

**STUDY OF THE LEVEL OF LANDSLIDE VULNERABILITY OF THE  
GIRITENGAH MICRO WATERSHED, BOROBUDUR DISTRICT,  
MAGELANG REGENCY**

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**ABSTRACT**

*The land cover of the Giritengah Micro Watershed located in the Sileng Sub Watershed, Progo Watershed generally consists of vegetation types in the form of teak, silk tree, mahogany, mixed gardens, and moor. There are changes in the hydrological characteristics of the Giritengah Micro Watershed due to changes in land use from agricultural land to building areas and high rainfall resulting in landslides. The purpose of this study was to determine the level of landslide vulnerability in the Giritengah Micro Watershed area, the factors that cause landslide vulnerability in the Giritengah Micro Watershed area and to make a map of landslide vulnerability level in the Giritengah Micro Watershed Area. The research was conducted in the Giritengah Micro Watershed Area with the determination of sample points carried out purposively based on the Land System Map from the overlay results of the Soil Type Map, Slope Map, and Land Use Map. The parameters analyzed were slope, soil depth, soil texture, soil permeability, vegetation density, land use, rainfall, and rock weathering rate by scoring and weighting methods. The results showed that the Landslide Vulnerability Level Map in the Giritengah Micro Watershed Area with a total area of 376 ha has two classes of landslide vulnerability, namely low and medium where the medium class dominates this research area. The most influential control factors for landslide vulnerability in this region are slope, soil thickness, and land use with the trigger factor being high rainfall. Land conservation efforts that can be done to prevent landslides in the Giritengah Micro Watershed Area are tree planting, planting ground cover vegetation, building dikes, making good drainage, and good crop management such as crop rotation, using organic fertilizers, and managing crop residues.*

*Keywords: Giritengah Micro Watershed, soil and water conservation, landslide*