.

The government established the post of Cabinet Secretary for Crisis Management in the Cabinet Secretariat, directly under the Prime Minister. Below it, the Security and Crisis Management Office was established for the sake of information gathering and smooth implementation of unified government

operations in case of a large-scale natural disaster, terrorist attack, or other emergency. Of course, the Central Disaster Prevention Council and Disaster Prevention Bureau already existed within the National Land Agency at that time, serving mainly to administer the government's disaster prevention measures. After the restructuring of government ministries and agencies, both the Disaster Prevention Bureau and the Central Disaster Prevention Council were shifted to the Cabinet Office departments in charge of disaster prevention. They are now engaged in dynamic efforts to sound the alarm about predicted massive earthquakes, to promote related measures, and to prescribe action strategies for the government.

Next, I would like to give a plain explanation of the organizational changes that have been made. Chronologically, disaster prevention can be divided into three stages: (1) preventive measures, (2) emergency response measures, and (3) recovery measures. The Basic Law on Natural Disasters was prepared so that the national and local government organizations could function in organic coordination, and the Cabinet Office departments in charge of disaster prevention are administering these measures.

Facility managers and the like are in charge of handling preventive measures themselves. Emergency response measures are handled by emergency forces such as firefighters, police, and Self-Defense Forces, in addition to actions taken by facility managers and the like. Recovery measures include restoration work by facility managers and the like, as well as financial support under the Disaster Relief Law.

The Hanshin-Awaji Earthquake led to the keen realization that when a modern city experiences a large-scale disaster, innumerable pieces of disaster information need to be processed, and it is difficult for all of the relevant government organizations to function as an organic whole. In particular, there were delays in gathering accurate information and getting it into the hands of persons in charge of directing the emergency response for disasters, such as governors and the prime minister; and there was a lack of coordination between individual facility managers and emergency forces such as firefighters, police, and Self-Defense Forces. Facility managers and the like could be compared to reserve forces, since they are normally engaged in everyday operations but they participate in crisis management operations in emergencies. Meanwhile, firefighters, police, and Self-Defense Forces, who work in the field of emergency response as their occupation, could be compared to conventional forces. It is necessary for the conventional forces and the reserve forces to constantly share information in order to conduct operations that minimize the overall damage.

To correct these flaws, the Security and Crisis Management Office was permanently established in the Cabinet Secretariat, in addition to the disaster prevention organization of the Cabinet Office, in order to ensure that accurate information is gathered and provided to persons in charge of directing the emergency response, and that operations are conducted smoothly and with organic coordination in an emergency situation.

Turning to local government organizations, more and more prefectural governments are establishing a crisis management office or similar agency under the governor's office in order to ensure routine information sharing and organic coordination between their civil engineering divisions, which represent facility managers and the like, and their general administrative departments, which supervise fire departments and other emergency response organizations.

Thus, the organizations surrounding persons in charge of directing the emergency response for disasters have been enhanced; but many problems still

remain. In particular, it is important to remember that the site where a disaster takes place is the actual disaster location, not behind closed doors at a government headquarters for disaster countermeasures. For the effective and smooth implementation of immediate-response operations, it is necessary to have a system that reliably provides the responsible authorities with information and advice from responders at the disaster site, local engineers and disaster prevention specialists, mayors who have experienced large-scale disasters, and other sources.

It is well known that the Edo Shogunate had a police organization that included Jubei Yagyu, a famous samurai, and played an important role in administration of the samurai governments. However, it is less well known that a civil engineering organization called Kurokuwa-gumi was organized under the *Kanjo Bugyo*, or financial administration of the Edo Shogunate. This organization functioned effectively and helped to prevent social turmoil when disasters occurred. It had an organization of local engineers, so to speak. Today, civil engineering divisions not only are familiar with the local situation, but also include many people who are experienced in dealing with emergencies such as annual flood and landslide disasters. With regard to earthquake countermeasures, not only the government but also the civil engineering industry is working diligently to support restoration and recovery. It is hoped that more and more civil engineers will gain the trust of governors and be appointed as crisis management officers, making the best use of their experience.

