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## A NOTE ON THE RAINFALL DISTRIBUTION PATTERN AT VELLAYANI

The quantum, spread and reliability of rainfall are the crucial parameters in determining the possibility of profitable farming in any place. As major agricultural operations have to synchronise with monsoon rains, the importance of predicting the probable time of establishment of the monsoon and its likely performance during the season may be realised. The study of rainfall distribution would also help to re-examine the existing cropping patterns of a place. Therefore an attempt is made to study the rainfall distribution in the southern most part of the state and the results are discussed hereunder.

The rainfall data for the past 15 years in the farm attached to the College of Agriculture, Vellayani were utilised for the study. The observations were made as per the specifications of the Indian Meteorological Department using the Symon's rain gauge. The monthly rainfall and the number of rainy days were noted.

### 1. *Annual rainfall and its variation.*

The yearly rainfall and the number of rainy days for the period under study are given in Table 1. The annual rainfall varied from 1248.8 m.m. in 1967 to 5265.6 m. m. in 1968. The average rainfall calculated on the basis of the above data is 2113.4 m.m. The average annual rainfall in this part is much less than the state average of 2985.0 m.m (Anon. 1974 a). The geographical features of the southern most portion of the state is responsible for this low rainfall. This necessitates the identification of the scientifically intensive and productive cropping patterns and the re-adjustments of the existing traditional ones based on experiments that are to be laid out in a systematic way.

The number of rainy days per year varied from 64 in 1965 to 127 in 1960. It is also noticed that the number of rainy days gradually decreased in recent years, but it corresponds favourably with that of the state. It is thus clear that though the average rainfall is less, its distribution is quite wide spread making its availability more useful to different crops. This will enable the cultivator to raise crops through out the year if he takes pain to supplement the rainfall to a comparatively smaller extent. Thus the total productivity of the land can be increased considerably.

The coefficient of variation of annual rainfall is  $\pm 48.2$  m. m. which indicates that agriculture can flourish well under relatively stable conditions in this area.

Table 1  
Annual rainfall and number of rainy days

Year	Rainfall (m. m)	No. of rainy days
1959	2239.0	124
1960	2101.3	127
1961	2181.9	108
1962	1689.9	99
1963	1422.0	97
1964	1533.7	80
1965	1395.4	64
1966	3703.6	69
1967	1248.8	78
1968	5265.6	104
1969	1519.1	103
1970	1543.8	90
1971	1831.6	80
1972	1829.1	84
1973	2197.0	82
Mean	2113.4	92

2. *Monthly distribution pattern* The average monthly rainfall in this region and the normal monthly rainfall of the state are given in Table 2. The average monthly precipitation in this place ranged between 18.0 m. m. in February to 374.8 m. m. in June whereas these figures for the state ranged from 17.3 m. m. in January to 682.6 m. m. in July. This region receives rainfall from both the monsoons. However, the maximum rainfall is obtained from the S W. Monsoon rains during months of June to August. The rainfall distribution in this locality during the N. E. Monsoon period of September to November is similar to that of the State.

Practically there is no rainless summer in this part. Small amounts of rainfall were received during the summer months of December to April. In other words

Table 2  
Average monthly rainfall in m. m.

Month	Vellayani	State
January	31.6	17.3
February	18.0	18.0
March	25.0	43.4
April	129.9	111.3
May	268.6	245.4
June	374.8	676.9
July	345.3	682.6
August	128.0	416.5
September	210.1	236.4
October	332.8	301.9
November	172.3	186.8
December	77.0	49.4
Total	2113.4	2985.0
Mean	176.1	248.8

the spread of the rainfall is relatively better with 6 to 7 months having rainfall above or nearly around the monthly average against the occurrence of several months drought conditions in the other districts of Kerala especially in Cannanore (Anon. 1974 b). Thus the distribution is quite favourable for introducing high intensity cropping patterns.

The potential productivity of a place is related basically to the periods when water needs of crops are met to the required optimum extent at various stages of crop growth. Since there is no rainless month here, the intensity of cropping can be increased further.

From the above observations, the following conclusions are drawn. The average rainfall in this region is less than that of the State but the distribution pattern is similar to that of the latter. The monsoon behaviour of rainfall distribution is noticed here also. Maximum rainfall is obtained during the months of

May, June, July and again during September, October and November. Practically there is no rainless summer. There is more scope to introduce new high intensity cropping patterns in this region.

It will be advisable to take up studies to re-adjust the existing cropping patterns and the calendar of operations to suit the agro-climatic factors of the southern most part of the state.

### സംഗ്രഹം

വെള്ളായണിയിൽ കഴിഞ്ഞ പതിനഞ്ചുവർഷക്കാലത്തു ലഭിച്ച മഴയുടെ കണക്ക് പരിശോധിച്ചതിൽ ഈ പ്രദേശത്ത് കേരളത്തിലെ മറ്റു പ്രദേശങ്ങളെ അപേക്ഷിച്ച് ൩\* കുറവാണെന്നും എന്നാൽ മഴയുടെ വിതരണരീതി മെച്ചപ്പെട്ടതാണെന്നും കാണുകയുണ്ടായി. മേയ് മുതൽ ജൂലൈ വരെയും വീണ്ടും സെപ്റ്റംബർ മുതൽ നവംബർവരെയുമാണ് കൂടുതൽ മഴ ലഭിക്കുന്ന സമയം. മഴ ഒട്ടാകുന്നില്ലാത്ത മാസങ്ങളിവിടെയില്ലെന്നുള്ളതു ഒരു പ്രത്യേകതയാണ്. ഈ കാരണങ്ങളാൽ ഈ പ്രദേശത്ത് ഇപ്പോഴുള്ളതിനേക്കാൾ കൂടുതൽ ഫിനിപ്രമായ കൃഷിരീതികൾ തുടരാവുന്നതും അതിനുള്ള ഗവേഷണങ്ങൾ നടത്തേണ്ടതുമാണെന്നും കണ്ടിരിക്കുന്നു.

### REFERENCES

- Anonymous 1974 a The Economic Review, Kerala 1973. The State Planning Board, Trivandrum.
- Anonymous 1974 b. Report of the Committee on Agro-Climatic zones and cropping patterns. Department of Agriculture, Trivandrum, Kerala.
- Raman. C. R. V. and Srinivasamurthy, B. 1971. Water availability periods for crop planning Scientific Report No. 173. Division of Agricultural Meteorology, Meteorological Office. Poona-5.

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