

SEASON AND CROP REPORT
FOR
KERALA STATE

1973-74

BUREAU OF ECONOMICS AND STATISTICS
TRIVANDRUM

SEASON AND CROP REPORT 1973-74

FOREWORD

This report is the 15th of the series of season and crop reports relating to Kerala State. It deals with the different aspects of the agricultural economy of the State pertaining to the year 1973-74. 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
2nd September 1975.

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Director.

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PART—I

REPORT

1. **General**
 2. **Population**
 3. **Rainfall**
 4. **Soil**
 5. **Communication facilities**
 6. **Land Utilisation**
 7. **Area under crops**
 8. **Irrigation**
 9. **Weather and Crop Condition**
 10. **Production of important crops**
 11. **Farm price of certain commodities**
 12. **Agricultural wages**
 13. **Livestock, Poultry and Agricultural implements**
 14. **Sowing, Harvesting and Peak marketing periods.**
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SEASON AND CROP REPORT 1973-74

1. General

Kerala is one of the smallest states of India having only 1.2% of the total area of the country. It lies in the south-west corner of the country between 8° 18' and 12° 48' north latitude and 74° 52' and 77° 22' east longitude. The state is gifted with a long coastline of 580 kms. which accounts for 10% of the country's coastline. The width of the state varies from 130 kms. in the middle to 32 km. in the extremities.

The state is endowed with an undulated topography and diversified physical features. These provide a geographical basis for dividing the state into three district natural regions, namely the highland, the midland and the low land from east to west in order. The highland includes forests of the western ghates and forms the natural boundry of the state in the east. The low land extends over the sea coast in the west. It is a narrow strip of coastal belt stretching from one end of the state to the other. The midland region is the land lying between the high land and the low land. It is a vast tract with numerous rivers and lakes and a diversified cropping pattern.

The high land region is famous for the cultivation of plantation crops like rubber, tea, coffee and cardamom, paddy and coconuts are the crops grown abundantly in the midland which is famous for its diversity in cropping pattern. Arecanut, Sugarcane, Tapioca, Banana etc. are also grown on an extensive scale in the midland region. Coconut and paddy are the crops grown most abundantly in the low land.

Paddy is the most important crop of the state. It is cultivated in three seasons, viz Autumn (virippu), Winter (Mundakan) and Summer (Punja) in an year. Autumn and winter crops of paddy are cultivated extensively throughout the state. But summer crop of paddy is raised only relatively smaller scale. Tapioca, banana, plantain, sugarcane, and pulses are the other major seasonal crops of the state. Among the perennial crop of the state, mention may be made of the major ones namely, coconut, arecanut, cashew and pepper in addition to the plantation crops such as tea, coffee, rubber and cardamom.

The normal annual rainfall of the state is about 3000mm. The states get good rain from both the S.W. and the N.E. monsoons. The South west monsoon commences towards the end of May or the beginning of June and A continues till September. The North-East monsoon is active in the month of October and November. The State enjoys a dry spell during the remaining period. Most regions in the state receive fairly heavy rainfall. In the high ranges in Idukki District rainfall is the highest. There are 44 rivers in the state out of which 41 are west flowing and the remaining 3 are east flowing. The backwaters of the state coupled with a network of connecting canals provide ample facilities for inland water transport.

There are 11 Districts in the state. They are Trivandrum, Quilon, Alleppey, Kottayam, Idukki, Ernakulam, Trichur, Palghat, Malappuram, Kozhikode, and Cannanore from south to north in order. The number of taluks in the state is 57.

2. Population

The population of the state according to 1971 census is 213.47 lakhs compared with 169.04 lakhs in 1961. The density of population in the state is 549. The districtwise distribution of population is given below:—

District	Population (lakhs)	Density/Sq.km. 1971
1. Cannanore	23.65	415
2. Kozhikode	21.06	565
3. Malappuram	18.56	510
4. Palghat	16.85	383
5. Trichur	21.29	702
6. Ernakulam	21.64	914
7. Kottayam	15.39	697
8. Idukki	7.65	149
9. Alleppey	21.26	1128
10. Quilon	24.13	522
11. Trivandrum	21.99	1003
Kerala	213.47	549

The per capita land available for cultivation in the State is 0.12 hectare and the per capita cultivated land is 0.11 hectare.

In literacy Kerala is the leading state in India. The percentage of literacy in the state is 60.16 as against the All India average of 29.32. The increase in male literacy during decade ending 1971, is 11.57% whereas the female literacy shows a more remarkable increase of 14.97%.

3. Rainfall

The average normal rainfall of the State is 3014 mm. It varies from 2001 mm. in Trivandrum District to 3796 mm in Kozhikode District. The

normal and actual rainfall during 1973-74 are furnished in the following table.

TABLE II

District	Normal rainfall (in mm.)	Actual rainfall (in mm.)
Trivandrum	2001	1501
Quilon	2760	2044
Alleppey	3012	2542
Kottayam	3083	2269
Idukki	..	2314
Ernakulam	3578	2432
Trichur	3177	1922
Palghat	2398	1846
Malappuram	2900	2071
Kozhikode	3796	2698
Cannanore	3438	2378
State	3014	2183

District-wise details of normal and average rainfall have been furnished in tables 1.1 and 1.2 of Part III.

4. Soil

Different types of soil are seen in the state. They are classified as follows:—

1. The hilly and forest soil seen all along the eastern portion of the state.
2. The sandy soil seen in the coastal belt.
3. The laterite soil seen in the midland.
4. The black soil occurring as patches and seen in the eastern border of Palghat District.
5. The peat or kari soil seen in Alleppey District.
6. The alluvial soil seen along the southern and eastern parts of Vembanad lake and in small patches in Trivandrum District.
7. The red soil founds in the extreme tip of Trivandrum taluk.

The statement showing detailed classification of soil is given in Appendix 6 of Part IV.

5. Communication facilities

The road transport system of the state is a well developed one. There is a net work of roads connecting the different parts of the state. The state is connected with the neighbouring states by roads. There is a rail link between Trivandrum in the South to Kasargode and Hosdurg in the North. The interior parts of the state are not however served by railways. The conversion of the Ernakulam—Trivandrum meter-gauge into broad gauge and the construction of the new railway line from Trivandrum to Kanyakumari will considerably improve the railway transport facilities of the state. The backwaters of the state with a net work of connecting canals provide immense facilities of inland water transport. There are 2 airports in the state, one at Cochin and the other at Trivandrum.

6. Land Utilisation

The land utilisation particulars of the state relating to the period from 1952-53 to 1973-74 have been furnished in Table A of the summary tables and district-wise details for the year 1973-74 are given in table 2.1 of the detailed tables. Details of area under different types of use are given below:—

1. *Total 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 furnished below:—

TABLE III

District	Area in Hectare	Percentage	Area as per 1971 Census
Trivandrum	216096	5.6	219200
Quilon	469051	12.2	462300
Alleppey	186790	4.8	188400
Kottayam	215695	5.6	219600
Idikki	506775	13.1	508700
Ernakulam	221183	5.7	237700
Trichur	299149	7.8	303200
Palghat	437087	11.3	440000
Malappuram	363045	9.4	363800
Kozhikode	366991	9.5	372900
Cannanore	576661	15.0	570600
STATE	3858523	100.0	3886400

2. *Forests*—The forest area in the State is 1053228 hectares. The district-wise area of the forest for 1972-73 and 1973-74 is furnished in the table IV given below:—

TABLE IV

District	Area under forest (Hectares)	
	1972-73	1973-74
Trivandrum	43849	43849
Quilon	210651	210650
Alleppey	513	513
Kottayam	6398	6398
Idikki	299221	299221
Ernakulam	2512	1312
Trichur	132369	131934
Palghat	67185	67185
Malappuram	97627	97627
Kozhikode	128607	128607
Cannanore	65432	65932
STATE	1054864	1053228

3. *Land put to non-agricultural uses*.—The estimated area under non-agricultural uses for the year is 285791 hectares as against 275726 hectares in the previous year. The district-wise break up is furnished in the following table.

TABLE V

District	Area under non-agricultural uses (Hectares)	
	1972-73	1973-74
Trivandrum	15845	17026
Quilon	14983	16142
Alleppey	12500	12199
Kottayam	12113	12466
Idikki	13704	13770
Ernakulam	20857	27349
Trichur	17191	18491
Palghat	48787	52527
Malappuram	13184	13687
Kozhikode	45126	43868
Cannanore	61436	63266
STATE	275726	285791

4. *Barren and uncultivable land.*—The area under this category for the year is estimated to be 65530 hectares as against 67731 hectares for the previous year.

5. *Permanent pastures and grazing land.*—The area under this is 27800 hectares.

6. *Land under Miscellaneous tree crops.*—The area under this during the year is 100169 hectares as against 115007 hectares for the previous year.

7. *Cultivable waste land.*—During the year, the area under cultivable waste land is estimated to be 74149 hectares as against 74010 hectares during the preceding year. The district-wise details are furnished in table No. VI below:

TABLE VI

District	Area under cultivable waste land (Hectares)	
	1972-73	1973-74
Trivandrum	433	390
Quilon	2157	2015
Alleppey	775	826
Kottayam	1658	1451
Idukki	13401	13408
Ernakulam	1805	1714
Trichur	1871	1934
Palghat	4096	4108
Malappuram	22639	23337
Kozhikode	8359	7996
Cannanore	16816	16970
STATE	74010	74149

8. *Fallow land other than current fallow.*—The area under this category of land for the year 1973-74 is 21621 hectares. The corresponding estimate for the previous year is 20732 hectares.

9. *Current fallow.*—The area under current fallow in the State during the year is 27952 as against 25664 hectares in the previous year.

The district-wise break up of the area is furnished in the following table.

TABLE VII

District.	Current fallow (Hectares)	
	1972-73	1973-74
Trivandrum	239	231
Quilon	399	488
Alleppey	594	561
Kottayam	2257	2868
Idukki	3490	3711
Ernakulam	3691	5080
Trichur	1554	1744
Palghat	2277	2108
Malappuram	4057	4813
Kozhikode	2350	2082
Cannanore	4756	4266
STATE	25664	27952

10. *Net area sown.*—The upward trend noticed in the net area sown in the previous year has been continued in the current year also. The total area in the State under this category is 2202283 hectares, as against 2196989 hectares in the previous year. The districtwise estimates are furnished in the following table.

TABLE VIII

District.	Net area sown (Hectares.)	
	1972-73	1973-74
Trivandrum	153245	152279
Quilon	230723	229590
Alleppey	164454	162892
Kottayam	183554	182601
Idukki	165644	166214
Ernakulam	186160	184541
Trichur	139560	138562
Palghat	289091	292349
Malappuram	212239	210924
Kozhikode	163579	165647
Cannanore	308740	316684
STATE	2196989	2202283

11. *Area sown more than once.*—The area under this category is on the increase. The estimated area for the year is 797298 hectares as against 789489 hectares in the previous year. The district-wise area is presented in the following table.

TABLE IX

District	Area sown more than once (Hectares)	
	1972-73	1973-74
Trivandrum	95778	92015
Quilon	128558	141817
Alleppey	72549	77073
Kottayam	86810	87614
Iddikki	2576	5028
Ernakulam	35471	40585
Trichur	104222	107353
Palghat	51025	50830
Malappuram	45326	48944
Kozhikode	112062	112685
Cannanore	55112	33354
STATE	789489	797298

12. *Total cropped area.*—The cropped area in the State for the year is estimated to be 2999581 hectares as compared to 2986478 hectares in the previous year. The increasing trend noticed in the cropped area for the past few years is maintained during the current year also. The district-wise details of both the net area sown and the total cropped area are furnished in the following table.

TABLE X

District	Net area sown	Total cropped area	% of total cropped area to net area sown
Trivandrum	152279	244294	160
Quilon	229590	371407	162
Alleppey	162892	239965	147
Kottayam	182601	270215	148
Idikki	166214	171242	103
Ernakulam	184541	225126	122
Trichur	138562	245915	177
Palghat	292349	343179	117
Malappuram	210924	259868	123
Kozhikode	165647	278332	168
Cannanore	316684	350038	111
STATE	2202283	2999581	136

8. Area under crops.—

The details of area under food and non-food crops in the state are furnished in Table C of the summary tables and the districtwise area is given in table 3.1 of the detailed tables.

A. *Food crops.* The total area under food crops in the State for the year is 1859404 hectares as compared to 1849896 hectares in the previous year. The area under food crops is 61.9% of the total cropped area. The district-wise area under food crops and its percentage to total cropped area are furnished in the table given below:—

TABLE XI

District	Total cropped Area	Area under food crops	Percentage of area under food crops in each Dist. to the state. total	Area under food crops as % to total cropped area
Trivandrum	244294	155478	8.4	63.64
Quilon	371407	222477	12.0	59.9
Alleppey	239965	150608	8.1	62.8
Kottayam	270215	139379	7.5	51.58
Idikki	171242	84985	4.5	49.6
Ernakulam	225126	142377	7.7	63.2
Trichur	245915	173025	9.3	70.4
Palghat	343179	264204	14.2	76.9
Malappuram	259868	166271	8.9	63.9
Kozhikode	278332	136426	7.3	49.0
Cannanore	350038	224174	12.1	64.0
STATE	2999581	1859404	100.0	61.9

The importance of the principal food crops in the overall food production of the state is discussed in the following paragraphs.

1. *Paddy.*—The area under paddy during the year is 874675 hec. against 873704 hec. in the previous year. The district-wise area is given in the following table.

TABLE XII

District	Area under paddy (Hects.)	
	1972-73	1973-74
(1)	(2)	(3)
Trivandrum	39486	39765
Quilon	51155	51189
Alleppey	91131	92039

(1)	(2)	(3)
Kottayam	44477	44359
Idikki	13648	13397
Ernakulam	86130	86568
Trichur	110492	109914
Palghat	182231	183181
Malappuram	92449	92176
Kozhikode	64549	64022
Cannanore	97957	98065
STATE	873704	874675

The area under paddy is the largest in Palghat District and the smallest in Idikki district.

The District-wise area under paddy in percentage and the percentage of area under paddy to total cropped area are furnished in table XIII.

