

## 曾文水庫集水區莫拉克風災後土砂環境檢查及診斷評估

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**摘 要** 本研究考量降雨量影響之「逕流率」、反應土砂產量之「崩蝕率」、反應集水區綠色植被生長情況之「植生覆蓋率」、反應溪流或水體中懸浮固體多寡之「含砂濃度」等四個土砂環境檢查指標，以整體水庫集水區為分析單元，並採用實測資料逐一剖析及診斷莫拉克風災前後曾文水庫集水區所涉及水源、水質、水量之土砂生產環境問題。分析成果顯示，於災害事件前後水庫集水區水資源涵養力仍保持原有狀態；惟因該事件挾帶大量豪雨，誘使坡面產砂加劇，水庫土砂環境之健康急遽惡化，且進入主流河道遞移土砂已超過曾文水庫集水區內主流河道基本輸砂能力，大量土砂瞬時往下游庫容帶送，致使入庫水質不佳，遂引發下游供水危機，影響民生用水，可見曾文水庫集水區保育治理確實有立即投入必要性。

**關鍵詞：**土砂環境檢查、曾文水庫、莫拉克颱風。

### Post-Typhoon Morakot Sediment Environment Assessment and Diagnoses for Tseng-wen Reservoir Watershed

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**ABSTRACT** This study utilizes runoff ratio, denudation ratio, ratio of green vegetation cover and sediment concentration as watershed indicators for sediment environment assessment of Tseng-wen reservoir watershed, considering the effects of accumulated rainfall, sediment production, green vegetation growth and number of suspended solids respectively. In-situ measurements were analyzed to diagnose sediment environmental issues concerning water source, water quality, and water quantity in the reservoir watershed before and after typhoon Morakot. Results suggest the water resources capacity of the Tseng-wen watershed was maintained at a rational level before typhoon Morakot. However, The period of high intensity rainfall associated with typhoon Morakot exceeded the reservoir's capacity and caused the sediment environment of the reservoir to be deteriorated leading to worsening of water quality and endangering the water supply of downstream settlements. This assessment concludes that, due to the effects of typhoon Morakot, Tseng-wen reservoir has an immediate need for remediation and water conservation measures.

**Key Words:** sediment environment assessment, Tseng-wen reservoir, typhoon Morakot.

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