

SEASON AND CROP REPORT 1966-67

FOREWORD

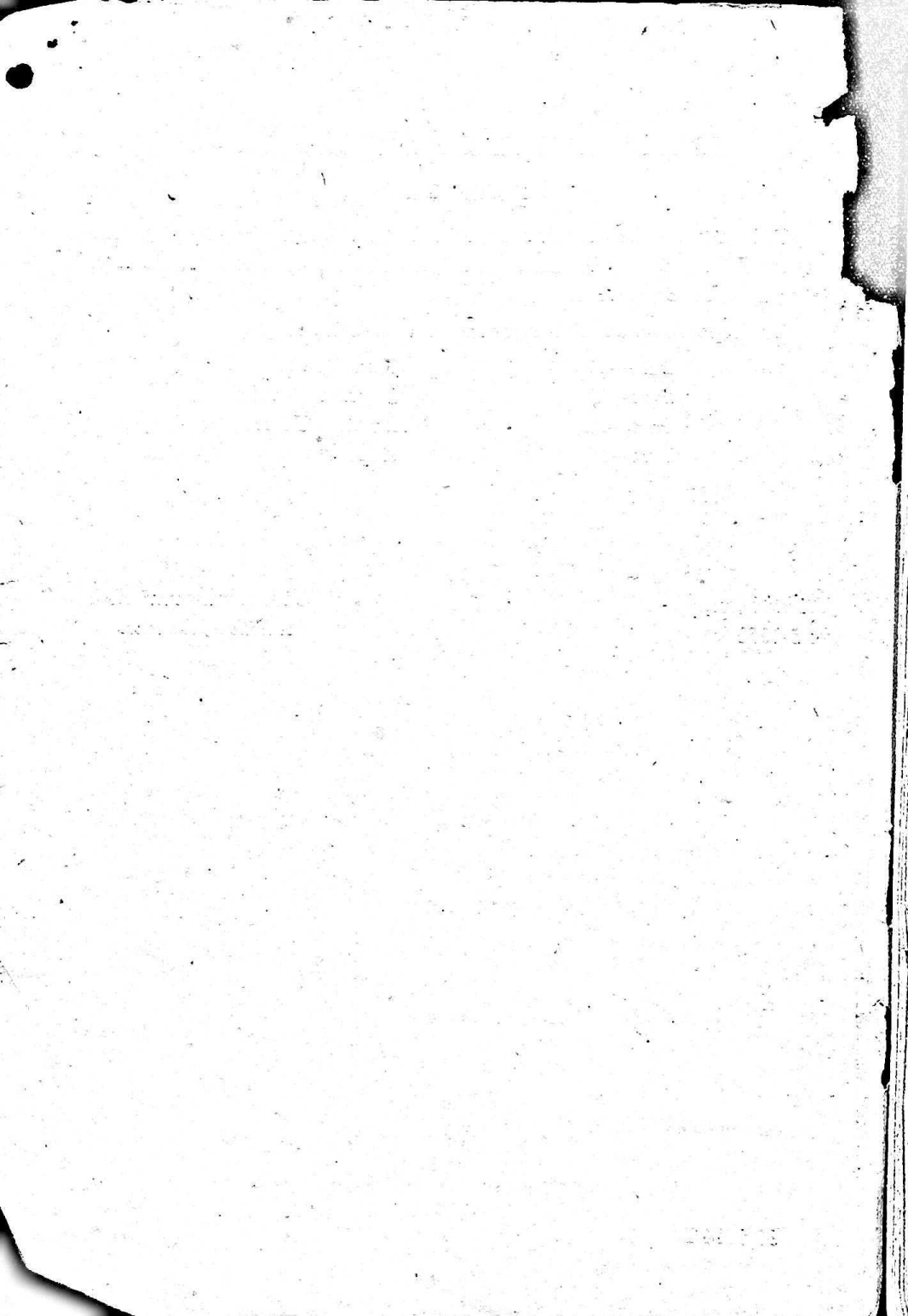
This report is the eighth in the series of Season and Crop Reports relating to Kerala State. It deals with the different aspects of Agricultural economy of the State pertaining to the year 1966-67.

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,
24-5-1968.

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Additional Director.



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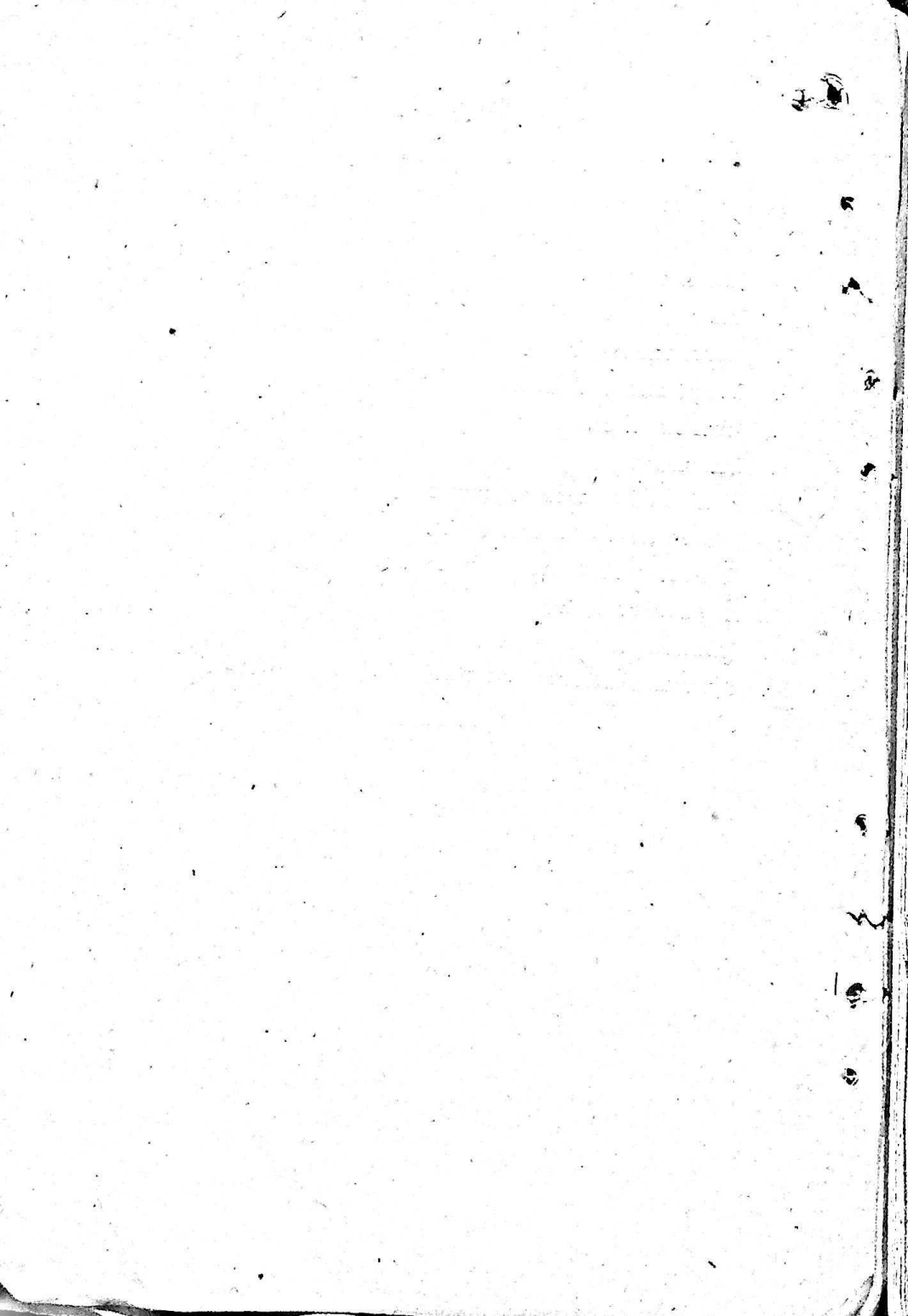
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PART I
REPORT

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SEASON AND CROP REPORT 1966-67

INTRODUCTION

Kerala State lies in the South West corner of the Indian Union. It lies between $8^{\circ} 18'$ and $12^{\circ} 48'$ north latitudes and $74^{\circ} 52'$ and $77^{\circ} 22'$ east longitudes. The area of the State is 38855 Sq. Kilometres. The State stretches to a coastal length of 580 Kilometres and its width varies from 130 Kilometres in the middle to 32 Kilometres in the extremities.

The physical configuration of the State is diversified. The highland which forms the eastern boundary of the State includes the forest-clad Westernghats, and it undulates to the West. The lowland of the State is a narrow strip of land bordering the Arabian Sea. The region lying in between these high land and lowland comprises the midland. For administrative purposes the State is divided into 9 Districts viz. Trivandrum, Quilon, Alleppey, Kottayam, Ernakulam, Trichur, Palghat, Kozhikode and Cannanore.

A heavy rainfall, a warm humidity of the atmosphere and a fairly uniform temperature through out the year are the characteristic features of the State. The State has a normal rainfall of about 3000 m. m. per annum. The seasons are mainly controlled by the two periods of rainfall, South West Monsoon from June to August and North East Monsoon from October to December. As the State receives heavy rain from these two Monsoons complete failure of crops and drought are unknown. On the other hand there are occasional floods which cause damage to crops.

There are 44 rivers running through the State. Out of these 41 are West flowing. The State is blessed with numerous Back-waters along the coast inter-connected by a net work of canals affording cheap water communication facilities.

Diversity in crops and heterogeneity in cultivation are the key notes of agriculture in the State. While the highland is mainly under plantation crops the lowland is virtually monopolised by paddy and coconut. In the midland a host of both major and minor crops are cultivated intermixed with one another.

Viewed from the angle of area, paddy is the most important crop of the State. There are three paddy crops viz. Autumn (Virippu) crop, Winter (Mundakan) crop and Summer (Punja) crop. The other important seasonal crops of the State are pulses, Ragi, Sesamum, Sugarcane, Tapioca, Groundnut Ginger, Turmeric and Cotton.

The State also grows perennial and semi-perennial crops like coconut, arecanut, cashew, pepper and plantation crops like rubber, tea, coffee and cardamom.

2. POPULATION

The population of Kerala according to 1961 Census was 169.03 lakhs and density per Sq. mile was 435 compared to 144 persons per Sq. mile for India as a whole. Out of this total population 143.49 lakhs lived in rural areas (84.9%) and 25.54 lakhs (15.1%) lived in urban areas. The estimated population as on 1st March 1966 was 191.37 lakhs consisting of 95.42 lakh males and 95.95 lakhs females and the density per Sq. km was 493.

The District-wise details of population are given in the following table:

District	Total (lakhs)	Population ¹⁹⁶¹ 1951 Census		Density per Sq. kilometre
		Rural (lakhs)	Urban (lakhs)	
Trivandrum	17.44	12.96	4.48	798
Quilon	19.41	17.97	1.44	410
Alleppey	18.11	15.01	3.10	988
Kottayam	17.33	15.67	1.66	273
Ernakulam	18.60	14.65	3.95	557
Trichur	16.40	14.54	1.86	557
Palghat	17.77	16.05	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	435

The State has 25 Municipalities and 3 Corporations.

Kerala has the highest percentage of literacy in India, the percentage being 46.85. The high pressure of population on land is well represented by the per capita availability of land in the State. The per capita land available is only 0.23 hectares including forests. The per capita land available for cultivation is only 0.15 hectare and the per capita cultivated area is 0.12 hectares.

3. RAINFALL

The States normal rainfall varies in the range between 2000 and 3600 m. m. The normal rainfall and the actual rainfall during the year 1966-67 are furnished below.

<i>District</i>	<i>Normal rainfall (m. m.)</i>	<i>Actual rainfall (m.m.) 1966-67</i>
Trivandrum ..	2002	2124
Quilon ..	2761	2477
Alleppey ..	3021	2922
Kottayam ..	2995	2628
Ernakulam ..	3578	3474
Trichur ..	3159	2965
Palghat ..	2459	1995
Kozhikode ..	3461	2774
Cannanore ..	3438	2775
STATE ..	2986	2682

The detailed statements showing the normal and average monthly rainfall in different districts are given in tables 1.1 and 1.2 respectively.

4. SOIL

Different varieties of soil can be seen in the State. In the hills of Kerala the soil is mainly laterite which is good for tea and cardamom. The loamy and gravelly soil in the midland is suitable for the cultivation of pepper, ginger and tapioca. The coastal tract, which is mainly sandy loam is good for paddy and coconut cultivation.

The soil of Kerala can be divided into seven classes as shown below:—

- (1) The hill and forest soil seen all along the eastern portion of the State.
- (2) The sandy soil seen all along the coastal belt.
- (3) The laterite soil in the midland portion.
- (4) Black soil which occur as a patch on the eastern border of Palghat District.
- (5) Peat or Kari soil in Alleppey District.
- (6) The alluvial soil which occurs along the eastern and southern parts of the Vembanad lake in Ernakulam, Kottayam and Alleppey Districts and also in small patches in Trichur District.
- (7) The red soil seen in the extreme tip of Trivandrum Taluk.

5. COMMUNICATION FACILITIES

The State is well advanced in the matter of communication facilities. There is a good system of roads which connects the State with other States and interlinks the districts within. There is also a rail link from Trivandrum in the South to Kasargod and Hosdurg in the North. Moreover the railways connect the State with important States of India. The backwaters also afford good transportation. To facilitate easy transportation the back-

are interconnected with canals also. The State is linked with other states by airways also. There are daily air services from Trivandrum to Ernakulam to Madras, Bombay etc.

6. CLASSIFICATION OF AREA

The details regarding classification of area for the years 1952-53, 55-56, 60-61, 65-66, and 66-67 are given in Table A of the Summary Tables and district-wise details for 1966-67 are given in Table 2.1 of the detailed tables

1. Local area of the State

The total area of the State according to village papers is 3858523 hectares. The District-wise break up of this area is as follows:

<i>District</i>	<i>Area in heclares</i>	<i>%</i>
Trivandrum ..	216096	5.6
Quilon ..	469051	12.2
Alleppey ..	186790	4.8
Kottayam ..	626225	16.2
Ernakulam ..	317428	8.2
Trichur ..	294262	7.6
Palghat ..	510424	13.2
Kozhikode ..	661586	17.2
Cannanore ..	576661	15.00
STATE ..	3858523	100.00

The Malabar Districts account for nearly half the area of the State, Kozhikode is the largest district in the State while Alleppey is the smallest one.

