

草嶺地震崩場地自然與人工植群復育之比較研究

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摘 要 本研究於 2006 年 7 月至 8 月間，調查雲林縣古坑鄉草嶺村 1999 年 921 大地震崩場地之植生恢復狀況，應用多樣區法，分別於自然復育區與人工復育區各設立二個大樣區，每樣區為 20 m × 20 m，即由 16 個 5 m × 5 m 之小樣區所組成，施行植群調查，分析重要值指數(IVI)、族群結構。調查結果，於自然復育樣區紀錄維管束植物 37 科 64 屬 69 種；以羅氏鹽膚木為優勢種，IVI 值 84.75；徑級分布曲線呈現反 J 型分配。人工植群復育樣區紀錄 16 科 37 屬 39 種，因以光蠟樹、欖樹為目的復育樹種，IVI 值分別為 62.49、56.12 為優勢種，次優勢種為羅氏鹽膚木，IVI 值為 54.73。

根據 2001 年於同一地區調查結果，以山黃麻為優勢種；歷經 7 年發育、生長，山黃麻徑級分布曲線呈鈴型分配，顯示山黃麻逐漸枯損，目前由羅氏鹽膚木居優勢狀態。

自然與人工復育區之比較，無論植物組成、生活型與蕨類商數、植群結構組成及植物社會歧異度分析結果，均呈現自然復育區優於人工復育區；人工復育區則因不良生育環境，縱使強行實施人工栽植復育，惟因苗木枯死率高，造成營林經費重複投資。建議針對實際需要的區域作適度復育工作，其餘則以「時間」任其進行演替為佳。

關鍵詞：自然復育、人工復育、崩場地、草嶺。

Comparison of the Natural and Artificial Regeneration in Landslide Areas Caused by an Earthquake in the Chaoling Region, Central Taiwan

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ABSTRACT In the landslide area of Chao-ling village, Gukong township, Yunlin County that was caused by the 9/21 earthquake of 1999, two plots (20 m × 20 m each) were set up separately in natural and artificial regeneration sites and each plot was composed of 16 sub-plots (5 m × 5 m each). From July to August in 2006 the vegetation was surveyed in the plots and the population structure and Important Value Index (IVI) were analyzed to evaluate the regeneration status in the landslide area. In an natural regeneration site, 69 vascular species categorized into 64 genera and 37 families were recorded, and *Rhus semialata* var. *roxburghiana* was found to be the dominant species with an IVI value of 84.75 and inverse J-shaped

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diameter-class distribution. In an artificial regeneration site, 39 vascular species categorized into 37 genera and 16 families were recorded. Since *Fraxinus griffithii* and *Zelkova serrata* were used as recovery species planted in the artificial regeneration site, these two species became the first and the second dominant species with IVI values of 62.49 and 56.12. *Rhus semialata* var. *roxburghiana* was the third dominant species with an IVI value of 54.73.

According to a survey in 2001 on the identical area, *Trema orientalis* was the dominate species. After seven year's development and regeneration, the diameter structure distribution of *Trema orientalis* changed into a bell-shape which indicates that the dominance of *Trema orientalis* species has been passed on to *Rhus semialata* var. *roxburghiana*.

Comparing natural and artificial regeneration sites, we found that the former was superior to the latter in terms of species composition, life-forms, pteridophyte-quotient, vegetation structure and diversity. In the artificial regeneration site, the seedling mortality was higher due to unfavorable environmental conditions, thus planting of seedlings with the purpose of regeneration may only lead to repetitive expenditure of forest management. Moderate restoration is advised only in the imperative regions, and "time" should be left to take care of the succession in other areas.

Key Words: Natural regeneration, artificial regeneration, landslides, Chaoling.