

Second International Conference on Early Warning (EWCII)

Bonn, Germany

**Effective Early Warning - use of hazard maps as a tool for
effective risk communication among policy makers and communities –**
Session organized by the Government of Japan

Minutes

Time and Date: 14:30-16:00, 17 October 2003

Venue: Bundeshaus, Bonn

Background:

Hazard maps have been recognized as an instrument for disaster management in many countries in recent years. However, most of them are literally only maps indicating dangerous spots and not useful for disaster reduction. It should also be noted that in many countries hazard maps developed by the national and local governments are not distributed to the members of the community.

According to a survey recently conducted in Japan, among the residents who evacuated, those who had seen such hazard maps were 1.5 times greater in number, and they evacuated one hour earlier than their counterparts who had not seen the map. In case of an acute disaster such as a flash flood, this time difference could mean a critical determinant in evacuation.

The community must be provided with relevant information in hazard maps and how to utilize them. Most importantly, how effectively hazard maps are used depends on the level of community awareness. The members of the community must be taught how to understand potential disasters in their area from the maps to take appropriate countermeasures.

Objectives:

The session was intended to examine the effectiveness of hazard maps as a tool to raise awareness and to reduce casualties during disasters, and eventually as an effective early warning tool. It aimed to encourage policy makers to use hazard maps as a tool for effective risk communication with the community and to strengthen its disaster reduction capacity. The organizers of the session introduced some successful examples in Japan to see whether they could be adapted to other countries. Government officials of ministries in charge of disaster management and experts from some Asian countries presented and discussed how hazard maps are developed and used to ensure effective early warning in their countries.

Coordinator: Mr. Satoru Nishikawa, Executive Director, ADRC

Rapporteur: Ms. Etsuko Tsunozaki, Senior Researcher, ADRC

Opening remarks by the organizers

Keynote Speech I

Mr. Masaaki Nakagawa, Deputy Director for Disaster Preparedness,
Cabinet Office, Government of Japan

“Successful Early Warning – cases of volcanic eruptions in Japan”

Keynote Speech II

Mr. Ryosuke Kikuchi, Director of 2nd Research Department, Infrastructure
Development Institute - Japan

“Hazard Mapping Projects in Asia”,

Panel Discussion

Moderator: Mr. Satoru Nishikawa, Executive Director, ADRC

Panellists:

Republic of Korea: Dr. Yang-Su Kim, Senior Researcher, National Institute
for Disaster Prevention, Ministry of Government Administration and Home
Affairs

The Philippines: Dr. Norman M. Tungol, Officer in Charge, Geology & Geophysics
Research & Development Division, Philippines Institute of Volcanology &
Seismology (PHIVOLCS)

Viet Nam: Dr. Nguyen Huu Phuc Chief Division, Master Planning for Flood
Control Division, Department of Dike Management, Flood & Storm Control,
Ministry of Agricultural and Rural Development

BDPC: Mr. Muhammad Saidur Rahman, Director, Bangladesh Disaster
Preparedness Center, Bangladesh

Summary

The session was aimed to examine the usefulness of hazard maps as an effective early warning tool to reduce negative impact of disasters. Discussion included how hazard maps are developed, how they are distributed and how they are useful. Some of the key issues discussed are:

- Statistics in Japan show that hazard mapping is a useful tool to make early warning effective. Those who have seen a hazard map evacuated 1.5 times more in number, and 1 hour earlier than those who have not seen the hazard map.
- It has also been proved that hazard mapping can be a useful and cost effective tool to reduce impact of natural disasters (and other disasters). Hazard map development is one of the non-structural measures for disaster reduction. Hazard mapping is also useful for planning activities, such as city planning, land-use planning and development planning.

- There is a need to fill the risk perception gap (gap between the recognized risk and actual risk) among the members of the community. Community members must be correctly informed of possible disasters and their potential damages. Hazard maps are useful to fill the gap when they are properly developed and used. Adaptation of hazard mapping to local context is very important.
- Hazard maps must include simple and easy-to-understand information that the community wants to receive (such as, evacuation sites and routes, criteria for evacuation, how to behave in case of disasters, etc.) They also must be revised and updated regularly.
- Development of hazard maps of regions where data are scarce or poor is a challenge. Community based hazard map development would be a solution. Community-level activities are important to raise awareness and build capacity of the people. Participation of the community at risk, more importantly, ownership of the community is crucial. Community based activities are being recognized more and more by donors and are becoming more recognized by the authorities as well.
- Information sources should be diverse. Combination of low-tech and high-tech methods is important in developing hazard maps. Indigenous wisdom could be a most reliable source for local people. Knowledge and experience must be transferred from old generation to young generation.
- There has been an increase of water and climate related disasters in number and intensity and the damage caused by them is also increasing. It is important to examine the root cause of the phenomena. In order to cope with the new trend of disasters, there is a need to promote a holistic approach to disaster reduction. Hazard mapping could be a component of the approach. Cooperation among all sectors of the society is crucial to promote a holistic approach to disaster reduction, also making early warning effective and mitigating disaster risk.

Conclusion by the organizers

- To make early warning effective, appropriate risk awareness of local authorities and communities is essential, and for that purpose, hazard mapping is useful and effective. Hazard mapping activities in cooperation with all the stakeholders, including active community participation, should be promoted, which will enhance capacities to cope with disasters.
- Development of manuals on how to produce hazard maps and how to utilize them effectively is recommended. This should be developed with the consideration of each country's context.
- On-site training is very effective for hazard mapping. For disseminating the practical methods of community-based hazard mapping, the training for trainers, and on-site training for local authorities and community leaders, should be promoted.