

## Performance assessment of irrigation system using MIKE 11

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Received : 27.07.2013; Revised : 15.10.2013; Accepted : 14.11.2013

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■ **ABSTRACT** : Command under RBC is 212.56 km<sup>2</sup> with elevation difference of 56.70m., hydraulic model MIKE 11 was used for the performance assessment of RBC system of Pench Irrigation Project. The model setup was calibrated for 20 days in 2004 and validated for 20 days during in 2007. The calibration parameters, global resistance number and gate contraction coefficient for the calibration was found as 40 and 0.63, respectively whereas local resistance number ranges from 30 to 60. The values of PBAIS were estimated to be within 5%, and it increased from the head reach to tail reach. The values of NSE were observed to be decreased from head reach to tail reach. The values of performance criteria, viz., PBAIS and NSE, selected for deciding the model efficiency was within the desired range during calibration as well as validation. A sharp decline in the performance ratio along the length of the main canal was observed for all the four years. This shows that the distributaries located in the head and middle reaches draw more than their share. This was verified with simulated flow data from MIKE 11 in the absence of the observed data.

■ **KEY WORDS** : MIKE 11, Hydrodynamic modelling, Performance of irrigation system, PBAIS, NSE

■ **HOW TO CITE THIS PAPER** : Wane, S.S. and Nagdeve, M.B. (2013). Performance assessment of irrigation system using MIKE 11. *Internat. J. Agric. Engg.*, 6(2): 469-475.