



Abstract

Penanggulangan Bencana Tanah Longsor di Ruas Jalan Rantepao-Palopo Provinsi Sulawesi Selatan

Dian Pratiwi Anggeraini
10/309646/PTK/7194

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 11 Juli 2013

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

Pembimbing Pendamping
Ir. Djoko Murwono, M.Sc

Anggota Dewan Penguji Lain
Dr. Ir. Rachmad Jayadi, M.Eng

Rantepao – Palopo Road Section is 61 km long, which provides a connection between Palopo City and North Toraja District. Geographically, the road is winding, located in a hilly area with steep canyon. This condition makes the road vulnerable to soil movement or landslide. On 8 November 2009, a landslide, which caused a huge material and immaterial loss, took place. The scale of the disaster was so large that it was classified as a national disaster. In the landslide disaster management, the mitigation and preparedness effort will be more focused if complemented with spatial data in the form of landslide hazard map in Rantepao – Palopo road section.

This research uses Public Works Minister Regulation No.22/PRT/M/2007 concerning landslide hazard area spatial planning as the reference which is modified and assisted with the application of Geographical Information System (GIS). Based on the hydro-morphology condition, the research location can be classified into three, namely typology A (> 1000 mdpl), typology B (500 – 1000 mdpl), and typology C (<500 mdpl). Each typology consists of natural physical aspects with slope indicator, soil type, geology, rainfall, distance from the river/slope water system, distance from seismic fault and vegetation. Human activity aspects comprise planting pattern indicator, slope cutting, pond, population density, and mitigation effort.

Based on the regulation, several indicators are difficult to apply in the road section study. Therefore, in this research, some modifications are made to several indicators. In the slope cutting indicator, to obtain slope cutting map, overlay process on topography map, slope variation map, and road section map was performed. The distance from the river/slope water system was obtained by calculating the distance from the river to the road, the closer the river to the road, the bigger the vulnerability. Meanwhile, the distance from the fault was evaluated based on the existence of seismic faults in the research location. Landslide hazard map was obtained by applying overlay process to natural physical aspects map and human activity map. To obtain a hazard map for Rantepao – Palopo road section, a modification by applying overlay to road section map and landslide hazard map was performed. Hazard map on Ranteo-Palopo is divided into three types, i.e. low risk, medium risk, and high risk.

Keywords : *landslide, hazard map, Rantepao – Palopo road section, disaster mitigation*