Simulation of landslide risk in javanroud basin using AHP method considering geomorphic properties

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Extended abstract 1- Introduction

Whenever slop is exposed to unsteadiness, landslide occurrence is unavoidable on the surface according to the heavy rain, under layers of the slop and fault movement.

The slops of Javanrood Basin are one of the slops in folded Zagros, which are exposed to landslide. Recording 31 landslides on the surface of this small area confirms this issue. The aim of this research is recognition of this unsteadiness according to the strength and weakness based on AHP model.

2- Methodology

The method applied in this research is analytic hierarchy process (AHP). The base of this model is comparing variables by pair wise by Matrix relationship. In this way, pair wise of the effective variables on the landslide were considered and based onrelative weights the output was extent.

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The process of the research has been done by GIS. The outcome of this research has been presented the zoning map of landslide severity in the four classes including very high, high, average and low. The applied data and maps included; geology map 1/100000, topography map 1/50000, Dem, satellite picture A.T.M (2002) and GIS software.

3- Discussion

The natural feature of the environment such as the weak materials of the earth, the half-wet cold climate, the wide spread of the running waters, the low hill earth with thick over weathered layers, accompanying with human interference through flattening of the slop and road building in such foothills are the ground work of many and repeated occurrence of the land sliding in the basin of Javanrood.

4- Conclusion

The result showed that about half of the area in Javanrood basin (about 58%) was classifying very high and high risk to land slide, and 36% is under the danger of medium occurrence of landslide which involve the width of Shili and Marn

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layers, Goorpi and Radiolarit formation, seem natural. Based on these finding only in 5.5% of Javanrood area the possibility of the occurrence of landslide is weak.

Key words: Javanroud, AHP method, Landslide, analytical hierarchy process.

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