



GOVERNMENT OF KERALA

SEASON AND CROP REPORT
FOR
KERALA STATE

1965-66

BUREAU OF ECONOMICS AND STATISTICS
TRIVANDRUM

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FOREWORD

This report is the seventh in the series of Season and Crop Reports relating to Kerala State. It deals with the different aspects of agricultural economy of the State pertaining to the year 1965-66. In this report area and production estimates are given in metric units. To enable comparison over time, the estimates of the previous years have also been reworked in terms of metric units.

The report consists of four parts as detailed below:

Part I	Narrative Part
Part II	Summary Tables
Part III	Detailed Tables
Part IV	Appendix

Trivandrum.
22-5-1967.

N. GOPALAKRISHNAN NAIR,
Additional Director.

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PART I
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SEASON AND CROP REPORT 1965-66

1. Introduction

Kerala, the southernmost State in the Indian Union lies between $8^{\circ} 18'$ and $12^{\circ} 48'$ north latitudes and $74^{\circ} 52'$ and $77^{\circ} 22'$ east longitudes. It has an area of 38855 Sq. Kilometres and a coastal length of 560 kilometres. The width of the State varies between 130 kilometres in the middle to 32 kilometres at the extremities.

Topographically, the State is divided into three natural divisions viz., the low land, the midland and the highland. The low land comprises of the sandy coastal strip stretching over the sea coast and the high land comprises of the hills and forests of the Western ghats. The land lying between these two regions is called the midland.

The State has a normal rainfall of about 3000 m. m. per annum. The seasons of the State are mainly controlled by the South West and North East monsoons.

The State has 44 rivers, of which 41 are west flowing and three east flowing. The important rivers are Bharathapuzha, Periyar and Pumba. There are also a number of lagoons and backwaters. These back waters are interconnected by a network of canals.

Diversity of crops and heterogeneity in cultivation are the important features of agriculture in the State. While the high land is mainly cultivated with plantation crops and the low land is virtually monopolised by paddy and coconut, the midland is under a mixture of both major and minor crops.

2. Population:

The population of the State as per 1961 census is 169.03 lakhs and the density per Sq. Kilometre was 435. The estimated population as on 1st March 1965 was 186.89 lakhs. The district-wise distribution of population and the density thereof according to 1961 census are given in the following table:—

Population (lakhs)

District	Total	Rural	Urban	Density per Sq. Km.
Tiruvandrum	17.44	12.96	4.48	798
Quilon	19.41	17.97	1.44	410
Aleppey	18.11	15.01	3.10	988
Kottayam	17.33	15.67	1.66	273
Ernakulam	18.10	14.65	3.95	557
Trichur	16.40	14.54	1.86	557
Palghat	17.77	16.03	1.72	346
Kozhikode	26.17	21.84	4.33	393
Cannanore	17.80	14.80	3.00	314
STATE	169.03	143.49	25.54	433

The State has 27 Municipalities and 2 Corporations covering an area of 474 Sq. kilometres.

The per capita land available is only 0.23 hectare including forests. The per capita land available for cultivation is only 0.15 hectare and the per capita cultivated area is 0.12 hectare.

3. Rainfall

The State has a normal annual rainfall varying between 2000 m. m. and 3600 m. m. The average rainfall during 1965-66 varied between 1600 m. m. to 2700 m. m. During the year the State experienced serious draught during the latter half of the year due to the failure of North-east monsoon, and the seasonal crops were affected adversely to a very great extent. The normal annual rainfall and the actual rainfall during 1965-66 experienced in the different districts are given below.

District	Normal rainfall (m. m.)	Actuals during 1965-66.
Trivandrum	2002	1735
Quilon	2761	2430
Alleppey	3021	2302
Kottayam	2995	2122
Ernakulam	3578	2642
Trichur	3159	2023
Palghat	2459	1681
Kozhikode	3461	2426
Cannanore	3438	2500
STATE	2986	2209

4. Soil

The soil of Kerala is divided into seven classes as detailed below:

1. The hilly and forest soil seen all along eastern portion of the State.
2. The sandy soil seen all along the coastal belt.
3. The lat:rite soil in the midland portion
4. The Black soil which occur as a patch in the eastern border of Palghat district.
5. The Peat or Kari soil in Alleppey District.
6. The alluvial soil which occurs along the eastern and southern parts of Vembanad lake and in small patches in Trichur District.
7. The red soil in the extreme tip of Trivandrum taluk.

The classification of soil in each district of Kerala is given in the Appendix.

5. Classification of area:

The classification of area in the State is given in Table 'A' of the summary tables and the district-wise break up of the same is given in table 2.1 of the detailed tables.

The total area of the State is 3858523 hectares. The district-wise area is given in the following table:—

District	Area in hectares	Percentage
Trivandrum	216096	5.6
Quilon	469051	12.2
Alleppey	186790	4.8
Kottayam	623225	16.2
Ernakulam	317428	8.2
Trichur	294262	7.6
Palghat	510424	13.2
Kozhikode	661586	17.2
Cannanore	576661	15.0
STATE	3858523	100.0

Alleppey is the smallest district in the State, while Kozhikode is the largest District. The northern most three Districts viz. Palghat, Kozhikode and Cannanore account for 45% of the area in the State.

1. *Forest*.—The area under forest in Kerala was 1055076 hectares during 1965-66 as against 1051703 hectares during 1964-65. The district-wise area under forest during the two years is as follows:

District	Forest Area (In hectares)	
	1964-65	1965-66
Trivandrum	44513	44559
Quilon	210857	210857
Alleppey	513	513
Kottayam	24838	251779
Ernakulam	55212	5522
Trichur	132919	132805
Palghat	99663	99663
Kozhikode	193756	193756
Cannanore	65932	65932
STATE	1051703	1055076

The appreciable increase in area under forests in Kottayam district is due to the afforestation of the reserved lands.

2. *Area put to Non-Agricultural uses*.—During 1965-66, the area under this category was estimated 228230 hectares. The corresponding estimate for

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the previous year was 221887 hectares. District-wise estimates for the two years are given in the following table:-

District	Area under non-agricultural uses	
	1964-65	1965-66
Trivandrum	1316	14290
Quilon	13701	14040
Alleppey	11270	13115
Kottayam	14523	15305
Ernakulam	20702	21580
Trichur	15170	15200
Palghat	61600	61600
Kozhikode	18664	29095
Cannanore	4261	44005
STATE	22887	228230

The area under non-agricultural uses increased by 6343 hectares during 1965-66 compared to the previous year.

3. *Barren and Un-cultivable land*—Barren and un-cultivable land extends to 109925 hectares only during 1965-66 while it was 115941 hectares during 1964-65.

4. *Permanent pastures and grazing land*.—Permanent pastures and grazing lands which occupied 34435 hectares in the State during 1964-65, was reduced to 27800 hectares during the year under review.

5. *Land under miscellaneous tree crops not included in the net area sown*.—The area under this category of land was 200005 hectares during the year under review as against 203948 hectares during the previous year viz., 1964-65.

6. *Cultivable waste*.—Cultivable waste land in the State was 107950 hectares during 1965-66, as against 118761 hectares during 1964-65. The district-wise area under this category during the two years was as follows:-

District	Cultivable Waste land (Hectares)	
	1964-65	1965-66
Trivandrum	907	790
Quilon	3729	3030
Alleppey	2566	2535
Kottayam	21000	18380
Ernakulam	8387	8180
Trichur	2791	2620
Palghat	20783	20703
Kozhikode	26303	23220
Cannanore	31690	28520
STATE	118761	107950

The cultivable waste land decreased by 10811 hectares during the year under review.

7. *Fallow land other than current fallow.*—The area under this category of land was 31980 hectares during 1965-66. The corresponding estimate of the previous year was 34124 hectares. The district-wise area figures of the two years are as follows:—

District	Other fallow land (in Hectares)	
	1964-65	1965-66
Trivandrum	1965	1480
Quilon	1604	1525
Alleppey	460	480
Kottayam	1030	980
Ernakulam	1484	1460
Trichur	627	605
Palghat	5658	5115
Kozhikode	6581	5795
Cannanore	14715	14540
STATE	34124	31980

There was no appreciable decrease in area under 'other fallow land'.

8. *Current fallow.*—The area under current fallow in the state was 33220 hectares during 1965-66. The district-wise break-up of the same along with corresponding estimates of 1964-65 is given in the following table:—

District	Current fallow (Hectares)	
	1964-65	1965-66
Trivandrum	1169	1085
Quilon	1869	1570
Alleppey	639	700
Kottayam	3648	2945
Ernakulam	2178	1820
Trichur	2007	1630
Palghat	9341	8760
Kozhikode	8278	8200
Cannanore	6603	6420
STATE	35734	33220

There was a reduction of 2514 hectares in area under this category during the year under report.

9. *Net area sown*—The net area sown in the State increased from 2037010 hectares in 1964-65 to 2064337 (1.3%) in 1965-66. The district-wise area under 'net area sown' during the two years is as follows :—

District	Net area sown (Hectares)	
	1964-65	1965-66
Trivandrum	151474	151997
Quilon	218874	221419
Alleppey	16186	161617
Kottayam	295304	301031
Ernakulam	208047	211656
Trichur	135321	136587
Palghat	248028	250786
Kozhikode	39628	24705
Cannanore	27748	281499
STATE	2037010	2064337

10. *Total cropped area*—The total cropped area in the State was 2551344 hectares during 1965-66. The increase during the year was 71897 hectares compared to 1964-65 the percentage increase being 2.9%. The district-wise area during the two years is as follows :—

District	Total area cropped area (hect.)	
	1964-65	1965-66
Trivandrum	197222	206144
Quilon	278711	287522
Alleppey	219781	222282
Kottayam	327851	334713
Ernakulam	23677	247036
Trichur	207531	208552
Palghat	333105	338225
Kozhikode	371215	384378
Cannanore	316974	322492
STATE	2189447	2551344

11. *Area sown more than once.*—The area sown more than once has increased from 452437 hectares in 1964-65 to 487007 hectares during 1965-66. The district-wise area is given below :—

District	Area sown more than once (Hect.)	
	1964-65	1965-66
Trivandrum	45748	54147
Quilon	5,837	66103
Alleppey	595.5	60535
Kottayam	32547	33682
Ernakulam	28930	36370
Trichur	72010	71965
Palghat	85077	87439
Kozhikode	31467	39673
Cannanore	37226	37933
STATE	452437	487007

Nearly one third of the 'area sown more than once' in the State lies in the two districts of Palghat and Trichur. The intensity of cropping in the State is very high and this is evident from the large area accounted under area sown more than once. The net area sown, total cropped area and percentage thereof in each district are as follows :—

District	Net area sown (Hectares)	Total cropped area (Hectares)	Per cent of cropped area to net area
Trivandrum	151997	206144	135.6
Quilon	221419	287522	129.9
Alleppey	161647	222282	137.5
Kottayam	30,031	334713	111.2
Ernakulam	211666	247036	116.7
Trichur	136587	208552	152.7
Palghat	250786	338225	134.9
Kozhikode	344705	384378	111.5
Cannanore	284499	322492	113.4
STATE	2064937	2551344	123.6

6. Area under crops

(a) *Food crops*.—Food crops occupy two-thirds of the total cropped area in the State. The area increased from 1608941 in 1964-65 to 1635326 hectares in 1965-66. The percentage of area under food crops to total cropped area in each district is given in the following table :—

District	Area under food crops (Hect.)	Percentage total	Percentage to total cropped area
Trivandrum	134510	8.2	65.2
Quilon	127552	10.9	61.8
Aileppay	137178	8.4	61.7
Kottayam	171275	10.5	51.2
Ernakulam	148629	9.1	60.2
Trichur	157180	9.6	75.4
Palghat	271540	16.6	80.3
Kozhikode	213045	13.0	55.4
Cannanore	224417	13.7	69.5
STATE	1635326	100.0	64.1%

The changes in the area under the different food crops during 1965-66 compared to the previous year are discussed in the following paragraph :—

1. *Paddy*.—The area under paddy in the State increased from 801121 hectares in 1964-65 to 802329 hectares during 1965-66. The district-wise area under the crops during the two years is given below :—

District	Area under paddy (Hect.)	
	1964-65	1965-66
Trivandrum	38602	38734
Quilon	49469	49637
Alleppey	81911	81603
Kottayam	40775	40530
Ernakulam	83040	83460
Trichur	107586	108807
Palghat	194666	195121
Kozhikode	109844	110193
Cannanore	93228	94244
STATE	801121	802329

50% of the area under paddy in the State lies in Trichur, Palghat and Kozhikode districts. Palghat district alone accounts for one fourth of the area under the crop. The area under paddy during the three crops viz. Autumn, Winter and Summer during 1964-65 and 1965-66 is as follows:-

Crop	Area under paddy (Hectares)	
	1964-65	1965-66
Autumn	395189	398012
Winter	329010	327879
Summer	76922	76438
Total	801121	802329

The slight reduction in area under Winter and Summer crops is due to the failure of North-East Monsoon with the result sowing could not be started in some area.

2. *Pulses*:-The area under pulses in the State, was 43312 hectares during the year under review as against 43595 hectares in 1964-65. About 50% of the area under pulses is in the Malabar districts of Palghat, Kozhikode and Cannanore.

3. *Sugarcane*:-The area under sugarcane in the State was 9193 hectares during 1965-66 as against 9510 hectares during 1964-65. The important sugarcane growing districts are Alleppey and Kottayam.

4. *Pepper*:-Pepper was cultivated in 99695 hectares during the year under review. Though pepper is cultivated in all the districts of the State, Cannanore is the important pepper growing district which accounts for about 44% of the area under the crop.

5. *Chillies*:-Chillies is cultivated only in Palghat, Kozhikode and Cannanore districts, the area under the crop being 3095 hectares. In Cannanore district 1700 hectares are under this crop.

6. *Ginger*:-During the year 1965-66, ginger was cultivated in 11847 hectares. This was slightly less compared to 1964-65. Kottayam and Kozhikode are the important ginger growing districts of the State and account for about 70% of the area under the crop.

7. *Turmeric*:-The area under turmeric in Kerala was 4464 hectares during the year under review. Kottayam, Palghat and Kozhikode are the important turmeric growing districts of the State.

8. *Cardamom*:-The area under cardamom in Kerala is 28684 hectares. The important cardamom growing district is Kottayam.

9. *Betelnut (Arecanut)*:-Arecanut is cultivated fairly on a large scale in almost all districts. The area under the crop increased from 59488 hectares in 1964-65 to 64478 hectares in 1965-66. About 40% of the area under the crop is in Kozhikode and Cannanore districts.

10. *Mangoes*.—The area under mangoes in the State during 1965-66 is estimated at 62217 hectares. Quilon district accounts for one-fifth of the area.

11. *Banana and Plantain*.—During the year under review Banana and Plantain was cultivated in 47779 hectares. About half of the area under the crop is accounted by Palghat, Kozhikode and Cannanore districts.

12. *Cashewnut*.—Cashewnut was cultivated in 87366 hectares during 1965-66 as against 85974 hectares during 1964-65. About 52% of the area under the crop is in Kozhikode and Cannanore districts.

13. *Tapioca*.—Though the crop is cultivated throughout the State, Trivandrum, Quilon and Kottayam districts account for two-thirds of the area under tapioca. The area under the crop in the State during 1965-66 was 229684 hectares registering an increase of 20313 hectares compared to that of the previous year.

(b) *Non-food Crops*.—Non-food crops cover only one-third of the total cropped area of the State. The changes in area under each crop during 1965-66 compared to 1964-65 are discussed below:

1. *Groundnut*.—Groundnut was cultivated in 15215 hectares during 1965-66. Palghat and Trivandrum are the only two districts where the crop is cultivated. Palghat district accounts for 14575 hectares under groundnut.

2. *Sesamum*.—The area under sesamum during the year under review was 11950 hectares. About 60% of the area under the crop is in Quilon and Alleppey Districts.

3. *Cotton*.—Cotton was cultivated in 7160 hectares during 1965-66. Palghat which is the main cotton growing crop in the State account for 6819 hectares.

4. *Coconut*.—During 1965-66, Coconut was cultivated in 586313 hectares. Area under coconut occupies 64% of the non-food crop area in the State. One-fifth of the area under the crop is in Kozhikode District,

5. *Tobacco*.—The area under tobacco was 705 hectares during 1965-66. Cannanore is the only district where the crop is grown in the State.

6. *Tea*.—The area under tea during 1965-66 was 39470 hectares. There was no appreciable increase in area under the crop compared to the previous year. Kottayam is the important tea growing district in the State accounting for 75% of the crop area.

7. *Coffee*.—Coffee is mainly cultivated in Kozhikode District. The area under the crop during the year under review in the State was 23602 hectares. The increase during the year compared to 1964-65 was 1869 hectares.

8. *Rubber*.—Rubber which is the important plantation crop in the State was cultivated in 149634 hectares during 1965-66. The corresponding estimate of the previous year was 146952 hectares.

7: Irrigation

During 1965-66, the net area irrigated in the State has increased to 361838 hectares, the corresponding estimate for 1964-65 being 3,51640 hectares. The percentage of net area irrigated to net area sown during 1965-66 comes to 17.53. The main source of irrigation is Government canal. The sourcewise area irrigated during the year is given in Table B1 of the summary tables. The gross area irrigated during the year under review is estimated at 508961 hectares. The corresponding estimate of the previous year (1964-65) was 494095 hectares. It is seen 19.95% of the total cropped area is irrigated. Paddy is the important crop which is benefited by the irrigation scheme. 79.8% of the gross irrigated area is for paddy. It is seen that 50% of the gross paddy area is irrigated. The crop-wise details of irrigated area are given in Table B-2 of the summary tables.

8. Weather and Crop condition

TRIVANDRUM DISTRICT

Rainfall was below normal during both the Kharif and Rabi seasons. There was no serious damage to crop either due to excessive rain or draught.

Quilon District.—Rainfall during the Kharif season was normal. But during the Rabi season the rainfall was inadequate. Though no damage was reported in respect of Kharif crops, there was slight fall in the yield rate of rabi crops.

Alleppey District.—During Kharif season the weather condition was insufficient in some parts of Alleppey District.

During Rabi season also the rainfall was insufficient and untimely. The North-East monsoon which started during the beginning of December lasted only for a week causing considerable damage to winter and summer crop of paddy in its early stages. Pest attack was very high during the season particularly in Kuttanad and Ambalapuzha Taluk.

Kottayam District.—Rainfall condition during both the crop seasons was unsatisfactory with the result all the seasonal crops were affected adversely to a certain extent in some parts of the District.

Ernakulam District.—Rainfall was insufficient in almost all taluka during Kharif and Rabi seasons. With the result the condition of seasonal crops was also not satisfactory in a major portion of the district.

Trichur District.—There was lack of adequate rain during both the Kharif and Rabi seasons. About 10% of the Autumn Paddy was destroyed due to scarcity of water. Almost all crops were affected by inadequate rains during Rabi season also.

Palghat District.—Insufficient rainfall was experienced in almost all taluks during both the Kharif and Rabi seasons. Almost all crops seasonal crops were affected adversely in some parts of the Districts.

Kozhikode District:—Rainfall condition was not at all satisfactory during both the crop seasons. The production of important crops were therefore slightly reduced during the year compared to 1964-65.

Cannanore District:—During both the Kharif and Rabi Seasons the rainfall was below normal in some parts of the district resulting in poor performance of paddy crop. In a major part of the district, the rainfall condition was normal and the crop condition was also normal.

9. Production of Important crops

The production estimate of the important crops grown in the state for the year 1965-66 are given in table D of the summary tables. The district wise breakup of the same is given in table 4.1 of the detailed tables. The trend in the production of important crops compared to 1964-65 are discussed below.

1. *Paddy:*—During the year under review the production of rice in the State was estimated at 997489 tonnes as against 1121383 tonnes during 1964-65. The season wise production figures during the two years are as follows:—

Crop	Rice production (Tonnes)	
	1964-65	1965-66
Autumn	494816	521850
Winter	509555	389845
Summer	117012	85794
Total	1121383	997489

The Autumn Crop during the year was the best compared to the previous years. The Winter and Summer paddy during the year under review were adversely affected by the failure of North East monsoon.

2. *Pulses:*—The production of pulses in the state during 1965-66 was 16,901 Tonnes as against 17061 tonnes during 1964-65.

3. *Sugarcane:*—During the year under review the sugarcane (Gur) production in the state was 40948 tonnes. The corresponding figure for 1964-65 was 44034 tonnes.

4. *Pepper (Black):*—During 1965-66 the pepper production in the state was estimated at 21685 tonnes. There was a slight reduction in production compared to the previous year, 65% of the production is concentrated in Trivandrum, Kottayam and Cannanore Districts.

5. *Ginger (Dry):*—Ginger production in the state was estimated as 11190 tonnes during 1965-66. The corresponding estimate of 1964-65 was 11328 tonnes. 67% of the production is in Kottayam and Kozhikode districts.

6. *Turmeric (Cured)*:- During 1965-66, 3766 tonnes of Turmeric was produced in the state. The production during 1964-65 was 3910 tonnes. The important Turmeric producing districts are Kottayam, Palghat and Kozhikode, which account for about 90% of the production.

7. *Cardamom (Cured)*:- There was no change in the production of Cardamom during 1965-66 compared to the previous year. The production during 1965-66 was 1606 tonnes. Kottayam the major cardamom producing district account for 85% of the production.

8. *Betel nut (Arecanut)*:- During 1965-66, the Arecanut production in the state is estimated at 9681 tonnes. The production during the year is 8% higher compared to 1964-65. Quilon, Trichur, Kozhikode and Cannanore districts account for two thirds of the Arecanut production in the State.

9. *Banana*:- The Banana production in the State was 77421 tonnes during 1965-66. Quilon, Kottayam, Kozhikode and Cannanore districts are the important Banana producing districts in the State.

10. *Other Plantain*:- The production of other Plantain during 1965-66 was 283701 tonnes. The same during 1964-65 was 263251 tonnes. The Malabar districts of Palghat, Kozhikode and Cannanore account for about 55% of the production in the State.

11. *Cashewnut*:- Cashewnut production during 1965-66 was 98025 tonnes. The increase during the year compared to 1964-65 was 1562 tonnes. Quilon, Kozhikode and Cannanore districts account for about 64% of the production. Cannanore district alone contributes to 36% of the States cashewnut production.

12. *Tapioca*:- During the year under review 3095,658 tonnes of Tapioca was produced in the State. The production was estimated using the results of the crop cutting survey conducted by the Bureau. The yield rates of each district are as follows:-

District	Yield of Tapioca/Hectares (Tonnes)
Trivandrum	14.09
Quilon	12.07
Alleppey	15.16
Kottayam	17.25
Ernakulam	11.44
Trichur	11.31
Palghat	10.35
Kozhikode	10.24
Cannanore	8.79
STATE	13.48

The State yield rate has increased from 13.20 tonnes in 1964-65 to 13.48 tonnes in 1965-66. About 75% of the tapioca production is from Trivandrum, Quilon and Kottayam Districts. Though Quilon ranks first with regard to area under Tapioca, Kottayam ranks first with regard to productivity.

13. *Groundnut*:—The groundnut production during 1965-66 was 25220 tonnes as against 21838 tonnes during 1964-65. Palghat district accounts for more than 95% of the production.

14. *Sesamum*:—During the year under review 2,365 tonnes of sesamum was produced in the State as against 2399 tonnes during 1964-65. Quilon and Alleppey districts account for 50% of the production only though they account for 60% of the area under the crop.

15. *Coconut*:—The coconut production during 1965-66 is estimated at 3293 million nuts which shows an increase of 15 million nuts over the previous year. Quilon, Alleppey and Kozhikode districts contribute to half of the Coconut production in the State.

16. *Cotton*:—During 1965-66, the cotton production was 6933 bales. There was a steep fall in production as well as area on account of the reduction in the area under Sea Island Cotton.

17. *Tobacco*:—911 tonnes of tobacco was produced during the year under review.

18. *Tea*:—Tea production showed a slight fall during 1965-66 compared to 1964-65, the production during the two years being 39154 tonnes and 42075 tonnes respectively.

19. *Coffee*:—During 1965-66, 9878 tonnes of Coffee was produced in the State as against 9,685 tonnes during the previous year. Kozhikode district contributes to about 64% of the total production.

20. *Rubber*:—46953 tonnes of Rubber was produced during the year under review. The production during 1964-65 was 40065 tonnes. Kottayam and Quilon districts produced about 50 per cent of the total Rubber.

21. *Lemongrass Oil*:—The production of Lemongrass Oil stood at 1602 tonnes during 1964-65 and 1965-66.

10. Farm price of certain important commodities.

The average farm price of certain important commodities are given in table F (Summary tables) and Table 5.1 (of detailed tables). The value of production of these commodities is also given in table F.

11. Agricultural Wages:

Detailed statement showing agricultural wages prevailed in the different districts and class of cultivators are given in table 6.1.

12. Live stock, Poultry and Agricultural Implements:

The details regarding livestock, poultry etc., obtained through the 1961 census are given in table 'G' of summary tables and table 7.1 of the detailed tables.

13. Sowing, harvesting and peak marketing period:

A detailed statement showing the sowing, harvesting and peak marketing period of important seasonal crops in the State are given in table 4 of the summary tables.

PART II
SUMMARY TABLES

- A. Classification of area
- B1. Source of Irrigation
- B2. Area under crops irrigated
- C. Area under crops
- D. Production of Important crops
- E. Average yield per acre of certain crops.
- F. Average price and value of production.
- G. Livestock, poultry and agriculture machinery.
- H. Sowing, harvesting and peak marketing seasons of principal crops.

Table—A.
CLASSIFICATION OF AREA (AREA IN HECTARES)

Head of Classification	1952-53			1955-56			1960-61			1961-62	
	Area	Percen-	Area	Percen-	Area	Percen-	Area	Percen-	Area	Percen-	
1	2	3	4	5	6	7	8	9			
Total Area by Village papers ..	3808861	100.00	3808861	100.00	3858523	100.00	3858523	100.00			
Forests ..	947251	24.87	107624	26.46	1056143	27.37	1056143	27.37			
Land put to non-agricultural uses ..	205011	5.38	204971	5.38	204644	5.30	209486	5.43			
Barren and uncultivable land ..	214849	5.64	204328	5.36	151344	3.92	146120	3.79			
Permanent pastures and grazing land ..	55722	1.46	47080	1.24	45232	1.17	44539	1.15			
Land under miscellaneous free crops ..	186322	4.89	197011	5.17	204363	5.30	202194	5.24			
Cultivable Waste ..	181578	4.77	151602	3.98	143409	3.72	140898	3.65			
Current fallow ..	44010	1.66	565552	1.48	67124	1.74	60961	1.58			
Other fallows ..	197259	5.18	108524	2.85	62542	1.62	66409	1.72			
Net area sown ..	1776859	46.65	1831169	48.08	1923722	49.86	1931773	50.07			
Total area cropped ..	2089108	54.85	2178310	57.19	2348856	60.87	2341200	60.68			
Area sown more than once ..	312249	8.20	347141	9.11	425194	11.02	409427	10.61			

Table A—(cont'd.)

