Summer training course on "Slope & Landslide Disaster Reduction"

One of the active network members, the National Taiwan University in collaboration with the **South-East Asian Network for Landslide Risk Management** has organized a summer training course on "Slope & Landslide Disaster Reduction". The course was held in Taipei, Taiwan during August 04-16, 2013.This course received Sponsorship from the National Science Council of Taiwan, Taiwan International Consortium on Geo-Disaster Reduction, Taiwan Intelligent Ironman Creativity Contest Association. It's an observed factor that landslide related disaster has become more and more frequent in Taiwan owing to its geography as well as due to global warming. The important objective of the summer training course was to promote capacity building as an effective tool in landslide risk management and to share the efforts of the Taiwan Government in undertaking effective interventions for reducing the loss due landslide disasters. This course is one of the first activities towards achieving the objectives of the South-East Asian Network for Landslide Risk Management. The course was attended by around 35 participants from Afghanistan, Bangladesh, Bhutan, China, India, Indonesia, Iraq, Japan, South Korea, Lao PDR, Madagascar, Nepal, Nigeria, Sri Lanka, Thailand, and Vietnam.

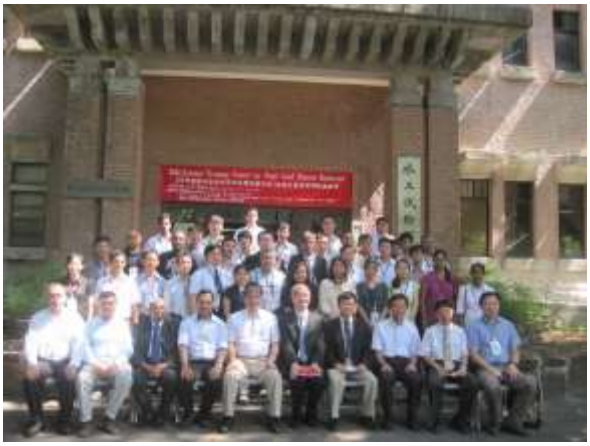

Fig 1. Participants of the summer training course on "Slope & Landslide Disaster Reduction"

Several faculty members from Taiwan National University headed by the course Director Prof. Ko-Fei Liu and representatives from other institutions shared the Taiwan experience in dealing with Slope land Disaster Risk reduction. Taiwan has all kinds of slope land hazards and has many important research applications, sound and good practices as well as experience in legal enforcement at local level. Therefore, Taiwan National University by organizing the summer school has created a unique opportunity for sharing of experience and knowledge in landslide risk management with several landslide practitioners from Asia. As a member of the landslide society, National Science Council in Taiwan provided financial support for participants of this training course by way of full fellowships as a token in fulfilling the responsibility towards building a safer world. Many experts who had provided resource inputs to the course have covered the content integrating the experience and practitioner's perspective in application brining

examples of various scenarios and contributed not only in providing knowledge but also in providing new ideas and techniques.

Field visits organized during summer training course

For the benefit of course participants the course also arranged field visits to several geo-hazard locations to share experience.

Fig 2. Demonstration of the mobile facility used for debris flow monitoring in Taiwan

Xiaolin village landslide and risk reduction measures

The participants had an opportunity to see the Xiaolin village landslide, which is located in Kaohsiung County, Taiwan. During typhoon Morakot, a deep-seated, dip-slope landslide with an area of 2.5 km2 occurred and killed more than 400 people. It occurred on August 9, 2009 due to heavy rainfall. The mean depth of Xiaolin landslide was 44.6 m. The main sediment slid through an original valley, dammed the Chishan River, and buried a part of the Xiaolin village. Dam-breaking occurred shortly after and buried remaining part of the village. It was the most devastating disaster occurred since the typhoon warning system was established in Taiwan in 1992.

Fig 3. Participants during the field visit to Xiaolin village landslide

Visit to 921 Earthquake Museum of Taiwan

At 01:47AM on September 21, 1999, the central part of Taiwan was struck by an earthquake that registered 7.3 on the Richter scale. The resultant loss of life and damage to property put it among the worst natural disasters of the past century in Taiwan. In the wake of the 921 disaster, the local government decided to preserve some of the phenomena related to the earthquake such as slips in the fault line, collapsed school structures, raised river beds and other selected locations, to serve as reminders for the public of the need to prepare for such disasters and to be ready to provide emergency rescue services. The 921 Earthquake Museum of Taiwan combines an Exhibitions Building with the geological changes and destroyed structures in one place to present a clear impression of the damage that was caused by the earthquake. The structures serve as pointers to the fault lines hidden under the earth and make the earthquake more real to visitors. Chelungpu Fault Gallery is located right next to the oval track that was sharply displaced during the earthquake, showing very distinctly how the fault line moved.

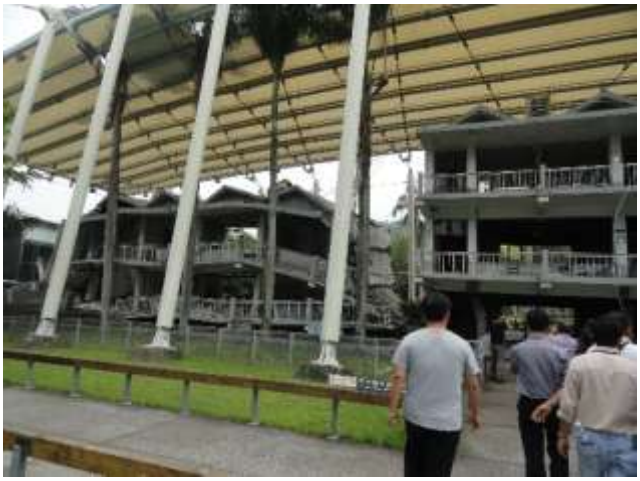

Fig 4. Participants visit to 921 Earthquake Museum of Taiwan

Visit to Chiu-fen-erh-shan landslide

The Chiu-fen-erh-shan landslide took place about 12 km to the north of the 921 earthquake epicenter. The total area of the landslide is more than 200 Hectare and the total volume moved down is roughly 30 million m3. The slide moved more than 2 Km and 20 household were destroyed. The slide is located in the Inner Western Foothill zone and affected middle to late Miocene sandstones with inter-bedded shale layers. The average thickness of the deposit is between 60 - 80 m. It consists of a chaotic mixture of small rock fragments and jointed blocks. The slide is one of the largest in Taiwan's record. Therefore, a Memorial park is established to preserve the entire original phenomenon. A comprehensive monitoring system is constructed here by Bureau of Water and Soil Conservation.