RESEARCH PAPER:

Analysis of annual and seasonal rainfall behaviour of Bhalki Taluka (Karnataka)

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SUMMARY

The historical rainfall data of thirty four years (1976-2009) of Bhalki Taluka were used to analyze the monthly, seasonal and annual variability of rainfall. The thirty four years average annual rainfall of the region was 874.7 mm with average rainy days of 51 days. In case of seasonal rainfall, the per cent contribution to the total rainfall was 76.9, 13.8, 7.8 and 1.5 per cent for monsoon, post monsoon, summer and winter seasons, respectively with the lowest coefficient of variation in monsoon (26 %), post monsoon (72%), followed by summer (74%) and winter (166%) seasons. August was the wettest month with mean rainfall of 211.6 mm. The study also revealed that the coefficient of variation was lowest from June to October months.

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The weather and its variability are well known to the farming community and have great impact on crop production. The economy of the farmer is well influenced by weather. The greatest risk to crop yields in Indian agriculture is attributed to the variability of seasonal rainfall and the uncertainty in the amount and its distribution in a given season. Rainfall pattern largely decides the crop planning in dry farming tracts. Amount, distribution and intensity of rainfall mainly determine the choice of any particular crop species and agronomic practices. Scientific study on the quantum and distribution of rainfall if made would enable the farming community to adjust or modify the cropping programmes as well as the cultural operations.

Agriculture, especially in developing countries, is a sector which is vulnerable to risks of various types. Most importantly, weather related risks play a major role in affecting agricultural income. These would include extreme rainfall events which result in floods/ droughts, as well as extreme temperature events. Poor and small farmers are especially susceptible to income variability because of weather – related risks to their crops.

Rainfall, being considered as the prime input for agriculture has its own erratic behaviour in terms of amount and distribution. For better crop planning, a detailed study on rainfall behaviour is vital. Rainfall variability, both in time and space influences the agricultural productivity and sustainability of a region, as opined by Virmani (1994). Bhalki, one of the Taluka of Bidar district, Karnataka, India, is predominantly a rainfed region. South west monsoon is the predominant monsoon in the region and pigeon pea and sugarcane cropping system prevails. The agricultural crop productivity largely depends on the rainfall distribution and its intensity during the rainy season. Rainfall analysis for crop planning was carried out in different regions of the country as reported by Chaudhury and Tomar (1999); Sastri *et al.* (1999) Sarma *et al.* (1996); Tiwari *et al.* (1992) and Sahoo *et al.* (1991). In this context, an attempt was made at Agriculture Research Station, Bidar, to analyze the rainfall variability in monthly, seasonally and annually for Bhalki region.

MATERIALS AND METHODS

Daily rainfall data for the past 34 years (1976-2009) were collected from District Statistical Office, Bidar, for analysis. The rainfall data were critically examined for annual, seasonal and monthly values following the procedure of Panse and Sukhatme (1985). The standard deviation (S.D.) and Coefficient of Variance (C.V.) of rainfall were worked out.