

# **Crop Water Requirement and Water use Efficiency of Rice in Thatipudi Medium Irrigation Project Command Area**

**M Harshavardhan Reddy, M V Ramana, K Yella Reddy and B Ramana Murthy**  
College of Agricultural Engineering, ANGRAU, Bapatla – 522101

## **ABSTRACT**

For agriculture land and water are essential for economic development of any country. Day by day, availability of water is decreasing but the demand for various purposes are increasing so there is need to concentrate on utilization of available water. Accurate assessment of evapotranspiration is essential for better management and allocation of water resources. It is very much essential for knowing the amount of water requirement at different stages of crops at different management levels within the command area to accomplish effective irrigation management. CROPWAT is a computer model, was used to estimate the reference evapotranspiration, effective rainfall, crop water requirement and irrigation water requirement for Thatipudi channel command area in Vizianagaram district of Andhra Pradesh state. Daily meteorological data including rainfall, maximum and minimum temperatures, relative humidity, wind speed were collected for the period of 1989 to 2016 from Global weather data for SWAT and Andhra Pradesh state disaster mitigation society. Sunshine hours are taken from FAO-24 these are used as input data for CROPWAT. Average peak monthly  $ET_0$  was observed to be 5.93 mm/day. The average effective rainfall was estimated for the study area as 871.9 mm out of 1183.3 mm annual rainfall. The cropwater requirement and irrigation water requirement were estimated for paddy crop during Kharif season in the study area (Thatipudi) 925.9 mm and 578.9mm, respectively.