

花蓮馬遠村八鄰野溪麥德姆颱風土砂災害調查與評估

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摘要 2014 年 7 月麥德姆颱風過境時帶來充沛雨量，導致花蓮縣萬榮鄉馬遠村八鄰野溪發生嚴重之土砂災害，大量溪水夾雜土石沿野溪溝槽進行渲洩，導致沿線溪床溝岸受到嚴重之沖刷與土石淤積情形，並造成下游左岸 3 戶八鄰民宅遭到土石淤埋。由災後現場調查與室內分析結果得知，該土砂災害事件發生於 7/23 凌晨零時，當時達到兩場最大降雨強度 74.5mm/hr，其有效降雨量為 328.5 mm，總累積雨量 544mm，集水區溝岸崩塌面積共約 0.22 公頃，下游堆積土砂高度約 1~1.5m，災害範圍面積約 4,782m²，堆積之土方量估計約為 5000m³。本研究根據水保局 2013 年函頒之土石流潛勢溪流劃設作業要點之影響範圍判定方法進行初步劃設，並依據現場調查蒐集參數進行 FLO-2D 土石流堆積範圍模擬，將模擬結果與災後實際之土砂影響範圍進行比較與探討，以期精進土石流影響範圍之劃設作業。

關鍵詞：馬遠村、土石流、土石流潛勢溪流劃設作業要點、影響範圍。

Sediment Disaster Investigation and Assessment of a Torrent in Mayuan Village, Hualien during Typhoon Matmo

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ABSTRACT During July 2014 Typhoon Matam brought heavy rainfall, which triggered sediment disaster in 8th neighbor of Mayuan Village, Wanrong Township, Hualien County. Debris was washed down and severely damaged the banks along the torrent, and resulted in the damage of 3 residential houses in the downstream. The disaster was occurred in midnight of Jul. 23, the maximum hourly rainfall was 74.5mm with effective rainfall reaching 328.5mm, and the total accumulative rainfall is 544mm. The main source of sediment is believed to be the erosion of the torrent banks, with visible landslide area less than 0.22 Ha. The debris volume is estimated at 5,000 m³, which covers about 4,782 m² with inundation height 1 to 1.5m. This study follows the guideline of mapping debris flow torrent to draw the preliminary affected area, and then conduct FLO-2D simulation to verify and compare the result with actual disaster event in order to improve the mapping of debris flow in the future.

Key Words : Mayuan Village, debris flow, potential debris flow torrent mapping guideline, inundation area.

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