

**Analysis of Trends and Periodicities of Rainfall of Some Districts in  
East Rajasthan**

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**ABSTRACT**

Rajasthan with a total geographical area of 342271sq.km is the third largest State in the country. Since 1979 onwards many districts in East Rajasthan have been experiencing deficit rainfall year after year. To understand the phenomenon of the below normal rainfall for more than two years in succession in many districts, a statistical study of rainfall data from seven contiguous districts in East Rajasthan was undertaken. These districts were Alwar, Jhunjhunu, Sawai Madhopur, Bharatpur, Jaipur, Tonk and Kota.

Besides tests for randomness, trend analysis by linear and polynomial regression were attempted. The study indicated that rainfall in the non-monsoon season does not have any relationship with previous monsoon season rainfall. The serial correlation is nearly zero indicating lack of any persistence.

There is no curvilinear trend although some stations in each of the districts have shown some linear trend. However, only few of these trends were statistically significant. The rainfall behaviour in the region needs to be studied in the broader perspective of man made changes brought in because of water resources development and introduction of irrigation in hitherto semi arid and arid areas.