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Short communication

The variability of rainfall in Konkan region

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Climate variability particularly rainfall variability is a major factor influencing the agricultural productivity and sustainability in the tropics (Virmani 1994). Assessment of rainfall variability enables in planning agricultural operations properly. Pre-monsoon showers help in land preparation and sowing of *kharif* crops. Onset and withdrawal of monsoon largely determine the success of rainfed agriculture. Late onset of monsoon delays sowing of crops leading to poor yields. Similarly, early withdrawal of rains affects the yield due to severe soil moisture stress especially when the *kharif* crops are at critical growth stages of grain formation and grain development. Daily rainfall data of 32 years were collected from the 'Agromet Observatory', Department of Agronomy, DBSKKV, Dapoli (17°46' N to73°12' E, 174 m AMSL) for the period 1972-2003 and analysed to study the rainfall distribution pattern. The climate of Dapoli is hot moist sub-humid to humid and located on the west coast of the Maharashtra state.

The weekly, monthly, seasonal and annual rainfall data have been computed, onset and withdrawal of rainy season have been obtained.

The major crops grown during *Kharif* are rice, fingermillet, vari, greengram, cowpea, blackgram and oilseed crops like groundnut and niger (*Guizotia abbycinica*) and vegetables like ridgegourd, bittergourd, okra, cucumber, bottle gourd and snake gourd etc., while crops viz: cowpea, dolichos bean, mustard and groundnut are grown in *rabi* season. The rainfall analysis of this region clearly indicated the suitability for rainfed rice cultivation in different seasons (Table 1).

Annual rainfall

The historical rainfall data of 32 years (1972-2003) indicated that the region received normal annual rainfall of 3465.7 mm (Fig. 1). This varied from 2403.4 mm (2001) to 5134.3 mm (1975) in 110 rainy days. The lowest and highest rainfall between 1972 and 2003 are as follows.

The lowest rainfall season year started late and withdrew earlier. The aberrations showed that rainfall of severe deficit was nil, while that of moderately deficit was 13 %. Similarly, the chances of rainfall being moderately surplus (31 %) were higher than highly surplus (6 %).

Table 1: Annual normal rainfall (mm) during 1972-2003

Criterion (from Normal)	Scale	No. of year	% of Year
Less than - 0.59	Severe deficit	Nil	00
- 0.19 to - 0.59	Moderately deficit	4	13
- 0.59 to + 0.19	Normal	16	50
+ 0.19 to + 0.59	Surplus	10	31
More than + 0.59	Highly surplus	2	06
Total		**32**	**100**

Table 2: Characterization of the rainy season at Dapoli (1972-2003)

Particualrs	Week No	Date
Mean week of start of rainy season	24	11-17 Jun
Earliest week of start of rainy season	21	21-27 May
Delayed week of start of rainy season	29	16-22 July
Mean week of Cessation of rainy season	40	1-7 Oct.
Earliest week of Cessation of rainy season	36	3-9 Sept.
Delayed week of Cessation of rainy season	43	22-29 Oct
Mean length of rainy season	17 Weeks (119 Days)	
Duration of rainy season		
Highest	19 Weeks (133 Days)	
Lowest	15 Weeks (105 Days)	

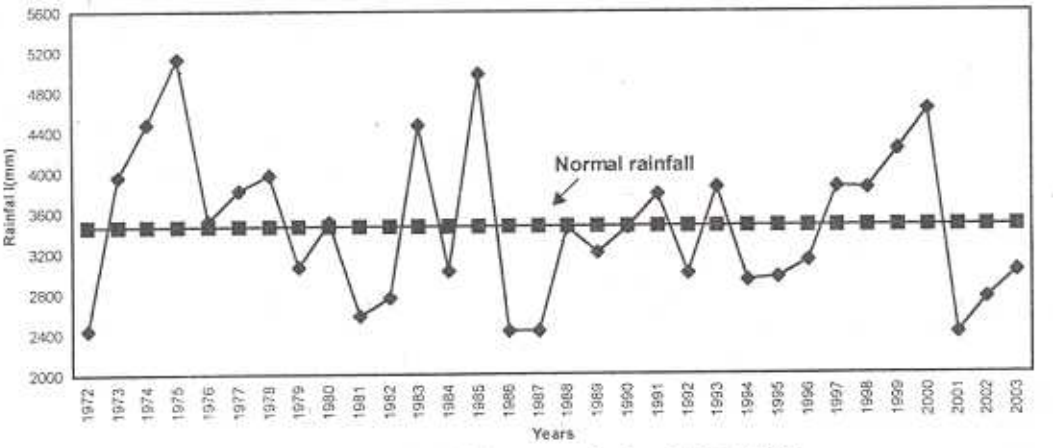

Fig. 1: Annual rainfall pattern during 1972- 2003

The rainfall analysis clearly indicated the suitability for major plantation crops like cashewnut, mango, arecanut, coconut and anola grown in this region.

Rainy season

Data on start, withdrawal and duration of the rainy season and its variability in Dapoli region are presented in Table 2. Weekly rainfall data of 32 years indicated that the mean week of start of rainy season was 24th SMW (11-17th June). The earliest and delayed week of start of rainy season was 21st SMW (21-27th May) and 29th SMW (16-22nd July) respectively. Mean week of withdrawal of rainy season was 40th SMW (1-7th October). The earliest and delayed week of cessation of rainy season was 36th SMW (3-9th September) and 44th SMW (29-4th November) respectively. Mean duration of rainy season in 17 weeks (119 days) and the highest and lowest length of rainy season was 19 and 15 weeks, respectively.

REFERENCES

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