2. Forests

The area under forests in 1966-67 was 1055832 hectares, Compared to the previous year there is a slight increase in the area under forests during the year under report. The district-wise area under forests during the years 1965-66 and 1966-67 is given in the following table:

<i>District</i>	<i>Forest area</i>	
	<i>1965-66</i>	<i>(hectares) 1966-67</i>
Trivandrum ..	44459	44559
Quilon ..	210857	210857
Alleppey ..	513	513
Kottayam ..	251779	252964
Ernakulam ..	55212	55212
Trichur ..	132805	132376
Palghat ..	99663	99663
Kozhikode ..	193756	193756
Cannanore ..	65932	65932
STATE ..	1055076	1055832

The increase in the area under forests during the current year is accounted for by the increase in the area under forests in Kottayam District.

3. Land put to non-agricultural uses:

The area under this category of land was 235321 hectares during the year under review while the estimate for the previous year was 228230 hectares. A review of the preceding years shows that the area put to non-agricultural uses is on the increase. District-wise figures are furnished below.

District	Area under non-agricultural uses (hectares)	
	1965-1966	1966-1967
Trivandrum ..	14290	15662
Quilon ..	14040	14979
Alleppey ..	13105	11803
Kottayam ..	15305	16072
Ernakulam ..	21580	21299
Trichur ..	15200	15892
Palghat ..	61600	61324
Kozhikode ..	29095	32523
Cannanore ..	44005	45767
STATE ..	228230	235321

The area put to non-agricultural uses is found to be the highest in Palghat District which is followed by Cannanore and Kozhikode Districts.

4. Barren and uncultivable land:

The extent of area under this category of land during the year under report was 100437 hectares while the corresponding figure for the previous year was 109925 hectares.

5. Permanent pastures and grazing land:

27800 hectares were treated as permanent pastures in the State. 43% of this area lies in Cannanore District.

6. Land under Miscellaneous tree crops:

The land under miscellaneous tree crops not included in the net area sown was 181842 hectares during the year under review while it was 200005 hectares in 1965-1966. About 50% of this area lies in Cannanore District.

7. Cultivable Waste land

During the year under review an area of 105651 hectares was classified as 'cultivable waste'. The extent of cultivable waste' in 1965-1966 was

107950 hectares. The District-wise break-up is given in the following table.

District	Cultivable waste (hectares)	
	1965-1966	1966-1967
Trivandrum	790	761
Quilon	3000	2560
Alleppey	2535	1789
Kottayam	18380	18380
Ernakulam	8180	8646
Trichur	2620	2710
Palghat	20705	19631
Kozhikode	23220	25026
Cannanore	28520	26148
STATE	107950	105651

More than two-third of the cultivable waste land in the State lies in the Malabar Districts of Palghat, Kozhikode and Cannanore. Cultivable waste is seen to be the least in Trivandrum District.

8. Fallow land other than current fallow:

The extent of other fallow land in the State during 1966-1967 was 33965 hectares as against 31980 hectares during 1965-1966.

The District-wise break-up of the area is as follows:

District	Other fallows (hectares)	
	1965-1966	1966-1967
Trivandrum	1480	741
Quilon	1525	2308
Alleppey	480	1517
Kottayam	980	1050
Ernakulam	1460	2530
Trichur	605	437
Palghat	5115	3966
Kozhikode	5795	6876
Cannanore	14540	14540
STATE	31980	33965

75% of these fallows is accounted for by the three Malabar Districts, Palghat, Kozhikode and Cannanore. Fallow land other than current fallow is the least in Trichur District:

9. Current fallow

The area covered by current fallow during the year under review was 26446 hectares. The corresponding figure for 1965-1966 was 33220 hectares.

The area in each district is shown in the following table:

<i>District</i>	<i>Current fallow (hectares)</i>	
	<i>1965-66</i>	<i>1966-67</i>
Trivandrum	1085	597
Quilon	1570	1384
Alleppey	790	600
Kottayam	2945	1815
Ernakulam	1820	2255
Trichur	1630	1860
Palghat	8760	7798
Kozhikode	8200	5044
Cannanore	6420	5093
STATE	32220	26446

Land kept fallow is seen to be the least in Trivandrum District. Nearly 68% of the current fallows are located in the three Malabar Districts of Palghat, Kozhikode and Cannanore.

10. Net area sown :

The net area sown in the State during 1966-67 was 2091229 hectares as against 2064337 hectares during 1965-66.

The district-wise details are shown below :

<i>District</i>	<i>Net area sown (hectares)</i>	
	<i>1965-66</i>	<i>1966-67</i>
Trivandrum	151997	152303
Quilon	221419	221863
Alleppey	161647	162296
Kottayam	301031	303498
Ernakulam	211666	215902
Trichur	136587	136660
Palghat	250786	259685
Kozhikode	344705	351604
Cannanore	284499	287418
STATE	2064337	2091229

11. Area sown more than once :

This area includes all the double and triple crop land in the State counted twice and thrice respectively. During the year 1966-67 there was

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multiple cropping in 530742 hectares, while this area was only 487007 hectares during 1965-66—the increase in the area being 43735 hectares i. e. there was 9% increase over previous year's area in this category.

The extent of area sown more than once in each district is given below :

District	Area sown more than once (hectares)	
	1965-66	1966-67
Trivandrum	54147	63247
Quilon	66103	75319
Alleppey	60635	63844
Kottayam	33682	47359
Ernakulam	35370	45719
Trichur	71965	77390
Palghat	87439	86054
Kozhikode	39673	40295
Cannanore	37993	31515
STATE	487007	530742

The extent of area sown more than once is found to be the highest in Palghat District followed by Trichur and Quilon Districts.

12. Total cropped area :

Total cropped area in the State during the year under report was 2621971 hectares as against 2551344 hectares during 1965-66 registering an increase of 70627 hectares (nearly 3% increase) over previous year's area.

A comparative study of net area sown and total cropped area in the State on a district-wise basis shows the intensity of cropping in each district:

District	Net area sown (hectares)	Total cropped area (hectares)	Per cent of cropped area to net area sown
Trivandrum	152303	215550	142
Quilon	221863	297182	134
Alleppey	162296	226140	139
Kottayam	303498	350857	116
Ernakulam	215902	261621	121
Trichur	136660	214050	157
Palghat	259685	345739	133
Kozhikode	351604	391899	111
Cannanore	287418	318933	111
STATE	2091229	2621971	125

The practice of multiple cropping is found to be the highest in Trichur District followed by Trivandrum.

7. AREA UNDER CROPS

The details regarding the area under different crops in the State are furnished in Table C of the summary tables and the district-wise break-up is given in Table 3.1 of the detailed tables.

1. Food crops :

Food crops occupy 64% of the total cropped area in the State. The percentage of area under food crops to total cropped area in different districts has been worked out in the following table:

<i>District</i>	<i>Area under food crops (Hectares)</i>	<i>% to total of the State</i>	<i>% to total cropped area</i>
Trivandrum	142782	8.5	66.2
Quilon	182537	10.9	61.4
Alleppey	138844	8.3	61.4
Kottayam	186896	11.1	53.3
Ernakulam	154380	9.2	59.0
Trichur	158861	9.5	74.2
Palghat	277714	16.6	80.3
Kozhikode	216803	12.9	55.3
Cannanore	218005	13.0	68.4
STATE	1676822	100.0	64.0

Of all the districts, Palghat District occupies the most important place in this regard. The districts of Palghat, Kozhikode and Cannanore account for 43% of the area under food crops in the State.

(1) *Paddy*:—The area under paddy cultivation during the year 1966-67 was 799438 hectares as against 802329 hectares during 1965-66. The shortfall in the area is caused by the fall in the area under Autumn Paddy. The reason for this may be attributed to the drought conditions and late arrival of the Monsoon in most of the districts.

The area under paddy in the different districts is shown in the following table for the years 1965-66 and 1966-67.

District	Area under paddy	
	1965-66	(Hectares) 1966-67
Trivandrum	38734	39036
Quilon	49637	50057
Alleppey	81603	81087
Kottayam	40530	39732
Ernakulam	83460	84172
Trichur	108807	108844
Palghat	195121	194826
Kozhikode	110193	108806
Cannanore	94244	92878
STATE	802329	799438

52% of the area under paddy is in Trichur, Palghat and Kozhikode districts.

The percentage distribution of paddy area in each district and the percentage of area under paddy to total cropped area in each district are given in the following table:

District	Area under paddy (hectares)	% to total	% to cropped area in the State
Trivandrum	39036	4.9	18.1
Quilon	50057	6.3	16.8
Alleppey	81087	10.1	35.9
Kottayam	39732	5.0	11.3
Ernakulam	84172	10.5	32.2
Trichur	108844	13.6	50.8
Palghat	194826	24.4	56.4
Kozhikode	108806	13.6	27.8
Cannanore	92878	11.6	29.1
STATE	799438	100.0	30.5

The % of area under paddy is seen to be the highest in Palghat District followed by Trichur and Kozhikode Districts.

(2) *Other cereals and millets.*—During the year 1966-67 the area under these crops was 13027 hectares out of which 1235 hectares were under Jowar, 5106 hectares under Ragi and 6686 hectares under other millets. Nearly 90% of the area under Ragi is in Malabar districts. Jowar is cultivated only in Palghat District.

(3) *Pulses.*—The area under pulses during the year under review was 43547 hectares. 62% of area under pulses is accounted for by Trichur, Palghat and Kozhikode Districts.

(4) *Sugarcane*.—Sugarcane was cultivated in 8773 hectares during the year 1966-67. Alleppey District is the most important Sugarcane growing district in the State followed by Kottayam.

(5) *Pepper*.—The area under pepper during the year under review was 99695 hectares. There is no change in the area when compared to the previous year. 44% of the area under pepper is in Cannanore District. Other important pepper growing districts are Kozhikode and Kottayam.

(6) *Chillies*.—3185 hectares were under chillies cultivation during 1966-67. It is cultivated only in the districts of Palghat, Kozhikode and Cannanore.

(7) *Ginger*.—The area under Ginger during the year under report was 11793 hectares. The important Ginger producing districts are Kozhikode and Kottayam.

(8) *Turmeric*.—During the year under review Turmeric was cultivated in 4443 hectares. Important producing districts are Kottayam, Palghat and Kozhikode.

(9) *Cardamom*.—The area under Cardamom during the year 1966-67 was 47026 hectares. Out of this 42666 hectares were in Kottayam District. The area under the crop has been revised during 1966-67 based on the reports of the Cardamom Board.

(10) *Arecanuts*.—The area under betel nuts during the year under review was 71231 hectares as against 64478 hectares in the previous year. 36% of the area under Arecanut is in Kozhikode and Cannanore Districts.

(11) *Mangoes*.—There is mango cultivation in the State in 61976 hectares during 1966-67. Quilon District stands first regard to the area under mangoes.

(12) *Banana*.—Banana is cultivated in 9204 hectares in the State in 1966-67.

(13) *Other Plantain*.—The area under other plantains in the State was 36385 hectares in 1966-67.

(14) *Cashew*.—Cashew trees occupy 90559 hectares during 1966-67. The important cashew growing districts are Kozhikode and Quilon.

(15) *Tapioca*.—The area under tapioca during the year under review was 244647 hectares, while it was only 229684 hectares in 1965-66.

2. Non-food crops

(1) *Ground nut*.—The area under ground nut during 1966-67 was 13745 hectares. Ground nut is cultivated only in Trivandrum and Palghat Districts. The lion's share is cultivated in Palghat District.

(2) *Sesamum*.—The area under the crop was 12070 hectares during 1966-67. It is mainly cultivated in Quilon and Alleppey Districts. The corresponding figure for the previous year was 11950 hectares.

(3) *Coconut*.—Coconut trees occupy nearly 65% of the area under non-food crops in the State. Even though coconut cultivation is important in all

the districts Kozhikode District stands first in the extent of area under coconut trees accounting for one-fifth of the area under coconut trees in the State. The area under Coconut trees during 1966-67 was 609583 hectares as against 586313 hectares during 1965-66.

(4) *Cotton*:—Cotton is mainly cultivated in Palghat District. The other two districts which grow cotton are Trichur and Kozhikode. The area under the crop during the year under review was 6625 hectares.

(5) *Tobacco*:—Is cultivated only in Cannanore District. The area under this crop during 1966-67 was 712 hectares.

(6) *Tea*:—Kottayam District is famous for cultivation. 72% of the area under tea in the State is in this district. Kozhikode, Quilon and Cannanore are the other important tea growing districts. The area under this crop during 1966-67 was 39799 hectares.

(7) *Coffee*:—The area under Coffee was 25152 hectares during the year under review. Kozhikode is the most important Coffee growing District which accounts for 65% of the total area under Coffee in the State. Palghat and Cannanore are also important in this case.

(8) *Rubber*:—The area under rubber during the year under review was 153357 hectares registering an increase of 3723 hectares when compared to the previous year. Important rubber growing districts are Kottayam, Quilon, Ernakulam, Kozhikode and Cannanore.

8. IRRIGATION

The net area irrigated in the State through the different sources in 1966-67 was 393410 hectares against 361838 hectares in 1965-66. The percentage of net area irrigated to net area sown comes to 18.81%. The main source of irrigation is Government canals and next in importance is tanks. Gross area irrigated during the year under report was 526800 hectares. 20.09% of the total cropped area is seen irrigated. The source-wise and crop-wise irrigated area are given in Tables B-1 and B-2 of the summary tables respectively.

9. WEATHER AND CROP CONDITIONS DURING 1966-67

Trivandrum District.

Rainfall and crop conditions in respect of Trivandrum District were on the whole unfavourable during 1966-67. In the Kharif season, there was scarcity of rain and the yield was less than that of the previous year. The Winter paddy was better than that of the corresponding crop in the previous year. The conditions of other weather condition crops also were good throughout the Rabi season.

Quilon District

During the Kharif season the rainfall condition was normal in almost all the taluks in the district. The rainfall condition in Pathanamthitta and Kunnathur taluks were reported to be below normal.

During the Rabi season rainfall was not sufficient throughout the district and drought prevailed in Kunnathur and Pathanamthitta taluks.

The crop conditions were satisfactory in Quilon and Karunagappally taluks in general, though the summer crop of paddy was slightly affected by flood due to the early onset of South West Monsoon. The crops in Pathanamthitta and Kunnathur taluks were affected by drought during the Kharif season. During the Rabi season crop conditions were reported to be satisfactory. Apart from some damages caused to coconut, arecanut, pepper and banana conditions of other crops were also normal during the year 1966-67.

Alleppey District

During the Kharif season there was unusual rainy and flood condition in the district which caused damage to Autumn paddy in low lying areas.

