

Typhoon Disaster Risk Assessment of Mountain Village: A Case Study of Shanlin District in Kaohsiung

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Abstract : Taiwan is mountainous country, 70% of land is covered with mountains. Because of extreme climate, the mountain villages with sensitive and fragile environment often get easily affected by inundation and debris flow from typhoon which brings huge rainfall. Due to inappropriate development, overuse and fewer access roads, occurrence of disaster becomes more frequent through downpour and rescue actions are postponed. However, risk map is generally established through administrative boundaries, the difference of urban and rural area is ignored. The neglect of mountain village characteristics eventually underestimates the importance of factors related to vulnerability and reduces the effectiveness. In disaster management, there are different strategies and actions at each stage. According to different tasks, there will be different risk indices and weights to analyze disaster risk for each stage and then it will contribute to confront threat and reduce impact appropriately on right time. Risk map is important in mitigation, but also in response stage because some factors such as road network will be changed by disaster. This study will use risk assessment to establish risk map of Shanlin District which is mountain village in Kaohsiung as a case study in mitigation and response stage through Analytic Hierarchy Process (AHP). AHP helps to recognize the composition and weights of risk factors in mountain village by experts' opinions through survey design and is combined with present potential hazard map to produce risk map.

Keywords : risk assessment, mountain village, risk map, analytic hierarchy process

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