TABLE XIII

District	Area under Paddy (Hects.)	Percentage to total	Percentage of area under paddy to total cropped area
Trivandrum	39765	4.5	16.3
Quilon	51189	5.9	13.8
Alleppey	92039	10.5	38.4
Kottayam	44359	5.1	16.4
Idikki	13397	1.5	7.8
Ernakulam	86568	9.9	38.5
Trichur	109914	12.6	44.7
Palghat	183181	20.9	53.4
Malappuram	92176	10.5	35.5
Kozhikode	64022	7.3	23.0
Cannanore	98065	11.3	28.0
STATE	874675	100.0	29.2

1. *Other cereals and millets.*—The area under this crop for the year is 5177 hects. Besides this, jowar and ragi were cultivated in an area of 1458 hects. and 4994 hects. respectively.

2. *Pulses.*—The area under the crop during the year is estimated as 37417 hectares as compared to 37557 hects. in the previous year. About one-third of the total area under the crop is in Palghat District.

3. *Sugarcane*.—The area under Sugarcane has increased from 7765 hec. in 1972-73 to 9530 hec. in the current year. Alleppey is the leading sugarcane producing district in the State.

4. *Pepper*.—The estimated area under pepper during the year is 118245 hec. whereas it was 116343 hec. in the previous year.

5. *Chillies*.—The area under chillies for the year is 3188 hec. as against 3205 hectares in the preceding year. The crop is cultivated mainly in Cannanore District.

6. *Ginger*.—The area under Ginger in the State during the year is 12044 hec. whereas in the preceding year it was 11802 hec. Kottayam and Kozhikode are the major ginger growing districts in the State.

7. *Turmeric*.—The area under turmeric has increased from 4185 hec. in 1972-73 to 4320 hec. in the current year.

8. *Cardamom*.—The area under the crop during the year is 47492 hectares. The major portion of the area is in Idikki District.

9. *Areca nut*.—The area under the crop for the year is estimated to be 90701 hec. as against 88633 hectares for the previous year. The important areca nut producing districts in the State are Cannanore, Malappuram and Trichur.

10. *Mangoes*.—The area under mangoes has increased from 57123 hec. in 1972-73 to 57487 hectares in 1973-74.

11. *Banana*.—The area under the crop shows a decrease from 9148 hec. in the previous year to 8998 hec. in the current year. The crop is cultivated in all the districts of the State. Quilon is the leading district in banana cultivation.

12. *Other Plantains*.—The area under the crop for the year is 37724 hec. as against 38139 hec. in the previous year.

13. *Cashewnut*.—The area under the crop has increased from 101493 hectares in the previous year to 103162 hectares in the current year. Cannanore is the leading district in cashew cultivation. About 42% of the total area in the State is in Cannanore district.

14. *Tapioca*.—Tapioca is an important food crop of the State. It is extensively cultivated in all the districts. Quilon is the most important tapioca producing district in the State. The area under the crop during the year is 306446 hectares as against 304828 hectares in the previous year.

B. Non-Food Crops.

1. *Groundnut*.—The cultivation of this crop is confined to Palghat District. It is one of the oil seed crops cultivated in the State. The area under the crop has increased from 16044 hec. in the previous year to 17167 hec. in the current year.

2. *Sesamum*.—The estimated area under the crop for the year is 11782 hectares as against 11780 hectares in the previous year. The cultivation of the crop is conducted mostly in Alleppey and Quilon districts.

3. *Coconut*—Coconut is the most important oil seed crop of the State. It is cultivated throughout the state most extensively. The total area under the crop for the year is 74828 hectares as compared to 745429 hec. in the previous year. The area under the crop is the largest in Quilon District.

4. *Cotton*.—The crop is cultivated only in Palghat District. The area under the crop is 7476 hectares.

5. *Tobacco*.—Tobacco is cultivated only in Cannanore District of the State. The area under the crop for the year is 668 hectares.

6. *Tea*.—The area under the crop is estimated to be 37685 hectares whereas the previous year's estimate is 38377 hectares. The major part of the area under the crop is in Idikki District.

7. *Coffee*.—The area under the crop during the year has increased from 34651 hectares in the previous year to 35805 hectares in the current year. Kozhikode is the leading district in coffee cultivation.

8. *Rubber*.—Rubber occupies the pride of place among the plantation crops cultivated in the State. It is estimated that 92 per cent of the total area under rubber in the country is in the State. The area under this crop in the State has increased from 195608 hectares in the previous year to 199604 hectares in the current year.

8. Irrigation

The net area under irrigation in the State for the year is 456780 hectares as against 446338 hectares in the previous year. The gross irrigated area is 637639 hectares. The major source of irrigation in the State is government canals. The percentage of net area irrigated to net area sown is 20.8 whereas that of gross area irrigated to net area sown is 28.9. The source-wise and crop-wise irrigated area in the state is given in tables B1 and B2 of the summary tables respectively.

9. Weather and crop conditions

Trivandrum District.—Crop conditions in Trivandrum District were generally good during the year. The rainfall in the district was normal, the only exception being the heavy rain in the month of October in Nedumangad and Chirayinkil taluks. The autumn and summer paddy crops in the district recorded normal yield rate. Rabi crop was slightly affected by pest attack in Neyyattinkara and Chirayinkil taluks.

Quilon District.—There was heavy rain and consequent flood in October in some of the low-lying parts of the district. This caused slight damage to autumn crops. Like-wise, inadequate rain and drought affected to a limited extent of the rabi crops in certain parts. With the above exceptions, the weather and crop conditions were reported to be normal.

Alleppey District.—The weather conditions were generally good for the autumn crop of paddy and other seasonal and perennial crops. Even though there was heavy rain in the low-lying parts of the district in July, the damage to crops due to flood was negligible. Incidence of severe pest attack

was not reported during the season. In the rabi season, north east monsoon was weak and therefore drought prevailed during the later half of the season in parts of the district. This affected the growth of crops to some extent. Wide spread and very virulent pest attack of crops was the most note-worthy factor of the crop conditions during the period. More than 50 per cent of the rabi crop of paddy was reported to have been damaged on account of the pest attack.

Kottayam District.—The weather and crop conditions in the district were normal. The only exception was the prolonged dry spell during rabi season in Meenachil and Changanacherry taluks. The autumn paddy was subjected to violent pest attack in all the taluks. Conditions of other crops were normal.

Idukki.—The late arrival of the south-west monsoon and the early end of the north east monsoon were the special features of the rainfall conditions during the year. These affected both the autumn crop and the winter crop of paddy respectively. Non-availability of chemical fertilisers also adversely affected the crop conditions in certain villages. Conditions of other crops were normal.

Ernakulam District.—Late monsoon coupled with heavy rain was the position obtaining in all the taluks during, Khariff season. North east monsoon was poor and there was drought in different parts of the district during the rabi season. Flood caused minor damage to paddy crops in low lying lands in the autumn season whereas winter paddy was affected by pest attack and drought in parts of the district. Conditions of other crops were normal.

Trichur District.—The General conditions of rainfall were normal in the district. In the western parts of the district there was heavy rain and flood in July 1973. In the rabi season the rainfall was inadequate in Thalappally, Chavakkad and Kodungallur taluks. This affected the winter paddy in these places to some extent. The other crops were good during the period.

Palghat District.—In spite of the belated start of monsoon, rainfall was sufficient for the growth of crops in both the khariff and the rabi seasons. There was wide spread pest attack throughout the district. The quantitative estimate of damage to crops goes up to 20% in some villages. Other crops recorded normal yield.

Malappuram District.—The south west monsoon started late. This led to the late transplantations of the autumn crop of paddy with its adverse effect on the yield. The winter and summer crops were adversely affected for want of adequate and timely rainfall. It is estimated that up to 20% of the crop was affected by pest attack. Non availability of chemical fertilisers was another adverse factor affecting the yield. Other crops recorded normal yield.

Kozhikode District.—The rainfall conditions were good in both the kharif and the rabi seasons. The only exception was that the high land regions in Quilandy taluk experienced drought and consequent damage to crops, however the summer crop of paddy in the taluk recorded fine yield thanks to water supply from Kuttiadi Irrigation Project. Other crops such as coffee, tea and tapioca were good during the year.

Cannanore District.—The rainfall conditions were generally good in this district. In parts of Hosdurg taluk, however, heavy rain and flood caused minor damage to crops. On the other hand in Cannanore taluk drought prevailed in some villages and the winter paddy was slightly damaged. Pest attack was a general phenomenon in all the taluks during the rabi season. Winter paddy was considerably affected by this. The conditions of other crops were normal.

10. Production of important crops

The table D of the summary tables contains production estimates of important crops in the State. The district-wise production details have been given in table 4.1 of the detailed tables. The salient features relating to principal crops are indicated in the following paragraphs

1. *Paddy.*—The total rice production in the State during the year is 1257069 tonnes as against 1376367 tonnes in the previous year. Palghat is the leading rice producing district in the State. More than 25% of the State's rice production is contributed by Palghat District. The district-wise production figures are furnished in the following table.

TABLE XIV

District	Production of rice (tonnes)	
	1972—73	1973—74
Trivandrum	61614	55620
Quilon	72688	79738
Alleppey	139268	130283
Kottayam	80494	56855
Idukki	21327	20563
Ernakulam	123011	107779
Trichur	157834	126523
Palghat	353897	341348
Malappuram	169601	134622
Kozhikode	71100	70134
Cannanore	125533	133604
STATE	1376367	1257069

The season wise rice production for 1973-74 as compared to 1972-73 is as follows:

TABLE XV

Season	Rice production (tonnes)	
	1972-73	1973-74
Autumn	576192	605595
Winter	609234	507755
Summer	190941	143719
STATE	1376367	1257069

2. *Pulses*.—The production of pulses for the year is 13699 tonnes as against 13321 tonnes for the previous year.

3. *Sugarcane*.—It is estimated that a quantity of 51345 tonnes of Gur was produced during the year as against 40019 for the previous year.

4. *Black Pepper*.—The pepper production for the year is estimated as 27745 tonnes as against 25150 tonnes in 1972-73.

5. *Dry Ginger*.—The ginger production for the year is 26683 tonnes as against 23487 tonnes in the previous year.

6. *Turmeric (cured)*.—The quantity of turmeric produced during the year is 4586 tonnes. The corresponding figure for the previous year is 4424 tonnes.

7. *Cardamom*.—The cardamom cultivation is mostly confined to Idukki District. The quantity produced during the year is 1502 tonnes as against 1250 tonnes in the previous year.

8. *Betelnuts*.—The Betelnut production for the year is estimated to be 13459 million nuts as compared to 13136 million nuts during the previous year.

9. *Banana*.—The Banana production decreased to 65560 tonnes from 66653 tonnes in the previous year.

10. *Other Plantains*.—The production of other plantains for the year is estimated to be 288060 tonnes as against 291230 tonnes for the previous year.

11. *Cashewnut*.—The cashewnut production has increased to 115747 tonnes from 113876 tonnes in the previous year.

12. *Tapioca*.—The tapioca production for the year is estimated to be 5659523 tonnes as compared to 5692353 tonnes in the preceding year. The district-wise yield rate of tapioca is furnished in the following table.

TABLE XVI

District	Yield rate of tapioca (tonnes/Hects.)
Trivandrum	15.08
Quilon	18.59
Alleppey	23.44
Kottayam	23.77
Idukki	25.04
Ernakulam	16.66
Trichur	19.27
Palghat	21.72
Malappuram	14.82
Kozhikode	16.19
Cannanore	19.69
STATE	18.47

13. *Groundnut*.—The production of groundnut during the year has increased to 18043 tonnes from 16461 tonnes in the previous year.

14. *Sesamum*.—The production of sesamum for the year is 3489 tonnes as against 3420 tonnes in the previous year.

15. *Coconut*.—The Coconut production for the year is estimated to be 3703 million nuts as compared to the previous year's estimate of 3921 million nuts.

16. *Cotton*.—Cotton cultivation is confined to Palghat district of the State. The quantity produced during the year is 8639 bales (180 kg. each) as against 8428 bales in the previous year.

17. *Tobacco*.—Tobacco is produced only in Cannanore District of the State. The quantity produced during the year is 1386 tonnes as against 1459 tonnes in the previous year.

18. *Tea*.—Tea production has increased during the year to 48358 tonnes from 43677 tonnes in the previous year.

19. *Coffee*.—Kozhikode is the leading district in coffee production. The quantity produced during the year is 15459 tonnes as against 14916 tonnes in the preceding year.

20. *Rubber*.—The rubber production has increased during the year to 118016 tonnes from 91948 tonnes in the previous year. Kottayam and Quilon are the major rubber producing district in the State.

21. *Lemongrass Oil*.—The total production of lemongrass oil during the year is 1602 tonnes.

11. Farm prices of certain Commodities

The average farm prices of certain commodities are given in table F of the summary tables and table 5.1 of the detailed tables.

12. Agricultural wages

The district-wise and class wise details of agricultural wages have been given in table 6.1.

13. Livestock, poultry and agricultural implements

The details relating to this have been furnished in Table G of the summary tables and table 7.1 of the detailed tables.

14. Sowing, harvesting and peak marketing periods

The information on these topics has been furnished in table H of the summary tables.

