



Watershed integrated regulation plan after earthquake affects

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Abstract

After 921 Chi-Chi earthquake, Toraji, Mindulle and Aere typhoon in recent years, because of the considerable newly landslides in the middle and upper watershed which located in the central Taiwan, a large number of collapse and debris flow disasters took place in the earthquake recovery area during typhoon torrential rain whenever. Based on the experience of the Great Kanto Earthquake of Japan, the influence of the earthquake to the landslides which located in the mountain area, the emergency level does not resume to approach to which before the earthquake until 40 years after. Therefore, in future decades, the variation and the trends of the transportation of soil and sand material in the upstream watershed may affect the stability of downstream channel, channel constructions and crossing river constructions.

This paper discussed the equilibrium of the sediment transportation in Da-An river watershed. According to the hydrology frequency analysis, the discharge and the amount of sediment in every sub-basin is simulated. Coordination with the river-bed analysis model, the medium and long period development of the main channel is estimated. An appropriate solution which satisfied the equilibrium of sediment transportation in the watershed and the stability of the channel is discussed. An assessment of the necessity the constructions and the efficiency of the watershed integrated regulation is also made in this paper.

Keywords: Earthquake, Integrated regulation, watershed