

# 應用植生復育率劃分大規模崩塌地堆積區之研究

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**摘要** 近年受到地震與暴雨的影響，臺灣山區災害頻傳，崩塌土石流事件屢見不鮮，其中著名的大規模崩塌事件更是備受關注，其災後之崩塌地植生復育及治理工作顯得極為重要。而崩塌地之萃取須採用災害前後數值高程模型進行推估，然礙於數值高程模型製作成本高，往往改採衛星影像進行萃取，由於滑落及堆積區位不易由衛星影像區分，因此崩塌土方量則常有高估之情形。本研究利用崩塌之堆積區土層較深厚，植生復育情形較滑落區為佳之特性，以小林村、九份二山、二萬坪等大規模崩塌地作為研究對象，利用災前災後之衛星影像以影像相減法萃取崩塌區位，並取災後數期之衛星影像作為評估期計算植生復育率（Vegetation Recovery Rate, VRR）。以 K-mean 劃分合理之植生復育門檻值區分滑落及堆積區位，作為大規模崩塌地災後復育及治理之參考。

**關鍵詞：**大規模崩塌、崩塌地萃取、植生復育率、K-means 群集分析。

## Delimiting Deposition Area of a Large-scale Landslide Using Vegetation Recovery Rate

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**ABSTRACT** Recently, the disaster events such as landslide and debris flow were frequency in Taiwan suffered from earthquake and heavy rainfall. Especially, the famous large-scale collapse events were paid attention to vegetation recovery and treatment which is very important. Landslide area could be extracted from the digital elevation model of per- and post- disaster. However, most of researches would extract the landslide area from satellite image due to high cost of digital elevation model. Because the collapse and deposition area weren't distinguished from satellite image, the landslide volume would be overestimated. In order to delineate the deposition area, this study applied the property that the vegetation recovery in deposition area was better than in collapse area owing to deep soil depth in deposition area. The large-scale landslide in Siaolin Village, Chiufengershan, and Erwanping were selected as study area. The landslide area would be extracted from pre- and post-disaster satellite images, and the Vegetation Recovery Rate (VRR) would be evaluated from several post- disaster satellite images. The threshold of VRR defined by K-means cluster would be used to distinguish the collapse and deposition area. The results could be as a reference for large-scale landslide recovery and treatment.

**Key Words :** Large-scale landslide, Landslide extraction, Vegetation recovery rate, K-means cluster.

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