The Rabi season also started with heavy rains in the wake of the flood conditions in September. The untimely rains in October-November have caused great delay in the sowing and replanting of both Mundakan and Punja crops of Paddy.

Both the Kharif and Rabi crops were affected by the heavy rain and pest attack. The Punja crop was completely destroyed in Karthigappally Taluk and fresh sowing had to be done in some villages of this taluk. Other crops like sugarcane, tapioca, pepper, banana and gingelly also were affected.

Kottayam District

In the Kharif season rainfall was adequate while there was excess rainfall and floods during Rabi season which affected the paddy cultivation in Kottayam, Changanacherry, Vaikom and Meenachil taluks.

The Kharif crop was good during 1966-67 and crop condition was below normal during the Rabi Season. Summer crop was good even though a large area was lost. The yield rate of the perennial crops was normal.

Ernakulam District

Rainfall was moderate in Kharif season while it was insufficient during Rabi season.

The crop condition during Kharif season was not upto the expected level in Cochin, Kanayannur and Parur taluks due to want of rain at the proper time. In the remaining taluks crop conditions were satisfactory. In the Rabi season crop conditions were more or less satisfactory. In both the seasons untimely rain affected the crops in Cochin, Kanayannur and Parur taluks.

Trichur District

In all the taluks in Trichur District monsoon was late during the year under report. Therefore in the early stages rainfall was not available for Kharif crops. From the middle of August to September 1966 there was a break of monsoon.

During Rabi season sufficient rainfall was available.

Both the Kharif and Rabi crops were satisfactory. The yield of paddy and other crops was comparatively better. No quantitative loss was estimated for the year under report.

Palghat District

The arrival of monsoon was a bit late in this district during the Kharif season. Condition of paddy was good. Rainfall was comparatively better in the Rabi season. All the crops during this season were reported to be good.

Kozhikode District

Rainfall condition in Kharif season was not satisfactory in the early stage of the season. The whole area under paddy was affected by drought in its early stage. But during the Rabi season rainfall was heavy.

The conditions of both Kharif and Rabi crops were satisfactory in all the taluks.

Cannanore District

The rainfall condition was moderate and adequate during both Kharif and Rabi seasons. The condition of crops was also satisfactory during these seasons. There was no loss of crop due to flood or pest diseases.

10. PRODUCTION OF IMPORTANT CROPS

The trend in the production of some important crops in the State is discussed under this heading. The production trend of these crops for the last few years are given in Table D of the summary tables. The district-wise details of production are furnished in table No. 4.1 of the detailed tables.

1. Paddy

The out turn of rice during the year under review was 1,84,062 tonnes while it was 997489 tonnes in 1965-66. The District-wise production of paddy during these two years is given below:—

District	Production of rice (tonnes)	
	1965-66	1966-67
Trivandrum	53178	50752
Quilon	62571	67674
Alleppey	92600	108728
Kottayam	37741	53848
Ernakulam	93383	102840
Trichur	122425	137323
Palghat	320120	340978
Kozhikode	107877	111381
Cannanore	107594	110538
STATE	997489	1084062

Compared to the previous year only in Trivandrum District a fall in production is seen. This is caused by the scarcity of rain during the Kharif season.

The season-wise production figures for the two years were as shown below:—

<i>Crop</i>	<i>Rice Production (Tonnes)</i>	
	<i>1965-66</i>	<i>1966-67</i>
Autumn	521850	498160
Winter	389845	471114
Summer	85794	114788
STATE	997489	1084062

The Winter and Summer Paddy are better compared to the results of the previous year.

2. Pulses

The production of pulses in the State during 1966-67 was 17071 tonnes against 16901 tonnes during 1965-66.

3. Sugarcane

The production of sugarcane (gur) was 54902 tonnes during the year under report while it was 40948 tonnes during the previous year.

4. Black pepper.

21406 tonnes of Pepper was produced during 1966-67 in the State as against 21685 tonnes produced during 1965-66.

5. Ginger (dry).

The production of dry ginger in the State was estimated at 11054 tonnes during 1966-67 while the corresponding figure for the previous year was 11190 tonnes. Production is found to be the highest in Kozhikode District followed by Kottayam.

6. Cured turmeric.

The total production of turmeric in the State during the period under review was 3747 tonnes as against 3766 tonnes during last year.

7. Cardamom (cured).

1606 tonnes of cardamom was produced during 1966-67. There was no change in the production of Cardamom compared to the previous year. 85% of the whole production of the crop is accounted for by Kottayam District which is the major cardamom producing district.

8. Betel nut (Arecanut).

Production of Arecanut during the year under report was 10683 million nuts while it was 9681 million nuts in 1965-66. The percentage increase in production over the previous year is 10,

9. Banana.

The production of Banana was estimated at 67060 tonnes in 1966-67 as against 77421 tonnes in 1965-66. Quilon, Kottayam and Cannanore are the important banana producing districts.

10. Other plantains.

The production of other plantains in the State stood at 277836 tonnes in 1966-67. The corresponding figure for the previous year was 283701 tonnes. 51% of the total production in the State goes to Palghat, Kozhikode and Cannanore Districts.

11. Cashewnut.

The production of cashewnut in the State was estimated at 101607 tonnes during 1966-67 as against the corresponding figure of 98025 tonnes in the previous year. Cannanore, Kozhikode and Quilon Districts are the important districts in the production of cashewnut. The share of Cannanore District alone in the production of the crop is 36%.

12. Tapioca.

During the year under review the production figure of tapioca was 3409668 tonnes while the corresponding figure for the previous year was 3095658 tonnes.

The yield rates of tapioca in each District are given in the following table.

<i>District</i>	<i>Yield of tapioca/hectare (tonnes)</i>
Trivandrum	13.90
Quilon	14.98
Alleppey	10.37
Kottayam	17.11
Ernakulam	7.42
Trichur	11.34
Palghat	13.03
Kozhikode	14.10
Cannanore	15.03
STATE	13.94

The yield rate in the State has increased from 13.48 tonnes in 1965-66 to 13.94 tonnes in 1966-67. Both in acreage and production Quilon stands first. But with regard to yield rate, Kottayam leads the other districts.

13. Groundnut.

The production of groundnut in 1966-67 was 23601 tonnes as against 25220 tonnes in 1965-66. 97% of the total production is from Palghat District

14. Sesamum.

During the year under review 2400 tonnes of sesamum was produced in the State as against 2365 tonnes during the corresponding period of the previous year.

15. Coconut.

Coconut production is estimated at 3425 million nuts during 1966-67 while the production in 1965-66 was only 3293 million nuts—the increase being 132 million nuts over the previous year. Nearly 50% of the production in the State is accounted for by Kozhikode, Alleppey and Quilon Districts.

16. Cotton.

In 1966-67 cotton production in the State was 6458 bales. There was a fall in production when compared to previous year.

17. Tobacco:

920 tonnes of tobacco was produced in 1966-67 as against 911 tonnes during 1965-66.

18. Tea.

The production of tea has registered an increase during the year under review when compared to the corresponding figure during the previous year. The production figures are 44130 tonnes and 39154 tonnes respectively, the percentage increase over previous year's figure being 13.

19. Coffee.

During the year under report the production of Coffee in the State was 10513 tonnes as against 9878 tonnes in 1965-66. 94% of the coffee production is contributed by Palghat, Kozhikode and Cannanore Districts.

20. Rubber.

50495 tonnes of rubber was produced in 1966-67 against 46953 tonnes in 1965-66. Quilon, Kottayam and Kozhikode are important rubber producing districts. 68% of the total production is accounted for by these districts.

21. Lemongrass oil.

Production of Lemongrass oil registered no change during the year under report—the figure being 1602 tonnes.

11. FARM PRICE OF CERTAIN COMMODITIES

The average farm price of certain commodities are given in Table F of summary tables and Table 5. 1 of detailed tables. The value of production of these commodities is also furnished in Table F.

12. AGRICULTURAL WAGES

Detailed statements showing agricultural wages prevailed in different districts and class of cultivators are given in Table 6. 1

13. LIVESTOCK, POULTRY AND AGRICULTURAL IMPLEMENTS

The details regarding these are furnished in table 'G' of summary tables and table 7.1 of the detailed tables: The figures are obtained from 1961 and 1966 Livestock Census.

14. 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 H. 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 hectare 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	
	Area	percen- tage	Area	percen- tage	Area	percen- tage
	2	3	4	5	6	7
1						
Total Area by Village papers..	3808861	100.00	3808861	100.00	3858523	100.00
Forests	947251	24.87	1007624	26.46	1056143	27.37
Land put to non-agricultural uses..	205011	5.38	204971	5.38	204644	5.30
Barren and uncultivable land..	214849	5.64	204328	5.36	151344	3.92
Permanent Pastures and grazing..	55722	1.46	47080	1.24	45232	1.17
Land under miscellaneous tree						
crops	186322	4.89	197011	5.17	204363	5.30
Cultivable waste	181578	4.77	151602	3.98	143409	3.72
Current fallow	44010	1.66	56552	1.48	67124	1.74
Other fallows	197259	5.18	108524	2.85	62542	1.62
Net Area sown	1776859	46.65	1831169	48.08	1923722	49.86
Total Cropped area	2089108	54.85	2178310	57.19	2348856	60.87
Area sown more than once	312249	8.20	347141	9.11	425134	11.02

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

Head of Classification	1965-66		1966-67	
	Area	Percentage	Area	Percentage
	8	9	10	11
Total Area by Village papers ..	3858523	100.00	3858523	100.00
Forests ..	1055076	27.34	1055832	27.36
Land put to non-agricultural uses ..	228230	5.91	235321	6.10
Barren and uncultivable land ..	109925	2.85	100437	2.60
Permanent Pastures and grazing land ..	27800	0.72	27800	0.72
Land under miscellaneous tree crops ..	200005	5.18	181842	4.71
Cultivable waste ..	107950	2.80	105651	2.74
Current fallow ..	33220	0.90	26446	0.69
Other fallows ..	31980	0.86	33965	0.88
Net Area sown ..	2064337	53.46	2091229	54.20
Total Cropped area ..	2551344	66.12	2621971	67.95
Area sown more than once ..	487007	12.62	530742	13.75

Table B.1

SOURCE OF WATER SUPPLY AND NET AREA IRRIGATED (IN HECTARE)

Source	1955-56	1960-61	1965-66	1966-67
1	2	3	4	5
Net area irrigated by				
1. Government canals	67368	133049	168977	179000
2. Private canals	5738	5738	7689	10160
3. Tanks	41598	46952	59736	72280
4. Wells	2032	2032	4030	5460
5. Other sources	130940	130940	121406	126510
6. Total	247676	318711	361838	393410
7. Percentage of net irrigated area to net area sown	13.53	16.57	17.53	18.81
8. Area irrigated more than once	101766	137545	147123	133390
9. Total irrigated area	349442	456256	508961	526800
10. Percentage of total irrigated area to total cropped area	16.04	19.42	19.95	20.09

Table B-2

GROSS AREA UNDER CROPS IRRIGATED IN KERALA (IN HECTARES)

Name of crop	1955-56		1960-61		1965-66		1966-67	
	Area	%	Area	%	Area	%	Area	%
1	2	3	4	5	6	7	8	9
Paddy	240986	69.0	347799	76.2	405920	79.8	424120	80.5
Sugarcane	2796	0.8	3650	0.8	4306	0.8	4290	0.8
Other food crops	66163	18.9	65310	14.3	56049	11.0	55690	10.6
Total food crops	309945	88.7	416759	91.3	466275	91.6	484100	91.9
Total non-food crops	39497	11.3	39497	8.7	42686	8.4	42700	8.1
All Crops	349442	100.0	456256	100.0	508961	100.0	526800	100.0

Table C
AREA UNDER CROPS IN KERALA (AREA IN HECTARES)

Name of crops	1952-53	1955-56	1960-61	1965-66	1966-67
1	2	3	4	5	6
Paddy	742160	759353	778910	802329	799438
Jowar	1235	1862	1473	1235	1235
Ragi	4591	4702	5573	5097	5106
Other cereals and Millets	5450	5422	5846	6717	6686
Total cereals and Millets	753436	771339	791802	815358	812465
Tur	4541	12460	8932	8545	8501
Other Pulses	30223	32291	35188	34767	35046
Total Pulses	34764	44751	44120	43312	43547
Sugarcane	6497	7294	9146	9193	8773
Palmyrah	3938	5456	5050	5576	5846
Total sugar crops	10435	12750	14196	14769	14619

Tapioca	204723	222132	242201	229684	244647
Sweet Potatoes	6117	8401	8031	8211	8617
Other vegetables	39785	39786	25014	28654	30577
Total vegetables	250625	270319	275246	266549	283841
Total food crops	1424536	1507809	1565057	1635326	1676822
Groundnut	11053	13197	16030	15215	13745
Castor	672	703	214	355	374
Sesamum	18562	20125	12087	11950	12070
Cocoanut	430401	447945	500758	586313	609583
Other oil seeds	10801	11205	9699	11299	11128
Total oil seeds	471489	493175	538788	625132	646900
Cotton	6406	8767	9822	7160	6625
Other fibres	..	67	36	36	36
Total fibres	6406	8834	9858	7196	6661
Pepper	78806	86487	99755	99695	99695
Chillies	4139	4046	3318	3095	3185
Ginger	14072	10456	12004	11847	11793

Table C—(concl.)

1	2	3	4	5	6
Turmeric	4511	4552	4665	4464	4443
Cardamom	25540	28069	28607	28684	47026
Areca nut	59996	58098	54256	64478	71231
Other condiments and spices	16017	16002	18630	19317	19317
Total condiments and spices	203081	207710	221235	231580	256690
Mangoes	50984	57106	59579	62217	61976
Citrus fruits	3312	2312	1959	1959	1959
Banana	31014*	47067*	10014	10626	9204
Other Plantains	..	..	34410	37153	36385
Other fresh fruits	35080	50940	58154	64393	65553
Cashewnuts	35409	37464	54318	87366	90559
Other dried fruits	16396	6051	24	24	24
Total fruits	172195	200940	218458	263738	265660

Tobacco	523	571	743	705	712
Tea	44986	39883	37631	39470	39799
Coffee	12599	14295	16798	23602	25152
Rubber	62586	64708	122865	149634	153357
Other drugs and plantation crops	2040	101	1406	1406	1406
Total drugs and plantation crops	122734	119558	179443	214817	220426
Fodder	605	605	466	462	462
Green manure crops	1448	1448	1429	13525	15814
Lemongrass	NA	14085	25712	24036	24036
Other Non-Food crops	61889	32796	28103	30850	30850
Total Non-Food crops	664572	670501	783799	916018	945149
Total area under all crops	2089108	2178310	2348856	2551344	2621971
Area sown more than once	312249	347141	425134	487007	530742
Net area sown	1776859	1831169	1923722	2064337	2091229

* Banana (including plantain)

Table D

PRODUCTION OF IMPORTANT CROPS IN KERALA

Name of crop	Unit	1952-53	1955-56	1960-61	1965-66	1966-67
1	2	3	4	5	6	7
Rice	'000 tonnes	722	884	1068	997	1084
(Paddy)	do.	(1099)	(1345)	(1625)	(1518)	(1650)
Jowar	Tonnes	496	833	640	450	450
Ragi	do.	5548	6213	8006	7084	7113
Tur	do.	..	..	..	3954	3950
Other pulses	do.	*13637	*17556	*17546	12907	13121
Sugarcane (Gur)	do.	29464	33982	38090	40948	54902
Pepper (Black)	do.	22627	27672	27026	21685	21406
Ginger (Dry)	do.	10175	11111	11263	11190	11054
Turmeric (Dry)	do.	5056	5101	4181	3766	3747
Cardamom (Processed)	do.	1231	1259	1280	1606	1606

*Total pulses (Tur+other pulses)

Table D—(concl.d.)

