

## **Trends in evapotranspiration and water productivity of rice and wheat in different agroclimatic regions of Punjab, India**

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### **ABSTRACT**

Actual evapotranspiration (AET), grain yield and water productivity ( $WP_{ET}$ ) of rice and wheat were assessed in relation to changing climatic conditions over a period of 32-46 years for three locations (Ballawal Saunkhari, Ludhiana and Bathinda) in different agro-climatic regions of Punjab. A large variability in AET of rice and wheat were observed over the years with increasing trend at Ballawal Saunkhari and decreasing trend at Ludhiana and Bathinda. A linear increase in grain yield of rice and wheat was observed at all the three locations. This resulted a significant increasing trends in water productivity of both wheat and rice at all the stations. The water productivity of rice was negatively correlated with AET while water productivity of wheat had curvilinear relationship with AET.

**Key words:** Climate change, evapotranspiration, water productivity, wheat, rice