

Management of Landslide Prone Areas in Ngembes Hamlet, Pengkok Village, Kapanewon Patuk, Gunung Kidul Regency, Special Region of Yogyakarta

ABSTRACT

The Special Region of Yogyakarta, especially Gunung Kidul Regency, has a high potential for landslides as indicated by the high frequency of landslides. One of the Debris Slide type landslide disasters occurred in Ngembes Hamlet, Pengkok Village, Kapanewon Patuk, Gunung Kidul Regency, which occurred in November 2022. The landslide incident caused impacts such as damage to residents' livestock pens and land damage. The aim of this research is to determine the characteristics based on 14 parameters of landslide susceptibility which refer to Minister of Public Works Regulation No. 22/PRT/M/2007 as well as analysis of slope stability which will be used as a reference in carrying out disaster management or mitigation efforts.

This research uses a survey and mapping method of the existing environmental tone, scoring 14 parameters which are divided into 2 aspects, namely natural physical aspects and human activity aspects which are analyzed quantitatively and qualitatively. To support the weighting results, slope stability analysis was carried out using the Simplified Janbu method using Purposive Sampling sampling techniques at 2 points, namely the high hazard zone and the moderate hazard zone using Rocscience Slide software.

Based on the scoring results on 14 parameters of landslide susceptibility, the results showed that Ngembes Hamlet was included in 3 classes of landslide susceptibility, namely high with a weighted result of 2.49, medium with a weighted result of 2.34 and low with a weighted result of 2.14. Then slope stability analysis was carried out. with FK LP 19 results of 0.374 (labile) and LP 11 of 1.881 (stable). Directions for the management of Ngembes Hamlet in the high zone with a FK of 0.1.881 are structurally to install gabions and revegetation with the installation of an Early Warning System for non-structural areas, while the medium vulnerability zone with a FK of 0.374 is structurally to carry out revegetation with vetiver and the installation of an Early Warning System.

Keywords : *Vulnerability, Slope Stability, Landslide,*