Disaster Management and Regional Revitalisation

Fukuoka Prefecture

Background

Today, not only in Japan but also around the world, one of the effects of global warming seems to be frequent, torrential rain. Even urbanised areas that provide disaster-related information, including weather warnings, have experienced severe damage, so it is necessary to take measures against disasters of an unprecedented scale such as these.

In Fukuoka Prefecture, in addition to understanding the dangers posed by disasters that can occur in the region, we are also continuing efforts to reduce the number of people who become victims by promptly conveying accurate information.

Disaster preparation diagram

Purpose of Project

○ Get to know the types, scale and dangers of disasters that can occur in the area

○ Share information in the community about when, where, and how to evacuate

○ Build a mechanism to collect and communicate information to understand the timing of the early warning and evacuation order

Outline of Project

• Support for the creation of hazard maps and individual disaster mitigation maps

Municipalities will create a hazard map that shows information such as shelters for each type of disaster covered, based on information provided by the prefecture about the scale and scope of expected floods and landslide disasters. Some municipalities will also summarise information about some of the expected disasters in each regional area and create an independent disaster mitigation map that shows evacuation routes and detailed information of the area. The prefecture provides information and supports them.

• Creation of booklets and awareness activities to encourage self-reliance

Self-reliant actions that make the difference between life and death in the event of a disaster are intended to be taken by individuals, families, neighbours, etc., and require certain knowledge of disasters and the correct actions to be taken. For this reason, we have created the Self-Reliance Action Manual and distributed it to the volunteer disaster mitigation organisation in each region.

• Development of the disaster information monitoring network

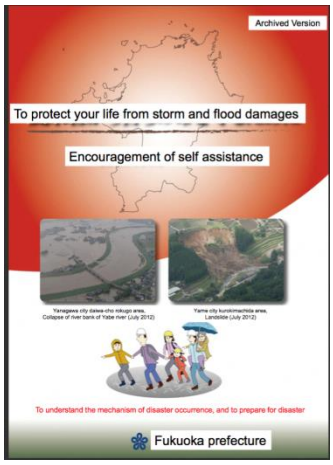
We centrally manage the network that monitors disaster information such as rainfall rate, the water level of rivers and the current condition of rivers through surveillance cameras, reservoir volume and the discharge rate of dams, and utilise the network as an early warning system. The data is available to the public in real time through the Internet.

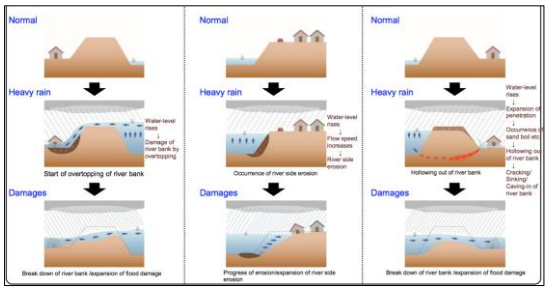
• Development of the disaster information collection system

During the flooding that occurred over a wide area in 2012, the headquarters for disaster control was unable to gather information. The new system was built based on the lessons learned from this event and is used to share information among staff by adding photographs of the stricken area with the location information confirmed by each staff member.

• Response to the torrential rainfall disaster that occurred this year

In July 2017, a very heavy downpour, which set new weather records in Japan, occurred in the Asakura region of Fukuoka Prefecture, resulting in deaths and missing persons. First of all, it is important that each person take action to protect his or her own life when such a disaster occurs, and it is necessary to provide information for that purpose as appropriate. We selected cost-effective cameras and installed them in multiple locations to monitor the current status of rivers affected by the disaster, and the information is publicised online.





Self-Reliance Action Manual

Progress and Achievements

• Support for the creation of hazard maps and individual disaster mitigation maps

Since the individual disaster mitigation maps are made by local residents in a workshop, Fukuoka Prefectural officials offer support by providing a Disaster Imagination Game (DIG)

• Creation of booklets and awareness activities to encourage self-reliance

By using the Self-Reliance Action Manual, the disaster mitigation staff of the municipality and the voluntary disaster mitigation organisations can understand the generation mechanism of torrential rain and landslide disasters, and they can also share their knowledge and information with residents. Residents will recognise the importance of self-reliance and the action needed to ensure safety during a disaster.

This will lead to evacuation activities utilising disaster mitigation information, which is not reliant solely on the evacuation instructions from the municipality.

• Development of a disaster information monitoring network

As a lesson from the network failure that happened during past disasters, we ensured sufficient redundancy by, for example, developing a system to avoid the concentration of access and duplicating the path from the monitoring device to the monitor at headquarters.

• Development of the disaster information collection system

The disaster information registered in the system can be confirmed simultaneously among staff. The disaster control headquarters can accurately determine the priority of the disaster response and the instructions issued.

• Response to the torrential rainfall disaster that occurred this year

The surveillance cameras that are usually installed are costly and require a lengthy installation period. For this reason, although the durability and image quality are inferior, we have adopted a simple and cost-effective camera with a shorter installation period. The new camera uses a mobile phone network that does not require the installation of cables rather than the normal fibre-optic network.

River surveillance camera

Effects of the Project

○ By distributing the individual disaster mitigation map for the community, residents are able to understand the details of river flooding or landslide disaster information. This will lead to early warning and quicker evacuation.

○ We were able to confirm the damage caused by the heavy rainfall disaster in July this year while sharing information from the disaster information collection system.

○ Simple surveillance cameras installed along the stricken river allow the determination of the current condition of the affected areas at any time, giving residents a sense of security and the ability to determine for themselves whether to evacuate or not.

Problems and Responses

○ Raising the awareness of local disaster mitigation maps and encouraging residents to participate in evacuation drills is a challenge. It is also difficult for residents to understand that the evacuation sites and evacuation timings differ depending on the type of disaster. There is a tendency to

become indifferent, so some people do not evacuate even when repeated evacuation recommendations are issued. A discrepancy may arise in the crisis consciousness of the administration and the residents.

○ To address these issues, it is important to provide detailed information to identify the situation in the community. An administration that manages disaster information must precisely convey the observation data and the analysis results when they issue an evacuation recommendation in order to clearly show the purpose of the evacuation, which needs to be understood.

Outlook

○ In the case of disaster management, the administration will interact with the residents to gain an understanding of the necessary information and services. Residents can learn more about their community by obtaining a variety of information from the administration. The community association can also act as a mediator.

In this way, all parties, including the administration and the residents, try to learn about their community more thoroughly and share information (in some cases, related to life and death), which is a process that can lead to community revitalisation. We consider disaster management and disaster mitigation measures to be among the possible approaches to local revitalisation and will continue to promote our project.

Reference URL

http://www.pref.fukuoka.lg.jp/contents/self-help-action.html

http://www.kasen.pref.fukuoka.lg.jp/bousai/

http://www.sabo.pref.fukuoka.lg.jp/

Contact

Department in charge:

River Management Division in Fukuoka Prefecture

Tel: ＋81-92-643-3668

E-mail kasen@pref.fukuoka.lg.jp