1	2	3	4	5	6	7
Arcanutt	Million nuts	4448	6460	7737	9681	10683
Chillies	Tonnes	N. A.	N. A.	2225	2025	2105
Banana	do.	*208745	*316794	65100	77421	67060
Other Plantain	do.	..	..	262766	283701	277836
Cashewnut	do.	54751	58786	84630	98025	101607
Tapioca (Raw)	'000 tonnes]	1514	1594	1683	3096	3410
Groundnut	Tonnes	13937	14468	13797	25220	23601
Sesamum	do.	5927	6460	2586	2365	2400
Coconut	Million nuts	2978	3099	3220	3293	3425
Cotton	Bales (of 180 kg.)	6934	9444	10481	6933	6458
Tobacco	Tonnes	..	700	1006	911	920
Tea	do.	30220	30396	40373	39154	44130
Coffee	Tonnes	5110	6253	7409	9878	10513
Rubber	do.	19261	21174	23045	46953	50495
Lemongrass oil	do.	..	1016	1703	1602	1602

*Banana including plantain

Table E
AVERAGE YIELD PER HECTARE OF CERTAIN CROPS

Name of crop		Unit	1952-53	1955-56	1960-61	1965-66	1966-67
1	2	3	4	5	6	7	
1	Paddy	Kg./Hectare	1482	1772	2086	1892	2064
2	Jowar	do.	321	447	435	364	364
3	Ragi	do.	1208	1321	1437	1390	1393
4	Sugarcane (Gur)	do.	4535	4659	4165	4454	6258
5	Pepper (Black)	do.	287	321	271	218	215
6	Ginger (Dry)	do.	723	1063	938	945	937
7	Turmeric (Dry)	do.	1121	1121	897	844	843
8	Cardamom	do.	48	45	45	5	34
9	Arecanut	Nuts/Hectare	74130	111195	142601	150360	149971
10	Banana	Kg./Hectare	6731	6731	6501	7286	7286
11	Other plantain	do.	1547	1569	1558	7636	7636
12	Cashewnut	do.	7398	7061	6949	1122	1122
13	Tapioca	do.	1261	1096	861	13478	13937
14	Groundnut	do.	319	321	214	1657	1717
15	Sesamum	do.	6919	6919	6430	198	199
16	Cocoaanut	Nuts/Hectare	195	193	192	5617	5617
17	Cotton	Kg./Hectare	671	762	1073	174	175
18	Tea	do.	406	372	442	992	1109
19	Coffee	do.	308	327	187	418	418
20	Rubber	do.	308	327	187	313	329

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 IN EACH DISTRICT
2·2	CLASSIFICATION OF AREA AS PERCENTAGE TO THE 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 F
AVERAGE PRICE AND TOTAL VALUE OF PRODUCTION—1966-67

1 Name of crop	2 Unit	3 Average Farm Price (Rs.)	4 Value of production (Rs. in lakhs)
1. Paddy	Tonnes	1010.30	16669.36
2. Coconut (with husk)	1000 nuts	368.20	12610.85
3. Arecanut	do	34.20	3653.59
4. Tapioca (raw)	Tonnes	179.40	6116.94
5. Cashewnut	do	1095.50	1113.10
6. Banana	100 Nos	13.54	605.33
7. Ginger (Dry)	Tonnes	2484.40	274.63
8. Pepper (Black)	do	3567.60	763.68
9. Sugarcane	do	56.41	309.70

Table G
NUMBER OF LIVESTOCK, POULTRY AND AGRICULTURAL MACHINERY

Sl. No.		1961 Census	1966 Census	
(1)	(2)	(4)	(5)	
1.	Cattle			
		Male over 3 years:		
		(a) Breeding	29319	19387
		(b) Working	515241	491281
		(c) Others	21471	8855
		Total:	566031	519523
		Female over 3 years:		
		(a) Breeding: (1) In Milk	428194	483419
		(2) Dry	502935	592972
		(3) Not calved	207277	133999
		(b) Working	11274	3605
		(c) Others	12306	5247
		Total:	1161986	1219242
		Young Stock	1025148	1117962
	Total Cattle	2753165	2856727	
2.	Buffaloes			
		Males over 3 years:		
		(a) Breeding	10627	6106
		(b) Working	267871	241048
		(c) Others	6614	6696
		Total:	285112	253850
		Female over 3 years:		
		(a) Breeding: (1) In Milk	59542	66705
		(2) Dry	49341	52777
		(3) Not calved	16846	9119
		(b) Working	7266	4589
		(c) Others	2188	1580
		Total:	135113	134770
		Young stock	64864	82615
	Total Buffaloes	485089	471235	
3.	Sheep			
		(a) One year and above	18949	7920
		(b) Below one year	5292	3599
		Total:	24241	11519
4.	Goats			
		(a) One year and	869414	757766
		(b) Below one year	442848	431452
		Total:	1312262	1189218

Table G—(contd.)

(1)	(2)	(3)	(4)	(5)
5.	Horse and Ponies	(a) 3 years and above	366	372
		(b) Below 3 years	42	54
		Total:	408	426
6.	Mules		31	8
7.	Donkeys		377	310
8.	Camels		..	4
9.	Pigs		122381	111928
		Total Livestock	4697954	4641375
10.	Poultry	(a) Fowls	8708664	9587286
		(b) Ducks	387072	318751
		(c) Others	..	2950
11.	ploughs	(a) Wooden	562281	475930
		(b) Iron	6441	17179
12.	Carts		21037	16309
13.	Sugarcane crushers	(a) Power	175	457
		(b) Bullocks	1071	989
14.	Oil Engines		3372	6824
15.	Electric Pumps		2565	4869
16.	Tractors		276	418

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

Sl. No.	Crop	3	Sowing	Harvesting	Peak Marketing
1	2	3	4	5	6
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	Redgram	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	Greengram		May-June	August-September	September-October
7	Blackgram	1st crop 2nd crop	May-June October-November	August-October January-February	October February

Table 1.1
NORMAL RAINFALL IN KERALA (IN MILLI METRES)

District	July	August	September	October	November	December	January	February	March	April	May	June	Total
0	1	2	3	4	5	6	7	8	9	10	11	12	13
Trivandrum ..	257.4	204.5	168.9	280.2	210.2	270.1	21.2	18.0	48.0	118.1	213.9	391.1	2001.6
Quilon ..	449.6	313.1	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	565.8	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
STATE AVERAGE	682.6	416.5	236.4	301.9	186.8	49.4	17.3	18.0	43.4	111.3	245.4	679.9	2985.9

Table 1.2

AVERAGE MONTHLY RAINFALL IN KERALA DURING 1966-67 (IN MILLIMETRES)

District	July 1966	August 1966	September 1966	October 1966	November 1966	December 1966	January 1967	February 1967	March 1967	April 1967	May 1967	June 1967	Total
0	1	2	3	4	5	6	7	8	9	10	11	12	13
Trivandrum	213.9	103.5	441.6	317.4	160.6	60.1	24.0	0.1	62.4	63.2	215.6	461.1	2123.5
Quilon	311.9	197.5	275.2	431.6	196.3	71.3	22.6	Nil	58.3	99.5	276.5	536.5	2477.2
Alleppey	370.6	165.5	435.0	387.1	383.2	31.6	12.0	Nil	13.8	109.4	371.4	642.8	2922.4
Kottayam	479.8	165.7	246.8	356.0	365.3	91.6	23.4	0.4	41.7	100.8	258.8	498.1	2628.4
Ernakulam	749.4	178.5	364.0	440.0	332.4	102.0	57.2	Nil	15.4	82.8	478.0	674.7	3474.4
Trichur	746.1	191.7	329.0	557.2	218.1	56.0	1.6	Nil	6.9	27.6	333.8	497.2	2965.2
Palghat	557.2	130.7	189.7	364.8	187.1	20.4	10.7	Nil	11.7	40.9	139.3	342.1	1994.6
Kozhikode	661.5	216.9	277.6	469.5	215.0	33.5	Nil	Nil	21.3	62.9	218.0	598.2	2774.4
Cannanore	752.1	320.2	219.2	345.9	192.5	8.1	3.2	Nil	1.4	39.0	178.7	714.8	2775.1
STATE AVERAGE	538.1	185.6	308.7	407.7	250.1	52.7	17.2	0.1	25.9	69.6	274.5	551.7	2681.9

Table 2.1

CLASSIFICATION OF AREA IN EACH DISTRICT OF KERALA DURING 1966-67
(Area in Hectares)

District	Total geographical area	Total Geographical area according to Village papers	Classification of area				Land under Misc. tree crops not included in net area sown
			Forests	Land put to non-agricultural uses	Barren and uncultivable land	Permanent pastures and other grazing land	
0	1	2	3	4	5	6	7
Trivandrum	218591	216096	44559	15662	707	550	216
Quilon	473250	469051	210857	14979	11800	1300	2000
Alleppey	183393	186790	513	11803	1102	250	6920
Kottayam	635985	626225	252964	16072	17591	3500	11355
Ernakulam	333952	317428	55212	21299	5590	2000	3994
Trichur	294472	294262	132376	15892	2667	500	1160
Palghat	512685	510424	99663	61324	22362	5000	30995
Kozhikode	665664	661586	193756	32523	15045	2700	29012
Cannanore	567594	576661	65932	45767	23573	12000	96190
STATE	3885526	3858523	1055832	235321	100437	27800	181842

Table 2.1 (concl.d.)
CLASSIFICATION OF AREA IN EACH DISTRICT OF KERALA DURING 1966-67
(Area in Hectares)

District	Classification of Area					Area sown more than once	Total cropped area
	Cultivable Waste.	Fallow land other than current fallow	Current fallow	Net area sown	11		
0	8	9	10	11	12	13	
Trivandrum	761	741	597	152303	63247	215550	
Quilon	2560	2308	1384	221863	75319	297182	
Alleppey	1789	1517	600	162296	63844	226140	
Kottayam	18380	1050	1815	303498	47359	350851	
Ernakulam	8546	2530	2255	215902	45719	261621	
Trichur	2710	437	1860	136660	77390	214050	
Palghat	19631	3966	7798	259685	86054	345739	
Kozhikode	25026	6876	5044	351604	40295	391899	
Cannanore	26148	14540	5093	287418	31515	318933	
STATE	105651	33965	26446	2091229	530742	2621971	

Table 2.2

CLASSIFICATION OF AREA AS PERCENTAGE TO TOTAL AREA ACCORDING TO VILLAGE PAPERS

District	Classification of area					
	Area accord- ing to village papers	Forests	Land put to non-agricul- tural uses	Barren and uncultivable lands	Permanent pastures and other grazing lands	Land under Misc. tree crops not included in net area sown
0	1	2	3	4	5	6
Trivandrum	100	20.62	7.25	0.33	0.25	0.10
Quilon	100	44.95	3.19	2.52	0.28	0.43
Alleppey	100	0.27	6.32	0.59	0.13	3.71
Kottayam	100	40.40	2.56	2.81	0.56	1.81
Ernakulam	100	17.39	6.71	1.76	0.63	1.26
Trichur	100	44.99	5.40	0.91	0.17	0.39
Palghat	100	19.53	12.01	4.38	0.98	6.07
Kozhikode	100	29.29	4.92	2.27	0.41	4.38
Cannanore	100	11.43	7.94	4.09	2.08	16.68
STATE	100	27.36	6.10	2.60	0.72	4.71

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

District	Classification of area					Total cropped area			
	7	8	9	10	11	12	13	14	
	Culti- vable waste	Fallow land other than current fallow	Current fallow	Net Area Sown	Food crops	Non-food crops	Total	Area sown more than once	
0	7	8	9	10	11	12	13	14	
Trivandrum	0.35	0.34	0.28	70.48	66.07	33.68	99.75	29.27	
Quilon	0.54	0.49	0.30	47.30	38.92	24.44	63.36	16.06	
Alleppey	0.96	0.81	0.32	86.89	74.33	46.74	121.07	34.18	
Kottayam	2.93	0.17	0.29	48.47	29.84	26.19	56.03	7.56	
Ernakulam	2.72	0.80	0.71	68.02	48.63	33.79	82.42	14.40	
Trichur	0.92	0.15	0.63	46.44	53.99	18.75	72.74	26.30	
Palghat	3.85	0.78	1.53	50.87	54.41	13.32	67.73	16.86	
Kozhikode	3.78	1.04	0.76	53.15	32.77	26.47	59.24	6.09	
Cannanore	4.54	2.52	0.88	49.84	37.80	17.51	55.31	5.47	
STATE	2.74	0.88	0.69	54.20	43.46	24.49	67.95	13.75	

Table 3.1
AREA UNDER CROPS IN EACH DISTRICT OF KERALA (Area in Hectares)

		Cereals								
District	Rice (Oryza Sativa)							Jowar		
	Autumn	Winter	Summer	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
0	1	2	3	4	5	6	7			
Trivandrum	19002	19769	265	39036	..	..	..	..	..	..
Quilon	21321	27910	826	50057	..	..	..	..	..	..
Alleppey	21797	17336	41954	81087	..	..	..	..	..	..
Kottayam	6796	18654	14282	39732	..	..	..	..	..	..
Ernakulam	41862	36346	5964	84172	..	..	..	..	..	..
Trichur	38841	61234	8769	108844	..	..	..	..	..	..
Palghat	115268	76760	2798	194826	..	1235	1235	..	..	1235
Kozhikode	64636	43046	1124	108806	..	..	..	..	..	..
Cannanore	65560	26125	1193	92878	..	..	..	..	..	..
STATE	395083	327180	77175	799438	..	1235	1235	..	..	1235

