MITIGASI BENCANA TANAH LONGSOR DENGAN PEMETAAN TINGKAT RISIKO BENCANA DI KABUPATEN KARANGANYAR

Widodo
NIM : 07/262417/PMU/5206

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 31 Juli 2009

Pembimbing Utama
Teuku Faisal Fathani, ST., MT., Ph.D

Pembimbing Pendamping
Prof. Ir. Dwi Korita Karnawati, M.Sc., Ph.D

Anggota Dewan Penguji Lain
Prof. Dr. Ir. Djoko Legono

ABSTRACT

A landslide disaster or a massal movement of land is a natural event whose frequency of occurrence currently increases in Indonesia, such as in Karanganyar District of 2007. The disaster caused more than 70 victims and tremendous losses of properties. To anticipate and prevent early the natural disaster of landslide in a wide range of regions, it is necessary to take the efforts of mitigating the disaster, by using the mapping of landslide risk levels as the combination maps of landslide vulnerability and landslide exposure, serving as an important recommendation for the Local Government in the management of preventing and mitigating the natural disaster of landslide.

This study was to find out the landslide levels of vulnerability, exposure, and risk based on a weighting of affecting parameters such as the slope of hillside, land use, geology and kind of soil, rainfall, and population density. Analysis was supported using the mapping based on direct method provided by the Department of Energy and Mineral Resources (2000) using Arch View software version 3.3.

Result of the analysis indicates that a factor influencing the landslide was weathered rocks resulting in the thick stratum of soil, particularly in a region with the sheer slopes of the hillside, and triggered by rainfall in a moderate to high rate. Result of the mapping was represented in the maps of vulnerability, exposure, and risk level, each of which was classified into four classes, i.e. high, moderate, low, and very low). Analysis on the maps of landslide risk level from the combination process of the maps of vulnerability and exposure levels indicates that the high, moderate, low, and very low risk levels of landslide in the disaster were 21,260.29 ha (26.70%), 34,496.05 ha(43.33%), 16,205.04 ha (20.35%), and 7,659.20 ha (9.62%), respectively, of the total areas of the study. Therefore, attention should be given by many parties, both government and local communities, to the areas of the study in terms of controlling and mitigating the landslide disaster.

Keywords :
Landslide, mitigation, maps of vulnerability, exposure, and risk level, Arc View 3.3.