

莫拉克颱風複合型災害發生歷程的時空重建 —以小林村深層崩塌為例

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摘要 莫拉克颱風所帶來的豐沛雨量，造成了五十年來颱風災害中最嚴重的人員死傷。此次莫拉克風災中，包括洪水、土石流、崩塌及堰塞湖等災害同時發生，形成複合式的災害危害型態。本文藉由莫拉克風災引發的小林村複合型土砂災害時間、空間發生歷程及情勢演變的調查與重建，以及深層崩塌災例的細部調查資料，說明複合型災害的特性以作為後續因應對策的參考。針對複合型災害，未來應積極發展複合型災害的調查、模擬及預警等方法，以因應極端氣候下發生頻度增、規模大及影響鉅之未來土砂災害演變情勢。

關鍵詞：莫拉克颱風、複合型災害、重建、崩塌。

The Reconstruction of the Processes of Catastrophic Disasters Caused by the 2009 Typhoon Morakot

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ABSTRACT Typhoon Morakot was the deadliest typhoon in Taiwan in the last 50 years. Different kinds of disasters resulting from Typhoon Morakot occurred simultaneously. These disasters, including flood, landslides, and landslide dams, are briefly explained in this paper. Simultaneous occurrences of these disasters resulted in composite hazards. The devastation of Siaolin village is an example of composite hazards and is described in this paper. Some of these disasters occurred simultaneously or consecutively in one place. Such disasters are defined as a compound hazard in this paper. It is concluded the current warning system for single disasters is perhaps insufficient to handle such composite hazards. It is necessary to develop a comprehensive system for decision makers to handle composite hazards.

Key Words: Typhoon Morakot, composite hazards, reconstruction, landslide.

一、前言

因極端降雨所引發災害型態，已由過去單純局部區域的洪水、土砂災害，轉變為大規模區域的洪水與土砂複合型災害的同步發生。2009年8月8~10日的莫拉克風災，颱風及其後續之西南氣流挾其長延

時、高強度及大範圍的特性，在台灣中南部地區連續四天創下近3,000公釐左右的降雨紀錄，同時誘發了淹水、淺層與深層崩塌、土石流及堰塞湖等不同類型的災害。這些災害同時或先後侵襲同一區域，不僅造成受災區域之重大災害，也使得現有的土石流警戒、預報與應變機制面臨考驗，需積極尋求新的思維與新

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