



International Training Symposium for Typhoon and Flood Disaster Reduction – Taipei, Taiwan 21 March - 25 March 2005

National Science and Technology Center for Disaster Reduction, Taiwan, R.O.C.
Co-sponsored by the Asian Civil Engineering Coordinating Council (ACECC)



Reported by: Ir. Marlinda binti Abd. Malek

Abstract

In order to promote international collaborations on science and technology with the developing countries, an international research and training project was proposed by the National Science Council (NSC) of Taiwan. The National Science and Technology Center for Disaster Reduction (NCDR), as a major technical organisation on disaster reduction and prevention, was assigned to host the affairs.

The training program is designed in the form of short workshops to share experience with the related government officials and engineers from the developing Asian countries. By this kind of activities, the disaster-prevention technologies of the participating countries can be largely improved to reduce the impacts and losses caused by these accidents.

OBJECTIVE

The National Science Council of Taiwan R.O.C. proposed the "International Cooperation on Research and Training Programs" in order to enhance collaborations on science and technology with the developing Asian countries. In complying with this proposal, a short-term training program is organised on hazard mitigation with an emphasis on typhoon-related disasters. All government agency officials and engineers in the developing Asian countries are invited to share their experience on response to the impacts of typhoons. Two main targets of this project are as follows:

1. **The preparation and design of disaster prevention:** The professional content will include the comparison of the code, the design method, the flow chart, some design examples, and other details. These materials can also be used as the reference for the domestic disaster-preventing institutes in their practical training.

2. **The host ability of the disaster-preventing workshop:** By inviting the corresponding officials and engineers of the Southeast Asia countries to attend the workshop, the cooperation relationship can be largely improved.



Participants from 9 Asian and South American countries at the International Training Symposium for Typhoon and Flood Disaster Reduction, 21 March – 25 March 2005 held at the National Science and Technology Center for Disaster Reduction (NCDR), University of Taiwan, Taipei

ATTENDEES

The training program was attended by participants from nine Asian and South American countries. Since it was a rare opportunity for representatives from these countries to come together and exchange information on disaster reduction, each representative was to

present a short presentation and technical papers on disaster reduction and prevention situation in their own country.

TRAINING PROGRAMME

The training programme commenced with the technical papers presentation.

These sessions took place at the National Science and Technology Center for Disaster Reduction (NCDR), University of Taiwan. The topics presented include:

Meteorology Sessions:

1. Monitoring and forecast of typhoon and heavy rainfall in the Central Weather Bureau;
2. An Overview of typhoon;
3. Monitoring of typhoon and heavy rainfall using remote-sensing techniques: satellite imagery;
4. Monitoring of typhoon and heavy rainfall using remote-sensing techniques: radar measurement;
5. The Measurement of Benefits and Costs of Flood Alleviation.

Flood Sessions:

1. Establishing the database of inundation potential in Taiwan;
2. Inundation Potentials Analysis for Tsao-Ling Landslide Lake Formed by Chi-Chi Earthquake in Taiwan;
3. Integration of Precipitation Monitoring and Inundation Potential Maps for Flood Emergency Responses;
4. River Flood Forecasting Model with Real-Time Feedback Routing;
5. The Disaster Reduction Decision Support System in Taiwan.

Slopedland Sessions:

1. A GIS Process for Debris Flow Potentially Endangered Areas Delineating and Simulation;
2. Debris Flow Monitoring and Emergency Information System for Evacuation;
3. Rainfall Threshold Criterion for Debris Flow Initiation;
4. A Landslide Dam Breach Induced Debris Flow – a Case Study on

Downstream Hazard Areas Delineation;

5. The Mechanism and Operation of Emergency Response Center for Typhoon and Flood Disaster Prevention in Taiwan.

Other than the presentation of technical papers as mentioned above the participants were taken for technical visits to:

1. Central Forecast Center and Satellite Center in the Central Weather Bureau (Taipei);
2. Wufenshan Weather Radar Station (Ruei-Fung);
3. Yunshantzu flood diversion channel
4. Tan-Shui Flood Mitigation Command Center;
5. Hou-Tung debris flow observation station;
6. Chiu-Fen Jinguashi Gold Ecological Park;
7. Museum of Gold Temple of Gold.

CONCLUSION

Hazards mitigation is an integrated and long-term work. It involves a comprehensive hazards mitigation system, which includes hazards potential analysis, risk assessment, land use planning, establishment of regulations and standards, hazards scenario simulation, establishment of hazards mitigation system, implementation of hazards reduction plans, education to the general public, supply of insurance and financial incentives, and performance evaluation.

These are all strongly technological-based. Implementation of a successful hazards mitigation program depends on coordinating of all governmental agencies and participating of each one of the general public within societies, communities and schools.

In short, the 5-day training program on disaster reduction and prevention has achieved its objective. It is hoped that after the technical level of hazards mitigation has been promoted, the loss of life and assess of the society will be alleviated, and the groundwork of sustainable development will then be laid. ■