



Comparison of Water Requirement and Water Released in Command Area of Branch Canal 70 of Jayakwadi Irrigation Project

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Abstract: A study was carried out to determine water requirement of selected crops for the area of Branch canal 70 of Jayakwadi Irrigation Project. Crop water requirement for each of the crop was determined by using 32 years climatic data in CROPWAT software. Reference crop evapotranspiration was determined using FAO Penman Monteith method. The crop coefficient was determined by following the procedure given in FAO 56. The effective rainfall was determined using USDA, SCS method. The result showed that amongst the various crops grown in the study area, sugarcane requires the maximum irrigation water (1385 mm) followed by summer vegetables (671 mm), maize (658 mm), fodder (655 mm), sunflower (399 mm), wheat (342mm), sorghum (304 mm), pigeon pea (251 mm), gram (217 mm) and cotton (191 mm). Summer crop requires more irrigation water than *rabi* crops. During different irrigation years there was shortage of irrigation water in the command in 2006-07 and 2009-10 of 47.52 and 58.94 per cent, respectively. During 2007-08, 2010-11, 2011-12 and 2014-15, excess irrigation water of 18.95, 53.87, 35.62 and 80 per cent was released than irrigation water requirement, respectively.

Keywords: Crop water requirement, CROPWAT, Reference crop evapotranspiration (ET_0), Crop coefficient, Effective rainfall
