Development of Linear Programming Model for Crop Water Planning to Maximize Benefit During Deficit Years in Appapuram Channel Command of Krishna Western Delta – A Case Study

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ABSTRACT

The computer simulation model CROPWAT was applied to estimate crop water requirement in Appapuram Channel Command under Krishna Western Delta in Andhra Pradesh for the years 2000 to 2010. In the model, the Penman – Monteith method for evapotranspiration calculation was used. It was estimated that the gross water requirement for Appapuram Channel Command area to irrigate 8880 ha registered and 4000 ha unregistered ayacut during kharif season and maize 4000 ha during rabi to be 82.68 M.cum. The canal operation plan was prepared for estimated gross water requirement for different scenario. Linear Programme was developed to maximize benefit during deficit years.

Key words : Actual evapotranspiration, Available soil water index, Crop coefficients, CROPWAT, Potential evapotranspiration,Relative yield ratio.