1965-66

1964-65

1963-64

1962-63

Head of classification

Percentage

Area Percentage

Area

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Table-B-1.
SOURCES OF WATER SUPPLY AND NET AREA IRRIGATED (IN HECTARES)

Sources	1955-56	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66
	1	2	3	4	5	6	8
Net area Irrigated by:-							
1. Government canals..	67368	133049	140418	147929	155917	162330	168977
2. Private canals ..	5738	5738	5738	5738	5738	7815	7689
3. Tanks ..	41598	46952	48251	49578	51537	55720	59736
4. Wells ..	2032	2032	2032	2032	2032	4030	4030
5. Other sources ..	130940	130940	130940	130940	132009	121745	121406
6. Total ..	247676	318711	327379	336217	347233	351640	361838
7. Percentage of net area irrigated to net area sown ..	13.53%	16.57%	16.95%	16.73%	17.17%	17.26%	17.53%
8. Area irrigated more than once in an year.	101766	137545	138686	139924	141664	142455	147123
9. Total irrigated area ..	349442	456256	466065	476141	488897	494095	508961
10. Percentage of total irrigated area to total cropped area ..	16.04%	19.42%	19.91%	19.46%	19.86%	19.85%	19.95%

GROSS AREA UNDER CROPS IRRIGATED IN KERALA (IN HECTARES)

19

Name of crop	1955-56			1960-61			1961-62			1962-63		
	Area	%	Area	Area	%	Area	%	Area	%	Area	%	
1	2	3	4	5	6	7	8	9				
Paddy	240986	69.0	347799	76.2	357609	76.7	367686	77.2				
Sugarcane	2796	0.8	3650	0.8	4209	0.9	4306	0.9				
Other food crops	66163	18.9	65310	14.3	64750	13.9	64652	13.6				
Total food crops	309945	88.7	416759	91.3	426568	91.5	436644	91.7				
Total non-food crops	39497	11.3	39497	8.7	39497	8.5	39497	8.3				
All Crops	349442	100.00	456256	100.00	466065	100.00	476141	100.0				

Table-B.2—(Concl'd).

GROSS AREA UNDER CROPS IRRIGATED IN KERALA (IN HECTARES)

Name of crops	1963-64		1964-65		1965-66	
	Area	%	Area	%	Area	%
Rice	10	11	12	13	14	15
Paddy	380441	77.8	390675	79.1	405920	79.8
Sugarcane	4306	0.9	4305	0.9	4306	0.8
Other food crops	61213	12.5	56430	11.4	56049	11.0
Total food crops	445960	91.2	451410	91.4	466275	91.6
Total non-food crops	42537	8.8	42685	8.6	42686	8.4
All Crops	488897	100.00	494095	100.0	508961	100.0

Table-C

AREA UNDER CROPS IN KERALA (AREA IN HECTARES)

Name of crops	1952-53	1955-56	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66
1	2	3	4	5	6	7	8	9
Paddy	742160	759353	778910	752688	802660	805084	801121	802329
Jowar	1235	1862	1473	1420	1420	1410	1321	1235
Ragi	4591	4702	5573	5204	5210	5216	5183	5097
Other cereals and Millets	5450	5422	5846	6742	6728	6728	6720	6717
Total cereals and Millets	753436	771339	791802	766054	816018	818438	814345	815358
Tur	4541	12460	8932	8382	8819	8810	8545	8545
Other Pulses	30223	32291	35188	35146	35162	35042	35050	34767
Total Pulses	34764	44751	44120	43528	43681	43852	43595	43312
Sugarcane	6497	7294	9146	9223	9332	9486	9510	9193
Palmyrah	3938	5456	5050	5213	5141	8140	5360	5576
Total sugar crops	10435	12750	14196	14436	14473	14626	14870	14769
Pepper	78806	86487	99755	99844	99240	99382	99552	99695
Chillies (Dry)	4136	4046	3318	3322	3322	3294	3294	3095
Ginger	14072	10456	12004	12045	12068	11958	11973	11847
Turmeric	4511	4552	4665	4844	4832	4615	4614	4464
Cardamom	25540	28069	28607	28683	28683	28683	28684	28684
Arecanut	59996	58098	54256	56740	55300	56695	59488	61478
Other condiments and spices	16017	16002	18630	18761	18940	18866	19317	19317
Total condiments and spices	203081	207710	221235	222385	224239	223493	226912	231580

Table C—(contd.)

1	2	3	4	5	6	7	8	9
Mangoes	50984	57106	59579	61182	62628	63664	63317	62217
Citrus fruits	3312	2312	1959	1959	1959	1959	1959	1959
Banana	31014	47067	10014	86666	10570	10288	10724	47779
Other Plantains	..	..	34410	34009	32782	32853	34475	..
Other fresh fruits	35080	50940	58154	59196	59010	68755	64030	64393
Cashewnuts	35409	37464	54318	55028	82127	82368	85974	87366
Other dried fruits	16396	6051	24	24	24	24	24	24
Total fruits	..	172195	200940	218458	220064	249100	259911	260503
Tapioca	204723	222132	242201	233675	221617	209906	209371	229684
Sweet Potatoes	6117	8401	8031	8084	8359	8916	10194	8211
Other Vegetables	39785	39786	25014	26450	25913	25345	29141	27837
Total Vegetables	..	250625	270319	275246	271209	255889	244167	248706
Total food crops ..	1424536	1507809	1565057	1539530	1601846	1604487	1608941	1635326
Groundnut	..	11053	13197	16030	16030	14512	14523	15215
Cas-or	..	672	703	214	277	389	362	355
Sezamum	..	18562	20125	12087	11948	11913	11991	12007
Coconut	..	430401	447945	500758	504820	539258	544986	558991
Other Oil Seeds ..	..	10801	11205	9699	10707	11050	11211	11264
Total Oil Seeds ..	471489	493175	538738	543782	578640	583062	597140	625132

Table C—(Concl'd.)

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1	2	3	4	5	6	7	8	9
Cotton	6406	8767	9822	9583	7730	7963	8695	7160
Other Fibres	..	67	36	36	36	36	36	36
Total Fibres	6406	8834	9858	9619	7766	7999	8731	7196
Tobacco	523	571	743	703	704	705	705	705
Tea	44986	39883	37631	37410	38552	38405	39356	39470
Coffee	12599	14295	16798	18799	19172	20022	21733	23602
Rubber	62586	64708	122865	133076	137909	142906	146952	149634
Other drugs and plantation crops	2040	101	1406	1406	1406	1406	1406	1406
Total drugs and plantation crops etc.	122734	119558	179443	191394	197742	203443	210152	214817
Fodder	605	605	466	472	470	458	462	462
Green manure crops	1448	1448	1429	7126	7784	8027	9135	13525
Lemongrass	NA	14085	25712	25395	24764	25138	24036	24036
Other Non-Food crops	61889	32796	28103	23882	27612	29048	30850	30850
Total Non-Food crops	664572	670501	783799	801670	844778	857175	880506	916018
Total area under all crops	2089108	2178310	2348856	2341200	2446624	2461662	2489447	2551344
Area sown more than once	312249	347141	425134	409427	437311	439675	452437	487007
Net area sown	1776859	1831169	1923722	1931773	2009313	2021937	2037010	2064337

Table D
PRODUCTION OF IMPORTANT CROPS IN KERALA

Unit	Production							
	1952-53	1955-56	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66

Table E
AVERAGE YIELD PER HECTARE OF CERTAIN CROPS

Name of crop	Unit	1952-53		1955-56		1960-61		1961-62		1962-63		1963-64		1964-65		1965-66	
		1	2	3	4	5	6	7	8	9	10						
1 Paddy	Kg./Hectare	1482	1772	2086	2030	2074	2133	2131	1892								
2 Jowar	do.	321	447	435	437	421	422	422	364								
3 Ragi	do.	1208	1321	1437	1465	1462	1447	1439	1390								
4 Sugarcane (Gur)	do.	4535	4659	4165	4088	4469	4648	4630	4454								
5 Pepper (Black)	do.	287	321	271	270	247	225	223	218								
6 Ginger (Dry)	do.	723	1063	938	944	947	944	946	945								
7 Turmeric (Dry)	do.	1121	1121	897	894	892	847	847	844								
8 Cardamom	do.	48	45	45	45	45	45	45	56								
9 Areca nut	Nuts/Hectare	74130	111195	142601	142596	150311	150310	150360	150360								
10 Banana	Kg./Hectare	6731	6731	6501	6501	7286	7286	7286	7286								
11 Other plantains	do.																
12 Cashewnuts	do.	1547	1569	1558	1588	1588	1588	1588	1588								
13 Tapioca	do.	7398	7061	6949	6949	6949	6949	6949	6949								
14 Groundnut	do.	1261	1096	861	861	860	844	844	844								
15 Sesamum	do.	319	321	214	214	216	216	216	216								
16 Cocoanuts	Nuts/Hectare	6919	6919	6430	6430	6128	5985	5985	5864								
17 Cotton	Kg./Hectare	195	193	192	192	174	179	179	174								
18 Tea	do.	671	762	1073	1017	1005	1068	1068	1069								
19 Coffee	do.	406	372	442	440	443	428	428	418								
20 Rubber	do.	308	327	187	187	211	236	236	273								

Table F

AVERAGE PRICE AND TOTAL VALUE OF PRODUCTION—1965-66

	Name of crop	Unit	Average farm price (Rs.)	Value of production (Rs., in lakh)
1 Paddy	..	Tonnes	863.10	13101.86
2 Coconut (with husk)	..	1000 nuts	391.60	12895.39
3 Areca nut	..	do.	39.80	3853.04
4 Tapioca (Raw)	..	Tonnes	179.50	5547.32
5 Cashewnut	..	do.	931.70	913.30
6 Banana	..	100 Nos.	11.42	589.43
7 Ginger (Dry)	..	Tonnes	2547.20	285.03
8 Pepper (Black)	..	do.	3597.30	780.07
Sugarcane	..	do.	NA.	NA.

Table G

**NUMBER OF LIVESTOCK, POULTRY AND
AGRICULTURAL MACHINERY**

Sl. No.	1	2	3		
				1956 Census	1961 Census
				4	5
1	Cattle		Male over 3 years:		
		(a) Breeding		11026	29319
		(b) Working		553155	515241
		(c) Others		37718	21471
		Total		601899	566031
		Females over 3 years:			
		(a) Breeding: (1) In Milk		396375	428194
		(2) Dry		454233	502935
		(3) Not calved		120976	207277
		(b) Working		7083	11274
		(c) Others		19223	12306
		Total		997950	1161986
		Young Stock		910527	1025148
		Total Cattle		2510376	2753165
2	Buffaloes		Males over 3 years:		
		(a) Breeding		4046	10627
		(b) Working		247313	267871
		(c) Others		5895	6614
		Total		257254	285112
		Females over 3 years:			
		(a) Breeding: (1) In Milk		61336	59542
		(2) Dry		52128	49341
		(3) Not calved		11624	16846
		(b) Working		10109	7266
		(c) Others		3288	2188
		Total		138485	135113
		Young Stock		91914	64864
		Total Buffaloes		487653	485089
3	Sheeps		(a) One year and above		
		(b) Below one year		58677	5292
		Total		97820	24241
4	Goats		(a) One year and above		
		(b) Below one year		592435	442848
		Total		955570	1312262

5	Horse and Ponies	(a) Three years and above	1008	366
		(b) Below three years	682	42
		Total	1690	408
6	Mules		2	31
7	Donkeys		1415	377
8	Camels			
9	Pigs		113711	122381
		Total Livestock	4168237	4697954
10	Poultry	(a) Fowls	6462799	8708664
		(b) Ducks	332085	387072
		(c) Others		
11	Ploughs	(a) Wooden	570327	562281
		(b) Iron	10225	6441
12	Carts		27283	21037
13	Sugarcane Crushers	(a) Power	230	175
		(b) Bullocks	1155	1071
14	Oil engines		2504	3372
15	Electric pumps		723	2565
16	Tractors		187	276
17	Chains	(a) More than five seers	1858	2058
		(b) Less than five seers	2366	2164

Table H

SOWING, HARVESTING AND PEAK MARKETING SEASONS
OF PRINCIPAL CROPS IN KERALA STATE

Sl. No.	Crop	Sowing			Harvesting		Peak Marketing
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. Rice	Autumn Winter Summer	April—June August—October November—December January—March		August—October December—February February—March April—May		September—October January—February March—April May—June	
2. Ragi	1st Crop 2nd Crop	April—July September—October		August—October December—January		September—October December—January	
3. Small Millets (Samai)	Kharif Rabi	May September		August December		August December	
4. Red gram	1st Crop 2nd Crop 3rd Crop	May—June August—October February		August—September November—January April		September—October January April	
5. Horse gram	1st Crop 2nd Crop	August—October February—March		November—January April—May		January—February May—June	
6. Green gram		May—June		August—September		September—October	
7. Black gram	1st Crop 2nd Crop	May—June October—November		August—October January—February		October February	

(1)	(2)	(3)	(4)	(5)	(6)
8. Other Pulses		May—June October	August—September December—January	August—September January	
9. Sugarcane	1st crop 2nd crop	November—February January—March	October—December December—February	November—December February	
10. Ginger (Raw)		April—May	November—January	December—January	
11. Pepper		..	November—January	December—January	
12. Sesamum	1st crop 2nd crop 3rd crop	February—March August—October December—January	June—July December—January March—April	July—August December—January April—May	
13. Cotton		August—September	February—March	February—March	
14. Sweet Potatoes	1st crop 2nd crop 3rd crop	June—July September—October November—December	September—October December—January February—March	September—October December—January February—March	
15. Turmeric		April—May	December—January	January—February	
16. Lemongrass		..	June—September	September	
17. Tapioca	1st crop 2nd crop 3rd crop	October—November March—May July—September	August—September November—January May—July	August—September December—January June—July	

PART III
DETAILED TABLES

*Table No.**Details of tables*

- 1.1 Normal rainfall.
- 1.2 Average monthly rainfall.
- 2.1 Classification of area as percentage to total area according to village papers.
- 3.1 Area under crops in each District.
- 3.2 Percentage of area under crops to the total area in each District.
- 4.1 Out-turn of important crops in each District.
- 5.1 Average farm prices of certain commodities.
- 6.1 Agricultural wages
- 7.1 Number of Livestock, poultry and agricultural machinery and implements.

Table 1·1

NORMAL RAINFALL IN KERALA (IN MILLI METRES)

District	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Total
Trivandrum ..	257·4	204·5	168·9	280·2	210·2	70·1	21·2	18·0	48·0	118·1	213·9	391·1 2001·6
Quilon ..	449·6	318·1	226·1	344·9	242·9	64·8	24·1	32·1	84·6	166·3	260·3	547·4 2761·2
Alleppey ..	548·1	371·3	272·3	328·1	224·0	64·0	27·6	31·6	59·7	134·1	293·7	666·1 3020·6
Kottayam ..	628·0	412·4	263·5	330·8	213·6	72·2	31·2	27·0	59·5	133·1	237·4	585·8 2994·5
Ernakulam ..	785·9	523·5	296·6	365·7	216·9	54·6	18·0	23·6	54·4	136·1	310·1	792·1 3577·5
Trichur ..	747·6	441·7	245·5	305·7	163·5	32·8	10·1	9·2	28·4	91·1	283·5	800·3 3159·4
Palghat ..	657·1	361·9	175·7	257·4	144·3	30·4	9·1	9·3	26·6	80·0	175·2	532·2 2459·2
Kozhikode ..	1005·9	530·5	239·2	286·6	160·1	33·4	9·0	6·8	18·4	84·0	233·5	853·9 3461·3
Cannanore ..	1063·5	584·7	239·4	218·0	106·0	22·8	5·3	4·8	11·2	58·6	200·6	923·0 3437·6
	682·6	416·5	236·4	301·9	186·8	49·4	17·3	18·0	43·4	111·3	245·4	676·9 2985·9

Table 1.2 AVERAGE MONTHLY RAINFALL IN KERALA DURING 1965-66 (IN MILLI METRES)

District	AVERAGE MONTHLY RAINFALL IN KERALA DURING 1965-66 (IN MILLI METRES)												
	July 1965	August 1965	September 1965	October 1965	November 1965	December 1965	January 1966	February 1966	March 1966	April 1966	May 1966	June 1966	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Trivandrum	175.5	167.0	70.4	401.6	129.1	243.1	6.7	10.0	44.8	148.0	58.5	300.2	11754.9
Quilon	225.0	321.0	120.7	257.7	192.3	197.5	4.4	16.2	123.0	441.0	59.0	472.5	2430.3
Alleppey	334.0	380.3	195.6	100.0	20.8	260.9	0.6	12.3	62.5	187.2	67.7	489.9	2301.8
Kottayam	335.8	241.5	140.7	220.6	157.1	174.3	4.8	15.5	84.1	261.1	63.1	423.8	2122.4
Ernakulam	432.0	339.6	20.3	196.5	190.2	234.0	4.9	8.1	86.4	209.0	115.8	625.2	2642.0
Trichur	440.6	322.1	185.4	99.4	143.3	128.6	..	..	42.4	50.3	29.3	581.9	2023.3
Palghat	440.3	239.6	123.9	193.5	96.3	86.6	..	..	48.5	63.9	98.3	290.4	1681.3
Kozhikode	665.1	316.6	148.0	158.3	106.0	112.5	1.3	2.0	113.9	57.1	152.5	592.5	2425.8
Cannanore	757.6	414.2	169.0	91.5	78.3	112.8	2.3	..	16.4	46.2	132.2	679.1	2499.6
State Average	422.9	304.7	150.4	191.0	144.8	172.3	2.8	7.1	69.1	162.6	86.3	495.1	2209.1

Table 2.1

**CLASSIFICATION OF AREA IN EACH DISTRICT OF KERALA
(AREA IN HECTARES) DURING 1965-66**

District	Total Geographical area according to Village papers	Forest	Land put to non-agri-cultural uses	Barren and uncultivable land	Permanent pastures and other grazing land		Land under Misc. tree crops not included in net area sown
					3	4	
1	2						
Trivandrum	216096		44559	14290	545	550	800
Quilon	469051	210857	14040	12040	1300	1300	3300
Alleppey	186790	513	13115	1310	250	250	6150
Kottayam	626225	251779	15305	17950	3500	3500	14355
Ernakulam	317428	55212	21580	8530	2000	2000	6980
Trichur	294262	13205	15200	3155	500	500	1160
Palghat	510424	99663	61600	27800	5000	5000	30995
Kozhikode	661586	193756	29095	14040	200	200	40075
Cannanore	575661	65932	44005	24555	12000	12000	96190
STATE	3858523	1055076	228230	109925	27800	27800	200005

Table 2.1—(contd.)
CLASSIFICATION OF AREA IN EACH DISTRICT OF KERALA
(AREA IN HECTARES) DURING 1965-66

District	Cultivable waste land	Fallow land other than current fallow	Current fallow	Net area sown	Area sown more than once	Total cropped area
1	2	3	4	5	6	7
Trivandrum	..	790	1480	1085	151997	54147
Quilon	..	3000	1525	1570	221419	66103
Alleppey	..	2535	480	790	161647	60635
Kottayam	..	18380	980	2945	301031	33682
Ernakulam	..	8180	1460	1820	211666	35370
Trichur	..	2620	605	1630	136587	71965
Palghat	..	20705	5115	8760	250786	87439
Kozhikode	..	23220	5795	8200	344705	39673
Cannanore	..	23520	14540	6420	284499	37993
State	..	107950	31980	33220	2064337	487007
						2551344

Table 21.2
**CLASSIFICATION OF AREA AS PERCENTAGE TO TOTAL AREA
 ACCORDING TO VILLAGE PAPERS**

District	Area accord- ing to village papers	Classification				Land under Misc. tree crops & groves not included in net area sown	7
		Forests	Land put to non-agricul- tural uses	Barren and uncultivated lands	Permanent pastures and other grazing lands		
1	2	3	4	5	6	7	
Trivandrum	..	100	20.62	6.61	0.26	0.25	0.37
Quilon	..	100	44.95	2.99	2.57	0.28	0.70
Alleppey	..	100	0.27	7.02	0.70	0.13	3.29
Kottayam	..	100	40.21	2.44	2.86	0.59	2.29
Ernakulam	..	100	17.39	6.80	2.69	0.63	2.19
Trichur	..	100	45.14	5.16	1.07	0.16	0.39
Palghat	..	100	19.53	12.07	5.45	0.98	6.06
Kozhikode	..	100	29.27	4.40	2.12	0.41	6.06
Cannanore	..	100	11.43	7.63	4.25	2.08	16.67
STATE	..	100	27.35	5.91	2.85	0.72	5.18

Table 2.2—(contd.)
 CLASSIFICATION OF AREA AS PERCENTAGE TO TOTAL AREA
 ACCORDING TO VILLAGE PAPERS

District	Classification						Total cropped area				Area sown more than once
	Culti- vable waste	Other fallow lands	Current fallow	Net area sown	Food crops	Non-food crops	Total	13	14	15	
1	8	9	10	11	12						
Trivandrum	0.36	0.69	0.50	70.34	62.25	33.15	95.40				25.06
Quilon	0.64	0.32	0.33	47.21	37.85	23.44	62.29				14.09
Alleppey	1.35	0.26	0.43	86.55	73.44	45.56	119.00				32.46
Kottayam	2.93	0.15	0.47	48.06	27.35	26.09	53.44				5.38
Ernakulam	2.58	0.46	0.57	66.68	46.83	31.00	77.82				11.15
Trichur	0.89	0.21	0.55	46.43	53.41	17.46	70.87				24.44
Palghat	4.06	1.00	1.72	49.13	53.20	13.06	66.26				17.13
Kozhikode	3.52	0.88	1.24	52.10	32.20	25.89	58.09				5.99
Cannanore	4.99	2.52	1.10	49.33	38.92	17.00	55.92				5.59
STATE	2.80	0.83	0.86	53.50	42.38	23.74	66.12				12.60

Table 3.1

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (Area in Hectares)

DURING 1965-66.

District	Food Crops						Total	
	C cereals			Jowar				
	Rice			Kharif	Rabi			
	Autumn	Winter	Summer	Total				
1	2	3	4	5	6	7	8	
Trivandrum	18965	19769	841	38734	..	..	..
Quilon	21317	27479	42075	49637	..	..	..
Alleppey	21991	17537	14317	81603	..	..	..
Kottayam	6849	19364	5317	40530	..	..	..
Ernakulam	42110	36033	8804	83460	..	..	..
Trichur	38927	61076	2798	108817	..	..	..
Palhat	115563	76760	1102	195121	..	..	..
Kozhikode	65869	43222	1184	110193	..	..	1235
Cannanore	66421	26639	1184	94244	..	..	..
STATE:	398012	327879	76438	802329	..	..	1235

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (Area in Hectares)
DURING 1965-66.

District	Food crops										Total food grains	
	Cereals				Pulses				Other pulses			
	Ragi	Other cereals	Total Cereals and millets	Tur	Kharif	Rabi	Total	Total pulses				
1	9	10	11	12	13	14	15	16	17			
Trivandrum	..	..	38743	..	1230	1423	2653	2653	2653	41387	
Quilon	432	55	50069	..	4380	2593	6973	6973	6973	57042		
Alleppey	47	945	81658	..	482	562	1044	1044	1044	82702		
Kottayam	54	339	41522	306	296	174	470	470	470	42298		
Ernakulam	1212	..	83853	69	674	1198	1872	1872	1872	1941	85794	
Trichur	903	4079	1110019	955	2450	5497	7947	7947	7947	8902	118921	
Palghat	1524	1249	201338	4861	3315	4333	7648	7648	7648	12509	213847	
Kozhikode	..	925	112966	2190	255	3039	3294	3294	3294	5484	118450	
Cannanore	..	5097	50	95219	164	1609	1257	1257	1257	3030	98249	
State	..	6717	815378	8545	14691	20076	34767	34767	34767	43312	858690	

Table 3.1—(contd.)

District	Food Crops										Condiments and Spices					
	Sugar					Others					Cardamom			Betelnuts	Others	Total
	Total	Sugar cane	Others	Pepper	Chillies	Ginger	Turmeric	Cardamom	Betelnuts	Others	26	27	28			
1	18	19	20	21	22	23	24	25	26	27	28	28	28	28	28	
Trivandrum	..	379	379	8429	..	163	22	..	4470	4261	17160	15924	15924	15924	15924	
Quilon	..	980	29	1009	4764	..	60	28	..	7415	3560	3560	3560	3560	3560	
Alleppey	..	5250	21	5271	1275	..	3667	1238	24324	4854	3510	1122	1122	1122	1122	
Kottayam	..	1440	244	1684	14448	..	1128	380	1042	6305	2351	2351	2351	2351	2351	
Ernakulam	..	460	357	817	6807	..	76	..	..	8407	2132	2132	2132	2132	2132
Trichur	..	730	3178	463	738	..	1870	1329	1847	4823	1894	1894	1894	1894	1894	
Palghat	858	3908	3480	..	565	4400	1236	1079	12607	902	902	902	902	
Kozhikode	..	333	47	380	43765	1700	483	231	392	12087	201	201	201	201	201	
Cannanore	
State :	..	9193	5576	14769	99695	3095	11847	4464	28684	64478	19317	231580	231580	231580	231580	

Table 3-1—(contd.)

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Fruits (Fresh)				Food Crops			Others (dried)
	Mangoes	Citrus fruits	Bananas	Others	Total	Cashew nuts (dried)	Fruits (Dry)	
1	29	30	31	32	33	34	35	
Trivandrum	6338	..	2842	6534	15714	3569	..	
Quilon	11908	..	6372	10462	28742	10467	..	
Alleppey	4925	..	3121	6639	14685	2808	..	
Kottayam	7861	..	4914	11948	24723	1503	..	
Ernakulam	9415	..	2950	9131	21496	7617	..	
Trichur	4901	..	4107	2751	11759	7859	..	
Palghat	4653	..	8797	2936	16386	8028	..	
Kozhikode	6798	99	6188	7027	20289	13873	12	
Cannanore	5238	1863	8488	6965	22554	31642	12	
State	62217	1959	47779	64393	176348	87366	24	

Table 3.1—(contd.)

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES).

District	Fruits (Dry)			Vegetables			Total vegetables
	Total (dried)	Total fruits	Topioca	Sweet potatoes	Onions	Others	
1	36	37	38	39	40	41	42
Trivandrum	2569	19283	83844	275	..	2182	56301
Quilon	10467	39209	57599	790	307	5672	64368
Allerpey	2808	17493	23035	83	20	2579	25717
Kottayam	1503	26226	43815	354	52	5964	50185
Ernakulam	7617	29113	13568	175	48	1320	15111
Trichur	7859	19618	4137	314	..	2612	7063
Palghat	8028	24414	6476	2174	..	3648	12298
Kozhikode	13885	34174	19687	1455	92	1551	22785
Cannanore	31654	54208	7523	2591	298	2309	12721
STATE:	87390	263738	229684	8211	817	27837	266549

Table 3.1—(contd.)

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Total fruits and vegeta- bles	Total food crops	Non-food Crops			
			Groundnut	Castor	Sesamum	Rape and mustard
1	43	44	45	46	47	48
Trivandrum	75584	134510	640	16	38	..
Quilon	103577	177552	..	23	3220	..
Alleppey	43210	137178	..	34	3940	..
Kottayam	76411	171275	..	119	105	..
Ernakulam	44224	148629	..	13	955	..
Trichur	26681	157180	..	12	1160	..
Palghat	36712	271540	14575	92	1600	..
Kozhikode	56959	213045	..	40	625	..
Cannanore	66929	224417	..	6	310	8
STATE:	530287	1635326	15215	355	11950	8
						15
						15

Table—3-1(*contd.*)
AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Non-food Crops						Total
	Oil seeds			Fibres			
	Cocoanut	Others	Total	Cotton	Jute	Hemp	Others
1	50	51	52	53	54	55	56
Trivandrum	61150	873	62714	...	...	...	...
Quilon	74019	204	77466	...	...	...	...
Alleppey	75599	458	80031	...	...	...	...
Kottayam	71618	6064	77906	...	...	...	...
Ernakulam	51740	1974	54682	98	...	...	98
Trichur	37236	1091	39499	6819	...	...	6819
Palghat	22903	538	39708	243	...	...	243
Kozhikode	118332	8	119005	119005	...	...	36
Gannanore	73716	66	74121	74121	...	...	36
STATE	586313	11276	625132	7160	...	...	7196

Table 3.1 (contd.)

