## ABSTRACT

Due to the limitation of water renewable resources on one hand and increasing growth in consuming water in different parts such as agriculture, industry, urban, and the environment in other hand, face management of these valuable resources to many challenges. Present study attempts to clarify recent condition of the problem and introduce effective management tools in water supply sector. In order to achieve this purpose, simulating model HEC-Res Sim was used for Dokan Dam to study the operational behavior of the reservoir and to investigate the model capability in representing and simulating the real system. The study based on monthly discharge data for the period from 1986 to 2016 measured at the inlet of Dokan Dam reservoir. The results of the current study were compared and evaluated against those counterparts observed data using two statistical metrics, correlation coefficient and Nash- Sutcliff coefficient efficiency. Moreover, an empirical formula was found linking the amount of inflow to the reservoir with the amount of outflow. The results showed that the HEC ResSim 3.0 performed well in simulating the monthly discharges. Therefore, HEC ResSim 3.0 could be used for better water system analysis in this study area.