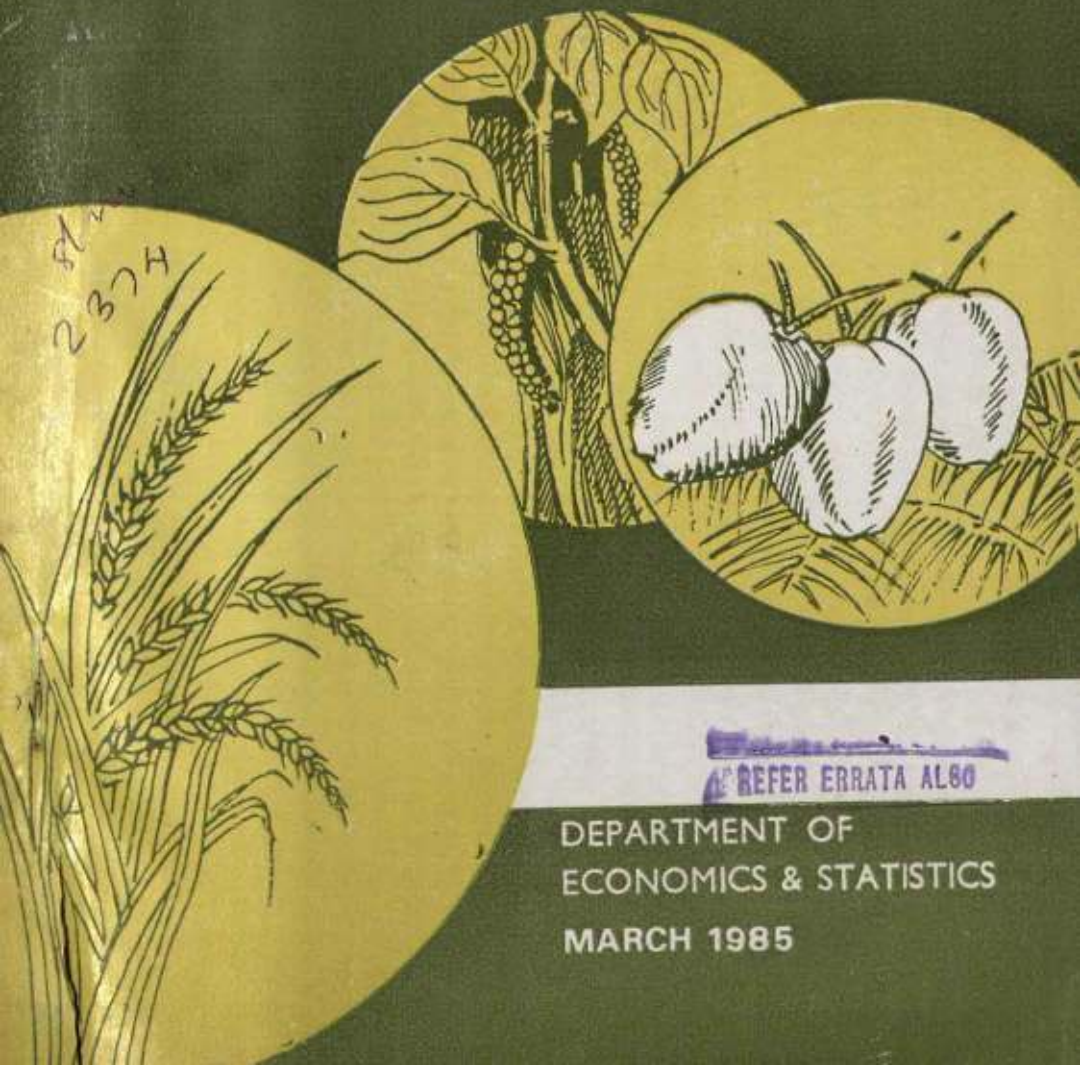




GOVERNMENT OF
KERALA

season and crop report of kerala

1979-1980 & 1980-1981



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FOREWORD

This issue of the "Season and Crop Report of Kerala State" deals with the different aspects of the State's agricultural economy for the years 1979-80 and 1980-81. The data on land use, area under crops and production of crops furnished in this report are based on the results obtained through 'EARAS'.

This report has been prepared by Sri T. V. Isac Research Officer under the supervision of Smt. J. Padmam, Assistant Director with the guidance of Sri K. Achuthan, Joint Director of this Directorate.

Suggestions for the improvement of the future issues of this report are welcome.

(Sd.)

N. GEORGE JOHN,
*Director of Economics and
Statistics.*

Trivandrum.
20-2-1985.

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SEASON AND CROP REPORT OF KERALA STATE

1979-80 & 1980-81.

1. *Introduction:*

Kerala State lies at the south-west corner of the Indian Peninsula between $8^{\circ} 18'$ and $12^{\circ} 48'$ North Latitudes and $74^{\circ} 52'$ and $77^{\circ} 22'$ east Longitudes. It is a long and narrow strip of land lying between the western ghats and the Arabian Sea. Its coastal line is 580 Km long and its breadth varies from 130 Km in the middle to 32 Km in the extremities. The geographical area of the State is 38863 sq. Km, which forms only 1.18% of the total area of the country.

The physical configuration of the State is singularly diversified. The forest clad western ghats forms the eastern boundary of the State. From the western ghats the land undulates to the west presenting a series of hills and valleys intersected by numerous rivers and streams. The western portion of the State lying near the Arabian sea is more or less level. Numerous lakes and backwaters adorn this narrow coastal belt. These diverse characteristics of the land and consequent changes in plant growth demarcate the State into three distinct regions viz., the highland, the midland and the low land. The high land region comprises the ghat forests. The lowland region lies on the west coast. The region that lies between the highland and low land comprises the midland.

Most of the reserved forests are situated in the high land region. The major forest produces are teak wood, rose wood and numerous other varieties of hard and soft woods. The annual rain fall is very high in this region compared to other regions.

The high land is suited for the cultivation of plantation crops like tea, coffee, cardamom and rubber. The highland cover an area of 18653 sq. km.

The midland region is famous for its diverse crops. While rice is grown in valleys, Coconut, arecanut, rubber, pepper, tapioca etc., are grown on the slopes of the hills. The midland comprises an area of 16231 Sq. km.

The lowland which covers an area of 3979 Sq.km. is monopolised by cocoanut and paddy.

Paddy, Coconut, Arecanut, Tapioca, Pepper and Rubber are the most important crops of the State. Though rubber was originally cultivated on the lower highland region it has made deep in roads into the mid land region also. Now-a-days rubber is the most flourishing crop of the state. Paddy being a seasonal crop, is cultivated on the wet lands during the three seasons viz., Autumn, Winter and Summer. Summer crop was originally a single crop raised on waterlogged area and reclaimed lagoon lands subject to inundation during monsoon seasons. But more and more lands are being brought under summer crop by raising a third crop on lands where there are better irrigation facilities. But Autumn and Winter crops are more extensive than summer. Autumn crop is exclusively rainfed while winter crop is rainfed as well as irrigated from water drawn on irrigation canals. If irrigation facilities are properly exploited more area could be brought under winter and summer crops of paddy. The high cost of cultivation and comparatively low return on rice now-a-days had adversely affected both area and productivity of paddy. Though rice is the staple food of the people of the State they have to depend upon the Central Government and the neighbouring States for their food needs as the rice produced in the State is less than half of the quantity required for the State. Besides Coconut, arecanut and rubber, perennial crops like Jack and Mango are extensively cultivated in the State. Intensive mixed cropping of perennials on the dry lands is the general pattern of cultivation of the people of this State. The State is blessed with a Salubrious climate. The climate is of tropical forests with heavy rainfall, warm humidity of atmosphere and a fairly uniform temperature throughout the year. The normal rainfall is 3000 mm. per annum.

2. Area:

For administrative purpose the state is divided into 12 districts viz., Trivandrum, Quilon, Alleppey, Kottayam, Idukki, Ernakulam, Trichur, Palghat, Malappuram Kozhikode, Wynad and Cannanore. (two more Districts viz. Pathanamthitta and Kasargode are under formation by carving out portions from Quilon and Cannanore Districts respectively)

The total area of the State (census) is 38863 Sq. km. This forms only 1.18% of the total area of the Indian union. Comparing with the other States of the Indian union Kerala ranks seventeenth in respect of area. Madhya Pradesh with an area of 443446 Sq. km. takes the first rank while the lowest rank goes to Sikkim with an area of 7096 Sq. km. only. The District-wise distribution of the area of the state is given in table I.1.

Idukki is the largest and Alleppey is the smallest District of the State.

TABLE 1.1

District-wise distribution of area of the State 1981

<i>Sl. No.</i>	<i>Districts</i>	<i>Area in Sq. kms.</i>	<i>Percentage to total area</i>
1	Trivandrum	2192	5.64
2	Quilon	4620	11.89
3	Alleppey	1883	4.85
4	Kottayam	2204	5.67
5	Idukki	5061	13.02
6	Ernakulam	2408	6.20
7	Trichur	3032	7.80
8	Palghat	4480	11.53
9	Malappuram	3548	9.13
10	Kozhikode	2345	6.03
11	Wynad	2132	5.48
12	Cannanore	4958	12.76
	State	38863	100.00

3. Population:

The population of the State as per 1981 census is 254.57 lakhs as against 213.47 lakhs during the 1971 census. Kerala is the most densely populated state of India with a density of 685 in 1981 as against 216 for the country as a whole. The density of population has increased from 549 to 655 during the decade 1971-81. The District-wise distribution of population and density of population are given in Table 1.2.

TABLE 1.2

District-wise distribution of population 1971 and 1981

Sl. No.	Name of District	Population in lakhs		Density of population	
		1971	1981	1971	1981
1	Trivandrum	21.98	25.96	1003	1184
2	Quilon	24.13	28.14	522	609
3	Alleppey	21.26	23.50	1129	1248
4	Kottayam	15.39	16.97	698	770
5	Idukki	7.65	9.72	151	192
6	Ernakulam	21.64	25.35	899	1053
7	Trichur	21.29	24.40	702	805
8	Palghat	16.85	20.44	376	456
9	Malappuram	18.56	24.02	523	677
10	Kozhikode	18.21	22.45	777	957
11	Wynad	4.15	5.54	194	260
12	Cannanore	22.36	28.04	451	565
	State	213.47	254.53	549	655

In respect of population Quilon and Cannanore are the biggest Districts of the State. The density of population was highest in Alleppey District while it was lowest in Idukki District. Alleppey District comprises the thickly populated coastal areas whereas major portions of Idukki district is covered by reserved forests.

Agriculture is the main occupation of the people. But the per capita land available for the cultivation is only 0.094 hectare, while the per capita cultivated land is only 0.086 hectare. Due to the domination of perennial crops the intensity of cultivation (of the net area sown) is only 1.3.

4. Climate and Rain fall:

The State is gifted with a salubrious climate. The temperature is fairly uniform. The temperature varies between 33°C and 22°C.

The normal rainfall is 3017.6 m.m. It varies from 2001.6 m.m. in Trivandrum to 3796.0 in Kozhikode. The climate is controlled by the south

west (June-August) and North East (October-December) monsoon winds blowing in the State. Due to the influence of these winds wide spread rains occur in Kerala throughout the year except for a few broken periods of dry weather. About 66% of the rain is received from the south west monsoon alone. As regards the distribution of the rainfall region wise its progressive increase from south to north and from west to east is discernible. The normal and actual rainfall for the years from 1978-79 to 1980-81 are given in table 1.3.

TABLE 1.3

District-wise distribution of normal and actual rainfall

District	Normal rainfall (in mm)	Actual rainfall (mm.)		Percentage change over normal rainfall	
		1979-80	1980-81	1979-80	1980-81
Trivandrum	2001.6	1430.7	1486.4	-28.5	-25.7
Quilon	2760.2	4780.0	3958.6	+73.2	+43.4
Alleppey	3012.0	1937.7	3160.8	-34.5	+4.9
Kottayam	3462.6	2292.8	2979.0	-33.8	-14.0
Idukki	2898.9	2266.9	2995.7	-21.9	+3.3
Ernakulam	3548.5	3099.8	3241.1	-12.7	-8.7
Trichur	3177.4	3224.6	3860.7	+1.4	+21.5
Palghat	2397.7	2885.6	3049.6	+20.3	+27.1
Malappuram	2900.1	2700.7	1901.4	-6.9	-34.5
Kozhikode	3796.0	2771.2	2331.0	-27.0	-38.6
Cannanore	3437.9	3350.5	3455.8	-2.6	+0.5
State	3017.6	2859.3	3079.2	-5.3	+2.0

The normal rain fall in Trivandrum, Quilon, Idukki, Palghat and Malappuram are below the normal rain fall for the State as a whole. Though the total rain fall for the year 1979-80 shows a decrease of over 5% over normal rainfall Quilon district experienced heavy down pour of about 4780 mm which was 73% above the normal rainfall. Though the year 1980-81 witnessed rainfall both above normal and previous year's total it was less than normal and previous years total in Malappuram and Kozhikode Districts. The seasonal distribution of rainfall during 1979-80 was more congenial to crops than that of 1980-81 period.

5. Soil:

The different types of soil that are found in the State are classified as follows.

1. Hilly and forest soil seen all along the eastern parts of the State.
2. Sandy soil seen in the coastal belt
3. The laterite soil seen in the midland
4. The black soil occurring in patches on 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 found in the eastern tip of Trivandrum Taluk.

6. Communications:

The State has got a well developed infrastructure of communications. Though the road system is fairly well developed in the mid land and low land regions, the absence of a ghat high way is keenly felt in the development of the high land region of the State. The State is connected with the neighbouring states at important points by road. The rail system is not so developed. There is a railway line connecting the both ends of the state by a broad guage line. The section between cochin and Palghat is being double lined. Trivandrum is being connected with Madras, Bangalore, Bombay, New Delhi, Ahmedabad and Bongaigaon in Assam via Culcatta by direct trains.

The back waters and inter linking canals provide ample facilities for cheap inland water transport. The major port at Cochin, three intermediate ports and eight other minor ports, provide ample facilities for coastal transport from Vizhinjam to Mangalore in Karnataka.

There are two aerodromes at Trivandrum and Cochin and a third one is being constructed at Kozhikode. When the Kozhikode aerodrome is completed the three municipal corporations located in the Southern, Central and northern regions respectively of the State can be connected by air also. This will give a boost to air transport system within the State. At present international flights to Gulf countries, Sri Lanka and Mali are being operated from Trivandrum. Domestic flights to Madras, Bangalore and Bombay are also being operated.

Postal, telephone and telegraphic facilities in Kerala are better than those in the other states of the Indian union.

7. Land utilisation:

The particulars of different land uses are estimated on the basis of data collected through the "EARAS" which was first introduced in the State during 1975-76 as an improvement over the land utilisation survey conducted in the

state till then. The survey was started in the state in 1975-76 and 10% of the village (134) were completely enumerated. In the next year 1976-77, 15% of the villages (200) selected were enumerated and in the subsequent 3 years 20% of the villages each (265) were selected and enumerated. In the sixth year (1980-81) remaining 15% of the villages (199) were enumerated. A repeat sample of 25% of the investigator units enumerated during 1979-80 was also re-enumerated during 1980-81 to study the crop changes.

The land utilisation particulars of the state for the years 1979-80, and 1980-81 are given in table 2.1 of summary tables and district-wise details in 3.2 of the detailed tables. Though the area under different land uses estimated for the years 1978-79 to 1980-81 show slight changes in their respective percentages the total, area remains more or less same. The area of the State according to village papers has been used for the estimation of area under different land uses. Which vary slightly over the geographical area of the State as estimated by the Surveyor General of India

District-wise details of area under important land uses are discussed below

7 (a) Forests:

The total forest area of the State is remaining Stable at 1081509 hectares for the last three years under review and constitute about 28% of the total geographical area. District-wise distribution of forests for the years 1978-79 to 1980-81 are given in table 1.4.

TABLE 1.4

District-wise distribution of area under forests (hectares)

District	Area			% to total forest	% to the area of the Districts
	1978-79	1979-80	1980-81		
Trivandrum	49861	49861	49861	4.60	22.78
Quilon	236048	236048	236048	21.83	49.76
Alleppey	518	518	518	0.04	0.28
Kottayam	8141	8141	8141	0.75	3.70
Idukki	260993	260993	260993	24.13	50.67
Ernakulam	8123	8123	8123	0.75	3.45
Trichur	103619	103619	103619	9.59	34.61
Palghat	136257	136257	136257	12.60	31.04
Malappuram	103417	103417	103417	9.57	34.61
Kozhikode	90876	90876	90876	8.41	24.48
Cannanore	83656	83656	83656	7.73	14.73
State	1081509	1081509	1081509	100.00	27.83

Out of the total forest area of 108158 Sq.km. about 24% was in Idukki District which works out to about 51% of the total geographical area of the district. The second place is occupied by Quilon with about 22% of the total forests and about 50 of the total area of the district. The percentage of forests was less than one for Alleppey, Kottayam and Ernakulam districts. It may be noted that these districts have little or no highland region in them as most of the forests are located in the highland region.

(b) *Land put to non-agricultural uses:*

The area of land put to non-agricultural uses during the years 1978-79, 1979-80 and 1980-81 were 260443 hectares 263497 hectares and 269824 hectares respectively. The District-wise break up is given in table 1.5 below:

TABLE 1.5

District-wise distribution of land put to non-agricultural uses

Sl. No.	District	Area under non- agricultural uses in hectares			% to total		
		1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
1	Trivandrum	16656	16986	17346	6.40	6.45	6.43
2	Quilon	24631	25150	24822	9.46	9.54	9.20
3	Alleppey	30869	29866	30838	11.85	11.33	11.43
4	Kottayam	17537	18302	19065	6.73	6.95	7.07
5	Idukki	13984	14904	15566	5.37	5.66	5.77
6	Ernakulam	29823	30379	32752	11.45	11.53	12.14
7	Trichur	21146	21546	21642	8.12	8.18	8.02
8	Palghat	32685	32318	31351	12.55	12.27	11.62
9	Malappuram	16867	17940	18603	6.47	6.81	6.89
10	Kozhikode	20752	21683	22483	7.97	8.23	8.33
11	Cannanore	35493	34373	35356	13.63	13.05	13.10
	State	260443	263497	269824	100.00	100.00	100.00

The area of land put to non-agricultural uses shows a progressively increasing trend over the years in the State as a whole. Cannnore, Ernakulam, Palghat and Alleppey Districts have 10% or more each of the total land put to non-agricultural uses.

(c) *Barren and uncultivable land:*

The estimates of area under this category for the years from 1978-79 to 1980-81 were 75382 hectares, 78187 hectares and 85770 hectares respectively. More than 35% of the total area under this category was in Cannanore district alone. The three districts of Cannanore, Palghat and Idukki account for about 72% of the total land under barren and uncultivable land.

(d) *Permanent pastures and grazing lands:*

The area under this category show a progressively diminishing trend over the years. It decreased from 6245 hectares in 1978-79 to 5630 hectares in 1979-80 and to 5432 hectares in 1980-81. More than 70% of the total land under this category lies in Idukki and Cannanore districts alone while it was nominal in Alleppey district.

(e) *Land under miscellaneous tree crops:*

The estimates of area under this category for the years 1978-79, 1979-80 and 1980-81 were 66374 hectares, 65502 hectares and 63875 hectares respectively. About 75% of the total land under this category was in Idukki, Kozhikode and Cannanore districts.

(f) *Cultivable waste land:*

The district-wise area under cultivable waste land for the years 1978-79 to 1980-81 are furnished in table 1.6 below.

TABLE 1.6

District-wise distribution of area under cultivable waste land

District	Area under cultivable waste land in hectares			% of total		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Trivandrum	2272	2121	2154	1.84	1.70	1.67
Quilon	1491	1493	1493	1.21	1.19	1.16
Alleppey	2434	2213	2000	1.97	1.77	1.55
Kottayam	1109	1451	1739	0.90	1.16	1.35
Idukki	42542	38776	38776	34.50	31.02	30.05
Ernakulam	5497	5255	5304	4.47	4.20	4.11
Trichur	5141	4922	5452	4.17	3.94	4.23
Palghat	23115	24187	25271	18.75	19.35	19.59
Malappuram	12976	13601	14337	10.53	10.88	11.11
Kozhikode	5024	5328	5510	4.07	4.26	4.27
Cannanore	21700	25668	26996	17.59	20.53	20.92
State	123341	125015	129032	100.00	100.00	100.00

From the above table it may be seen that about 30% of the total waste land lies in Idukki district alone. The three districts of Idukki, Palghat and Cannanore accounts for about 70% of the total estimated area under this category. The total area under cultivable waste land is estimated at just above 3% of the geographical area of the State.

(g) *Fallow other than current fallow:*

The estimates of area under this category for the years 1978-79, 1979-80 and 1980-81 are 26598 hectares, 27684 hectares and 26886 hectares respectively. This is just above 69% of the total geographical area.

(h) *current fallow:*

District-wise estimates of area under current fallow for the years 1978-79 to 1980-81 are given in table 1.7 below. Only 1% of the total geographical area come under this category.

TABLE 1.7

District-wise distribution of area under current fallow

District	Area under current fallow in hectares			Percentage to total		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Trivandrum	1261	1352	1301	2.98	3.12	2.99
Quilon	1917	1859	1853	4.54	4.28	4.25
Alleppey	3817	2955	2067	9.03	6.81	4.74
Koittayam	3665	4763	3736	8.68	10.98	8.58
Idukki	1287	1769	1739	3.05	4.08	3.99
Ernakulam	3714	3908	3714	8.79	9.00	8.52
Trichur	4266	4954	4860	10.10	11.42	11.15
Palghat	6429	6871	6547	15.22	15.84	15.02
Malappuram	7883	7118	9787	18.66	16.41	22.46
Kozhikode	2786	2723	2801	6.59	6.28	6.43
Cannanore	5221	5112	5174	12.36	11.78	11.87
State	42246	43384	43579	100.00	100.00	100.00

From the above table it may be seen that the highest percentage of land under current fallow to the total was in Malappuram district for all the three years under report. Trichur, Palghat and Cannanore districts account for more than 10% each of the total land under this category. This may be due to the combined effect of drought of the year and high cost of cultivation.

(i) *Net area sown:*

The estimates of net area sown for the years 1978-79 to 1980-81 are given in table 1.8 below.

TABLE 1.8

District-wise distribution of net area sown

District	Net area sown (hectares)			Percentage to total		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Trivandrum	144898	144358	143756	6.57	6.58	6.60
Quilon	205914	205835	206155	9.34	9.38	9.46
Alleppey	142648	144752	144972	6.47	6.59	6.65
Kottayam	184755	182154	182165	8.38	8.30	8.36
Idukki	160928	161277	160920	7.27	7.35	7.38
Ernakulam	182335	181414	178157	8.27	8.26	8.17
Trichur	158228	157148	156810	7.18	7.16	7.19
Palghat	215346	212137	213748	9.77	9.66	9.81
Malappuram	207635	206160	201174	9.43	9.39	9.23
Kozhikode	226252	224853	226603	10.26	10.25	10.40
Cannanore	375789	375001	365130	17.06	17.08	16.75
State	2204128	2195089	2179590	100.00	100.00	100.00

The estimate for the net area sown constitute about 56% of the total geographical area. The percentage of net area sown to total area under this category was highest in Cannanore District. Kozhikode is the only other district with 10% or more of the total net area sown.

(i) *Area sown more than once*

The estimates of area under this category for the years 1978-79 to 1980-81 are furnished in table 1.9 below. Nearly 18% of the geographical area of the state comes under this category.

Year	1978-79	1979-80	1980-81	(000 ha)
Andhra Pradesh	3504128	3100960	3133780	100.00
Assam	222.03	213001	202120	0.21
Bihar	336575	334073	258062	1.03
Goa	30122	309100	401128	2.93
Gujarat	314340	315143	312146	0.33
Haryana	126330	131109	129210	5.10
Karnataka	105779	101414	120153	0.53
Kerala	100070	101723	109350	5.53
Madhya Pradesh	10622	103128	103102	0.20
Madhya Pradesh	163347	144245	141633	0.46
Madhya Pradesh	305014	307323	302170	0.34
Madhya Pradesh	14666	14428	14215	0.03
Madhya Pradesh	163134	152090	106841	100.50

Distribution of Net Area Sown in 1978-79 to 1980-81

TABLE 1.9

District-wise distribution of area sown more than once (hectares)

District	Area sown more than once			Percentage to total		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Trivandrum	80611	74429	84169	11.83	11.29	11.93
Quilon	101302	93989	88106	14.86	14.26	12.49
Alleppey	66391	69190	73352	9.74	10.50	10.40
Kottayam	55517	40037	48024	7.41	6.08	6.81
Idukki	3685	3760	9786	0.54	0.57	1.39
Ernakulam	76311	74711	80658	11.20	11.34	11.44
Trichur	79332	71857	74645	11.64	10.90	10.58
Palghat	110507	118249	123209	16.21	17.95	17.47
Malappuram	48761	41759	57398	7.15	6.34	7.29
Kozhikode	54766	62867	53811	8.04	9.54	7.63
Canimnore	9399	8118	18092	1.33	1.23	2.57
State	681582	658966	705250	100.00	100.00	100.00

The area sown more than once was highest in Palghat district and was the lowest in Idukki district. Though Cannanore is the second largest of the State the area sown more than once is only just above 1% for the years 1978-79 and 1979-80. But in 1980-81 it has increased to 2.57%.