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Non-Food Crops					Fodder crops	
	Drugs, Narcotics & Plantation crops						
	Tobacco	Tea	Coffee	Rubber	Others	Total	
	58	59	60	61	62	63	64
Trivandrum	1041	3	4844			5888	21
Quilon	2863	127	25672			28662	44
Alleppey			2736			2736	36
Kottayam	28957	1991	46958			77906	84
Ernakulam	120	245	21423			21788	216
Trichur	420		7624			8142	25
Palghat	570	3285	7384		372	18430	24
Kozhikode		3987	15306	20159	1034	40729	8
Cannanore	705	1512	2645	12634		17732	4
STATE	705	39470	23602	149634	1406	222013	462

Table 3.1 (contd.)

AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Non-Food Crops			Net area sown	
	Green manure crops	Other non-food crops	Total non-food crops		
Trivandrum	590	2421	71634	206144	54147
Quilon	920	2878	109970	287522	66103
Alleppey	1258	1043	85104	222282	60635
Kottayam	933	6609	163438	334713	33682
Ernakulam	807	20914	98407	247036	35370
Trichur	1005	2701	51372	208552	71965
Palghat	3411	5112	66685	338225	87439
Kozhikode	3322	8269	171333	384378	39673
Cannanore	1279	4939	98075	322492	37993
State	13525	54886	916018	2551344	487007
					2064337

PERCENTAGE OF AREA UNDER CROPS TO THE TOTAL CROPPED AREA IN EACH DISTRICT OF KERALA

47

District	Total cropped area	Total food crops	Total non-food crops	Net area sown	Area sown more than once	Food-crops			Total pulses			Total food-grains	
						Cereals and Millets			Others				
						Rice	Others	Total	Rice	Others	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	
Trivandrum	100.00	65.25	34.75	73.73	26.27	18.78	..	18.78	1.29	20.07			
Quilon	100.00	61.75	38.25	77.01	22.99	17.26	0.15	17.41	2.42	19.83			
Alleppey	100.00	61.71	38.29	72.72	27.27	36.71	0.02	36.73	0.47	37.20			
Kottayam	100.00	51.17	48.83	89.94	10.06	12.11	0.30	12.41	0.23	12.64			
Ernakulam	100.00	60.16	39.84	85.68	14.32	33.78	0.17	33.95	0.78	34.73			
Trichur	100.00	75.37	24.63	65.49	34.51	52.17	0.58	52.75	4.27	57.02			
Palghat	100.00	80.28	19.72	74.15	25.85	57.69	1.84	59.53	3.70	63.23			
Kozhikode	100.00	55.43	44.57	89.68	10.32	28.67	0.72	29.39	1.43	30.82			
Cannanore	100.00	69.59	30.41	88.22	11.78	29.22	0.30	29.52	0.94	30.46			
STATE	100.00	64.10	35.90	80.91	19.09	31.45	0.51	31.96	1.70	33.66			

Table 3.2—(contd.)

48

District	Food crops												Total Fruits (kg.)	
	Condiments and Spices						Fresh fruits							
	Sugar	Pepper	Cardamom	Betel-nuts	Total Others	Bananas	Mangoes	Others	Total Dried fruits	Cashew nut	Dry fruits (kg.)			
	12	13	14	15	16	17	18	19	20	21	22	23		
Trivandrum	0.18	4.09	..	2.17	2.07	8.33	3.07	1.38	3.17	7.62	1.74	9.36	48	
Quilon	0.36	1.66	..	2.58	1.30	5.54	4.14	2.21	3.64	9.99	3.64	13.63		
Alleppey	2.38	0.57	..	1.58	0.54	2.69	2.22	1.40	2.99	6.61	1.26	7.87		
Kottayam	0.50	4.32	7.27	1.44	2.17	15.20	2.35	1.47	3.57	7.39	0.45	7.84		
Ernakulam	0.33	2.76	0.42	2.55	1.47	7.20	3.81	1.19	3.70	8.70	3.08	11.78		
Trichur	0.22	0.35	..	4.03	0.95	5.33	2.35	1.97	1.32	5.64	3.77	9.41		
Palghat	1.15	1.03	0.55	1.42	2.05	5.05	1.37	2.60	0.87	4.84	2.38	7.22		
Kozhikode	0.22	4.16	0.28	3.28	1.85	9.57	1.81	1.61	1.85	5.28	3.61	8.89		
Cannanore	0.13	13.57	0.12	3.75	0.81	18.25	1.62	2.63	2.74	6.99	9.81	16.80		
STATE	0.58	3.91	1.12	2.53	1.52	9.08	2.44	1.87	2.60	6.91	3.43	10.34		

Table 3.2—(contd.)

49

District	Food crops						Non Food Crops					
	Vegetables			Others and Fruits and Vegetables		Total Food Crops	Groundnut		Oil Seeds		Total	
	Tapioca	Others	Total	24	25	26	27	28	29	30	31	32	33
Trivandrum	26.12	1.19	27.31	36.67	65.25	..	29.66	0.31	0.45	30.42		
Quilon	20.04	2.35	22.39	36.02	61.75	1.12	25.75	..	0.08	26.95		
Alleppey	10.36	1.20	11.57	19.44	61.71	1.77	34.01	..	0.22	36.00		
Kottayam	13.09	1.90	14.99	22.83	51.17	0.03	21.40	..	1.85	23.28		
Ernakulam	5.49	0.63	6.12	17.90	60.16	0.39	20.94	..	0.80	22.13		
Trichur	1.98	1.41	3.39	12.30	75.37	0.56	17.85	..	0.53	13.94		
Palghat	1.91	1.72	3.63	10.85	80.28	0.47	6.77	4.31	0.19	11.74		
Kozhikode	5.12	0.81	5.93	14.82	55.43	0.16	30.79	..	0.01	30.96		
Cannanore	2.33	1.61	3.95	20.75	69.59	0.10	22.86	0.02	..	22.98		
State	9.00	1.44	10.44	20.78	64.10	0.46	22.98	0.60	0.46	24.50		

Table 3.2—(concl'd.)

District	Non-Food Crops										Total non-food crops
	Fibres			Drugs, Narcotics and Plantation crops				Other non-food crops			
	Cotton	Others	Total	Tea	Coffee	Rubber	Others	Total	41	42	43
	34	35	36	37	38	39	40	..	2.85	1.48	34.75
Trivandrum	..	..	..	0.50	..	2.35	..	..	9.96	1.34	38.25
Quilon	..	..	..	0.99	0.04	8.93	..	..	1.24	1.05	38.29
Alleppey	..	..	..	..	..	1.24	..	..	23.27	2.28	48.83
Kottayam	..	..	..	8.65	0.59	14.03	..	..	8.83	8.88	39.84
Ernakulam	..	..	..	0.06	0.10	8.67	..	..	3.86	1.79	24.63
Trichur	.04	..	0.04	0.20	..	3.66	..	..	3.43	2.53	19.72
Palghat	2.02	..	2.02	0.17	0.97	2.18	0.11	..	10.53	3.02	44.57
Kozhikode	0.06	..	0.06	1.04	3.98	5.24	0.27	..	5.49	1.93	30.41
Cannanore	..	0.01	0.47	0.82	3.98	0.22	..	..	8.42	2.70	35.90
STATE	0.28	..	0.28	1.55	0.93	5.86	0.08	..	..	..	..

Table 1.1
TOTAL OUT-TURN OF IMPORTANT COMMODITIES IN EACH DISTRICT
DURING 1965—66

District	Rice	Jowar	Ragi	Other cereals and Millets	Pulses	Sugar-cane	Pepper (Dry)	Dry Ginger	Cured ginger	Processed meric	Proces- sed
	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)	(Tonnes)
1	2	3	4	5	6	7	8	9	10	11	51
Trivandrum	53178	...	...	...	1000	...	3157	...	...	...	...
Quilon	62571	...	430	...	2824	4090	2005	246	20	20	...
Alleppey	92600	...	...	21	352	25050	355	83	25	25	..
Kottayam	37741	...	44	435	337	5365	4496	3229	1065	1362	58
Ernakulam	93383	...	52	151	724	1690	2025	1177	340	340	..
Trichur	122425	...	1387	...	3394	...	323	126	...	...	104
Palghat	320120	450	1280	1871	4851	3300	487	1685	1000	1000	60
Kozhikode	107877	...	2320	620	2341	...	2390	4238	1108	1108	22
Cannanore	107594	...	1571	23	1078	1453	6447	406	208	208	..
State	997489	450	7084	3121	16901	40948	21685	11190	3766	3766	1606

Table 4. 1—(contd.)

Districts	Arecanut (Million nus)	Banana (Million nus)	Other plants in cashewnut (Tonnes)	Cashewnut (Tonnes)	Tapioca (Tonnes)	Groundnuts (Tonnes)	Sesamum (Tonnes)	Cocount (Million nuts)	Cotton (Bales of 180kg. each)	Tobacco (Tonnes)	Tea (Tonnes)	Coffee (Tonnes)	Rubber (Tonnes)	Lemongrass (Tonnes)	
0	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Trivandrum	695	5005	16456	4005	758662	770	15	376	..	1006	2	1293	11	1	
Quilon	1493	13312	34706	11744	695220	..	900	418	..	2146	3	9274	3		
Alleppey	546	5035	18555	3151	349211	..	255	505	..	..	..	445	1		
Kottayam	487	11206	25779	1686	755809	..	30	346	..	27495	538	15226	107		
Ernakulam	762	5800	16148	8546	155218	..	280	303	..	..	82	57	5193	783	
Trichur	1251	7898	23084	8818	46789	..	325	235	95	..	737	..	3935	43	
Palghat	609	3322	63692	9007	67027	24450	270	90	6648	..	684	1947	1923	11	
Kozhikode	2327	12867	33766	15566	201595	..	175	738	190	..	5913	6243	7850	341	
Cannanore	1511	12976	51215	35502	66127	..	115	282	..	911	1091	1088	1814	312	
STATE	9681	77421	283701	98025	3095658	25220	2365	3293	6933	911	39154	9878	46953	1602	

Table 5.1

**AVERAGE FARM (HARVEST) PRICE IN RUPEES OF CERTAIN COMMODITIES
FOR THE YEAR 1965-66**

Sl. No.	Name of crop	Unit	Tiruvandrum	Quilon	Allppey	Kottayam	Ernakulam	Trichur	Palghat	Kozhikode	Cananore	STATE
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Paddy	Quintal	96.59	86.94	93.70	86.26	90.39	89.15	82.67	89.84	75.51	86.31
2	Cocoanut (with husk)	1000 Nos.	391.30	395.00	391.00	403.30	430.40	427.90	..	375.20	346.70	391.60
3	Areca nut (Ripe- ordinary)	"	39.40	37.00	..	..	36.30	50.00	37.60	36.90	41.30	39.80
4	Tapioca	Quintal	15.92	17.50	..	19.70	..	12.09	..	22.33	..	17.95
5	Cashewnut (with shell)	"	90.00	97.50	..	..	97.50	..	75.00	100.00	92.50	93.17
6	Banana	100 Nos.	13.00	11.69	..	10.78	..	13.16	11.19	11.11	10.44	11.42
7	Ginger	Quintal	..	..	..	..	244.58	253.41	..	262.81	..	254.72
8	Pepper		346.04	356.25	..	..	363.54	..	..	367.50	363.63	359.75

Table
AVERAGE DAILY WAGES FOR DIFFERENT

District	July 1965	August 1965	Sept. 1965	Oct. 1965	Nov. 1965
1	2	3	4	5	6
CARPENTER:					
Trivandrum	—	3.89	3.89	3.89	3.89
Quilon	..	4.75	4.75	4.97	4.97
Alleppey	..	5.25	5.38	5.50	5.50
Kottayam	..	5.63	5.50	5.50	5.50
Ernakulam	..	5.38	5.38	5.38	5.63
Trichur	..	5.38	5.38	5.38	5.38
Palghat	..	3.88	4.00	4.00	4.00
Kozhikode	..	5.00	5.00	5.25	5.25
Cannanore	..	4.85	4.86	4.86	5.10
MASON:					
Trivandrum	..	4.50	4.50	4.50	4.50
Quilon	..	4.53	4.53	4.75	4.75
Alleppey	..	5.00	5.13	5.25	5.25
Kottayam	..	5.44	5.31	5.31	5.75
Ernakulam	..	5.38	5.38	5.38	5.88
Trichur	..	5.25	5.25	5.25	5.25
Palghat	..	3.75	3.75	3.75	3.75
Kozhikode	..	5.00	5.00	5.25	5.25
Cannanore	..	4.49	4.49	4.49	4.49
FIELD LABOUR (MEN):					
Trivandrum	..	2.88	2.88	2.88	2.88
Quilon	..	2.66	2.66	2.83	2.83
Alleppey	..	2.88	2.88	2.88	2.88
Kottayam	..	2.75	2.75	2.75	2.88
Ernakulam	..	3.95	3.95	3.95	NQ
Trichur	..	3.00	3.00	3.13	3.13
Palghat	..	2.80	2.80	2.75	2.75
Kozhikode	..	2.96	3.04	3.29	3.29
Cannanore	..	3.55	3.55	3.35	3.80
STATE					

6.1 DISTRICTS OF KERALA

Table 7.1

NUMBER OF LIVESTOCK, POULTRY AND AGRICULTURAL MACHINERY AND
IMPLEMENTS IN KERALA

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District	Cattle												
	Males over three years				Females over three years (Breeding)								
	Breeding	Working	Others	Total	Milk	Breeding	Dry	Not calved	Working	Others	Total	Young stock	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	
State	29319515241	21471566031	428194502935	207277	11274	12306	1161986	1025148	273163				
Trivandrum	1361	17461	1422	20244	22916	21885	11863	543	661	57868	48703	126815	
Quilon	2303	49300	2755	54358	47236	64808	25310	659	1498	139511	131864	325733	
Alleppey	1267	16739	1060	19066	52357	65916	31859	319	1668	152119	128072	299257	
Kottayam	2622	29819	1726	34167	63397	75240	27859	687	1422	168605	156287	259059	
Ernakulam	2335	86664	2038	91037	41216	45245	18110	1373	1158	107102	105097	303236	
Trichur	1379	56311	1504	59194	31112	30398	11266	530	724	74030	74457	207681	
Palghat	4576	85951	2984	93511	51582	53846	18490	2160	1138	127216	111564	332291	
Kozhikode	6698	102165	4944	113807	59566	72496	35247	3200	1735	172244	130009	416060	
Cannanore	6778	70831	3038	80647	58812	73101	27273	1803	2302	163291	139095	383035	

Table 7.1—(contd.)

District	Males over three years						Females over three years						Total	
	Breeding		Working		Others		Total		In milk		Breeding Dry			
	0	14	15	16	17	18	19	20	21	22	23	24		
State	10627	267871	6614	285112	59542	49341	16346	7266	2118	135113				
Trivandrum	708	20678	527	21913	7754	6331	2347	446	249	17177				
Quilon	479	13776	575	14830	3826	3717	1390	239	128	9300				
Alleppey	216	7577	164	7957	2323	2082	734	125	96	5360				
Kottayam	402	5171	293	5806	2776	2485	949	219	202	6631				
Ernakulam	379	11329	323	12031	3598	1857	754	372	204	6785				
Trichur	793	37271	597	38661	10555	6128	2301	464	175	19623				
Palghat	4001	122475	2505	128981	12488	9475	2682	2599	311	27555				
Kozhikode	2018	30912	1087	34017	9245	9125	3575	2012	412	24369				
Cannanore	1631	18682	603	20916	6977	8091	2114	790	341	18313				

Table 7.1—(contd.)

District	Sheep			Goats			Horses and Ponies				
	Young stock	Total	One year and above	Below one year	Total	One year and above	Below one year	Total	3 years and above	3 years Below 3 years	Total
0.	24	25	26	27	28	29	30	31	32	33	34
STATE	64864	485089	18949	5292	24241	869414	442848	1312262	336	42	408
Trivandrum	5171	44261	1049	494	1543	115819	66641	182460	42	..	42
Quilon	4233	28363	4151	1690	5841	99069	50576	149645	4	..	4
Alleppey	1695	10512	1528	610	2138	60869	27499	88363	4	..	4
Kottayam	2758	15195	1308	474	1782	92341	45020	137361	110	12	122
Ernakulam	2216	21032	173	142	315	94383	50840	145223	11	..	11
Trichur	9541	67825	226	102	335	81997	45036	127033	7	4	11
Palghat	22200	178736	8607	1328	9935	120772	53293	174065	131	16	147
Kozhikode	9793	68179	1758	399	2157	147001	73889	220890	32	10	42
Cannanore	7257	46486	149	46	195	57163	30054	87217	25	..	25

Table 7.1—(contd.)

District	Mules	Donkeys	Sheep	Goats	Pigs	Total Livestock	Poultry				Total
							Fowls	Ducks	Others	43	
0	35	36	37	38	39	40	41	42	43	43	
STATE	31	377	122381	4697954	8708664	387072	..	..	..	9095736
Trivandrum	..	4	8048	363173	762577	4756	..	..	..	767333
Quilon	1	..	1086	510673	807726	5518	..	..	..	813244
Alleppey	..	..	..	110	404889	882125	202644	..	..	1084769
Kottayam	10	159	..	61656	575344	1136275	74040	..	..	1210315
Ernakulam	..	..	..	45933	515750	1201635	45157	..	..	1246792
Trichur	..	..	..	2498	405383	920975	43147	..	..	964122
Palghat	4	202	719	696099	901442	4745	..	906187
Kozhikode	16	11	..	1043	708398	1388764	6186	1394950	
Cannanore	1288	518245	707145	876	708024	

Table 7.1—(contd.)

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District	Ploughs						Sugarcane Crushers			Grains		
	Wooden	Fro ⁿ	Charts	Power	Bullock	O ₂	Engines	Electric pumps	Tractors	More than 5 seers	Less than 5 seers	Persian wheel
0	44	45	46	47	48	49	50	51	52	53	54	..
STATE	562281	6441	21037	175	1071	3372	2565	276	2058	2164	..	..
Trivandrum	26691	217	1905	11	53	4	15	3	216	437	..	..
Quilon	51355	1544	2295	4	217	28	22	4	99	213	..	..
Alleppey	24475	2446	1015	42	186	407	358	73	138	193	..	..
Kottayam	38802	232	1676	16	223	213	294	93	22	80	125	..
Ernakulam	78417	338	1037	20	138	245	676	22	136	141	..	..
Trichur	56337	220	2697	8	48	532	774	20	190	234	..	..
Palghat	144736	598	8558	63	86	845	353	23	504	194	..	..
Kozhikode	79108	242	1162	4	39	378	58	26	397	277	..	..
Cannanore	62360	604	695	7	81	720	15	12	298	350	..	..

**PART IV
APPENDICES**

1. Index numbers of Agriculture production.
 2. Cost of Living Index numbers in selected centres.
 3. Index of parity between prices received and prices paid by farmers.
 4. Quarterly retail prices of certain commodities.
 5. Statistics of Export and Import of Agricultural commodities through the Ports of Kerala.
 6. Notes on certain crops :
 - (1) Tea
 - (2) Coffee
 - (3) Rubber
 - (4) Cardamom
 - (5) Pepper
 - (6) Ginger
 - (7) Lemongrass
 7. Classification of soils in Kerala.
 8. Conversion ratio between raw material and processed product.
 9. Average analysis of important fertilizers.
 10. Insect pests affecting paddy crops, their distribution and some practical methods of control.
 11. List of centres selected for collecting meteorological information.
 12. Glossary of English, Botanical and Malayalam names of crops.
 13. Graps and Charts.
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APPENDIX

The following items relating to the Agricultural Economy of the State are dealt with in this Section.

1. Index numbers relating to area, production and productivity of crops

2. Working Class cost of living Indices

3. Parity Indices

4. Quarterly retail prices of Important Commodities

1. Index numbers relating to area, production and productivity of crops

(a) *Index of area under crops* :—The index of area under 'all crop' increased from 111.2 in 1964-65 to 114.1 in 1965-66. The increase was mainly in respect of non-food grains crops. The indices for the years 1952-53 to 1965-66 are given in Table I of the Appendix.

(b) *Index of production* :—The production index suffered a slight fall during the year under review. The 'all crop' index decreased from 120.0 to 118.5 during the year under review. The fall was mainly in respect of food grains—rice. The index of food grains was reduced by 13.7 points during 1965-66 compared to the previous year. On the other hand the production index of non-food grains crop increased from 117.6 to 121.2 during the year 1965-66. The indices in respect of each crop for the years 1952-53 and onwards are given in Table II of the Appendix.

(c) *Index of Agricultural Productivity* :—The Index of Agricultural productivity decreased from 107.9 in 1964-65 to 103.9 in 1965-66. The decrease was partly due to the decrease in yield rate of food-grains crops during the year and partly due to the increase in area under plantation crops which do not contribute to the production during the first year. The indices in respect of all crops are given in Table III.

2. Cost of Living Indices

The average cost of living indices in the selected centres in the State during 1964-65 and 1965-66 are as follows :—

Centres	1964-65	1965-66
1. Trivandrum	584	636
2. Quilon	606	664
3. Punalur	586	620
4. Alleppey	573	633
5. Changanacherry	595	653
6. Kottayam	595	654
7. Alwaye	611	648
8. Ernakulam	605	663
9. Trichur	605	661
10. Chalakudy	600	656
11. Munnar	533	573
12. Sherthalla	582	638
13. Kozhikode	636	701

The months indices of each of these centres are given in the Table 4 of the appendix.

3. Parity Index

The index of parity between prices received and paid by farmers during each month of the Agricultural year 1965-66 along with corresponding figures of 1964-65 are given in the following table:—

Month	Index of parity	
	1964-65	1965-66
July	..	83
August	..	81
September	..	80
October	..	85
November	..	90
December	..	97
January	..	96
February	..	97
March	..	103
April	..	108
May	..	110
June	..	112
Average	95	106

The above statements shows that the farmers were in a better position during the first 8 months of the Agricultural-year 1965-66; but the last four months were less favourable compared to the corresponding months of the previous year.

4. Quarterly retail prices

The trend in the quarterly retail price of 12 important commodities in the State are discussed in the following paragraphs:—

1. *Coconut (without husk)*:—The average retail price of coconut varied between Rs. 41.03 to Rs. 49.17 per hundred during the year under review. The price in Kottayam District was higher throughout the year compared to other districts. The maximum price experienced was Rs. 60.02 per hundred nuts.

2. *Cocoanut Oil*:—The average price per litre of oil varied between Rs. 4.51 and Rs. 5.22 in the State during 1965-66. The price during the second quarter of the year was comparatively higher throughout the State. There was a gradual fall in price during the later half of the year.

3. *Rice (Control)*:—The price per Kg. of rice gradually increased from Re. 0.69 during the first quarter of the year to Re. 0.76 in the last quarter.

4. *Blackgram*:—The retail price of blackgram increased from Rs. 1.02 per Kg. in the first quarter to Rs. 1.12 during the last quarter of the year.

5. *Gingelly Oil*:—The price per litre of Gingelly oil also increased gradually from Rs. 3.95 to Rs. 4.88 during the year under review.

6. *Tapioca*:—The price of Tapioca remained more or less constant throughout the year even though between districts there was slight variation in prices.

7. *Sugar*:—The retail price of sugar increased from Rs. 1.32 per Kg. to Rs. 1.42 during 1965-66.

8. *Chillies*:—The average price of chillies was Rs. 2.61 during the beginning of the year under review. This gradually increased to Rs. 4.21 during the last quarter of the year.

9. *Coffee Powder*:—The retail price of Coffee Powder per Kg. varied between Rs. 7.52 and Rs. 8.14 during the year 1965-66.

10. *Tea*:—The price per Kg. of Tea varied between 6.12 and Rs. 6.37 during the year under review.

11. *Tobacco Jaffna*:—The price per Kg. gradually decreased from Rs. 7.77 to Rs. 7.16 during the course of the year.

12. *Tobacco Ordinary*:—The price per Kg. of Tobacco (ordinary) varied between Rs. 4.91 and Rs. 5.05 during the year under review.

The district wise retail prices of these commodities are given in Table VI of the Appendix.

5. Export of Agricultural Commodities

A detailed statement showing the export of Important Agricultural Commodities through the Ports of Kerala are given in Table VII.

