Simulation of Water Resources in Gundlakamma Sub-basin Using SWAT Model

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ABSTRACT

Water is a finite resource and the availability of which is declining with each passing day. A study has been conducted on the Gundlakamma sub-basin to simulate the water availability in the sub-basin. The Soil and Water Assessment Tool (SWAT) can be effectively applied to simulate the flow into a reservoir very accurately in the Gundlakamma sub-basin. The data base has been developed using the secondary data and field survey. SWAT model was applied to simulate the available water resource and reservoir volume in sub-basin. The water yield was simulated during 2010 to 2016 from Gundlakamma sub-basin. The most sensitive input parameters in SWAT was delay time for aquifer recharge (days), saturated hydraulic conductivity (mm/hr) for the Gundlakamma sub-basin. The calibration and validation NSE and R^2 of 0.79, 0.87 and 0.65, 0.72.

Key words: *Parameters, Reservoir flow, SWAT, Simulation, Water resources.*