網格化地震衝擊技術應用於本土化震後收容安置評估

The Application of Mesh-based Earthquake Scenario Impact Assessment for Localized Assessments of Post-earthquake Shelter Needs

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摘　要

國家災害防救科技中心（以下簡稱災防科技中心）為利於防災提供整體性的地震衝擊自動化評估流程與研究環境，開發「地震衝擊資訊平台(TERIA)」，依地震防災應用需求加值相關基礎資訊，以 500m×500m 網格為單元，建置全臺範圍之基本資料庫，並運用 GIS 地理資訊系統提供空間化分析資訊與整合。TERIA 平台已蔚為地方政府及各學研協力機構應用，於各縣市防災演練與震災防救業務計畫研擬中提供相關模擬結果。

對於政府而言，在災前精準預估公共避難收容場所的需求及整備地震避難收容資源，並於災時有效率地分配、運用為重要性議題。在過去大多採用美、日等國外相關研究公式與參數，本研究採用科技部研究計畫（105-2625-M-015-002-）成果，將房屋稅籍資料與政府開放人民所得資料應用於國內學者盧鏡臣、劉玉祥提出的本土化震後收容安置評估模型與參數中，結合災防科技中心「地震衝擊資訊平台(TERIA)」網格化地震衝擊評估技術，期能協助政府強化災害防救作業效能與提昇社會整體抗災能力。

關鍵詞：地震，衝擊評估，網格化，收容安置

Abstract

NCDR developed a grid-based scenario simulation tool, Taiwan Earthquake Impact Research and Information Application Platform (TERIA), to assess the seismic impact based on variety of inventory database collected from government agencies. Incorporated with geographic information system (GIS) analysis through digitized grid, TERIA is capable of analyzing the ground motion, casualty, and damages of buildings, roads, bridges, portable water system, power supply system and displaying those results in 500m×500m grids on interactive interfaces. This online application platform can help you searching inventory data,

doing impact assessment, and displaying the evaluation results in spatial distribution.

The past estimation methods of sheltering needs after a major earthquake in Taiwan are calculated by HASUS or Japanese model, so the weights and parameters may not be very applicable. This study employs the research achievement of National Science and Technology Council (105-2625-M-015-002-) : the localized model and parameters proposed by Dr. Lu, Jing-Chein and Liu, Yu-Hsiang for calculating the sheltering needs of dislocated households. We apply the housing tax data and the government's open data into this localized model with the gridded earthquake impact assessment technology of TERIA for the purpose of disaster scenarios to improve the precision of evaluated casualties.

Keywords: Earthquake，Impact Assessment，Grid-based，Sheltering needs