The total area under this category during the year 1979-80 has decreased by 22616 hectares over the previous year; but the same has increased by 7% during 1980-81 over 1979-80.

(k) *Cropped area*

The estimates of total cropped area for the years 1978-79 to 1980-81 were 2885710 hectares, 2854055 hectares and 2884840 hectares respectively. The total cropped area has decreased during the year 1979-80 when compared to that of the previous year. Though the cropped area in 1980-81 has increased considerably over the previous year, the increase was not just enough to wipe out the total loss in cropped area during 1979-80 over the previous year. The total cropped area constitute about 79% of the geographical area and 132% of the net area sown during 1980-81. Area sown more than once constitute about 24% of the total cropped area.

The District wise distribution of total cropped area for the years 1978-79 to 1980-81 are given in the following table I.10.

TABLE 1.10

District-wise distribution of total cropped area

District	Cropped area (hectares)			Percentage to total		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Trivandrum	225509	218787	227925	7.81	7.67	7.90
Quilon	307216	299824	294261	10.65	10.50	10.20
Alleppey	209039	213942	218324	7.24	7.50	7.56
Kottayam	235272	222191	230189	8.15	7.79	7.98
Idukki	164013	155037	170706	5.63	5.78	5.92
Ernakulam	258646	256125	258815	8.96	8.97	8.97
Trichur	237560	229005	231455	8.23	8.02	8.02
Palghat	325853	330386	336957	11.30	11.58	11.63
Malappuram	256396	247919	252572	8.88	8.69	8.76
Kozhikode	281018	287720	290414	9.74	10.08	9.72
	365188	383119	383222	13.36	13.42	13.29
State	2885710	2854055	2884840	100.00	100.00	100.00

From the above table it may be seen that the total cropped area was highest in Cannanore district and was lowest in Idukki district. Cannanore, Palghat and Quilon districts have 10% or more each of the total cropped area for all the three years under consideration.

3. Intensity of cropping

The intensity of cropping is the ratio between the total cropped area and the net area sown. The intensity of cropping in the various districts are given in table 1.11.

TABLE 1.11

Intensity of cropping in the districts of Kerala

District	Intensity of cropping		
	1978-79	1979-80	1980-81
Trivandrum	1.56	1.53	1.54
Quilon	1.49	1.46	1.43
Alleppey	1.47	1.48	1.51
Kottayam	1.27	1.22	1.26
Idukki	1.02	1.02	1.06
Ernakulam	1.42	1.41	1.45
Trichur	1.50	1.46	1.48
Palghat	1.51	1.58	1.58
Malappuram	1.23	1.20	1.26
Kozhikode	1.24	1.30	1.24
Cannanore	1.03	1.02	1.04
State	1.31	1.30	1.32

From the above table it may be seen that the intensity of cropping was highest in Trivandrum and Palghat Districts. The same for Idukki and Cannanore Districts was very low.

9. Area under seasonal annual and perennial crops

The crops have been classified as seasonal, annual and perennial according to the life of the plant. Accordingly crops which have a duration of one

season is called seasonal crops. Crops which have a duration of one year is classified as annual crops and those which have a life of over one year are classified as perennial crops. The topography and rainfall conditions of Kerala favour abundant growth of perennial crops. Though planting of perennial crops require high capital investment and when planted it require less attention than the seasonal or annual crops and hence cost of cultivation is comparatively less. This advantage in the cultivation of perennials like rubber, coconut & arecanut has led to a measure of absentee land lordism in cultivation and people think it more convenient and remunerative to cultivate perennial crops even in wet lands. Due to the domination of perennial crops the intensity of cultivation in Kerala is only 1.3.

The District-wise distribution of area under seasonal, annual and perennial crops during 1979-80 and 1980-81 are given in table 1.12 and 1.13 respectively.

From the tables it may be seen that about 55% of the gross area under cultivation was covered by perennial crops, 41% under seasonal crops and 4% under annual crops. Some of the seasonal and annual crops are sown inter mixed with perennial crops. The percentage of area under seasonal crops was highest in Palghat District which accounted for about 20% of the total area under seasonal crops and 70% of the total cropped area of the districts. The area under seasonal crops was lowest in Idukki with only 2% of the total area under seasonal crops and nearly

TABLE 1.12

District-wise distribution of area under seasonal, annual and perennial crops

Year 1980-81

District	(Area in hectares)			
	Seasonal crops	Annual crops	Perennial crops	Total cropped area
Trivandrum	(8.05)* 95626 (41.96)**	(8.25)* 10323** (4.53)	(7.76)* 121976 (53.51)**	227925 (100.0)
Quilon	(10.25) 121682 (41.35)	(8.30) 10388 (4.53)	(10.32) 162191 (55.12)	294261 (100.0)
Alleppey	(9.69) 115059 (52.70)	(7.99) 9994 (4.58)	(5.93) 93271 (42.72)	18324 (100.0)
Kottayam	(5.54) 65732 (28.56)	(6.41) 8022 (3.49)	(9.95) 156435 (67.95)	230189 (100.0)
Idukki	(2.27) 26990 (15.81)	(6.90) 8639 (5.06)	(8.59) 135077 (79.13)	170706 (100.0)
Ernakulam	(10.73) 127422 (49.23)	(9.17) 11468 (4.43)	(7.63) 119925 (46.34)	258815 (100.0)
Trichur	(10.57) 125518 (54.23)	(9.55) 11954 (5.17)	(5.98) 93983 (40.60)	231455 (100.0)
Palghat	(19.85) 235683 (69.95)	(6.85) 8572 (2.54)	(5.90) 92702 (27.51)	336957 (100.0)
Malappuram	(9.10) 108009 (42.76)	(11.18) 13989 (5.54)	(8.30) 130574 (51.70)	252572 (100.0)
Kozhikode	(5.12) 60806 (21.68)	(8.61) 10767 (3.84)	(13.28) 208841 (74.48)	280414 (100.0)
Cananore	(8.83) 104759 (27.34)	(16.79) 21001 (5.48)	(16.36) 257462 (67.18)	383222 (100.0)
State	(100.00) 1187286 (41.16)	(100.00) 125117 (4.34)	(100.0) 1572437 (54.50)	2884840 (100.0)

* Percentage to total.

** Percentage to cropped area of the district.

TABLE 1.13

District-wise distribution of area under seasonal, annual and perennial crops

Year: 1979-80

District	(Area in hectares)			
	Seasonal crops	Annual crops	Perennial crops	Total
Trivandrum	87917 (40.18)** (7.42)	10274 (4.69)** (8.19)	120606 (55.13)* (7.81)	218787 (100.0)
Quilon	128726 (42.93) (10.87) *	107944 (3.60) (8.61) *	160304 (53.47) (10.38) *	299824 (100.0)
Alleppey	112398 (52.54) (9.49) *	10178 (4.76) (8.12) *	91366 (42.70) (5.92) *	213942 (100.0)
Kottayam	67261 (30.27) (5.68) *	8325 (3.75) (6.64) *	146605 (65.98) (9.49) *	222191 (100.0)
Idukki	25340 (15.35) (2.14) *	7384 (4.47) (5.89) *	132313 (80.18) (8.57) *	165037 (100.0)
Ernakulam	128310 (50.10) (10.83) *	11849 (4.63) (9.45) *	115966 (45.27) (7.51) *	256125 (100.0)
Trichur	126138 (55.08) (10.65) *	11996 (5.24) (9.57) *	90871 (39.68) (5.88) *	229005 (100.0)
Palghat	231843 (70.17) (19.58) *	9009 (2.73) (7.18) *	89534 (27.10) (5.80) *	330386 (100.0)
Malappuram	109332 (44.11) (9.23) *	13099 (5.28) (10.45) *	125488 (50.61) (8.13) *	247919 (100.0)
Kozhikode	61962 (21.54) (5.23) *	11197 (4.14) (8.93) *	214561 (74.32) (13.89) *	287720 (100.0)
Cannanore	105179 (27.46) (8.88) *	21276 (5.55) (16.97) *	256664 (66.99) (16.62) *	383119 (100.0)
State	(100.00) * 1184406 (41.50)	(100.00) * 125371 (4.39)	(100.00) 1544278 (54.11)	2854055 (100.00)

* Percentage to total

** Percentage to cropped area of the district.

16% of the total cropped area of the district. Alleppey, Ernakulam Trichur and Palghat Districts had more areas under seasonal crops than the area under annual and perennial crops together. In other words these districts are more suited for seasonal crops like paddy as there are more wet lands and better irrigation facilities in those districts than other districts.

10. Area under crops

Agricultural crops in the state are broadly classified into food and non-food crops. The area under different crops are given in table 2.3 of the summary tables and the district-wise details in table 3.4 of the detailed tables. They are discussed briefly in the following paragraphs.

(A) Food Crops

The area under food crops cover about 61.63% of the total cropped area in 1980-81. The corresponding figure for the year 1979-80 was 61.5%. The district-wise distribution of area under food crops and their respective percentages are given in table 1.14.

From these table it may be seen that the area under food crops was highest in Palghat district numerically and as percentage to total cropped area and to the geographical area of the district. In Alleppey, Ernakulam, Trichur, Malappuram and Cannanore the percentage of area under food crops to total cropped area of the respective districts were higher than the same for the state as a whole. Besides Palghat only Cannanore has more than 10% of the area under food crops to total area under this category for the State as a whole.

TABLE 1.14

District wise distribution of area under food crops

District	Percentage to total cropped area of the district									
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81	1979-80	1979-80	1979-80	1980-81
Tiruvandrum	139963	132092	140408	62.02	60.37	61.60	7.75	7.52	7.52	7.90
Quilon	180153	170638	164965	58.64	56.91	55.06	9.99	9.72	9.72	9.28
Alleppey	135313	136576	140961	64.73	63.84	64.57	7.50	7.77	7.77	7.93
Kottayam	114183	103666	102355	48.53	46.66	44.46	6.33	5.90	5.90	5.76
Idukki	99547	97222	101241	60.69	58.91	59.31	5.52	5.53	5.53	5.69
Ernakulam	166187	162961	163568	64.25	63.63	63.20	9.21	9.26	9.26	9.20
Trichur	171748	161008	162208	72.90	70.31	70.08	9.52	9.16	9.16	9.12
Palghat	260540	264084	270680	79.86	79.93	80.33	14.44	15.03	15.03	15.22
Malappuram	167073	159340	163222	65.15	64.27	64.62	9.26	9.07	9.07	9.18
Kozhikode	128292	124604	124465	45.65	43.31	44.39	7.11	7.09	7.09	7.00
Cannanore	241141	244658	243948	62.60	63.86	63.66	13.37	13.93	13.93	13.72
State	1804045	1756849	1778001	62.52	61.56	61.63	100.00	100.00	100.00	100.00

Though the area under food crops show an increase during the year 1980-81 over 1979-80 it was progressively decreasing during the preceding years. During 1975-76 the area under food crops was estimated at 19.09 lakhs hectares as against 17.78 lakhs hectares during 1980-81. So the loss of area under food crops for five years from 1975-76 to 1980-81 is estimated at 1.31 lakhs hectares. It is quite reasonable to presume that this area might have occupied by non-food crops.

The salient features of important food crops are discussed in the following paragraphs.

(1) *Paddy*

Paddy is the most important food crop cultivated in the State. It is a seasonal crop and is cultivated during the three seasons viz. Autumn, Winter and Summer. The season wise break up of area under paddy for the years 1978-79 to 1980-81 are given below:

TABLE 1.15

Season wise area under Paddy

<i>Season</i>	<i>Area under Paddy in hectares</i>		
	1978-79	1979-80	1980-81
Autumn	346827 (43.4)	348373 (43.9)	349243 (43.5)
Winter	345727 (43.3)	339608 (42.8)	354132 (44.2)
Summer	106684 (13.3)	105285 (13.3)	98324 (12.3)
Total	799238 (100.00)	793266 (100.0)	801699 (100.0)

From the above table it may be seen that the area under paddy has decreased during 1979-80 over 1978-79 and has increased in 1980-81 over both that of 1978-79 and 1979-80. The percentage distribution of area under the three seasons remains more or less the same except for 1980-81. In 1980-81 though the area under Autumn crop remains more or less the same the area under winter crop has increased by 1.4% and the area under summer crop has decreased by 1% over the previous year. Drought conditions; high cost of cultivation and comparably low return on Paddy are the factors responsible for this phenomenon. The district wise distribution of paddy during the year 1978-79, 1979-80 and 1980-81 are furnished in table 1.16.

TABLE 1.16

District wise distribution of area under paddy

District	Area under paddy					Percentage to total area					Percentage of area under paddy to total cropped area				
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Trivandrum	33080	32553	32683	4.14	4.12	4.06	14.67	14.92	14.29	14.67	14.92	14.29	14.67	14.92	14.29
Quilon	50815	49895	50055	6.36	6.29	6.24	16.54	16.64	17.01	16.54	16.64	17.01	16.54	16.64	17.01
Alleppey	75501	80059	82466	9.45	10.09	10.27	36.12	37.42	37.77	36.12	37.42	37.77	36.12	37.42	37.77
Coimbatore	37449	32936	31948	4.69	4.15	3.99	13.99	11.82	11.98	13.99	11.82	11.98	13.99	11.82	11.98
Idukki	8832	7826	9261	0.98	0.98	1.16	5.98	4.74	5.43	5.98	4.74	5.43	5.98	4.74	5.43
Ernakulam	100165	101155	102500	12.66	12.75	12.79	28.73	29.49	29.60	28.73	29.49	29.60	28.73	29.49	29.60
Trichur	115787	110654	110314	14.49	13.95	13.76	48.74	48.32	47.66	48.74	48.32	47.66	48.74	48.32	47.66
Palghat	174413	178761	183634	21.82	22.53	22.91	53.53	54.11	54.50	53.53	54.11	54.50	53.53	54.11	54.50
Malappuram	81462	80157	80022	10.19	10.10	9.98	31.77	32.33	31.68	31.77	32.33	31.68	31.77	32.33	31.68
Kozhikode	48909	45771	45451	6.12	5.77	5.68	17.40	24.38	16.27	17.40	24.38	16.27	17.40	24.38	16.27
Cannanore	72825	73497	73465	9.10	9.27	9.16	18.91	19.18	19.17	18.91	19.18	19.17	18.91	19.18	19.17
State	799238	793266	801699	100.00	100.00	100.00	27.70	27.79	27.79	27.70	27.79	27.79	27.70	27.79	27.79

The area under paddy was highest in Palghat district and was lowest in Idukki district which belong to the high land region where little paddy is grown and about 51% of the area of the district is covered by forests. Palghat, Trichur, Ernakulam, Alleppey and Malappuram are the major Paddy growing districts of the State. In the above districts the percentage of area under paddy to total cropped area of the respective districts was higher than this percentage for the State as a whole. In Palghat, the granary of Kerala, nearly 54% of the total cropped area was under paddy.

(2) *Other cereals and millets*

Jowar, ragi, and Chama are the important other cereals and millets cultivated in the State. The total area under these crops is estimated at 5060 hectares in 1978-79, 6722 hectares in 1979-80 and 6112 hectares in 1980-81. Out of this nearly about 1800 hectares were covered by jowar alone which is mainly cultivated in Palghat district. Ragi is mostly cultivated in Palghat and Idukki districts.

(3) *Pulses*

Pulse cultivation in the State shows a progressively decreasing trend over the years. The estimates of area under pulses for the year 1980-81 was 33859 hectares as against 34885 hectares in 1979-80 and 35567 hectares in 1978-79 and 36733 hectares in 1977-78. Palghat leads other districts in the cultivation of pulses also. Nearly one third of the area enumerated under pulses is from this district alone.

(4) *Sugarcane*

The estimates of area under sugarcane show a sharp decline in 1979-80 with only 7790 hectares as against 9003 hectares during 1978-79. The estimate for 1980-81 period for the same crop is 8041 hectares. Idukki, Palghat and Alleppey are the major Sugarcane cultivating districts of the State.

(5) *Pepper*

Pepper is one of the important spices cultivated throughout the State. The largest area under pepper was in Cannanore district in all the three years from 1978-79 to 1980-81 and the smallest area estimated was in Palghat district. The total area under pepper for the above years were 1.07 lakh hectares, 1.06 lakh hectares and 1.08 lakh hectares respectively.

(6) *Chillies*

The estimates of area under chillies show an increasing trend in recent years. It has increased from 791 hectares in 1978-79 to 919 hectares in 1979-80 and to 1167 hectares in 1980-81. One notable peculiarity of this crop is that it is cultivated north of Trichur district only on a commercial basis.

(7) *Ginger*

The area under ginger is estimated at 12662 hectares during 1980-81 as against 14128 hectares during the previous year. Though ginger is cultivated throughout the State the more important ginger growing districts are Kottayam, Ernakulam and Kozhikode.

(8) *Turmeric*

Turmeric, the most commonly used spice, is cultivated throughout the State. The area under this spice during 1980-81 was 3270 hectares as against 4004 hectares during 1979-80.

(9) *Cardamom*

Cardamom is cultivated on the slopes of the high ranges of the western ghats. Therefore, practically, there is no cultivation of this crop in the district of Alleppey, Ernakulam and Kottayam districts where there is no highland region. Nearly about 84% of the total area under cardamom is in Idukki district alone. The total area under cardamom was estimated at 54044 hectares in 1980-81 as against 53920 hectares in 1979-80 and 55180 hectares during 1978-79.

(10) *Areca nut*

Areca nut is one of the important perennial crops cultivated throughout the State. In Kasargode area of the Cannanore district areca nut is a major crop. The estimated area under this crop for the year 1980-81 was 61242 hectares as against 60858 hectares during 1979-80 and 62317 hectares during 1978-79. Cannanore district accounts for nearly 25% of the area under this crop. Malappuram, Kozhikode, Trichur and Ernakulam are the other districts which grow areca nut on a fairly large scale.

(11) *Tamarind*

Tamarind is cultivated throughout the State. Palghat is particularly suited for this crop in Kerala. Area under this crop in 1980-81 is estimated at 11017 hect. as against 10789 hectares during the previous year. About 33% of the area under tamarind was in Palghat district and together with Trivandrum covered about 49% of the total area under this crop.

(12) *Mango*

Mango is cultivated on a fairly large scale throughout the State. The area under mango during the year 1980-81 is estimated at 62574 hectares as against 59207 hectares during the previous year.

(13) *Jack*

Jack is famous both as a fruit tree as well as a hard wood tree which is widely used for the construction of buildings. So it is extensively cultivated throughout the State and its distribution among the Districts is more or less uniform. The area under this crop during the year 1980-81 is estimated at 61918 hectares as against 58750 hectares during the previous year.

(14) *Banana*

Banana is cultivated throughout the State. Malappuram is the major banana growing district. The area under this crop is estimated at 14318 hectares during the year 1980-81 as against 13133 hectares during the previous year.

(15) *Cashewnut*

This crop has maintained the progressively increasing trend in area during 1979-80 and 1980-81 also, thanks to better returns and increased crop promotion activities. Cashew Kernel is a prominent foreign exchange earner and its increased production is vital for the maintenance of employment in the cashewnut processing industry. But frequent fluctuations in price of cashew kernels in international markets has affected the cultivators adversely. The area under cashew is estimated at 14.1 lakhs hectares during 1980-81 as against 1.40 lakh hectares during 1979-80 and 1.39 lakh hectares during 1978-79. Cannanore district remains to be the major cashew growing district of this State.

(16) *Tapioca*

Tapioca is a substitute of rice and is extensively cultivated throughout the State. But the area under tapioca shows progressively decreasing trend over the years. The reason for this trend was due to the stability of the price of rice at a comparably low level and in intrusion of rubber and Cocoa into the area traditionally occupied by tapioca. Though tapioca is extensively cultivated throughout the State its dominance in Quilon and Trivandrum districts is glaring. The area under tapioca is estimated at 2.45 lakh hectares during 1979-80, 2.73 lakhs hectares in 1978-79 and 3.23 lakh hectares in 1977-78.

B *Non-food crops*

The area under non-food crops shows an increasing trend over the years. It has progressively increased from 10.72 lakhs hectares in 1975-76 to 11 lakhs hectares during 1980-81. The percentage area under non-food crops to total cropped area has increased from 36% to 38.4% during the above period. The details of main non-food crops are discussed below.

(a) *Groundnut*

Groundnut is cultivated mainly in Palghat district where the soil is suitable for the cultivation of this crop. The area under groundnut during the year 1980-81 is estimated at 9399 hectares as against 12671 hectares in 1979-80 and 13938 hectares in 1978-79. This shows that area under this crop is decreasing over the years.

(b) *Sesamum*

Sesamum is an oil seed cultivated throughout the State. Alleppey district dominated the other districts in the cultivation of this crop. The area under sesamum during 1980-81 was 14752 hectares as against 17607 hectares during 1979-80 and 17558 hectares during 1978-79. The area under this crop has decreased considerably in 1980-81 over the previous years.

(c) *Coconut*

Coconut is the most important oil seed cultivated in the State. About 58.8% of the total non-lood crops and 22.5% of the total cropped area of the State was covered by this crop during 1980-81. But the area under coconut shows a declining trend over the years. The estimates of area under this crop for the year 1980-81 was 651370 hectares as against 662657 hectares during 1979-80, 660628 hectares during 1978-79 and 673479 hectares during 1977-78. The area under Coconut in Idukki, Trichur and Palghat districts shows an increasing trend while it was in the opposite direction in all other districts. The area under Coconut was highest in Kozhikode district and was lowest in Idukki district during 1980-81.

(d) *Cotton*

Palghat is the only cotton growing district of the State. The area under cotton shows a declining trend over the years. The area under this crop in 1980-81 was estimated at 6223 hectares as against 5247 hectares during 1979-80 and 5345 hectares during 1978-79.

(e) *Tobacco*

Tobacco is cultivated only in Cannanore district and the area under this crop shows an increasing trend over the years. The total area under this crop was estimated at 551 hectares during 1980-81 as against 453 hectares during 1979-80 and 404 hectares during 1978-79.

(f) *Tea*

Tea is a plantation crop cultivated mostly on the slopes of the western ghats. The area under this crop remains more or less the same over the years. About 66% of the total area under this crops in Idukki district. The area under tea was estimated at 36164 hectares during 1980-81 as against 36126 hectares during 1979-80 and 36090 hectares during 1978-79.

(g) *Coffee*

Coffee is grown in all districts of this State, though highranges is particularly suited for his crop. Wynad is famous for coffee cultivation in the State. The area under coffee was estimated at 57949 hectares for both 1979-80 and 1980-81 as against 53345 hectares during 1978-79 and 52644 hectares during 1977-78.

(h) *Rubber*

Rubber is an important plantation crop and is extensively cultivated throughout the State. Kerala has a near monopoly for the cultivation of this crop. Now rubber cultivation has spread to other parts of India. The area under rubber was estimated at 2.38 lakhs hectares during 1980-81 as against 2.15 lakhs hectares during 1979-80 and 2.12 lakhs hectares during 1978-79. Since the return on rubber is very attractive compared to other crops more and more area occupied by the other crops are being brought under rubber in recent years. Kottayam leads other districts in the cultivation of rubber while Quilon, Ernakulam and Cannanore are the other major rubber growing districts.

(i) *Cocoa*

Cocoa is a recent addition to the plantation crops of the State. But there is no big Cocoa plantation as such in the State. It is grown inter mixed with coconut trees and other crops. Kottayam district stands first in the cultivation of this crop. The total area under this crop was estimated at 23506 hectares during 1980-81 as against 20238 hectares during 1979-80 and 12769 hectares during 1978-79.

11 *Irrigation*

The net area irrigated in the State during the year 1979-80 and 1980-81 are estimated at 2.30 lakh hectares and 2.38 lakh hectares respectively. Govt. canals served nearly one lakh hectares while private tanks and wells irrigated about 50000 hectares. Nearly 11% of the net area sown was brought under irrigation during 1980-81. The source wise area under irrigation for the year 1979-80 and 1980-81 are given in table 2.2 of the summary tables.

12 *Weather and Crop conditions*

The State receives the benefit of the both south west and Northeast monsoons and hence complete failure of rain is unknown. But frequent floods and near drought conditions do occur according to seasonal variation in the distribution of rainfall. These conditions affect the seasonal crops more adversely rather than the perennial crops which can with-stand these adverse conditions to a certain extent. The weather and crop conditions for the years 1979-80 and 1980-81 are discussed briefly for each district in the following paragraphs.

1979-80

The year witnessed less than normal rainfall in Trivandrum district. Nearly 25% of the normal rain-fall was received in May and the delay in the onset of south west monsoon lowered the rainfall for June in this district. Though the Kharif season was pushed forward due to the late arrival of the south west monsoon the distribution of the rainfall was favourable once the sowing and planting of Kharif paddy was over and the same conditions prevailed for the winter and summer crops also to a certain extent. Off seasonal rains at the flowering stage and severe pest attack in Neyyattinkara Taluk resulted in a low average yield than the previous year in the district.

Quilon

Quilon district experienced heavy rainfall from both the monsoons and consequently there were floods and consequent damages to crops. The annual rainfall for the year was 73% more than the normal rainfall. In November there was very heavy rains and floods. There was no rain at all during January and drought conditions prevailed during this period. Still the average production of rice per hectare for all the seasons together was better than that of the previous year.

Alleppey

Since the onset of south west monsoon was delayed by a few days the sowing and planting of Autumn crops was delayed. This has pushed forward the sowing of winter crop of paddy also. In November the district experienced heavy rainfall. Though there was considerable damage to paddy crops in isolated pockets of the district, the crop as a whole was better than the previous year's.