Table 3. 1—(contd.)
AREA UNDER CROPS IN EACH DISTRICT OF KERALA (Area in Hectares)

District	Food crops											Total food grains
	Cereals				Pulses							
	Ragi	Other Cereals and Millets	Total Cereals and Millets	Tur	Other pulses			Total pulses				
					Kharif	Rabi	Total					
0	8	9	10	11	12	13	14	15	16			
Trivandrum	..	..	39036	..	1230	1409	2639	2639	41675.	
Quilon	441	..	50498	..	4467	2671	7138	7138	57636			
Alleppey	..	52	81139	..	482	556	1038	1038	82177			
Kottayam	47	917	40696	306	281	174	455	761	41457			
Ernakulam	54	339	84565	69	674	1198	1872	1941	86506			
Trichur	1212	..	110056	955	2450	5497	7947	8902	118958			
Palghat	903	4079	201043	4861	3315	4333	7648	12509	213552			
Kozhikode	..	1249	111579	2146	253	3190	3443	5589	117168			
Cannanore	925	50	93853	164	1609	1257	2866	3030	96883			
STATE	..	6686	812465	8501	14761	20285	35046	43547	856012			

Table 3.1.—(contd.)
 AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Food Crops											Total
	Sugarcane		Condiments and Spices									
	Sugar cane	Others (Palmyrah)	Total	Pepper	Chillies	Ginger	Turmeric	Cardamom	Betelnuts	Others		
0	17	18	19	20	21	22	23	24	25	26	27	
Trivandrum	..	379	379	8429	..	..	..	..	5119	4261	17809	
Quilon	980	53	1033	4764	..	165	..	..	7563	3560	16052	
Alleppey	4725	21	4746	1275	..	60	27	..	3859	1122	6343	
Kottayam	1440	327	1767	14448	..	3667	1238	42666	4855	2351	69225	
Ernakulam	455	357	812	6807	..	1128	380	1042	8070	2132	19559	
Trichur	..	472	472	738	..	76	..	..	8995	1894	11703	
Palghat	840	3178	4018	3480	830	1814	1329	1847	7151	2894	19345	
Kozhikode	..	1012	1012	15989	655	4400	1236	1079	14389	902	38650	
Cannanore	333	47	380	43765	1700	483	233	392	11230	201	58004	
STATE	8773	5846	14619	99695	3185	11793	4443	47026	71231	19317	256690	

Table 3.1—(contd.)
AREA UNDER CROPS IN EACH DISTRICT OF KERALA (AREA IN HECTARES)

District	Food Crops									
	Fruits and Vegetables									
	Fresh Fruits					Dried Fruits				
	Mangoes	Citrus fruits	Bananas	Other Plantains	Others	Total	Cashewnut (Dried)	Others (Dried)		
0	28	29	30	31	32	33	34	35		
Trivandrum	6718	..	610	2569	7405	17302	3605	..		
Quilon	11193	..	1890	4545	9873	27501	11514	..		
Alleppey	5185	..	609	2150	6639	14583	3004	..		
Kottayam	8411	..	1538	3609	12186	25744	1488	..		
Ernakulam	8661	..	730	2308	8491	20190	7922	..		
Trichur	5097	..	1099	2322	2560	11278	8252	..		
Palghat	4653	..	405	7329	3905	16292	8349	..		
Kozhikode	7187	96	893	4907	7027	20110	14150	12		
Cannanore	4871	1863	1430	6446	7467	22077	32275	12		
STATE	61976	1959	9204	36385	65553	175077	90559	24		

Table 3.1—(contd.)

District	Food crops											
	Fruits and Vegetables					Vegetables						
	Dried fruit	Total fruits	Tapioca	Sweet potatoes	Onions	Others	Total	Tapioca	Sweet potatoes	Onions	Others	Total
0	36	37	38	39	40	41	42					
Trivandrum	3605	20907	59228	527	53	2204	62012					
Quilon	11514	39015	63359	304	7	5131	68801					
Alleppey	3004	17587	22262	3	45	5681	27991					
Kottayam	1488	27232	42833	342	40	4000	47215					
Ernakulam	7922	28112	16105	130	21	3135	19391					
Trichur	8252	19530	7243	17	..	938	8198					
Palghat	3349	24641	7124	5362	24	3648	16158					
Kozhikode	14162	34272	20537	539	23	4602	25701					
Cannanore	32287	54364	5956	1393	..	1025	8374					
STATE	90583	265660	244647	8617	213	30364	283841					

Table 3.1—(contd.)

District	Food Crops		Non-Food Crops					48
	Fruits and Vegetables	Total Food-crops	Oil seeds					
	Total Fruits and vegetables		Ground nut	Castor	Sesamum	Rape and Mustard	Linseed	
0	43	44	45	46	47	48	49	
Trivandrum	82919	142782	627	16	35	..	..
Quilon	107816	182537	..	23	3350	..	..
Alleppey	45578	138844	..	34	3940	..	..
Kottayam	74447	186896	..	103	105	..	..
Ernakulam	47503	154380	..	12	945	..	..
Trichur	27728	158861	..	12	1160	..	..
Palghat	40799	277714	13118	92	1600	..	..
Kozhikode	59973	216803	..	74	625	..	..
Cannanore	62738	218005	..	8	310	..	15	
STATE	549501	1676822	13745	374	12070	8	15	

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

District	Non-Food crops							Fodder ro ps
	Drugs, Narcotics and Plantation crops							
	Tobacco	Tea	Coffee	Rubber	Others	Total		
0	58	59	60	61	62	63	64	
Trivandrum	..	1053	3	5245	..	6301	21	
Quilon	..	2966	127	26487	..	29580	44	
Alleppey	2827	..	2827	36	
Kottayam	..	28827	2039	48319	..	79185	84	
Ernakulam	..	127	246	22102	..	22475	216	
Trichur	..	453	..	7680	..	8133	25	
Palghat	..	572	3330	7490	372	11764	24	
Kozhikode	..	4310	16335	20294	1034	41973	8	
Cannanore	..	1491	3072	12913	..	18188	4	
STATE	712	39799	25152	153357	1406	220426	462	

Table 3.1 (concl'd)
 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	Total sown under all crops	Area sown more than once	
0	65	66	67	68	69	70
Trivandrum	865	2421	72768	215550	63247	152303
Quilon	949	2878	114645	297182	75319	221863
Alleppey	1367	1043	87296	226140	63844	162296
Kottayam	1802	6609	163961	350857	47359	303498
Ernakulam	1573	20914	107241	261621	45719	215902
Trichur	1246	2701	55189	214050	77390	136660
Palghat	3411	5112	68025	345739	86054	259685
Kozhikode	3322	8269	175096	391899	40295	351604
Cannanore	1279	4939	100928	318933	31515	287418
STATE	15814	54886	945149	2621971	530742	2091229

Table 3.2

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

District	Total cropped area	1	2	3	4	5	Food-crops			9	10			
							Total food crops		Cereals and Millets			Total pulses		
							Total non-food crops	Net area sown	Area sown more than once				Rice	Others
													6	7	8
0														
Trivandrum	100	66.24	33.76	70.66	29.34	18.11	..	18.11	1.22	19.33				
Quilon	100	61.42	38.58	74.66	25.34	16.84	0.15	16.99	2.40	19.39				
Alleppey	100	61.40	38.60	71.77	28.23	35.86	0.02	35.88	0.46	36.34				
Kottayam	100	53.27	46.73	86.50	13.50	11.32	0.28	11.60	0.22	11.82				
Ernakulam	100	59.01	40.99	82.52	17.48	32.17	0.15	32.32	0.74	33.06				
Trichur	100	74.22	25.78	63.84	36.16	50.85	0.57	51.42	4.16	55.58				
Palghat	100	80.32	19.68	75.11	24.89	56.35	1.80	58.15	3.62	61.77				
Kozhikode	100	55.32	44.68	89.72	10.28	27.76	0.71	28.47	1.43	29.90				
Cannanore	100	68.35	31.65	90.12	9.88	29.12	0.31	29.43	0.95	30.38				
STATE	100	63.95	36.05	79.76	20.24	30.49	0.50	30.99	1.66	32.65				

Table 3.2—(contd.)

District	Food crops											Total fruits											
	Condiments and Spices						Fresh fruits				Dried fruits (Cashewnuts)												
	Sugar	Pepper	Cardamom	Belonuts	Others	Total	Mangoes	Banana including other plantain	Others	Total													
11	12	13	14	15	16	17	18	19	20	21	22												
0																							
Trivandrum	0.18	3.91	..	2.37	1.98	8.26	3.12	1.47	3.44	8.03	1.67	9.70											
Quilon	0.35	1.60	..	2.55	1.25	5.40	3.77	2.16	3.32	9.25	3.88	13.13											
Alleppey	2.10	0.56	..	1.71	0.53	2.80	2.29	1.22	2.94	6.45	1.33	7.78											
Kottayam	0.50	4.12	12.16	1.38	2.07	19.73	2.40	1.47	3.47	7.34	0.42	7.76											
Ernakulam	0.31	2.67	0.40	3.09	1.39	7.48	3.31	1.16	3.25	7.72	3.03	10.75											
Trichur	0.22	0.35	..	4.20	0.92	5.47	2.38	1.69	1.20	5.27	3.85	9.12											
Palghat	1.16	1.01	0.53	2.07	1.98	5.59	1.34	2.24	1.13	4.71	2.42	7.13											
Kozhikode	0.26	4.08	0.28	3.67	1.83	9.86	1.83	1.48	1.82	5.13	3.61	8.74											
Cannanore	0.12	13.72	0.12	3.52	0.82	18.18	1.53	2.47	2.92	6.92	10.12	17.04											
STATE	0.56	3.80	1.79	2.72	1.48	9.79	2.36	1.74	2.58	6.68	3.45	10.13											

Table 3.2—(contd.)

District	Food crops						Non-food crops					Total
	Vegetables			Total fruits and Vegetables	Total food crops	Total	Sesamum	Coconut	Groundnut	Others		
	Tapioca	Others	Total									
	23	24	25	26	27	28	29	30	31	32		
0												
Trivandrum	27.48	1.29	28.77	38.47	66.24	0.02	28.65	0.29	0.34	29.30		
Quilon	21.32	1.83	23.15	36.28	61.42	1.13	26.15	..	0.04	27.32		
Alleppey	9.85	2.53	12.38	20.16	61.40	1.74	34.31	..	0.22	36.27		
Kottayam	12.21	1.25	13.46	21.22	53.27	0.03	19.95	..	1.86	21.74		
Ernakulam	6.15	1.26	7.41	18.16	59.01	0.36	22.60	..	0.76	23.72		
Trichur	3.38	0.45	3.83	12.95	74.22	0.54	19.13	..	0.43	20.10		
Palghat	2.06	2.61	4.67	11.80	80.32	0.46	7.42	3.80	0.25	11.93		
Kozhikode	5.24	1.32	6.56	15.30	55.32	0.16	30.80	..	0.02	30.98		
Cannanore	1.87	0.76	2.63	19.67	68.35	0.10	23.85	..	0.03	23.98		
STATE	9.33	1.49	10.82	20.95	63.95	0.46	23.25	0.52	0.44	24.67		

Table 3.2 (contd.)

District	Non-Food Crops.											Total non-food crops
	Fibres		Drugs, Narcotics and Plantation crops					crops	Total			
	Cotton	Others	Tea	Coffee	Rubber	Others						
0	33	34	35	36	37	38	39	40	41	42		
Trivandrum	..	..	..	0.49	..	2.43	..	2.92	1.54	33.76	
Quilon	..	..	..	1.00	0.04	8.91	..	9.95	1.31	38.58	
Alleppey	..	..	..	..	..	1.25	..	1.25	1.08	38.60	
Kottayam	..	..	..	8.22	0.58	13.77	..	22.57	2.42	46.73	
Ernakulam	..	..	..	0.05	0.09	8.45	..	8.59	8.68	40.99	
Trichur	0.02	..	0.02	0.21	..	3.59	..	3.80	1.86	25.78		
Palghat	1.87	..	1.87	0.16	0.96	2.17	0.11	3.40	2.48	19.68		
Kozhikode	0.02	..	0.02	1.10	4.17	5.18	0.26	10.71	2.97	44.68		
Cannanore	..	0.01	0.01	0.47	0.96	4.05	0.22	5.70	1.96	31.65		
STATE	0.25	..	0.25	1.52	0.96	5.85	0.08	8.41	2.72	36.05		

Table 4.1
TOTAL OUTTURN OF IMPORTANT COMMODITIES IN EACH DISTRICT OF KERALA

District	Rice (Tonnes)							Other cereals and Millers (tonnes)
	Rice (Tonnes)				Jowar (Tonnes)	Ragi (Tonnes)	7	
	Autumn	Winter	Summer	Total				
0	1	2	3	4	5	6	7	
Trivandrum	23247	27291	214	50752	..	..	..
Quilon	24710	42034	930	67674	..	456	..	
Alleppey	20822	19989	67917	108728	..	..	19
Kottayam	8113	25272	20463	53848	..	44	422	
Ernakulam	44111	50526	8203	102840	..	55	151	
Trichur	45932	79821	11570	137323	..	1387	..	
Palghat	191297	146604	3077	340978	450	1280	1871	
Kozhikode	60770	49409	1202	111381	..	2320	620	
Cannanore	79158	30168	1212	110538	..	1571	23	
STATE	498160	471114	114788	1084062	450	7113	3106	

Table 4.1—(contd.)

