Application of Diffusive Tank Model in Drainage Analysis of Paddy Fields

Rong-Song Chen\*, Lan-Chieh Pi

Department of Civil Engineering, National Chung Hsing University, Taiwan 40227

\* Corresponding author E-mail: <u>rschen@dragon.nchu.edu.tw</u>

Telephone/Fax: 886-4-22857197

## Abstract

A diffusive tank model has been successfully applied to the simulation of runoff from paddy fields in Japan because it can well describe the features of local water flows. The main goal of the study is to evaluate the performance of the diffusive tank model with the calibrated parameters obtained in Jyau-Shi to simulate discharge from paddy fields in two experimental catchments located in the areas of Shing-Ying and Ta-Liao, Southwestern Taiwan. The simulations were verified by comparing the model results with observed runoff data from the two experimental catchments. The model predicted the discharge from the paddy fields well. This indicates that the model with the calibrated parameters may be used in other paddy fields in Taiwan.

KEY WORDS: Surface Water Hydrology; Modeling; Rainfall-runoff Simulation; Diffusive Tank Model; Paddy Field

## Acknowledgements

The study was kindly sponsored by the Council of Agriculture in Taiwan under grant 90-AST-2.2-FOD-08(9).