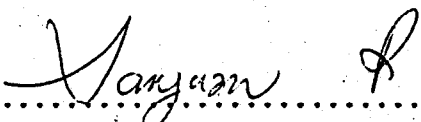


THESIS TITLE SEDIMENT TRANSPORT :

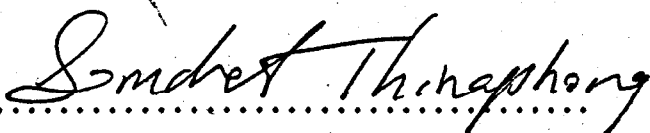
TEST CASE OF SMALL WATERSHEDS IN NORTHEAST THAILAND

AUTHOR Mr. PRATCHAYA JITTPRATCHAYA

THESIS ADVISORY COMMITTEE

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(Asso. Prof. Dr. Somchet Thinapong)

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(Assis. Prof. Dr. Vichai Sriboonlue)

ABSTRACT

A mathematical model was developed to predict the amount of sediment in the channel from rainfall erosion and overland flow erosion. The model consists of two parts. The first part performs water routing using the method based on open channel unsteady flow condition. Runoff hydrograph is computed by Lax-Wendroff's finite difference method. The second part performs sediment routing. The overland flow erosion was computed by Meyer and Wischmeier's method and the channel erosion was computed by Schoklitsch's method.

The developed model was used to predict the sediment in the channel of small watersheds in Northeast Thailand. The testing areas were Huai Kum Bon watershed in Muang district, Khon Kaen province and

Huai Hin Hao watershed in Kumpawapee district, Udon Thani province.

The following parameters were calibrated runoff coefficient hydrograph in the watershed, coefficient of sedimentation, the amount of runoff which effect the erosion and sedimentation in the channel, and the relationship between runoff and amount of sediment in the watershed which presented in form of graph. This graph is useful for sediment prediction when runoff in the study area was known.