土石流流出土方量經驗公式推估之研究 - 以阿里不動溪集水區為例

陳文福[1]　李賢佑[2*]　陳俞瑾[3]

摘　　要　台灣因位處於歐亞大陸板塊與菲律賓海板塊交界處，地盤年輕，地質破碎，故地震頻繁；且因屬於亞熱帶海洋性氣候，雨量豐沛，頻傳颱風、豪雨，以至於山區經常發生崩塌及土石流等現象。準確地估計土石流之流出土方量，對學術研究人員和工程從業人員都是一個挑戰。前人研究指出土石流流出土方量與土砂儲存量、集水區面積、溪床坡度、降雨等因素之間具有相當顯著之關係。而本研究蒐集陳有蘭溪上游之支流，阿里不動溪集水區之現地調查資料，挑選出如高程、坡度、坡向、降雨量等四項因子，並利用空間資訊分析、迴歸分析推估該區之土石流流出土方量經驗公式，期能作為將來發生土石流災害時評估流出土方量之用，進而作為土石流潛勢分析之參考。

關鍵詞：土石流流出量、經驗公式、迴歸分析

Estimate of Empirical Formula for Volume of Debris Flows ─A Cases Study of Alibudong Stream Watershed

Wen-Fu Chen[1]　Sian-You Li [2*]　Yu-Chin Chen[3]

ABSTRACT　Taiwan Island is located on the suture zone of the Philippine Sea Plate and Eurasian Plate, featured with steep terrain and weak geology. When typhoon season comes, it will be caused serious disaster such like landslide、debris flow.

How to estimate the volume of debris flow accurately is a big challenge for study researcher and engineer. It has a significant relationship between the volume of debris flow and sediment storage capacity, watershed area, riverbed slope steepness, rainfall and other factors. In this study, the field investigated data used for evaluation were watershed area, riverbed slope steepness, rainfall and other factors. Finally, it was using spatial information technology, regression analysis and cluster analysis to analyze the correlation between the factors and the volume of debris flow to get an empirical equation. It also can provide to estimate the volume of debris flow for the related management in the future.

Key Words: The quantification of debris flow, Empirical quantification equation, regression analysis

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〔1〕國立中興大學水土保持學系教授
Professor, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan
〔2〕國立中興大學水土保持學系研究生（* 通訊作者 E-mail:arthas1999@gmail.com）
Graduate Student, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402, Taiwan
〔3〕國立中興大學水土保持學系博士班研究生
Doctoral Graduate Student, Dept. of Soil and Water Conservation, National Chung Hsing University, Taichung 402,Taiwan