

Changes in People's Perceptions towards Landslide Risk Reduction Countermeasures in Yunlin, Taiwan

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1. Background and Objectives

From the World Bank report in 2005, Taiwan is considered to be the most vulnerable region to natural hazards in the world. Taiwan has high risk exposure to sediment disasters due to its topographical and geological circumstances. For example, the Chi-Chi (921) earthquake (7.6M) in 1999 and Typhoon Morakot in 2009 caused many landslide disasters. These two devastating disasters became turning points to change disaster management system in Taiwan in which the first disaster management related fundamental law was adopted in 2000 and later amended in 2010. However, it is difficult to prevent sediment disasters and to make early warning and evacuation effective. For this, evacuation with proper timing, understanding of sediment disaster, consideration of evacuation route and place and preparation during normal condition are necessary. In addition, it is important that people have sufficient disaster perception and continuously improve their activities. The objectives of this thesis are evaluating the people's perception during the Chi-Chi earthquake and Typhoon Morakot and clarifying the factors to change the perception.

2. Study area

The survey of this study was conducted in the two selected villages, Jong-hu (樟湖) and Guei-lin (桂林), which were damaged by landslide induced by Chi-Chi earthquake and Typhoon Morakot in Gukeng(古坑) township, Yunlin(雲林) county.

3. Methodology

First, this thesis has reviewed and analyzed governmental documents, publications, and reports that provide valuable data. Second, Focused Group Discussion (FGD) was conducted with key individuals for collecting data profile of these villages. Finally, the questionnaire survey was conducted to compare how the awareness of local people to disaster prevention changed before and after the disaster.

4. Results

A questionnaire survey was conducted with 121 people. Results from the questionnaire survey clarified that since experiencing the Chi-Chi earthquake, 48% of people's perception in Jong-hu and 22% of people's perception in Guei-lin increased at the time of Typhoon Morakot. The survey also found that the fire department was the most trusted in Jong-hu village and village leader was the most trusted in Guei-lin village during emergencies. In Jong-hu, there are several disaster prevention activities conducted by the fire department besides disaster prevention drills with the cooperation of fire department and Research Center for Soil and Water Resources and Natural Disaster Prevention, National Yunlin University of Science and Technology (Yun-Tech), Taiwan every month. On the other hand, because Guei-lin's village leader has been serving as the village leader since 1998, which is before Chi-Chi earthquake, he has built a strong reputation and relationship with the villagers. As a result, this study shows that improvement of the perception cannot be expected only by the disaster experience. To improve disaster perception, professional advice is needed and hence, disaster prevention drill and education should be held several times in a year continuously. From the findings, this study suggests a flow diagram to increase people's perception towards landslide risk reduction (Figure 1).

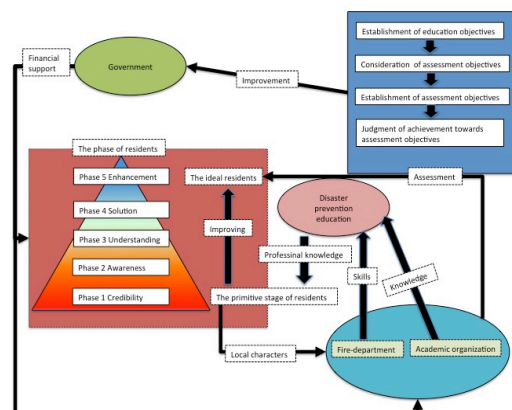


Fig 1. Flow to improve people's perception towards landslide risk reduction