37/3547/B

PART II

Summary Tables

- A. Classification of area
 - B1. Sources 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 agricultural machinery
 - H. Sowing, harvesting and peak Marketing season
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CHAPTER 10

THE HISTORY OF THE

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TABLE A
Classification of Area (Hectares)

Sl.No.	Head of Classification	Area	Percentage
1.	Total area by village papers	3858523	100.00
2.	Forests	1053228	27.30
3.	Land put to non-Agricultural Uses	285791	7.41
4.	Barren and uncultivable land	65530	1.70
5.	Permanent pastures and other grazing lands	27800	0.72
6.	Land under miscellaneous tree crops	100169	2.60
7.	Cultivable waste lands	74149	1.92
8.	Current fallow	27952	0.72
9.	Other fallows	21621	0.56
10.	Net area sown	2202283	57.07
11.	Total cropped area	2999581	77.74
12.	Area sown more than once	797298	20.66

TABLE B1

Source of Water supply and Net area irrigated in 1973-74
(Hectares)

Net area irrigated by.—

1.	Government canals	221406
2.	Private canals	10160
3.	Tanks	75851
4.	Wells	5460
5.	Other sources	143903
6.	Total	456780
7.	% of area irrigated to net area sown	20.74
8.	Area irrigated more than once in the year	180859
9.	Total irrigated area	637639
10.	% of total irrigated area to total cropped area	21.26

TABLE B2

Gross area irrigated in Kerala (Hectares) 1973-74

Name of crop	Area	Percentage
Paddy	524889	82.3
Sugarcane	4290	0.7
Other food crops	55690	8.7
Total food crops	584869	91.7
Total non-food crops	52770	8.3
All Crops	637639	100.0

TABLE C

Area under crops in Kerala (Hectares), 1973-74

Name of Crops--

Area --

(1)--	(2)--
	874675
Paddy	1458
Jowar	4994
Ragi	5177
Other cereals and millets	886304
Total cereals and millets	4861
Tur	32556
Other pulses	37417
Total pulses	9530
Sugarcane	8303
Palmyrah (Others)	17833
Total sugarcane	118245
Pepper	3188
Chillies	12044
Ginger	4320
Turmeric	47492
Cardamom	90701
Arecanut	19554
Other condiments & Spices	295544
Total condiments and spices	57487
Mangoes	1959
Citrus fruits	8998
Banana	37724
Plantains	68505
Other fresh fruits	103162
Cashewnuts	277835
Total fruits	306446
Tapioca	5416
Sweet potatoes	32609
Other vegetables	344471
Total vegetables	1859404
Total food crops	17167
Groundnut	333
Castor	11782
Sesamum	744828
Coconuts	8709
Other oil seeds	782819
Total oil seeds	7476
Cotton	668
Tobacco	37685
Tea	

(1)	(2)
Coffee	35805
Rubber	199674
Other drugs and plantation crops	1406
Total drugs and plantation crops	275168
Fodder crops	486
Green manure crops	18362
Lemongrass	24036
Other non food crops	55866
Total non food crops	1140177
Total area under all crops	2999581
Area sown more than once	797298
Net area sown	2202283

TABLE D

Production of important crops in Kerala 1973-74

Name of crop	Unit	Quantity
Rice	'000 tonnes	1257
Paddy	"	1913
Jowar	Tonnes	590
Ragi	"	4425
Tur	"	1079
Other pulses	"	12620
Sugarcane (Gur)	"	51345
Pepper (Black)	"	27745
Chillies (Dry)	"	2749
Ginger (Dry)	"	26683
Turmeric (cured)	"	4586
Cardamom (processed)	"	1502
Arecanut (Betelnuts)	Million nuts	13459
Banana	Tonnes	65560
Other plantain	"	288060
Cashewnut	"	115747
Tapioca (Raw)	'000 tonnes	5660
Sweet Potatoes	Tonnes	24375
Groundnut	"	18043
Sesamum	"	3489
Cocoanut	Million nuts	3703
Cotton	Bales of 180 Kg.	8639
Tobacco	Tonnes	1386
Tea	"	48358
Coffee	"	15459
Rubber	"	118016
Lemongrass Oil	"	1602

TABLE E

Average yield per hectare of certain crops for the year 1973-74

Name of crop	Unit	1973-74	1972-73
(1)	(2)	(3)	(4)
1. Paddy	Kg./Hect.	2186	2398
2. Jowar	"	405	403
3. Ragi	"	886	877
4. Sugarcane (Gur)	"	5388	5154
5. Pepper (Black)	"	213	216
6. Ginger (Dry)	"	2215	1990
7. Turmeric (Cured)	"	1062	1057
8. Cardamom (Processed)	"	32	26
9. Arecanut	Nuts/Hect.	148389	148207
10. Banana	Kg./Hect.	7286	7286
11. Other plantation	"	7636	7636
12. Cashewnuts	"	1122	1122
13. Tapioca (Raw)	"	18468	18674
14. Groundnut	"	1051	1026
15. Sesamum	"	296	290
16. Coconut	Nuts/Hect.	4972	5260
17. Cotton	Kg./Hect.	208	203
18. Tea	"	1283	1138
19. Coffee	"	432	430
20. Rubber	"	591	470

TABLE F

Average price and total value of production 1973-74

Name of crop	Unit	Average farm price (Rs.)	Value of production (Rs. in lakhs)
(1)	(2)	(3)	(4)
1. Paddy	Tonnes	1872.08	35813.89
2. Coconut (with husk)	1000 nuts	890.10	32960.40
3. Arecanut (Ripe)	"	30.90	4158.83
4. Tapioca (Raw)	Tonnes	348.30	19712.12
5. Cashewnut	"	3285.90	3803.33
6. Banana	1000 Nos.	232.90	839.87
7. Pepper (Black)	Tonnes	7949.40	2205.56
8. Ginger (Dry)	"	5198.90	1387.22
9. Sugarcane	"	91.72	470.94

TABLE G

Number of Livestock, Poultry and Agricultural Machinery

Sl. No.			1966 census	1972 census	
(1)	(2)	(3)	(4)	(5)	
1. Cattle	Male over 3 years	(a) Breeding	19387	4800	
		(b) Working	491281	371972	
		(c) Others	8855	14822	
		Total	519523	391594	
	Female over 3 years	(a) Breeding	1. in milk	483419	606192
			2. Dry	592972	578827
			3. Not calved	133999	101849
		(b) Working	(c) Others	3605	7646
				5247	5657
			Total	1219242	1300171
	Young stock	1117962	1164555		
	Total cattle	2856727	2856320		
2. Buffaloes	Males over 3 years	(a) Breeding	6106	2185	
		(b) Working	241048	211467	
		(c) Others ¹	6696	12077	
		Total	253850	225729	
	Female over 3 years	(a) Breeding	1. in milk	66705	83188
			2. dry	52777	53671
			3. not calved	9119	10495
		(b) Working	Others	4589	6066
				1580	2360
			Total	134770	155780
	Young stock	82615	90238		
	Total Buffaloes	471235	471747		

(1)	(2)	(3)	(4)	(5)
3.	Sheep	(a) One year and above	7920	6991
		(b) Below one year	3599	3330
		Total	11519	10321
4.	Goats	(a) One year and above	757766	839053
		(b) Below one year	431452	628604
		Total	1189218	1467657
5.	Horses and Ponies	(a) 3 years and above	372	333
		(b) Below 3 years	54	118
		Total	426	451
6.	Mules		8	14
7.	Donkeys		310	861
8.	Camels		4	11
9.	Pigs		111928	129087
		Total Livestock	4641375	4936469
10.	Poultry	(a) Fowls	9587286	11844548
		(b) Ducks	318751	361941
		(c) Others	2950	965
11.	Ploughs	(a) Wooden	475930	393714
		(b) Iron	17179	35103
12.	Carts		16309	16245
13.	Sugarcane crushers	(a) Power	457	96
		(b) Bullocks	989	801
14.	Oil Engines		6824	18649
15.	Electric pumps		4869	9983
16.	Tractors		418	2752

TABLE H
Sowing, Harvesting and Peak marketing seasons of principal crops in Kerala State

Sl. No.	(1)	(2)	(3)	(4)	(5)	(6)
			Sowing	Harvesting	Peak marketing	
1.	Rice	Autumn Winter Summer	April—June August—October November—December January—March	August—October December—February February—March April—May	September—October January—February March—April May—June	
2.	Ragi	1st crop 2nd crop	April—July September—October	August—October December—January	September—October December—January	
3.	Small Millets (Samai)	Kharif Rabi	May September	August December	August December	
4.	Red gram	1st crop 2nd crop 3rd crop	May—June August—October February	August—September November—January April	September—October January April	
5.	Horsegram	1st crop 2nd crop 3rd 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	
8.	Other pulses	..	May—June	August—September	August—September	
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	..	April—May	November—January	December—January	

(1) (2)	(3)	(4)	(5)	(6)
12. Cotton		August—September	February—March	February—March
13. Sesamum	1st crop	August—October	December—January	December—January
	2nd crop	December—January	March—April	April—May
	3rd crop	February—March	June—July	July—August
14. Sweet potatoes	1st crop	June—July	September—October	September—October
	2nd crop	September—October	December—January	December—January
	3rd crop	November—December	February—March	February—March
15. Turmeric		April—May	December—January	January—February
16. Lemongrass			June—September	September
17. Tapioca	1st crop	October—November	August—September	August—September
	2nd crop	March—May	November—January	December—January
	3rd crop	July—September	May—July	June—July

PART III

- 1.1 Normal Rainfall.
 - 1.2 Average Monthly Rainfall.
 - 2.1 Classification of area in each District.
 - 2.2 Classification of area percentage to total area according to village papers.
 - 3.1 Area under crops in each district.
 - 3.2 Percentage of area under crops to total cropped area in each District.
 - 4.1 Out turn of important crops in each District.
 - 5.1 Average farm price of certain commodities.
 - 6.1 Agricultural wages.
 - 7.1 Number of livestock, poultry and agricultural machinery and implements.
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TABLE 1.1

Normal Rainfall in Kerala (in mms.)

District	July	August	September	October	November	December	January	February	March	April	May	June	Total
Trivandrum	257.4	204.5	168.9	280.2	210.2	70.1	21.2	18.0	48.0	118.1	213.9	391.1	2001.4
Quilon	449.6	318.1	226.1	344.9	242.9	64.8	24.1	32.1	83.6	166.3	260.3	547.4	2760.2
Alleppey	552.3	370.3	272.7	330.2	219.4	64.1	25.9	29.3	59.0	133.5	291.5	663.8	3012.0
Kottayam	652.9	429.5	273.2	330.6	212.8	71.7	30.3	26.3	59.8	141.3	244.9	609.3	3082.6
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	761.4	458.6	250.3	307.5	158.3	30.3	9.3	8.8	28.6	86.6	274.3	803.4	3177.4
Palghat	649.9	363.0	169.5	257.2	140.9	29.7	9.8	9.3	27.0	79.6	158.4	503.4	2397.7
Malapuram	787.0	405.0	198.8	290.0	163.8	30.9	6.7	6.5	19.3	78.7	211.0	702.4	2900.1
Kozhikode	1117.4	599.2	262.4	290.2	163.7	34.2	10.4	7.6	20.0	92.4	254.0	944.5	3796.0
Cannanore	1063.5	584.8	239.4	218.0	106.0	22.8	5.3	4.8	11.1	58.6	200.6	923.0	3437.9
STATE Average	707.7	425.7	235.8	301.5	183.5	47.3	16.1	16.6	41.1	109.1	241.9	688.0	2014.3

TABLE 1.2
Average Monthly Rainfall statement for the year 1973-74 (in mms.)

District	July 1973	August 1973	Sept. 1973	Oct. 1973	Nov. 1973	Dec. 1973	January 1974	Feb. 1974	March 1974	April 1974	May 1974	June 1974	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Trivandrum	203.3	137.4	50.1	363.5	101.4	62.6	Nil	23.0	28.4	159.7	245.7	135.4	1500.5
Quilon	329.0	279.7	87.5	388.5	150.4	101.2	1.7	21.2	29.7	215.7	261.8	177.7	2044.1
Alleppey	486.3	405.5	128.0	403.6	112.0	62.6	1.7	12.6	16.8	234.3	403.0	276.0	2542.4
Kottayam	438.8	384.0	63.0	237.4	93.1	69.9	0.3	19.7	27.6	251.9	453.0	229.8	2268.5
Idikki	582.1	556.3	113.7	224.0	87.0	132.3	2.9	1.9	4.0	109.0	212.7	287.5	2314.0
Ernakulam	617.4	584.8	81.9	290.6	104.3	44.7	1.7	Nil	25.1	157.7	234.6	289.6	2432.4
Trichur	555.9	455.1	42.1	248.9	25.5	27.9	0.9	2.7	12.9	87.0	100.5	367.2	1921.6
Palghat	526.9	357.9	30.8	303.7	110.5	58.7	Nil	Nil	14.5	111.9	127.6	203.6	1846.1
Malappuram	557.7	460.6	24.1	269.9	101.2	11.0	Nil	Nil	9.2	155.2	173.2	319.0	2071.1
Kozhikode	901.5	802.4	20.9	163.3	91.0	18.9	Nil	0.8	19.7	173.2	228.2	278.1	2698.0
Cannanore	753.8	727.5	55.6	162.7	33.3	32.2	Nil	Nil	4.2	44.4	233.7	330.3	2377.7
STATE	541.2	467.4	63.4	276.5	91.8	56.5	0.8	7.4	17.5	154.6	243.1	263.1	2183.3

TABLE 2.1

Classification of Area in each District

District	Classification											Total cropped area
	2	3	4	5	6	7	8	9	10	11	12	
	Total geographical area according to village papers	Forest	Land put to non agricultural use	Barren uncultivable land	Permanent pastures & other grazing land	Land under miscellaneous tree crops not included in net area sown	Cultivable waste	Fallow land other than current fallow	Current fallow	Net area sown	Area sown more than once	
1.	216096	43849	17026	565	550	489	390	717	231	152279	92015	13
2.	469051	210650	16142	7085	1300	980	2015	801	488	229590	141817	244294
3.	186790	513	12199	731	250	7993	826	825	561	162892	77078	371407
4.	215695	6398	12466	1671	2513	4549	1451	1178	2868	182601	87614	239965
5.	506775	299221	13770	7160	1388	1636	13408	267	3711	166214	5028	270215
6.	221183	1312	22349	1577	1599	630	1714	2381	5080	184541	40585	171242
7.	299149	131934	18491	2206	500	3364	1934	414	1744	138562	107353	225126
8.	437087	67185	52527	10756	2810	2004	4108	3240	2108	292349	50830	245915
9.	363045	97627	13687	4709	2369	5034	2337	545	4813	210924	48944	343179
10.	366991	128607	43868	9612	2521	3576	7996	3082	2082	165647	112685	278332
11.	575661	65932	63266	19458	12000	69914	16970	8171	4256	316684	33354	350038
STATE	3858523	1053228	285791	655530	27800	100169	74149	21621	27952	2202283	797298	2999581

TABLE 2.2
Classification of area as percentage to total area according to village papers