INDEX NUMBERS OF AREA UNDER CROPS (KERALA)—BASE YEARS 1956-57=100

Category	Name of Crop	1952-53	1955-56	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All Crops	94.4	98.8	108.6	107.9	110.0	110.1	111.2	114.1	114.1
A. Foodgrain	94.8	99.2	100.9	97.6	103.7	104.0	103.5	103.6	103.6
1. Cereals	97.2	99.6	102.0	98.5	105.0	105.3	104.8	104.9	104.9
Paddy	97.3	99.6	102.0	98.6	105.1	105.4	104.9	105.1	105.1
Jowar	62.9	94.9	75.0	72.3	72.3	71.8	67.3	62.9	62.9
Ragi	92.2	94.5	111.9	104.5	104.7	104.8	104.2	102.4	102.4
II. Pulses	72.4	93.1	91.0	90.7	91.6	91.3	90.8	90.3	90.3
B. Non Foodgrains	93.4	98.4	114.4	115.6	114.7	114.6	116.9	121.8	121.8
1. Oil seeds	93.4	97.4	108.9	109.7	109.7	109.9	110.6	113.0	118.2
Coconut	93.6	97.4	108.9	109.8	110.8	111.0	111.2	114.1	121.4
Groundnut	88.8	98.8	119.9	119.6	119.9	108.5	108.6	113.8	113.8
Sesamum	93.8	101.7	61.0	60.3	60.1	60.5	60.6	60.3	60.3
Lemongrass	89.8	89.8	154.9	154.9	154.9	151.5	144.8	144.8	144.8
2. Fibres	70.5	96.5	108.1	105.5	85.1	87.7	95.8	78.8	78.8
Cotton	70.5	96.5	108.1	105.5	85.1	87.7	95.8	78.8	78.8
3. Plantation Crops	83.7	86.7	129.7	138.5	143.1	147.2	152.1	155.4	155.4
Tea	99.5	100.0	95.0	94.5	97.3	96.9	99.3	100.1	100.1
Coffee	84.4	95.7	115.5	129.2	131.8	137.6	149.4	162.2	162.2
Rubber	76.0	78.7	149.3	161.7	167.6	173.6	178.5	181.7	181.7
4. Miscellaneous Crops	96.8	103.1	116.4	115.9	112.3	110.1	111.5	117.1	117.1
Sugar cane	83.8	94.1	118.0	119.0	120.4	122.3	122.7	118.7	118.7
Pepper	90.6	99.4	114.7	114.8	114.1	114.2	114.4	114.5	114.5
Cardamom	90.7	99.7	100.3	100.6	100.6	100.6	100.6	200.6	200.6
Ginger	138.9	103.2	118.4	118.8	119.0	117.9	118.0	116.7	116.7
Turmeric	96.4	97.3	99.8	103.6	103.3	98.7	98.7	95.4	95.4
Areca nut	103.3	100.0	109.3	114.3	116.4	119.3	125.1	135.6	135.6
Banana	74.1	112.4	102.2	100.9	109.7	105.0	109.4	108.4	108.4
Cashewnut	94.7	100.2	145.2	147.1	140.6	141.0	147.2	149.6	149.6
Tolacco	105.1	114.8	149.2	141.3	141.3	141.4	141.4	141.4	141.4
Tapioca	98.2	106.5	113.4	116.1	116.2	100.6	100.6	110.0	110.0

Table II
INDEX NUMBERS OF AGRICULTURAL PRODUCTION—BASE YEARS 1956-1957 = 100

INDEX NUMBERS OF AGRICULTURAL PRODUCTIVITY—BASE YEARS 1956-57 = 100

Name of crops	1952-53 (1)	1952-53 (2)	1955-56 (3)	1955-56 (4)	1960-61 (5)	1961-62 (6)	1962-63 (7)	1963-64 (8)	1964-65 (9)	1965-66
A. All crops	94.6	99.9	103.2	102.3	104.2	106.1	107.9	107.9	103.9	103.9
Foodgrains	85.8	96.6	118.7	115.7	118.4	121.7	121.5	121.5	108.2	108.2
I. Cereals	83.7	100.3	117.7	114.8	117.2	120.5	120.3	120.3	106.9	106.9
Paddy	83.7	100.0	117.8	114.7	117.2	120.6	120.4	120.4	106.9	106.9
Jowar	10.6	99.8	96.9	97.4	97.4	94.0	95.2	95.2	81.2	81.2
Ragi	88.3	96.3	105.1	107.2	106.9	105.8	105.2	105.2	101.7	101.7
II. Pulses	101.0	101.1	102.2	101.2	100.9	100.4	100.6	100.6	100.2	100.2
B. Non-foodgrains	99.1	99.7	95.2	94.5	97.1	98.4	100.6	100.6	99.5	99.5
I. Oil seeds	91.8	99.8	93.9	94.1	95.3	94.2	92.7	92.7	92.5	92.5
Cocoanut	99.8	100.0	94.1	94.2	95.6	93.3	91.4	91.4	87.0	87.0
Groundnut	98.6	92.1	72.4	72.3	71.0	120.4	126.4	126.4	139.4	139.4
Sesamum	97.8	98.5	65.7	66.3	66.6	66.6	61.4	61.4	60.9	60.9
Lemongrass	100.0	100.5	108.8	109.7	103.8	106.7	108.9	108.9	108.9	108.9
2. Fibres	99.6	99.1	98.1	97.6	88.5	91.6	102.8	102.8	87.9	87.9
Cotton	99.6	99.1	98.1	97.6	88.5	91.6	102.8	102.8	87.9	87.9
3. Plantation crops	103.2	104.8	87.0	81.3	83.4	88.0	92.8	92.8	93.2	93.2
Tea	87.5	87.5	122.4	115.9	114.7	121.9	122.0	122.0	112.6	112.6
Coffee	90.2	97.3	95.5	95.4	95.8	92.7	96.5	96.5	90.7	90.7
Rubber	117.2	124.3	71.3	71.3	80.0	89.9	103.6	103.6	119.3	119.3
4. Miscellaneous crops	99.0	100.6	98.4	99.1	102.6	103.0	106.9	106.9	108.0	108.0
Sugarcane	98.2	100.9	90.2	88.5	96.8	100.7	100.2	100.2	96.4	96.4
Pepper	91.6	102.2	86.5	86.2	78.7	72.1	71.3	71.3	69.5	69.5
Cardamom	97.7	100.1	99.9	99.0	99.6	99.6	99.8	99.8	99.8	99.8
Ginger	67.3	99.0	87.5	88.0	88.3	88.0	88.2	88.2	88.2	88.2
Turmeric	125.0	125.0	99.9	99.8	99.6	94.5	94.5	94.5	94.1	94.1
Areca nut	100.0	100.0	106.9	106.9	107.8	107.8	107.9	107.9	107.7	107.7
Banana	100.0	100.0	100.0	100.0	87.6	110.1	119.9	119.9	111.9	111.9
Cashewnut	99.7	100.0	99.8	99.4	111.5	111.5	111.6	111.6	111.7	111.7
Tobacco					98.4	97.2	97.2	97.2	96.2	96.2
Tapioca	100.0	101.7	100.3	100.3	100.3	100.3	100.3	100.3	110.2	110.2

Table IV

CONSUMER PRICE INDEX NUMBERS FOR SELECTED CENTRES IN THE STATE
FOR THE YEAR 1965-66

Month and Year	Trivandrum	Punalur	Alleppey	Chengannur	Kottayam	Alwaye	Ernakulam	Tiruchir	Chalakudy	Munnar	Sherthalaati	Kozhikode	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
65 July	606	637	591	600	625	623	626	627	625	622	550	611	653
August	608	639	591	607	633	632	635	639	626	627	549	616	665
September	602	643	597	603	628	635	632	639	635	633	552	621	670
October	601	642	591	604	630	632	634	643	639	640	557	616	676
November	633	669	616	629	649	653	654	665	662	663	574	637	703
December	649	678	630	643	663	667	655	677	674	666	579	647	714
66 January	654	676	638	646	669	668	652	674	670	664	579	648	712
February	651	668	628	643	661	660	648	665	667	661	581	642	708
March	639	658	621	636	650	649	638	656	664	660	571	637	706
April	650	677	639	650	665	664	655	674	675	671	585	649	728
May	664	686	647	658	675	672	665	691	692	680	595	657	734
June	676	694	654	675	693	690	683	709	708	690	606	672	745
Average	636	664	620	633	653	654	648	663	661	656	573	638	701

Base for Kozhikode is the average prices for the year ended June 1936 = 100.

Base for other centres is August 1939 = 100.

Table V

INDEX NUMBERS OF PARITY BETWEEN PRICES RECEIVED
AND PRICES PAID BY FARMERS

(Base—1952-53 = 100)

Name and Month		Index of prices received	Index of Farm culti- vation Cost	Index of Parity
1965	July	..	183	167
	August	..	184	172
	September	..	178	175
	October	..	181	178
	November	..	189	180
	December	..	189	181
1966	January	..	182	183
	February	..	180	185
	March	..	179	187
	April	..	185	190
	May	..	184	191
	June	..	183	194

Table VI

QUARTERLY RETAIL PRICES (IN Rs.) OF CERTAIN COMMODITIES
IN EACH DISTRICT FOR 1965-1966

		1965 July to 1966 June												
Sl. No.	Commodity	Unit	Year	Quarter of the	Trivandrum	Quilon	Allppey	Kottayam	Firakulam	Trichur	Palghat	Kozhikode	Cannanore	State
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	Coconut (without husk)	100 Nos.	I	36.38	40.79	39.79	51.28	47.28	41.01	49.21	35.25	42.27	42.59	
			II	44.07	49.89	50.29	60.02	51.29	44.87	52.69	44.93	44.45	49.17	
			III	43.42	44.05	44.13	54.81	47.57	41.40	41.48	46.42	43.42	45.19	
			IV	38.47	38.21	39.10	53.05	46.07	36.22	35.08	40.81	42.24	41.03	
2	Coconut Oil	Litre	I	4.56	4.73	4.26	4.49	4.73	4.55	4.63	4.50	4.58	4.56	
			II	5.26	5.44	4.90	5.00	5.51	5.27	5.31	5.07	5.19	5.22	
			III	5.08	5.10	4.53	4.83	5.08	4.87	4.94	4.60	5.11	4.90	
			IV	4.57	4.65	4.19	4.46	4.64	4.48	4.62	4.26	4.72	4.51	
3	Rice (Control)	Kg.	I	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	
			II	0.72	0.71	0.72	0.71	0.72	0.71	0.71	0.71	0.71	0.71	
			III	0.75	0.74	0.72	0.72	0.73	0.73	0.75	0.75	0.72	0.73	
			IV	0.77	0.76	0.76	0.76	0.76	0.76	0.78	0.78	0.76	0.77	
4	Black Gram	Kg.	I	1.10	1.07	1.01	1.06	0.98	1.06	1.02	0.93	0.92	1.02	
			II	1.11	1.11	1.03	1.03	1.03	1.01	1.09	1.04	0.98	1.05	
			III	1.10	1.08	1.05	1.05	1.09	1.09	1.06	1.07	1.00	1.06	
			IV	1.09	1.12	1.13	1.13	1.18	1.12	1.13	1.14	1.05	1.11	
5	Gingelly Oil	Litre	I	3.73	4.14	3.97	3.78	4.07	3.76	4.11	3.90	4.12	3.95	
			II	4.16	4.48	4.35	4.08	4.61	4.10	4.55	4.29	4.46	4.34	
			III	4.62	4.63	4.54	4.40	4.75	4.43	4.78	4.54	4.78	4.61	
			IV	4.79	4.87	4.73	4.59	5.25	4.97	4.91	5.00	4.83	4.88	

Table VI—(contd.)

			1	2	3	4	5	6	7	8	9	10	11	12	13	14
6	Tapioca (Raw)	Kg.	I	0.23	0.22	0.21	0.26	0.22	0.21	0.22	0.21	0.23	0.25	0.40	0.25	0.25
			II	0.23	0.20	0.22	0.23	0.26	0.25	0.24	0.24	0.25	0.27	0.38	0.26	0.26
			III	0.24	0.22	0.22	0.23	0.26	0.25	0.22	0.22	0.25	0.25	0.39	0.26	0.26
			IV	0.23	0.25	0.22	0.25	0.25	0.24	0.20	0.20	0.25	0.25	0.39	0.25	0.25
7	Sugar	"	I	1.33	1.33	1.33	1.34	1.34	1.33	1.33	1.33	1.30	1.30	1.37	1.32	1.32
			II	1.32	1.32	1.33	1.33	1.35	1.34	1.38	1.34	1.33	1.30	1.27	1.32	1.32
			III	1.36	1.34	1.35	1.39	1.39	1.38	1.34	1.34	1.33	1.36	1.31	1.35	1.35
			IV	1.43	1.42	1.43	1.45	1.45	1.44	1.40	1.40	1.39	1.43	1.41	1.42	1.42
8	Chillies	"	I	2.76	2.54	2.55	2.57	2.57	2.67	2.67	2.67	2.99	2.99	2.36	2.38	2.61
			II	3.61	3.45	3.58	3.45	3.45	3.61	3.60	3.60	4.00	4.00	3.21	3.06	3.51
			III	3.80	3.72	3.82	3.83	3.83	3.77	3.95	3.95	4.39	4.39	3.76	3.89	3.88
			IV	4.07	4.15	4.13	4.08	4.08	4.20	4.17	4.17	4.55	4.55	4.30	4.23	4.21
9	Coffee Powder	"	I	8.75	8.18	7.50	7.50	7.20	6.74	8.10	8.10	8.07	6.12	7.20	7.54	7.54
			II	8.75	8.13	7.50	7.50	7.63	6.99	8.47	8.47	8.13	6.25	7.20	7.67	7.67
			III	8.92	7.26	7.53	7.53	7.11	6.78	8.20	8.20	8.34	6.25	7.33	7.52	7.52
			IV	10.71	9.14	7.83	7.83	7.40	6.89	8.42	8.42	8.83	6.34	7.71	8.14	8.14
10	Tea	"	I	7.13	4.70	5.50	5.50	5.38	6.41	7.43	7.43	6.93	5.33	6.30	6.12	6.12
			II	7.62	4.82	5.54	5.54	5.51	6.42	6.6	6.6	6.90	5.32	6.31	6.12	6.12
			III	8.13	4.98	5.64	5.64	5.72	6.45	6.76	6.76	6.98	5.30	6.45	6.27	6.27
			IV	8.65	4.95	5.75	5.75	5.80	6.61	6.78	6.78	7.05	5.27	6.45	6.37	6.37
11	Tobacco(Jaffna)	"	I	8.74	6.33	7.75	7.75	6.75	9.13	9.13	9.13	..	..	..	7.69	7.69
			II	8.74	6.06	7.75	7.75	6.81	7.00	7.00	7.00	5.95	4.58	4.75	5.64	5.64
			III	8.74	6.30	7.75	7.75	6.81	7.00	7.00	7.00	5.83	4.58	4.44	5.58	5.58
			IV	7.53	6.37	7.75	7.75	6.81	7.00	7.00	7.00	5.83	4.38	4.52	5.58	5.58
12	Tobacco (Ordinary)	"	I	4.38	4.39	4.87	4.87	5.33	5.33	5.83	5.83	5.83	4.52	4.52	5.18	4.92
			II	4.10	4.26	4.88	4.88	5.33	5.33	5.83	5.83	5.83	4.64	4.64	5.22	5.22
			III	4.00	4.50	4.88	4.88	5.38	5.38	5.83	5.83	5.83	4.75	4.75	5.05	5.05
			IV	4.13	4.54	4.88	4.88	5.64	5.64	5.83	5.83	5.83	4.64	4.64	5.82	5.82

Table VII

**FOREIGN EXPORT FROM THE PORTS OF KERALA FOR THE YEAR
1965—66**

Sl. No.	Commodity	Unit	Quantity	Value (in Rs. Lakhs)
1	Cardamom	Tonnes	310.06	66.68
2	Cashew Kernels	„	49835.39	2604.00
3	Cashew shell liquid	„	12565.16	178.00
4	Coffee	„	11092.38	501.68
5	Coir & Coir product	„	62372.01	998.79
6	Fish and Prawns	„	9802.27	660.27
7	Ginger	„	2547.24	80.54
8	Lemongrass Oil	„	425.24	49.86
9	Pepper	„	24767.39	1034.90
10	Tea	„	44956.60	2314.06
11	Betel nuts	„	..	..
12	Coconuts	„	..	..
13	Coconut oil	„	..	..
14	Oil cake	„	1892.54	7.09
15	Copra	„	..	..
16	Rubber raw	„	..	..
17	Rubber manufactures	„	19.72	5.23
18	Wood and Timber	Val	..	144.68
19	Sundries	Val	..	484.70
	Total			9130.48

Note: The figures are provisional.

NOTES ON CERTAIN CROPS IN KERALA

1. Tea

Today India is the largest producer of tea in the world. Tea is one of the principal foreign exchange earners. Tea industry also substantially contributes to the national exchequer and also provides employment to a large number of people. India accounts for about 46 per cent of the world production of tea.

Climate:—The best climate for the tea plantation is a hot moist climate, the temperature varying from 55° F to 95° F and an annual rainfall ranging between 100 to 130 inches. These conditions are satisfied by the high ranges of Kerala State. Tea is usually cultivated at altitudes ranging from 3,000 feet to 5,000 feet above mean sea level.

Soil:—The best soil suitable for the successful cultivation of tea is a light friable soil of good depth through with water percolates freely.

Planting:—After removing the forest growth and after providing for roads, drains and building sites the planting is done. The actual spacing of the plants will depend upon the layout of the land, used for cultivation. They are usually planted in square, rectangular or triangular patterns suitably spaced so that when mature they cover the ground almost completely without overcrowding, providing for a coverage of about 3,000 plants per acre. 'Hedge planting' i. e. planting in rows five feet apart with a spacing of 2 feet between the bushes in a row, is also done in new estates. Before planting is done pits of 9" square and eighteen inches deep are taken and the pits filled with the soil best suited for the cultivation of tea.

Planting will begin in June or July depending mainly upon the Southwest Monsoon. Water is essentially needed for the young plants for the first two or three months after planting. Young plants taken from the nursery are preferred to the seeds. Usually these plants are removed from the nursery after 6 to 18 months with great care, so that the tap root of the plant is not damaged and planted in the places fixed for the purpose.

Pruning:—When the plants are about two years old and five to six feet high, they are pruned to stimulate lateral growth and to develop them into a bush.

Plucking:—Plucking is usually done by women and children. The young and freshly sprouted leaves with "two leaves and a bud" are plucked. Plucking is done throughout the year in several rounds. The period of one round varies according to the altitude of the land. In the high ranges the plucking rounds cover a period upto fourteen days, whereas in the plains the period is only seven or eight days.

Manure:—The important manures used are mixtures of nitrogen, phosphorous and potash. In some estates ammonium sulphate is also widely used.

Yield:—The average yield of a good estate is about thousand pounds of prepared tea per acre.

Diseases:—There are many kinds of diseases and attacks on the tea-bush. Tea mosquito, the red spider and thrips are some of the important pests attacking the crops.

Life of the Plant:—The average life of a tea plant varies from sixty to eighty years. But it will depend upon various factors such as soil erosion due to heavy rains, climate conditions, etc.

From the Garden to the Market:—The leaves plucked from the tea garden has to undergo a series of processes before it appears in the market for sale.

In the tea factory, the leaves are spread on a wire mesh or hessian cloth racks for a period of eighteen hours for eliminating moisture so that is can be rolled easily. The next stage is called rolling. A rolling machine specially made for this purpose with pressure adjustments is used to twist the leaves for breaking the leaf cells so that the leaf juices ooze out. Then the rolled leaves are taken from the roll breakers and put in the fermentation room. Fermentation is a process of oxidation where the leaves undergo a chemical change. The green colour of tea leaves changes into reddish hue of copper. The next process is known as drying. Hot air (200° to 230°) from the drier furnace is forced into the chamber where the leaves are dried.

The last two processes are grading and packing. There are two important classification of grades. They are leaf grades and broken grades. The former group is mainly divided into Orange Pekoe, and Pekoe Souchong. Broken Orange Pekoe, Broken Pekoe, Broken Souchong, Fannings and dust are important broken grades. They are then packed category-wise and sent to the market for sale.

Besides the black tea, the manufacture of which has been described above, green tea is also manufactured in India in a small quantity. In this process the fresh leaf is subject to heat treatment by steaming or roasting. The green leaf after the heat treatment is rolled and dried, the process being repeated till the desired degree of dryness is reached.

2. Coffee

Coffee was first discovered in Africa although the earliest cultivation was begun in Southern Arabia. Coffee, an important plantation crop, was first introduced in India from Arabia. The production of coffee in India is only 1 per cent of the world production. There are two important species of coffee grown in India, namely, Arabia and Robusta flourishes at lower levels and has more powers of resistance against extremes of climate and pests and diseases. It is easily distinguishable from Arabia by the size of its leaves and appearance of the berries.

Climate:—Coffee is a tropical plant. It is successfully cultivated in places where the altitude ranges from 1500 to 6000 ft. above mean sea level. The most suitable altitude is between 2500 ft. to 4500 ft. It needs a well distributed rainfall of about 60 to 80 inches per annum and a distinct rainy and dry season with a minimum average temperature of 70° F. A good dry spell from about December to March with a few intermittent showers in March and April and heavy rainfall in July and August constitute ideal condition for the growth of the coffee plant ('Report of the Plantation Enquiry Commission on Coffee, 1956 Government of India'.)

Soil:—Coffee requires sandy soils or clay loam soils with a good sub-soil drainage system.

Planting:—Coffee is grown from seed usually. It is also propagated from cuttings from mature trees or shoots. Propagation from seeds is usually done in January or February in well prepared nursery beds. It is essential that the nursery beds must have shades to protect the tender shoots. These plants are to be transplanted after four to six months in the nursery. When the plants are twenty inches in height they are finally transplanted. The spacing between each plant is ordinarily eight to nine feet. The plants are manured well and watered frequently.

In the second method of propagation—lower branches of the trees are bent down under the earth for at least four months so as to enable new roots to sprout up from these branches.

Shade trees are provided in coffee plantation for protection of the trees from the full intensity of the sun and for soil conservation.

Pruning:—Usually the coffee plants are pruned at a height of fifteen feet to enable easy plucking of the berries.

Plucking:—Coffee plants begin to bear fruit within 5 to 7 years of planting. The colour of the berries is green at first. The colour slowly changes to golden and then to bright red. These red cherries are plucked up by hand. Several pluckings are necessary before a crop is completely harvested.

Manure:—The important manures used for the coffee plants are super-phosphate, ammonium sulphate, copper sulphate and urea.

Yield:—Under good climatic conditions a coffee plant yields $\frac{1}{2}$ to 2 lbs. of green coffee in a season. Good yields may be obtained from a plant for a period of 20 to 30 years. Excessive rains or want of rains in the blossoming season will adversely affect the yield.

Diseases:—The following diseases are prevalent in the coffee estates. They are (1) coffee stem borer, (2) shot hole borer, (3) leaf disease, (4) root-rot, (5) die-back, (6) Chlorosis and (7) green bug.

From Garden to the Market:—There are two processes by which raw coffee is cured. They are known as 'dry' and 'wash' methods. By the first method

the coffee cherries are washed and spread out on the cement floors in the open air for drying. When they are completely dried they are allowed to run through fanning and hulling machines.

The second process known as wash process is entirely different. The cherries are put in the pulping machine which breaks them. The pulp skin of the cherries are automatically removed. Then these cherries are put into big tanks for about twenty-four hours. A jelly like substance known as 'Honey' will be formed by these cherries due to fermentation. This honey is removed by thorough washing (canals). Then these cherries are spread out to dry for two or three weeks. When these cherries are completely dried, they are put through hulling and polishing machines. The coffee prepared by the wet method is called parchment. For preparing parchment coffee only ripe berries can be utilised.

Berries at different stages of maturity have to be converted into cherries.

They are then graded and packed. The important grades are arabica cherry, arabica parchment, robusta cherry and robusta parchment.

3. Rubber

In India attempts were first made to plant rubber in Belgaum and Ratnagiri in the Bombay State. Now in the Kerala State 97 percent of India's rubber is cultivated. India's place in the world acreage under rubber is comparatively very low : India's production comes to less than 2 percent of the total world out-put of rubber. Upto 1938 the raw rubber was exported to foreign countries. In that year a tyre factory was established in India. Consumption of the rubber in India has been rising steadily and now the production has begun to lag behind the demand.

Climate :—Rubber usually grows in the tropical belt lying within 15° N and 10° S of the Equator and usually at an altitude of 1000 feet above sea level. For the cultivation of rubber a warm and humid climate is necessary. The annual rainfall should be between 80—120 inches and should be well distributed.

Soil :—A stiff alluvial soil which is neither too steep nor too swampy is suited for cultivating rubber.

Planting :—Young plants or seeds are planted in pits of about 18" x 18". The planting season is from May to September. Usually 150 to 200 plants are planted in an acre.

Tapping :—Tapping of rubber will begin seven or eight years after planting. The period of tapping is from September to January.

Diseases :—There are two serious leaf diseases of rubber now prevailing in India. They are (*Odium hevea*) and '*Phytophthora meadii*' which cause secondary leaf fall. These diseases affect the growth of the tree and the yield of the tree.

Another disease known as 'Brown Bast' is prevalent in the trees which are used for frequent tapping. The symptom of the disease is the cessation of latex production by the trees in the affected portions of the bark.

From the Estate to the Market:—The latex brought by the tappers is first of all freed from sand, bark and other impurities by straining at the coagulating shed constructed specially for the purpose. In the case of crepe rubber, coagulation is done by using acetic acid. For changing latex into sheet rubber the latex after being bulked and diluted is put into shallow pans. For removing water and for getting a definite shape the coagulum is pressed by hand. Then the sheets are allowed to pass two or three times between smooth rollers. The sheets are usually again passed through a machine for printing the trade mark of the estate. These sheets are washed. Then these sheets are placed in specially constructed houses, known as smoke houses and hot air with temperature of 115° to 120°F is allowed to circulate in the room. This is done for fifteen days. The colour of the sheet will change into black from white. There are three important types of rubber, smoked sheet, latex crop and scrap rubber, of those the most important one is smoked sheet.

4. Cardamom

The important cardamom producing countries are India, Ceylon and Indo-China. India is the largest producer of cardamom in the world. Cardamom is taken from the plant *Ellettaria Cardamom*. This is better than the plants growing in other parts of the world. Cardamom possess an aromatic odour and it is commonly used for flavouring and medicines.

Climate:—The best climate suitable for the Cardamom cultivation is a warm and humid atmosphere with a temperature ranging between 50° to 95°F. It is cultivated in the shades of huge forest trees. Cardamom plants required a fairly well-distributed annual rainfall of sixty to eighty inches. The best altitude for cardamom planting is between 2500 to 5000 feet.

Soil:—Cardamom is cultivated usually in high ranges which has a fairly deep rich loam soil and a place sheltered from strong winds and too much sunlight.

Planting:—During February-March the forest land chosen for planting the cardamom is cleared. But care is taken that big trees providing shades are not cut down. Small pits of two feet square and one foot deep are dug, the distance between one pit and the next varying from 8 to 10 feet, thus providing for about 700 pits in one acre of land. During the month of May or June when the south-west Monsoon sets in the seeds are sown. Cardamom plants are usually prepared in specialised nurseries. The plants raised from seeds are usually free from any kind of diseases. When these plants attain one year of growth they are transplanted. Usually two plants are planted in one pit. In August—September the stagnant water is allowed to drain off.

Plucking.—The crop begins to yield from the third year onwards and annually thereafter. The harvest will begin in the month of August of the third year of growth and lasts for nine months. The fruits are gathered at intervals of 30 to 40 days.

Yield.—The first yield is low. The yield attains a normal stage by the fifth year.

Life of the plant.—Nine years is the average life of the plant.

Manure.—The important manures used are well-rotten cattle manure, sheep and fish manure, and leaves of phyllanthus emblica. A mixture of castor cake bone-meal and potassium chlorate also considered to be a good manure.

Diseases.—The main disease is mosovic or marble disease or kate disease. The symptom of the disease is the mottling or curling of the leaves and degeneration of the clumps. The remedy lies in the roguing of affected plants. Another menace is that caused by Thrips, an insect pest. Dusting the plant with gammoxene is the remedy.

From the Estate to the Market.—The capsules of the cardamom are dried in the sun or in specially built dry houses by using artificial heat. Usually three to four days are taken for drying the cardamom in the sun light but at the same time forty-eight hours is only needed for artificial drying. The sun dried produce retains the mucilaginous coating on the seeds and possesses a characteristic sweet aroma. The dried capsules are then cleaned. The final produce of green cardamom is 20 to 28 percent of the green harvested produce.

Sometimes bleaching is done by exposure to sulphur fumes. This change the colour of the skin of the capsule to white and it helps to preserve it for longer periods.

Then they are graded. There are three important grades (1) Green cardamom, (2) White or bleached cardamom and (3) Seeds. The quality of cardamom varies according to place and variety of the seed.

Indian cardamom is mainly exported to Sweden and to Saudi Arabia.

5. Pepper.

Kerala is famous for her pepper from time immemorial and is the chief producer of pepper in India. Black pepper which is one of the important spices is produced mainly by India and Indonesia. During the post-war period India stands as the largest producer of pepper in the world.

Climate.—Pepper being a rain-bed crop, grows best in tropical regions where there is an average rainfall of 80 inches. The lower and upper limits of temperature in which the crop can flourish are 50° F and 140° F. It grows in places with altitude less than 300 ft.

Soil.—The suitable soils for pepper cultivation are clay loam, red loam or sandy loam soils, the first being the most suitable.

Planting:—The crop is propagated vegetatively by means of cuttings. It is a wood climber and requires some support for the vines. Jack and Mango trees are commonly used as support for vines, and Murukku trees are also used. On a plantation basis they are planted at a distance of ten feet apart. The vine is rarely allowed to grow beyond a height of twenty feet lest the picking of the pepper berries becomes difficult.

Picking:—The vines begin to bear after three years of planting. Flowering period is from June to July. The harvesting period is from December to March. When ripe the colour of the berries is orange. The berries are allowed to dry in the sun in mats for a week till the colour becomes black. Sometimes the skin of the ripe berries is removed before drying. This kind of pepper is known as white pepper and is produced only in limited quantities.