Kottayam

The late arrival of the south west monsoon and about 33% less than the normal rainfall were the main features of the weather condition in this district for the year 1979-80. Though the annual production of rice was less than the previous year the yield rate was better than that of the previous year. Climatic conditions for the winter and Autumn crops were more favourable. Due to less rain some agriculturists could raise two crops on single cropped punja lands and this has slightly increased the area under winter crop of paddy. The favourable distribution of the available rainfall during most parts of this year have resulted in better yield for all crops in this district.

Idukki

The district experienced moderate rainfall during the year. The actual rainfall during the year was about 13% less than the normal rainfall.

The production as well as average yield rate of paddy was less than that of the previous year inspite of increased area under paddy. Off seasonal rain and pest attack have adversely affected the yield rate of paddy. Damage to crops due to floods in certain places was also reported. The high cost of inputs, increased labour charges and low return on paddy have adversely affected the production of paddy in the District.

Trichur

The rainfall in the district during the year was a little above normal unlike other districts. There was heavy rainfall during June and July. Though there was flood during this time it has not seriously affected any crop. The weather conditions during the winter and summer crops of paddy were also satisfactory. Though the crops were normal the production and yield per hectare show substantial increase during the year when compared to that of the previous year. This was possible due to the absence of any significant natural calamity like, flood, drought or pest attack.

Palghat

The District experienced favourable climatic conditions for all crops during 1979-80. The rainfall was about 20% above normal. Though area under paddy showed a slight decrease during the year the production and average yield per hectare have increased during the year when compared to that of the previous year. This was due to the absence of any natural calamity like drought flood or pest attack in a significant manner.

Malappuram

The rainfall was below normal in this district. The area under paddy shows a decreasing trend in this district. This was due to the less enthusiasm shown by the cultivators in raising paddy due to uneconomical prices and high input costs. Some farmers have changed to banana cultivation due to better rate of returns. Though the climate was generally good for crops during the year the production and average yield of paddy per hectare have decreased in this district. The farmers were adverse to cultivating high yielding varieties of paddy which require more water, increased manure and plant protection measures than the local variety. The price of fertilizer and pesticides have gone up and so also the cost of labour. These factors adversely affected paddy cultivation in the District.

Kozhikode

The district experienced about 29% less rainfall than the normal during the year 1979-80. The south west monsoon was generally weak in this district during the year under review. Still better distribution of available rainfall has generally helped to raise better crops during the year. But the area, production and average yield per hectare showed substantial

decrease over the previous year. Uneconomic price of paddy and high input cost prevailing in the district during the year has discouraged farmers from using high yielding varieties of paddy and intensive manuring with chemical fertilizers. Instead they were satisfied with raising of local varieties of paddy by applying organic manures. These varieties are more resistant to pest attack and thus required less plant protection measures. Off season rains have also done havoc in certain parts of the district.

Cannanore

The year 1979-80 was generally good for crops. The rainfall in the district was near normal. consequently the area, production and average yield per hectare of paddy have increased in this district when compared to that of the previous year. While the Autumn and Winter crops of paddy fared well Summer crop of paddy field to a certain extent in the district due to drought and pest attack.

On the whole the weather and crop conditions were generally good for most districts of the State during 1979-80. This has boosted the agricultural economy of the State during this year compared to the previous year. Though rainfall was less than normal its favourable distribution helped to keep out natural calamities like flood, drought and pest attack under control and resulted in a good harvest for most crops.

1980-81

Trivandrum

The district experienced less than normal rainfall during the year under review. But in the month of June it was widespread. Though the area under paddy remained more or less the same the total production and average yield per hectare were below those of the previous year. Near drought conditions prevailed during the summer crop of paddy. This has adversely affected the production and yield per hectare of paddy. Loss of crop due to pest attack was also reported from a few places of the district.

Quilon

The District received 43% above normal rainfall during the year. There was torrential rains and flood during June and July in many parts of the district. This has adversely affected many crops seriously. Though the South west monsoon was very active during the year the North East monsoon was weak. There was less rain during winter season. Even yet the distribution of rainfall was more or less even it was favourable to crops. The summer crop was also generally good. Though there was heavy damage to Autumn crop, the favourable conditions prevailed during the subsequent seasons has boosted the total production of rice and consequently per hectare yield of paddy during 1980-81 when compared to that of the previous year.

Alleppey

The South west monsoon was vigorous and consequently there was heavy rainfall and flood in this district during June and July. This has adversely affected Autumn paddy in some parts of the district. Still the area and production of paddy have increased during Autumn and Winter seasons. But during the Summer the area under paddy has been less than that of the previous year by about 33%. Wide spread pest attack was reported from many parts of the district during this period. Consequently the average yield per hectare of paddy was less than the previous two years' estimates. The conditions of other crops like sugarcane, banana, Tubers etc., were fairly good while that of perennial crops like coconut, arecanut and pepper were normal. The Coconut tree in this district continue to be affected badly by root wilt disease. The high input costs and comparably low returns on paddy are attributed to be the other reasons for low productivity of paddy in the district.

Kottayam

Though the District experienced better rainfall than the previous year's it was less than normal by about 14%. South West monsoon was vigorous as usual and there was heavy rainfall during June and July inundating the low lying areas of the district. The north east monsoon was generally weak and near drought conditions prevailed during punja crop. The area under Summer crop has decreased during the year. Production and yield rate of paddy were less than the previous year's estimates. The crop conditions were more or less satisfactory for all other seasonal and perennial crops.

Idukki

The district experienced above normal rainfall during 1980-81. There was heavy rain and flood during June. The north east monsoon showers were normal. The area brought under paddy was higher than that of the previous year for all seasons. Though the production of rice has increased over the previous year's total due to increased area brought under plough the average yield per hectare was less than that of the previous year due to offseason rain and pest attack. The weather condition for the plantation crops like tea, cardamom and coffee was normal.

Ernakulam

The South West monsoon was very active in the district during Kharif season. The rainfall was particularly heavy during July and consequently there was flood and crop damage during that period. The north east monsoon was comparably weak in this district, with the result that the total rainfall during 1980-81 was below normal by 3%. Though summer crop was raised in more areas, the area brought under Autumn and Winter

crops of paddy was less than that of the previous year. Total production and average yield per hectare were comparably less than the previous year's estimates. It is attributed that seasonal distribution of rainfall was not particularly suitable for the crop. The farmers' apathy in adopting improved agricultural practices owing to low return on rice and high input costs had an adverse effect on productivity.

Trichur

There was wide spread rain during the Autumn and Winter season and it was heavy during June and July with consequential flood and crop damages. But for Summer crop rain was very little. In spite of increased area brought under paddy, the production and yield per hectare were comparably less than that of the previous year in the District. The reasons for this phenomenon vary from Taluk to Taluk and from farmer to farmer. Adverse weather conditions and high cost of cultivation were the many reasons.

Palghat

Both the monsoons were very active in this district during 1980-81. Consequently rain fall was above normal by about 27%. Though more area was brought under paddy during all seasons the total and average yield of paddy were less than that of the previous year. Adverse weather conditions and high input cost were the major factors responsible for this phenomenon. The weather condition has not affected other crops significantly

Malappuram

South west monsoon was very active in the district consequently there was heavy rain and floods during July. During the winter season weather conditions for paddy cultivation were more or less favourable. But there was no rain at all during the second half of the agricultural year. The severe drought conditions prevailed throughout the summer crop period disappointed the farmers. Drought conditions adversely affected perennial crops like arecanut and Coconut as well. Total rainfall during the year was 35% less than normal. On the whole the weather condition was quite unfavourable to all crops during the second half of the year.

Kozhikode

Though normal rainfall was the highest in this district the year witnessed a weak monsoon for the second consecutive year. Actual rainfall was less by 38.6% during the year as against 27% during the previous year. Still the area under paddy has been increased considerably and the average yield per hectare was also better than that of the previous year in the district. The North East monsoon also was weak. Near drought conditions prevailed during January to April and consequently Summer crop was not a success. The drought conditions during the second half of the year was not favourable to perennial crops also.

TABLE 1.17

District-wise production of rice

District	Production of rice in tonnes			Yield per hectare in Kg.		
	1978-79	1979-80	1980-81	1978-89	1979-80	1980-81
Trivandrum	50449 (4.0)	46162 (3.6)	45986 (3.5)	1525	1418	1411
Quilon	81499 (6.4)	80984 (6.2)	82189 (6.5)	1603	1623	1642
Alleppey	135561 (10.6)	151277 (11.5)	144258 (11.3)	1796	1889	1749
Kottayam	65663 (5.2)	61805 (4.8)	58478 (4.6)	1753	1887	1830
Idukki	15784 (1.2)	14997 (1.2)	15503 (1.2)	1787	1916	1674
Ernakulam	150474 (11.8)	146519 (11.3)	144601 (11.4)	1502	1449	1411
Trichur	153033 (12.0)	154508 (11.9)	147571 (11.6)	1322	1396	1378
Palghat	349326 (27.5)	381561 (29.4)	373782 (29.4)	2003	2135	2036
Malappuram	112670 (8.9)	107362 (8.5)	107488 (8.05)	1383	1339	1343
Kozhikode	63443 (5.0)	52761 (4.1)	54144 (4.3)	1285	1253	1191
Cannanore	94881 (7.4)	101759 (7.7)	97362 (7.7)	1208	1385	1325
State	1272743 (100.00)	1299695 (100.00)	1271962 (100.00)	1592	1638	1587

Cannanore

The South west monsoon was vigorous in this district during the year. There was heavy rain and floods during June in some parts of the district. Total rainfall was above normal. There was damage to crops due to floods during Autumn season. Since the North east monsoon was weak there was less rainfall and this has adversely affected the winter crop of paddy also. The area under paddy was less than that of the previous year and the average yield per hectare was also less. But this may not be due to adverse weather conditions only. High input costs, high cost of labour and comparably low return on paddy were also reported to be the other contributing factors for this phenomenon.

In general the weather conditions during 1980-81 was not so favourable to all crops. Excessive rain and drought conditions affected the crop in varying degrees in many parts of the State. Added to these the high input cost and low price level of paddy had a telling effect on the rural economy during the year 1980-81 as against the previous year which was more congenial to crops.

13 *Production of important crops*

The details of production of important crops in the State are given in table 2.4 of the summary tables. District-wise break up of these data are furnished in table 3.6 of the detailed tables. The production figures of important crops are enumerated below.

(1) *Paddy*

Though paddy is the main food crop of the people of the State only half of the requirement is produced in the State. The rest are imported from the central pool as well as from direct imports from the neighbouring States. The total rice production of the State for the year 1980-81 was estimated at 12.72 lakh tonnes as against 13 lakh tonnes during the previous year and 12.73 lakhs during 1978-79. The district-wise production of rice is given in table 1.17

Palghat is the biggest rice producing district of the State. Against about 23% of the total area under paddy 29.4% of the total rice was produced in this district during 1980-81. The yield per hectare of paddy was highest in Palghat district for all the three years from 1978-79 to 1980-81. Though total rainfall is less than other districts timely supply of enough water from irrigation canals may be the main reason for the higher yield rate even than Alleppey district through which many rivers flow into the Vembanad lake. Here the vagaries of weather such a flood, and

drought has not affected the crops as much as in the other districts. Trichur, Ernakulam and Alleppey are the other major rice producing districts. The season-wise production of rice for the years 1978-79 to 1980-81 are as follows:

TABLE 1.18

Season-wise production of paddy 1978-79 to 1980-81

Season	Production of rice (tonnes)			Yield per hectare (in kg.)		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Autumn	544171 (42.8)	567703 (43.7)	553748 (43.6)	1569	1629	1586
Winter	530004 (41.6)	526461 (40.5)	548500 (43.1)	1533	1550	1549
Summer	198568 (15.6)	205531 (15.8)	169714 (13.3)	1861	1952	1726
State	1272743 (100.00)	1299695 (100.00)	1271962 (100.00)	1592	1638	1587

From the above table it may be seen that Autumn and Winter are the main crop seasons and about 84% of the total production is from these two seasons. But yield rate of paddy was highest for summer crop of paddy. Alleppey, Ernakulam and Trichur are the main districts raising summer crop of paddy. Most of the lands under summer crop are water logged areas where only one crop is raised by dewatering and hence a bumper yield per hectare. But the yield rate of summer paddy for 1980-81 was less than that for 1978-79 and 1979-80.

(2) Pulses

The production of pulses had shown a fluctuating trend over the years. It showed a marginal decrease in 1978-79 over the previous year and increased from 15889 tonnes to 23443 tonnes during 1979-80. But in 1980-81 production has again decreased to 22479 tonnes. Palghat remains to be the main pulse producing district of the State.

(3) Sugarcane

The production of gur was stagnant over a few years just above 48000 tonnes except for the year 1979-80 when it declined to 45769 tonnes. Idukki, Alleppey and Palghat are the major sugarcane producing districts of the State.

(4) *Black Pepper*

The production of black pepper in 1979-80 was estimated at 28903 tonnes as against 26331 tonnes for the year 1978-79 and has maintained more or less at the same level during 1980-81 also with 28519 tonnes. Cannanore and Kozhikode are the major pepper producing districts of State.

(5) *Dry Ginger*

The estimates of production of dry ginger show an increase of 2415 tonnes in 1979-80 over 1978-79 with 35325 tonnes only to decreases back to the level of 1977-78 with 32039 tonnes in 1980-81 Kottayam and Ernakulam are the major ginger producing districts of the State.

(6) *Turmeric (cured)*

The production of cured turmeric has maintained the level of 1978-79 in 1979-80 also at 7660 tonnes and has decreased to 6141 tonnes during 1980-81. Kottayam and Ernakulam are the major turmeric producing districts.

(7) *Cardamom processed*

The quantity of processed cardamom produced in the State during 1979-80 was estimated at 3300 tonnes as against 2900 tonnes during the previous year. The production of cardamom during 1980-81 shows a slight decrease of about 66 tonnes over 1979-80. Idukki district remains as the dominant cardamom producing district of the State. Nearly 80% of the total produce was from Idukki districts in 1980-81.

(8) *Betelnut*

The estimated production of betelnut for the year 1980-81 was 10805 million nuts as against 10829 million for 1979-80 and 10919 million nuts for 1978-79. Cannanore is the major betelnut producing district of the State.

(9) *Banana*

The production of banana is estimated at 176683 tonnes during 1980-81. This shows an increase of about 4190 tone over 1978-79 and 6467 tonnes over 1979-80.

(10) *Other plantains*

The production of other plantains during 1980-81 is estimated at 1.41 lakh tonnes as against 1.45 lakh tonnes during 1979-80.

II. *Cashewnut*

Though the area under cashew has shown impressive growth in recent years the same trend is not reflected in the production of raw nuts. It has a progressively decreasing trend over the years. The production of raw cashew

nuts for 1980-81 was estimated at 81900 tonnes as against 82763 tonnes in 1979-80, 84190 tonnes in 1978-79 and 84727 tonnes during 1977-78. Nearly 62% of the total raw cashewnut was produced in Cannanore district alone in 1980-81.

(12) *Tapioca*

The production of tapioca shows fluctuating trends over the years. Its production rose from 40.44 lakhs tonnes in 1978-79 to 40.89 lakhs tonnes in 1979-80 and again decreased to 40.62 lakhs tonnes during 1980-81. The district-wise production and average yield per hectare of tapioca are given in the subjoined table 1.19

TABLE 1.19

District-wise distrybution of production and yield rate of tapioca

District	Production of tapioca in lakh tonnes		Yield rate-tonnes per hectare	
	1979-80	1980-81	1979-80	1980-81
Trivandrum	8.51	9.66	17.23	17.08
Quilon	10.30	9.90	16.00	17.75
Alleppey	3.07	2.73	16.10	13.93
Kottayam	4.82	4.09	20.05	17.78
Idukki	2.58	2.35	23.23	21.70
Ernakulam	2.63	2.40	20.40	19.28
Trichur	0.92	0.93	13.75	14.95
Palghat	1.90	1.78	15.35	14.05
Malappuram	2.42	2.29	13.33	12.63
Kozhikode	0.93	0.99	12.43	12.80
Cannanore	2.81	3.50	15.35	18.65
State	40.89	40.62	16.77	16.58

Quilon and Trivandrum are the major tapioca producing districts of the State. But the average yield per hectare was highest in Idukki and the year 1979-80 showed improvement in yield rate over that for both 1978-79 and 1980-81. Even distribution of rainfall was the main reason for the higher yield rate during 1979-80.

(13) *Groundnut*

The production of groundnut shows a decreasing trend over the years. It has decreased from 13657 tonnes in 1978-79 to 11202 tonnes in 1979-80 and to 8225 tonnes in 1980-81. Palghat is the main groundnut producing district of the State.

(14) *Seasamum*

The estimates of seasamum for the years 1979-80 to 1980-81 shows a decreasing trend. It has decreased from 4713 tonnes in 1978-79 to 4582 tonnes in 1979-80 and further to 3883 tonnes in 1980-81. Alleppey is the leading seasamum producing district of the State.

(15) *Coconut*

The estimates of production of Coconut show a declining trend during 1979-80 and 1980-81. It has decreased from 3211 million nuts in 1978-79 to 3032 million nuts in 1979-80 and to 3008 million nuts during 1980-81. Kozhikode was the leading Coconut producing district of the state.

(16) *Cotton*

Cotton is a monopoly product of Palghat district. The quantity of Cotton produced during the year 1980-81 was estimated at 9847 bales as against 8303 bales during 1979-80 and 7241 bales during 1978-79. This shows an increasing trend in production over the years.

(17) *Tobacco*

This crop is produced only in Cannanore District. The estimated production of tobacco for the year 1980-81 was 1015 tonnes as against 869 tonnes during 1979-80 and 678 during 1978-79.

(18) *Tea*

The estimated production of tea for the year 1980-81 was 50716 tonnes as against 52434 tonnes during 1979-80, 43364 tonnes during 1978-79 and 51983 tonnes during 1977-78. This shows the production of tea was fluctuating year after year for the last few years. Idukki is the biggest tea producing district with about 73% of the total production of tea in 1980-81.

(19) *Coffee*

The estimates of the production of Coffee show a progressively declining trend over the years. It has decreased from 28017 tonnes in 1977-78 to 27645 tonnes in 1978-79, increased to 30176 tonnes in 1979-80 and fell steeply to 23540 tonnes in 1980-81. Kozhikode, Cannanore and Idukki are the major coffee producing Districts of the State, and they together share about 90% of the total coffee produced in the State.

(20) *Rubber*

Though rubber production showed a decrease of 12239 tonnes during 1978-79 over the previous year's estimate of 135907 tonnes the same has increased to 136619 tonnes in 1979-80 and to 140333 tonnes during 1980-81. Still there is deficit in production over consumption of rubber in recent years. Kottayam is the dominant rubber producing district and together with Quilon district share about 44% of the total production of rubber in the State.

(21) *Cocoa*

The estimated production of Cocoa for the year 1980-81 was 3020 tonnes. The production of the Crop for the previous year was negligible. Kottayam is the major cocoa producing district of the State.

14. *Average yield per hectare of Certain Crops*

The average yield per hectare of important crops are furnished in table 25 of summary tables.

15. *Sowing, harvesting and peak marketing periods of important Seasonal crops*

The information on sowing, harvesting and peak marketing periods of important seasonal crops of the State are furnished in table 2.6 of the summary tables.

16. *Farm price*

The average farm price of nine important commodities for the year 1978-79, 1979-80 and 1980-81 are given in table 2.7. The farm price of paddy, Coconut, arecanut, cashewnut, banana and sugarcane show increasing trend over the years. The farm price of pepper shows decreasing trends over the years while that of ginger and tapioca show fluctuating trends.

17. *Agricultural wages*

The District-wise details of agricultural wages classified into skilled (carpenter and mason) and unskilled (for field labour-men and women) for the year 1979-80 and 1980-81 are furnished in table 3.9 of the detailed tables. The wages of skilled labour (carpenters and mason) show increasing trend during 1979-80 and 1980-81.

18. *Live stock Poultry and agricultural implements*

The details of livestock, poultry and agricultural implements as available from the quinquennial live stock census 1977 are furnished in table 2.8 of summary table and 3.10 of the detailed tables.

PART II

SUMMARY TABLES

- 2.1 Classification of area
- 2.2 Source of irrigation
- 2.3 Area under crops
- 2.4 Production of important crops
- 2.5 Average yield per hectares of certain crops
- 2.6 Sowing, harvesting and peak marketing seasons of principal crops
- 2.7 Average farm price of certain agricultural produce
- 2.8 Live stock, Poultry and Agricultural machinery

OF METERS TABLE

2.1	Quantities of mass
2.2	Units of length
2.3	Area and volume
2.4	Units of mass
2.5	Units of force and weight
2.6	Units of energy and work
2.7	Units of power and heat
2.8	Units of pressure and stress

TABLE 2.1

Classification of area (hectare)

Head of classification	Area	Percentage
1 Total area by village papers	3885497	100.00
2 Forests	1081509	27.84
3 Land put to non-agricultural uses	2634197	6.78
4 Barren and uncultivable land	78187	2.01
5 Permanent pastures and other grazing lands	5630	0.14
6 Land under miscellaneous tree crops	65502	1.69
7 Cultivable waste lands	125015	3.22
8 Current fallow	43384	1.12
9 Other fallows	27684	0.17
10 Net area sown	2195089	56.49
11 Total cropped area	2854055	73.45
12 Area sown more than once	658966	16.96

TABLE 2.2

Source of Water Supply and net area, in (hect.)
irrigated in 1979-80 & 1980-81

Net area irrigated by	1979-80	1980-81
1 Government canals	101207	99397
2 Private canals	5350	5299
3 Government tanks and wells	6468	5048
4 Private tanks and wells	50521	50992
5 Minor and lift irrigation (Scheme)	37529	33702
6 Other Sources	29678	43606
7 Total	230753	237974
8 Percentage of area irrigated to net area sown	10.51	10.92

TABLE 2.3

Area under crops in Kerala (Hect.) 1979-80 & 1980-81

Name of crop	1979-80	Area (hectare) 1980-81
(1)	(2)	(3)
Paddy	793266	801699
Jowar	1934	1880
Ragi	1394	1471
Other cereals and millets	2394	2761
Total cereals and millets	798988	807811
Tur	34885	33859
Other pulses		
Total pulses		
Sugar cane	7790	8041
Palmyrah	12984	12949
Total sugar crops	20774	20990
Pepper	105817	108073
Chillies	919	1167
Ginger	14128	12662
Turmeric	4004	3270
Cardamom	53920	54044
Arecanut	60858	61242
Tamarind	10789	11017
Other Condiments and spices	5196	5193
Total condiments and spices	255631	256668
Mango	59207	62574
Jack	58750	61918
Banana	13133	14318
Other plantains	36425	34944
Pineapple	5809	5419
Pappaya	9095	11609
Other fruit trees	14548	13620
Cashew	139917	141277
Total fruits	336884	345679
Tapioca	243763	244990
Drumstick	14183	15402
Sweet potatoes	4964	5054
Tubers	33503	34189
Other vegetables	13274	13359
Total vegetables	309687	312994
Total food crops	1756849	1778001
Coconut	662657	651370

(1)	(2)	(3)
Sesamum	17607	14752
Groundnut	12671	9399
Other Oil Seeds	1979	1817
Total Oil seeds	694914	677338
Fibre Cotton	5247	6223
Tobacco	453	551
Tea	36126	36164
Coffee	57949	57949
Rubber	215474	237769
Cocoa	20238	23506
Total of Plantation crops	329787	355388
Fodder crops	2095	2586
Green manure crops	10048	10321
Lemon grass	5982	5898
Betel leaves	1356	1153
Other crops	47324	47381
Total	106805	67339
Total non-food crops	1097206	1106839
Total area under all crops	2854055	2884840
Area sown more than once	658966	705250
Net area sown	2195089	2179590

TABLE 2.4

**Production of Important Crops in Kerala
1979-80 & 1980-81**

<i>Name of crop</i>	<i>Unit</i>	<i>Quantity</i>	
		1979-80	1980-81
1. Rice	Tonnes	1299696	1271962
2. Paddy	"		
3. Jower	"	870	870
4. Ragi	"	1082	1131
5. Tur	"		
6. Other pulses	"	23443	22479
7. Sugarcane (gur)	"	45769	48178
8. Pepper (Black)	"	28903	28519
9. Chillies (Dry)	"	847	1064
10. Ginger (Dry)	"	35825	32039
11. Turmeric (cured)	"	7660	6141
12. Cardamom (processed)	"	3300	3244
13. Arecanut (Betel nuts)	Million nuts	10829	10805
14. Banana	Tonnes	165025	176783
15. Other plantain	"	144888	140722
16. Cashewnuts	"	82763	81900
17. Tapioca (Raw)	"	4088916	4060911
18. Sweet Potatoes	"	31992	32967
19. Groundnut	"	11202	8225
20. Sesamum	"	4582	3833
21. Coconut	Million nuts	3032	3008
22. Cotton	(Bales of 170 kg)	8303	9847
23. Tobacco	Tonnes	869	1015
24. Coffee	"	30176	23540
25. Tea	"	52434	50716
26. Rubber	"	136619	140333

