

Abstract

The objective of this research was to determine the soil erodibility value in various slope and some types of land use in Bompon sub-watershed, Magelang, Central Java. Various characteristics on slope and some types of land use in Bompon sub-watershed will affect the value of soil erodibility. Different erodibility value will affect erosion rate water availability, and existing flood patterns. A total of 31 soil samples were collected based on soil mapping. This research using complete randomized design (CRD) with two factors, types of slope level and types of land use. There are four classes of slope level (steep, hilly, wavy, flat) and three types of land use (dry lands, mixed plantations, paddy fields). The result showed that types of slope level and land use significantly affected on soil erodibility value. Furthermore, soil permeability has the strongest correlation with soil erodibility value at moderate level. Soil erodibility value in steep dry lands have an average value of 0,1715, hilly dry lands with an average value 0,2134, wavy dry lands with an average value 0,1764, flat dry lands with an average value 0,2136, steep mixed plantations with an average value 0,2134, hilly mixed plantations with an average value 0,1919, wavy mixed plantations with an average value 0,1683, flat mixed plantations with an average value 0,1814, wavy paddy fields with an average value 0,1714, and flat paddy fields with an average value 0,1718.

Keywords: erodibility, erosion, slope level, land use, soil organic matter