

**LANDSLIDE VULNERABILITY ASSESSMENT BASED ON
GEOGRAPHIC INFORMATION SYSTEM (SIG)
IN KAPANEWON KOKAP, KULON PROGO DISTRICT**

By: Buntaran Eka Chandra
Supervised by: Partoyo

ABSTRACT

Kapanewon Kokap is one of the areas in Kulon Progo Regency that frequently experiences landslides. This research aims to determine the classification of landslide vulnerability level and map the distribution of landslides in Kapanewon Kokap, Kulon Progo Regency. This research was conducted using a field survey method supported by soil analysis in the laboratory and data processing using ArcGIS 10.8. Sampling location based on the overlay map of slope, land use and soil type. Landslide vulnerability analysis used the AHP (Analytic Hierarchy Process) method to calculate the weight of each parameter, while to determine landslide vulnerability using the Landslide Potential Index (LPI) which is the result of multiplying the weight and score of each parameter. The parameters studied in this research are slope, rainfall, land use, solum thickness, texture and liquid limit. The results showed that land with a predominance of very steep slopes, used as settlements and thick soil has a high landslide vulnerability class (covering an area of 2203.47 Ha or 33.03 %); land with a predominance of steep slopes, used as forests, and thick soil has a moderate landslide vulnerability class (covering an area of 3641.49 Ha or 54.58 %); while land with a predominance of flat slopes and high liquid limits has a low landslide vulnerability class (covering an area of 826.56 Ha or 12.39 %).

Keywords: Landslide, Vulnerability, Geographic Information System, Analytic Hierarchy Process, Landslide Potential Index