TABLE 2, 5

Average yield per hectare of certain crops for the years 1978-79 to 1980-81

Sl. No.	Name of crop	Unit	1978-79	1979-80	1980-81
1	Paddy	Kg./hect.	2423	2494	2415
2	Jowar	"	450	450	449
3	Ragi	"	580	776	769
4	Sugarcane (gur)	"	5724	5875	5991
5	Pepper (Black)	"	247	273	264
6	Ginger (Dry)	"	2589	2500	2530
7	Turmeric (cured)	"	1949	1913	1878
8	Cardamom (processed)	"	53	61	60
9	Areca nut	Nos.	175217	177939	176431
10	Banana	Kg./hect.	12686	12566	12340
11	Other plantains	"	122258	3978	4027
12	Cashewnuts	"	617	592	579
13	Tapioca (Raw)	"	14787	16569	16576
14	Groundnut	"	980	884	875
15	Sesamum	"	268	260	260
16	Coconut	Nos.	4861	4575	4618
17	Cotton	Kg./hect.	230	269	269
18	Tea	"	1312	1451	1402
19	Coffee	"	525	521	406
20	Rubber	"	577	634	590

TABLE 2.6

Sowing Harvesting and Peak Marketing seasons of Principal Crops in Kerala State

Crop Calendar—State

Sl. No.	Name of crop	Season	Sowing	Period of flowering	Harvesting	Peak marketing
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Rice	Autumn	April-July	July-October	August-October	September-November
		Winter	August-November	October-January	November-January	December-March
		Summer	October-December	January-March	March-May	March-June
			January-March	March-May	April-June	April-July
2	Ragi	I crop	April-July	August	September-November	September to November
		II crop	September-October	October-November	December-January	December-January
			May-June	September-October	October-November	October-November
		III crop	December	January-February	February	..
3	Small millets	Autumn	April-July	July-November	September-November	December-January
		Summer	January-February	March	April	April
		Autumn	May-August	June-September	August-October	August-October
4	Red gram	Winter	August-November	September-November	October-January	December-January
		Summer	February-March	May	May	June
		Autumn	February-April	March-April	April-June	May-June
5	Horse gram	Winter	September-November	October-November	November-January	November-February
		Summer	December-February	January-April	April	April

TABLE 2.6 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
6	Greengram	Autumn	June-August	August-September	August-September	September-December
		Winter	October	November	November-December	November-December
		Summer	January	February-April	March-April	March-April
7	Black gram	Winter	March-June	July-August	June-September	September-October
		Summer	September-October	October-November	November-December	December-January
8	Other Pulses	Autumn	April-July	July-August	July-October	July-November
		Winter	September-December	October-December	November-February	December-March
		Summer	December-March	January-April	February-June	April
9	Sugar cane	Autumn	October-February	..	October-December	November-December
		Winter	November-March	..	December-February	January-February
		Summer	June-October	September-October	October-January	January
10	Ginger	Autumn	March-July	..	November-February	December-February
		Winter	March-June	..	December-February	December-March
		Winter	June-August	July-October	November-February	February-March
11	Pepper	Summer	July	July-September	January-April	March-May
12	Cotton	Winter	June-October	..	December-March	February-March

TABLE 2.6 (Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
13	Seasamum	Autumn Winter Summer	April-August August-October December-February	July-September October-December February-April	August-October December-April March-May	July-October December-February March-May
14	Sweet Potatoes	Autumn Winter Summer	April-July October-November December-March	.. .. ..	September-November January-February March-June	November-February February-March April-June
15	Turmeric	..	April-July	..	November-February	November-March
16	Lemon grass	..	May-June	..	July-November January-February April-May	July-November January-February April-May
17	Tapioca	Autumn Winter Summer	July-October March-May June-October	.. .. ..	July-August November-March March-July April-May	July-September December-February March-July
18	Mango	..	..	December	April-May	April-May
19	Tender Arecanut	..	..	June	September	September
20	Tubers	Autumn Winter	February-March March-April	.. ..	July-September November-January	August-September December-January
21	Banana	Autumn Winter	August-September December-January	April-May August-October	July-August November-January	July-August December-January
22	Tabacco	Winter	November-December	..	March-April	May-June

TABLE 2,7

Average Farm Price of certain commodities

Sl.No.	Name of crops	Unit	Average Farm price (weighted) 1978-79	Average Farm price (weighted) 1979-80	Average Farm price (weighted) 1980-81
1	Paddy	Rs. per Qtl.	125.76	133.24	152.06
2	Coconut (with husk)	Rs. per 1000 Nos.	1020.95	1142.77	1380.90
3	Areca nut (Ripe)	Rs. per 1000 nos.	50.85	61.52	75.98
4	Tapioca (Raw)	Rs. per Qtl.	34.45	41.22	32.67
5	Cashew nut	Rs. per Qtl.	407.12	582.73	731.91
6	Banana	Rs. per 1000 nos.	328.62	380.00	386.50
7	Pepper	Rs. per Qntl.	1508.16	1358.57	1208.23
8	Ginger	Rs. per Qtl.	671.42	405.88	563.74
9	Sugarcane	Rs. per M.T.	127.47	128.22	195.10

TABLE 2.8

Number of Livestock, Poultry and Agricultural Machinery

Sl. No. (1)			1972 census (2)	1977 census (3)
1	Cattle: Male over 3 years	(a) Breeding	4800	3462
		(b) Working	371972	353672
		(c) Others	14822	13980
		Total	391594	371114
	Female over 3 years	(a) Breeding		
		(1) in Milk	606192	70504
		(2) Dry	578827	585474
		(3) Not calved	101849	74794
		(b) Working	7646	2569
		(c) Others	5657	3103
Total		1300171	1370980	
Young Stock	1164555	1263965		
Total Cattle	2856320	3006059		
2	Buffaloes: Male over 3 years	(a) Breeding	2185	1777
		(b) Working	211467	210199
		(c) Others	12077	6798
		Total	225729	218774
	Female over 3 years	(a) Breeding		
		(1) In milk	83188	86698
		(2) Dry	53671	85646
		(3) Not calved	10495	9013
		(b) Working	6066	5039
		(c) Others	2360	1196
Total	155780	157592		

TABLE 2.8 (Contd.)

(1)	(2)	(3)	
	Young stock	90238	78034
	Total Buffaloes	471747	454400
3 Sheep:	(a) One year and above	839053	956695
	(b) Below one year	628204	726602
	Total	1467657	1683297
4 Goats:	(a) One year and above	6991	
	(b) Below one year	3330	
	Total	10321	12546
5 Horse and ponies:			
	(a) 3 years and above	333	
	(b) below 3 years	118	
	Total	451	90
6 Mules		14	Nil
7 Donkeys		861	266
8 Camels		11	..
9 Pigs		129087	Nil
	Total Livestock	4936469	172375
10 Poultry	(a) Fowls	11844548	12956186
	(b) Ducks	301941	429569
	(c) Others	965	3095
11 Poulghs	(a) Wooden	391714	316975
	(b) Iron	35103	69191
12 Carts		16245	20525
31 Sugarcane crushers	(a) Power	96	459
	(b) Bullocks	801	863
14 Oil Engines		186469	28759
15 Electric Pumps		9983	25973
16 Tractors		2752	783

Table 2.8 (Contd.)

(1)	(2)	(3)
1	Blades	14
2	Donkeys	201
3	Cattle	11
4	Pigs	12007
5	Total Livestock	43349
6	Plant (a)	1124488
7	Plant (b)	201241
8	Plant (c)	202
9	Total Plant	1325931
10	Trucks (a)	20174
11	Trucks (b)	22103
12	Cars	10242
13	Motorcycles	2022
14	Power	22
15	Balloons	201
16	Oil Engines	10242
17	Electric Pumps	2222
18	Tractors	222
19	Others (a)	20174
20	Others (b)	22103
21	Others (c)	10242
22	Total Others	42319
23	Total	421
24	Others (a)	20174
25	Others (b)	22103
26	Others (c)	10242
27	Total Others	42319
28	Young Stock	20174
29	Total Livestock	43349
30	Plant (a)	1124488
31	Plant (b)	201241
32	Plant (c)	202
33	Total Plant	1325931
34	Trucks (a)	20174
35	Trucks (b)	22103
36	Cars	10242
37	Motorcycles	2022
38	Power	22
39	Balloons	201
40	Oil Engines	10242
41	Electric Pumps	2222
42	Tractors	222
43	Others (a)	20174
44	Others (b)	22103
45	Others (c)	10242
46	Total Others	42319
47	Total	421

PART III

DETAILED TABLES

- 3.1 Normal rain fall
- 3.2 Average monthly rain fall
- 3.3 Classification of area in each District
- 3.4 Classification of area as percentage to total area.
- 3.5 Area under crops in each district
- 3.6 Percentage of area under crops to total cropped area of the district
- 3.7 Production of important crops in each District
- 3.8 Average farm price of certain commodities
- 3.9 Agricultural wages
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DETAILED TABLES

2.1	Normal rain fall
2.2	Average monthly rain fall
2.3	Classification of area in each District
2.4	Classification of area as pertained to total area
2.5	Area under crops in each district
2.6	Percentage of area under crops to total cropped area of the district
2.7	Production of important crops in each District
2.8	Average farm price of certain commodities
2.9	Agricultural wages
2.10	Number of tractors, Poultry, agricultural machinery and implements

Normal rain fall in Kerala (in m.m)

District	July	August	September	October	November	December	January	February	March	April	May	June	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trivandrum	257.4	204.5	168.9	280.2	210.2	70.1	21.2	18.0	48.0	118.1	219.9	391.1	2001.6
Quilon	449.6	318.1	226.1	344.9	242.9	64.8	24.1	32.1	32.1	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	30125.0
Kottayam	657.7	447.5	296.5	383.8	244.7	73.6	28.8	30.3	85.4	176.9	324.1	713.3	3462.6
Idukki	655.1	432.9	262.7	304.4	195.8	68.8	31.1	24.1	44.6	111.7	200.9	556.7	2898.8
Ernakulam	785.3	518.0	293.9	359.7	212.6	54.2	16.8	22.4	51.6	129.5	308.4	796.1	3548.5
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
Malappuram	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	3427.9
State	634.4	422.6	242.6	306.9	190.9	51.2	18.5	19.3	46.4	115.6	245.0	672.8	3017.6

TABLE 5.2

Monthly Rainfall for the year -1979-80

District	July	August	September	October	November	December	January	February	March	April	May	June	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trivndrum	172.3	121.3	167.9	93.6	303.7	43.3	..	25.5	..	126.4	58.2	318.5	1430.7
Quilon	764.8	421.0	554.9	536.3	961.8	65.4	..	65.8	0.9	406.6	89.1	913.4	4780.0
Alleppey	358.4	129.7	186.4	155.0	213.8	46.8	X	..	0.6	84.9	136.1	662.0	1973.7
Kottayam	405.9	201.1	222.7	181.7	237.5	64.4	X	17.1	2.9	90.4	102.5	766.6	2292.8
Idukki	437.3	327.5	198.7	141.9	354.7	26.8	X	48.8	..	75.4	144.1	511.7	2266.9
Ernakulam	686.7	377.5	303.1	271.0	312.5	18.9	X	33.0	1.7	145.1	148.0	802.3	3099.8
Trichur	846.1	490.6	324.5	146.3	255.4	2.9	X	1.8	0.1	82.7	119.2	954.5	3224.6
Palghat	662.1	397.8	140.8	290.0	340.9	4.3	X	31.6	..	120.9	124.1	772.5	2885.6
Malappuram	876.8	544.2	..	185.1	X	26.7	X	9.8	..	62.7	65.6	929.8	2700.7
Kozhikode	816.5	489.9	113.5	145.5	224.3	7.2	X	1.6	..	221.4	59.0	694.6	2771.2
Cannanore	1233.3	628.9	215.7	75.8	119.0	12.5	X	5.6	..	134.5	76.0	917.2	3350.5
State	659.8	375.4	242.8	202.1	332.4	31.9	X	21.9	0.6	141.0	102.0	749.4	2859.3

X Not reported

.. Nil report received

TABLE 3.2 (Contd.)

Monthly Rainfall for the year 1980-81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trivandrum	185.5	158.5	81.6	154.8	138.2	57.9	24.4	11.9	24.1	132.3	102.2	415.0	1486.4
Quilon	804.3	461.8	322.8	276.6	183.8	80.9	17.6	5.4	39.0	132.9	222.7	1410.8	3958.6
All-ppey	748.8	463.7	155.8	325.1	185.0	48.4	42.3	2.9	5.4	102.5	234.4	846.5	3160.8
Kottayam	751.0	522.0	128.0	234.0	187.0	23.9	9.3	6.5	20.6	57.3	104.3	935.1	2979.0
Idukki	627.5	392.6	185.7	310.5	215.5	86.0	7.9	10.9	43.3	57.2	138.1	920.5	2995.7
Ernakulam	923.6	433.1	120.9	337.5	298.7	49.1	13.1	14.0	36.5	102.1	74.2	878.3	3241.1
Trichur	1152.3	532.2	112.3	354.8	183.2	6.8	..	0.3	8.3	99.0	236.9	1174.6	3860.7
Falghat	729.0	414.9	163.0	339.1	90.0	56.2	..	..	61.0	95.2	201.7	898.6	3049.6
Malapuram	980.4	316.0	70.0	306.0	222.0	7.0	..	..	X	X	X	X	1901.4
Kozhikode	732.7	428.0	128.7	156.0	135.2	9.9	0.3	..	1.2	X	133.0	636.0	2331.0
Cannanore	848.8	729.2	190.4	158.8	90.4	3.7	9.2	4.9	11.2	11.9	161.0	1235.3	3455.8
State	788.2	441.1	150.8	259.4	175.4	39.1	11.3	5.2	25.1	87.6	160.9	935.1	3079.2

X. Not reported

.. Nil report received

TABLE 3.2

Total Area and classification of Area in each district of Kerala during 1979-80

District	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Total geographical area according to village papers	Forest	Land put to non agricultural uses	Barren and uncultivable land	Permanent pastures and others grazing land	Land under misc-cereals and groves not included in area sown	Cultivable wasteland	Fallow lands others than current fallows	Current fallows	Net area sown	Area sown more than once	Total cropped area.	
Trivandrum	218600	49861	16986	1866	39	222	2121	1795	1852	144358	74429	218787	
Quilon	474290	236048	25150	2362	36	312	1493	1195	1839	205835	93989	299824	
Alleppey	182270	518	29865	686	18	215	2213	1047	2955	144752	69190	213942	
Kottayam	219550	8141	18302	2020	104	322	1451	2293	4763	182154	40037	222191	
Idukki	515048	260993	14904	17729	2215	16189	38776	1196	1769	161277	3760	165097	
Ernakulam	235319	8123	30379	2124	189	1943	5255	2584	3908	181414	74711	256125	
Trichur	299390	103619	21596	2666	212	1340	4922	2933	4954	157148	71857	229005	
Palghat	438980	136357	32318	13027	497	8669	24187	5017	6871	212137	118249	330386	
Malappuram	363230	103417	17940	7748	421	2607	13601	4218	7118	206160	41759	247919	
Kozhikode	371150	90876	21683	3730	284	19858	5328	1815	2723	224853	62867	287720	
Cannanore	567670	89656	34873	24229	1615	14425	25668	3591	5112	375001	8118	383119	
State	3885487	1081509	263497	78187	5630	65502	125015	27684	43384	2195089	658966	2854055	

**Total Area and classification of Area in each district of Kerala—
1980-81**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	218600	49851	17546	2229	34	216	2154	1703	1301	143756	84169	227925
Quilon	474290	236048	24822	2361	37	331	1493	1190	1853	206155	88106	294261
Alleppey	182270	518	30838	576	15	192	2000	1092	2067	144972	73352	218324
Kottayam	219550	8141	19065	2050	86	331	1739	2237	3736	182165	48024	230189
Idukki	515048	260993	15566	17442	2215	16189	38776	1208	1739	160920	9786	170706
Ernakulam	235319	8123	32752	2649	198	1343	5304	3079	3714	178157	80638	258815
Trichur	299390	103619	21642	2492	187	1307	5452	3021	4860	156810	74645	231455
Palghat	438980	136257	31351	14101	341	8247	25571	3117	6547	213748	123209	336957
Malappuram	363230	103417	18603	7770	439	3664	14337	4039	9787	201174	51398	252572
Kozhikode	371150	90876	22483	3727	271	16869	5510	2010	2801	226603	53811	2804145
Cannanore	567670	83656	53356	30373	1609	15186	26996	4190	5174	365130	18092	383222
State	3885497	1081509	269824	85770	5432	63875	129032	26886	49579	2179590	705250	2884840

Classification of area on basis of use of land, area classified as agricultural land, area classified as non-agricultural land, area classified as forest land, area classified as other land.

TABLE 3.3

Classification of area as percentage of total area according to village papers percentage distribution 1979-80

District	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Total Geographical areas according to village papers	Forest	Land put to non-agricultural uses	Barren and uncultivable land	Permanent pastures and other grazing land	Land under miscellaneous tree crops and groves not included in area sown.	Cultivable waste land.	Fallow lands other than current fallows.	Current fallows	Net area sown	Area sown more than once.	Total cropped area.	
Trivandrum	100	22.81	7.7	0.85	0.02	0.10	0.97	0.82	0.62	66.04	34.05	100.09	
Quilon	100	49.77	5.30	0.50	0.01	0.07	0.31	0.25	0.39	43.40	19.82	63.22	
Alleppey	100	0.28	16.40	0.35	0.02	0.12	1.21	0.57	1.62	79.43	37.96	117.38	
Kottayam	100	3.71	8.84	0.92	0.05	0.15	0.66	1.04	2.17	82.96	18.24	101.20	
Idukki	100	50.68	2.89	3.44	0.42	3.14	7.53	0.23	0.34	31.32	0.73	32.04	
Ernakulam	100	3.45	12.91	0.90	0.08	0.57	2.23	1.10	1.66	77.10	31.75	108.84	
Trichur	100	34.61	7.21	0.89	0.07	0.45	1.64	0.98	1.66	52.49	24.00	76.49	
Palghat	100	31.04	7.36	2.97	0.11	1.98	5.51	1.14	1.57	48.32	26.94	75.26	
Malappuram	100	28.57	4.94	2.13	0.12	2.37	3.72	1.16	1.96	56.76	11.50	68.25	
Kozhikode	100	24.48	5.84	1.00	0.08	5.35	1.44	0.49	0.73	60.59	16.94	77.52	
Cannanore	100	15.74	6.06	4.27	0.28	2.54	4.52	0.63	0.90	66.06	1.43	67.49	
State	100	27.83	6.78	2.01	0.15	1.69	3.22	0.71	1.12	56.49	16.96	73.45	

TABLE 3.3 (Contd.)

1981-82

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	100	22.79	7.94	1.02	0.02	0.10	0.99	0.78	0.60	65.76	38.50	104.27
Quilon	100	49.76	5.23	0.50	0.01	0.07	0.32	0.25	0.39	43.47	18.58	62.04
Alleppey	100	0.28	16.92	0.32	0.01	0.11	1.10	0.60	1.13	79.53	40.24	119.78
Kottayam	100	3.71	8.69	0.93	0.04	0.15	0.79	2.02	1.70	82.97	21.87	104.85
Idukki	100	50.67	3.02	3.39	0.43	3.14	7.53	0.24	0.34	31.24	1.90	33.14
Ernakulam	100	3.45	13.92	1.13	0.08	0.57	2.25	1.31	1.58	75.71	34.28	109.98
Trichur	100	34.61	7.23	0.83	0.06	0.44	1.82	1.01	1.62	52.38	24.93	77.31
Palghat	100	31.04	7.14	3.21	0.08	1.88	5.76	0.71	1.49	48.69	28.07	76.76
Malappuram	100	28.47	5.12	2.14	0.12	1.01	3.95	1.11	2.69	55.39	14.15	69.54
Kozhikode	100	24.49	6.06	1.00	0.07	4.54	1.49	0.54	0.76	61.05	14.50	75.55
Cannanore	100	14.74	6.23	5.35	0.28	2.68	4.76	0.74	0.90	64.32	3.19	67.51
State	100	27.84	6.94	2.21	0.14	1.64	3.32	0.69	1.12	56.10	18.15	74.25

TABLE 3.4

Area under crops in each district of Kerala 1979-80 (Area in hectares) food crops-cereals

District	Paddy		Other cereals		Total	Other cereals and millets	Total cereals & millets	Tia	Pulses	Total pulses	Total food grains	
	Autumn	Winter	Summer	Jowar								Ragi
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	15560	15766	1237	32563	..	19	2	32584	..	..	3244	53828
Quilon	23933	25059	903	49895	..	27	..	49972	..	..	3013	52935
Alleppey	31222	19243	29094	80059	..	8	..	80067	..	..	1000	81067
Kottayam	13222	10161	9545	32928	..	4	..	32932	..	..	1752	34684
Idukki	3459	4112	255	7826	30	341	127	8324	..	..	1693	10007
Ernakulam	43075	38852	19228	101155	5	4	180	101344	..	..	1558	102902
Trichur	40975	48420	21259	100654	..	47	146	110847	..	..	3259	114106
Palghat	88981	85721	4059	178761	1839	879	1776	183255	..	..	9854	193109
Malappuram	39445	35209	5503	80157	..	17	52	80226	..	..	2888	83114
Kozhikode	9753	28673	7345	45771	..	32	3	45806	..	..	1425	47231
Cannanore	38248	28392	6857	73497	60	16	108	73681	..	..	5209	78890
State	348373	339608	105285	793266	1934	1394	2394	798988	..	..	34885	833873

TABLE 3.4 (Contd.)

Area under crops in each district of Kerala 1980-81 (area in hectares) food crops-cereals

Name of District	Paddy			Summer Total	Jowar	Other cereals & millets & Ragi	Total cereals & millets	Tur	Pulses	Pulses including Total pulses	Tur	Total food grains
	Autumn	Winter	(3)										(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	15361	16115	1107	32583	..	19	..	32602	..	3240	..	5842
Quilon	24142	25090	823	50055	..	7	..	50062	..	2168	..	52230
Alleppey	33019	25372	24075	82465	..	8	..	82474	..	1034	..	83308
Kottayam	13485	10799	7664	31948	..	4	..	31952	..	2116	..	34068
Idukki	3862	5100	299	9261	25	375	250	9911	..	1908	..	11819
Ernakulam	43174	39719	19607	102500	5	4	190	102699	..	1415	..	104214
Trichur	40584	49168	20562	110314	11	34	103	110462	..	3313	..	113755
Palghat	89762	89550	4322	183634	1839	968	2062	188503	..	10730	..	199233
Malappuram	38608	36012	5407	80022	..	8	45	80075	..	2168	..	82243
Kozhikode	9326	28461	7164	45451	..	28	3	5482	..	1365	..	46847
Cannanore	37425	28746	7294	73465	..	16	106	73589	..	4302	..	77891
State	349243	354132	98324	801699	1880	1471	2761	807811	..	33859	..	841670

TABLE 3.4 (Contd 1979-80)

District	Sugar crops		Tota sugar crop	Condiments and spices					Tamarind		
	Sugar cane (Palmitrah)	Others		Pepper	Chillies	Ginger	Turmeric	Cardamom		Betel nuts	Other Condi- ments and spices
(1)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Trivandrum	21	798	819	5441	..	120	30	164	3142	182	1934
Quilon	663	64	727	9946	..	1332	129	149	4501	280	860
Alleppey	2725	21	2746	4493	..	201	21	..	2852	160	227
Kottayam	113	567	680	12739	..	3424	986	22	2516	1072	380
Idukki	1747	242	1989	10841	..	894	129	45170	2309	184	137
Ernakulam	103	320	423	6752	..	3077	1132	..	6356	1339	695
Trichur	2	1118	1120	3727	4	191	118	..	6774	424	1047
Palghat	2362	7852	10214	1471	88	437	275	3574	2418	280	3278
Malappuram	9	1127	1136	3609	101	562	72	184	8356	148	894
Kozhikode	5	414	419	20739	70	2630	596	3391	6636	153	716
Cannanore	40	461	501	26059	650	1260	516	1266	14998	974	621
State	7790	12984	20774	105817	919	14128	4004	53920	60858	5196	10789

TABLE 3.4 (Contd) 1980-81

District	Sugar crops			Condiments and spices						Tannin	
	Sugar cane (14)	Others (Palmarah) (15)	Total sugar crops (16)	Pepper (17)	Chillies (18)	Ginger (19)	Turmeric (20)	Cardamom (21)	Betal nuts (22)		Other condiments and spices (23)	and (24)
Trivandrum	21	698	719	5362	..	183	13	104	3292	188	1531
Quilon	328	56	384	9832	..	1278	74	149	4250	269	769
Alleppey	2408	29	2437	4843	..	276	35	..	2865	198	236
Kottayam	272	476	748	13786	..	3418	601	22	2525	887	448
Idukki	2560	276	2836	12264	..	958	189	45170	2500	260	152
Ernakulam	80	369	449	6652	..	2162	789	..	6151	1484	806
Trichur	4	940	944	4010	2	168	169	..	6633	424	1468
Palghat	2324	8020	10344	1532	181	410	375	3366	2352	280	3084
Malappuram	6	1415	1421	4080	83	451	108	184	8801	148	1180
Kozhikode	3	431	434	20184	75	2132	348	3783	6771	153	693
Cannanore	35	239	274	26578	826	1226	569	1266	15102	892	650
State	8041	12949	20990	108073	1167	12662	3270	54044	61242	5193	11017

