

山區道路邊坡工程與生態效益之評估研究

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摘要

Global warming has an effect on climate change, and countries worldwide have begun to pay attention to this issue by integrating ecological conservation into their public infrastructure. Both public infrastructure and ecological environment have to be taken care of as equally important. As a result, ecological system stability and environmental pluralism need to be incorporated into public infrastructure. This study, focused on mountain roads, assessed mountain roadside slope construction and ecological effects. The effect of applying ecological engineering methods on roadside slope construction was explored, too. This research first discussed differences between the conventional slope protection and the reinforced slope protection, and then factors related to their failure were analyzed. The basic structural components of these two types were compared as well. Lastly, a questionnaire survey was conducted, and the obtained information was used as the benchmark in the discussion. The analytic hierarchy process (AHP) was adopted to obtain the weight of each assessment factor, and the result were analyzed. The findings suggest that biological characteristics and life cycles were much more weighted than all other aspects, whereas road design and economic cost were weighted much less. Therefore, scholars have recognized that biological characteristics and life cycles are the most important issues. While using roadside slope protection to secure the earth, it is also important to add planting to beautify the environment and minimize greenhouse gas impacts. Through summarizing relating factors and reviewing relevant studies, the author hopes to generate positive information on mountain roadside slope construction and ecological effects and furthermore, to disseminate the idea of sustainable development.

關鍵字：roadside slope construction, ecological effect evaluation, analytic hierarchy process