

Hydraulic Analysis of Irrigation Approach Channel Using HEC-RAS Model

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Abstract : This study was intended to show the irrigation water requirements and evaluation of canal hydraulics steady state conditions to improve on scheme performance of the Meki-Ziway irrigation project. The methodology used was the CROPWAT 8.0 model to estimate the irrigation water requirements of five major crops irrigated in the study area. The results showed that for the whole existing and potential irrigation development area of 2000 ha and 2599 ha, crop water requirements were 3,339,200 and 4,339,090.4 m³, respectively. Hydraulic simulation models are fundamental tools for understanding the hydraulic flow characteristics of irrigation systems. In this study Hydraulic Analysis of Irrigation Canals Using HEC-RAS Model was conducted in Meki-Ziway Irrigation Scheme. The HEC-RAS model was tested in terms of error estimation and used to determine canal capacity potential.

Keywords : HEC-RAS, irrigation, hydraulic, canal reach, capacity

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