TABLE 3.4 (Contd) 1979-80

District	Fresh fruits and Dried Fruits					Vegetables					
	Mango (25)	Jack (26)	Banana (27)	Other plantain (28)	Cashew (29)	Other fruit trees (30)	Pineapple (31)	Total Fruits (32)	Tapioca (33)	Sweet Tubers potatoes (34)	(35)
Trivandrum	7437	7392	647	5815	5937	1010	469	29430	49362	190	1865
Quilon	6009	6211	1563	3014	8513	1510	880	27651	64391	74	6031
Alleppey	4586	3954	934	3275	3953	1083	310	18654	19065	75	5015
Kottayam	4741	4000	1125	3939	1370	1365	574	17363	24015	32	3273
Idukki	1560	2305	211	2749	1217	719	350	11053	11093	115	1745
Ernakulam	4412	4377	1414	3256	4063	2454	584	20688	12789	68	2969
Trichur	4645	3884	1380	3270	7127	1372	485	22324	6673	178	2467
Palghat	5194	4242	850	3215	12710	716	156	29254	12397	1721	2865
Malappuram	5538	4445	1994	1945	20790	1146	251	36679	18186	1451	2140
Kozhikode	7107	9031	1108	2823	5187	1588	571	28118	7470	89	3468
Cannanore	7978	8909	1907	3124	69050	1940	1169	95360	18322	791	1665
State	59207	58750	13133	36425	139917	14904	5809	336884	243763	4964	33503

TABLE—3.4 (Contd.)1980-81

District	(1)	Fresh fruits and Dried fruits							Vegetables			
		Mango	Jack	Banana		Cashew	Other fruit trees	Total fruits	Tapioca	Sweet potatoes		Tubers
				(25)	(26)					(27)	(28)		(33)	(34)	(35)
Trivandrum	7388	7425	942	5591	6303	2010	327	30186	56545	100	2348	
Quilon	6201	6758	1687	3221	8673	1223	718	28481	59097	40	6448	
Alleppey	4999	4279	770	3567	3863	1749	318	19545	19592	60	5380	
Kottayam	4568	4385	1161	3398	1337	1991	595	17435	23003	26	3694	
Idukki	2094	2154	205	3023	1197	1940	345	10958	10824	171	1740	
Ernakulam	5369	4811	1312	3245	406	2541	586	21931	12462	66	3048	
Trichur	4973	3784	1549	3259	7163	2658	434	23820	6191	140	2474	
Palghat	5365	4431	1385	2357	13287	2893	150	29868	12644	1794	2175	
Malappuram	6211	5623	2598	1929	21257	2297	239	40154	18111	1464	2435	
Kozhikode	7198	9435	1204	2298	5213	2764	435	28547	7756	89	3105	
Cannanore	8008	8833	1505	3056	68917	3163	1272	94164	18765	1104	1342	
State	62574	61918	14318	34944	141277	25229	5419	345679	244990	5054	34189	

TABLE—3.4 (1979-80)

Non-Food crops

Districts	Vegetables		Other food crops drum stick	Total Oil Seeds		Sesamum	Ground nut	Other seeds	Fibre		Drugs narcotics & plantation crops	
	Other Vegetables	Total		food crops	Coconut				Total	Cotton	Tobacco	Tea
(1)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
Trivandrum	502	55002	3083	132092	73485	13	7	269	73774	..	..	1071
Quilon	377	72128	1255	170638	84488	3457	..	95	88040	..	..	2012
Alleppey	903	26155	1097	136576	62507	6061	..	123	69081	..	..	..
Kottayam	786	29800	1694	103666	49747	61	..	221	50029	..	..	2268
Idukki	1224	14509	332	97222	15794	133	..	75	16002	..	..	24124
Ernakulam	2670	19597	1101	162961	60070	2703	..	204	62977	..	..	30
Trichur	914	10863	631	161008	53549	1487	..	145	55181	..	..	442
Palghat	1819	19586	884	264004	21785	1304	12581	596	36266	5247	..	665
Malappuram	1805	24485	903	159340	60051	1898	3	33	61985	..	..	174
Kozhikode	328	13899	2544	124604	103672	74	..	90	103836	..	..	3689
Cannanore	1946	23563	659	244658	77109	426	80	128	77743	..	..	1451
State	13274	309687	14183	1756849	662657	17607	12671	1979	694914	5247	453	36126

TABLE-3.4 (Contd.) 1980-81

Non food crops

District	Vegetables			Oil seeds			Fibre		Drugs narcotice & Plantation crops			
	Dramatic (36)	Other veg-tables (37)	Total (38)	Total food crops (39)	Coconut (40)	Sesamum (41)	Ground nut (42)	Other oil seeds (43)	Total (44)	Cotton (45)	Tea (46)	Cocoa (47)
Trivandrum	3422	573	62988	140408	73771	15	7	247	74040	..	699	1072
Quilon	1335	329	67249	164965	81765	2186	..	90	84041	..	1099	2004
Alleppey	1078	908	27018	140961	63114	5300	..	111	68525	..	3094	..
Kottayam	1785	879	29387	102335	51115	43	..	155	51313	..	6995	2268
Idukki	321	1079	14135	101241	16617	210	..	74	16901	..	1890	24156
Ernakulam	1155	2199	18930	163568	60881	2482	..	160	63523	..	3988	30
Trichur	837	1153	10795	162208	54030	1446	..	171	55647	..	1380	441
Palghat	706	2336	19655	270680	22954	1003	9309	590	33856	6223	368	665
Malappuram	885	1524	24419	163222	59677	1587	3	35	61302	..	422	174
Kozhikode	3164	384	14498	124465	94466	70	..	122	94658	..	2103	3899
Cannanore	714	1995	23920	243948	72980	410	80	62	73532	..	1468	1455
State	15402	13359	312994	1778001	651370	14752	9399	1817	677336	6223	23506	36164

TABLE —3.4.(Contd.) 1979-80

District	Drugs narcotics and Plantation crops										Total non-food crops & non-food crops
	Coffee	Rubber	Total	Fodder crops	Green manure	Lenon grass	Betal leaves	Other crops	Total	Total	
(1)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)
Trivandrum	48	8246	9853	218	453	36	170	2191	3068	86695	218787
Quilon	378	3464	38107	291	1014	26	173	1535	3039	129186	299824
Alleppey	63	4030	6850	145	230	25	82	953	1435	77366	213942
Kottayam	902	55005	65356	407	421	11	58	2243	3140	118525	222191
Idukki	5134	16069	46779	473	173	2039	8	2341	5034	67815	165037
Ernakulam	172	21488	25293	84	235	607	136	3832	4894	93164	256125
Trichur	33	8963	10336	151	389	77	85	1778	2480	67997	229005
Palghat	2264	9372	12585	26	1571	108	8	10491	12204	66202	330396
Malappuram	10	17893	18462	18	2977	71	544	4522	8132	88579	247919
Kozhikode	30204	17396	53463	104	1237	766	54	3656	5817	163116	287720
Cannanore	18741	21538	42703	178	1348	2216	38	13782	17562	138461	383119
State	57949	215474	329787	2095	10048	5982	1356	47324	66805	1097206	2854055

Drugs narcotics and plantation crops

District	Drugs narcotics and plantation crops					Other non food crops						
	Tobacco	Coffee	Rubber	Total	foddergrass	green manure	lemon grass	Betal leaves	Other crops	Total non food crops	Total food crops & non food crops	
(1)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)
Trivandrum	..	48	8735	10554	335	265	53	150	2120	2923	87517	227925
Quilon	..	378	38890	42371	301	849	45	184	1505	2884	129296	294261
Alleppey	..	63	4273	7430	188	214	8	66	932	1408	77363	218324
Kottayam	..	902	63232	73397	577	925	58	71	2113	3144	127854	230189
Idukki	..	5134	17449	48529	522	226	1020	6	2161	3935	69465	170706
Ernakulam	..	172	2334	27524	89	248	483	94	3286	4200	95247	258815
Trichur	..	33	9386	11240	70	480	36	75	1679	2340	69247	231455
Palghat	..	2264	11084	14381	50	1383	103	4	10297	11837	66277	336957
Malappuram	..	10	19281	19887	31	3527	109	416	4078	8161	89350	252572
Kozhikode	..	30204	198171	54377	178	1383	913	56	4384	6914	155949	280414
Cannanore	551	18741	23994	46149	245	1421	3070	31	14826	19593	139274	383228
State	551	57949	237769	355939	2586	10321	5898	1153	47381	67339	1106839	2884840

TABLE 3.5

Percentage of area under crops to total cropped area in each district during the year—1979-80

District	(1)	(2)	(3)	(4)	(5)	(6)	Cereals and millets		(9)	(10)	(11)
							Rice	others			
Trivandrum	100	60.37	39.63	65.98	34.02	14.88	0.01	14.89	1.48	16.39	
Quilon	100	56.93	43.07	68.65	31.35	16.64	0.01	16.65	1.00	17.65	
Alleppey	100	63.84	36.16	67.66	32.34	37.42	0.00	37.42	0.47	37.89	
Kottayam	100	46.66	53.34	81.98	18.02	14.82	0.00	14.82	0.79	15.61	
Idukki	100	58.91	41.09	97.72	2.28	4.74	0.30	5.04	1.02	6.06	
Ernakulam	100	63.63	36.37	70.83	29.17	39.49	0.08	39.57	0.61	40.18	
Trichur	100	70.31	29.69	68.62	31.38	48.32	0.08	48.40	1.42	49.82	
Palghat	100	79.93	20.07	64.21	35.79	54.11	1.36	55.47	2.98	58.45	
Malappuram	100	64.27	35.73	83.16	16.84	32.33	0.03	32.36	1.16	33.52	
Kozhikode	100	43.31	56.69	78.15	21.85	15.91	0.01	15.92	0.50	15.42	
Cannanore	100	63.86	36.14	97.88	2.12	19.18	0.05	19.23	1.36	20.59	
State	100	61.56	38.44	76.91	23.09	27.79	0.20	27.99	1.22	29.21	

TABLE 3.5 (Contd.) 1980-81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Trivandrum	100	61.60	38.40	63.07	36.93	14.30	..	14.30	1.42	15.73
Quilon	100	56.06	43.94	70.06	29.94	17.01	..	17.01	0.74	17.84
Alleppey	100	64.57	35.43	66.40	33.60	37.77	..	37.77	0.47	38.24
Kottayam	100	44.46	55.54	79.14	20.86	13.88	..	13.88	0.92	14.80
Idukki	100	59.31	40.69	94.27	5.73	5.43	0.38	5.81	1.12	6.93
Ernakulam	100	63.20	36.80	68.84	31.16	39.60	0.08	39.68	0.59	40.27
Trichur	100	70.00	29.92	67.75	32.25	47.66	0.06	47.73	1.43	49.16
Palghat	100	80.33	19.67	63.43	36.57	54.50	1.44	55.94	3.18	59.12
Malappuram	100	64.62	35.38	79.65	20.35	31.68	0.92	31.70	0.86	32.56
Kozhikode	100	44.39	55.61	80.81	19.19	16.21	0.01	16.22	0.49	16.71
Cannanore	100	63.66	36.34	95.28	4.72	19.17	0.03	19.20	1.12	20.32
State	100	61.63	38.37	75.55	24.45	27.79	0.21	28.00	1.17	29.17

TABLE 3.5 (Contd.) 1979-80

(1)	Sugar crops				Condiments and spices							Fresh fruits	
	Sugarcane		Total	Pepper	Ginger,	Cardamom	Betelnut	Others	Total	Mango	Jack		
	(12)	(13)										(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Trivandrum	0.01	0.36	0.37	2.49	0.05	0.07	1.44	0.98	5.03	11.20	11.17		
Quilon	0.22	0.02	0.24	3.32	0.44	0.05	1.50	0.42	10.76	8.92	7.69		
Alleppey	1.27	0.01	1.28	2.10	0.09	..	1.33	0.19	3.71	4.29	7.73		
Kottayam	0.05	0.26	0.31	5.73	1.54	0.01	1.13	1.10	9.51	11.94	7.01		
Idukki	1.06	0.15	1.21	6.57	0.54	27.37	1.40	0.27	36.15	1.55	4.56		
Ernakulam	0.04	0.12	0.16	2.64	1.20	..	2.48	1.24	7.56	10.86	9.26		
Trichur	0.00	0.49	0.49	1.63	0.08	..	2.96	0.70	5.37	8.89	6.61		
Palghat	0.71	2.38	3.09	0.45	0.13	1.08	2.05	1.19	4.90	6.25	5.53		
Malappuram	0.00	0.45	0.45	1.46	0.23	0.07	0.98	0.49	3.23	12.18	8.85		
Kozhikode	0.00	0.14	0.14	7.21	0.91	1.18	2.31	0.54	12.15	8.63	14.35		
Cannanore	0.01	0.12	0.13	6.80	0.33	0.33	3.91	0.72	12.09	11.20	11.10		
State	0.27	0.45	0.72	3.71	0.55	1.89	0.21	3.73	6.38	9.37	8.67		

TABLE 3.5 (Contd.) 1980-81

District	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Trivandrum	0.01	0.31	0.32	0.24	0.08	0.05	1.44	0.76	2.57	3.33	3.26
Quilon	0.11	0.02	0.13	3.34	0.43	0.05	1.44	0.38	5.64	2.11	2.30
Alleppey	1.10	0.01	1.11	2.22	0.13	..	1.31	0.21	3.87	2.29	1.96
Kottayam	0.12	0.21	0.33	5.55	1.48	0.01	1.10	0.20	8.34	1.98	1.90
Idukki	1.50	0.16	1.66	7.18	0.56	26.46	1.46	1.14	36.80	1.23	1.26
Ernakulam	0.03	0.14	0.17	0.26	0.84	..	0.27	1.18	2.55	2.07	1.86
Trichur	0.00	0.41	0.41	1.73	0.07	..	2.87	0.89	5.56	2.15	1.63
Palghat	0.69	2.38	3.07	0.45	0.12	1.00	0.70	1.16	3.43	1.59	1.32
Malappuram	0.00	0.56	0.56	1.60	0.18	0.07	3.48	0.60	5.93	2.46	2.23
Kozhikode	0.00	0.15	0.15	7.20	0.76	1.35	2.41	0.45	12.17	2.57	3.36
Cannanore	0.01	0.06	0.07	6.94	0.32	0.33	3.94	0.77	12.30	2.09	2.30
State	0.28	0.45	0.73	3.75	0.44	1.87	2.12	0.72	8.90	2.17	2.15

TABLE 3.5 (Contd.) 1979-80

District	Fresh fruits		Dried fruits		(6)	(7)	Vegetables		(10)	(11)	Non food crops	
	Banana & others		Other fruit trees				Total	Others			Total	Sesamium	Coconut
	(2)	(3)	(4)	(5)	(8)	(9)			(12)	(13)		
Trivandrum	2.95	0.21	0.79	2.71	29.03	22.56	2.71	25.27	54.30	60.37	0.01	33.59
Quilon	1.53	0.29	0.49	2.84	2.76	21.48	4.56	26.04	47.80	56.91	1.15	28.18
Alleppey	1.97	0.14	0.77	1.85	16.75	8.91	3.31	12.22	28.97	63.84	2.83	29.40
Kottiyam	2.28	0.26	0.73	0.62	32.84	10.81	2.60	13.41	46.25	46.66	0.03	22.39
Idukki	1.79	2.22	1.61	0.74	10.47	6.72	2.07	8.79	19.26	58.91	0.08	9.57
Ernakulam	1.82	0.23	1.01	1.59	23.77	4.99	2.66	7.65	31.42	63.63	1.06	23.45
Trichur	2.03	0.21	0.80	3.11	21.65	2.91	1.83	4.74	26.39	70.31	0.65	23.38
Palghat	1.23	0.05	0.87	3.85	17.78	3.75	2.21	5.96	23.74	79.93	0.29	6.59
Malappuram	1.59	0.10	0.69	8.39	38.80	7.34	2.54	9.88	48.68	64.27	0.77	24.22
Kozhikode	1.37	0.20	0.80	1.80	27.15	2.60	2.23	4.83	31.98	43.31	0.03	36.03
Cananore	1.31	0.31	0.84	18.02	42.78	4.78	1.37	6.15	48.93	63.86	0.11	20.13
State	1.74	0.20	0.83	4.90	25.71	8.54	2.31	10.85	36.56	61.56	0.62	23.22

TABLE 3.5 (Contd.) 1980-81

(1)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
Trivandrum	2.87	0.14	0.88	2.77	13.25	24.81	2.83	27.64	40.89	61.60	0.07	32.37
Quilon	1.67	0.24	0.42	2.95	9.69	20.08	2.77	22.85	32.54	56.06	0.74	27.79
Alleppey	1.99	0.15	0.80	1.77	8.96	8.97	3.40	12.37	21.33	64.57	2.43	28.91
Kottayam	1.98	0.26	0.86	0.58	7.56	9.99	2.77	12.76	20.32	44.46	0.02	22.21
Idukki	1.89	0.20	1.14	0.70	5.42	6.34	1.94	8.28	13.70	59.31	0.12	9.73
Ernakulam	1.25	0.23	0.98	1.57	7.96	4.82	2.50	7.32	15.28	63.20	0.96	23.52
Trichur	2.08	0.19	1.15	3.09	10.29	2.67	1.99	4.66	14.95	70.08	0.62	23.34
Palghat	1.11	0.04	0.86	3.94	9.26	3.75	2.08	5.83	15.09	80.33	0.30	6.81
Malappuram	1.79	0.09	0.91	8.42	15.90	7.17	2.50	9.67	25.57	64.62	0.63	23.63
Kozhikode	1.25	0.16	0.99	1.86	10.19	2.77	2.40	5.17	15.36	44.39	0.02	33.69
Cannanore	1.19	0.33	0.83	17.98	24.72	4.90	1.35	6.25	30.97	63.66	0.11	19.04
State	1.71	0.40	0.87	4.90	12.20	8.49	1.85	10.34	22.54	61.63	0.51	22.58

TABLE—3.5 (Contd.) 1979-80

District	Oil seeds				Fibres				Drugs narcotic Plantation crops				Other non-food crops	Total non-food crops	
	Groundnut		Others		Cotton		Tea		Coffee		Rubber				Total
	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)				
(1)															
Trivandrum	..	0.12	33.72	..	0.49	0.02	3.77	0.32	4.60	1.31	39.63				
Quilon	..	0.03	29.36	..	0.67	0.13	11.56	0.41	12.77	0.95	43.09				
Alleppey	..	0.06	32.29	..	..	0.03	1.88	1.34	3.25	0.62	36.16		
Kottayam	..	0.10	22.52	..	0.10	0.41	25.12	2.90	28.53	1.38	52.44				
Idukki	..	0.05	9.70	..	14.62	3.11	9.74	2.12	29.58	1.81	41.09				
Ernakulam	..	0.08	24.59	..	0.01	0.07	8.39	1.70	10.17	1.62	36.38				
Trichur	..	0.06	24.09	..	0.19	0.01	3.91	0.46	4.57	1.01	29.68				
Palghat	3.81	0.18	10.97	1.59	0.20	0.69	2.84	0.12	3.85	3.66	20.07				
Malappuram	0.00	0.01	25.00	..	0.01	0.00	7.22	0.40	7.63	3.03	35.66				
Kozhikode	..	0.03	36.09	..	1.35	10.50	6.05	0.97	18.87	1.74	56.70				
Cannanore	0.02	0.03	20.29	..	0.38	4.89	5.62	0.96	11.85	4.00	36.14				
State	0.44	0.07	24.35	0.18	1.27	2.03	7.55	0.98	11.83	2.08	38.26				

TABLE 3.5 (Contd.) 1980-81

Non-food crops

District	Oil Seeds			Fibres		Drugs narcotic Plantation crops					Total non food non-food crops (11)	Total (12)
	Groundnut	Others	Total	Cotton	Tea	Coffee	Rubber	Others	Total			
										(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trivandrum	0.04	0.11	92.55	..	0.47	0.02	3.83	0.40	4.72	1.05	33.40	
Quilon	..	0.03	28.56	..	0.68	0.13	13.22	0.45	14.48	0.80	43.94	
Alleppey	0.02	0.05	31.59	..	..	0.03	1.96	1.45	3.44	0.52	35.43
Kottayam	0.02	0.07	22.30	..	0.99	0.39	27.47	3.09	31.94	1.06	55.54	
Idukki	0.02	0.04	9.90	..	14.15	3.01	10.22	1.71	29.09	1.40	40.69	
Ernakulam	0.06	0.06	24.54	..	0.01	0.07	9.02	1.76	10.86	1.37	36.80	
Trichur	..	0.07	24.03	..	0.19	0.01	4.27	0.64	5.11	0.93	29.92	
Palghat	2.76	0.18	10.05	1.85	0.20	0.67	3.29	0.14	4.30	0.41	19.67	
Malappuram	0.00	0.01	24.27	..	0.07	0.09	7.63	0.37	8.07	3.01	35.38	
Kozhikode	..	0.08	33.79	..	1.39	10.77	6.48	1.10	19.74	2.06	55.61	
Cannanore	0.02	0.02	19.19	..	0.38	4.89	6.25	1.34	12.86	4.24	36.36	
State	0.33	0.06	23.48	0.22	1.25	2.01	8.24	1.08	12.58	2.00	38.37	

TABLE 3.6

Outturn of Important Crops (1979-80)

District	Rice		Total	Jowar	Ragi	Other cereals and millets	Tur	Pulses (tonnes) Other pulses	Sugarcane (gar) Tonnes	
	Autumn	Winter								
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Trivandrum	25200	21909	1053	46162	..	16	1	..	775	104
Quilon	34970	45121	893	80904	..	23	..	..	2395	2917
Alleppey	51694	22857	76726	151277	..	7	..	..	239	13870
Kottayam	24398	15839	21563	61805	..	3	..	..	1254	617
Idukki	6590	8036	371	14997	13	293	81	..	1367	10709
Ernakulam	62365	53662	30492	146519	2	3	115	..	1116	638
Trichur	50067	65849	38592	154508	..	53	93	..	2327	9
Palghat	203505	171093	6963	381561	828	615	1137	..	6080	16676
Malappuram	52909	44119	10034	107362	..	15	33	..	2143	57
Kozhikode	8313	36400	7848	52761	..	30	2	..	1084	31
Cannanore	49492	41276	10991	101759	27	24	69	..	4063	140
State	567703	526461	205531	1299695	870	1082	1531	..	23443	45769

TABLE 3.6 (Contd.) 1979-80

District	Spices and condiments (Tonnes)				Betel nuts				Fresh fruits and dried fruits		
	Black pepper (12)	Dry chillies (13)	Dry ginger (14)	Cured turmeric (15)	Processed cardamom (16)	(Million nuts) (17)	Banana (18)	Other plantain (Tonnes) (19)	Cashewnuts (raw) (Tonnes) (20)		
Trivandrum	1801	..	293	59	10	334	7415	31227	3022		
Quilon	3620	..	3620	243	9	543	15657	11179	7108		
Alleppey	1173	..	491	41	..	450	11442	10012	2127		
Kottayam	1388	..	9625	1859	1	340	16271	19758	773		
Idukki	2244	..	2196	229	2765	306	2422	14473	920		
Ernakulam	1837	..	7714	2098	..	1114	16685	13050	1946		
Trichur	552	4	198	185	..	1447	21859	8803	1903		
Palghat	197	78	730	446	219	350	11345	6346	3622		
Malappuram	996	89	1009	109	11	1560	26614	6117	6694		
Kozhikode	7590	71	6588	1360	208	1807	12775	9624	2791		
Cannanore	7505	605	3421	1031	77	2578	22541	14299	51857		
State	28903	847	35325	7660	3300	10829	165026	144888	82763		

TABLE 3.6 (Contd.) 1979-80

District	Vegetable			Oil Seeds		Coconut (Million nuts)	Cotton bales 170Kg.	Drugs and narcotics		
	Tapioca (Tonnes)	Sweet potatoes (Tonnes)	Ground nut. (Tonnes)	Seasamum (Tonnes)	Tobacco			Tea	Coffee	Rubber
(1)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
Trivandrum	830507	1147	6	3	350	..	..	833	36	5681
Quilon	1030256	447	..	864	333	..	..	921	282	24651
Alleppey	306947	452	..	1150	328	..	..	..	30	2687
Kottayam	411501	193	..	13	188	..	..	485	673	35373
Idukki	257690	719	..	31	50	..	..	39197	3712	10764
Ernakulam	263453	411	..	838	312	..	..	..	128	13551
Trichur	91754	1075	..	416	326	..	..	1148	25	6978
Palghat	190294	11064	11122	352	73	8303	..	1305	840	4386
Malappuram	242419	9862	3	645	297	..	..	41	4	10351
Kozhikode	92852	566	..	23	498	..	..	6713	15086	10319
Cannanore	281243	6057	71	247	277	..	..	1791	9360	11878
State	4088916	31992	11202	4582	3032	8303	869	52434	30176	136619

TABLE 3. 6

Outturn & important crops 1980-81 (in tonnes)

District	Cereals and Millets (tonnes) Rice					Jowar	Ragi	Other cereals and millets	Pulses (tonnes)		Sugarcane (gm)			
	Autumn		Winter		Summer				Total			Tur	Other pulses	
	(2)	(3)	(4)	(5)	(6)				(7)	(8)				(9)	(10)	(11)
Trivandrum	22685	22352	949	45986	..	16	1	..	774	104				
Quilon	39743	41863	583	82189	..	6	..	4	1724	1443				
Alleppey	56167	36741	51950	144258	..	7	..	..	843	12498		
Kottayam	23301	19324	15853	58478	..	3	..	..	1315	1504		
Idukki	5848	9353	302	15503	11	323	160	..	1549	15693				
Ermakulam	59764	57161	27676	144601	2	3	122	..	1085	495				
Trichur	49477	62382	35712	147571	5	38	66	..	2365	17				
Palghat	190593	176176	7013	373782	827	678	1320	..	6620	16245				
Malappuram	48128	50547	8813	107488	..	7	29	..	1609	38				
Kozhikode	8372	35549	10223	54144	..	26	2	..	1039	19				
Cannanore	49470	37052	10640	97362	..	24	69	..	3356	122				
State	553748	548500	169714	1271962	845	1131	1768	..	22479	48178				

TABLE 3. 6 (Contd.)

