

Georgius Sony Aprillius. The study of Erosion Hazard Level at Merdikorejo Village, Tempel Subdistrict, Sleman, Yogyakarta Province. Supervised by Dyah Arbiwati and S. Setyo Wardoyo.

ABSTRACT

Soil erosion is a gradual process that occurs when the impact of water or wind detaches and removes soil particles, causing the soil to deteriorate. There are several factors that affect erosion include climate, topography, vegetation, soil erodibility and human activities. The purpose of this study was to determine the amount of erosion and map the distribution of erosion hazard level at Merdikorejo Village. Merdikorejo Villages located on the slopes of Mount Merapi, which has a wavy topography and slope that may cause erosion when heavy rainfall occurred. The study was conducted based on land unit map, by overlaying the maps of slope, land use soil types. The Universal Soil Loss Equation (USLE) was used to calculate the Erosion prediction, and the level of erosion hazard was calculated by comparing the amount of erosion at different depth of top soil, while the erosion hazard mapping used ArcView software. The observed parameters were rainfall, erodibility, texture of four fractions, soil organic matter, soil structure, soil permeability, slope and slope length, crop factor, soil conservation treatment factor, and soil solum depth. The results showed that the largest amount of the erosion was 529,74 tons /ha/year in A2 research area, while the smallest was 0,57 tons /ha/year in B1 research area. The criteria of erosion hazard level was very low to very heavy.

Keywords: Erosion, USLE, Erosion potential