ABSTRACT

The catchment area of Way Rarem Reservoir has suffered changes of land use, namely landuse from forest area (1976) becoming agriculture farmland and plantation (1999-2000). Those have resulted in the increasing of run off, sheet erosion and sediment transport.

This work deals with estimate of sheet erosion by using the so-called Modified Universal Soil Loss Equation (MUSLE). The subsequently resulting reservoir sedimentation is predicted through the Sediment Delivery Ratio (SDR) determined by using the method developed by Kirkby & Morgan (1980).

Result of computation shows that The catchment area of Way Rarem Reservoir erosion (1999-2000) equal to 100,39 ton/ha/year or 5,58 mm/year. By providing certain erosion countermeasures, the erosion rate reduces to 45,85 ton/ha/year, which is equivalent to 2,55 mm/year.

Keyword: Landuse, Erosion, Sedimentation, Erosion Countermeasure.