Yield:—The yield mainly depends upon the fertility of the soil and the locality. The yield at the first harvest is generally poor. Full yield can be expected from the seventh year. Usually in an acre there will be 300 to 400 standards where pepper is cultivated on a plantation scale. The average yield per standard varies between 1/4 lb. to 2 lb. of dried produce.

Life of the Plant:—The life of the plant ranges between 25 to 30 years. But it is to be pointed out that some of the vines have been found to live upto sixty years.

Manure:—The best manures to be used for the pepper gardens are powdered bean-cake, fish guano and dried prawn.

Diseases:—One of the major diseases that affects pepper is 'Pollu' by which the pepper berries are rendered hollow.

From garden to the Market:—The dried black pepper is graded and packed. The pepper is generally packed in double gunny bags. Pepper is mainly exported to United States of America and United Kingdom.

6. Ginger (Dry)

The three important ginger growing regions are India, Jamaica and Sierra Leona. Of these ginger producing regions the best variety is seen in Jamaica and Sierra Leona. Indian Ginger contains more fibre content.

Soil:—The soils suitable for ginger cultivation are well-drained sandy clay loam, red loam or laterite soils.

Climate:—Ginger requires heavy rainfall. It needs a warm humid climate and considerable shade.

Planting:—Planting usually begins by the end of May or beginning of June before the commencement of the heavy rains. Ginger rhizomes (under-ground stem) are planted. Before planting, the ground is ploughed and manured. The seeds are planted in these beds in small pits at a distance of 6-10 inches. After planting the beds are covered with leaves with a view to protect the young shoots from the onslaught of the rain and to serve as manure also. The crop takes nine to ten months to attain maturity. In July-August weeding and manuring is done.

Harvesting:—The harvesting is done by digging out of the rhizomes.

Manure:—Usually cattle manures used.

Yield:—The yield is generally eight to ten times of the seed rate. Here in Kerala the average yield of ginger is about 1,000 lbs. per acre.

Pests and Diseases:—Ginger crop is usually affected by a disease known as 'Soft root'. The colour of the green plants are changed into pale yellow and the production goes down. Use of mercuric chloride (0.05%) for treating the rhizomes stored as seeds is advocated as a preventive measure. Another important disease is known as 'Varmicularia'. The leaves become covered with yellowish and brownish spots and gradually dry up. Spraying and Bordeaux mixture is suggested in such cases.

From Garden to the Market:—Dry ginger, as a market produce is prepared as follows:

First the outer skin of the green rhizomes are removed. Then they are soaked in water and kept over night. In the morning they are cleaned well. Then these rhizomes are allowed to dry for a week in the hot sun. They are again cleaned. The Ginger is known as the 'rough' or 'unbleached ginger' of commerce.

There is another variety of ginger known as 'lime ginger' or 'bleached ginger'. The process is a bit difference from the above. The green ginger is put in shallow cisterns and they are cleared by water repeatedly. When they are finally cleaned they are put in a solution containing milk of lime for some time after which they are dried in the sun. This process of dipping in lime and drying will be contained a number of times until the rhizomes get a uniform coating of lime.

Then they are graded. There are three important export grades—B, C and D, B, quality ginger will have three fingers. The other two grades (G & D) have two fingers and one finger respectively.

The B and C grades ginger are exported to foreign market. The D Grade being small pieces of ginger are mostly consumed internally in India.

Indian ginger is mainly exported to Aden, Arabia and United Kingdom.

7. Lemongrass Oil.

Lemongrass oil which is an important raw material for the perfumery soap and cosmetic industries is extracted by distilling the leaves of the grass 'cymbopogon flexrosus, staph'. The important lemongrass growing areas are Ceylon, Java, West Indies, Malaya, Guatemala and India. The last two countries are holding almost a monopoly in the word market. In India, Kerala is the most important producer of this crop. The Major lemongrass growing areas are Kuruppampadi, Odakkali, Thodupuzha, Muvattupuzha Wynad, Thaliparamba etc. At Odakkali, there is a lemon-grass Oil research Station.

Climate:—It grows on the fertile hill slopes. The grass grows when the monsoon begins.

Soil:—It flourishes in hard laterite soils.

Cultivation:—Fertile hill slopes with hard laterite soils are selected for the cultivation. During February-March the site selected is first cleared of all under-growth of vegetation by buring them. In April-May the land is ploughed and is prepared into long narrow beds for cultivation of lemongrass. Usually in one acre 15 to 20 lbs. of seeds are sown. The seeds are sown broadcast. The crop is also grown by transplanting of seedlings raised in separate nurseries. There are two varieties of lemongrass, red stem and white stem. The former variety gives better quality of oil containing greater quantity of citral.

Harvesting:—Generally the harvesting will begin five months after sowing. The harvesting has to be done before the flowering season of the crop. Five cuttings are annually taken. After the first cutting, subsequent cuttings are done at intervals of 30 to 45 days. Usually the harvesting season ends by the month of December.

Life of the Plant:—The life of the lemongrass plant is five to eight years.

Yield:—The yield of the crop under different years are given below:—

1st year	1½ dozen bottles of 22 oz. each
2nd year	2½
3rd year	2
4th year	2
5th year	2

From the Garden to the Market:—Now in Kerala we are using an old country method for distilling the lemongrass oil. The old apparatus consists of copper boiler, condenser (coil) receiver and wooden tube.

The raw grass and water put in the boiler specially made for this purpose. The shape of boiler is like a retort apparatus. Then the boiler is heated with firewood. After some time the mixture of water vapour and essential oil escapes through the copper spiral connect to the retort. This copper spiral is allowed to cool down by immersing it in a wooden bucket full of water. The wooden bucket has an opening near the bottom to let off the water as it becomes hot during the distillation time. The essential oil and water will be collected in the receiver tube. The specific gravity of the essential oil is lower than water. At 30°C specific gravity is 0.878. So naturally the lemongrass oil floats at the top of the receiver tub. Then it is separated from water.

Lemongrass oil is packed in steel drums which has a capacity of 40 to 45 gallons. Lemongrass oil is mainly exported to United States of America and United Kingdom.

Classification of soils in Kerala is given below

District	Type of soil	Detail of distribution
(1)	(2)	(3)
Trivandrum	<ol style="list-style-type: none"> Fairly rich brown loam of laterite origin. Sandy loam Richest dark brown loam of granite origin 	<p>Middle part of the District.</p> <p>Western coastal region.</p> <p>Eastern hilly part of the District.</p>
Quilon	<ol style="list-style-type: none"> Sandy loam Laterite soil Hill and Forest soil 	<p>Karunagappally and part of Quilon taluk.</p> <p>Kottarakkara, Kunnathoor and part of Quilon, Pathanapuram and Pathanamthitta taluks.</p> <p>Part of Pathanapuram and Pathanamthitta taluks.</p>
Alleppey	<ol style="list-style-type: none"> Sandy loam Sandy soil Clay loam with much of ability Laterite soil 	<p>Karthigappally and Mavelikkara taluks.</p> <p>Shertallai and Ambalapuzha taluks.</p> <p>Kuttanad.</p> <p>Chengannur & part of Mavelikkara.</p>
Kottayam	<ol style="list-style-type: none"> Laterite soil Alluvial soil 	<p>Peermade and part of Meenachil, Changanacherry and Kottayam taluks.</p> <p>Vaikom, parts of Changanacherry and Kottayam, Devicolam and Udumbanchola.</p>
Ernakulam	<ol style="list-style-type: none"> Laterite Sandy loam Alluvial 	<p>Thodupuzha and Muvattupuzha and part of Kunnathunad.</p> <p>Parur, Cochin and Kanayannur.</p> <p>Part of Alwaye and Kunnathunad.</p>

(1)	(2)	(3)
Trichur	1. Sandy loam 2. Laterite 3. Granite 4. Clayey 5. Alluvial soil	Part of Mukundapuram, Trichur and Chowghat taluks. Eastern area of Trichur and West portion of Talappilly. Northern part of Talappilly. Backwater area in Chowghat and part of Mukundapuram. Portion of Chowghat and Kunnathunad taluks.
Palghat	1. Laterite 2. Sandy 3. Black soil	Interior regions of the District. Along coastal and river side areas. North Eastern portion of Chittur taluks.
Kozhikode	1. Laterite 2. Sandy	Major part of the District barring coastal area. Coastal strip.
Cannanore	1. Laterite 2. Sandy	Major part barring coastal area. Coastal area.

8. Conversion ratio between the raw materials and the processed product

Rice:

Rice (Cleaned) Production

2/3 paddy production

Cotton:

Cotton lint production

1/3 of kapas production

Cotton seed production

2/3 of kapas production

2 times of cotton lint production

Groundnut:

Kernal to nuts in shell

70 percent

Oils to nuts in shell

28 "

Oils to kernals crushed

40 "

Cake to kernals crushed

60 "

Sesamum:

Oil to seeds crushed

40 "

Cake to seeds crushed

60 "

(1)	(2)	(3)
<i>Castor seed:</i>		
Oil seeds crushed	37	per cent
Cake to seeds crushed	63	"
<i>Coconuts:</i>		
Copra to nuts one ton copra	6775	nuts
Oil to copra crushed	62	per cent
Cake to copra crushed	38	"
<i>Neem Seed:</i>		
Oils to kernels crushed	45 to 50	per cent
Cake to Kernels crushed	50 to 55	"
<i>Sugar:</i>		
Gur from cane crushed	10	per cent
Crystal sugar from gur refined	62.40	point
Crystal sugar from cane crushed	9.97	"
Khandassari sugar from gur refined	37.50	"
Molasses from cane crushed	3.50	"
<i>Cashewnuts:</i>		
Cashew kernels	25	per cent of cashewnuts
Butter from mixed milk	6.3	per cent
Ghee from mixed milk	5.3	"

9. Average analysis of important Fertilisers

SOURCE:—FERTILISER STATISTICS

Sl. No.	Name of Fertiliser	Percentage		
		Nitrogen (N)	Phosphoric (P2O5)	Pottash
(1)	(2)	(3)	(4)	(5)
1.	Nitrate of Potash 70%	8-10	..	30-33
2.	Ammonium Phosphate	17-18	20-21	..
3.	Urea	46	..	..
4.	Nitrate of Soda	15-16	..	..
8.	Sulphate of Ammonia	20-6	..	..
6.	Ammonium Sulphate Nitrate	26	..	..
7.	Ammonium Nitrate	32-33	..	..
8.	Calcium Gynamide	18-20	..	..

(1)	(2)	(3)	(4)	(5)
9.	Nitroline	20-21	..	..
10.	Super phosphate (Single)	..	16-20	..
11.	Do. (Double)	..	45-50	..
12.	Hyper Phosphate	..	26	..
13.	Basic Slag	..	14-18	..
14.	Mineral phosphate (various grades)	..	25-36	..
15.	Murite Potash	..	..	60
16.	Sulphate of Potash	..	..	48-52

ORGANIC MANURES

17.	Castor cake	4.3	1.8	1.3
18.	Cotton seed cake (undecorticated)	3.9	1.8	1.6
19.	Neem cake	5.2	1.0	1.4
20.	Sufflower cake (undecorticated)	4.9	1.4	1.2
21.	Sufflower cake (Decorticated)	7.9	2.2	1.9
22.	Coconut cake	3.0	1.9	1.8
23.	Ground nut cake	7.3	1.5	1.3
24.	Jambo cake	4.9	1.6	1.9
25.	Linseed cake	5.5	1.4	1.3
26.	Rape seed cake	5.2	1.8	1.2
27.	Sesamum	6.2	2.0	1.2

MANURES OF ANIMAL ORIGIN

28.	Dried Blood	10.0	1.5	1.0
29.	Fish manures	4.0-10.0	3.0-3.0	0.3-1.5
30.	Bone meal (raw)	3.0-4.0	20.0-25.0	..
31.	Do. (steamed)	1.0-2.0	25.0-30.0	..

BULKY ORGANIC MANURES

32.	Farm-yard manure	0.5-1.5	0.4-0.8	0.5-1.9
33.	Compost (Urban)	1.0-2.0	1.0	1.5
34.	Do. (Rural)	0.4-0.8	0.3-0.6	0.7-1.0
35.	Green manure (various average)	0.5-0.7	0.1-0.2	0.8-1.6

10. Insect pest affecting Paddy Crops, their distribution and some practical methods of Control.

Crop (1)	Pest (Scientific name) (2)	Distribution (3)	Control (4)
Paddy	Paddy may work or the swarming caterpillar (Spodopteramanititia boisdu).	This is a sporadic pest. Attacks mostly Viruppu (Autumn) crop of Paddy throughout the State.	<ul style="list-style-type: none"> i. Apply 10 per cent B. H. C. dust at 15 to 20 lb. per acre. ii. Spray D. D. T. suspension prepared at the rate of 1 lb. of 50 per cent wettable powder in 25 gallons of water 3 to 35 gallons required for an acre. iii. Apply D. D. T. 50 per cent dust at 15 lb. per acre. In hardly affected fields give a top dressing of Ammonium sulphate at 28 lb. per acre to promote rapid recuperation.
	Paddy stem borer (<i>Scheenibius incornellus</i> W.)	This pest is usually found in Mundakan (Winter) Crop and often causes heavy damage. This also is commonly seen in all the districts of the State	<ul style="list-style-type: none"> i. Spray Foliodol E 605 thrice as follows:— First spraying in the nursery when the plants are about 15 days old, second spraying about three weeks after transplanting, and third spraying at the short blade stage. The rate is 2 CC per gallon of water (1 oz. in 14 gallons of water) 30 to 35 gallons are required per acre. The spraying are to be done when a good number of moths or eggs are found in the field.

(4)

(3)

(2)

(1)

Paddy—(Contd.)

- Rice bug (Lip to Corisa actu. T.) This is found throughout the State.
- Rice (Hispa Arinigera OI.—Nilaparvata Sp.) Very common in Karunagapally, Harippad, Mavelikkara, Kottarakara and Karthigappally of Quilon District and all parts of Alleppey and Trichur Districts.
- ii. Spray D. D. T. at the rate of 1 lb. of 50 per cent wettable powder in 25 gallons of water as follows : One spraying in the nursery, dip the seedlings in the suspension of the same strength, one spraying 2 to 3 weeks after transblade stage (in the short blade stage 40 to 45 gallons of the spray liquid are required per acre in both cases).
 - iii. At the time of transplanting eliminate and destroy the dead heads if any.
 - iv. In hardly affected fields give a top dressing of Ammonium Sulphate.
 - i. In the early stage of attack collect the bugs by a hand net.
 - ii. Apply B. H. C. 10 per cent dust at rate of 20 to 25 lb. per acre.
 - i. Apply 10 per cent B. H. C. dust at 15 to 20 lb. per acre.
 - ii. Spray D. D. T. at the rate of 1 lb. of 50 per cent wettable powder in 25 gallons of water (30 to 35 gallons of spray liquid required per acre).

(1)

(2)

(3)

(4)

(1)

(2)

(3)

(4)

Paddy—
(contd.) Paddy gall fly (*Pachy-*
diplosis oryal W)

Commonly found in Vir-
ippu crops in the Dis-
tricts of Quilon and
Trichur

88

- i. During seedlings stage of the crops, if adultam are found in the fields set up light traps.
- ii. Spray the seedlings with D. D. T. at the rate of 1 lb. of 50 per cent wettable powder in 25 gallons of water when adults are observed in the field (30 to 35 gallons of spray liquid required for an acre).
- iii. Give a top dressing of Ammonium Sulphate in the affected fields.

Apply 10 per cent B. H. C. dust on field bunds soon after the nymphs appear and before they actually invade the crops. If the crop is already attacked apply B. H. C. 10 per cent dust at 20 to 25 lb. per acre or drive the hopper to a convenient field corner and give a heavy dusting with B. H. C. 10 per cent.

Spray D. D. T. suspension at the rate of 1 lb. of 50 per cent wettable powder in 25 gallons of water (30 to 35 gallons required per acre).

Prior to sowing plough into the soil 28 lb. of 5 per cent Aldrin dust or 56 lb. of 10 per cent B. H. C. dust per acre.

Rice grass-hopper (*Hero-*
glyphids)

Commonly found in the various parts of Palghat and Tellicherry Districts though the damage done is a minor form

Commonly found in Vir-
ippu crop in the Dis-
tricts of Quilon and
Trichur

Commonly found in Kottayam Dis-
trict

Found in Kottayam Dis-
trict

Commonly found in Vir-
ippu crop in the Dis-
tricts of Quilon and
Trichur

Leaf roller (*Graphaloero-*
cis medinalis G)

Paddy cockchaferbuttle
(*Phylloognathus drony-*
sins F)

(4)

(1)	(2)	(3)	(4)
Paddy— <i>(Contd.)</i>	The paddy jassid. (The green jassid Nephoptix. SP. and the white jassid) Tettigoniella spectra Dr.) T.	Found in Kottayam Dis-trict	<p>i. Collect the bugs by a hand net on the early stages of attack.</p> <p>ii. Spray D. D. T. at the rate of 25 of 50 per cent wettable powder in 25 gallons of water. 30 to 35 gallons of suspension required per acre.</p> <p>iii. Dust D. D. T. 5 per cent at the rate of 15 to 20 lb. per acre.</p> <p>iv. Apply 10 per cent B. H. C. dust at 15 to 20 lb. per acre of spray D.D.T. at the rate of 1 lb. 50 per cent wettable powder. 30 to 35 gallons of the suspension required per acre.</p>

**List of centres selected for recording Meteorological
Information in Kerala During 1965-66**

TRIVANDRUM DISTRICT

1. Ponmudi
2. Varkala
3. Attingal
4. Nedumangad
5. Trivandrum-b
6. Neyyattinkara
7. Parassala
8. Trivandrum (Aerodrome-b)

QUILON DISTRICT

9. Pathanamthitta
10. Konni
11. Adoor
12. Karunagappally
13. Punalur
14. Kottarakara
15. Aryankavu
16. Quilon
17. Nilamel
18. Paravur
19. Kayamkulam (AM)

ALLEppey DISTRICT

20. Arukutty
21. Sherthalai
22. Alleppey-b
23. Ambalapuzha
24. Thiruvalla
25. Chengannur
26. Haripad
27. Mavelikara
28. Kayamkulam

KOTTAYAM DISTRICT

29. Chinnar
30. Marayur
31. Munnar
32. Devikulam
33. Vandanmedu
34. Vaikom
35. Palai
36. Ettumanoor
37. Kumili
38. Kottayam

39. Peermade (Taluk)
40. Peermade (Residency)
41. Kanjirappally
42. Changanacherry
43. Velloor

ERNAKULAM DISTRICT

44. Malayattur
45. Parur
46. Perumbavoor
47. Alwaye
48. Neriamangalam
49. Muvattupuzha
50. Karikode
51. Ernakulam
52. Cochin-b
53. Port of Cochin-b

TRICHUR DISTRICT

54. Cranganore
55. Mukundapuram
56. Trichur
57. Thalappally
58. Ollukkara (AM)

PALGHAT DISTRICT

59. Alathur
60. Palghat-b
61. Parali
62. Ottapalam
63. Cherplasserry
64. Mannarghat
65. Perinthalmanna
66. Ponnani
67. Chittoor
68. Pattambi (AM)

KOZHIKODE DISTRICT

69. Manjeri
70. Thiruangadi
71. Kozhikode-b
72. Nilambur
73. Vyithiri
74. Quilandy
75. Badagara
76. Kuttiadi

CANNANORE DISTRICT

77. Kasargode
78. Thaliparamba
79. Cannanore
80. Hosdurg
81. Tellicherry

82. Irikkur
83. Payyannur
84. Mananthodi
85. Mahe
86. Kasargode (AM)

b—Observatory

AM—Agricultural Meteorological Research Station.

Non Reporting Raingauge Stations*Schedule—I***TRIVANDRUM DISTRICT**

1. Aruvikara
2. Vamanapuram
3. Nedumangad

QUILON DISTRICT

4. Kulathupuzha
5. Kottarakara

KOTTAYAM DISTRICT

6. Kottayam
7. Pallom
8. Kumarakom

ALLEPPEY DISTRICT

9. Alleppey

ERNAKULAM DISTRICT

10. Puthe Cruz
11. Kuthattukulam
12. Kolani

TRICHUR DISTRICT

13. Pazhayannur

PALGHAT DISTRICT

14. Nemmara
15. Nelliampathy
16. Nattukal

KOZHIKODE DISTRICT

17. Kuttiadi

18. Ambalavaya

19. Kuppady

20. Muthunga

21. Lakkidi

22. Thagarappady

CANNANORE DISTRICT

23. Manjeswar
24. Vemom (Mananthody)
25. Thirunelli (do)
26. Konnath
27. Chandanathode
28. Peria
29. Chedloth Range
30. Thaliparamba
31. Cannanore

Non Reporting Railway Rain Gauge Stations

1. Kollengode

2. Thenmalai

3. Quilon

4. Trichur

5. Alwaye

6. Angadipuram

7. Calicut

8. Pantalayani

9. Olavakkot

10. Shoranur

11. Cannanore

**Glossary of English, Botanical and Malayalam
names of crops**

Sl. No.	English	Botanical			Malayalam
		2	3	4	
1	Alexandrian lamel	<i>Clophylum inophyllum</i>			Punna
2	Amaranthus	<i>Do.</i>			Keera or Cheera
3	Arrow root	<i>Curcuma angustifolia</i>			Kuva
4	Ash gourd	<i>Baniaeassa certifera</i>			Kumbalanga
5	Bajra	<i>Pannretam tyrhodeum</i>			Kambu
6	Bambalaimas	<i>Citrus madima</i>			Bamblimas
7	Barley	<i>Hordeum Volkana</i>			Barley
8	Bengalgram	<i>Oicer arrietenum</i>			Kadala
9	Betel leaves	<i>Piper betel</i>			Vettila
10	Beetel nut	<i>Areca catecha</i>			Adakka or Pakku
11	Bitter gourd	<i>Mamordica charantia</i>			Piyakkka or Kaipakkka
12	Blackgram	<i>Pashedurradiatus</i>			Uzhunnu
13	Breed fruit	<i>Artocarpus communis</i>			Simachakka or Kadachakka
14	Brinjal	<i>Solanum malongena</i>			Vazhuthananga
15	Bottle gourd	<i>Lagenaria Vulgaris</i>			Churakkai
16	Cabbage	<i>Erasica olavacra</i>			Mottakkose
17	Cardamom	<i>Elctaria cardanom</i>			Elakkka
18	Carrot	<i>Dones carota</i>			Mullankki
19	Cashewnut	<i>Anacardium occidentale</i>			Kaswandi or Parangiandi
20	Castor	<i>Ricinus communis</i>			Ayanaku
21	Chhillics (dry)	<i>Capeicum annum</i>			Vattalmulaku or Kappalmulaku
22	Do. (green)				pachamulaku
23	Cinnamon				Karava or Cashana
24	Cloves				Grampu
25	Custer beans				Kothavara

(1)	(2)	(3)	(4)
26 Cocoanut	Cocos nucifera	Nalikera or Thenga	
27 Cocolcoesia	Colocasia Autiquearam	Chempu	
28 Corriander	Corriandrum Sativum	Kothamally	
29 Cotton	Cossyppium ha baccum	Paruthi	
30 Cowgoram	Vigna catiang	Karamani or Kottapayaru	
31 Cucumbur	Cucumis sativan	Vellarikka	
32 Cumur	Cumminum Y minum	Jecrakom	
33 Dramistic	Moringa Cler ifara	Muringakka	
34 Elephant Foot yam	Amor phaphallus	Chena	
35 Field beans	Dolichos Hablal	Mochakkota	
36 Garlic	Allium Sativum	Veluthulli	
37 Ginger	Zingiber Officianalis	Inchi or Chukku	
38 Grape	Vitis vinifar	Munthiringga	
39 Green gram	Phaseslus mango	Gherupayaru	
40 Guava	Psidum guajava	Perakka	
41 Groundnut	Arcachis hypogaea	Nilakadala	
42 Horsegram	Dolichers Bisflorous	Muthira or Kanam	
43 Italian millet	Setaria italica	Thina	
44 Jack fruit	Artocarpus intigrifoli	Chakka	
45 Jowar	Sorghum Volgara	Cholam	
46 Jute	Corchorous Capsularis	Chanam	
47 Kari leaf	Murraya Zocngari	Kariveppila	
48 Ladies finger	Habiscus esculentus	Vendakkai	
49 Lemongrass	Cymbopogon species	Ezhumpull or Thailappullu	
50 Lime fruits	Citrus aurantifolia	Cherunaranga	
51 Do.	Citrus Senensis	Madhuranaranga	
52 Do.	Citrus Senensis	Do.	