District	1	2	3	4	5	6	7	8	9	10	11	12	13
		Area according to village papers	Forests	Land put to non-agricultural uses	Permanent barren and uncultivable land	Permanent pastures and other grazing land	Land under miscellaneous tree crop not included in net area sown	Cultivable waste	Fallow land other than current fallow	Current fallow	Net area sown	Area sown more than once	Total cropped area
Trivandrum		100.00	20.29	7.88	0.26	0.25	0.23	0.18	0.33	0.12	70.46	42.58	118.05
Quilon		100.00	44.91	3.44	1.51	0.28	0.21	0.43	0.17	0.11	48.94	30.23	79.18
Alleppey		100.00	0.28	6.54	0.39	0.13	4.28	0.44	0.44	0.30	87.28	41.26	128.47
Kottayam		100.00	2.97	5.78	0.77	1.17	2.11	0.67	0.55	1.32	84.66	40.62	125.28
Idukki		100.00	59.05	2.72	1.41	0.27	0.32	2.65	0.06	0.73	32.79	0.99	33.79
Ernakulam		100.00	0.60	10.10	0.72	0.72	0.29	0.77	1.08	2.29	83.43	18.35	101.78
Trichur		100.00	44.11	6.18	0.74	0.17	1.12	0.64	0.14	0.58	46.32	35.89	82.20
Palghat		100.00	15.37	12.02	2.46	0.64	0.46	0.94	0.75	0.48	66.89	11.63	78.52
Malappuram		100.00	26.89	3.77	1.30	0.65	1.39	6.43	0.15	1.33	58.09	13.48	71.58
Kozhikode		100.00	35.04	11.95	2.62	0.69	0.97	2.18	0.84	0.57	45.14	30.71	75.84
Cannanore		100.00	11.44	10.97	3.37	2.08	12.12	2.94	1.42	0.74	54.92	5.78	60.70
STATE		100.00	27.30	7.41	1.69	0.72	2.60	1.92	0.56	0.73	57.07	20.66	77.74

TABLE 3.1
Area under crops in each District

District	Food crops									
	Cereals					Pulses				
	Rice (Oryza Sativa)					Jowar	Ragi	Other cereals & millets	Total cereals & millets	Tur
	Autumn	Winter	Summer	Total						
2	3	4	5	6	7	8	9	10		
Trivandrum	18484	20141	1140	39765	..	..	..	39765	..	..
Quilon	21240	28787	1162	51189	..	459	..	51648	..	..
Alleppey	26542	23431	42066	92039	..	..	594	44953	..	..
Kottayam	7917	19145	17297	44359	..	..	..	13397	..	..
Idukki	4034	9311	52	13397	..	27	..	86595	..	..
Ernakulam	37261	39092	10215	86568	..	..	..	111126	..	..
Trichur	35028	60620	14266	109914	1458	1212	4583	190054	4861	..
Palghat	101497	79753	1931	183181	..	832	..	92176	..	..
Malappuram	50636	36127	5413	92176	..	..	..	65542	..	..
Kozhikode	24969	35185	3868	64022	..	1520	..	99009	..	..
Cannandte	65157	29388	3520	98065	..	944	..	..	..	..
STATE	392765	380980	100930	874675	1458	4994	5177	886304	4861	..

TABLE 3.1—(Contd.)

District	Food crops											
	Other Pulses				Total food grains	Sugar crops			Condiments & Spices			
	Kharif	Rabi	Total	Total pulses		15	16	17	18	19	20	21
					11								12	13	14
Trivandrum	1053	1338	2391	2391	42156	560	560	560	4010	..	..	214
Quilon	4740	2724	7464	7464	59112	2176	212	2388	15353	..	..	..
Alleppey	..	540	546	546	92585	3870	45	3915	4265	..	..	..
Kottayam	159	90	255	255	45208	213	527	740	16943	..	..	3332
Idukki	156	98	254	254	13651	2093	317	2410	6548	..	..	949
Ernakulam	542	1100	1642	1642	88237	32	285	317	9778	..	..	830
Trichur	2328	5497	7825	7825	118951	..	1238	1238	4199	..	..	76
Palghat	3348	4289	7637	12498	202552	1100	4458	5558	593	830	907	907
Malappuram	..	3286	3286	3286	68828	..	326	326	5966	675	1855	1855
Kozhikode	..	1256	1256	1256	100265	46	164	164	19693	..	..	3450
Cannanore	..	..	..	1256	100265	..	171	217	30897	1683	431	431
STATE	12326	20230	32556	37417	923721	9530	8303	17833	118245	3188	12044	12044

TABLE 3.1—(Contd.)

37

District	Food crops											Total
	Condiments & spices					Fresh fruits						
	Turmeric	Cardamom	Betelnuts	Others	Total	Mangoes	Citrus fruits	Banana	Other plantain	Others		
I	22	23	24	25	26	27	28	29	30	31	32	
Trivandrum	..	..	4436	4217	12663	7411	..	720	3548	6869	18548	
Quilon	63	..	9197	3681	28508	9585	..	1404	4166	6050	21205	
Alleppey	..	..	5108	1148	10521	4304	..	509	2694	9298	16805	
Kottayam	1084	..	5161	2348	28868	5795	..	1264	3320	5546	15925	
Idukki	155	43093	1721	654	53120	1392	..	139	1669	6327	9527	
Ernakulam	244	1042	7740	1465	21099	4566	..	814	2252	7164	14796	
Trichur	72	..	14681	1968	20996	4966	..	1011	4268	4571	14816	
Palghat	1233	1886	3659	2906	12014	6461	..	291	4677	5874	17303	
Malappuram	..	..	14994	61	23551	3598	..	536	2021	4733	10888	
Kozhikode	1236	1079	8132	904	34494	4638	96	963	4174	4559	14430	
Cannanore	233	392	15872	202	49710	4771	1863	1347	4935	7514	20430	
STATE	4320	47492	90701	19554	295544	57487	1959	8998	37724	68505	174673	

TABLE 3.1 (Contd.)

Food crops

Vegetables

Dried fruits

Total food crops

Total fruits and vegetables

Districts

Cashew nuts

Others

Total

Total fruits

Tapioca

Sweet potatoes

Onions

Others

Total

Total fruits and vegetables

Total food crops

33

34

35

36

37

38

39

40

41

42

43

Trivandrum	4468	..	4468	23016	76111	79	11	882	77083	100099	155478
Quilon	8692	..	8692	29897	94745	103	19	7705	102572	132469	222477
Alleppey	3617	..	3617	20422	19124	119	5	3917	23165	43587	150608
Kottayam	1334	..	1334	17259	38420	826	19	8039	47304	64563	139379
Idukki	1938	..	1938	11465	3093	68	28	1150	4339	15804	84985
Ernakulam	3974	..	3974	18770	12050	62	17	1825	13954	32724	142377
Trichur	6794	..	6794	21610	8345	150	7	1728	10230	31840	173025
Palghat	9051	..	9051	26334	12859	2450	64	2353	17726	44080	264204
Malappuram	13834	..	13834	24722	22959	649	19	1869	25496	50218	166271
Kozhikode	5847	..	5847	20277	11029	53	8	1573	12663	32940	136426
Cannanore	43613	..	43613	64043	7711	857	7	1364	9939	73982	224174

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Non food crops

39

District	Oil seeds				Fibers				Drugs		
	Ground-nuts	Castor	Sesamum	Coconut	Others	Total	Cotton	Others	Total	Tobacco	Tea
Triyandrum	44	45	46	47	48	49	50	51	52	53	54
	..	7	31	76956	1091	78085	..	..	..	..	1063
Quilon	..	33	3588	106798	93	110512	..	..	..	..	2344
Alleppey	..	22	3683	79941	417	84063	..	..	..	..	..
Kottayam	..	10	53	66404	3233	69700	..	..	..	..	276
Idukki	..	152	33	23040	498	23723	..	..	..	..	27337
Ernakulam	..	17	857	52678	1283	54335	..	..	..	..	188
Trichur	..	5	1160	56869	1551	59585	..	..	..	..	436
Palghat	17167	70	662	24623	366	42888	7476	..	7476	..	638
Malappuram	..	..	1135	69383	19	70537	..	..	..	..	174
Kozhikode	..	5	270	96913	46	97234	..	..	..	..	3866
Cannanore	..	12	310	91223	112	91657	..	..	..	668	1361
STATE	17167	333	11782	744828	8709	782819	7476	..	7476	668	37685

TABLE 3. 1—(Contd.)

Districts	Non-food crops										Total area sown under all crops	Area sown more than once	Net area sown
	Narcotics & Plantation crops				Fodder crops	Green manure crops	Other non-food crops	Total non-food crops	Total area sown				
	Coffee	Rubber	Others	Total					58	59			
55	56	57	58	59	60	61	62	63	64	65			
Trivandrum	45	7640	..	8750	14	792	1175	88816	244294	92015	152279		
Quilon	275	32380	..	34999	91	252	3076	148930	371407	141817	229590		
Alleppey	..	3788	..	3788	122	562	822	89357	239965	77073	162892		
Kottayam	848	52314	..	53438	7	3229	4462	130836	270215	87614	182601		
Idikki	1446	15150	..	43933	28	734	17839	86257	171242	5028	166214		
Ernakulam	68	19856	..	20112	161	3183	4458	82749	225126	40585	184541		
Trichur	..	8929	..	9365	21	440	3479	72890	245915	107353	138562		
Palghat	4553	7697	372	13260	20	5624	9707	78975	343179	50830	292349		
Malappuram	..	16818	..	16992	..	2178	3890	93597	259868	48944	210924		
Kozhikode	23138	16051	..	44089	6	261	316	141906	278332	112685	165647		
Cannanore	5432	18981	..	26442	16	1107	6642	125864	350038	33354	316684		
STATE	35805	199604	14062	75168	486	18362	55866	1140177	2999581	797298	2202283		

TABLE 3.2

Percentage of area under crops to the total cropped area in each district

Districts	Cereals and Millets										
	Total cropped area	Total food crops	Total non food crops	Net area sown	Area sown more than once	Rice	Others	Total	Total pulses	Total food grains	Sugar
	2	3	4	5	6	7	8	9	10	11	12
1. Trivandrum	100	63.64	36.36	62.33	37.67	16.28	..	16.28	0.98	17.26	0.23
2. Quilon	100	59.90	40.10	61.82	38.18	13.78	0.12	13.90	2.01	15.91	0.64
3. Alleppey	100	62.76	37.24	67.88	32.12	38.36	..	38.36	0.22	38.58	1.63
4. Kottayam	100	51.58	48.42	67.58	32.42	16.43	0.20	16.63	0.09	16.72	0.29
5. Idikki	100	49.63	50.37	97.06	2.94	7.82	..	7.82	0.15	7.97	1.41
6. Ernakulam	100	63.24	36.76	81.97	18.03	38.45	0.01	38.46	0.73	39.19	0.14
7. Trichur	100	70.36	29.64	55.35	43.65	44.70	0.48	45.18	3.18	48.36	0.51
8. Palghat	100	76.99	23.01	85.19	14.81	53.67	2.01	55.38	3.64	59.02	1.62
9. Malappuram	100	63.98	36.02	81.17	18.83	35.47	..	35.47	..	35.47	0.13
10. Kozhikode	100	49.02	50.98	59.51	40.49	23.00	0.55	23.55	1.18	24.73	0.06
11. Cannanore	100	64.04	35.96	90.47	9.53	28.02	0.27	28.29	0.35	28.64	0.06
STATE	100	61.99	38.01	73.42	26.58	29.16	0.39	29.55	1.25	30.80	0.60

TABLE 3.2 (Contd.)

Districts	Condiments and Spices							Fresh fruits				Vegetables				Total
	Pepper	Cardamom	Betel nuts	Others	Total	Mangoes	Banana including plantain	Others	Total	Dried fruits (cashewnuts)	Total fruits	Tapioca	Others			
														13	14	
1	1.64	..	1.82	1.72	5.18	3.04	1.75	2.81	7.60	2.82	9.42	31.15	0.40	31.55		
Trivandrum	4.13	..	2.48	1.07	7.68	2.58	1.50	1.63	5.71	2.34	8.05	25.31	2.11	27.62		
Quilon	1.78	..	2.13	0.48	4.39	1.79	1.33	3.88	7.00	1.51	8.51	7.97	1.68	9.65		
Alleppey	6.27	..	1.91	2.50	10.68	2.14	1.70	2.05	5.89	0.49	6.39	14.22	3.29	17.51		
Kottayam	3.82	25.16	1.01	1.03	31.02	0.81	1.06	3.69	5.56	1.13	6.60	1.81	0.72	2.53		
Idikki	4.34	0.46	3.44	1.13	9.37	2.03	1.36	3.18	6.57	1.77	8.34	5.35	0.85	6.20		
Ernakulam	1.71	..	5.97	0.86	8.54	2.02	1.15	1.85	6.03	2.76	8.79	3.39	0.77	4.16		
Trichur	0.17	0.55	1.07	1.71	3.50	1.88	1.45	1.71	5.04	2.64	7.68	3.75	1.42	5.17		
Palghat	2.90	..	5.77	0.99	9.06	1.38	0.98	1.82	4.19	5.32	9.51	8.83	0.98	9.81		
Malappuram	7.08	0.39	2.92	2.00	12.39	1.67	1.81	1.67	5.18	2.10	7.29	3.96	0.59	4.55		
Kozhikode	8.83	0.11	4.53	0.73	14.20	1.36	1.79	2.68	5.83	12.46	18.30	2.20	0.64	2.84		
Cannanore	3.94	1.58	3.02	1.31	9.85	1.92	1.56	2.35	5.82	0.44	9.26	10.21	1.27	11.48		
STATE																

Districts	Total fruits & vegetables					Oil seeds					Drugs and Narcotics & plantain crops					Other non-food crops		Total non-food crops	
	Total food crops					Sesamum	Coconut	Ground nut	others	Total	Fibre's (cotton)	Tea	Coffee	Rubber	Others	Total	39		40
	27	28	29	30	31															32	33	34	35	36	37	38	39	40	41
1																			
Trivandrum	40.97	63.64	0.01	31.50	..	0.45	31.96	..	0.43	0.02	3.13	..	0.43	0.02	3.13	..	3.58	0.82	36.36
Quilon	35.67	59.90	0.97	28.76	..	0.12	29.75	..	0.63	0.11	8.68	..	0.63	0.11	8.68	..	9.42	0.92	40.18
Alleppey	18.16	62.76	1.53	33.32	..	0.18	35.03	..	..	..	1.58	..	..	..	1.58	..	1.58	0.63	37.21
Kottayam	23.88	51.58	0.02	24.57	..	1.20	25.79	..	0.10	0.31	19.36	..	0.10	0.31	19.36	..	19.77	2.85	48.42
Idikki	9.23	49.63	0.02	13.45	..	0.38	13.85	..	15.96	0.84	8.85	..	15.96	0.84	8.85	..	25.65	10.86	50.37
Ernakulam	14.54	63.24	0.38	23.40	..	0.58	24.36	..	0.08	0.03	8.82	..	0.08	0.03	8.82	..	8.93	3.47	36.76
Trichur.	12.95	70.35	0.47	23.13	..	0.63	24.23	..	0.18	..	3.63	..	0.18	..	3.63	..	3.81	1.60	29.64
Palghat	12.85	76.99	0.19	7.17	5.00	0.13	12.49	2.18	0.19	1.33	2.24	0.11	0.19	1.33	2.24	0.11	3.86	4.47	23.01
Malappuram	19.32	63.98	0.44	26.69	..	0.01	27.14	..	0.06	..	6.48	..	0.06	..	6.48	..	6.54	2.34	36.02
Kozhikode	11.84	49.02	0.09	34.82	..	0.02	34.93	..	1.39	8.31	5.77	0.37	1.39	8.31	5.77	0.37	15.84	0.21	50.98
Cannanore	21.14	64.04	0.69	26.06	..	0.03	26.18	..	0.39	1.55	5.42	0.18	0.39	1.55	5.42	0.18	7.54	2.22	35.96
STATE	20.74	61.99	0.39	24.83	0.57	0.30	26.09	0.25	1.26	1.19	6.65	0.07	1.26	1.19	6.65	0.07	9.17	2.49	38.01

