

**ASSESSMENT OF LANDSLIDE VULNERABILITY LEVEL  
IN WONOLELO VILLAGE, PLERET SUB-DISTRICT,  
BANTUL DISTRICT**

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**ABSTRACT**

Wonolelo sub-district is one of the sub-districts in the Kapanewon Pleret area, Bantul Regency, Yogyakarta Special Region. Wonolelo sub-district has an undulating topography with slope variations ranging from flat (0-8%) to very steep (>45%). The slope can affect surface water flow, soil load and soil shear strength, increasing the potential for landslides. Diverse land uses, such as settlements, rice fields, moorlands and forests, on various slopes can increase the risk of landslides without effective land management. The purpose of this study was to determine and map the distribution of landslide vulnerability level and factors causing landslides in Wonolelo sub-district. This research used survey method with the determination of sampling points using purposive sampling method based on the land system map from the overlay of base maps, namely land use map, slope map, rock type map, and soil type map, resulting in 14 sampling points. The parameters used in this study are slope, rainfall, land use, soil solum thickness, soil texture, soil permeability and rock weathering. Soil analysis was conducted in the laboratory and data processing used ArcGIS 10.8. Landslide vulnerability analysis used scoring and weighting methods. The classification of landslide vulnerability level was divided into five classes: Very Low, Low, Medium, High and Very High. The results showed that the landslide vulnerability map in Wonolelo sub-district, Kapanewon Pleret, Bantul regency with a total area of 483.02 ha has 3 levels of landslide vulnerability, namely low vulnerability class which has an area of 138.84 ha (28.71%), medium vulnerability class has an area of 239.55 ha (49.62%) and high vulnerability class has an area of 104.63 ha (21.67%).

Keywords: *Landslide, Vulnerability, Scoring.*