District	8	9	10	11	12	13	14	15	16
	Tur (Tonnes)	Other pulses (Tonnes)	Sugarcane (gur) (Tonnes)	Black pepper (dry) (Tonnes)	Ginger (dry) (Tonnes)	Turmeric (cured) (Tonnes)	Cardamom Processed (Tonnes)	Arca nut (Million nuts)	Chillies (dry) (tonnes)
Trivandrum	..	995	..	3094	..	..	..	796	..
Quilon	..	2995	5743	1925	248	..	..	1523	..
Alleppey	..	342	27972	305	83	24	..	601	..
Kottayam	..	210	10353	4496	3229	1065	1362	487	..
Ernakulam	..	715	2785	2025	1177	340	58	975	..
Trichur	..	3019	..	323	126	..	..	1338	..
Palghat	..	2572	6031	497	1585	1000	104	903	445
Kozhikode	..	1281	..	2294	4196	1108	60	2656	440
Cannanore	..	992	2018	6447	410	210	22	1404	1220
STATE	3950	13121	54902	21406	11054	3747	1606	10683	2105

Table 4.1—(contd.)
TOTAL OUT TURN IMPORTANT COMMODITIES IN EACH DISTRICT OF KERALA

District	17	18	19	20	21	22	23	24	25	26	27	28	29
	Banana (Tonnes)	Other plantain (Tonnes)	Cashewnut (Tonnes)	Tapoca (Tonnes)	Groundnut (Tonnes)	Sesamum (Tonnes)	Co-coanut (Millions)	Cotton (Bales of 180 kg. each)	Tobacco (Tonnes)	Tea (Tonnes)	Coffee (Tonnes)	Rubber (Tonnes)	Lemongrass (Tonnes)
0													
Trivandrum	4444	19617	4045	823269	716	15	380	..	..	1002	2	1430	1
Quilon	13771	34706	12919	949118	..	1010	438	..	..	2924	3	9498	3
Alleppey	4437	16417	3370	230857	..	180	518	..	..	..	..	528	1
Kottayam	11206	27558	1670	732873	..	30	338	..	..	30585	551	16870	107
Ernakulam	5319	17624	8888	119500	..	275	347	..	..	77	57	5661	783
Trichur	8007	19258	9259	82136	..	325	259	78	..	883	..	3921	43
Palghat	2951	55964	9367	92825	22885	270	1016244	..	..	830	1974	2039	11
Kozhikode	6506	37470	15876	289572	..	175	753	136	..	6478	6662	8287	341
Cannanore	10419	49222	36213	89518	..	120	291	..	920	1351	1264	2261	312
STATE	67060	277836	101607	3409668	23601	2400	3425	6458	920	44130	10513	50495	1602

Table-5.1

AVERAGE FARM (HARVEST) PRICE (IN RUPEES) OF CERTAIN COMMODITIES
FOR THE YEAR 1966-67

Sl. No.	Name of crop	Unit	Trivandrum	Quilon	Alleppey	Kottayam	Ernakulam	Trichur	Palghat	Kozhikode	Cannanore	* STATE
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Paddy	Quintal	120.84	114.50	120.15	116.43	114.64	100.59	87.50	87.63	98.52	101.03
2	Cocoanut (with husk)	100 Nos.	35.62	35.78	38.31	39.58	40.50	39.61	34.21	34.36	34.91	36.82
3	Arecanut (Ripe- ordinary)	100 Nos.	3.45	3.92	3.94	3.42	3.70	4.61	3.05	2.69	2.90	3.42
4	Tapioca	Quintal	17.82	18.03	19.23	18.61	17.61	15.56	12.80	15.80	23.25	17.94
5	Cashewnut (with shell)	"	110.00	113.44	89.70	113.50	95.00	101.25	113.00	100.83	118.50	109.55
6	Banana	100 Nos.	15.84	14.19	14.41	13.59	13.53	14.52	13.79	12.63	10.84	13.54
7	Ginger	Quintal	..	..	..	242.07	217.50	205.00	245.69	263.13	260.57	248.44
8	Pepper	Quintal	304.55	363.95	..	364.59	359.21	334.79	350.19	372.81	368.69	356.76
9	Sugarcane	"	..	5.39	5.53	5.00	..	..	7.50	..	..	5.64

* Weighted average

Table

**AVERAGE DAILY WAGES FOR CARPENTER, MASON AND
DISTRICT OF KERALA**

District	July 1966	August 1966	Sept. 1966	Oct. 1966	Nov. 1966
1	2	3	4	5	6
CARPENTER:					
Trivandrum ..	4.39	4.50	4.50	4.50	4.50
Quilon ..	5.45	5.55	5.55	5.67	6.11
Alleppey ..	6.25	6.25	6.25	6.25	6.25
Kottayam ..	6.00	6.00	6.00	6.13	6.13
Ernakulam ..	6.05	6.08	6.08	6.08	6.08
Trichur ..	5.63	5.63	5.88	5.88	6.13
Palghat ..	4.25	4.50	5.00	5.00	5.00
Kozhikode ..	5.33	5.33	5.41	5.41	5.41
Cannanore ..	5.47	5.47	5.47	5.47	5.47
MASON:					
Trivandrum ..	5.00	5.00	5.00	5.00	5.00
Quilon ..	4.97	5.22	5.33	5.44	5.44
Alleppey ..	6.00	6.00	6.00	6.00	6.00
Kottayam ..	6.00	6.00	6.00	6.12	6.12
Ernakulam ..	6.30	6.32	6.32	6.32	6.32
Trichur ..	5.75	5.75	5.75	5.75	5.75
Palghat ..	4.00	4.00	4.50	4.75	4.75
Kozhikode ..	5.33	5.33	5.42	5.42	5.42
Cannanore ..	4.74	4.74	4.74	4.74	4.74
FIELD LABOUR (MEN):					
Trivandrum ..	3.25	3.53	3.63	3.63	3.63
Quilon ..	3.06	3.06	3.06	3.06	3.06
Alleppey ..	3.55	3.55	3.75	3.75	3.75
Kottayam ..	3.25	3.25	3.25	3.25	3.25
Ernakulam ..	4.25	4.30	4.30	4.30	4.30
Trichur ..	3.38	3.63	3.63	3.63	3.63
Palghat ..	2.91	3.06	3.18	3.18	3.18
Kozhikode ..	3.37	3.37	3.46	3.46	3.46
Cannanore ..	4.30	4.30	4.30	4.30	4.30
STATE ..	..	..	..	..	..

* Change of centre.

6.1

UNSKILLED FIELD LABOURERS IN THE DIFFERENT
DURING 1966-67

Dec. 1966	Jan- 1967	Feb. 1967	March 1967	April 1967	May 1967	June 1967	Average 1966-67
7	8	9	10	11	12	13	14
4.50	4.50	4.50	4.50	4.75	5.00	5.00	4.60
6.11	6.37	6.37	6.37	6.37	6.37	6.37	6.06
6.25	6.25	6.25	6.38	7.00	7.00	7.00	6.46
6.13	6.13	6.13	6.13	6.13	6.38	6.38	6.14
6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.32
6.13	6.13	6.13	6.13	6.13	6.13	6.25	6.02
5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.19
5.41	5.42	5.42	5.42	5.67	5.83	5.83	5.49
5.47	5.47	5.47	5.47	5.72	5.72	5.97	5.55
5.00	5.00	5.00	5.00	5.50	5.50	5.50	5.13
5.44	6.50*	6.50	6.50	6.50	6.50	6.50	5.90
6.00	6.00	6.00	6.38	7.00	7.00	7.00	6.28
6.12	6.13	6.13	6.13	6.13	6.13	6.13	6.10
6.25	6.25	6.25	6.25	6.50	6.50	6.50	6.34
5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75
5.25	5.25	5.25	5.25	5.25	5.25	5.25	4.90
5.42	5.42	5.42	5.42	5.42	5.58	5.58	5.43
4.74	4.88	5.00	5.13	5.22	5.22	5.35	4.94
3.63	3.63	3.63	3.63	4.00	4.00	4.00	3.68
3.06	3.43	3.43	3.43	3.43	3.43	3.43	3.25
3.75	3.75	3.75	4.00	4.40	4.40	4.40	3.90
3.25	3.25	3.25	3.25	3.25	3.50	3.25	3.27
4.57	4.38	4.38	4.00	4.25	4.25	4.25	4.29
3.88	3.88	3.88	4.13	4.13	4.13	4.25	3.85
3.43	3.44	3.44	3.44	3.44	3.56	4.06	3.36
3.46	3.46	3.46	3.46	3.70	3.78	3.87	3.53
4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
..

Table 7.1

NUMBER OF LIVESTOCK POULTRY AND AGRICULTURAL MACHINERY AND IMPLEMENTS
IN KERALA (1956 CENSUS)

District	Cattle											
	Males over three years						Females over three years					
	Breeding	Working	Others	Total	In Milk	Breeding Dry	Not calved	Working	Others	Total	Young stock	Total
	1	2	3	4	5	6	7	8	9	10	11	12
Trivandrum	1446	16446	381	18273	30385	29310	6305	157	257	66414	63897	148584
Quilon	1850	49302	806	51958 51653	59342	83004	16771	140	489	159746	148507	360211
Alleppey	1150	16614	530	18294	57952	85002	23027	157	723	166861	140938	326093
Kottayam	2443	29888	1230	33561	72778	89466	20446	231	611	183532	165177	382270
Ernakulam	1671	80268	885	82824	44791	52296	11592	559	525	109766	110441	303031
Trichur	815	55245	506	56566	37196	34631	6328	237	310	78702	86576	221844
Palghat	1794	80308	980	83082	55867	57337	9204	1008	421	123837	115980	322899
Kozhikode	4503	95010	1682	101195	57577	78429	20863	608	576	158053	132511	391759
Cannanore	3715	68200	1855	73770	67531	83494	19463	508	1335	172331	153935	400036
STATE	19387	491381	8855	519523	483419	592972	133999	3605	5247	1219242	1117962	2856727

Table 7. 1—(contd.)

District		Buffaloes											Total
		Males over three years					Females over three years						
		Breeding	Working	Others	Total	In milk	Breeding dry	Not calved	Working	Others			
0	13	14	15	16	17	18	19	20	21	22			
Trivandrum	818	14358	1049	16225	8746	7035	1309	395	160	17645			
Quilon	608	10287	878	11773	4806	4338	714	124	113	10095			
Alleppey	218	7908	313	8439	2171	2586	410	40	45	5252			
Kottayam	350	4930	519	5799	3872	3063	699	145	132	7911			
Ernakulam	179	10387	618	11184	4204	1988	362	189	42	6785			
Trichur	393	34087	867	35347	10835	6323	1200	355	236	18949			
Palghat	996	113529	1009	115534	13732	10584	1344	1579	305	27544			
Kozhikode	1346	28129	935	30510	10459	8948	1694	1448	317	22866			
Cannanore	1098	17433	508	19039	7880	7912	1387	314	230	17723			
STATE	6106	241048	6696	253850	66705	52777	9119	4589	1580	134770			

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	3 years and above	Below 3 years	Total	
0	23	24	25	26	27	28	29	30	31	32	33
Trivandrum	8871	42741	425	302	727	78340	49950	128290	62	2	64
Quilon	5156	27024	1730	840	2579	84568	52576	137144	10	..	10
Alleppey	1913	15604	685	485	1170	50591	29643	80234	10	1	11
Kottayam	4500	18210	517	296	813	103748	56275	160023	66	12	78
Ernakulam	3098	21067	360	223	583	89068	54347	143415	19	..	19
Trichur	11743	66039	79	33	112	72559	43182	115741	16	5	21
Palghat	25199	168277	3618	1162	4780	108946	49371	158317	121	23	144
Kozhikode	12799	66175	55	53	108	106009	57970	163979	35	3	38
Cannanore	9336	46098	451	196	647	63937	38138	102075	33	8	41
STATE	82615	471235	7920	3599	11519	757766	431452	1189218	372	54	426

Table 7.1—(contd.)

District	Poultry						Ploughs				
	Mules	Donkeys	Cattle	Pigs	Total Live stock	Fowls	Ducks	Others	Total	Wooden	Iron
0	34	35	36	37	38	39	40	41	42	43	44
Trivandrum	3	5	3	3799	324216	799963	3778	166	803907	20060	1222
Quilon	..	..	..	598	527566	972924	4606	130	977660	37978	3825
Alleppey	..	2	..	170	423284	971776	168312	219	1140307	18235	3329
Kottayam	1	118	..	63515	625028	1307984	59929	690	1368603	24037	660
Ernakulam	..	..	..	37473	505588	1250254	54543	1012	1305809	63879	2016
Trichur	..	2	1	1450	405210	100014	21198	224	1021536	49481	1711
Palghat	..	183	..	369	654969	941566	2564	207	944337	134976	2069
Kozhikode	4	..	..	1234	623297	1517189	3048	157	1520394	72009	1433
Cannanore	..	..	..	3320	552217	825516	773	145	826434	55275	914
STATE	8	310	4	111928	4641375	9587286	318751	2950	9908987	475930	17179

Table 7.1—(contd.)

District	Carts	Sugarcane crushers		Oil Engines	Electric pump	Tractors	Ghanis		Persian wheel
		Power	Bullocks				More than 5 Kg.	Less than 5 Kg.	
0	45	46	47	48	49	50	51	52	53
Trivandrum	1218	15	41	9	5	7	39	14	39
Quilon	1702	48	94	15	32	23	81	110	358
Alleppey	911	63	65	441	405	57	127	142	8868
Kottayam	1012	48	230	124	258	61	28	52	464
Ernakulam	739	38	143	646	1276	35	26	41	473
Trichur	2247	62	164	1116	1940	75	56	54	551
Palghat	7440	139	118	1481	739	108	48	31	191
Kozhikode	595	25	59	1122	138	26	205	132	36
Cannanore	445	19	75	1870	76	26	82	52	7
STATE	16309	457	989	6824	4869	418	692	628	10987

PART IV

APPENDICES

1. COST OF LIVING INDEX NUMBERS IN SELECTED CENTRES
2. INDEX OF PARITY BETWEEN PRICES RECEIVED AND PRICES PAID BY FARMERS.
3. QUARTERLY RETAIL PRICES OF CERTAIN COMMODITIES.
4. STATISTICS OF EXPORT OF IMPORTANT AGRICULTURAL COMMODITIES THROUGH THE PORTS OF KERALA.
5. NOTES ON CERTAIN CROPS.
 1. Tea
 2. Coffee
 3. Rubber
 4. Cardamom
 5. Pepper
 6. Ginger
 7. Lemongrass
6. CLASSIFICATION OF SOIL IN KERALA.
7. CONVERSION RATIO BETWEEN RAW MATERIALS AND PROCESSED PRODUCTS.
8. AVERAGE ANALYSIS OF IMPORTANT FERTILISERS.
9. INSECTS, PESTS, ETC., AFFECTING PADDY CROP AND THEIR PRACTICAL METHODS OF CONTROL.
10. LIST OF CENTRES SELECTED FOR COLLECTING METEOROLOGICAL INFORMATION.
11. GLOSSARY OF ENGLISH, BOTANICAL AND MALAYALAM NAMES OF CROPS.
12. GRAPHS AND CHARTS.

1. WORKING CLASS COST OF LIVING INDICES

The average cost of living indices in the 13 selected centres of the State during 1965-66 and 1966-67 are given in the following table.