TABLE 4.1
Out-turn of Important crops in each district

Districts	Rice (tonnes)									
	Autumn	Winter	Summer	Total	Jowar tonnes	Ragi tonnes	Other cereals & millets tonnes	Tur tonnes	Other pulses (tonnes)	Sugarcane (Gur tonnes)
1	2	3	4	5	6	7	8	9	10	11
Trivandrum	26277	28204	1139	55620	..	..	..	..	980	..
Quilon	30045	48563	1130	79738	..	567	..	..	2614	8841
Alleppey	37300	21662	71321	130283	..	..	..	..	215	20198
Kottayam	11752	24120	20983	56855	..	..	168	..	119	1192
Idikki	7191	13332	40	20563	..	..	..	..	125	12675
Ernakulam	47171	48884	11724	107779	..	..	..	..	821	142
Trichur	46054	63211	17258	126523	..	674	..	..	2672	..
Palghat	216121	122420	2807	341348	590	720	2896	1079	3087	8132
Malappuram	75720	51858	7044	134622	..	..	..	..	1212	..
Kozhikode	19040	45285	5809	70134	..	1047	..	..	775	165
Cannanore	88924	40216	4464	133604	..	1400	..	..	..	..
TOTAL	605595	507755	143719	1257069	590	4425	3064	1079	12620	51345

TABLE 5.1

Average Farm Price (harvest price) in Rupees for certain commodities 1973-74

District	Paddy	Coconut 100 Nos.	Arcanaut 100 Nos.	Tapioca Qtl.	Cashew- nut Qtl.	Banana 100 Nos.	Pepper Qtl.	Ginger Qtl.	Sugar- cane M. T.
1	2	3	4	5	6	7	8	9	10
Trivandrum	16.57	83.24	3.14	32.83	285.75	25.52	761.10	610.25	91.04
Quilon	14.40	87.58	3.73	32.63	334.38	24.90	765.49	610.25	91.67
Alleppey	13.43	90.83	3.40	40.56	314.25	22.95	790.17	560.24	..
Kottayam	13.58	94.82	3.42	36.52	302.22	23.74	790.23	495.19	..
Idukki	16.05	99.18	3.10	31.13	212.50	22.80	817.07	614.17	..
Ernakulam	15.10	99.49	3.30	35.53	314.69	22.57	948.33	614.17	..
Trichur	13.76	91.78	3.79	34.88	326.92	23.88	860.33	533.50	92.56
Palghat	13.06	87.33	2.86	33.57	324.67	23.11	768.44	533.50	92.56
Malappuram	13.68	77.14	2.77	33.08	337.08	23.11	768.44	533.50	92.56
Kozhikode	13.81	8.18	2.24	34.47	322.83	21.56	789.83	471.25	..
Cannanore	11.69	90.53	2.42	49.26	339.72	21.46	794.92	481.88	..
STATE	13.61	89.01	3.09	34.83	328.59	23.29	794.94	519.89	91.72

TABLE No. 6.1
Agricultural wages from July 1973 to June 1974

CARPENTER

District	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Average
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Trivandrum	7.50	7.50	7.50	7.50	7.50	7.50	7.75	8.00	8.00	8.00	8.50	8.50	7.81
Quilon	8.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.25	11.25	10.00
Alleppey	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.50	10.50	10.08
Kottayam	9.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.25	10.25	11.25	12.25	10.29
Id ki	..	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	8.25	8.25	8.25	8.25	8.75	8.75	8.75	9.25	9.25	9.25	9.75	9.75	8.88
Trichur	9.50	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.13	11.13	10.31
Palghat	8.00	7.00	7.00	7.00	7.00	7.00	7.50	7.50	8.00	8.00	8.00	8.00	7.50
Malappuram	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Kozhikode	8.53	8.95	8.95	8.95	8.95	8.95	9.45	9.75	9.75	10.00	10.25	10.50	9.41
Cannanore	7.75	8.25	8.25	8.25	8.25	8.25	10.25	10.25	10.38	10.50	11.50	10.50	9.28
STATE	8.70	9.00	9.00	9.00	9.05	9.05	9.37	9.48	9.66	9.70	10.01	10.24	9.36

MASON

1	2	3	4	5	6	7	8	9	10	11	12	13 ^c	14
Trivandrum	7.50	7.50	8.00	8.00	8.00	8.00	8.00	9.00	9.00	9.00	10.00	10.00	8.25
Quilon	8.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	12.00	12.00	10.42
Alleppey	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.50	10.50	10.08
Kottayam	9.50	10.00	10.00	10.00	10.00	10.00	10.00	0.00	10.25	10.25	11.50	12.25	10.29
Idukki	..	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	8.25	8.25	8.25	8.25	8.75	8.75	8.75	9.25	9.25	9.25	9.75	9.75	8.88
Trichur	9.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00	11.13	11.13	10.27
Palghat	8.00	7.00	7.00	7.00	7.00	7.00	7.50	7.50	8.00	8.50	8.50	8.50	7.63
Malappuram	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75
Kozhikode	9.03	9.45	9.45	9.45	9.45	9.45	9.45	9.75	9.75	10.00	10.25	10.50	9.66
Cannanore	7.75	8.25	8.25	8.25	8.25	8.25	10.25	10.25	10.38	10.50	10.50	10.50	9.28
STATE	8.58	8.92	8.97	8.97	9.02	9.02	9.37	9.55	9.71	9.83	10.01	10.24	9.35

Table 6.1 (Concl'd.)

PADDY FIELD LABOURERS

District	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	Average
Trivandrum	5.25	5.50	5.50	5.50	5.50	5.50	6.00	6.00	6.00	6.25	6.75	6.75	5.88
Quilon	5.25	5.75	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.50	6.50	6.00
Alleppey	6.10	6.10	6.60	6.60	6.60	6.60	6.60	6.60	6.75	6.75	6.75	6.75	6.57
Kottayam	6.04	5.63	5.13	5.50	5.75	5.75	5.75	5.75	5.75	5.75	5.75	6.25	5.73
Idukki	..	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	7.00	7.00	6.50	6.50	6.50	6.50	6.50	6.50	6.75	6.75	8.00	8.00	6.88
Trichur	6.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	8.00	8.00	8.13	8.00	7.26
Palghat	6.71	6.10	5.75	5.75	7.50	7.50	7.50	7.50	7.50	8.50	8.50	9.58	7.37
Malappuram	5.00	5.00	5.00	5.00	5.00	5.00	6.50	6.50	6.50	6.50	6.50	6.50	5.75
Kozhikode	5.38	6.15	6.15	6.15	6.15	6.15	6.15	6.15	6.15	6.40	6.50	6.75	6.19
Cannanore	7.35	7.35	9.00	9.00	9.00	9.00	9.50	9.50	9.75	9.5.	9.75	9.75	9.04
STATE	6.01	6.16	6.26	6.30	6.50	6.50	6.75	6.75	6.92	7.04	7.31	7.48	6.67

TABLE 7.1

**Number of Livestock, Poultry and Agricultural Machinery and implements in Kerala
(1972 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	150	12971	891	14012	43775	32622	4972	272	270	81911	70670	166593
Quilon	525	33296	1638	35459	76751	85409	15344	178	700	178382	167776	381617
Alleppey	265	10704	811	11780	81839	82041	12420	120	828	177248	146962	335990
Kottayam	408	11786	758	12952	58768	61575	11561	458	225	132587	123858	269397
Idukki	721	10776	626	12123	30568	30623	3931	174	269	65565	58443	136131
Ernakulam	459	53237	1588	55284	51113	43544	7887	438	427	103409	105731	264424
Trichur	534	46032	828	47394	44579	34351	5170	727	262	85089	90198	222681
Palghat	378	57066	1746	59190	55536	51700	8517	2297	846	118896	101892	279978
Malappuram	277	45784	1575	+7636	36127	30305	5239	1250	287	73208	58122	178966
Kozhikode	414	30971	965	32350	56680	51400	11330	1378	496	121284	94771	248405
Cannanore	669	59349	3396	63414	70456	75257	15478	354	1047	162592	146132	372139
STATE	4800	371972	14822	391594	606192	578827	101849	7646	5657	1300171	1164555	2856320

TABLE 7.1—(Contd.)

Buffaloes

Males over three years

Females over three years

District

District	Males over three years						Females over three years						Total
	Breeding	Working	Others	Total	In milk	Breeding (dry)	Not calved	Working	Others	Total	Young stock		
	13	14	15	16	17	18	19	20	21	22	23	24	
Trivandrum	242	12872	904	14018	11621	7306	1371	428	262	20938	9502	44508	
Quilon	181	8880	352	9413	6762	5077	805	107	105	12856	6595	28864	
Alleppey	87	5631	238	5956	2919	2272	449	75	21	5736	2200	13892	
Kottayam	61	1606	283	1950	2707	1619	261	49	46	4682	1717	8349	
Idukki	147	1456	275	1878	3771	2419	417	83	73	6763	3569	12210	
Ernakulam	120	9723	639	10482	5738	1968	478	300	129	8613	3711	22806	
Trichur	252	38721	1278	30528	11676	6110	1130	247	774	19937	13564	64029	
Palghat	565	84499	5077	90141	13816	11389	2106	2322	366	29999	24765	144905	
Malappuram	158	31215	1513	32886	9492	5774	1507	1863	266	18902	11382	63170	
Kozhikode	160	10671	646	11477	6036	3530	663	357	109	10695	4844	27016	
Cannanore	212	15916	874	17000	8650	6207	1308	235	209	16609	8389	41998	
STATE	2185	211467	12077	225729	83188	53671	10495	6066	2360	155780	90238	471747	

TABLE 7.1—(Contd.)

District	Sheep			Goats			Horse & Ponies			Mules	Donkeys	Camels	Pigs	Total livestock
	One year & above	Below one year	Total	One year & above	Below one year	Total	3 years & above	Below 3 years	Total					
Trivandrum	456	489	945	85391	63369	148760	83	21	104	2	21	2	14001	374936
Quilon	741	333	1074	100653	78239	178892	37	3	40	..	2	..	964	591454
Alleppey	485	355	840	57240	42666	99906	13	..	13	..	70	..	148	450859
Kottayam	165	163	328	84692	62625	147317	11	1	12	..	..	..	43348	468751
Idukki	122	82	204	35829	25413	61242	2	..	2	..	157	..	25666	235612
Ernakulam	82	65	147	90620	72298	162918	10	..	10	1	78	..	32246	482630
Trichur	32	52	84	79619	63785	143404	20	7	27	..	100	7	2141	432473
Palghat	4728	1696	6424	82787	53084	135871	62	34	96	10	417	..	430	568131
Malappuram	21	3	24	79873	57335	137208	28	..	28	..	10	..	86	379492
Kozhikode	46	34	80	77944	59582	137526	60	26	86	1	6	1	3772	416893
Cannanore	113	58	171	64405	50208	114613	7	26	33	..	..	..	6285	535238
STATE	6991	3330	10321	839053	628604	1467657	333	118	451	14	861	11	129087	4936469

TABLE 7.1 (Contd.)

District	Poultry					Plough		Carts	Sugarcane crushers		Oil Engines	Electric pumps
	Fowls	Ducks	Others	Total	Wooden	Iron	Power		Bullocks			
								40		41	42	43	44	45	46	47	48	49
	39			42	43	44	45	46	47	48	49	
Trivandrum	1020638	4563	167	1025368	17379	3164	1196	3	19	191	567	
Quilon	1150361	9237	88	1159686	29462	15594	1695	5	67	327	207	
Alleppey	1462497	189431	195	1652123	14250	5542	634	22	83	1468	546	
Kottayam	1027291	61651	79	1089021	8005	516	392	10	170	709	255	
Idukki	460954	3540	39	464533	7156	355	119	6	6	153	161	
Ernakulam	1355680	51873	100	1407653	51028	1482	637	14	102	3417	3039	
Trichur	1230931	21456	28	1252415	40896	2421	2467	1	115	1163	1849	
Palghat	914032	8437	2	922471	100750	2159	8203	31	127	3861	2373	
Malappuram	1193504	4544	48	1198096	52479	834	355	1	14	1658	366	
Kozhikode	1028288	4064	120	1032472	25963	1645	259	..	41	906	538	
Cannanore	1000372	3145	99	1003616	46346	1291	278	3	57	4796	543	
STATE	11844548	361941	965	12207454	393714	35103	16245	96	801	18649	9983	

TABLE 7.1 (Contd.)

