INTISARI

IDENTIFIKASI BIDANG GELINCIR DAN AREA RAWAN LONGSOR PADA LERENG BERDASARKAN PENGUKURAN MIKROTREMOR DI DUSUN TRITIS, KECAMATAN SAMIGALUH KABUPATEN KULON PROGO

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Tritis adalah sebuah dusun yang berlokasi di sebelah utara Kecamatan Samigaluh, Kulon Progo. Dusun ini berada di daerah dengan tingkat kerawan longsor yang tinggi akibat intensitas curah hujan tinggi dan topografi lereng yang curam. Studi bidang gelincir adalah salah satu studi yang penting dalam mitigasi bencana longsor. Identifikasi bidang gelincir dilakukan melalui survei mikrotremor pasif dengan analisis *Horizontal to Vertical Spectral Ratio* (HVSR) dan *Spatial Autocorrelation* (SPAC). Dalam penelitian ini, hasil pengukuran mikrotremor *single station* dianalisis menggunakan metode HVSR, sedangkan hasil pengukuran mikrotremor *array* dianalisis dengan menggunakan metode SPAC untuk memperoleh kurva dispersi gelombang Rayleigh.

Hasil analisis metode HVSR menunjukkan amplifikasi bervariasi mulai dari 1,02 sampai 10,08 dan analisis SPAC menghasilkan profil kecepatan gelombang geser 1D yang diperoleh dari proses inversi kurva dispersi. Ketebalan sedimen lapuk bervariasi dari 3,67 m sampai 17,34 m dengan wilayah ketebalan sedimen lapuk paling tinggi berada di sebelah utara lereng. Nilai ketebalan sedimen lapuk ini berasosiasi dengan kedalaman bidang gelincir. Tingkat kerawanan longsor yang tinggi berada di timur laut dan barat daya wilayah penelitian. Di barat daya, tingginya tingkat kerawanan dikontrol oleh faktor amplifikasi (A_o) dan indeks kerentanan seismik (Kg) yang tinggi, sedangkan di timur laut, tingginya tingkat kerawanan dikontrol oleh ketebalan sedimen lapuk dan kemiringan lereng.

Kata Kunci: Longsor, Bidang Gelincir, Mikrotremor, HVSR, SPAC.

ABSTRACT

IDENTIFICATION OF LANDSLIDE SLIP SURFACE AND LANDSLIDE VULNERABILITY AREA ON SLOPE BASED ON MICROTREMOR MEASUREMENT IN TRITIS, DISTRICT OF SAMIGALUH KULON PROGO REGENCY

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Tritis is a hamlet located in the northern district of Samigaluh, Kulon Progo. This hamlet is located in an area with high landslide vulnerability due to high rainfall intensity and steep slope topography. The landslide slip surface study is one of the important studies in landslide mitigation. Identification of the slip surfce is carried out through a passive microtremor survey with Horizontal to Vertical Spectral Ratio (HVSR) and Spatial Autocorrelation (SPAC) analysis combined. In this research, the microtremor single station measurement recording results were analyzed by using HVSR method, while microtremor array measurement recording results were analyzed by using SPAC method to estimate the dispersion curve of Rayleigh wave.

HVSR method analysis resulted the amplification factors that ranges between 1,08 to 10,08 and the SPAC analysis method resulted 1D S-wave velocity profiles obtained from dispersion curve inversion process. The thickness of soil slope varies from 3.67 m to 17.34 m, which the thickest soil is in the northern slope. The thickness of soil slope is associated with the depth of the slip surface. The high degree of landslide vulnerability lies in the southwest and northeast of the research area. In the southwest, high levels of vulnerability are controlled by high amplification factors and high seismic vulnerability index, while in the northeast, high levels of vulnerability are controlled by the thickness of soil slope and slope gradients.

Keywords: Landslide, Slip Surface, Microtremor, HVSR, SPAC.