(1)

(3)

(2)

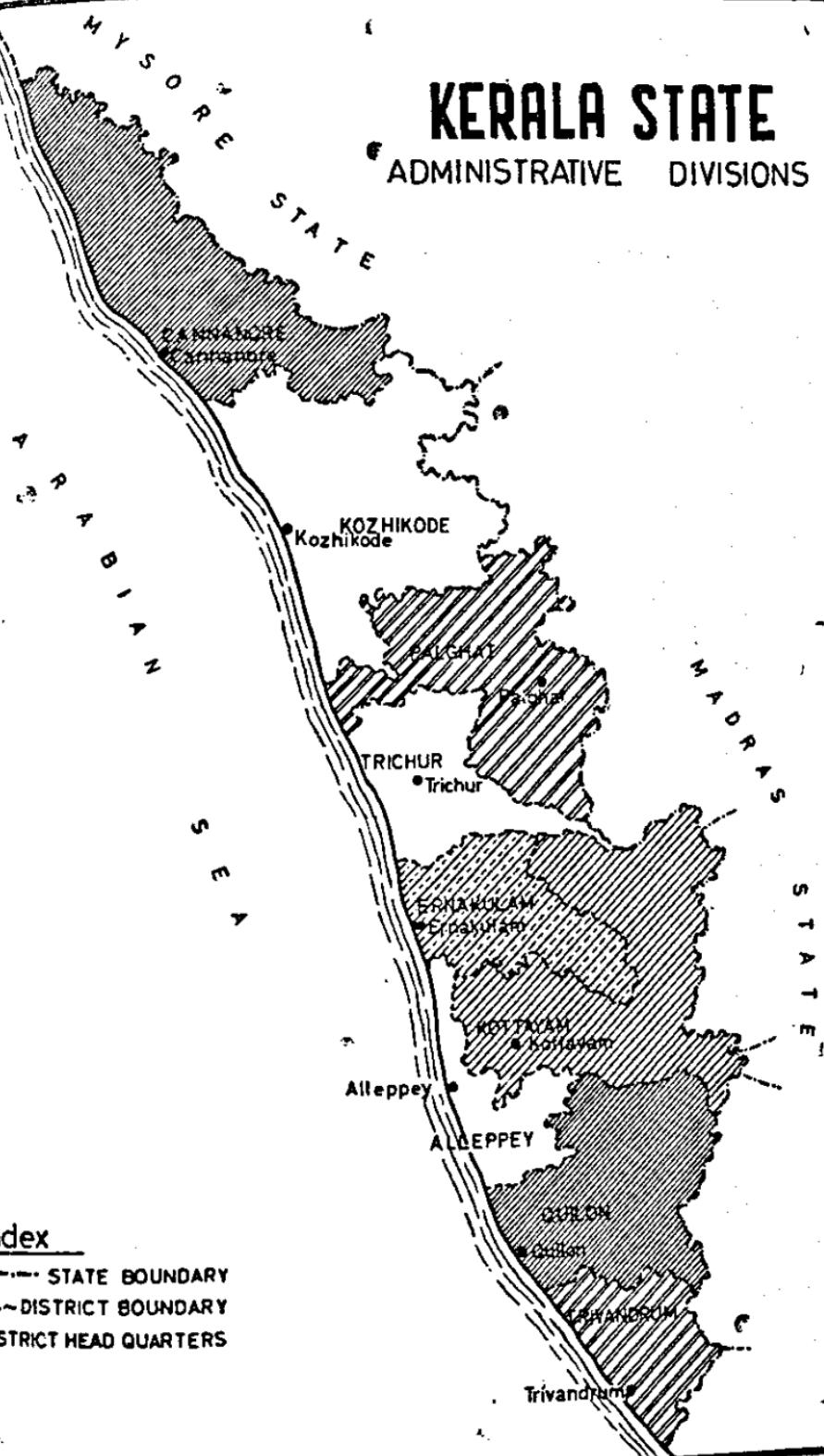
(4)

53	Long Pepper	Piper longum	Tippali
54	Maize	Fea Mayas	Mokka Cholam
55	Mango	Magnifera indica	Mambazham
56	Neem	Azhbirachta India	Veppu
57	Nut-mug	Myrristica foregrus	Jathikka
58	Onion	Allium Cepa	Chevannulli
59	Opium	Patayar Somniferum	Karuppu
60	Paddy	Dryza Sativa	Nellu
61	Palmyrah	Borassus flabellifar	Karimpana
62	Papaya	Cariota Pappaya	Omakka or Koppanga
63	Pepper (Black)	Piper nigrum	Kurumulaku or Nallamulaku
64	Pineapple	Ananies comesus	Kaithachakka or Prithichakka
65	Plantain	Musasepientun	Vazha
66	Pomegranate	Punicagranatum	Mathalam
67	Pumpkin	Cucurbitamaxima	Mathanga
68	Ragi	Eleusive Coracana	Panjappullu or Koovarakku
69	Redgram	Gajanus indicus	Thuvara
70	Roseapple	Engenia Jamos	Jampa
71	Samai	Panicum miliara	Ellu
72	Sesameum	Sesamum indicum	Padavalanga
73	Snake gourd	Trichosan thesegium	Karimbu
74	Sugarcane	Seachhuram officinarum	Sarkaravalli or Madhurakizhangu
75	Sweet Potato	Ipmoca batatas	Valeringa
76	Sword beams	Canavalia ensiformis	Valampuli
77	Tamarind	Tamarindus indica	Marachini or Kappa
78	Tapioca	Manikot utilissima	Pukayila
79	Tobacco	Nicotiona tobacum	

(1)	(2)	(3)	(4)
80	Tomato	Hyopersicum	Thakkali
81	Turmeric	Curcuma longa	Marjal
82	Water melon	Citrullus vulgaris	Thannimathan
83	Wheat	Triticum vulgare	Gothampu
84	Winged beans	Psophocarpus bracteolatus	Chathurapayaru
85	Yam	Dioscorea bulbifera	Kachil
86	Do.	Engemia cuminum	Niarapazham
87	Do.	Dioscorea acutolla	Cheruvallikizhangu
88	Do.	Coleus parriplorus	Koorka or Cheevakizhangu
89	Do.	Luffa acutangula	Pichanka
90	Do.	Garcinia cambogia	Kodampuli or Penaru

KERALA STATE

ADMINISTRATIVE DIVISIONS



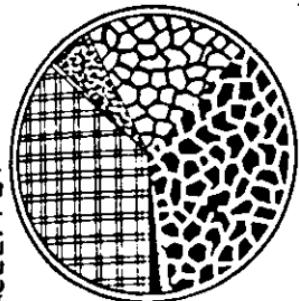
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- STATE BOUNDARY
- DISTRICT BOUNDARY
- DISTRICT HEAD QUARTERS

AREA UNDER CROPS 1965-'66

Index

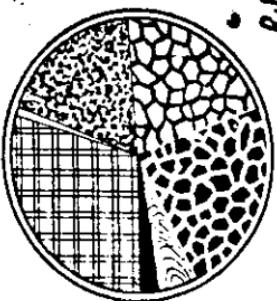
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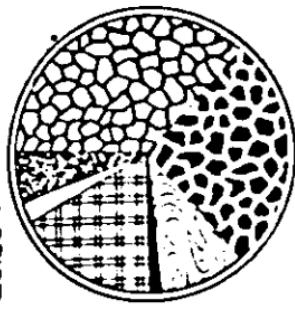
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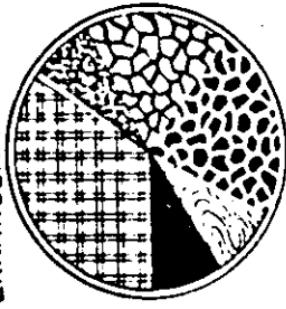
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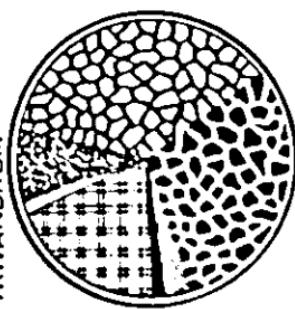
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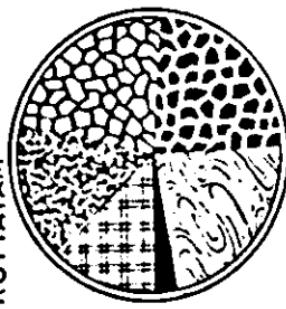
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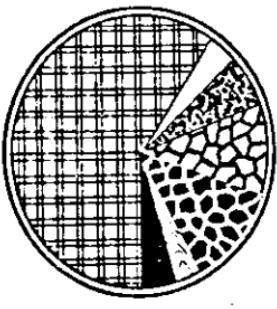
TRIVANDRUM



KOTTAYAM



PALGHAT



R.P.

CEREALS & MILLETS.



PULSES.



CONDIMENTS & SPICES.



FRUITS & VEGETABLES.



OIL SEEDS.



PLANTATIONS.

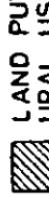
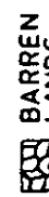
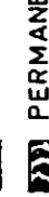
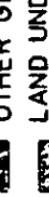
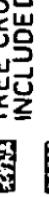


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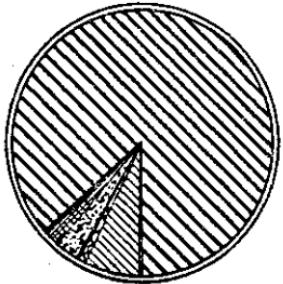


CLASSIFICATION OF AREA 1965-'66

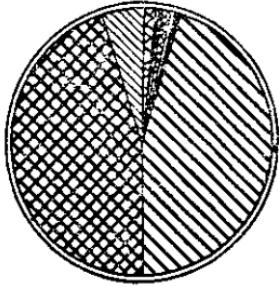
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-  FORESTS
-  LAND PUT TO NON-AGRICULT.
URAL USES
-  BARREN & UNCULTIVATED
LANDS.
-  PERMANENT PASTURES &
OTHER GRAZING LANDS
-  LAND UNDER MISCELLANEOUS
TREE CROPS & GROVES NOT
INCLUDED IN NET AREA SOWN
-  CULTIVABLE WASTE
-  OTHER FALLOW LANDS
-  CURRENT FALLOW
-  NET AREA SOWN.

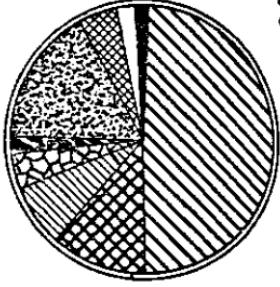
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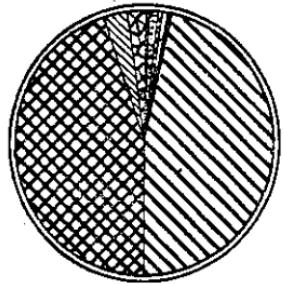
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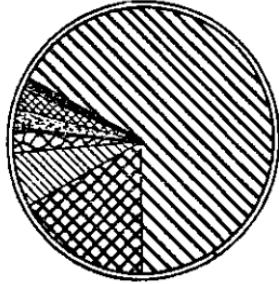
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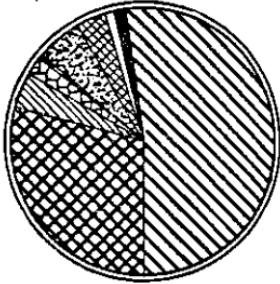
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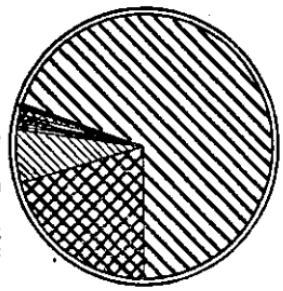
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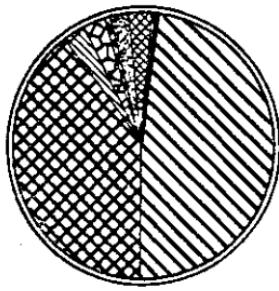
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KOTTAYAM



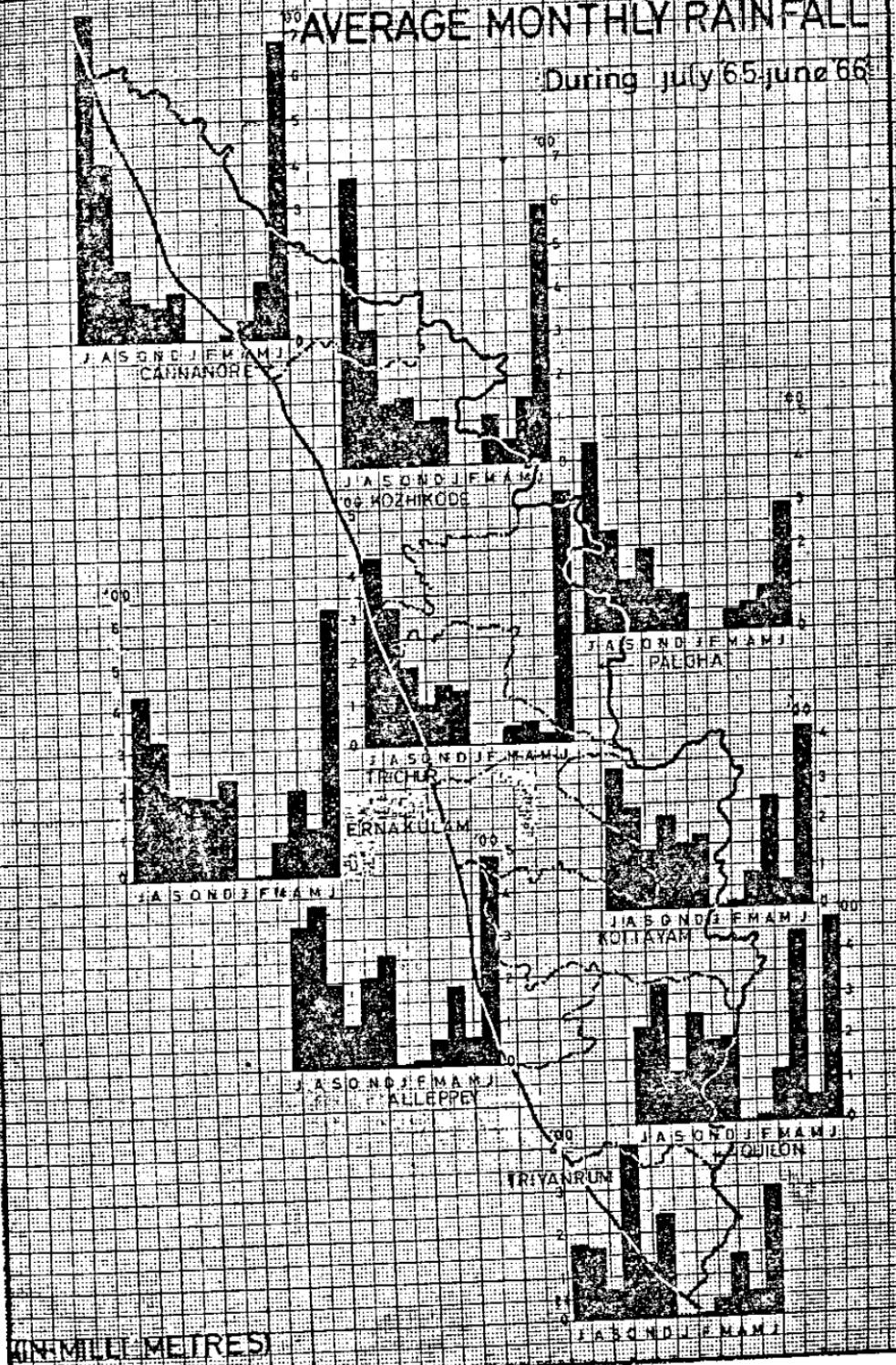
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PALGHAT

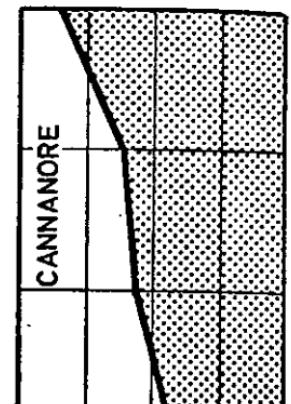
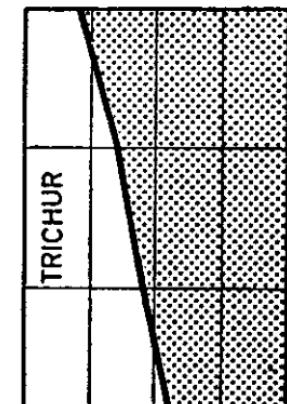
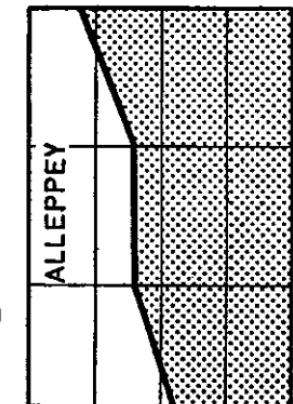
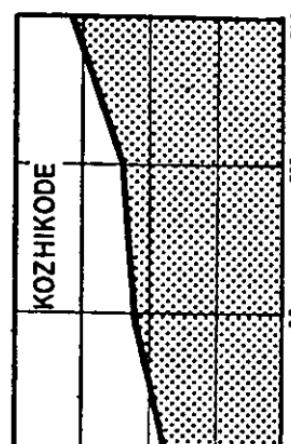
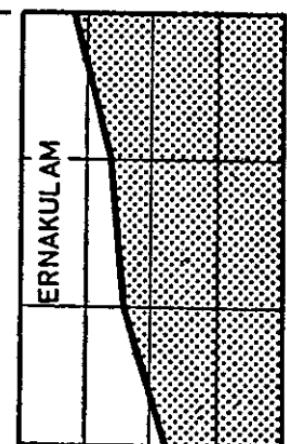
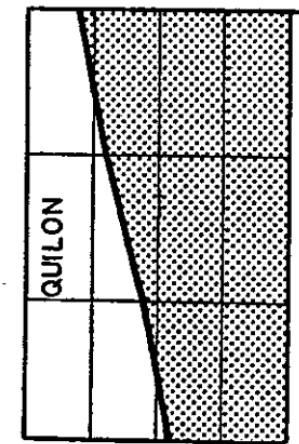
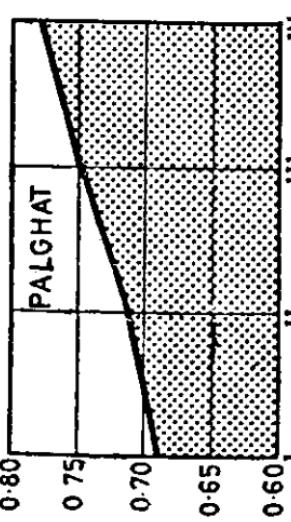
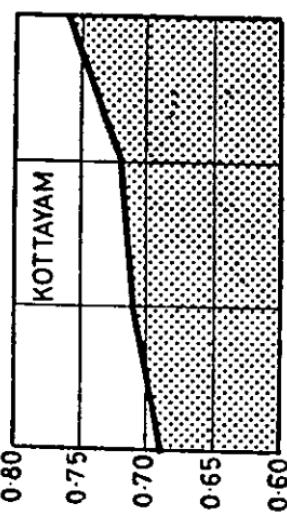
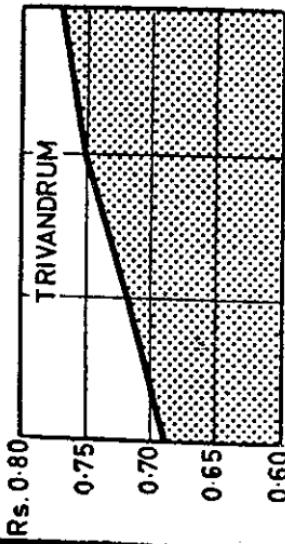
AVERAGE MONTHLY RAINFALL

During July '65-June '66

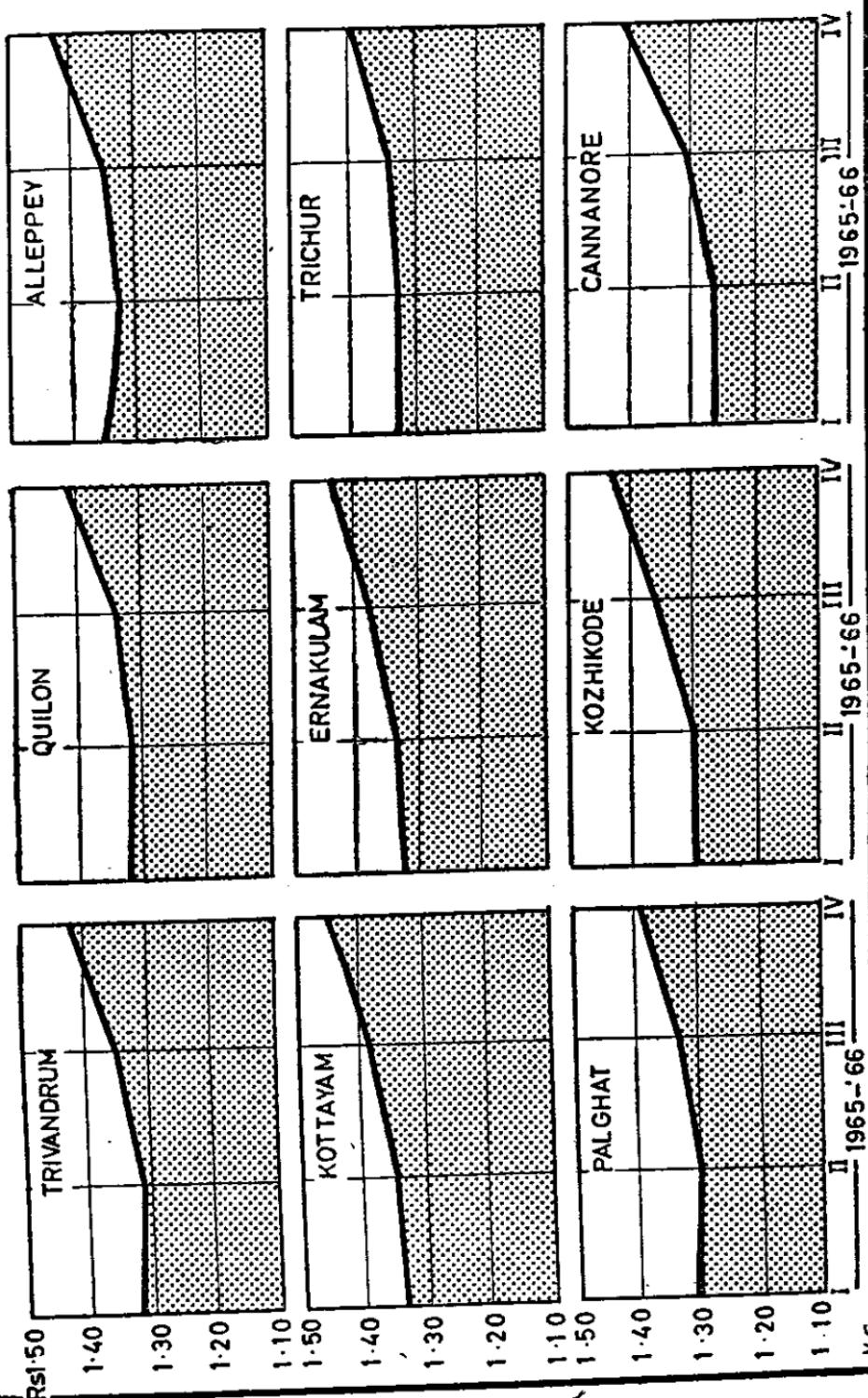


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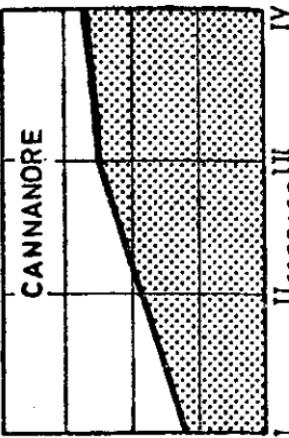
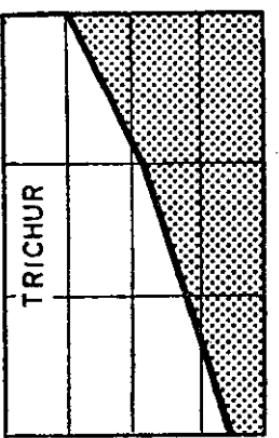
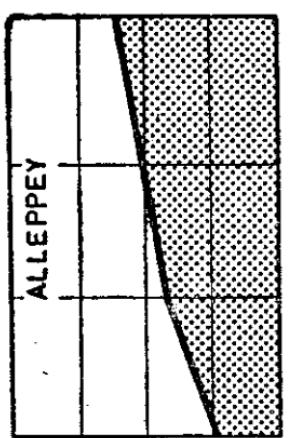
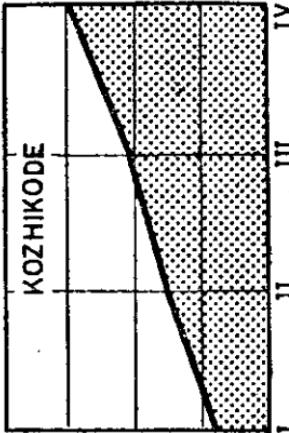
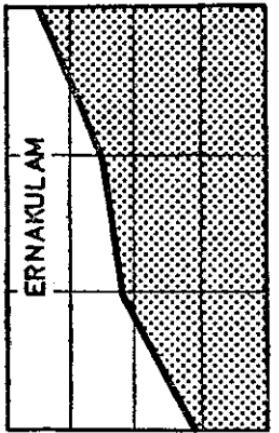
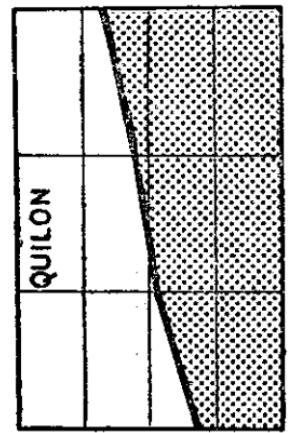
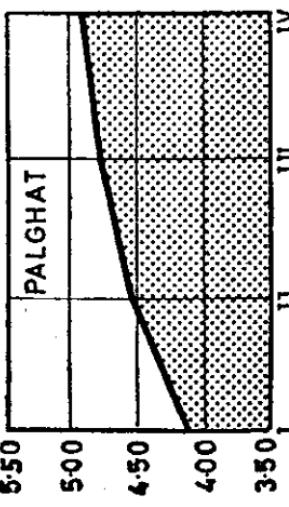
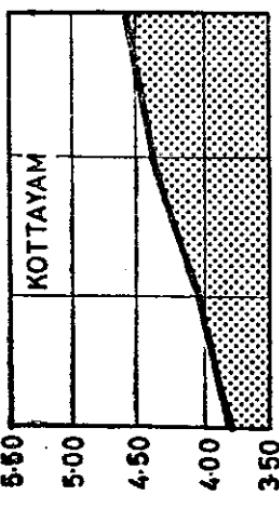
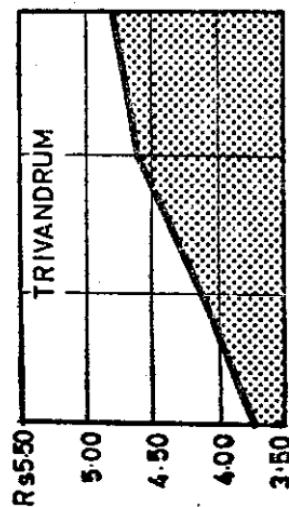
QUARTERLY RETAIL PRICES OF RICE (Control - Kg) 1965-'66



QUARTERLY RETAIL PRICES OF SUGAR (Kg.) 1965-'66.



QUARTERLY RETAIL PRICES OF GINGELLY OIL (Litre) 1965-66.

