Potential Of Soil Erosion in Kenipir River Catchment, Ranau, Sabah

ABSTRACT

The potential rate of soil loss through erosion for the Kenipir River Catchment of Ranau Sabah was predicted using the Revised Universal Soil Loss Equation (RUSLE) erosion model. Using the data of potential soil loss and sediment delivery ratio of the catchment area, sediment yield of the catchment area was calculated. Calculations of potential soil loss in the RUSLE erosion model were carried out using rainfall factor data, R which was calculated as the mean of 10 years rainfall data obtained from Ranau meteorological station, soil erodibility factor, K, slope length and steepness factor, LS, plant cover factor, C and conservation practices factor, P observed within the catchment area. The average potential soil loss in the Kenipir River Catchment was still low at 35.60 t ha-1 yr-1, whereas the average rate of sediment actually reaching the water body as sediment yield was also low at 10.07 t ha- 1 yr-1. Low potential soil loss and sediment yield in Kenipir River catchment area was due to wide coverage of forested area in the river catchment which is about 86.06%, besides not many areas are exposed completely due to lack of commercial development. Future development may involve clearing of forested area or changes in land use which might cause complete exposure of soil surface thus initiate high potential soil loss. Future development plans for this catchment need to implement proper soil conservation so that the rate of land loss can be kept at a low level.