District	Ghains			
	Tractors*	More than 5	Less than 5	Percian wheel
	50	51	52	53
Trivandrum	99	47	15	147
Quilon	184	137	114	200
Alleppey	430	181	153	578
Kottayam	306	40	59	1169
Idukki	81	12	33	203
Ernakulam	404	57	44	529
Trichur	292	115	61	369
Palghat	482	53	32	515
Malappuram	87	38	7	215
Kozhikode	166	219	135	303
Cannanore	221	93	56	404
STATE	2752	992	709	4632

* Tractors include all private and Government Tractors

(continued)

1947

Year	1947	1948	1949	1950
1947	11	11	11	11
1948	11	11	11	11
1949	11	11	11	11
1950	11	11	11	11
1951	11	11	11	11
1952	11	11	11	11
1953	11	11	11	11
1954	11	11	11	11
1955	11	11	11	11
1956	11	11	11	11
1957	11	11	11	11
1958	11	11	11	11
1959	11	11	11	11
1960	11	11	11	11
1961	11	11	11	11
1962	11	11	11	11
1963	11	11	11	11
1964	11	11	11	11
1965	11	11	11	11
1966	11	11	11	11
1967	11	11	11	11
1968	11	11	11	11
1969	11	11	11	11
1970	11	11	11	11
1971	11	11	11	11
1972	11	11	11	11
1973	11	11	11	11
1974	11	11	11	11
1975	11	11	11	11
1976	11	11	11	11
1977	11	11	11	11
1978	11	11	11	11
1979	11	11	11	11
1980	11	11	11	11
1981	11	11	11	11
1982	11	11	11	11
1983	11	11	11	11
1984	11	11	11	11
1985	11	11	11	11
1986	11	11	11	11
1987	11	11	11	11
1988	11	11	11	11
1989	11	11	11	11
1990	11	11	11	11
1991	11	11	11	11
1992	11	11	11	11
1993	11	11	11	11
1994	11	11	11	11
1995	11	11	11	11
1996	11	11	11	11
1997	11	11	11	11
1998	11	11	11	11
1999	11	11	11	11
2000	11	11	11	11
2001	11	11	11	11
2002	11	11	11	11
2003	11	11	11	11
2004	11	11	11	11
2005	11	11	11	11
2006	11	11	11	11
2007	11	11	11	11
2008	11	11	11	11
2009	11	11	11	11
2010	11	11	11	11
2011	11	11	11	11
2012	11	11	11	11
2013	11	11	11	11
2014	11	11	11	11
2015	11	11	11	11
2016	11	11	11	11
2017	11	11	11	11
2018	11	11	11	11
2019	11	11	11	11
2020	11	11	11	11
2021	11	11	11	11
2022	11	11	11	11
2023	11	11	11	11
2024	11	11	11	11
2025	11	11	11	11
2026	11	11	11	11
2027	11	11	11	11
2028	11	11	11	11
2029	11	11	11	11
2030	11	11	11	11

PART IV

Appendices

1. Working Class Cost of Living Indices
 2. Parity Index
 3. Quarterly Retail prices
 4. Export of Agricultural Commodities
 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 the raw materials and the processed products
 8. Average analysis of important fertilisers
 9. Insect pests affecting paddy crop, their distribution and some practical methods of control
 10. List of centres selected for recording meteorological information.
 11. Glossary of English, Botanical and Malayalam names.
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1. 1. 1. 1.

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20. 20. 20. 20.

1. Working Class Cost of Living Indices

The average consumer price index numbers in 13 selected centres of the state during the year 1972-73 and 1973-74 are furnished in the following table.

TABLE I

Centre	Average cost of living indices	
	1972-73	1973-74
Trivandrum	988	1271
Quilon	965	1268
Punalur	946	1252
Alleppey	961	1249
Chenganacherry	967	1271
Shertallay	992	1286
Kottayam	980	1286
Munnar	997	1291
Alwaye	989	1283
Ernakulam	986	1284
Trichur	947	1263
Chalakydy	941	1236
Kozhikode	1082	1420

The monthwise details have been furnished in table 1 of the appendix.

2. Parity Index:

The index of parity between prices received and prices paid by the farmers during each month is given below for the years 1972-73 and 1973-74.

TABLE II
Index of Parity

Months	1972-73	1973-74
July	91	106
August	88	105
September	85	103
October	84	106
November	84	106
December	83	105
January	85	108
February	89	110
March	93	112
April	98	116
May	102	118
June	101	115
Average	90	109

Quarterly retail prices:

The trend of quarterly retail prices of 12 important commodities is presented in the following paragraphs. Districtwise quarterly retail prices have been given in table III.

1. *Rice (F. P.)*.—The fair price of rice fluctuated from Rs. 1.19 to Rs. 1.50 during the year.

2. *Chillies*.—The maximum price of chillies during the year was Rs. 7.06 and the minimum price Rs. 5.09. The maximum price was reported from Cannanore District.

3. *Tapioca*.—The lowest price of 29 p. per kg. was reported from Palghat. The highest price of 69 p. ruled in the 4th quarter of the year in Cannanore district. The price quoted from Cannanore were uniformly higher than those prevailing in other districts. Superiority of quality is the reason for this.

4. *Blackgram*.—The price fluctuated from Rs. 2.14 to Rs. 3.16 per kg. during the year. The highest price of Rs. 3.16 was reported from Malappuram district where commodity was of the large variety. This accounted for the high price.

5. *Tea*.—The highest and the lowest prices were Rs. 14.01 and Rs. 7.00 respectively.

6. *Coffee*.—The maximum price of Rs. 14.13 was quoted from Trivandrum District and the minimum price of Rs. 8.00 from Ernakulam District.

7. *Sugar*.—The price ruled steady at Rs. 2.15 per kg.

8. *Coconut oil*.—The price varied from Rs. 8.16 to Rs. 12.10 per lit.

9. *Gingelly oil*.—The highest price of Rs. 10.31 was reported from Quilon District during the fourth quarter of the year and the lowest price of Rs. 7.85 from Kozhikode District in the first quarter.

10. *Coconut*.—The highest and lowest prices reported were Rs. 122.54 and Rs. 68. respectively. The highest price was reported from Kottayam District whereas the lowest price was quoted from Malappuram District.

11. *Tobacco (Jaffna)*.—The fluctuated between Rs. 15.10 and Rs. 6.75 per kg.

12. *Tobacco (ordinary)*.—The highest price quoted was Rs. 10.17 and the lowest price Rs. 6.25. These were quoted from Quilon and Kozhikode Districts respectively.

TABLE NO. 1.

Statement of Consumer Price Index Numbers for the agricultural year 1973-74.

Serial No.	Centre	July 73	August	September	October	November	December	January 74	February	March	April	May	June	Average
1.	Trivandrum	1149	1180	1160	1186	1238	1226	1252	1268	1316	1364	1438	1473	1271
2.	Quilon	1140	1170	1150	1176	1232	1219	1246	1266	1321	1367	1446	1483	1268
3.	Punalur	1120	1153	1138	1166	1220	1204	1233	1250	1299	1349	1426	1469	1252
4.	Alleppey	1126	1158	1139	1159	1212	1197	1226	1246	1293	1345	1423	1461	1249
5.	Changanacherry	1141	1175	1160	1181	1237	1223	1250	1270	1319	1369	1446	1480	1271
6.	Kottayam	1165	1197	1181	1204	1256	1241	1261	1280	1333	1374	1454	1492	1286
7.	Alwaye	1164	1197	1179	1205	1258	1241	1261	1280	1333	1379	1455	1485	1286
8.	Ernakulam	1173	1203	1183	1204	1254	1241	1261	1283	1339	1385	1464	1500	1291
9.	Trichur	1166	1198	1178	1197	1245	1232	1254	1272	1328	1378	1455	1494	1283
10.	Chalakyudy	1158	1191	1175	1195	1248	1235	1255	1279	1336	1383	1461	1497	1284
11.	Munnar	1124	1158	1141	1168	1224	1213	1240	1263	1318	1364	1451	1487	1263
12.	Sherthalai	1104	1137	1119	1144	1195	1185	1216	1234	1284	1339	1416	1455	1236
13.	Kozhikode	1275	1312	1292	1317	1373	1357	1392	1416	1479	1535	1622	1666	1420

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

Base for other centres is August 1939 = 100.

TABLE II
 Index of Numbers of parity between prices received and paid by farmers—1973—74.

Parity	106	105	103	106	106	106	106	105	108	110	112	116	118	115	109
	July	August	September	October	November	December	January	February	March	April	May	June	Average		

TABLE III

Quarterly District Average Retail Prices for 1973-74

Sl. No.	Name of Commodity	Unit	Quarter	Trivandrum	Quilon	Alleppey	Kottayam	Ernakulam	Trichur	Palghat	Malappuram	Kozhikode	Cannanore		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1.	Coconut (without husk)	100	I	74.13	80.42	77.81	87.12	81.20	75.80	82.32	68.00	70.71	69.80		
			II	99.93	104.75	102.21	117.36	104.57	98.17	114.90	86.95	97.23	93.49	93.49	
			III	96.84	96.88	105.27	122.54	106.54	105.84	104.83	102.92	109.56	117.11	117.11	117.11
			IV	91.92	98.17	101.38	117.62	104.28	106.30	98.53	97.50	103.00	111.42	111.42	111.42
2.	Coconut Oil	Lit.	I	8.72	8.65	8.50	8.38	8.41	8.88	8.72	8.27	8.16	8.16	8.60	
			II	11.93	11.31	11.45	12.01	11.66	12.10	11.80	11.80	10.96	11.08	10.95	10.95
			III	11.93	11.34	11.31	12.01	11.80	11.82	12.08	11.51	11.31	11.31	11.31	11.90
			IV	11.41	10.69	10.86	11.10	11.20	11.35	11.26	10.89	10.89	11.08	11.08	11.29
3.	Rice (F.P.)	kg.	I	1.19	1.29	1.19	1.19	1.19	1.19	1.19	1.21	1.19	1.19	1.19	
			II	1.29	1.19	1.19	1.19	1.19	1.19	1.19	1.19	1.22	1.19	1.19	1.19
			III	1.50	1.50	1.50	1.50	1.50	1.50	1.49	1.50	1.52	1.50	1.50	1.49
			IV	1.50	1.50	1.50	1.50	1.50	1.50	1.49	1.50	1.51	1.50	1.50	1.50
4.	Blackgram	kg.	I	2.57	2.77	2.48	2.75	2.62	2.35	2.66	3.16	2.82	2.82	2.29	
			II	2.34	2.59	2.28	2.45	2.42	2.17	2.34	2.34	2.78	2.65	2.23	2.23
			III	2.43	2.60	2.27	2.50	2.41	2.16	2.42	2.42	2.87	2.34	2.27	2.27
			IV	2.54	2.60	2.34	2.55	2.44	2.14	2.48	2.85	2.85	2.38	2.21	2.21
5.	Gingelly Oil	Lit.	I	8.74	8.70	8.13	8.35	8.59	8.05	8.48	8.12	7.85	8.56	8.56	
			II	8.89	8.61	8.32	8.45	9.07	8.70	8.95	8.63	8.43	8.94	8.94	
			III	9.40	9.62	9.12	9.01	9.23	9.08	9.20	8.53	8.69	9.22	9.22	
			IV	9.93	10.31	9.27	9.40	9.69	9.19	9.25	8.91	8.98	9.50	9.50	

1	2	3	4	5	6	7	8	9	10	11	12	13	14
6.	Tapioca	kg.	I II III IV	0.38 0.44 0.41 0.44	0.42 0.41 0.44 0.46	0.47 0.49 0.48 0.50	0.49 0.52 0.53 0.60	0.40 0.44 0.46 0.52	0.36 0.39 0.46 0.51	0.29 0.37 0.41 0.50	0.39 0.45 0.52 0.66	0.41 0.45 0.46 0.55	0.56 0.65 0.67 0.69
7.	Sugar (F. P.)		I II III IV	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15	2.15 2.15 2.15 2.15
8.	Chillies		I II III IV	5.89 5.17 6.64 6.63	5.09 5.81 6.29 6.39	5.13 5.79 6.46 6.48	5.09 5.51 5.95 6.34	5.14 5.52 6.60 6.55	5.31 6.00 6.60 6.79	5.68 5.70 6.76 6.93	5.31 6.82 6.17 5.99	5.36 5.91 6.42 6.62	5.83 6.09 6.78 7.06
9.	Coffee Powder		I II III IV	12.92 12.92 13.45 14.13	10.00 10.00 10.04 10.98	8.56 8.68 8.85 9.25	9.46 9.45 9.85 10.37	8.00 8.00 8.46 8.97	9.00 9.24 9.71 10.30	9.75 9.77 10.84 11.54	11.00 11.00 11.71 12.50	8.54 8.36 8.34 9.78	10.50 10.50 10.87 11.80
10.	Tea		I II III IV	12.25 12.30 12.60 13.03	13.20 13.20 13.35 14.01	7.00 7.09 7.85 8.86	7.69 7.68 8.63 8.88	7.81 7.92 8.91 11.00	12.40 12.76 13.37 14.85	8.88 8.88 9.55 6.75	7.25 7.53 13.37 6.75	10.15 10.16 11.75 7.52	10.58 10.60 10.77 11.49
11.	Tobacco (J. fina)		I II III IV	9.00 8.20 9.02 8.00	8.50 8.60 8.66 8.84	8.88 8.88 8.96 9.17	8.88 8.79 9.09 9.60	11.00 10.94 10.85 10.92	14.85 14.85 14.92 15.10	6.75 6.75 .. ..	.. .. .. ..	7.52	9.75 10.19 10.19 8.76
12.	Tobacco (Ordinary)		I II III IV	8.00 8.00 8.64 9.25	6.25 6.25 7.00 7.00	7.61 7.63 7.82 8.00	8.24 8.19 8.24 8.52	9.67 9.61 9.52 9.59	9.66 9.60 10.11 9.75	8.44 8.44 8.55 8.79	8.50 8.50 8.50 8.50	9.50 9.50 9.55 10.17	8.90 9.16 9.16 9.10

TABLE IV

Foreign export from the ports of Kerala 1972-73

Sl. No.	Commodity	Unit	Quantity	Value Rs. in lakhs
1.	Cardamom M. T.	M. T.	420	215.84
2.	Cashew kernels	M. T.	55365	5836.59
3.	Cashew shell oil	1000 lit.	3975	46.43
4.	Coffee	M. T.	24913	1761.49
5.	Coir & coir products	„	4665	1434.75
6.	Ginger	„	4159	154.22
7.	Lemongrass Oil	1000 lit.	279	100.44
8.	Marine products (including frog legs)	M. T.	23825	3859.04
9.	Oil cake	M. T.	5551	45.84
10.	Pepper	„	21590	1582.91
11.	Rubber manufacture	Val.	..	24.17
12.	Tea	M. T.	42120	2806.00
13.	Wood and timber	Val.	..	856.37
14.	Sundries	..	..	5326.83
	Total	..	..	20191.88

Notes on Certain Crops in Kerala

I. 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 altitudes ranging from 3000 feet to 5000 feet, above mean sea level.