<i>Centres</i>	<i>Average cost of living indices</i>	
	<i>1965-66</i>	<i>1966-67</i>
1. Trivandrum	636	700
2. Quilon	664	702
3. Punalur	620	663
4. Alleppey	633	699
5. Changanacherry	653	720
6. Kottayam	654	718
7. Alwaye	648	702
8. Ernakulam	663	725
9. Trichur	661	724
10. Chalakudy	656	715
11. Munnar	573	633
12. Kozhikode	701	764
13. Shertallai	638	691

The month-wise details of each of these centres are given in Table I of the appendix.

2. PARITY INDEX

The index of parity between prices received and paid by farmers during each month is given in the following table. The index is furnished for the years 1965-66 and 1966-67.

<i>Month</i>	<i>Index of parity</i>	
	<i>1965-66</i>	<i>1966-67</i>
July	114	101
August	112	101
September	107	98
October	108	97
November	111	97
December	109	95
January	105	94
February	103	96
March	102	97
April	104	98
May	102	102
June	100	103
Average	106	98

The figures furnished in the above table show that the position of farmers during the year under review is unfavourable compared to last years position. Only in June 1967 a nominal improvement is noticed. The details regarding prices paid and received by farmers during each month are given in Table II.

3. QUARTERLY RETAIL PRICES

The trend in the quarterly retail prices of 12 important commodities in the State is discussed in the following paragraphs. District-wise quarterly retail prices of these commodities for the 4 quarters of 1966-1967 are given in Table III.

1. Coconut (without husk)

The price of coconut during the year under review varied in the range of Rs. 31.70 and 54.32 per 100 coconuts. The highest price is recorded in Kottayam District.

2. Coconut Oil

The price of coconut oil kept more or less a uniform trend throughout the period under report and there was no appreciable variation in the price in the different district.

3. Rice

The price of rice remained 76 Ps. per kg. during the whole year except for a light rise in the price in Palghat District which was due to change in the variety of the commodity.

4. Black gram

The price of black gram during 1966-67 varied between Rs. 1.20 and Rs. 2.04 per kg.

5. Gingelly Oil

The price of gingelly oil was at a minimum of Rs. 4.81 in Trichur District and at a maximum of Rs. 6.09 in Quilon District during the year under review.

6. Tapioca (Raw)

The price of tapioca was the highest in Cannanore District during 1966-67 maximum price being 44 Ps. per kilogram.

7. Sugar

The price of sugar per kg. varied between Rs. 1.39 and Rs. 1.60 during the year under review. In the last quarter the price was fixed at Rs. 1.60 invariably in all the Districts.

8. Chillies

The price of Chillies rose to the maximum in the second quarter of 1966-67 in all the Districts. The highest price (Rs. 7.64/kg.) is recorded in Palghat District during the fourth quarter the prices fell to the minimum in all the Districts.

9. Coffee

The price of coffee powder varies in the range of Rs. 6.38 and Rs. 11.63 per kg. during 1966-67.

10. Tea

The Price of tea has recorded a maximum of Rs. 10.66 per kg. during the year under report in Trichur District. The lowest prices are seen in Quilon District.

11. Tobacco (Jaff)

The retail prices of tobacco are available only for Trivandrum, Quilon, Alleppey, Kottayam and Ernakulam Districts. The highest price stood at Rs. 10 per kg. (Ernakulam District) and the lowest price was Rs. 6.52 per kg. (Quilon District.)

12. Tobacco (Ord.)

The price of the commodity varied between Rs. 4.19 and Rs. 6.80 per kg. during 1966-67.

4. EXPORT OF AGRICULTURAL COMMODITIES

Foreign export of Agricultural commodities from the ports of Kerala is furnished in Table IV.

Table I
WORKING CLASS COST OF LIVING INDEX NUMBERS FOR SELECTED CENTRES IN KERALA
 BASE YEAR 1939=100

Year/Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1966														
July	682	693	650	682	702	698	710	689	710	712	688	616	746	673
August	690	700	654	680	710	709	709	697	717	715	698	620	749	671
September	692	697	649	677	710	709	710	692	711	710	694	619	742	667
October	701	697	651	682	714	716	693	693	715	719	704	621	748	676
November	697	692	646	688	721	712	712	695	723	725	711	621	752	684
December	705	699	655	700	727	722	722	702	732	730	716	630	762	694
1967														
January	688	680	646	685	710	703	703	690	713	709	699	622	755	681
February	700	698	665	705	722	720	720	705	728	719	718	636	768	697
March	700	703	671	711	724	720	720	704	727	725	724	642	772	700
April	704	711	678	714	722	725	725	704	728	729	728	645	780	701
May	713	721	687	726	733	738	738	718	741	740	743	654	789	716
June	726	733	700	742	748	749	749	731	749	752	755	665	800	729
Average	700	702	663	699	720	718	718	702	725	724	715	633	764	691

Table II

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

Base 1952-53=100

Year and month	Index of prices received	Index of farm cultivation cost	Index of parity
1	2	3	4
1966 July ..	187	198	101
August ..	191	202	101
September ..	184	203	98
October ..	183	203	97
November ..	185	204	97
December ..	186	208	96
1967 January ..	180	208	94
February ..	185	209	96
March ..	189	210	97
April ..	195	217	98
May ..	202	217	102
June ..	207	218	103

Table No. III
QUARTERLY RETAIL PRICES (IN RUPEES) OF CERTAIN COMMODITIES IN EACH DISTRICT
FOR 1966-67 (JULY TO JUNE)

Sl No.	Commodity	Unit	Quarter of the year	5	6	7	8	9	10	11	12	13
				Trivandrum	Quilon	Alleppey	Kottayam	Ernakulam	Trichur	Palghat	Kozhikode	Cannanore
1		3	4	5	6	7	8	9	10	11	12	13
1	Cocconut (without husk)	100	I II III IV	34.22 35.95 34.66 35.30	35.65 38.30 38.62 37.82	39.13 43.84 44.72 43.43	51.13 53.62 52.66 54.32	42.40 43.63 45.37 46.54	34.63 40.15 41.00 42.02	31.91 35.30 38.95 43.06	31.70 33.30 38.74 44.26	35.57 35.23 38.38 40.27
2	Cocconut oil	Litre	I II III IV	4.39 4.56 4.45 4.29	4.44 4.59 4.52 4.35	4.11 4.21 4.18 4.12	4.43 4.51 4.48 4.28	4.54 4.68 4.59 4.42	4.33 4.42 4.41 4.34	4.48 4.53 4.59 4.41	4.31 4.40 4.42 4.27	4.50 4.34 4.32 4.32
3	Rice (control)	Kg.	I II III IV	0.76 0.76 0.76 0.76	0.76 0.76 0.76 0.76	0.76 0.76 0.76 0.76	0.76 0.76 0.76 0.76	0.76 0.76 0.76 0.76	0.76 0.76 0.76 0.76	0.76 0.88v 0.76 0.90v	0.76 0.76 0.76 0.76	0.76 0.76 0.76 0.76
4	Blackgram	"	I II III IV	1.34 1.59 1.65 1.91	1.34 1.55 1.69 1.86	1.35 1.59 1.69 1.61	1.38 1.65 1.81 2.04	1.34 1.61 1.70 1.92	1.22 1.48 1.56 1.71	1.22 1.32 1.48 1.59	1.27 1.46 1.45 1.53	1.20 1.44 1.53 1.56
5	Gingelly oil	Litre	I II III IV	5.37 5.21 5.55 5.70	5.59 5.37 5.75 6.09	5.25 5.32 5.49 5.70	5.26 5.15 5.44 5.59	5.54 5.39 5.71 5.99	5.15 4.81 5.44 5.59	5.28 5.17 5.42 5.63	5.59 5.62 5.78 6.01	5.01 5.15 5.21 5.39

Table No. III—(contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13
6	Tapioca (Raw)	..	I II III IV	0.22 0.20 0.21 0.24	0.25 0.23 0.23 0.27	0.23 0.23 0.25 1.44	0.26 0.27 0.27 1.48	0.24 0.21 0.24 0.26	0.20 0.20 0.20 0.20	0.22 0.22 0.21 0.24	0.26 0.24 0.24 0.30	0.44 0.40 0.40 0.43
7	Sugar	..	I II III IV	1.44 1.47 1.57 1.60	1.43 1.47 1.56 1.60	1.44 1.48 1.55 1.60	1.48 1.52 1.58 1.60	1.45 1.48 1.55 1.60	1.42 1.47 1.52 1.60	1.39 1.44 1.52 1.60	1.45 1.46 1.54 1.60	1.42 1.41 1.48 1.60
8	Chillies	..	I II III IV	5.84 6.79 4.63 4.20	5.88 6.80 4.53 3.90	5.94 6.80 4.69 4.19	5.86 7.05 4.69 4.05	5.91 7.39 4.93 4.32	5.95 7.04 4.56 3.98	6.18 7.64 5.24 4.79	6.19 6.89 4.52 4.18	6.19 6.92 5.28 4.08
9	Coffee	..	I II III IV	10.95 11.46 11.63 11.63	9.64 9.58 9.51 9.35	8.06 8.00 8.00 8.00	7.64 7.75 7.78 7.95	6.98 7.09 7.11 7.29	8.45 8.83 9.03 9.14	9.17 9.98 10.00 9.36	6.38 6.38 6.38 6.38	7.75 7.78 7.88 8.29
10	Tea	..	I II III IV	7.58 7.58 7.74 7.38	4.90 5.28 5.22 6.52	5.75 6.05 6.38 7.76	5.84 6.12 6.38 7.00	6.43 6.58 6.72 10.00	8.83 10.34v 10.66 ..	7.00 7.00 7.00 ..	5.25 5.31 5.58 5.85	6.45 6.45 6.66 7.15
11	Tobacco (Jaff)	..	I II III IV	7.00 7.26 4.19 4.25	6.57 7.65 4.77 4.80	7.75 7.75 4.88 4.88	7.03 7.33 5.47 5.44	9.36 10.00 5.89 6.05	.. .. 4.76 4.88	.. .. 4.77 5.29v	.. .. 6.02 6.51	.. .. 5.33 5.72
12	Tobacco (Ordinary)	..	I II III IV	4.25 4.55	4.85 5.17	5.32 6.53	5.59 5.86	6.18 6.59	5.00 5.67	5.13 5.49	6.80 6.63	6.15 6.19

v—Change in variety.

Table IV

FOREIGN EXPORT OF IMPORTANT AGRICULTURAL COMMODITIES
THROUGH THE PORTS OF KERALA FOR THE YEAR 1966-67.

Sl. No.	Commodity	Unit	Quantity	Value (Rs. in lakhs)
(1)	(2)	(3)	(4)	(5)
1.	Cardamom	Tonnes	482.63	233.04
2.	Cashew kernel	"	49464.60	4352.05
3.	Cashew shell liquid	"	9446.77	167.42
4.	Chillies	"	50.00	2.04
5.	Coffee	"	13406.39	788.57
6.	Coir & Coir products	"	62012.06	1491.08
7.	Copra	"	483.00	2.48
8.	Oil cake	"	477.00	1.33
9.	Fruits and Vegetables	"	760.74	17.04
10.	Ginger	"	2451.97	82.91
11.	Groundnut	"	2.00	0.16
12.	Jute & Jute products	"	42.05	2.27
13.	Lemongrass oil	"	362.21	84.08
14.	Pepper	"	20020.00	1127.63
15.	Spices	"	18.93	0.98
16.	Sugar	"	10.16	0.20
17.	Tea	"	38420.62	2873.00
18.	Turmeric	"	1141.24	19.71
19.	Fish and prawns	"	13099.42	1519.23
20.	Rubber manufactures	Value	..	30.46
21.	Wood and Wood products	"	..	275.67
22.	Sundries	"	..	15.72
TOTAL			..	13087.07

5. NOTES ON CERTAIN CROPS IN KERALA

1. Tea

India continues to be the biggest producer of tea in the world. Tea is one of the principal foreign exchange earners. Tea industry substantially contributes to the national exchequer and also provides employment to a large number of people. India accounts for nearly 46% of the world production of tea. India ranked first among the exporters of tea in the international market but of late Ceylon has wrested the first rank from India.

Climate.—A hot moist climate is most suitable for tea plantation, the temperature varying from 55°F to 95°F and an annual rainfall ranging between 100 to 130 inches. Tea is usually cultivated at attitudes ranging from 3000 feet to 5000 ft. above mean sea level.

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

Planting.—After removing the forest growth and 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 and providing for a coverage of about 3000 plants per acre. 'Hedge planting' i.e. planting in rows 5' apart with a spacing of 2 ft. between the bushes in a row, is also done in new estates. Before planting is done pits of 9' square and 18" 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 south-west 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 attitude 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 climatic conditions etc.

From the garden to the market.—The leaves plucked from the tea gardens have 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 a hessian cloth racks for a period of eighteen hours for eliminating moisture so that it 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 rolls 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 in 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 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 introduced in India from Arabia. The production of Coffee in India is only 1% of the world production. There are two main species of coffee grown in India, namely, Arabica and Robusta. Robusta flourishes at lower levels and has more power of resistance against extremes of climate and pests and diseases. It is easily distinguishable from Arabica 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 ranging between 1,500 and 6,000 feet above mean sea level. The most suitable altitude is between 2,500 ft. to 4,500 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 through 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 plot is ordinarily eight to nine ft. 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 atleast 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 tree from the full intensity of the sun and for soil conservation.

Pruning.—Usually the coffee plants are pruned at a height of fifteen ft. 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 superphosphate, ammonium sulphate, copper sulphate and urca.

Yield.—Under good climatic conditions a coffee plant yields $\frac{1}{2}$ to 2 lbs. of green coffee in a season. Good yield 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 pulpy skin of the cherries are automatically removed. Then these cherries are put into big tanks for about 24 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 2 to 3 weeks. When these 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. 94% of the total area under rubber is in the

Kerala State. 92% of the total production of rubber in India is also from Kerala. India's place in the world acreage under rubber is comparatively very low. India's production comes to 2.2% of the total world output of natural rubber. Before a tyre factory was established in India in 1938 the raw rubber was exported to the foreign countries. Consumption of rubber in the country is on the increase and 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 ft. 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 meadi' 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 diseases is the cessation of the 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 crape rubber coagulation is done by using acetic acid. For changing latex into sheet rubber the latex after being bulked and diluted is put into shadow pans. For removing water and for getting a definite shape the coagulam is pressed by hand. Then these 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 15 days. The colour of the sheet will change into Black from white. There are three important types of rubber, smoked sheet, latex crape and scrap rubber. Of these 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*. Kerala ranks first as the largest producer of cardamom. 80% of the world out put of this

valuable spice is produced in India. India's competitors are Ceylon, Indo-China and Guatemala. 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 require a fairly well distributed annual rainfall of 60—80 inches. The best altitude for cardamom planting is between 2500 to 5000 ft.

