中華水土保持學報, 35(1): 35-44 (2004)
Journal of Chinese Soil and Water Conservation, 35 (1):*35-44* (2004)

土石流觀測站優先設置區位評選之研究

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摘　　要　爲有效搜集土石流發生的過程相關資訊並於必要時發布區域性的避災訊息，土石流觀測站的設置有其必要性。然而，如何對眾多土石流潛勢溪流訂定其設置順序，卻是另一有待解決之課題。因此，本研究首先進行相關文獻回顧以推導觀測站設置之評估準則及項目，並利用效度問卷確認體系所包含之二十七個評估指標。其次，本研究應用分析階層程序法（AHP）取得各評估因子之專家群體決策權重值。最後，本研究選擇五個實證區以多評準決策之簡單加權法及 PROMETHEE 法進行方案評選。研究結果顯示不論使用何種評選方法，郡坑村之潛勢溪流皆排名第一順位。而以 PROMETHEE 法進行敏感度分析發現，若土石流發生潛勢之權重值增加量不超過 0.1989，則方案之評選順序不會有任何變化；但對擁有絕對優勢之方案(郡坑及上安)，則不受權重變化所影響。

關鍵詞：土石流觀測站、區位評選、多評準決策。

The Priority Assessment for Debris Flow Observatory Stations

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ABSTRACT　Due to special environmental condition in Taiwan, debris flow occurred frequently at the mountain areas and caused very serious disasters. For better understanding on the characteristics of debris flow and further research needs in warning systems, the establishment of debris flow observatory stations has become as an important issue for Council of Agriculture in recent years. However, it is impossible to establish observatory stations on all those 1400 creeks with high potential of debris flow disasters at same time. Therefore, the assessment on the priorities of observatory stations will be the key process on the disaster mitigation. To solve this problem, this study constructed a location assessment system for ranking potential creeks through techniques of multi-criteria decision making (MCDM) and expertise of scholars in this field. With weights obtained from Analytic Hierarchy Process (AHP), this system can provide the location priorities for studying stations based on the evaluation criteria for all factors concluded form experts' opinions.

Key Words: debris flow observatory station, priority assessment, multi-criteria decision making.

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