# PREDIKSI DAYA PERUSAK ALIRAN SEDIMEN DI SUNGAI KLAMPOK

Ani Pudyastuti
7867/PS/MPBA/01

telah dipertahankan di depan Dewan Penguji
pada tanggal 20 Januari 2003

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## ABSTRACT

The river of Klampok is located in West Malang, at Singosari Regency. The river flows past the province road between Surabaya and Malang. The catchment area of the Klampok river is ± 22,1572 Km2, and the length of the river is ± 13,188 Km. There are 4 irrigation dams along the Klampok river, which have the capacity to irrigate 1034 Ha. In 1998 there was a big flood and mudflow in the Klampok river, which created flooding in the province road close to the river. This was caused by too much logging of trees in the headwaters of Klampok catchment area which created erosion.

This research analyzes the pattern of mudflow, compared to flooding using the *DAMBK* program and observes the influence of destroying power in the river reach with approximation of momentum force. The prediction of destroying power can be stated in units of force at river reach which is observed based on the velocity of distribution of flood investigation output of *DAMBRK* program.

The result of this research can be used to understand the phenomenon of destroying power of flooding and mudflow in several areas of the Klampok river, and then, to plan for setting channel work at several reach in the observed river.

The calculation results of destroying which is caused by flood flow in the observed area, control of shear stress calculation based on the shear stress by Shields and then this can recomandated for revetment or groundsill to river reach at Km 1,36 to Km 1,60 and at Km 2,07, and then for mudflow cannot using reference at permissible shear stress Shields and permissible mean velocity too (Kinori B.Z.).

*Keywords : Flood, Mudflow, Destroying Power*.