District	Spices and Condiments (Tonnes)					Fresh fruits and dics fruits				
	Black Pepper (12)	Dry Chillies (13)	Dry Ginger (14)	Cured turmeric (15)	Processed Cardamom (16)	Betal nuts No. in Million (17)	Tamarind (Processed) (18)	Mango (19)	Jack (Nos. in 000) (20)	Banana (21)
Trivandrum	2027	..	447	25	6	327	3881	24509	24540	16795
Quilon	3441	..	3474	139	9	541	1591	27328	25092	16899
Alleppey	1007	..	680	68	0	366	169	9998	17895	9346
Kottayam	1777	..	9608	1133	1	370	504	25567	17084	17631
Idukki	1852	..	2289	335	2665	462	189	3252	7031	2353
Ernakulam	1264	..	5474	1462	..	1098	1092	33164	23261	15017
Trichur	690	2	182	264	..	1483	3055	21354	14742	24536
Palghat	170	161	439	602	198	354	8044	15022	19071	18853
Mahappuram	1108	73	810	163	11	1544	2099	53856	27761	35380
Kozhikode	7529	60	5341	802	261	1817	1672	25164	43118	13882
Gannanore	7654	768	3295	1146	93	2443	1113	42630	42169	11789
State	28519	1064	32039	6141	3244	10805	23408	281873	261764	176683

TABLE 3. 6 (Contd.)

Districts	Other plantation (22)	Pappaya (23)	Rau casihru nuts (24)	Tapioca (25)	Sweet potato (26)	Groundnut (27)	Neem (28)
(1)							
Trivandrum	30024	14877	3025	965789	603	6	4
Quilon	11947	5177	6982	989875	241	..	547
Alleppey	10794	3572	2013	272917	362	..	954
Kottayam	17897	5170	727	408993	157	..	9
Idukki	15916	1335	868	234881	1069	..	48
Ernakulam	12617	7016	2103	240267	398	..	769
Trichur	8773	6472	1934	92555	845	..	405
Palghat	4745	4707	3920	177648	11302	8145	301
Malappuram	6188	8970	6887	228742	9951	3	540
Kozhikode	7834	5720	2925	99277	567	..	22
Cannanore	13967	4172	50516	349967	7472	71	234
State	140722	67368	819000	4060911	32967	8225	3833

TABLE 3.5 (Contd.)

Districts	Coconut No. in million nuts)	Cotton bales of 170 Kg.	Tobacco	Tea	Coffee	Rubber	Cocon
(1)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
Trivandrum	354	..	..	894	28	5933	58
Quilon	344	..	..	875	220	55561	129
Alleppey	294	..	..	..	23	2771	420
Kottayam	188	..	..	367	525	36146	1175
Idukki	43	..	..	37460	2895	11140	243
Ernakulam	327	..	..	..	100	13929	522
Trichur	347	..	..	1002	20	6739	130
Palghat	80	9847	..	1219	656	4516	15
Malappuram	264	..	..	92	3	10571	32
Kozhikode	456	..	..	6953	11768	10730	214
Cannanore	311	..	1015	1854	7302	12298	82
State	3008	9847	1015	50716	23540	140333	3020

TABLE 3.7

Statement of consumer price index numbers for the agricultural year 1979-80

District	July 1979	August 1979	September 1979	October 1979	November 1979	December 1979	January 1980	February 1980	March 1980	April 1980	May 1980	June 1980	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Trivandrum	1533	1567	1584	1593	1627	1670	1679	1670	1684	1684	1701	1736	
Quilon	1525	1558	1567	1567	1584	1626	1635	1635	1657	1665	1682	1725	
Punalur	1488	1471	1496	1504	1537	1579	1571	1562	1584	1584	1601	1642	
Alleppey	1481	1506	1506	1514	1531	1582	1582	1574	1587	1604	1621	1663	
Kottayam	1536	1562	1571	1562	1580	1632	1641	1649	1671	1680	1698	1733	
Ernakulam	1507	1524	1524	1533	1568	1603	1612	1621	1634	1642	1651	1687	
Trichur	1564	1690	1599	1608	1625	1677	1677	1677	1699	1717	1734	1770	
Chalakudy	1559	1577	1594	1603	1629	1664	1655	1664	1668	1668	1677	1712	
Munnar	1477	1501	1517	1524	1540	1588	1580	1572	1584	1584	1592	1624	
Kozhikode	1729	1748	1748	1748	1777	1824	1814	1814	1839	1849	1868	1906	

Base for all centres except Kozhikode 1939-100
 For Kozhikode 1935-100.

TABLE 3.7—(Contd.)
Statement of consumer price index numbers for the agricultural year 1980-81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	1823	1840	1858	1858	1866	1866	1892	1927	1936	1944	1988	1968
Quilon	1810	1828	1845	1845	1853	1862	1887	1930	1947	1596	1990	2015
Punapur	1718	1735	1751	1751	1760	1760	1768	1802	1802	1818	1852	1869
Alleppey	1749	1766	1791	1800	1808	1825	1842	1877	1885	1902	1945	1970
Kottayam	1820	1838	1864	1864	1873	1881	1890	1925	1934	1943	1986	2013
Ernakulam	1784	1801	1819	1981	1828	1837	1863	1898	1916	1934	1978	1987
Trichur	1866	1875	1901	1910	1918	1927	1953	1989	1997	2045	2050	2059
Chalakkudy	1809	1826	1853	1861	1879	1879	1905	1945	1967	1984	2028	2028
Munnar	1688	1712	1736	1736	1752	1768	1792	1824	1832	1840	1864	1872
Kozhikode	2001	2020	2039	2039	2049	2049	2058	2097	2116	2135	2182	2201

Base for all Centres except Kozhikode 1939—100
For Kozhikode 1935—100

Average farm prices (harvest prices) in rupees for certain Commodities 1979-80

District	Paddy Qt.	Cocunut 100 Nos.	Arecanut 100 Nos.	Tapioca Qt.	Cashewnut Qt.	Banana 100 Nos.	Pepper Qt.	Ginger Qt.	Sugarcane M.T.
(1)	(2)	(3)	(3)	(5)	(6)	(7)	(8)	(9)	(10)
Trivandrum	168.24	104.07	6.26	38.80	551.50	42.18	1322.40	..	..
Quilon	143.30	121.36	6.80	34.92	570.00	37.18	1362.45	431.70	117.43
Alleppey	128.83	119.27	6.02	36.30	559.86	36.45	1317.71	401.67	..
Kottayam	126.08	116.66	6.17	41.68	580.00	39.71	1354.93	385.78	..
Idiukki	144.68	133.09	5.07	42.54	..	34.13	1338.82	360.77	..
Ernakulam	140.96	129.16	6.48	39.65	579.00	39.92	1380.48	441.70	..
Trichur	128.14	122.18	8.24	50.54	514.67	40.88	1380.17	N.A.	..
Palghat	128.42	110.43	6.00	37.55	589.83	34.21	1365.17	397.65	133.63
Malappuram	132.00	107.83	6.59	41.49	590.00	36.67	1347.50	396.21	..
Kozhikode	139.44	104.67	4.10	44.60	580.00	34.26	1370.12	416.89	..
Cannanore	127.04	112.28	5.80	66.74	593.83	36.86	1354.20	414.90	..
State Average	137.01	116.45	6.14	43.16	572.78	37.50	1354.00	405.25	125.53

TABLE 3.8—(Contd.)

Average farm prices (harvest prices) in rupees for certain commodities 1980-81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trivandrum	176.37	132.41	9.31	35.46	653.41	44.04	1163.33	N.A.	..
Quilon	159.70	138.84	8.05	29.85	684.45	40.77	1234.78	616.51	139.58
Alleppey	159.40	140.81	7.26	38.01	749.20	36.84	1200.00	615.00	..
Kottayam	148.95	140.55	7.34	41.51	755.63	39.66	1181.52	556.11	..
Idukki	185.47	154.31	5.49	41.46	N.A.	33.39	1131.29	571.39	..
Ernakulam	165.35	143.88	7.95	35.67	755.25	36.69	1216.81	563.99	..
Trichur	150.05	154.61	8.76	43.81	747.00	41.33	1144.13	280.00	..
Palghat	145.92	134.85	7.23	34.54	768.75	37.32	1210.98	593.96	200.00
Malappuram	138.48	128.75	8.25	40.49	767.92	39.29	1171.65	617.50	..
Kozhikode	156.25	125.30	6.02	44.52	727.00	34.21	1214.33	571.78	..
Cananore	139.31	140.63	7.69	55.37	771.17	33.78	1238.08	564.46	350.00
State Average	156.84	139.54	7.78	40.06	737.98	37.94	1191.54	585.63	169.79

TABLE-3.9

Agricultural Wages—Skilled Labour—Carpenter—1979-80

District	July	August	Septem- ber	Octo- ber	Novem- ber	Decem- ber	January	February	March	April	May	June
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	13.50	14.00	14.50	15.00	15.00	15.50	15.50	15.75	15.75	15.75	18.75	18.75
Quilon	16.75	16.75	17.50	17.50	17.50	17.50	17.50	17.50	17.50	20.00	20.00	20.00
Alleppey	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	20.00	20.00
Kottayam	15.25	15.25	15.75	15.75	15.75	15.75	15.75	15.75	17.75	17.75	17.75	17.75
Idukki	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	18.00
Trichur	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Palghat	12.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	14.50
Malappuram	15.50	15.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50
Kozhikode	16.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Cannanore	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00

TABLE-3.9 (Contd.)

Agricultural Wages—Skilled Labour—Carpenter—1980-81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	18.75	19.25	19.25	19.25	19.75	19.75	20.00	20.00	20.00	20.00	20.75	20.75
Quilon	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	21.50	22.00	22.00
Alleppey	20.00	20.00	20.00	20.00	20.00	20.00	21.00	21.00	21.00	22.00	22.00	22.00
Koittayam	17.75	17.75	18.75	20.00	20.00	20.00	20.00	22.50	22.50	22.50	22.75	22.75
Idukki	18.00	18.00	18.00	19.00	19.00	20.00	20.00	20.00	20.00	21.50	22.50	23.00
Ernakulam	15.00	15.00	15.00	15.00	20.00	20.50	20.50	20.50	20.50	22.25	22.50	22.75
Trichur	14.50	14.50	14.50	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
Palghat	16.50	17.50	17.50	17.50	20.00	20.00	20.00	20.00	20.00	20.00	21.00	21.00
Malappuram	18.00	18.00	18.00	18.00	20.00	20.00	21.00	21.00	22.00	22.00	22.50	22.75
Kozhikode	17.00	17.00	17.00	17.00	20.00	20.00	20.50	20.50	21.50	21.50	22.00	22.50

Agriculture Wages—Skilled labour (b)—Mason 1979-80

District	July	August	September	October	November	December	January	February	March	April	May	June
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
MASON												
Trivandrum	14.00	14.00	14.50	15.00	15.00	15.50	15.50	15.50	15.50	15.50	18.75	18.75
Quilon	16.75	16.75	16.75	17.50	17.50	17.50	17.50	17.50	17.50	17.50	20.00	20.00
Alleppey	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	20.00	20.00
Kottayam	15.25	15.25	15.75	15.75	15.75	15.75	15.75	15.75	17.75	17.75	17.75	17.75
Idukki	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	18.00
Trichur	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Palghat	12.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	14.50
Malappuram	15.50	15.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50
Kozhikode	16.50	16.50	16.50	16.50	16.50	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Cannanore	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
State												

TABLE—3.9 (Contd.)

Agricultural Wages—unskilled—Paddy Field Labours (Men)—1979-80

District	July	August	Septem-ber	Octo-ber	Novem-ber	Decem-ber	January	March	April	May	June
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(10)	(11)	(12)	(13)
Trivandrum	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	9.75	10.25	10.25
Quilon	9.75	9.75	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00
Alleppey	8.20	8.20	8.20	8.20	8.20	8.20	8.20	9.20	9.20	9.20	9.20
Kottayam	7.25	7.25	7.25	7.25	7.25	7.25	7.50	7.50	7.50	7.50	7.75
Idukki	...	...	...	...	...	...	...	...	...	...	...
Ernakulam	10.25	10.25	10.25	10.25	10.25	10.25	10.25	10.25	10.25	10.25	10.25
Trichur	9.00	9.00	9.00	10.00	10.00	10.00	10.00	10.00	10.00	12.00	12.00
Palghat	6.75	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.50	7.50	8.00
Malappuram	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Kozhikode	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	11.00	11.00
Gannanore	13.00	13.00	13.00	13.00	13.00	13.00	13.00	13.00	14.00	14.00	14.00
State	...	...	...	...	...	...	...	...	...	...	...

Agricultural Wages—Unskilled Paddy Field Labours (Men)—1980-81

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	10.25	10.25	10.25	10.25	10.75	10.75	11.25	11.25	11.75	11.75	12.00	12.00
Quilon	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.00	12.50	13.00	13.00	13.00
Alleppey	10.20	10.20	10.20	11.00	12.00	12.00	12.00	12.50	12.50	12.50	12.50	12.50
Kottayam	7.25	7.75	7.75	7.75	8.00	8.00	8.00	8.50	8.50	8.50	9.75	9.75
Idukki	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	10.25	10.25	10.25	10.25	10.00	10.00	10.00	10.50	10.50	12.00	12.25	12.50
Trichur	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	13.25	13.50
Palghat	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.50	8.50
Malappuram	10.00	11.00	11.00	11.00	11.00	11.00	12.00	12.00	12.00	12.00	12.50	13.00
Kozhikode	11.00	11.00	11.00	11.00	11.00	11.00	11.50	12.00	12.50	12.00	12.50	12.75
Cannanore	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.50	14.50
State	10.47	10.57	10.57	10.75	10.88	10.90	11.05	11.20	11.55	11.55	12.08	12.20

TABLE 3.9 (Contd...)

Average Wages—Unskilled Paddy Field Labour (Women)—1979-80

District	July	August	Septem-ber	Octo-ber	Novem-ber	Decem-ber	January	February	March	April	May	June
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	8.25	9.25
Quilon	6.75	6.75	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Alleppey	6.25	6.25	6.25	6.25	6.75	6.75	6.75	6.75	6.75	6.75	6.75	6.75
Kottayam	5.25	5.25	5.25	5.25	5.25	5.25	5.38	5.38	5.38	5.38	5.38	6.38
Idukki	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	6.25	6.25	6.25	6.25	6.25	6.25	6.25	7.00	7.00	7.00	7.00	7.00
Trichur	6.38	6.38	6.38	6.38	6.75	6.75	6.75	6.75	7.25	7.25	8.50	8.50
Palghat	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	5.75	6.00
Malappuram	7.00	7.00	7.13	7.13	7.13	7.03	7.13	7.13	7.13	7.38	7.38	7.38
Kozhikode	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.75	7.75	9.25	9.25
Cannanore	5.75	5.75	5.75	5.75	5.75	5.88	5.88	5.88	5.88	6.13	6.13	6.13
State	..	..	..	..	..	..	6.59	6.59	6.69	6.79	7.14	7.36

TABLE-3.9 (Contd.)
Agricultural wages—unskilled paddy field labour (Women)—1980-81

District	July	August	Septem-ber	October	Novem-ber	Decem-ber	January	February	March	April	May	June
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	9.25	9.25	92.5	9.25	9.25	9.25	9.25	9.25	9.25	9.25	10.00	10.00
Quilon	7.00	7.00	7.00	8.50	8.50	8.500	8.50	8.50	8.50	8.50	9.00	10.00
Alleppey	7.00	7.00	7.00	7.00	7.00	6.00	7.50	8.50	1.50	8.50	8.50	8.50
Kottayam	6.33	6.33	6.50	6.50	6.50	6.75	6.75	7.13	7.33	7.33	7.33	7.50
Idukki	..	..	..	..	..	..	..	..	..	..	..	..
Ernakulam	7.75	7.75	7.75	7.75	7.75	7.75	7.75	7.75	6.75	8.00	8.50	8.50
Trichur	8.75	8.75	8.75	9.25	8.00	8.00	8.00	8.00	8.00	8.00	8.50	8.50
Palghat	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.25	6.25	6.25	6.25
Malappuram	7.38	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.25	8.25
Kozhikode	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.25	9.50	9.50	9.50	0.00
Cannanore	6.13	6.13	6.13	6.50	7.25	7.25	7.50	7.50	7.50	7.75	8.00	8.00
State	7.49	7.55	7.80	7.75	7.78	..	..	..	..	..	..	..

Number of livestock poultry and Agricultural machinery and implements in Kerala 1977

District	Male over three years				CATTLE					
	Breeding		Working		Total	Female over three years			working	Others
	(2)	(3)	(4)	(5)		(6)	(7)	(8)			(9)	(10)
Trivandrum	117	319	8905	9841	55342	34342	3745	20	92	
Quilon	326	513	26865	27704	97473	97440	7826	26	228	
Alleppey	272	209	7233	7714	93328	85097	12249	..	52	
Kottayam	336	448	8518	9302	74050	65134	6615	113	569	
Idukki	412	593	9661	10666	44450	36244	3936	112	544	
Ernakulam	546	820	54610	55976	65246	47768	6214	218	384	
Trichur	272	489	33496	34257	54502	34235	3874	23	180	
Palghat	248	1749	55509	57506	57591	41071	4260	1038	223	
Malappuram	209	1059	59750	61018	32834	25895	3982	878	258	
Kozhikode	254	991	37542	38787	54789	49506	9785	108	331	
Cannanore	470	2466	55907	58843	75435	68742	12308	33	242	
State	3462	9655	357997	371114	705040	585474	74794	2569	3103	

TABLE 3.10 (Contd.)

District	Cattle						Buffaloes				
	Females over three years			Males over three years			Breeding	Working	Others	Total	in milk
	Total	Young stock	Total	Total	Working	Others					
(1)	(12)	(13)	(14)	(15)	(16)	(17)	(18)				
Trivandrum	93541	74216	177098	281	10985	339	11605	12001			
Quilon	202993	190804	421501	66	9449	194	9709	7553			
Alleppey	190726	159127	357867	35	3832	257	4124	2870			
Kottayam	146481	137754	293537	121	2294	135	2550	3233			
Idukki	85285	72210	168162	200	2313	352	2865	4640			
Ernakulam	119830	121637	297443	60	15968	223	16251	6315			
Trichur	92814	92994	220065	79	23461	587	24127	12514			
Palghat	104183	97235	258924	183	77896	2011	80090	13253			
Malappuram	63847	60105	184970	366	34368	899	35623	8796			
Kozhikode	114519	102469	255775	106	11226	466	11798	5729			
Cannanore	156760	155114	370717	280	18407	1345	20032	9774			
State	1370980	1263965	3006059	1777	210202	6798	218777	86698			

TABLE 3.10 (Contd.)

District	Buffaloes							Sleep		
	Breeding dry	Not calved	Females over three years			Young stock	Total	One year above	below one year	Total
			Working	Others	Total					
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
Trivandrum	7401	814	105	64	20385	7483	39473	..	..	..
Quilon	5981	599	56	41	14230	5741	29680	..	..	91
Alleppey	2362	471	20	32	5755	1269	11148	..	..	..
Kottayam	1859	313	62	35	5500	1769	9819	..	..	23
Idukki	3125	749	247	190	8969	4279	16113	..	..	138
Ernakulam	2384	285	164	31	9179	3260	28690	..	..	..
Trichur	7012	1255	229	69	21079	12508	57714	..	..	..
Palghat	10478	1586	2006	480	27803	19156	127049	..	..	2337
Malappuram	5642	1269	1809	127	17643	10725	63991	..	..	4
Kozhikode	3991	407	205	67	9399	3681	24878	..	..	39
Canmarore	6413	1267	136	60	17650	8163	45845	..	..	14
State	55646	9013	5039	1196	157592	78034	454400	..	..	2546

TABLE 3.10 (Contd.)

District	Goats			Horses and Ponies				Cannals
	Below one year (29)	One year and above (30)	Total (31)	Three years and above (32)	Below three years (33)	Total (34)	Males (35)		Donkeys (36)
(1)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Trivandrum	68258	88235	156493	..	..	23	..	..
Quilon	93673	114477	208150	..	..	..	..	..
Alleppey	51058	65297	117355	..	..	1	..	1
Kottayam	62847	99913	162760	..	..	9	..	11
Idukki	93299	55794	89093	..	..	..	..	36
Ernakulam	71197	85083	156280	..	..	..	..	..
Trichur	74140	88623	162763	..	..	3	..	..
Palghat	55756	82916	138672	..	..	45	..	200
Mahappuram	70342	99316	169658	..	..	9	..	..
Kozhikode	67916	83844	151760	..	..	..	..	17
Cannanore	78116	93197	171313	..	..	..	..	1
State	726602	956695	1683297	..	..	90	..	266

TABLE 3.10 (Contd.)

District	Pigs (38)	Total Livestock (39)	Poultry			Plough		
			Fowls (40)	Ducks (41)	Others (42)	Total (43)	Wooden (44)	Iron (45)
Trivandrum	11644	384731	1114273	7814	248	1122405	9056	5788
Quilon	2323	661945	1379485	19762	62	1399309	19266	20519
Alleppey	509	485881	1545893	159617	261	1705771	15101	6506
Kottayam	55727	521886	113951	50660	476	1184087	7255	880
Idukki	39643	313185	613230	9691	283	623204	6114	862
Ernakulam	22720	50513	1444649	105929	355	1550939	45357	6701
Trichur	1985	442530	1247528	30690	106	1278324	27777	3968
Palghat	1378	528508	985379	18289	724	1004392	71888	16711
Malappuram	77	418709	1353587	9784	61	1362432	48514	1051
Kozhikode	9053	441522	1006589	11184	377	1018150	18995	3291
Cannanore	27116	615006	1132622	7073	142	1139837	47652	2914
State	172375	5319033	12956186	429569	3095	13388650	316975	69191

TABLE 3.10 (Contd.)

District	Sugar cane crushers								
	Carts	Power	Bullocks	Oil engines	Electric Pumps	Tractors	Chains		
(1)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
Trivandrum	2371	6	96	47	150	48	50	23	132
Quilon	1913	17	36	20	289	8	15	14	93
Alleppey	1237	53	107	109	1205	11	163	132	3397
Kottayam	732	20	139	76	409	58	39	48	854
Idukki	250	39	111	160	172	181	13	20	102
Ernakulam	1017	55	115	104	10882	46	27	12	402
Trichur	2322	29	56	136	6971	72	31	19	658
Palghat	9336	95	44	214	3516	66	30	9	72
Malappuram	476	101	31	59	920	37	27	2	48
Kozhikode	631	2	45	263	431	186	103	72	281
Cannanore	340	42	83	97	1028	70	87	49	75
State	20525	459	863	1285	23973	783	585	400	6114

PART IV

- 4.1 Working class cost of living indices.
- 4.2 Parity Index
- 4.3 Quarterly retail prices
- 4.4 Export of agricultural commodities.
- 4.5 Short notes on:—
 - (a) Tea
 - (b) Coffee
 - (c) Rubber
 - (d) Cardamom
 - (e) Pepper
 - (f) Ginger
 - (g) Lemongrass
- 4.6 Classification of soil in Kerala.
- 4.7 Conversion ratio between raw materials and the processed products.
- 4.8 Average analysis of important fertilizers.
- 4.9 Insects and pests affecting paddy crop, their distribution and some practical methods of control.
- 4.10 List of centres selected for recording meteorological information.
- 4.11 Glossery of English, Botanical and Malayalam names.

10. History of the soil in Britain.

11. Current and future soil conditions in the British Isles.

12. The soil in the British Isles.

13. The soil in the British Isles.

14. The soil in the British Isles.

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39. The soil in the British Isles.

40. The soil in the British Isles.

4.1 Working Classes cost of living indices

The consumer price index numbers for the State was revised with effect from August 1975 with base 1970 — 100 on the basis of a fresh family budget survey conducted by the Department. Till then consumer price indices were computed for only 10 centres. Added to these are the five centres of Mundakayam, Palghat, Malappuram, Meppadi and Cannanore. Out of these Palghat, Malappuram and Cannanore are District headquarters towns and the other three are plantation centres (non-municipal towns). The average consumer price index numbers for the selected fifteen centres for the years 1978-79, 1979-80, are given in table 4.1.0.

