

臺灣歷史堰塞湖案例分析與探討

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摘 要 台灣山區地勢陡峭、地質破碎，加上地震或颱風豪雨事件容易造成山區土石崩塌，崩塌之土體一旦於河道堵塞，極有可能形成堰塞湖。前人研究顯示，堰塞湖存在時間短則幾小時，長則數千年，若發生潰決將嚴重影響下游居民生命財產安全，實為防災應變重要之研究課題。本研究蒐集全臺灣 1862-2022 年共 38 處天然壩堰塞湖案例，參考文獻紀錄及利用衛星影像進行崩塌地及堰塞湖判釋，統計分析堰塞湖發生誘因及壽命，並進一步與全世界堰塞湖案例做比較。整體而言，降雨及地震為觸發坡面崩塌形成天然壩之主要誘發因子，約 80% 之堰塞湖都是在形成後的第一年內潰決，與全世界研究堰塞湖誘因及壽命之趨勢相同。本研究蒐集整理的全臺歷年天然壩堰塞湖案例，可供未來堰塞湖相關研究參考及應用。

關鍵詞：堰塞湖、壽命、防災應變。

Case analysis and discussion of historical landslide dams in Taiwan

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Abstract The mountainous terrain in Taiwan is steep and fragile geology, which is easier to cause landslides when earthquakes, typhoons, or heavy rain events happen. Once the sediment of landslides is blocked in the river, likely to form a natural landslide dam. Some researchers indicated the existence of a natural landslide dam is short as a few hours, long as thousands of years. If the landslide dam breaks, it affects the safety of life and property of downstream protected targets seriously, which is an important research topic in disaster prevention. This study collected a total of 38 cases of natural landslide dams in Taiwan from 1862 to 2022, and statistical analysis of the causes and lifespan of natural landslide dams is done from the interpretation of collapse area and natural landslide dams by satellite imagery and historical document. Moreover, this study compared with the cases of natural landslide dams around the world. In general, rainfall and earthquake are the main triggering factors for landslides that cause natural landslide dams indirectly, and about 80% of natural landslide dams break within the first year after formation. There is the same trend in research on the causes and lifespan of natural landslide dams in Taiwan and the world. In addition, this study collects the cases of natural landslide dams in Taiwan over the years, and it can be used for reference and application of related research in the future.

Keyword: landslide dam, life span, disaster response.

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前言

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- 本研究蒐集全臺灣1862-2022年共38處天然壩堰塞湖案例，參考文獻紀錄及利用衛星影像進行崩塌地及堰塞湖判釋，統計分析堰塞湖發生誘因及壽命，並進一步與全世界堰塞湖案例做比較，可供未來堰塞湖相關研究參考及應用。

材料與方法