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 2 ft. square and one foot deep are dug, the distance between one pit and the next varying from 8 to 10 ft., 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 is also considered to be a good manure.

Diseases.—The most important havoc affecting the cardamom plantations is the vines disease 'Katte' which is rampant in most cardamom plantations. 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, mite etc. Dusting the plants with gammaxene is the remedy.

From the estate to the market.—The capsules of the cardamom are dried in the sun or specially built dry houses by using artificial heat. Usually 3-4 days are taken for drying the cardamom in the sun-light but at the same time 48 hours is only needed for artificial drying. The sun-dried produce retains the mucilaginous coating on the seeds and possesses characteristic sweet aroma. The dried capsules are then cleaned. The final product of green cardamom is 202—8% of the green harvested produce.

Sometimes bleaching is done by exposure to sulphur fumes. This changes 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.

The Middle-East and Sweden absorb a large quantity of the exports of cardamom from India.

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-fed 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 3000 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. Murukku trees are also used. On a plantation basis they are planted at a distance of 10 ft. apart. The vine is rarely allowed to grow beyond a height of 20 ft. lest the picking of the pepper berries become 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 $\frac{1}{4}$ lb. to 2 lb. of dried produce.

Life of the plant.—The life of the plant ranges between 25 to 30 years. But rarely some vines have been found to live up to 60 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 market.—The dried black pepper is graded and packed. The pepper is generally packed in double gunny bags. Pepper is mainly exported to U. S./A. and U. K.

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.

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

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

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 are used.

Yield.—The yield is generally eight to ten times of the seed rate. Here in Kerala the average yield of ginger is about 1000 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 'Vermicularia'. 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 different from the above. The green ginger is put in shallow cisterns and they are cleaned by water repeatedly. When they are finally cleaned they are put in a solution containing milk of lime for sometime 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 (C & D) have two fingers and one finger respectively.

The B & C grades are exported to foreign market. The D grade being small pieces of ginger is 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, stapf.'. The important lemongrass growing areas are Ceylon, Java, West Indies, Malaya, Guatemala and India. Guatemala and India are holding a most a monopoly in the world 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 lemongrass 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 undergrowth of vegetation by burning 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 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 December.

Life of the plant.—The life of the lemongrass plant is 5 to 8 years.

Yield.—The yield of the crop under different years is 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 are put in the boiler specially made for this purpose. The shape of the boiler is like a retort apparatus. Then the boiler is heated with fire wood. After sometime a mixture of water vapour and essential oil escapes through the copper spiral connected 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 U. S. A. and U. K.

6. CLASSIFICATION OF SOILS IN KERALA

<i>District.</i>	<i>Type of soil.</i>	<i>Details of Districts</i>
Trivandrum	1. Fairly rich brown loam of laterite origin	Middle part of the District
	2. Sandy loam	Western coastal region.
	3. Richest dark brown loam of granite origin	Eastern hilly part of the District.
Quilon	1. Sandy loam	Karunagappally and part of Quilon Taluk.
	2. Laterite soil	Kottarakkara, Kunnathur and part of Quilon, Pathanapuram and Pathanamthitta Taluks.
	3. Hill and forest soil	Part of Pathanapuram and Pathanamthitta Taluks.
Alleppey	1. Sandy loam	Karthigappally and Mavelikara Taluks
	2. Sandy soil	Sherthallai and Ambalapuzha Taluks
	3. Clay loam with much of humidity	Kuttanad.
	4. Laterite soil	Chengannur and part of Mavelikara
Kottayam	1. Laterite soil	Peermade and part of Meenachil, Changanacherry and Kottayam Taluks.
	2. Alluvial soil	Vaikom, parts of Changanacherry and Kottayam, Devilolam and Udumbanchola.

<i>District</i>	<i>Type of soil</i>	<i>Details of Districts</i>
Ernakulam	1. Laterite	Thodupuzha and Muvattupuzha and part of Kunnathunad.
	2. Sandy loam	Parur, Cochin and Kanayannur.
	3. Alluvial	Part of Alwaye and Kunnathunad.
Trichur	1. Sandy loam	Part of Mukundapuram, Trichur and Chowghat Taluks.
	2. Laterite	Eastern area of Trichur and Western portion of Talappally.
	3. Granite	Northern part of Talappilly.
	4. Clayey	Backwater area in Chowghat and part of Mukundapuram.
	5. Alluvial soil	Portion of Chowghat and Kunnathunad Taluks.
Palghat	1. Laterite	Interior regions of the District.
	2. Sandy	Along coastal and river-side areas.
	3. Blacksoil	North-Eastern portion of Chittur Taluk.
Kozhikode	1. Laterite	Major part of the District barring coastal area.
	2. Sandy	Coastal strip.
Cannanore	1. Laterite	Major part of barring coastal area.
	2. Sandy	Coastal area.

7. 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:

Kernel to nuts in shell	..	70%
Oil to nuts in shell	..	28%
Oil to kernels crushed	..	40%
Cake to kernels crushed	..	60%

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Sesamum:

Oil to seeds crushed	..	40%
Cake to seeds crushed	..	60%

Castor seed:

Oil to seeds crushed	..	37%
Cake to seeds crushed	..	63%

Coconuts:

Copra to nuts one ton copra	..	6775 nuts
Oil to copra crushed	..	62%
Cake to copra crushed	..	38%

Neem seed:

Oil to kernel crushed	..	45 to 50%
Cake to kernels crushed	..	50 to 55%

Sugar:

Gur from cane crushed	..	10%
Crystal sugar from gur refined	..	62.40%
Crystal sugar from cane crushed	..	9.97%
Khandassari sugar from gur refined	..	37.5%
Molasses from cane crushed	..	3.5%

Cashewnuts:

Cashew kernels	..	25% of cashewnut
Butter from mixed milk	..	6.3%
Ghee from mixed milk	..	5.3%

8. AVERAGE ANALYSIS OF IMPORTANT FERTILISERS

<i>Sl. No.</i>	<i>Name of Fertiliser</i>	<i>Nitrogen (N%)</i>	<i>Phosphoric (P 205%)</i>	<i>Potash (K 20%)</i>
(1)	(2)	(3)	(4)	(5)
1	Ammonium Sulphate nitrate	26.0	..	..
2	Ammonium Sulphate	20.5	..	..
3	Ammonium nitrate	33.5	..	..
4	Ammonium phosphate	16.0	20.0	..
5	Calcium ammonium nitrate	20.5	..	..
6	Nitrate of Soda	16.5	..	..
7	Calcium nitrate	15.3	..	..
8	Calcium cyanamide	20.0	..	..
9	Urea	46.0	..	..
10	Super Phosphate—Single	..	18.0	..
11	Super Phosphate—double	..	35.0	..
12	Super Phosphate—triple	..	45.0	..
13	Rock Phosphate	..	28.3	..
14	Hyper Phosphate	..	27.3	..
15	Sulphate of Potash	..	..	48.0
16	Muriate of Potash	..	..	50.0
17	Groundnut cake	7.0	1.5	1.3
18	Castor Cake	4.3	2.0	1.0
19	Mustard Cake	4.5	1.5	..
20	Mahua Cake	2.5	0.8	1.8
21	Neem Cake	5.2	1.0	1.4
22	Gingelly Cake	6.2	2.0	1.2
23	Coconut Cake	3.0	1.9	1.8
24	Poultry manure	1.2—1.5	..	..
25	Sheep manure	0.8—1.6	..	..
26	Horse manure	0.6—1.6	..	..
27	Farm Yard Manure	0.4	0.3	0.2
28	Fresh Cow dung	1.57	0.25	0.18
29	Compost	0.5	0.25	0.5
30	Bone meal	3.5	21.0	..
31	Fish meal	4.10	3.9	0.3
32	Blood (dried)	11.5	1.5	0.6
33	Meat meal	11.0	..	0.6
34	White fish meal	10.0	10.0	1.0

9. INSECT PEST AFFECTING PADDY CROPS, THEIR DISTRIBUTION AND SOME PRACTICAL METHODS OF CONTROL

Sl. No.	Name of Pest	Nature of Damage	Control Measures
(1)	(2)	(3)	(4)
1	Paddy Rice swarming caterpillar Spodoptera mauritia	Defoliation Plants reduced to stumps Nursery and early growing stages attached. Caterpillar bores into stem causing 'dead hearts' and 'white ear heads'. All stages of plants susceptible to attack.	Spray DDT at 1.5 Kg. a. i. per Ha or endrin at 250 gm. a. i. per Ha Set light traps in the field to catch and destroy moths. Collect egg masses from nursery plants and destroy them spray endrin or parathion at 250 gm. a. i. per Ha at intervals of 15-20 days starting from 15th day after sowing and upto flowering.
2	Rice stem borer Tryporysa (Schoenobius) incertulas	Sucks 'milk' of tender grains leaving them chaffy Adults feed on green matter of leaves and grubs mine leaves	Dust BHC or spray endrin or parathion at doses given above Spray DDT, endrin or parathion a above doses.
3	Rice case worm Nymphula depunctalis	Caterpillar in leaf—case defoliates.	
4	Paddy gall fly Pachy diplosis or y3ae	Maggot bores into central shoot and induces formation of elongated hollow gall called 'silver shoot'	Spray endrin or parathion at 250 gm. a. i. per Ha 4 times at weekly intervals, from 15th day after transplantation. Set up light traps.

- 7 Paddy mealy bug Lives within leaf-sheaths in colonies sucking sap causing stunting of crop. Spray parathion at 250 gm. a. i. per Ha Phosphamidon (Dimecron 100%) solun at 100 ml per Ha) or Dimethoate (Rogon at 312 ml per Ha) Dust BHC.
- 8 Paddy leaf hoppers and Jassids Cause weakening of crop by desapping in colonies Dust BHC.
- 9 Paddy leaf roller *Cnaphalocrocis medinalis*. Caterpillar folds leaves and feeds on green matter. Attacked fields show white patches. Dust BHC or spray DDT at doses given above.
-

10. LIST OF CENTRES SELECTED FOR RECORDING
METERELOGICAL INFORMATION IN. KERALA
DURING 1966-67

Trivandrum District

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

Quilon District

1. Pathanamthitta
2. Konni
3. Adoor
4. Karunagappally
5. Punalur
6. Kottarakkara
7. Aryankavu
8. Quilon
9. Nilamel
10. Paravoor
11. Kayamkulam (A M)

Alleppey District

1. Arukutty
2. Sherthalai
3. Alleppey-b
4. Ambalapuzha
5. Thiruvalla
6. Chengannur
7. Haripad
8. Mavelikara
9. Kayamkulam

Kottayam District

1. Chinnar
2. Marayur
3. Munnar
4. Devikulam
5. Vandanmedu
6. Vaikom
7. Palai
8. Ettumanoor

9. Kumili
10. Kottayam
11. Peermade (Taluk)
12. Peermade (Residency)
13. Kanjirappally
14. Changanacherry
15. Velloor

Ernakulam District

1. Malayattur
2. Parur
3. Perumbavoor
4. Alwaye
5. Neriamangalam
6. Muvattupuzha
7. Karikode
8. Ernakulam
9. Cochin-b
10. Port of Cochin-b

Trichur District

1. Cranganore
2. Mukundapuram
3. Trichur
4. Thalappally
5. Ollukkara (AM)
6. Peechi (AM)

Palghat District

1. Alathur
2. Palghat-b
3. Parali
4. Ottappalam
5. Cherplasserry
6. Mannarghat
7. Perinthalmanna
8. Ponnani
9. Chittoor
10. Pattambi (AM)

Kozhikode District

1. Manjeri
2. Thirurangadi
3. Kozhikode-b
4. Nilambur
5. Vythiri
6. Quilandy
7. Badagara
8. Kuttiadi

Cannanore District

1. Kasargode
2. Thaliparamba
3. Cannanore
4. Hosdurg
5. Tellicherry
6. Irikkur
7. Payyannur
8. Mananthodi
9. Mahe
10. Kasargode (AM)

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. Puthencruz
11. Kuthattukulam
12. Kolani

Trichur District

13. Pazhayannur

Palghat District

14. Nemmara
15. Nelliampathy
16. Nattukal

Kozhikode District

17. Kuttiadi
18. Ambalavayal
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 RAINGAUGE STATIONS

1. Kollengode
2. Thenmalai
3. Quilon
4. Trichur
5. Alwaye
6. Angadipuram

7. Calicut
8. Pantalayani
9. Olavakkot
10. Shornnur
11. Cannanore

11. GLOSSARY OF ENGLISH, BOTANICAL MALAYALAM & NAMES OF CROPS

Sl. No.	English name	Malayalam name	Botanical name
Cereals			
1	Paddy	Nellu	Oryza Sativa
2	Ragi	Koovaraku	Eleusine Coracana
3	Jowar	Cholam	Sorghum vulgare
4	Bajra	Kambu	Pennisetum typhodeum
5	Kodamillet	Varagu	Paspalum scrobiculatum
6	Chama	Chama	Panicum miliare
7	Wheat	Gottampu	Triticum vulgare
8	Barley	Barley	Hordeum vulgare
9	Maize	Mokka cholam	Zea mays

Pulses			
1	Black gram	Uzhunnu	Pisaculus mungo
2	Green gram	Cherupayar	Phaseolus aureus
3	Horse gram	Muthira	Dolichos biflorus
4	Red gram	Thuvara	Cajanus cajan
5	Cow pea	Perumpayar	Vigna sinensis

Sugar			
1	Sugarcane	Karimbu	Saccharum officinarum
2	Palmyrah	Karimpana	Borassus flabellifar

Condiments & Spices			
1	Chilli	Mulagu	Capsicum spp
2	Turmeric	Manjal	Curuma longa
3	Cardamom	Elam	Elatteria cardamomum
4	Corriander	Kothamalli	Oriandrum sativum
5	Mustard	Kadugu	Brassica spp
6	Pepper	Kurumulagu	Pipernigrum
7	Cumin	Jeerakam	Cuminumcyminum
8	Garlic	Veluthulli	Allium sativum
9	Ginger	Inchi	Zingiber officinale
10	Long pepper	Thippili	Piperlongum
11	Nutmeg	Jathi	Myristica fragrans
12	Cinnamon	Karukapatta	Cinnamomum Zeylanica
13	Clove	Grampu	Eugenia Cryophyllata
14	Cinchona	Cinchona	Cinchona officinalis
15	Arecanut	Adacka	Areca catechu

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