

Planning Technical Study of Slope Stability by Using Method of Determining Janbu in Slope Safety Factor in Hamlet Jatirejo, Wukirsari village, Imogiri, Bantul, Yogyakarta

ABSTRACT

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The slope is the earth's surface that forms certain angle with the horizontal plane (Arifin, 2007). A slope of the naturally occurring or the result of human engineering, will be contained forces working to encourage so that a higher ground will tend to move toward the bottom. Unstable slopes are dangerous to the surrounding environment, therefore it is very necessary slope stability analysis. The purpose of this study are to determine the stability of the slope with the value of the safety factor on the slopes based on physical and mechanical properties of rocks in the study area, know the factors that affect the stability of slopes in the area of research, and know the techniques of land management is being done to the land or slope stable in the study area.

The methods were used in this research were a survey and field mapping, using purposive sampling, interviews, laboratory techniques, data analysis techniques systematically, stereographic and kinematic analysis methods, and methods Janbu. The parameters were used to determine slope stability were rock, structural geology, rock mechanics properties / land, the physical properties of rock / soil, landform, slope, soil, rainfall, land use, hydrology, and infiltration.

Based on the analysis of slope stability by using Janbu obtained safety factor slope is 0.414, which means the slopes in a critical condition. In order to improve the stability of the slope meal management techniques are used to change the design of slope geometry is cutting the slopes into terracing with the value of safety factor 1,039, add gabion as buffer with the value of safety factor 1,533, and vegetative engineering use helter rooted vegetation such as teak and mahoni. Society need to reduce activities that destabilize slopes and the role of government to do counseling about prevention of mass movement of soil and/or rock and prevention, and the government needs to provide a safe area for relocating people around.

Keywords: Slope stability, safety factor, Methods Janbu.