AOGS 2005

Stream Flood Calculation in the Creek of the Tin-Chi-Lan-Kan Watershed

Y.J. LIN[1], J.S. LAI[2], H.Y. LEE[3] and C.L. HUANG[4]

[1]*Assistant Research Fellow of Taiwan International Institute for Water Education*
[2]*Asssiatant Researcher of Hydortech Institute of National Taiwan University*
[3]*Professor of civil engineering of National Taiwan University and Director of Taiwan International Institute for Water Education*
[4]*Engineer of Taiwan International Institute for Water Education*

Under the design flood, it is desirable to have a reasonable and easy-using tool to proceed hydraulic calculation for the layout of the protection works to meet the requirement from the view point of ecological engineering. A case study in the Tin-Chi-Lan-Kan Creek located in Taipei County, Taiwan is chosen for stream flood calculation by using the HEC-RAS model. To verify the calculated results, a physical model of 1:60 in the horizontal scale and 1:30 in the vertical scale was constructed as shown in Fig.1. The comparison of measured data by physical model and the simulated results by numerical model has shown good agreements as presented in Fig.2. Three water stage gauges and one rainfall gauge using automatic recording devices were installed for field data collection.

Keywords: Design flood, HEC-RAS model, Physical model.

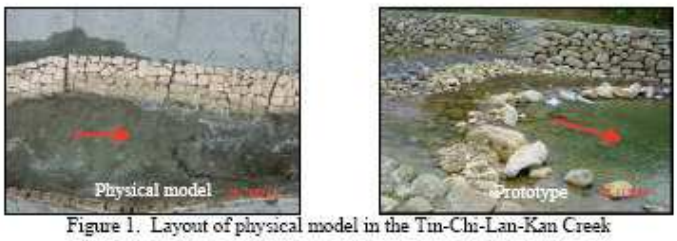

Figure 1. Layout of physical model in the Tin-Chi-Lan-Kan Creek

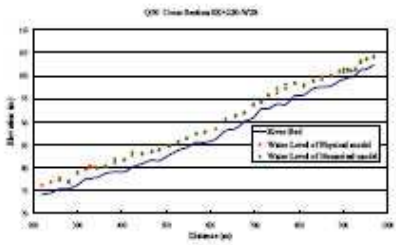

Figure 2. The comparison of physical model and numerical model