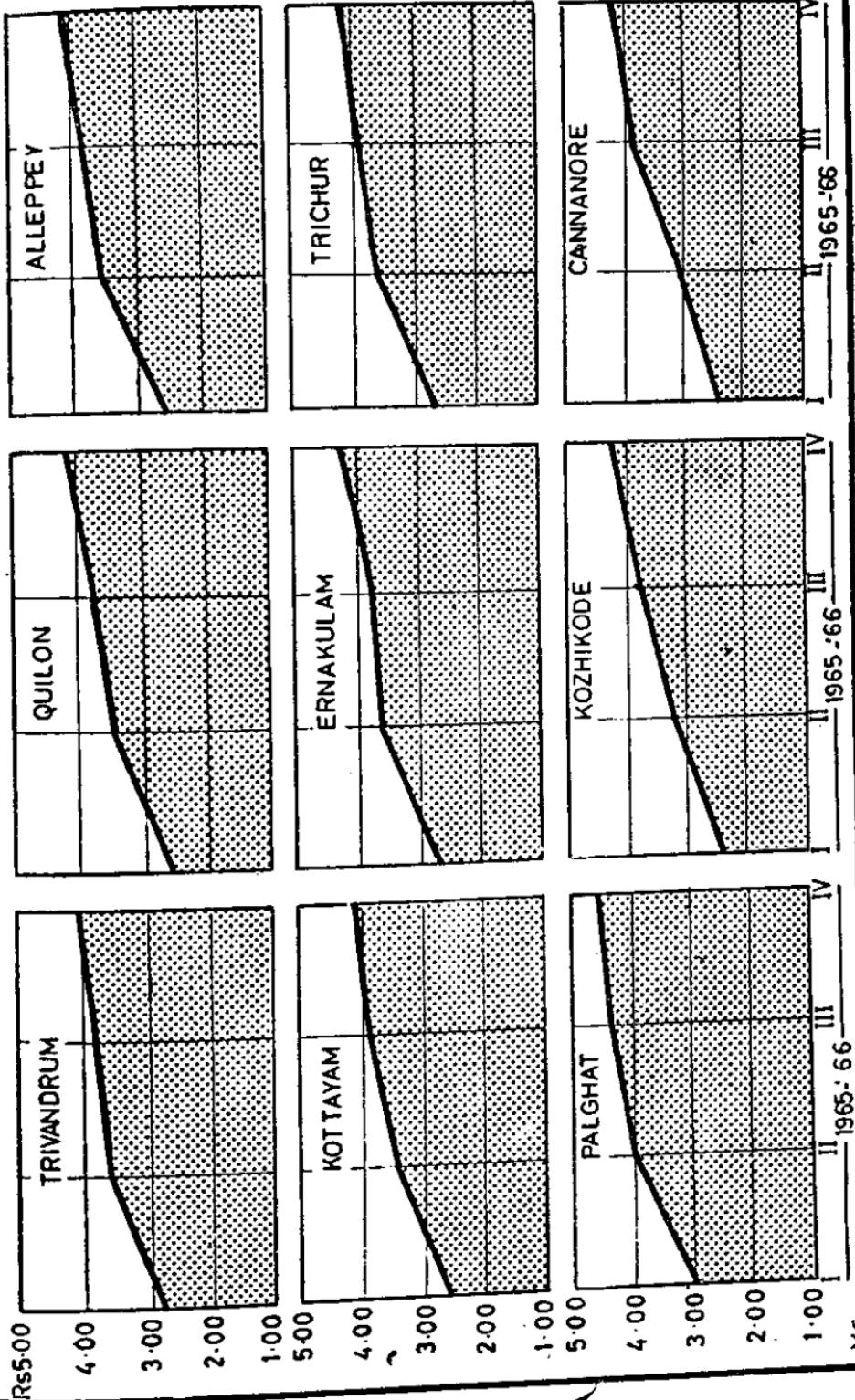


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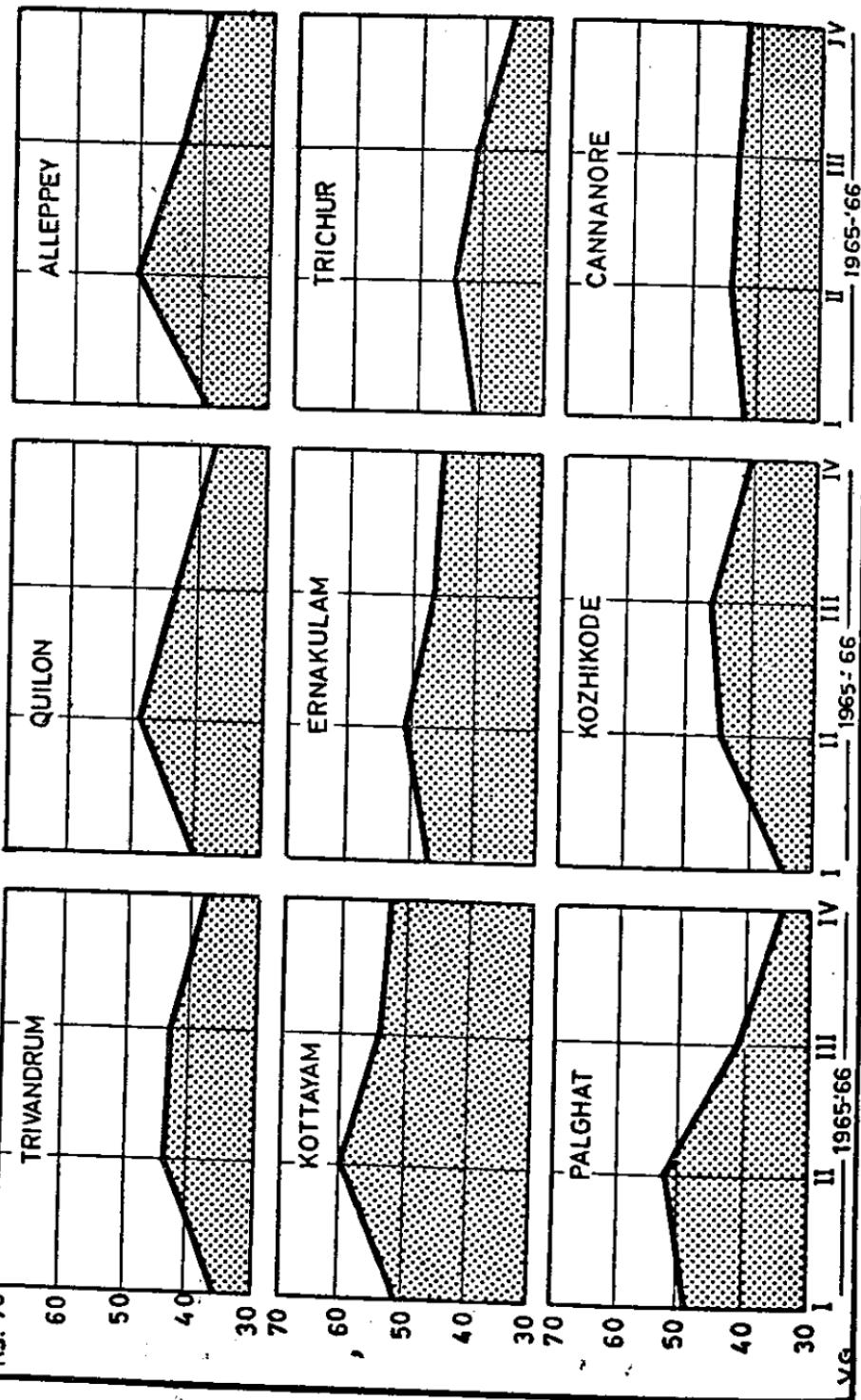
IV
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IV
III
II
I

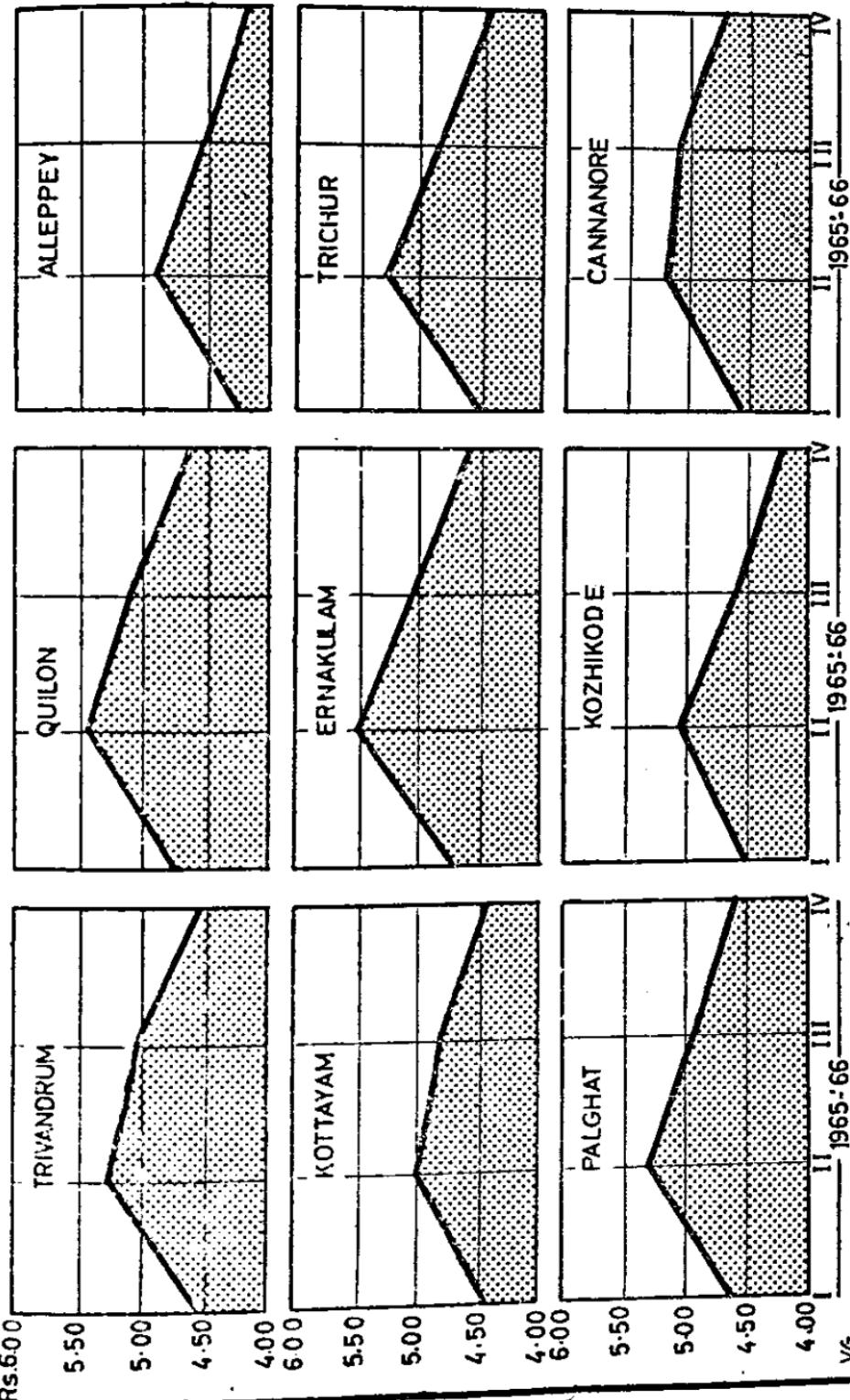
QUARTERLY RETAIL PRICES OF CHILLIES (Kg.) 1965-66.



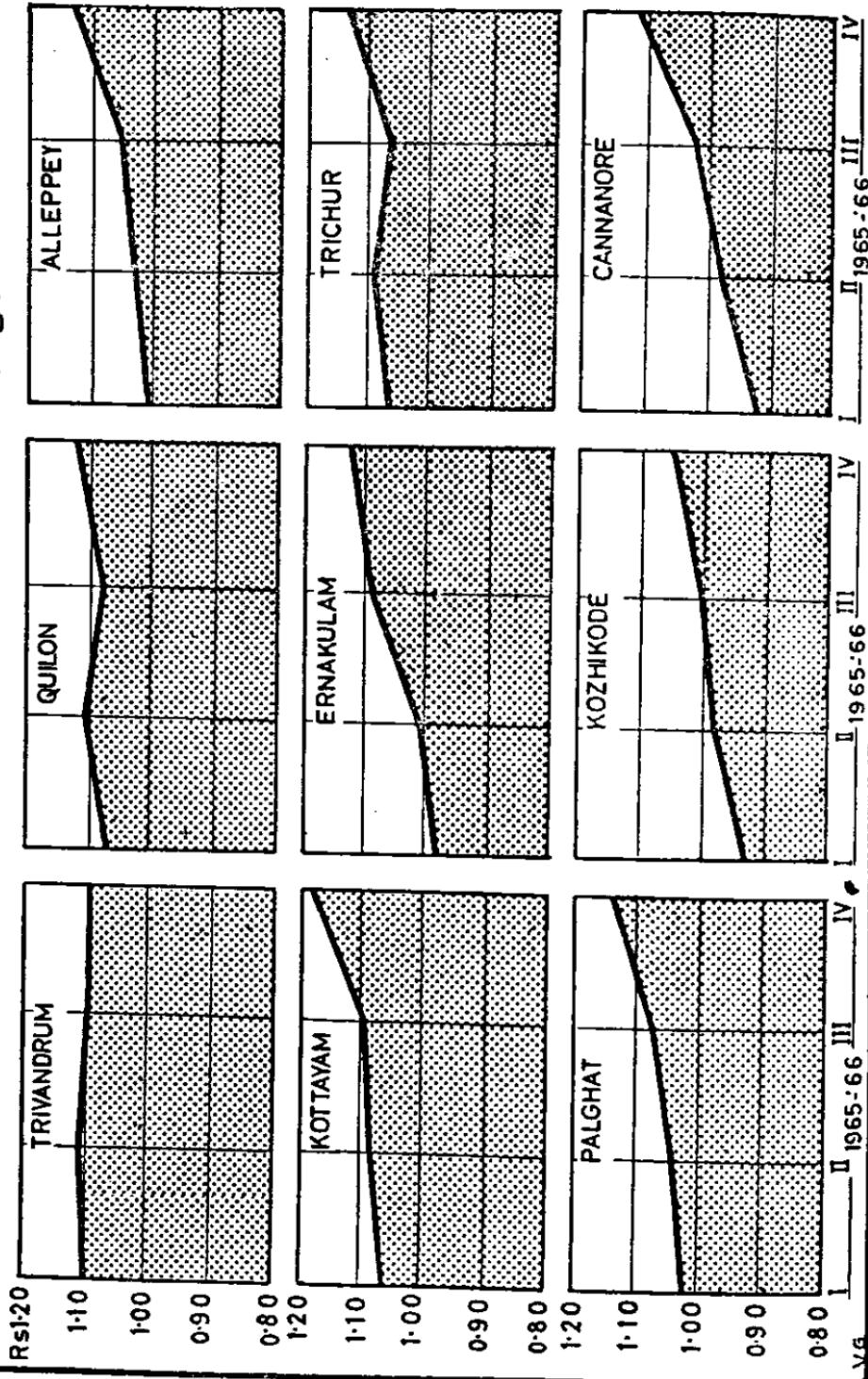
QUARTERLY RETAIL PRICES OF COCONUT (With out husk-Nos.)¹⁰⁰ 1965-'66.



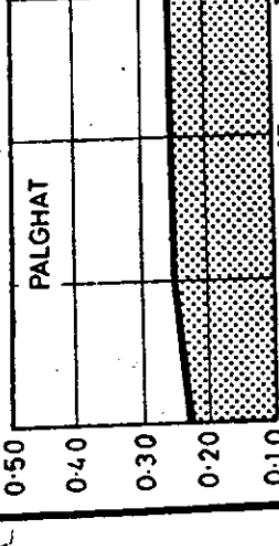
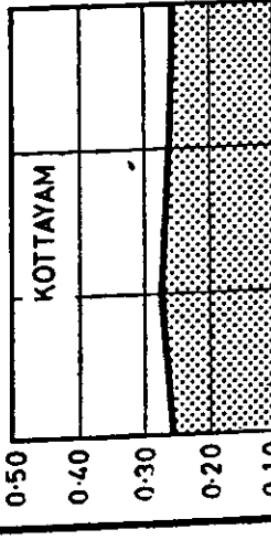
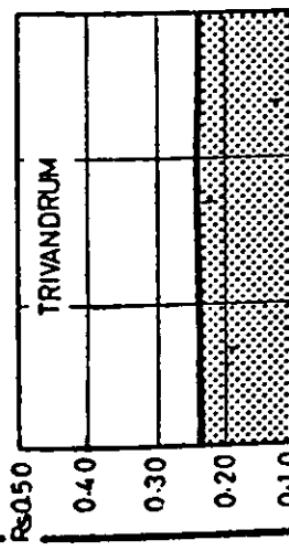
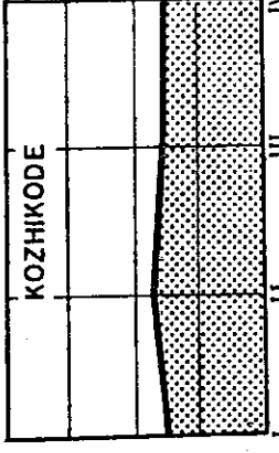
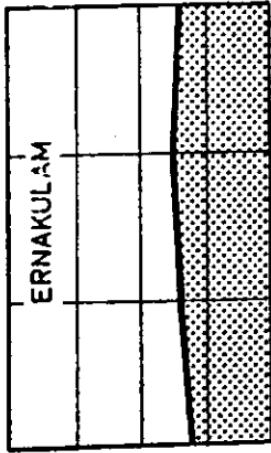
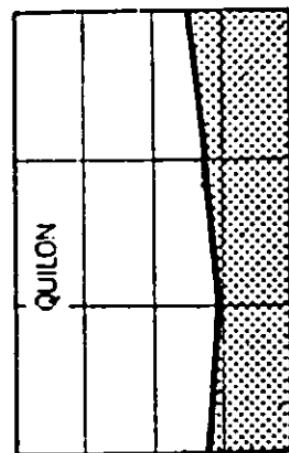
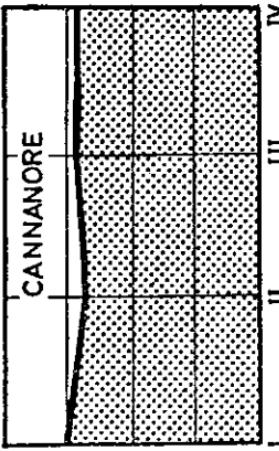
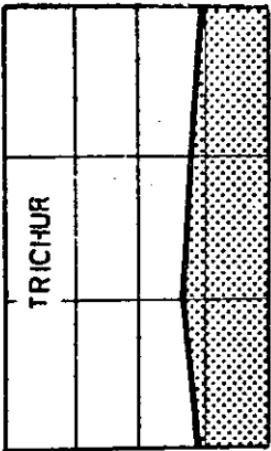
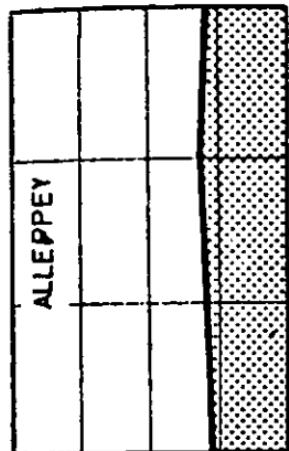
QUARTERLY RETAIL PRICES OF COCONUT OIL (Litre) 1965-'66.



QUARTERLY RETAIL PRICES OF BLACK GRAM(Kg.) 1965-66.



QUARTERLY RETAIL PRICES OF TAPIOCA (Raw - Kg.) 1965-66.



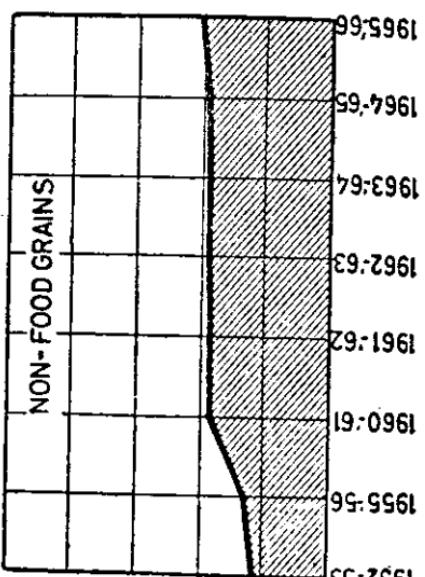
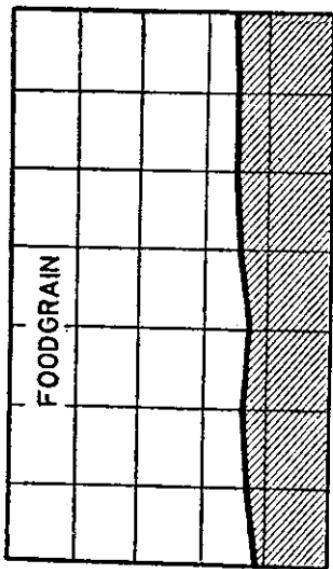
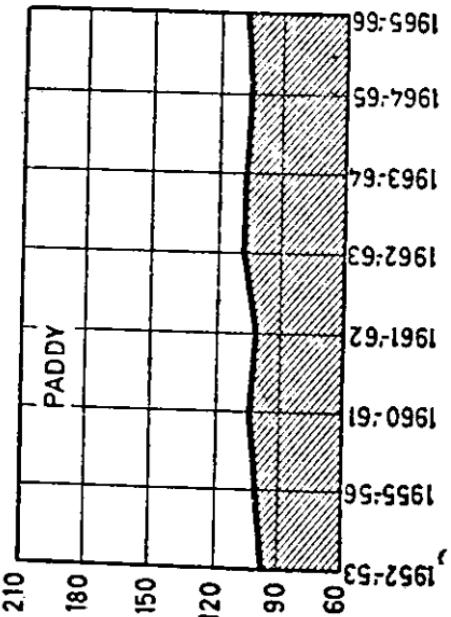
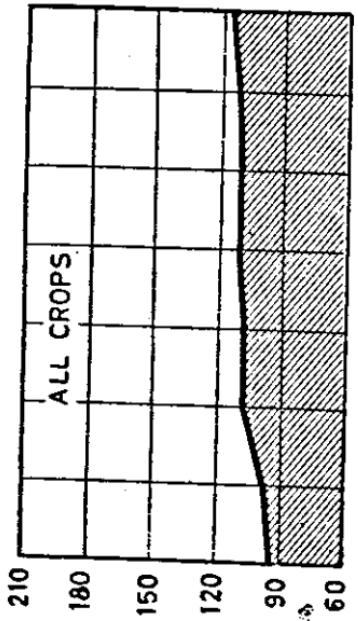
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1965-66

IV
1965-66

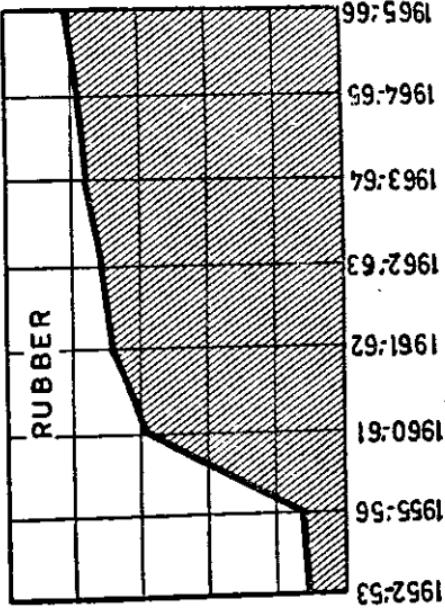
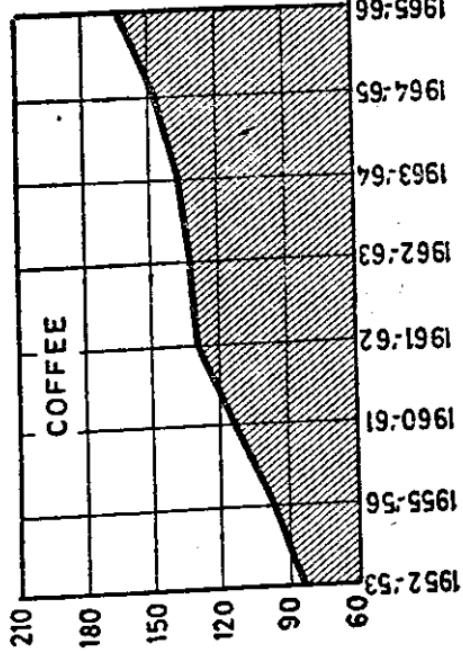
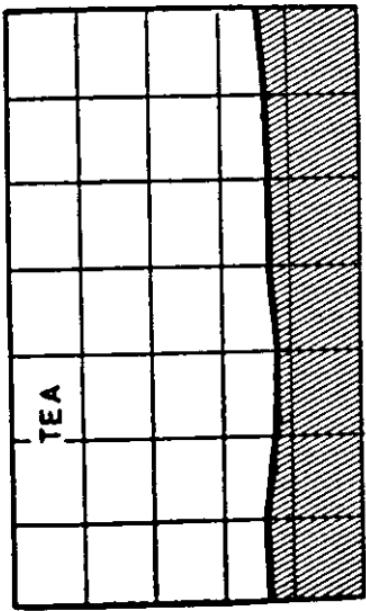
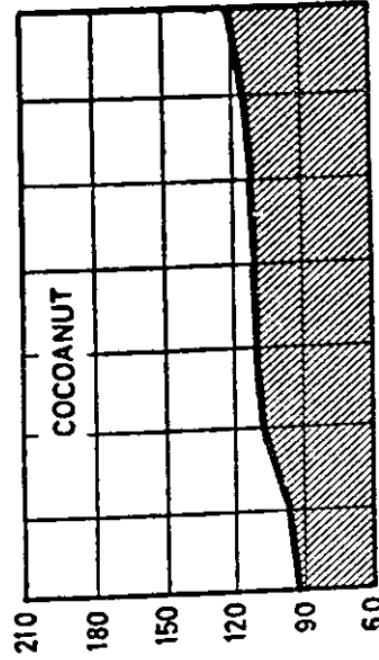
IV
1965-66

IV

INDEX NUMBERS OF AREA UNDER CROPS
 (BASE YEARS 1956-57 = 100)

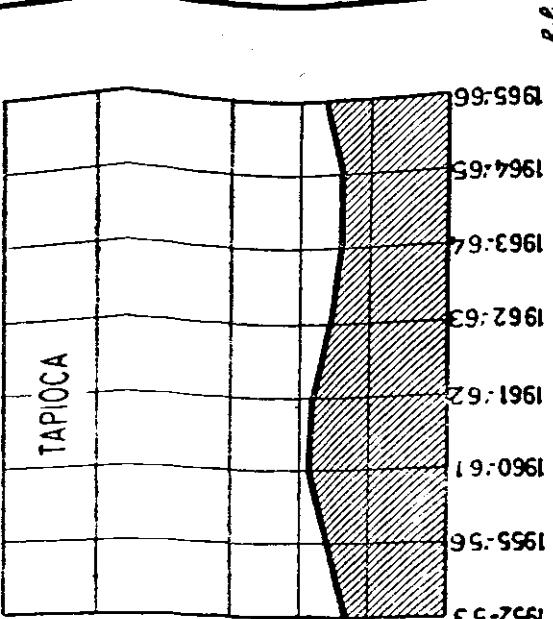
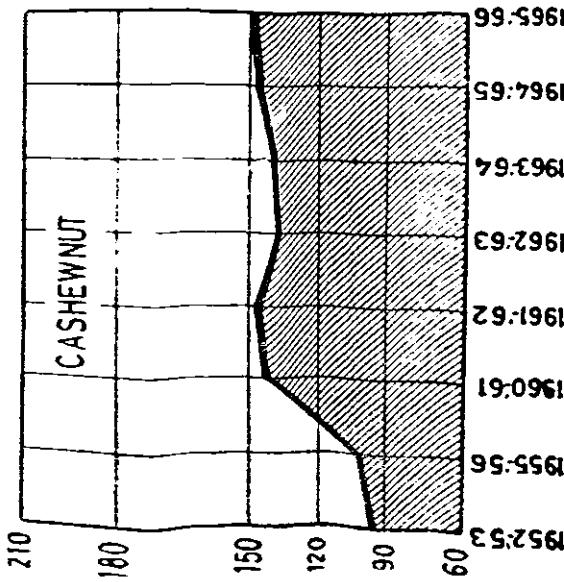
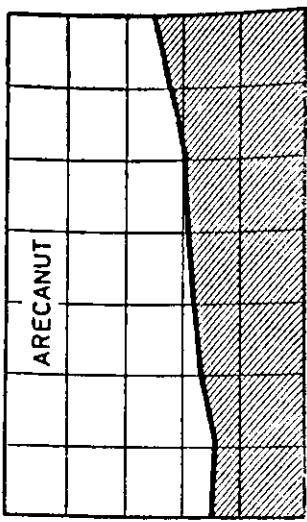
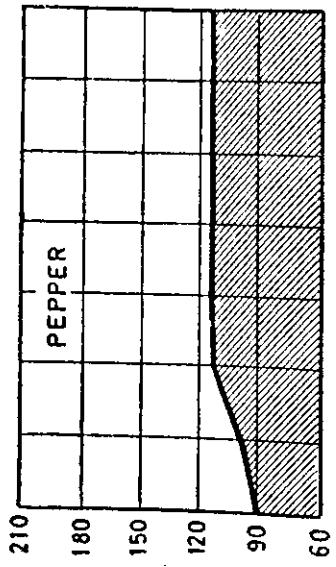


INDEX NUMBERS OF AREA UNDER CROPS
 (BASE YEARS 1956:57 = 100)