Soil. The best soil suitable for the successful cultivation of tea is a light friable soil of good depth through 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 lay out 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 altitude of the land. In the high ranges the plucking rounds cover a period up to 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 pest attacking the crops. *Life of the Plant*: The average life of a Tea plant varies from 60 to 80 years. From the garden to the market—The leaves plucked from 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 rack 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 change into reddish hue of copper. The next process is known as drying. Hot air (200 to 230) from the drier furnace is forced into the chamber where the leaves are dried.

The last two processes are grading and packing. There are two important classifications of grade. They are leaf grades and broken grades. The former group is mainly divided into Orange Pekoe, and Pekoe souchong, Broken orange pekoe, Broken Pekow. 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 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 is ranging between 1500 and 6000 feet, above mean sea level. The most suitable altitude is between 2500 ft. to 5000 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 of coffee, 1956, Government of India).

Soil:—Coffee requires sandy soil or clayloam 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 plant is ordinarily eight to nine feet. The plants are manured well and watered frequently.

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

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

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

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

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

Yield:—Under good climatic conditions a coffee plant yields $\frac{1}{2}$ to 2 lbs. of green coffee in a season. Good 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 those 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 from 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 grade are arabica cherry, arabica parchment robusta cherry and robusta parchment.

3. RUBBER

In India attempts were first made to plant rubber in Belgium and Ratnagiri in the Bombay State. 94% of the total are 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. Owing to a record production of rubber on the one hand and the lower off take by the industry on the other, rubber experienced a problem of surplus in the last one or two years. Consequently rubber growers in the country were confronted with a perceptible fall in rubber prices. Even state intervention by way of fixation of a floor price and the entry of the State Trading Corporation into the market could not solve the problem to any considerable extent.

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 still 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 'ordium 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 Blast is prevalent in the trees which are used for frequent tapping. The symptom of the disease 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 buked and diluted is put into shadow pans. For removing water and for getting a definite shape the coagulum 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 from white to black. There are three important types of rubber, smoked sheet, late 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 output 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 50-95F. It is cultivated in the shades of huge forest trees. Cardamom plants require a fairly well distributed and 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. squares 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 plants.—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 caster cake bone-meal and potassium chlorate is also considered to be a good manure.

Diseases.—The most important disease affecting the cardamom plantations is the virus 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 reguering of the affected plants. Another menace is that caused by Thrips, mite etc. Dusting the plants with gamaxone 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 sub-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 20 to 28% 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 absorbed 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 40 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 become black. Some times the skin of the ripe berries is removed before drying. This kind 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 $\frac{1}{2}$ 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 varieties 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 disease 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.

GINGER DRY

The three important ginger growing regions are India, Jamaica and Sierra-Leoans. 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 soils suitable for ginger cultivation are well trained sandy clay, loam, red loam or lateriate soils.

Planting.—Planting usually begins by the end of May or beginning of June before the commencement of the heavy rains. Ginger rhizomes (underground 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 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 1.5 tonnes per hectare.

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 sorted as seed is advocated as a preventive measure. Another important disease is known as 'varmicularia'. The leaves becomes covered with yellowish and brownish spots and gradually dry up. Spraying and Bordezux mixture is suggested in such cases.

From garden to the Market.—Dry ginger as a market produce is prepared as follows. Then they are soaked in water and kept overnight. 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 sometimes after which they are dried in the sun. This process of dipping in lime and drying will be continued 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 consumer internally in India.

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

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 are holding almost a monopoly in the world market. In India, Kerala is the most important producer of this crop. The major lemongrass growing area are Kuruppampadi, Odakkali, Thodupuzha, Muvattupuzha, Mynad, Thali-paramba 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 under growth of vegetation by burning them. In April-May the land is ploughed and is prepared in to 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 be 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 seasons end 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 "	2½		"	"	
3rd "	2		"	"	
4th "	2		"	"	
5th "	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 (oil) 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 tub. 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

District.	Type of soil	Details of distribution
(1)	(2)	(3)
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	4. 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 Mavelikkara Taluks
	2. Sandy soil	Sherthallai and Ambalappuzha Taluks
	3. Clay loam with much of abidity	Kuttanad
	4. Laterite soil	Chengannur and part of Mavelikkara
Kottayam	1. Laterite soil	Peermade and part of Meenachil, Changanacherry and Kottayam Taluks
	2. Alluvial soil	Vaikom, parts of Changanacherry and Kottayam, Devikulam and Udumbanchola
Ernakulam	1. Laterite	Thodupuzha and Muvattupuzha and part of Kunnathunad
	2. Sandy loam	Parur, Cochin and Kanyakannur
	3. Alluvial	Part of Alwaye and Kunnathunad
Trichur	1. Sandy loam	Part of Mukundapuram, Trichur and Ghowghat Taluks.

(1)	(2)	(3)
	2. Laterite	Eastern area of Trichur and Western portion of Talappilly.
	3. Granite	Northern part of Talappilly.
	4. Clay	Backwater area in Chowghat and part of Mukundapuram
	5. Alluvial soil	Portion of Chowghat and Kunnathunad Taluk.
Palghat	1. Laterite	Interior regions of the District
	2. Sandy	Along coastal and riverside areas.
	3. Black soil	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 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	60%
	Cake to kernels crushed	60%
Sesamum	Oil to seeds crushed	40%
	Cake to seeds crushed	60%
Castor seed	Oil 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 and important fertilisers

Sl. No.	Name of Fertiliser	Nitrogen (N %)	Phosphate (205 %)	Potash (K 20%)
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	20.00	..	..
9.	Urea	46.00	..	..
10.	Super Phosphate—Single	..	18.00	..
11.	Super Phosphate—Double	..	35.00	..
12.	Super Phosphate	..	45.00	..
13.	Rock Phosphate	..	28.3	..
14.	Hyper Phosphate	..	27.3	..
15.	Sulphate of Potash	..	..	48.00
16.	Muriate of Potash	..	..	50.00
17.	Groundnut Cake	7.00	1.5	1.3
18.	Castor Cake	4.3	2.0	1.0
19.	Mustard Cake	4.5	1.5	..
20.	Muhua 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—1.06	..	..
26.	Horse Manure	0.8—1.6	..	..
27.	Farm yard Manure	0.4	0.3	0.2

(1)	(2)	(3)	(4)	(5)
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	3.0	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 of measures
(1)	(2)	(2)	(3)
1.	Paddy Rice swarming Caterpillar	Defoliation plants reduced to stumps nursery and early growing stages attached.	Spray DDT. at 1.5 kg. a.i. per HA or endrin at 250 gm. a. i. per Ha.
	Spodeptera Mauritia	Caterpillar bores into stem causing 'dead hearts' 'white car heads'	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 Cryporisa (Schoenobius) Incentulas	All stages of plants susceptible to attack	Dust BHC or spray endrin or parathion at doses given above.
3.	Rice bug leptocorisa acuta	Sucks 'milk' of tender grains leaving them chaffy	"
4.	Rice Hispa Dicladispa (Hispa) armigera	Adults feed on green matter of leaves and grubs mine leaves	Spray DDT, endrin or parathion at above doses.

(1)	(2)	(3)
5. Rices case worm <i>Nymphula depunctalis</i>	Cater pillar in lead-case defoliates	Spray DDT., endrin or parathin at above doses.
6. Paddy gall fly <i>Pacy diplois</i> or <i>y3ac</i>	Maggot bores into central shoot and induces in formation of elongated halloe gall called 'silver sheet'	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 paration at 250 gm. a. i. per Ha Phsophamidon (Dimecro 100%) solun at 100 MI, per Ha or Dimothocate (Regor at 312 ml. per Ha).
8. Paddy leaf hoppers and jussids	Cause weakening of crop by desapping in colonies	Dust BHC.
9. Paddy leaf roller <i>Onaphalocrocis medinalis</i>	Cater pillar floods leaves and feeds on green matter. Attacked fields show white patches	Dust BHC or spray DDT at doses given above.

List of centres selected for recording Meteorological Information in Kerala for the year 1971-72

TRIVANDRUM DISTRICT

1. Ponmudy
2. Varkala
3. Attingal
4. Nedumangad
5. Trivandrum (b)
6. Neyyattinkara
7. Parassala
8. Trivandrum (Acrodrome)
9. Vellayani (AM)

QUILON DISTRICT

1. Pathanamthitta
2. Kooni
3. Adoor
4. Karunagappally
5. Punalur
6. Kottarakara
7. Aryankavu
8. Quilon
9. Nilamel
10. Paravur
11. Kayamkulam (AM)

ALLEPPEY DISTRICT

1. Arukutty
2. Sherthalai
3. Alleppey (b)
4. Ambalapuzha
5. Thiruvalla
6. Chengannoor
7. Haripad
8. Mavelikara
9. Kayamkulam

KOTTAYAM DISTRICT

1. Chinar
2. Marayoor
3. Munnar
4. Devikulam
5. Vandanmattu
6. Vaikom
7. Palai
8. Ettumannur
9. Kumily
10. Kottayam
11. Peermade (Taluk)
12. Peermade (Residency)
13. Kanjirappally
14. Changanacherry
15. Velloor
16. Kottayam (A. M.)

ERNAKULAM DISTRICT

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

TRICHUR DISTRICT

1. Cranganore
2. Mukundapuram

3. Trichur
4. Thalappilly
5. Ollukkara (AM)
6. Peechi (AM)

PALGHAT DISTRICT

1. Alathur
2. Palghat
3. Parali
4. Ottappalam
5. Cherplasserry
6. Mannarghat
7. Chittur
8. Pattambi (AM)

MALAPPURAM DISTRICT

1. Perinthalmanna
2. Ponnani
3. Manjeri
4. Thirurangadi
5. Nilambur

KOZHIKODE DISTRICT

1. Kozhikode
2. Vithiri
3. Quilandi
4. Badagara
5. Kuttiyadi

CANNANORE DISTRICT

1. Kasargod
2. Thaliparamba
3. Cannanore
4. Hosdurg
5. Tellicherry
6. Irrikur
7. Payyannur
8. Mananthody
9. Mahe
10. Kasargod (AM)

Non-Reporting Rainauge Stations—Schedule I

TRIVANDRUM DISTRICT

1. Aruvikara
2. Vamanapuram
3. Nedumangad

QUILON DISTRICT

4. Kulathupuzha
5. Kottarakkara

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 (Mananthody)
26. Konnath
27. Chandanathode
28. Peria
29. Chedloth Range
30. Taliparamba
31. Cannanore

Non-Reporting Railway Rainauge Stations

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Kollengode 2. Thenalai 3. Quilon 4. Trichur 5. Alwaye | <ol style="list-style-type: none"> 6. Angadipuram 7. Calicut 8. Panthalayani 9. Olavakkot 10. Shoranur 11. Cannanore |
|--|--|

11. Glossary of English, Botanical and Malayalam Names of Crops

Sl. No.	English Name	Malayalam Name	Botanical Name
(1)	(2)	(3)	(4)
1.	Paddy	Nellu	Oryza Sativa
2.	Ragi	Koovaraku	Eleusine Coracana
3.	Jowar	Cholam	Sorghum Vulgare
4.	Bajra	Kambu	Pennis tum Typhoidse
5.	Kodamillet	Varagu	Paspalum Scrobiculatum

(1)	(2)	(3)	(4)
6.	Chama	Chama	Panicum Miliare
7.	Wheat	Gothampu	Triticum Vulgare
8.	Bereley	Barley	Hordeum Vulgare
9.	Mauze	Mokke Cholam	Zea mays

PULSES

1.	Blackgram	Uzhunnu	Phaseolus mungo
2.	Greengram	Cherupayar	Phaseolus Aureus
3.	Horsegram	Muthira	Dolichos Biflorus
4.	Redgram	Thuvara	Cajanus Cajan
5.	Cowpea	Perumpayar	Vigna Sinensis

SUGAR

1.	Sugarcane	Karimbu	Saccharum Officinarum
2.	Palmrah	Karimpana	Borassus flabellifer

CONDIMENTS AND SPICES

1.	Chilly	Mulagu	Capsicum
2.	Turmeric	Manjal	Curcuma longa
3.	Cardamom	Elom	Elatteria cardamom
4.	Coriander	Kothamalli	Coriandrum Sativum
5.	Mustard	Kadugu	Brassica sp
6.	Pepper	Kurumulagu	Piper Nigrum
7.	Cumin	Jecrakam	Cuminum Cyminum
8.	Garlic	Veluthulli	Allium Sativum
9.	Long pepper	Thippilli	Piperlongum
10.	Ginger	Inchi	Zingiber officinale
11.	Nutung	Jathi	Myristica Fragrans
12.	Cinnamon	Karukappatta	Cinnamomum Zeylanica
13.	Clove	Grampu	Eugenia Caryophyllata
14.	Cinchona	Cinchona	Cinchono Officinalis
15.	Arecanut	Adacaka	Areca Catechu

FRUITS

1.	Banana	Vazha	Musa Paradisiaca
2.	Plantain	Vazha	Musa Sapiantum
3.	Bread fruit	Seemaplavu	Artocarpusincisa
4.	Bullacks heart	Malamumthiri	Anonareticulate
5.	Cashew	Kcsumayu	Anacardium Occidentale
6.	Grade vine	Munthiri	Vitis Vinifere
7.	Custardapple	Seetha Pazham	Anona Squamosa
8.	Guava	Pera	Psidium Guajava
9.	Jujube	Elantha	Ziz rphus jujuba

(1)	(2)	(3)	(4)
10.	Jack fruit	Plavu	Artocarpus Integrifolia
11.	Lemon	Naranga	Citrus Lemon
12.	Lime	Naranga	Citrus Aurantifolia
13.	Mango	Mavu	Mangifera indica
14.	Pappaya	Pappaka	Carrica Pappaya
15.	Pineapple	Kaithachakka	Annanas Sativa
16.	Pemogramate	Mathalam	Punica Granatum
17.	Sapota	Sapota	Achras Achras Sapota
18.	Pomello	Bamplimas	Citrus Maxima
19.	Orange	Orange	Citrus autantium
20.	Mangoesteen	Mangoesteen	Garcimia mangesteena