Reforms in scientific and technological circles

Major changes have also occurred in academic circles. In the past, the only venues for involvement in government affairs by academic experts were organizations such as the Central Disaster Prevention Council of the National Land Agency and the Coordinating Committee for Earthquake Prediction, which is organized by the Geographical Survey Institute. However, after the Hanshin-Awaji Earthquake, the Special Law on Earthquake Prevention and Countermeasures was enacted in July 1995, and the Earthquake Research Promotion Headquarters was established in the Prime Minister's Office. The present Ministry of Education, Culture, Sports, Science and Technology has taken over those operations and coordinates earthquake disaster-related surveys and research by the government as a whole. A comprehensive survey of active faults was performed and has provided a wealth of knowledge. In addition, a seismic movement prediction map was recently issued.

After that, the General Council on Science and Technology was established in January 2001. Research and development on earthquake disaster prevention was positioned as a priority area of social infrastructure in the government's Basic Plan on Science and Technology, which was adopted in response to a report from that council. During that process, new areas of research and development, including the development of disaster prevention robots, also came to be incorporated in a systematic manner.

These changes have significantly increased the venues and opportunities for academic experts to use their knowledge for the good of society. Much still remains to be done regarding further investigation, analysis, and unresolved issues relating to the Hanshin-Awaji Earthquake. For example, it is anticipated that academic experts will conduct further study on questions such as whether suitable methods were used to procure materials and supplies for restoration and recovery, and how rubble and debris should be handled in an emergency situation.

I would also like to touch on the important effects on international society. Japan's earthquake

disaster has made a strong impression on scholars throughout the world, and it has also led to the establishment of the Asia Disaster Reduction Center in Hyogo Prefecture. The Asia Disaster Reduction Center is expected to become an important strategic base for international contributions by Japan. It is anticipated that this will greatly increase Japan's international status in the twenty-first century, an era in which unusual natural disasters have begun to occur with greater frequency.

The future of the current regional disaster prevention system

The United Nations World Conference on Disaster Reduction will be held in Kobe, Hyogo Prefecture in January 2005, ten years after the Hanshin-Awaji Earthquake. International disaster reduction strategies will be discussed, focusing especially on disaster prevention.

Meanwhile, under the "triple reform" initiative which the government is pursuing in order to give local governments more fiscal autonomy, a proposal by a prefectural governors' association and five other regional groups has called for essentially halting subsidies for disaster prevention measures such as river improvement and erosion control projects, without eliminating disaster recovery projects. As both the national government and local governments are experiencing financial difficulties, the current regional disaster prevention system will be essentially eliminated, even though flood and landslide disasters have been occurring frequently on a nationwide scale. This is quite ironic.

Will Japan's current disaster prevention measures and system for promotion of those measures be abolished, or will this lead to their regeneration? I expect that the directions of the future outcome will be clear by the time this is published. In the future, I hope that our readers will continue to promote disaster prevention in Japan and to develop new disaster prevention systems for the next generation. In conclusion, I would like to express my desire that Japan will continue to earn international recognition as a leader in disaster prevention.

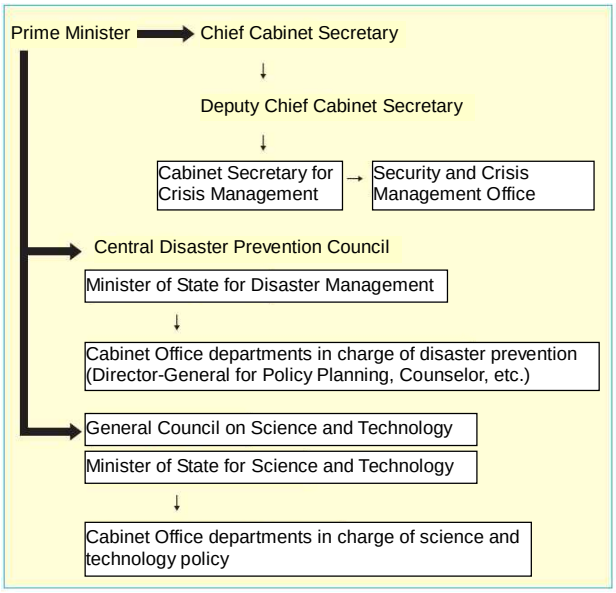

Fig. 1. Table of government organizations (Boxes indicate new organizations.)