CONFIGURATION OF SWAT MODEL FOR *KELANI* RIVER BASIN IN SRI LANKA

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Soil and Water Assessment Tool (SWAT) is a hydrological model that is widely used to study the dynamics of the movement of water and sediment and its impact on the river basin's health. *Kelani* river ranks as the fourth longest river in Sri Lanka. Its water is used by two metropolitan cities *Colombo* and *Gampaha*, and different industries along the river. Furthermore, mostly upstream water is used by various irrigation projects. Thus, judicious allocation of water in different sectors is needed, and it would ease the use of the modelling approach. Thus, this study attempted to set up the SWAT model for the *Kelani* river basin as an initial step of modelling the basin. A 30 m x 30 m resolution Digital Elevation Model (DEM) was used to delineate the basin. The land use land cover map, soil map, and the soil data were used as inputs to set up the model. Daily rainfall, maximum and minimum temperature data of six stations were obtained from the Meteorological Department of Sri Lanka. The study used WXGEN weather generator embedded in SWAT to generate other weather data. The study could setup the model following the model setup steps of SWAT in ArcGIS interface. It generated 22 sub basins and 60 number of hydrological response units (HRUs) for the basin. Finally, the model was in a running mode, and it requires calibration and validation before its use.

Keywords: Digital Elevation Model, *Kellan* river basin, Soil and Water Assessment Tool, SWAT-model setup