TABLE 4.1.0
Annual average cost of living indices

Base: 1970 — 100

Sl.No.	Centre	Average cost of living indices		
		1978-79	1979-80	1980-81
1.	Trivandrum	171	193	221
2.	Quilon	172	193	224
3.	Punalur	164	188	214
4.	Alleppey	165	187	219
5.	Kottayam	166	189	220
6.	Mundakayam	163	181	213
7.	Munnar	178	198	224
8.	Ernakulam	166	184	213
9.	Chalakyudi	170	190	220
10.	Trichur	171	193	225
11.	Palghat	166	187	217
12.	Malappuram	169	191	219
13.	Kozhikode	175	193	220
14.	Meppadi	174	196	223
15.	Cannanore	168	187	216

The indices show a progressively increasing trend over the years. The increase during 1979-80 varied from 18 to 24 points over 1978-79 and the same from 27 points to 32 points between the centres in 1980-81, over 1979-80. The indices were lowest in Mundakayam, a plantation centre in all the three years.

TABLE 4.1.1

Statement showing the consumer price index numbers from 1979 August to 1980 July

(Base: 1970-100)

Centres	August	Septem- ber	Octo- ber	Novem- ber	Decem- ber	Janu- ary	Febru- ary	March	April	May	June	July	Average
1. Trivandrum	182	184	185	189	194	195	194	194	194	196	200	210	193
2. Quilon	184	185	185	187	192	193	193	194	195	197	202	212	193
3. Punalur	177	180	181	185	190	189	188	189	189	181	196	205	188
4. Alleppey	178	178	179	181	187	187	186	186	188	290	195	205	187
5. Kottayam	180	181	180	182	188	189	190	191	192	194	198	208	189
6. Mundakayam	174	174	174	177	182	181	181	180	181	183	188	199	181
7. Munnar	189	191	192	194	200	199	198	198	198	199	203	211	198
8. Ernakulam	174	174	175	179	183	184	185	185	186	187	191	202	184
9. Chalakudy	181	183	184	187	191	190	191	190	190	191	195	206	190
10. Trichur	184	184	185	187	193	193	193	194	196	198	202	213	193
11. Palghat	179	180	181	183	187	185	187	188	188	190	194	205	187
12. Malappuram	183	184	184	187	191	190	190	192	193	194	199	207	191
13. Kozhikode	185	185	185	188	193	192	192	193	194	196	200	210	193
14. Meppady	188	188	188	190	195	196	197	198	198	199	202	208	196
15. Cannanore	180	181	181	183	187	186	186	187	187	189	194	204	187

Statement showing the consumer price index numbers from 1980 August to 1981 July.

(Base: 1970—100)

Centre	Aug- ust	Septem- ber	Octo- ber	Novem- ber	Decem- ber	Janu- ary	Febru- ary	March	April	May	June	July	Average
1. Trivandrum	212	214	214	215	215	218	222	223	224	229	229	232	221
2. Quilon	214	216	216	217	218	221	226	228	229	233	236	239	224
3. Punalur	207	209	209	210	210	211	215	215	217	221	223	226	214
4. Alleppey	207	210	211	212	214	216	220	221	223	228	232	233	219
5. Kottayam	210	213	213	214	215	216	220	221	222	227	230	233	220
6. Mundakayam	202	204	204	206	208	211	214	216	218	223	225	228	213
7. Munnar	214	217	217	219	221	224	228	229	230	223	234	235	224
8. Ernakulam	202	206	206	207	208	211	215	217	219	224	225	227	213
9. Chalakudy	208	211	212	214	214	217	222	224	226	231	231	232	220
10. Trichur	214	217	218	219	220	223	227	228	230	234	235	236	225
11. Palghat	207	209	210	212	213	214	217	218	220	224	226	229	217
12. Malappuram	209	211	212	214	215	218	221	222	224	227	229	230	219
13. Kozhikode	212	214	214	215	215	216	220	222	224	229	231	233	220
14. Meppadi	211	214	215	217	219	222	226	227	239	233	235	235	223
15. Cannanore	206	209	209	210	210	213	216	218	220	225	228	229	216

TABLE 4.1.2

Average Cost of living indices

<i>Centre</i>		1978-79	1979-80	1980-81
(1)		(2)	(3)	(4)
1.	Trivandrum	1472	1644	1899
2.	Quilon	1454	1619	1898
3.	Punalur	1360	1556	1782
4.	Alleppey	1395	1563	1846
5.	Kottayam	1444	1626	1903
6.	Munnar	1409	1557	1785
7.	Ernakulam	1454	1593	1872
8.	Trichur	1485	1661	1958
9.	Chalakydy	1478	1639	1914
10.	Kozhikode	1655	1805	2082

Base: for all centres except Kozhikode 1939=100 for Kozhikode 1935=100

In Munnar, another plantation centre in the high ranges the indices were the highest in 1978-79 and 1979-80. In 1980-81 indices were highest in Trichur.

The centre-wise monthly indices for the above centres for the agricultural years 1979-80 to 1980-81 are furnished in table 4.1.1. The indices show a generally increasing trend over the months for the year 1979-80. But during 1980-81 the increase in the indices were more pronounced in all the centres.

For the purpose of comparison the cost of living indices for the years 1978-79 to 1980-81 estimated for the 10 centres for the old series using the linking factor are also furnished in table 4.1.2

4.2 Parity Index

The index of parity measures the variation in the economic prosperity of the farmer in relation to changing farm prices, farm cultivation cost and

domestic expenditure as compared to the position in the base period. This is defined as the ratio of the index of prices received and the index of prices paid by farmers expressed as a percentage.

Index number of prices received by farmer:

This index is a measure of relative changes in receipts of a farmer from the important agricultural products as a result of changes in farm prices. The changes are measured based on the prices prevailing in the base year (1952-53). The weighted average of the price relatives of the current farm is prices to those of the base year defined as the index of prices received. For the construction of the index the following important crops are considered:-

- (1) Paddy
- (2) Coconut
- (3) Arecanut
- (4) Cashew nut
- (5) Tapioca
- (6) Ginger
- (7) Pepper
- (8) Bananas
- (9) Sugarcane

The index number of prices paid by the farmer is a measure of the relative changes in the expenditure incurred by farmer for farm cultivation and domestic expenditure, as a result of the changes in wages, rates, cost of implements, cost of manure, cost of maintenance of livestock and prices of consumer goods as compared to the situation in the base year. This is calculated as the geometric mean of two indices viz. the index of farm cultivation cost and the index of domestic expenditure.

The indices of parity between prices received and prices paid by the farmers during each month of the years 1978-79 to 1981-82 are given in table 4.2. below:—

TABLE 4.2

Index of Parity (Base 1952-53 = 100)

Month	Index of parity		
	1978-79	1979-80	1980-81
July	101	98	92
August	100	97	90
September	100	95	89
October	101	95	90
November	101	96	91
December	97	95	88
January	95	95	88
February	96	97	89
March	98	96	88
April	98	96	91
May	96	97	91
June	97	95	89

The index of parity shows a consistently decreasing trend over the years.

4.3 Quarterly retail prices

The trend in the quarterly retail prices of 12 important commodities for the years 1979-80 and 1980-81 are discussed below. District-wise quarterly retail prices are presented in table 4.3.0

Chillies/Kg.	I	11.12	9.50	9.22	9.85	8.65	10.28	10.53	9.44	9.12	10.17	9.83
	II	11.00	9.63	9.48	9.63	8.99	10.24	10.51	9.96	9.72	9.58	8.95
	III	9.77	8.60	8.55	9.35	8.85	9.28	9.00	9.98	8.99	8.70	8.74
	V	8.30	7.56	7.56	8.39	8.17	8.15	8.30	7.94	8.37	8.38	7.98
Coffee Powder/Kg.	I	17.50	18.50	17.30	18.01	16.00	17.47	17.50	18.40	17.50	17.50	17.30
	II	17.50	18.50	17.30	17.50	14.35	17.30	17.50	17.30	17.50	17.54	17.41
	III	17.90	18.50	17.94	17.96	16.00	17.83	17.53	17.30	18.04	17.98	17.95
	V	18.30	18.50	18.00	18.00	16.00	18.00	17.90	17.53	18.17	18.00	18.06
Tea/Kg.	I	18.34	19.00	19.00	19.00	13.67	19.00	18.40	18.40	18.34	16.56	18.34
	II	18.34	19.25	19.00	19.00	15.55	19.00	18.37	18.40	18.34	18.56	18.31
	III	18.84	20.35	19.00	20.60	16.50	19.67	18.49	18.40	18.40	18.56	19.44
	V	18.34	20.45	19.00	20.60	16.50	20.00	19.98	18.40	18.34	18.56	19.44
Tobacco/Kg. (Jaflna)	I	12.00	11.80	12.12	13.78	14.33	12.37	13.16	..	..	..	..
	II	12.17	11.17	11.62	12.33	16.00	14.00	13.00	..	..	..	..
	III	14.47	13.30	14.10	14.66	16.00	16.00	13.00	..	..	..	..
	V	15.00	11.93	12.56	13.89	15.00	15.00	13.00	..	..	..	..
Tobacco/Kg. (Vadsakkan)	I	11.00	11.80	9.35	10.00	10.35	9.00	11.50	9.00	12.00	12.23	11.00
	II	10.25	11.17	8.45	10.42	13.00	9.00	11.50	10.75	12.00	15.50	12.46
	III	11.47	13.30	10.29	13.25	13.00	9.00	11.50	11.16	12.00	12.72	13.33
	V	12.00	11.96	10.13	12.58	13.00	9.33	11.50	10.60	12.00	13.15	14.00

TABLE 4.3.1

Quarterly average retail price at District headquarters for 1980-81

Commodity	Quarters	Trivandrum	Quilon	Alleppey	Kollayam	Idukki	Ernakulam	Trichur	Palghat	Malappuram	Kazhikode	Cannanore
Coconut (Per dozen)	I	16.08	19.30	19.10	19.30	23.52	21.13	21.13	16.64	16.88	16.55	19.20
	II	29.11	20.94	21.65	21.75	22.40	23.14	22.48	19.98	19.06	17.01	19.16
	III	16.47	18.98	19.90	20.30	22.30	20.52	20.97	17.79	19.47	18.46	18.73
	V	13.50	17.02	18.55	19.60	22.27	18.48	19.98	16.68	17.22	17.39	18.85
Coconut Oil/Ltrs.	I	17.18	15.60	15.98	16.02	16.39	17.18	16.50	16.06	15.95	15.61	16.35
	II	19.71	17.70	17.40	17.77	17.67	18.63	17.80	17.75	17.24	17.15	17.25
	III	16.85	15.38	15.18	15.89	17.33	16.79	15.81	15.82	15.58	15.33	15.87
	V	15.12	13.72	13.88	15.78	14.77	15.38	14.33	14.23	14.23	13.91	14.46
Rice (F.P.)/Kg.	I	1.65	1.65	1.65	1.65	1.70	1.65	1.65	1.65	1.65	1.65	1.65
	II	1.66	1.66	1.66	1.66	1.72	1.66	1.66	1.66	1.66	1.66	1.66
	III	1.81	1.80	1.79	1.80	1.81	1.80	1.80	1.80	1.81	1.81	1.81
	V	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
Blackgram/Kg.	I	4.11	3.80	3.79	3.83	4.36	3.86	3.46	3.93	3.66	4.89	3.70
	II	4.57	4.34	4.26	4.20	4.32	3.70	3.56	4.39	3.78	4.77	3.43
	III	4.53	5.21	4.18	4.18	4.49	3.89	3.56	4.23	4.97	4.80	3.80
	V	4.50	5.23	4.07	4.06	4.58	3.87	3.61	4.24	5.05	4.94	3.90

I	14.52	14.40	12.58	14.28	14.93	15.42	14.83	13.25	13.30	12.16	14.92
II	14.23	13.59	12.19	13.95	13.38	13.86	13.70	12.67	12.46	11.55	13.09
III	16.18	15.06	13.76	14.37	14.17	15.63	14.65	13.87	13.45	13.18	14.00
V	16.48	15.30	14.35	16.22	14.65	16.23	15.58	14.12	14.25	13.70	15.61

Tapioca/Kg.

I	0.50	0.59	0.64	0.65	0.80	0.61	0.60	0.50	0.60	0.75	0.93
II	0.41	0.60	0.60	0.65	0.80	0.64	0.59	0.53	0.70	0.75	0.97
III	0.50	0.60	0.60	0.67	0.80	0.60	0.60	0.67	0.70	0.75	1.00
V	0.50	0.63	0.60	0.67	0.83	0.60	0.60	0.56	0.67	0.75	1.00

Sugar (F.P.)/Kg.

I	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85
II	3.06	3.06	3.06	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
III	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
V	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50

Chillies/Kg.

I	9.18	7.80	7.74	8.98	8.17	8.75	8.92	8.31	8.57	8.12	8.43
II	8.97	8.00	7.88	8.27	7.40	8.36	8.62	8.26	8.15	8.14	8.83
III	10.25	9.58	9.75	10.11	8.42	8.90	10.12	9.77	8.74	9.91	8.31
V	11.73	11.28	11.29	12.04	10.33	10.00	12.52	11.29	10.61	12.43	8.99

TABLE 4.3.1 (Contd.)

Commodity	Quarters	Trivandrum	Quilon	Alleppey	Kottayam	Idukki	Ernakulam	Trichur	Palghat	Malappuram	Ko-zhi-kode	Cannanore
Coffee Powder/Kg.	I	18.50	18.50	18.00	18.00	16.00	18.00	17.90	17.90	18.38	18.00	18.30
	II	18.63	18.83	18.63	18.33	16.00	18.00	18.55	18.42	18.10	18.42	17.83
	III	20.00	20.50	20.50	20.00	16.00	20.00	19.65	19.20	19.73	20.45	19.45
	V	20.00	20.50	20.50	20.00	16.00	20.00	19.20	19.20	20.00	20.50	20.06
Tea/Kg.	I	18.34	20.45	19.00	20.60	15.83	20.00	19.98	18.40	18.34	18.56	19.44
	II	18.34	20.45	19.00	20.60	15.66	20.00	19.98	18.40	18.50	18.56	18.89
	III	18.34	20.45	19.00	20.60	15.46	20.00	19.98	18.40	18.50	18.56	18.96
	IV	19.96	20.45	19.00	20.60	16.84	20.00	19.98	18.40	18.50	18.90	18.89
Tobacco/Kg. (Jaffna)	I	15.00	11.33	11.26	12.71	16.00	16.00	13.00	..	..	..	..
	II	10.67	8.50	10.75	12.25	16.00	15.84	13.00	..	..	..	..
	III	8.00	8.79	10.50	11.25	16.00	14.00	13.00	12.00	..	..	..
	IV	8.00	9.92	10.25	11.25	16.00	14.00	13.67	12.00	..	..	..
Tobacco/Kg.	I	12.00	11.93	10.00	11.99	13.00	10.00	11.50	10.67	12.00	13.79	14.00
	II	10.50	8.50	10.00	11.35	13.00	10.00	11.50	12.73	12.00	14.22	14.00
	III	9.00	8.79	9.75	11.25	13.00	10.00	11.90	13.00	12.00	14.25	14.50
	IV	9.00	9.92	9.50	11.25	13.00	10.00	12.67	13.00	12.00	14.04	15.22

(1) *Coconut/dozen*

The price of coconut per dozen fluctuated between Rs. 12.61 at Trivandrum during the first quarter and Rs. 21.60 per dozen at Idukki during the last quarter of 1979-80. The widest variation in prices of this commodity was noticed at Kottayam with Rs. 3.60 while it was minimum at Trivandrum. The price ruled at Trivandrum for this commodity was consistently lower than all other districts also. The price ruled at Idukki was the highest for all the quarters of 1979-80.

In 1980-81 the price of coconut witnessed an increase up to the second quarter and showed a decline thereafter. In 1980-81 the price range was between Rs. 23.14 per dozen during the second quarter at Ernakulam and Rs. 13.50 during the last quarter at Trivandrum.

(2) *Coconut Oil/litre*

The movement of retail prices of coconut oil showed an increasing trend in 1979-80 with prices varying from Rs. 13.02 per litre in Trivandrum during the first quarter to Rs. 14.97 in Ernakulam during the last quarter. During 1980-81 the price fluctuated between Rs. 19.71 at Trivandrum and 15.18 at Alleppey during the last quarter.

(3) *Rice/kg.*

The price of fair price shop rice varied from Rs. 1.64 at Trivandrum in the first quarter to Rs. 1.70 during the second quarter of 1979-80. In 1980-81 the price range varied between Rs. 1.68 in Trivandrum during the first quarters and Rs. 1.87 in the fourth quarter at Idukki. Though the price of rice allotted by Government was higher by about 5 to 7 paise per kg.

(4) *Black gram kg.*

There was no definite trend in the movement of prices of black gram in 1979-80 and 1980-81. Though prices varied between Rs. 3.40 and 5.00 during 1979-80 and between Rs. 3.46 and 5.23 during the different periods of 1980-81 between centres but the price fluctuation was not so wide in independent market.

(5) *Gingelly Oil/litre*

The price of gingelly oil ranged between Rs. 9.74 per litre at Alleppey and Kozhikode during the first quarter to Rs. 15.66 during the last quarter of 1979-80 at Ernakulam. The year 1979-80 witnessed a steady increase in the price of this commodity, and the same trend almost continued in all the centres during 1980-81 except for a fall in prices during the second quarter.

(6) *Tapioca/kg.*

The price of tapioca was comparably less in Palghat during 1979-80 and in Trivandrum during 1980-81 and the same was comparably higher at Cannanore. In 1979-80 the price range of this commodity was from 42 paise in the first quarter at Palghat to Re. 1.00 in the third quarter at Cannanore.

Whereas it was between 41 paise in the second quarter at Trivandrum and Re. 1 during the third and fourth quarters of 1980-81 at Cannanore. The fluctuation in the price of this commodity was less marked during both the years.

(7) *Sugar*

Only fair price of this commodity has been quoted and that too from the third quarter of 1979-80. The price ruled at all centres up to the first quarter of 1980-81 was Rs. 2.85 per kg. From the second quarter the price increased to Rs. 3.05 and it was again increased to Rs. 3.50 from the third quarter onwards.

(8) *Chillies*

During 1979-80 Alleppey quoted the lowest price for this commodity during all the quarters and the price was the highest in Trivandrum during the first three quarters of the year. The price varied from Rs. 11.12 at Trivandrum during first quarter to Rs. 7.56 during the last quarter at Quilon and Alleppey of 1979-80 there by indicating the downward trend in the price of this commodity. 1980-81 witnessed increasing trend in price except for a slight fall in certain centres only to be picked up later to fit in the over all increasing trend in prices of this commodity.

(9) *Coffee powder*

The price of this commodity varied from Rs. 16.00 at Idukki (the low price at Idukki during the second quarter was due to variety change) to Rs. 18.50 in Quilon during 1979-80. But the year 1980-81 witnessed an increasing trend in all centres except Idukki where it was steady for the two years consecutively. The price varied from Rs. 16.00, at Idukki to Rs. 20.50 in Kozhikode, Alleppey and Quilon districts.

(10) *Tea*

The price of tea per kg. showed a varied trend in 1979-80 where as it was more or less stable at a higher level during 1980-81. The price was steady in Trivandrum, Alleppey, Palghat, Malappuram and Kozhikode. While it showed an increasing trend at other centres. In 1980-81 the price was stable in most centres.

(11) *Tobacco (Jaffna)*

The price of this variety is not quoted from Malappuram, Kozhikode and Cannanore centre for 1979-80 and 1980-81. It has been quoted from Palghat for the last two quarters of 1980-81 only. Mixed trend in prices prevailed in respect of this commodity, while the prices was more or less steady in centres like Idukki, Ernakulam and Trichur. The same fluctuated widely in centres like Trivandrum and Quilon.

(12) *Tobacco (Vadakkan)*

The price of this commodity fluctuated between Rs. 9.00 per kg. in Ernakulam and Palghat and Rs. 14 per kg. in Cannanore during 1979-80. While the market was steady in respect of this commodity at Malappuram, and Trichur and it was near steady at Idukki and Ernakulam. In other centres the price fluctuated between the quarters within a range of Rs. 9 per kg. and Rs. 14.00. In 1980-81 also the price at Idukki, Ernakulam and Malappuram was steady. While in other centres it fluctuated.

4.4 *Export of agricultural commodities from the ports of Kerala*

The details of export of agricultural commodities from the ports of Kerala for the years 1978-79, 1979-80 and 1980-81 are furnished in table 4.4. The chief items of export are tea, marine products, coir and coir products, coffee, cashew Kernels and spices. In terms of quantity exported tea occupies the first place for all the three years whereas in value the marine products occupies the foremost place. Cashew Kernel and coir and coir products are the other important commodities exported from the ports of Kerala. In fact the export of agricultural commodities from Kerala earnings a substantial share in the total exchange earnings of the country.

TABLE 4.4

Export of Agricultural Commodities from the Ports of Kerala in 1978-79, 1979-80 and 1980-81 (Rs. lakhs)

Sl. No.	Commodities	1978-79		1979-80		1980-81		
		Quantity (4)	Value (5)	Quantity (6)	Value (7)	Quantity (8)	Value (9)	
1	Cardamom							
		M.T.	429.92	597.78	1149.59	611.58	493.18	545.73
2	Cashew Kernels	"	27635.25	8628.92	33265.45	10006.21	27835.11	12988.15
3	Cashew Shell Oil	000 Litrs.	5119.88	454.92	12093.60	1279.14	7645.90	546.86
4	Coffee	M.T.	22092.29	4451.10	19248.28	5611.98	19020.89	3809.55
5	Ginger	"	9087.24	899.94	6580.50	380.28	3123.70	211.90
6	Coir and Coir Products	"	43430.24	2787.17	43152.71	3984.62	26803.40	1936.24
7	Lemongrass Oil	000 Litrs.	57.67	40.07	223.59	145.23	285.95	136.57
8	Marine Products	M.T.	32701.88	10481.33	32484.95	14027.76	32387.37	10597.19
9	Oil cakes	"	206.00	2.04	x	x	x	x
10	Pepper	"	29631.77	2784.58	2540.1.07	3715.78	23649.00	3242.57
11	Rubber Manufacture	"	122.23	42.78	471.10	55.71	355.18	36.30
12	Tea	"	44286.24	6652.41	47334.42	7239.78	50327.23	8306.14
13	Wood and timber	Value		1540.39		832.55		414.04
14	Dunfurd							
	Total							

4.5 Notes on certain crops in Kerala

Tea is the most important plantation crop cultivated in the country. India is a major producer as well as exporter of tea in the world.

Climate.—Tea requires a hot moist climate with temperature varying from 550 F to 950 F and an annual rainfall ranging from 250 to 325 cms. Tea is normally cultivated at altitudes ranging from 900 to 1500 metres above mean sea level.

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

Planting.—After clearing the land of forest growth and providing space for roads, drains and building the planting is done. The spacing of plants depends on the layout of the land used for cultivation. They are usually planted in square, rectangular or triangular patterns and spaced to cover the ground almost completely and without over crowding when matured. Normally about 75000 tea seedlings are planted in a hectare of land. 'Hedge planting' (ie. with spacing 150 x 60 cm) is also practised in new estates. Before planting pits of 22 cm square and 45 cm deep are taken and filled with soil rich in organic compounds for better growth.

Planting is done in June or July depending upon South-west monsoon. Water is essential for the young plants for the first two or three months after planting. Young plants raised in nurseries are preferred to seeds. Usually tea seedlings with 6 to 18 months are transplanted without damaging the tap roots into the space assigned for each plant.

Pruning.—When the plants are about two years old and 1 to 2 metres high they are pruned to stimulate lateral growth and to develop them into a thick bush.

Plucking.—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 high ranges the plucking round cover a period of fourteen days whereas in the plains the period is limited to seven or eight days.

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

Yield.—The average yield of a good estate is about 1125 kg. of prepared tea per hectare.

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

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

Tea processing.—The raw leaves plucked from the tea garden has to undergo a series of processes before it can be marketed. The raw leaves are spread on a wire nets or hassian cloth racks for a period of eighteen hours for eliminating moisture. The next stage is called rolling. A rolling machine specially made for this purpose, with pressure adjustments is used to twist the leaves for breaking the leaf cells so that the leaf juices ooze out. Then the rolled leaves are taken from the roll breakers and put in a fermentation room. Fermentation is a process of oxidation where the leaves undergo a chemical change. The green colour of tea leaves changes into raddish hue of copper. The next process is known as drying. Hot air from the drier furnace is forced into the chamber where the leaves are dried.

The last two processes are grading and packing. There are two important classification of grades. They are leaf grades and broken grades. The former group is divided into organge Pekoe souchong, broken orange pekoe, broken pekoe, Broken souching. Fannings and dust are the important broken grades. They are then packed category wise for sale.

Besides the black tea, green tea is also manufactured in India in a small quantity. In this process the raw leaf is subjected 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 is another plantation crop. There are two species of coffee grown in India namely Arabica and Robusta. Robusta flowering at low level and has more power of resistance against extreme climate, 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 ranges from 450 metres to 1800 metres above mean sea level. The most suitable altitude is between 750 M to 1400 M above mean sea level. It needs a well distributed annual rainfall of about 150 to 200 cm. 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 intermittant showers in March and April and a heavy rainfall in July and August constitute ideal conditions for the growth of coffee plant.

Soil.—Coffee requires sandy soils or clay loam soils with goods subsoil drainage system.

Planting.—Coffee is grown from seeds usually. It is also propagated from cuttings from mature trees or shoots. Propagation from seeds is usually done in January or February on well prepared nursery beds. It is essential that the nursery beds must have shades to protect the tender shoots. These seedlings are to be transplanted after four to six months, the nursery, when the plants are 50 cm. high. The spacing between each plant is normally about 3 metres. The plants are manured well and watered frequently.

