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Improved water productivity concept, importance and measurement in the area of minor irrigation project

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Canal irrigation in India is one of the principal methods used for improving the crop productivity. In order to have the equal distribution of canal water and to reduce the dependability in canal repair and maintenance with governing bodies, the water users (farmers) in the command area has created their own unions, popularly known as water user associations. Physical productivity is quantity of product in kg per m³ of water used and economic productivity is income in Rupees derived by use of unit volume of water (m³) (Molden et al., 2003). In recent past, several studies have been conducted by various researchers to investigate on different ways to improve the water productivity and water use efficiency (i.e. Barker et al., 2003; Keshaverz et al. 2003; Cai and Rosegrant, 2003). In this study Irrigation water productivity is stated that as ratio of the crop output to the irrigation water applied by the farmer through irrigation system surface canals, tank, pond

or the well and during the wheat crop growth. Thus irrigation is an economic activity and the farmer has to incur certain expenditure to apply the water (kg/m³). Studies were carried out to evaluate the wheat yield and water productivity for different varieties, irrigation method and depth of irrigation in Khapa and Magardha command area, which is located in Mandla district of Madhya Pradesh (India). In this study, Different irrigation application methods i.e. (sprinkler irrigation system, Border irrigation and flood irrigation) and different sowing methods were applied in wheat crop. These practices may reduce on-farm irrigation water applications and improve crop yields. Water management technologies like sprinkler irrigation is used in these command area, of conserving the available water resources and thereby sustainably improving the productivity as well as profitability.

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