

# **ANALISA DAN PENGENDALIAN EROSI PERMUKAAN PADA SUB-DAS KALI PROGO HULU DI KABUPATEN TEMANGGUNG**

**Rahmat Kartolo Siregar**  
9836 / PS / MPBA / 02

Telah dipertahankan di depan Dewan Penguji  
Pada tanggal 24 Mei 2004

**Pembimbing Utama**  
**Dr. Ir. Bambang Yulistiyanto**

**Pembimbing Pendamping**  
**Dr. Ir. Rachmad Jayadi, M.Eng**

**Anggota Dewan Penguji Lain**  
**Dr. Ir. Bambang Agus Kironoto**

## **ABSTRACT**

Kali Progo sub-catchment area in Temanggung Regency has high potency to sheet erosion. The change and uncontrolled land use management, high rainfall and steepness, are factors which excitable the soil erosion in this area. Influence and change in land use control which is interference by mismanagement will accelerate the erosion, if there is no conservation action. Cause of mismanagement in land use, the erosion which accelerate indicating of gully, ravine and geological stones founded in sub-catchment area and 20 % of this regency area has in critical land.

The aim of this research is to predict the erosion potency and direction to control the rate of erosion. The parametric model in Universal Soil Loss Equation (USLE) is used to analyze the rate of erosion potency (mm/year). The parameters that are used in USLE, are rain erosivity factor (R), land erodibility factor (K), long and steepness factor (LS) and crop management and conservation action factor (CP). This research include to evaluation and identity each land unit are done to erosion tolerance and hazard classification of existing erosion. The result of analyze obtained the erosion average equal to 10,75 mm/year and in heavy class of erosion. Bushes represent the biggest erosion contributor namely 81,58 mm/year.

The effort action control, by change the C and P factor, the rate of erosion average decrease to 4,62 mm/year, and included in category of medium class. Identification of hazard class, is indicating that 56.506,43 ha of sub-catchment in very light class (3,77 %) in light class (36,72%), medium class (33,08%), heavy class (18,68%) and 7.75 % in very heavy class. The totality result of existing erosion have exceeded of erosion tolerance each of soil loss tolerance zone namey T (2,0; 1,20; and 0,80 mm/year), and as detailly 326 of land unit, 39 of land unit merely on soil loss tolerance permissible.

**Keywords** : sheet erosion, erosion control, land use, conservation.