VEGETABLES

1.	Tapioca	Maracheeni	Manihot Utilissima
2.	Elephant ear	Chembu	Celocasia antiquorum
3.	Elephant foot	Ghena	Amorphophallus
4.	Potato	Uralakizhangu	Solanum tuberosum
5.	Sweet Potato	Checnikizhangu	Ipomoea batatas
6.	Radish	Mu'langi	Rayhanus sativus
7.	Yam	Kachil	Dioscorea Spp
8.	Turnip	Seema Mullangi	Brassica Campestris
9.	Carrot	Carrot	Daucus Carota
10.	Bed pumpkin	Vellarimathan	Cucurbita Maxima
11.	Brinjal	Vazhuthana	Solanum Malongena
12.	Tomato	Thakkali	Lycopersicum esculentum
13.	Amaranthus	Cheera	Amaranthus Spp
14.	Lady's finger	Venda	Abelmoschus esculentus
15.	Bitter gourd	Pavakka	Mamordica Charantia
16.	Bottle gourd	Churukka	Laguararia Siceraria
17.	Snake gourd	Padavalnga	Trichosanthes anguina
18.	Ridge gourd	Peechanga	Luffa acutangulata
19.	Smooth gourd	Chorakka	Luffea Cylindrica
20.	Ash gourd	Kumbalanga	Ben measa
21.	Little gourd	Kowva	Coccinia cordifolia
22.	Cluster bean	Kothavara	Cyamopsis psoralodea
23.	Sword bean	Vellinga	Canavalia cusiformis
24.	French bean	Beans	Phaseolus vulgaris
25.	Karileaf	Karivappila	Murraya Zeenigari
26.	Beet root	Beet root	Beta Vulgaris
27.	Cabbage	Muttakose	Brassica Oleracea
28.	Cauliflower	Cauliflower	Brassica Oleracea
29.	Cucumber	Vellarikka	Cucumis Clearacca
30.	Musk Melon	Thaikumbalam	Cucumis melo

(1)	(2)	(3)	(4)
31.	Pumpkin	Mathanga	Cucurbitapepo
32.	Indian bean	Amara	Delichos lablab
33.	Drum stick	Muringa	Moringa Pterigospreme
34.	Onion	Ulli	Allium Cepa
35.	Roseapple	Jampa	Engenia Jamos

OIL SEEDS

1.	Coconut	Thengu	Cocos nucifera
2.	Sesamum	Ellu	Sesamum Spp
3.	Groundnut	Nilakadala	Arachishipagea

APPENDIX 12

**Estimated Area, Mean yield and products of rice relating
to Autumn crop of Paddy 1973**

Taluk and District	No. of experi- ments	Area in (Hec.)	Mean yield of dry paddy (Kg./ Hec.)	S. E. of the mean yield	Produ- tion of rice in tonnes
(1)	(2)	(3)	(4)	(5)	(6)
1. Neyyattinkara	58	5887	2273	139	8791
2. Trivandrum	30	4137	2530	214	6877
3. Nedumangal	30	4867	1645	184	5260
4. Chirayinkil	30	3593	2266	121	5349
TRIVANDRUM DISTRICT	148	18484	2164	86	26277
5. Quilon	25	2859	2276	163	4275
6. Kottarakara	55	6331	2024	155	8419
7. Kunnathur	60	3972	1707	66	4455
8. Pathanapuram	42	4400	2537	125	7334
9. Pathanamthitta	25	1118	2068	239	1519
10. Karunagappally	30	2560	2404	151	4043
QUILON DISTRICT	237	21240	2153	63	30045
11. Karthigappally	48	5623	2382	149	8800
12. Mavelikkara	51	3736	2474	121	6073
13. Chengannur	25	1990	2301	336	3008

	(1)	(2)	(3)	(4)	(5)	(6)
QUILON DISTRICT						
14. Thiruvalla		28	1772	2562	276	2984
15. Kuttanad		29	6122	2907	400	11692
16. Ambalappuzha		26	941	2379	523	1471
17. Sherthailay		28	6358	1471	333	6145
ALLEPPEY DISTRICT		235	26542	2304	132	40173
18. Changanacherry		58	1854	2232	120	2719
19. K. njiappally		15	64	2093	120	88
20. Kottayam		59	2683	1849	173	3259
21. Vaikom		30	1412	2529	211	2346
22. Meenachil		45	1904	2670	143	3340
KOTTAYAM DISTRICT		207	7917	2259	83	11752
23. peermade		Nil	Nil	Nil	..	Nil
24. Devikulam		5	288	2948	..	558
25. Udumbanchola		Nil	Nil	Nil	..	Nil
26. Thodupuzha		25	3746	2695	197	6633
IDIKKI DISTRICT		30	4034	2713	197	7191
27. Kothamangalam	}	27	7741	2048	135	10416
28. Muvattupuzha						
29. Cochin		23	3272	2112	222	4540
30. Kanayannur		51	8284	1836	234	9993
31. Kunnathunad		27	7534	2032	229	10058
32. Alwaye		25	6757	1768	134	7849
33. Parur		26	3673	1788	168	4315
ERNALULAM DISTRICT		179	37261	1927	83	47171
34. Cranganore		30	377	1337	88	331
35. Mukundapuram		30	7660	1962	75	9874
36. Trichur		28	7217	2083	192	9877
37. Thalappally		60	16174	2061	119	21901
38. Chowghat		25	3600	1721	112	4071
TRICHUR DISTRICT		173	35028	2001	71	46054
39. Chittur		29	19240	3846	230	48616
40. Alathur		29	20289	3371	351	44935
41. Palghat		49	26463	2754	170	47882
42. Ottappalam		56	28205	2217	166	41083
43. Mannarghat		30	7300	2319	132	11122
PALGHAT DISTRICT		193	101497	2904	105	193638
44. Perinthalmanna		30	13672	2613	200	23471
45. Ponnani		30	6872	2433	375	10985
46. Tirur		30	10512	2514	273	17363
47. Ernad		58	19580	1858	127	23901

(1)	(2)	(3)	(4)	(5)	(6)
MALAPPURAM DISTRICT	148	50636	2276	106	75720
48. Kozhikode	39	7895	1209	75	6271
49. Quilandy	54	10785	1121	93	7943
50. Badagara	28	6289	1168	163	4826
51. South Wynad	..	..	..	..	..
Kozhikode	121	24969	1161	62	19040
52. North Wynad	..	..	..	..	..
53. Tellicherry	30	8956	2079	363	12233
54. Cannanore	30	9761	1630	120	10453
55. Taliparamba	27	10238	2138	153	14381
56. Hosdurg	37	13095	2246	302	19323
57. Kasargode	39	23107	2143	119	32534
GANNANORE DISTRICT	163	65157	2077	94	88924
STATE	1834	392765	2271	37	585985

APPENDIX 13

Estimated area, mean yield and production of rice relating to winter crop of paddy—1974

Taluk and District	No. of experiments	Area in hect.	Mean yield of dry paddy in kg./hect.	Standard error	Production of rice in tonnes
(1)	(2)	(3)	(4)	(5)	(6)
1. Neyyattinkara	58	5945	2164	112	8452
2. Trivandrum	28	4436	2058	54	5998
3. Nedumangad	30	5043	2010	175	6660
4. Chirayinkil	30	4717	2289	191	7094
TRIVANDRUM DISTRICT	146	20141	2131	72	8204
5. Quilon	29	4760	2657	484	8309
6. Kottarakkara	59	6832	2720	269	12209
7. Kunnathur	30	5277	2245	141	7783
8. Pathanapuram	30	4794	2844	355	8958
9. Pathanamthitta	29	2403	2604	195	4111
10. Karunagappally	30	4721	2319	107	7193

(1)	(2)	(3)	(4)	(5)	(6)
QUILON DISTRICT	207	28787	2568	123	48563
11. Karthigapally	24	5949	1258	210	4917
12. Mavelikkara	25	5550	1493	252	5444
13. Chengannur	28	2714	2345	474	4181
14. Thiruvalla	25	2843	2056	201	3840
15. Kuttanad	Nil	..	..	..	..
16. Ambalapuzha	26	2211	1094	341	1589
17. Sherthallai	28	4164	618	31	1691
ALLEPPEY DISTRICT	156	23431	1407	105	21662
18. Changanacherry	29	1488	2070	202	2024
19. Kanjirappally @	..	143	2327	..	219
20. Kottayam	46	7140	1821	212	8542
21. Vaikom	30	7175	1892	236	8919
22. Meenachil	30	3199	2101	91	4416
KOTTAYAM DISTRICT	135	19145	1918	122	24120
23. Peermade @	..	90	3835	..	227
24. Devicolam	28	4195	1829	102	5041
25. Udumbanchola	9	1573	2831	..	2926
26. Thodupuzha	42	3453	2265	140	5138
IDUKKI DISTRICT	79	9311	2179	84	13332
27. Kothamangalam	39	10834	2296	215	16343
28. Muvattupuzha					
29. Cochin	Nil	..	..	..	..
30. Kanayannur	56	4689	1381	110	3597
31. Kunnathunad	54	11301	2007	167	14901
32. Alwaye	40	10136	1726	90	11494
33. Parur	22	2132	1820	120	2549
ERNAKULAM DISTRICT	211	39092	1903	82	48884
34. Cranganore	27	1581	1082	119	1124
35. Mukundapuram	82	15638	1738	125	17857
36. Trichur	90	17699	1365	133	15873
37. Thalappally	118	16675	2020	57	22130
38. Chowghat	54	9027	1050	91	6227
TRICHUR DISTRICT	371	60620	1587	91	63211
39. Chittur	136	22364	2042	130	30003
40. Alathur	150	18005	2675	166	31643
41. Palghat	115	15721	2637	193	27237
42. Ottappalam	132	17384	2020	59	23071
43. Mannarghat	55	6279	2537	73	10466

@ Crop cutting experiments not conducted. Condition factor for area and average yield is reckoned as 100.

(1)	(2)	(3)	(4)	(5)	(6)
PALGHAT DISTRICT	588	79753	2336	66	122420
44. Perinthalmanna	29	5565	1769	185	6468
45. Ponnani	60	6440	2894	406	12245
46. Tirur	89	10257	2288	169	15418
47. Ernad	120	13865	1946	87	17727
MALAPPURAM DISTRICT	298	36127	2185	97	51858
48. Kozhikode	38	10379	1506	319	10269
49. Quilandy	48	6455	1339	179	5679
50. Badagara	30	3119	1150	40	2357
51. South Wynad	119	15232	2696	128	26980
KOZHIKODE DISTRICT	235	35185	1959	114	45285
52. North Wynad	59	9286	2738	177	16704
53. Tellicherry	30	3308	1564	65	3399
54. Cannanore	30	1554	1572	246	1605
55. Talparamba	53	6061	1662	200	6618
56. Hosdrug	26	4261	1611	308	4510
57. Kasargode	30	4918	2284	104	7380
CANNANORE DISTRICT	228	29388	2083	86	40216
STATE	2654	380980	2028	28	507755

APPENDIX 14

**Estimated Area, Mean yield and production of rice relating
to Summer Crop of Paddy 1974**

Taluk and District	No. of Experi- ments	Area in hect.	Mean yield of dry paddy in kg./hect.	Standard Error	Production of rice in tonnes
(1)	(2)	(3)	(4)	(5)	(6)
1 Neyyattinkara	16	231	1988	134	302
2. Trivandrum	16	340	1895	277	423
3. Nedumangad	14	107	1585	124	111
4. Chirayinkil	16	462	999	200	303
TRIVANDRUM DISTRICT	62	1140	1521	119	1139
5 Quilon	17	323	1646	189	349
6. Kottarakara	1	126	752	..	62

	(1)	(2)	(3)	(4)	(5)	(6)
7. Kunnathur		12	157	1306	66	135
8. Pathanapuram		Nil				
9. Pathanamthitta		13	78	1819	341	93
10. Karunagappally		12	478	1561	219	491
QUILON DISTRICT		55	1162	1480	107	1130
11. Karthigappally		16	3543	2577	209	5999
12. Mavelikkara		17	4357	2845	257	8144
13. Chengannur		15	2783	2205	365	4032
14. Thiruvalla		13	2885	2102	377	3984
15. Kuttanad		17	24700	2682	531	43523
16. Ambalapuzha		14	3798	2260	194	5639
17. Sherthallai		Nil				
ALLEPPEY DISTRICT		92	42066	2580	316	71321
18. Changanacherry		18	3553	3474	747	8109
19. Kanjirappally		Nil				
20. Kottayam		18	11171	1425	311	10459
21. Vaikom		17	2133	1340	332	1878
22. Meenachil		9	440	1859	424	537
KOTTAYAM DISTRICT		62	17297	1846	256	20983
23. Peermade		3	52	1165	..	40
24. Deviculam		Nil				
25. Udumbanchola		Nil				
26. Thodupuzha		Nil				
IDUKKI DISTRICT		3	52	1165	..	40
27. Kothamangalam		16	689	1506	82	682
28. Muvattupuzha						
29. Cochin		Nil				
30. Kanayannur		18	367	791	193	191
31. Kunnathunad		13	1682	1725	215	1906
32. Alwaye		16	3601	1878	222	4443
33. Parur		14	3876	1768	72	4502
ERNAKULAM DISTRICT		77	10215	1747	91	11724
34. Cranganore		6	32	1435	326	30
35. Mukundapuram		18	4790	2052	168	6458
36. Trichur		15	6617	1689	450	7343
37. Thalappally		18	1231	2398	289	1939
38. Chowghat		18	1596	1419	271	1488
TRICHUR DISTRICT		75	14266	1841	220	17258
39. Chittur		17	245	2553	167	411
40. Alathur		9	255	2375	463	398
41. Palghat		9	150	1817	241	179

(1)	(2)	(3)	(4)	(5)	(6)
TRICHUR DISTRICT					
42. Ottappalam	15	978	2290	486	1471
43. Mannarghat	18	303	1749	218	348
PALGHAT DISTRICT					
44. Perinthalmanna	16	544	1816	105	649
45. Ponnani	18	2873	1753	277	3309
46. Tirur	18	1547	2568	198	2610
47. Ernad	17	449	1615	251	476
MALAPPURAM DISTRICT					
48. Kozhikode	5	643	2423	1213	1024
49. Quilandy	14	290	2775	518	529
50. Badagara	14	166	2661	330	290
51. South Wynad	18	2769	2180	211	3966
KOZHIKODE DISTRICT					
52. North Wynad	18	941	1906	332	1178
53. Tellicherry	..	285	1779*	..	333
54. Cannanore	..	22	2100*	..	30
55. Taliparamba	..	33	2200*	..	48
56. Hosdurg	17	488	2195	144	704
57. Kasargode	16	1751	1887	96	2171
CANNANORE DISTRICT					
STATE	665	100930	2168	144	143719

* Conventional estimates—not based on crop cutting survey.

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