

Multi-Sediment Disasters and Large Scale Landslides Caused by Extremely Heavy Rainfall in Southern Taiwan

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ABSTRACT

Extremely heavy rainfall intensity and amount more than 2,900mm within continuous 3 days were brought by Morakot typhoon in August, 2009. Very serious compound disasters including multi-sediment disaster (MSD) and large scale landslides (LSL) were induced by this heavy rainfall event. As a result, we proposed this research as a three-year project mainly focuses on applying field investigations integrated with GPS/GIS/RS technique to analyze and investigate the characteristics, movement and mechanism of MSD&LSL. The satellite image analysis after Morakot typhoon was conducted by Soil and Water Conservation Bureau indicated that more than 11,951 sites of landslide with total sliding area of 18,450ha. Zengwen, Nanhua and Wusanto reservoir watershed located at the southwestern Taiwan were selected as study areas used to identify the extent of large scale landslides and multi-sediment disasters. In order to decrease the risk of MSD&LSL, consideration on the mechanism and behavior of those large scale compound disasters induced by extremely heavy rainfall become an important issue in Taiwan. This 3-year project was proposed and conducted by the researcher from different academic aspect on the basis of sediment related disasters and large scale landslides resulted from heavy rainfall event. Hopefully, all results can be used as references for the disaster prevention and hazard mitigation systems operated by the Zengwen, Nanhua & Wusanto reservoir watershed agencies in southern Taiwan.

Keywords: Heavy Rainfall, Compound Disasters, Large Scale landslides, Multi-sediment Disasters.