Analysis on the Critical Rainfall Value For Predicting Large Scale Landslides Caused by Heavy Rainfall In Taiwan.

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ABSTRACT

The accumulated rainfall amount was recorded more than 2,900mm that were brought by Morakot typhoon in August, 2009 within continuous 3 days. Very serious landslides, and sediment related disasters were induced by this heavy rainfall event. The satellite image analysis project conducted by Soil and Water Conservation Bureau after Morakot event indicated that more than 10,904 sites of landslide with total sliding area of 18,113ha were found by this project. At the same time, all severe sediment related disaster areas are also characterized based on their disaster type, scale, topography, major bedrock formations and geologic structures during the period of extremely heavy rainfall events occurred at the southern Taiwan. Characteristics and mechanism of large scale landslide are collected on the basis of the field investigation technology integrated with GPS/GIS/RS technique.
In order to decrease the risk of large scale landslides on slope land, the strategy of slope land conservation, and critical rainfall database should be set up and executed as soon as possible. Meanwhile, study on the establishment of critical rainfall value used for predicting large scale landslides induced by heavy rainfall become an important issue which was seriously concerned by the government and all people live in Taiwan. The mechanism of large scale landslide, rainfall frequency analysis ,sediment budge estimation and river hydraulic analysis under the condition of extremely climate change during the past 10 years would be seriously concerned and recognized as a required issue by this research. Hopefully, all results developed from this research can be used as a warning system for Predicting Large Scale Landslides in the southern Taiwan.

Keywords：Heavy Rainfall, Large Scale, landslides, Critical Rainfall Value