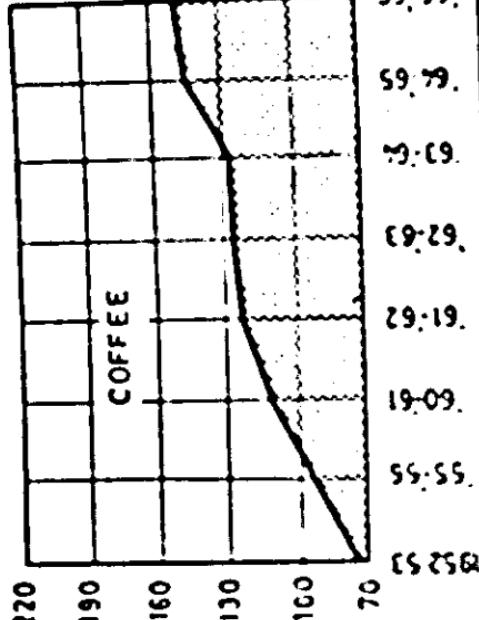
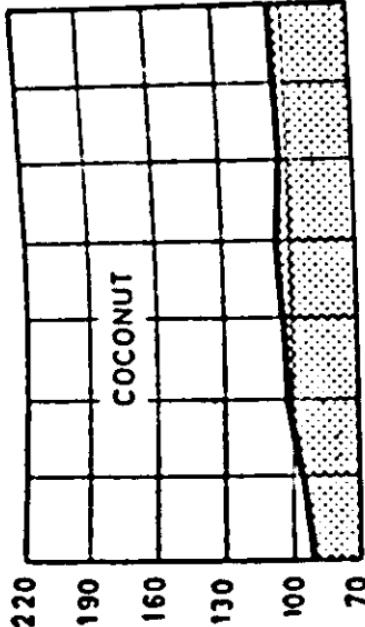
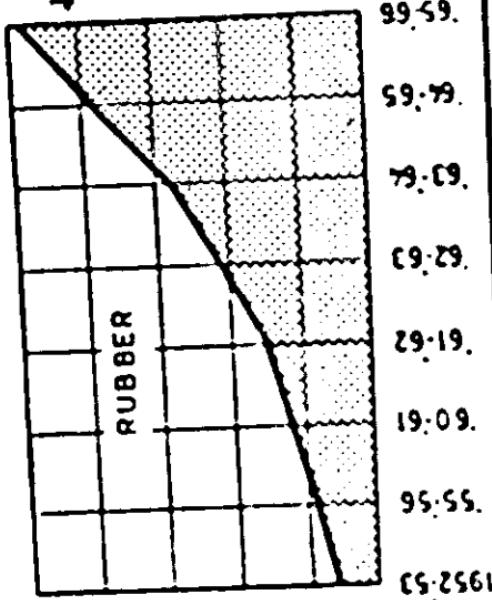
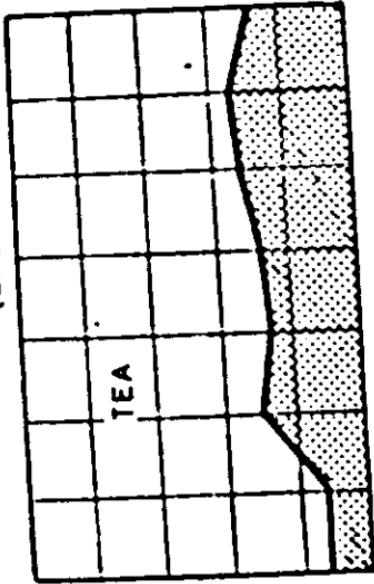
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INDEX NUMBERS OF AREA UNDER CROPS
(BASE YEARS 1956-'57 = 100)



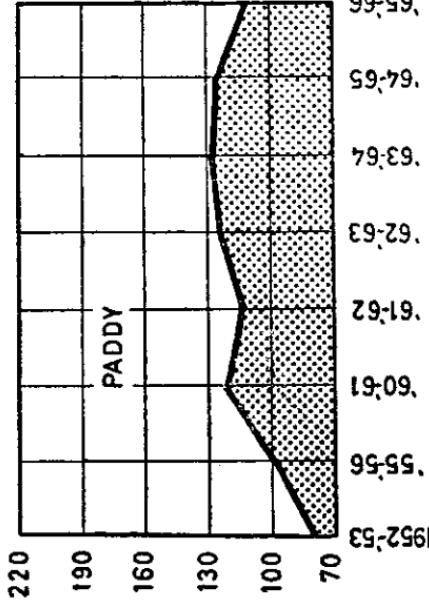
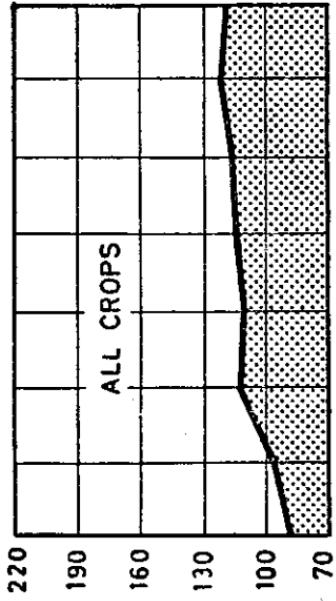
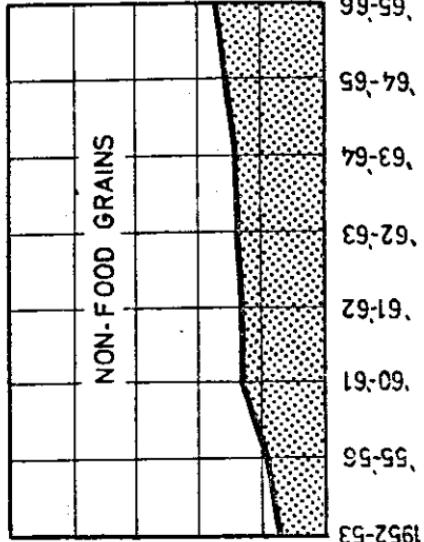
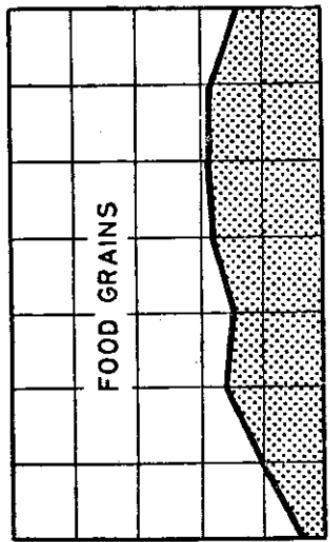
INDEX NUMBERS OF AGRICULTURAL PRODUCTION

(BASE YEARS 1956-57 = 100)



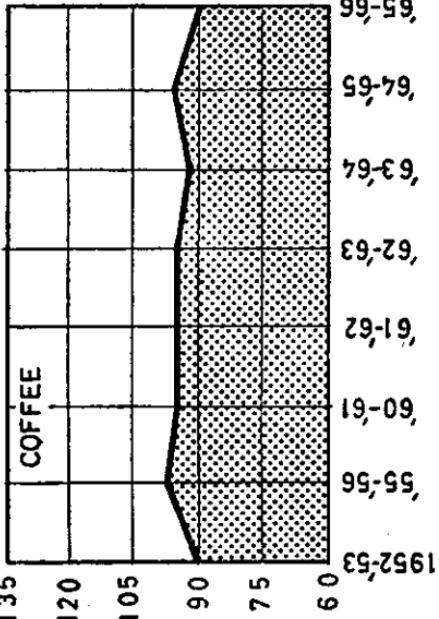
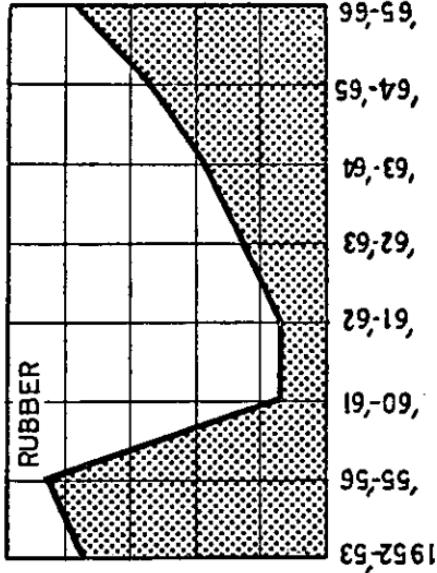
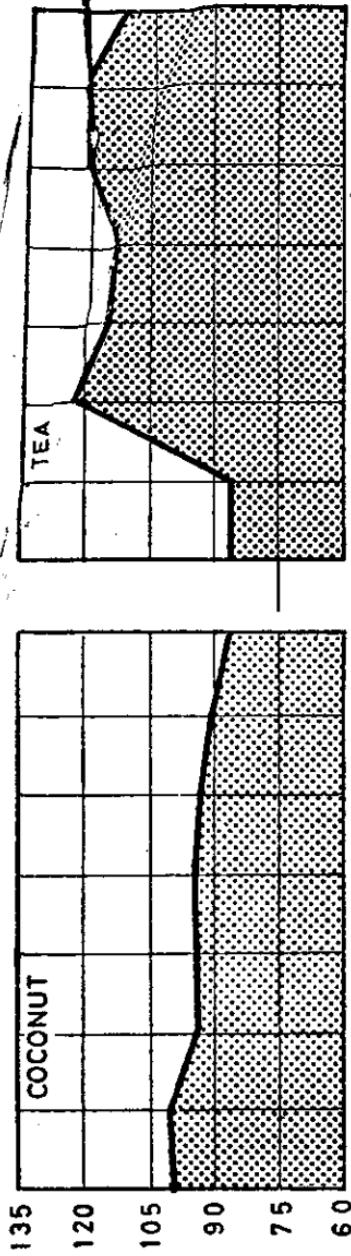
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(BASE YEARS 1956-'57=100)

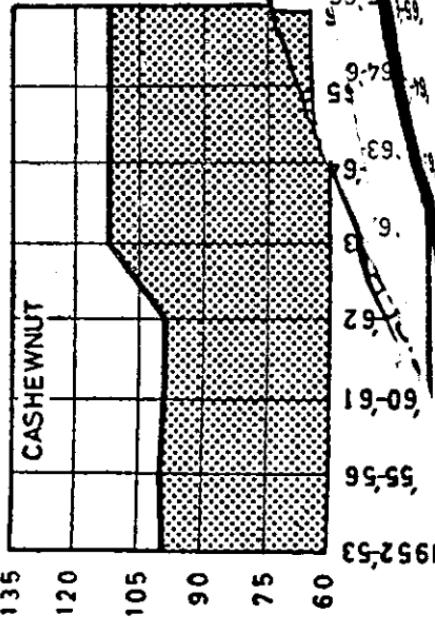
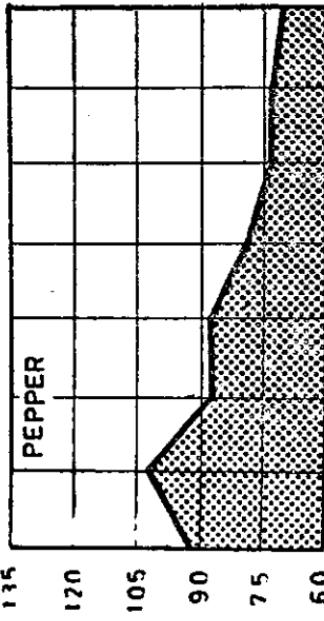
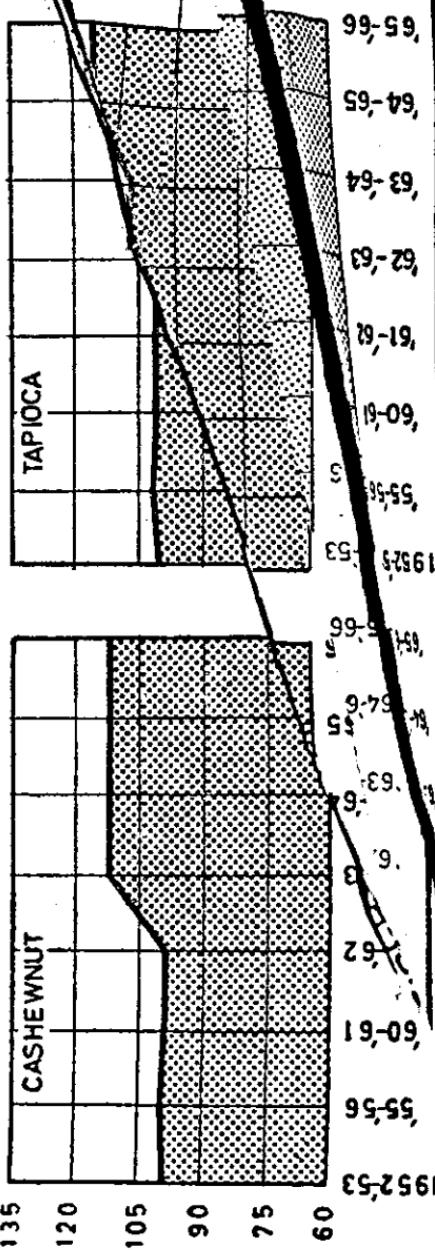
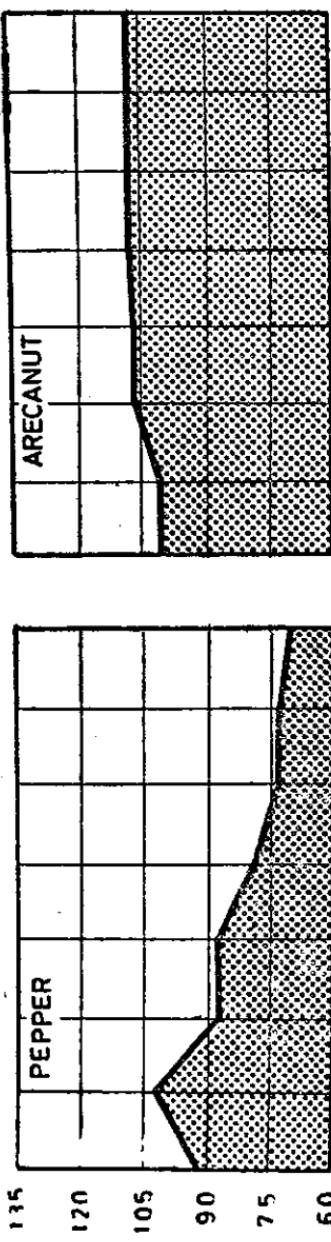


INDEX NUMBERS OF AGRICULTURAL PRODUCTIVITY

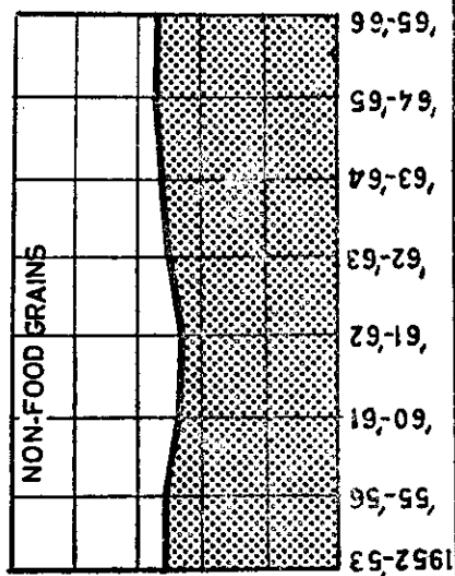
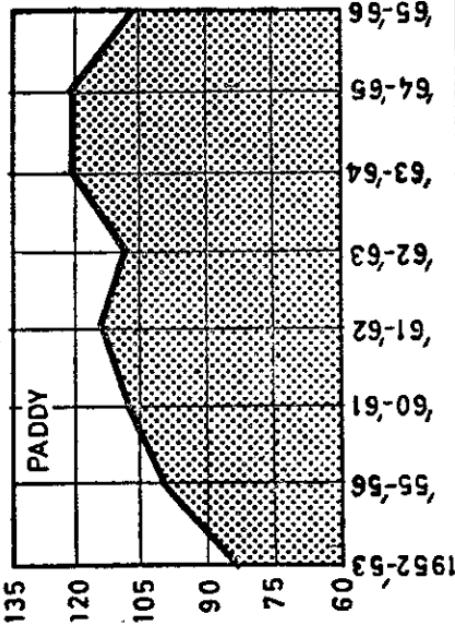
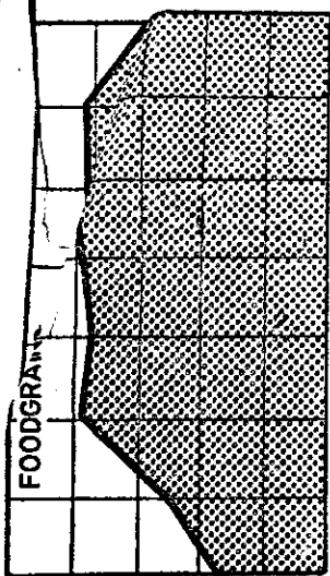
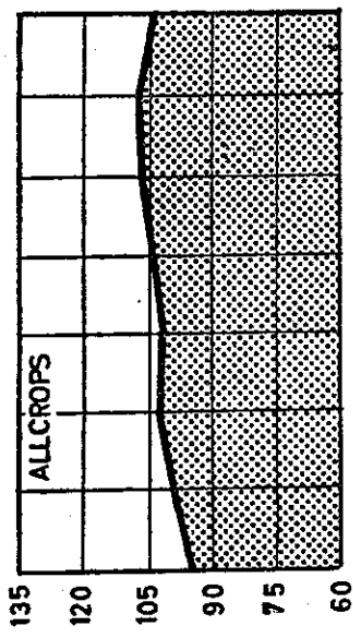
(BASE YEARS 1956-57 = 100)



INDEX NUMBERS OF AGRICULTURAL PRODUCTIVITY
(BASE YEARS - 1956-57 = 100)

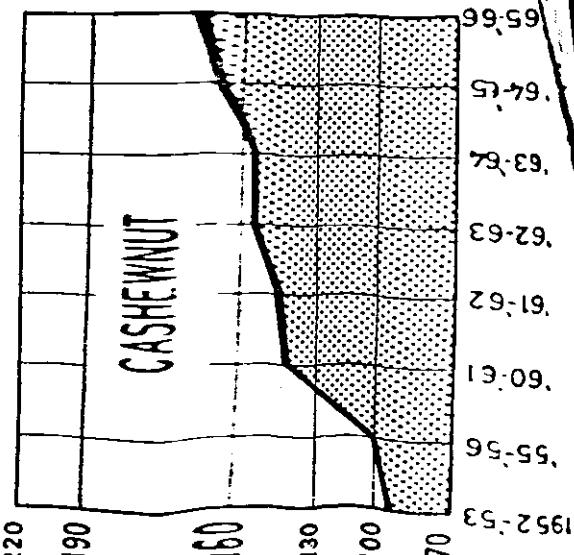
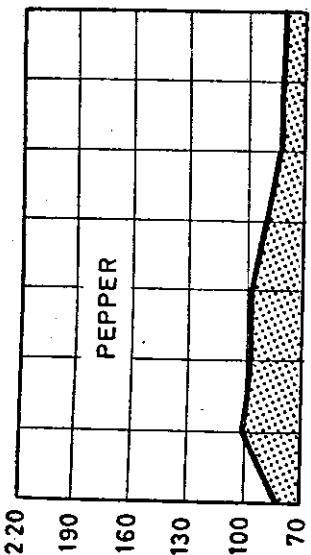
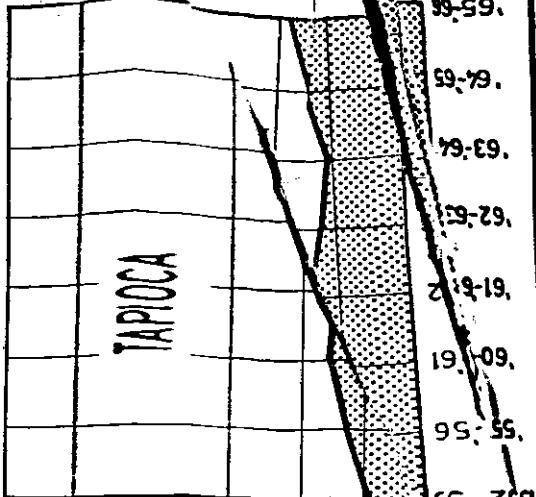
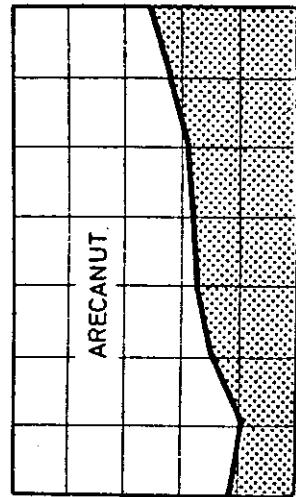


INDEX NUMBERS OF AGRICULTURAL PRODUCTIVITY
(BASE YEARS 1956-57 = 100)



INDEX NUMBERS OF AGRICULTURAL PRODUCTION.

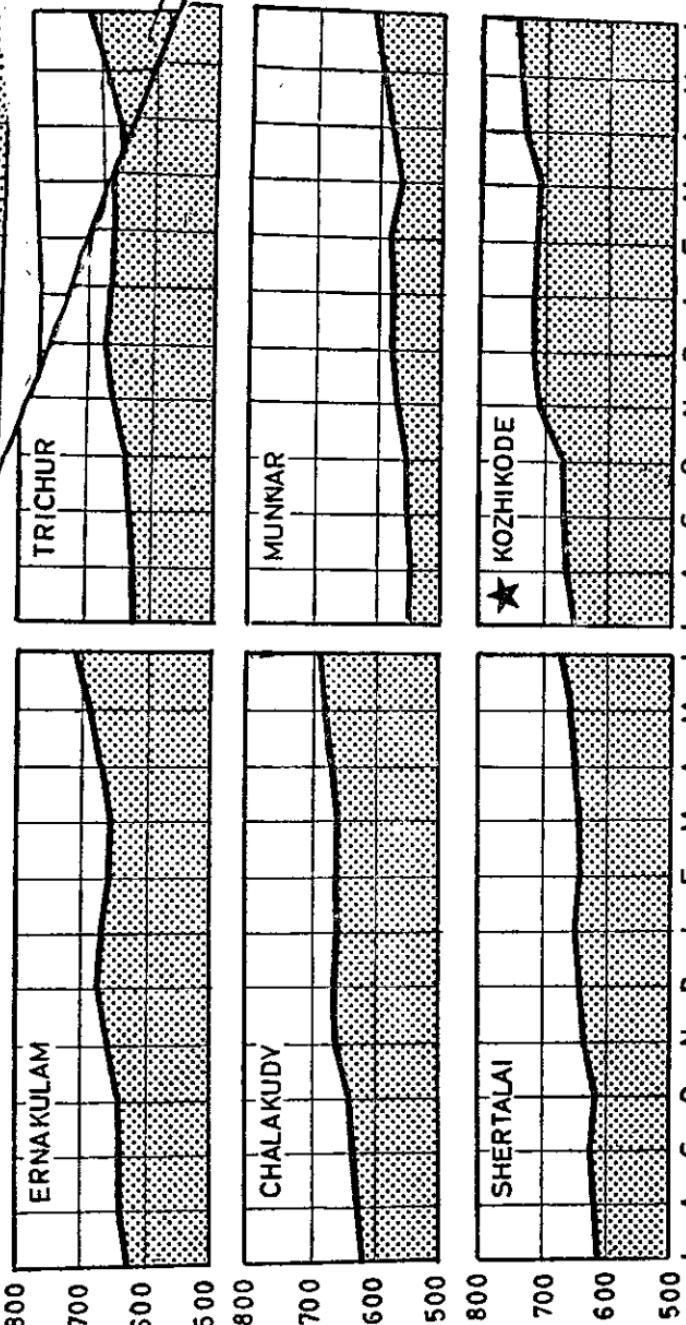
(BASE YEARS 1956-'57 = 100)



**CONSUMER PRICE INDEX
NUMBERS FOR SELECTED
CENTRES - (1965-'66)**

(BASE: AUGUST - 1939 = 100)

800
700
600
500

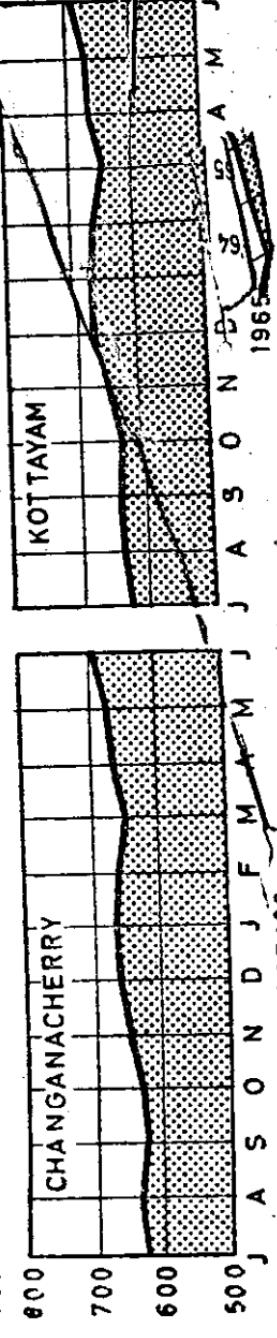
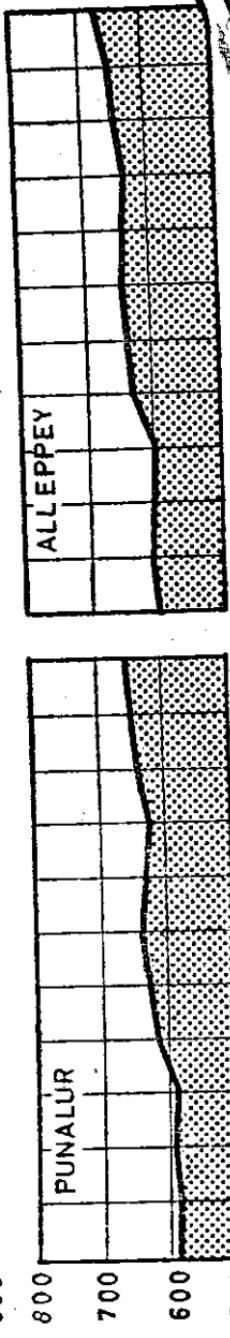
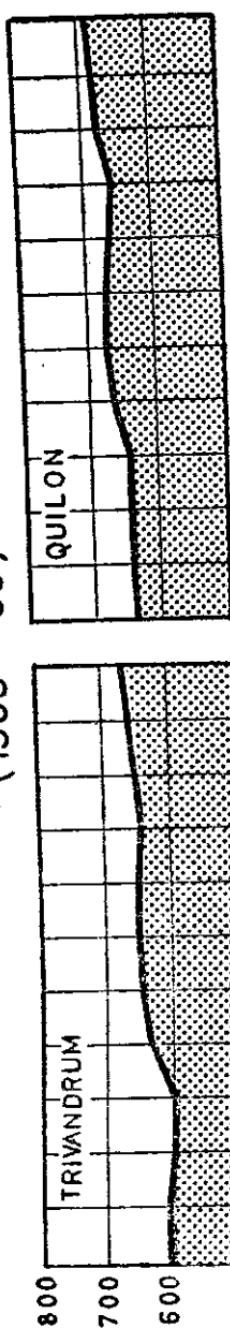


1965 - '66 (★ BASE: YEAR ENDED June - 1939 = 100) 1965 - '66

CONSUMER PRICE INDEX NUMBERS FOR SELECTED CENTRES

(BASE: AUGUST - 1939 = 100)

(1965-'66)



986