In the second method of propagation lower branches of the trees are bent down under the earth for at least four months so as to enable new roots to sprout down from these branches. Shade trees are provided in coffee plantation for the protection of plants from the intensity of the sun and for soil conservation.

Pruning.—The plants are pruned to stimulate lateral growth and for easy plucking of berries.

Manuring.—The important manure used for the coffee plants are Superphosphate, ammonium sulphate, copper sulphate and urea.

Plucking.—Normally coffee plants begin to bear fruits within five to seven years after planting. The colour of the berries is green at first. The colour slowly changes to golden and then to deep red. These red berries are plucked by hand. Several pluckings are necessary before a crop is completely harvested.

Under good climatic conditions a coffee plant yields about 250 gram to 900 grams of green coffee in a season. Good yield may be obtained from a plant for a period of 20 to 30 years. Excessive rain or absence of rain in the blossoming season will adversely affect yield.

Diseases.—The following diseases are prevalent in 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.

Curing.—There are two processes by which raw coffee is cured. They are known as dry and wash method.

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

The second process known as wash process is entirely different. The cherries are put in the pulping machine which breaks them. The pulpy skin of the cherries are automatically removed. Then these cherries are put into big tanks for about twenty four hours. Jelly like substance known as Honey will be formed by fermentation. This honey is removed by washing when the cherries are completely dried they are put through hulling and polishing machines. The coffee prepared by the wet method is called parchment. For preparing parchment coffee only ripe berries can be utilised.

Berries at different stages of maturity have to be converted into cherries. Then they are graded and packed. The important grades are arabica cherry, arabica parchment, roubsta cherry and roubsta parchment.

(3) *Rubber*

Rubber is the most important of plantation crops cultivated in Kerala. Natural rubber is an important raw material for industrial purpose. Synthetic rubber made out of petroleum products is a near substitute for natural rubber. Due to high increase in prices of petroleum products the competition from synthetic rubber has since receded and natural rubber is in great demand. Consequently rubber cultivation has extended to Andaman islands and Thripura besides Tamilnadu and Karnataka.

Climate.—Rubber usually grows in the tropical belt lying within 15° and 10° S of the equator and usually at an altitude of 300 metres above mean sea level. A warm and humid climate issuitable for the cultivation of rubber. The annual rainfall should be between 200 to 300 cm. and should be well distributed.

Soil.—A stiff alluvial soil which is neither too steep nor too swampy is suited for the cultivation of rubber.

Planting.—Young plants or seedlings are planted in pits of about 45x45 cm. The planting season is from May to September. Usually 375 to 500 seedlings are planned in a hectare.

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

Diseases.—There are two serious leaf diseases of rubber prevailing in India. They are 'Oidium hevea' and Phytophotsa meadi which cause secondary leaf fall. These diseases affect the growth of the tree and the yield of the tree.

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

Processing.—The latex brought by the tapers are first of all freed from impurities such as sand bark etc. by straining at the coagulating shed constructed specially for the purpose. In the case of crape rubber, coagulation is done by using acetic acid. For changing latex into sheet rubber the latex after being bulked and diluted is put into shallow pans. For removing water and for getting a definite shape the Coagulam is pressed by hand. Then the sheets are allowed to pass two or three times between smooth rollers. The sheets are again passed through another machine for providing the trade mark of the estate. These sheets are washed and 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, latex cratic and scrape rubber. Of these most important one is the smoked sheets.

4. Cardamom

Cardamom is valuable spice taken from the plant *Ellellaria cardamom*. Cardamom possess an aromatic odour and it is commonly used for flavouring and medicines. Indian cardamom is a better spice than those grown in other parts of the world. Kerala has a virtual monopoly in Cardamom production in India.

Climate.—The climate suitable for the cultivation of cardamom is a warm and humid atmosphere with a temperature ranging between 50 to 95 F. It is cultivated in the shades of huge forest trees. Cardamom plant requires a fairly well distributed annual rainfall of 150 to 200cm. The best altitude for cardamom planting is between 750 M to 1500 metres above MSL.

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

Planting.—During February-March the forest land chosen for planting cardamom is cleared. While clearing the land big trees providing shade are not cut as they are to be used as shade trees for the plantation. Small pits of 60 cm. squares 30 cm. deep are dug. With a space varying from 2 to 3 metres. With so much spacing one hectare of land can provide 7750 pits. During the month of June when the south west monsoon sets in the seeds are sown. Cardamom seedlings are raised in specialised nurseries. The plants raised from seeds are usually free from any kind of diseases. When these plant seedlings attain one year of growth they are transplanted. Usually two seedlings 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. The yield attains a normal stage by the fifth year.

Life.—The average life of a plant is nine years.

Manure.—The important manure used are well-rotten cattle manure fish meal and leaves of phillanthress embbica. A mixture of caster cake, bonemeal and pottasium chlorate is considered to be a balanced manure.

Diseases.—The main disease affecting cardamom plants is mosovic or marble disease or katte disease. The symptom of the disease is the motting or curling of the leaves and degeneration of the clumps. The remedy is roguing of affected plants. Another is from Thrips, a pest. Dusting the plants with gammaxine is the remedy.

Processing.—The capsules of the cardamom are dried in the sun or in specially built dry houses by artificial heat. Usually three to four days are taken for drying cardamom in sunlight while only forty eight hours are needed for artificial drying. The sundried produce retains the muciluginous coating on the seeds and possess a characteristic sweet aroma. The dried capsules are then cleaned. The final product of green cardamom (dry) is 20 to 28% of the green produce.

Some times bleaching is done by exposing to sulphur fumes. This changes the colour of the skin of the capsule to white and helps to preserve it for longer periods.

Then they are graded. The important grades are (1) green cardamom, (2) white or bleached cardamom and (3) seeds. The quality of the cardamom varies according to the quality of the soil and seeds.

5. *Pepper*

Kerala is famous for her pepper from time immemorial and is the chief producer of pepper in India. Dried berries of pepper vines called black pepper is an important spice. It is used both for cooking and for medical preparations.

Climate.—Pepper being a rain fed crop grows best in tropical regions where there is an average rainfall of 200 cm. The lower and upper limits of temperature in which the crop flourishes are 50 F and 140 F. It grows in places with altitudes less than 900 metres.

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

Planting.—The crop is propagated by means of cutting. It is a climber and requires some support for growing. Jack, mango, and murkku wood trees are commonly used as supports for the vines. On a plantation basis they are planted at a distance of 3 metres apart. The vine is rarely allowed to grow beyond a height of 6 metres lest the plucking of pepper berries become difficult.

Plucking and processing: The vines begin to bear fruits after three years of planting. Flowering period is from June to July. The harvesting period is from December to March. When ripe the colour of the berries is orange

The berries are allowed to dry in the sun in mats for a week till the colour becomes black. Some times the skin of the berries is removed before drying. This kind of pepper is known as white pepper and is produced only in limited quantities.

Yield.—The yield mainly depend upon fertility of soil and the locality. The yield at the first harvest would be poor. Normal yield is expected from the seventh year onwards. Usually 750 to 1000 standards are planted in a hectare. When cultivated on plantation basis, the average yield varies from 200 to 900 grams of dried produce.

Life.—The life of the plant ranges from 25 to 30 years normally. But it has been found that some vines live even upto 70 years.

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

Diseases.—One of the major diseases that affects pepper is 'pollu' by which the pepper berries are rendered hollow. Root wilt is another disease which destroys the plant.

Processing.—The dried berries are graded and packed. The pepper is generally packed on double gunny bags. Pepper is exported mainly to USA, U.K. and USSR.

6. Ginger

The three important ginger growing regions are India, Jamaica and Siera Leone. Indian ginger which contains more fibres is inferior to those grown in other countries.

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

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

Planting.—Planting usually begins by the end of May or beginning of June before the commencement of heavy rains. Ginger rhizomes (underground) are planted. Planting is done on platform like beds raised for the purpose. Small pieces of rhizomes are sowed on these beds in pits at a distance of about 15 to 25 cm apart. After sowing the pits are covered with well decayed cowdung and beds are covered with leaves with a view to protect the young shoots from the onslaught of the rain and as an inducement for better growth. The crop takes nine to ten months to attain maturity. In July-August weeding and manuring are done.

Manuring.—Usually cattle manure and green manure are used.

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

Yield.—The yield is generally eight to ten times of the seed used. The average yield of ginger in Kerala is about 1135 kg. per hectare.

Pests and diseases.—Ginger is usually affected by a disease known as soft rot. The colour of the green plants are changed into pale yellow and the yield goes down. Use of mercuric chloride (5%) for the treatment of the rhizomes stored as seeds is advocated as a preventive measure. Another serious disease is varmiculana. This disease affects the plants with yellowish and brownish spots on leaves and the plants gradually dry up. Spraying of Bodleaux mixture is advised for such cases.

Processing.—First the green rhizomes are cleared of from earth and roots. After that the outer skin of the green rhizome are removed. Then they are soaked in water and kept over night. In the morning they are cleaned well. Then these rhizomes are dried in hot sun for a week. They are again cleaned. The ginger is known as the rough or unbleached ginger. There is another variety of ginger known as lime ginger or bleached ginger. For the processing of this type of ginger the green ginger is put on shallow cisterns and they are cleared by water repeatedly when they are finally cleared they are put in solutions containing milk of lime for some time after which they are dried in the sun. The process of dripping 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. B & C grades are exported to foreign countries and D grade is consumed internally in India.

Indian ginger is exported mainly to Gulf States and U.K.

7. Lemongrass

Lemongrass oil which an essential ingredient for the preparation of soap and cosmetic is extracted by distilling the leaves of the grass *Cymbopogon flexuosus*, stapf. The important lemongrass growing countries are Sri Lanka, Java, West Indies, Malaya, Guatemala and India. Guatemala and India virtually hold a monopoly in the world market. In India Kerala is the most important producer of lemongrass oil. The major lemongrass growing areas of the State are Kuruppampadi, Odakkali, Thodupuzha, Muvattupuzha, Wynad and Taliparamba etc.

Climates.—It grow on fertile hill slopes. The grass grows vigorously when the monsoon starts.

Soil.—Lemon grass flourishes in hard laterite soils.

Planting.—Fertile hill slopes with hard laterite soil are selected for the cultivation of lemongrass. During February, March the site selected is first cleared of all undergrowth of vegetation by burning them. In April May the land is ploughed and is prepared into long narrowbeds. The seeds are broadcast on these narrow beds. Usually 17 to 23 lbs. of seeds are sown in one hectare of land. The crop is also raised by transplanting seedling raised in nurseries. The cost of cultivation of this crop is very low. Much care is not needed during the period.

The harvesting has to be done before the flowering season of the crop. In all, five cuts can be taken in a year at an interval of 30 to 45 days. Usually the harvesting season ends by December.

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

Yield.—During the first year the yield is low and it is maximum during the second year and thereafter it is more or less steady for the next three years at a lower rate.

Distilling.—In Kerala we are adopting an old method of distilling the lemongrass oil. The apparatus consists of a copper boiler, condenser (coil) receiver and wooden tube.

The raw grass and water are put in the boiler specially made for this purpose. The shape of the boiler is a retort apparatus. Then the boiler is heated with firewood. After some time 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 while distilling. The essential oil and water is collected in the receiver tube. The specific gravity of the 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 tube. Then it is separated from water.

Lemongrass oil is stored in steel container. It is exported to USA and UK.

4.6 Classification of soils in Kerala

District	Type of soil	Details of distribution
Trivandrum	1. Fairly rich brown loam of laterite origin 2. Sandy loam 3. Richest dark brown loam of granite origin	Middle part of the District Western coastal region Eastern hilly parts of the district.
Quilon	1. Sandy loam 2. Laterite soil	Karunagappally and part of Quilon taluk Kottarakkara, Kunnathur and parts of Quilon, Pathanapuram Pathanamthitta taluks.
Alleppey	3. Hilly and forest soil	Parts of Pathanapuram and Pathanamthitta taluks.
Kottayam	1. Sandy loam	Karthigappally and Mavelikkara taluks.
	2. Sandy Soil	Sherthalia and Ambalapuzha taluks.
	3. Clay loam of much acidity	Kuttanad.
	4. Laterite Soil	Chengannur and parts of Mavelikkara.
Idukki	1. Laterite soil	Part of Meenachil, Changanacherry and Kottiyam taluks
	2. Alluvial soil	Vaikom and parts of Changanacherry and Kottayam taluks
	1. Laterite soil	Peermede and Theodupuzha taluks.
Ernakulam	2. Alluvial soil	Devikulam and Udumbanchola taluks.
	1. Laterite Soil	Moovattupuzha and part of Kunnathunad.
	2. Sandy loam	Parur, Cochin and Kanayannur.
Trichur	3. Alluvial	Parts of Alwaye and Kunnathunad.
	1. Sandy loam	Parts of Mukundapuram, Trichur and Chowghat taluks.
	2. Laterite	Eastern area of Trichur and Western Portion of Talappilly taluka.
	3. Granite	Northern parts of Talappilly taluk.
Palghat	4. Clay	Backwater area in Chowghat and part of Mukundapuram taluk
	1. Laterite	Interior regions of the District.
	2. Sandy lack soil	Along river side areas.
Malappuram	3. Laterite	North eastern portion of Chittur taluk.
	2. Sandy	Major part of the District barring coastal area.
Kozhikode	1. Laterite soil	Coastal strip
	2. Sandy	Major part of the district barring coastal area.
Wynad	1. Laterite	Coastal strip
	2. Sandy	Whole district.
Cannanore	1. Laterite	Major part of the district barring coastal area.
	2. Sandy	Coastal area.

4.7 Conversion ratio between the raw materials and the Processed product

Rice:	:	Rice (cleared) production	2/3 of paddy production.
Cotton	:	Cotton lint production	1/3 of kapas production cotton seed production 2/3 of kapas production.
Groundnut:	:	Kernels to nuts in shell	70%
		Oil to nuts in shell	28%
		Oil to Kernal crushed	40%
		Cake to Kernal crushed	60%
Sesamum	:	Oil to seeds crushed	40%
		Cake to seeds crushed	60%
Castor seeds	:	Oil to seeds crushed	37%
		Cake to seeds crushed	63%
Coconuts	:	Copra to nut 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 kernel crushed	50 to 55%
Sugar	:	Gur from cane crushed	10%
		Crystal sugar from gur refined	62.40%
		Crystal sugar from cane crushed	9.97%
		Khandssari sugar from gur refined	37.5%
		Molassess from cane crushed	3.5%
Cashewnuts	:	Cashew kernels	25% of the cashewnut
Butter	:	Butter from mixed milk	6.3%
		Ghee from mixed milk	5.3%

4.8 Average Analysis of Important Fertilizers

Sl. No.	Name of fertilizer	Nitrogen (N. per cent)	Phosphate (P_2O_5)	Potash (K_2O)
1.	Ammonium Sulphate Nitrate	26.00	..	..
2.	Ammonium Sulphate	20.50	..	..
3.	Ammonium Nitrate	33.50	..	..
4.	Ammonium Phosphate	16.00	20.00	..
5.	Nitrate of Soda	16.50	..	..
6.	Calcium Nitrate	15.30	..	..
7.	Calcium Ammonium Nitrate	20.50	..	..
8.	Calcium Cynamide	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	..	28.30	..
14.	Hyper phosphate	..	27.30	..
15.	Sulphate of Potash	..	..	48.00
16.	Muriate of Potash	..	..	50.00
17.	Groundnut cake	7.00	1.50	1.30
18.	Castor cake	4.30	2.00	1.00
19.	Mustark cake	4.50	1.50	..
20.	Muhua cake	2.50	0.80	1.80
21.	Neem cake	5.20	1.00	1.40
22.	Gingelly cake	6.20	2.00	1.20
23.	Coconut cake	3.00	1.90	1.80
24.	Poultry Manure	1.2-1.5	..	..
25.	Sheep Manure	0.8-6	..	..
26.	Horse manure	0.8-6	..	..
27.	Farm Yard manure	0.40	0.30	0.20
28.	Fresh Cow Dung	1.57	0.25	0.18
29.	Compost	0.50	0.25	0.50
30.	Bone Meal	3.50	21.00	..
31.	Fish Meal	4.10	3.00	0.30
32.	Blood (Dries)	11.50	1.50	0.60
33.	Meat Meal	11.00	..	0.60
34.	White fish meal	10.00	10.00	1.00

4.9. Insect pests affecting paddy crops, their distribution and some practical methods of control

<i>Sl. No.</i>	<i>Name of pest</i>	<i>Nature of damage</i>	<i>Control measure</i>
(1)	(2)	(3)	(4)
1	Rice Swarming Caterpillar (<i>Spodoptera-muaritia</i>)	Defoliation plants reduced to stumps nursery and early growing stages attached.	Spray D.T.D. at 1.5 kg. a.i. per hectare or endrin at 250 gm. a.i. per hectare.
2	Rice Stem borer (<i>Schoenabius in cestulus</i>)	Caterpillar bores into stem causing 'dead hearts' and 'white ear heads'	Set light traps in the field to catch and destroy moths. Collect egg masses from nursery plant and destroy them.
		All stages of plant susceptible to attack	Spray endrin or parathion at 250 gm. a.i. per hectare at intervals of 15-20 days starting from 15th day after sowing and upto flowering.
3	Rice bug <i>leptocorisa acuta</i>	Sucks 'milk' of tendergrains leaving them chaffy	Dust B.H.C. or spray endrin or parathion at doses given above.
4	Rice Hispa <i>Di-cladispa (Hispa armigera)</i>	Adults feed on the green matter of leaves and grubs mine the leaves	Spray D.D.T. endrin or parathion at above doses.
5	Rices case worm <i>Nymphua depunctalis</i>	Caterpillar in lead case defoliates.	do.
6	Paddy gall fly (<i>Diptera</i>)	The maggot bores into central shoot and cause the formation of elongated hallow gall called 'silver shoot'.	Spray endrin or parathion at 250 gm. a.i. per hectare 4 times at weekly intervals from 15th day after transplantation set up light traps.

(1)	(2)	(3)	(4)
7 Paddy Mealy bug	Lives within leaf sheaths in colonies sucking sap causing stunting of crop		Spray parathion at 250 gm. a.i. per hectare phosphamidon (Dimecro-100%) solun at 100 ml., per hectare or Dimothocate (Regor at 312 ml. per hectare).
8 Paddy leaf hoppers and Jaosids	Cause-weakening of crop by desppaig in colonies		Dust B.H.C.
9 Paddy leaf roller <i>Cnaphalocrocis medainalis</i> G	Catteroiller folds leaves and feeds on green matter. Attacked fields show white patches		Dust B.H.C. or spray D.D.T. at doses given above

4.10. List of Centres selected for recording Meteorological Information

Name of Centres:

Trivandrum District

- | | |
|-------------------|---------------------------|
| 1. Ponmudi | 6. Neyyattinkara |
| 2. Varkala | 7. Parassala |
| 3. Attungal | 8. Trivandrum (Aerodrome) |
| 4. Nedumangad | 9. Vellayani (AM) |
| 5. Trivandrum (b) | 10. Kovalam. |

Quilon District

- | | |
|-----------------------|------------------------------------|
| 11. Pathanamthitta | 19. Nilamel (Chadayamangalam) |
| 12. Konni | 20. Paravoor |
| 13. Adoor (Kunnathur) | 21. Kayamkulam |
| 14. Karunagappally | 22. Kulathupuzha (NER) |
| 15. Punalur | 23. Kottarakkara |
| 16. Kottarakkara | 24. Tenmalai (Railway Rain-gauges) |
| 17. Arienkavu | 25. Quilon do. |
| 18. Quilon | |

Alleppey District

- | | |
|------------------|-------------------|
| 26. Arukutty | 31. Chengannur |
| 27. Sherthalai | 32. Haripad |
| 28. Alleppey (b) | 33. Mavelikara |
| 29. Ambalapuzha | 34. Kayamkulam |
| 30. Thiruvalla | 35. Alleppey (NR) |

Idukki District

- | | |
|---------------|---------------------------|
| 36. Chinnar | 41. Peermade Taluk |
| 37. Marayur | 42. Peermade Residency |
| 38. Munnar | 43. Vandanmettu |
| 39. Devicolam | 44. Velloor |
| 40. Kumily | 45. Karikode (Thodupuzha) |

Kottayam District

- | | |
|-------------------|------------------------|
| 46. Vaikom | 51. Changanacherry |
| 47. Pala | 52. Kottayam (Agromet) |
| 48. Ettumannur | 53. Kottayam |
| 49. Kanjirappally | 54. Pallom |
| 50. Kottayam | 55. Kumarakom |

Ernakulam District

- | | |
|--------------------------|-------------------|
| 56. Malayattur (Kodanad) | 63. Cochin (b) |
| 57. Parur | 64. Puthen cruz |
| 58. Perumbavoor | 65. Kuthattukulam |
| 59. Alwaye | 66. Kolani |
| 60. Neriayamangalam | 67. Alwaye |
| 61. Ernakulam | 68. Piravom |
| 62. Muvattupuzha | |

Name of Centres:

Trichur District

- | | |
|----------------------------------|--------------------------------------|
| 69. Cranganore | 75. Chalakudy |
| 70. Mukundapuram (Irringalakuda) | 76. Pazhayannur (NR) |
| 71. Trichur | 77. Trichur (Railway Rain-
guage) |
| 72. Thalappilly (Wadakkancherry) | 78. Potta |
| 73. Ollukara
(Mannuthy) | 79. Muttathur |
| 74. Pecchi | 80. Thumboormoozhi |

Palghat District

- | | |
|------------------|---|
| 81. Alathur | 88. Pattambi (Agromet) |
| 82. Palghat | 89. Nemmara (NR) |
| 83. Parli | 90. Nelliampathy (NR) |
| 84. Ottappalam | 91. Nattukal (NR) |
| 85. Cherplassery | 92. Kollengode (Railway Rain-
guage) |
| 86. Mannarghat | 93. Olavakkot do. |
| 87. Chittoor | 94. Shoranur do. |

Malappuram District

- | | |
|--------------------|---|
| 95. Perinthalmanna | 98. Thirurangadi |
| 96. Ponnani | 99. Nilambur |
| 97. Manjeri | 100. Angadipuram (Railway
Rainguage) |

Kozhikode District

- | | |
|-----------------------|-------------------------------------|
| 101. Kozhikode | 109. Mattunga (NR) |
| 102. Vythiri | 110. Lakkidi (NR) |
| 103. Quilandy | 111. Thangarapady (NR) |
| 104. Badagara | 112. Calicut (Railway
Rainguage) |
| 105. Kuttiadi | 113. Panthalayini do. |
| 106. Kuttiadi (NR) | 114. Kakkayam |
| 107. Ambalavayal (NR) | |
| 108. Kuppadi (NR) | |

Cannanore District

- | | |
|--------------------------|---------------------------------------|
| 115. Kasargod | 125. Cannanore (NR) |
| 116. Taliparamba | 126. Manjeswar (NR) |
| 117. Cannanore | 127. Vemom (Manauthody) (NR) |
| 118. Hosdurg | 128. Thirunelli (Mananthody) (NR) |
| 119. Tellicherry | 129. Konnath (NR) |
| 120. Irikkur | 130. Chandanathode (NR) |
| 121. Payyannur | 131. Peria (NR) |
| 122. Mananthody | 132. Chedloth Range (NR) |
| 123. Mahe | 133. Cannanore (Railway
Rainguage) |
| 124. Kasargode (Agromet) | |

4.11. Glossery of English, Botanical and Malayalam names of crops

<i>Sl. No.</i>	<i>English name</i>	<i>Malayalam name</i>	<i>Botanical name</i>
1	Paddy	Nellu	Oryza Sativa
2	Ragi	Koovaraku	Eleusine Coracana
3	Jowar	Cholam	Sorghum Valgare
4	Bajra	Kambu	Ponnistum Typhodem
5	Kodamillet	Varagu	Paspalum Scrobiculatum
6	Chama	Chama	Panicum Miliare
7	Wheat	Gothampu	Triticum Vulgare
8	Barley	Barley	Hordeum Vulgare
9	Maize	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	Sacharum Officinarum
2	Palmyrah	Kiarmpana	Borassus flabellifar
Condiments and Spices			
1	Chilly	Mulagu	Capsium Sapp
2	Turmeric	Manjal	Cureuma lenga
3	Cardamom	Elom	Elatteria cardamom
4	Coriander	Kothamali	Coriandrum Sativum
5	Mustard	Kadugu	Brassica spp
6	Pepper	Kurumulagu	Pipper Nigrum
7	Cumin	Jeerakam	Ciminumoymium
8	Garlic	Veluthully	Allium Sativum
9	Long pepper	Thippili	Piperlongum
10	Ginger	Inchi	Zingiber officinale
11	Nutmeg	Jathi	Myristica Frngrans
12	Cinnamom	Karukappatta	Cinnamomum Zoylanica
13	Clove	Grampu	Eugnnia Caryophyllate
14	Cinchona	Cinhona	Cinchona Officinalis
15	Arecanut	Adacka	Areca Catechu

<i>Sl. No.</i>	<i>English name</i>	<i>Malayalam name</i>	<i>Botanical name</i>
Fruits			
1	Banana	Vazha	Musa Paradisiaca
2	Plantain	Vazha	Musepientium
3	Bread fruit	Seemaplavu	Artocarpusincisa
4	Bullocks heart	Malammumthiri	Anonareticulate
5	Cashew	Kasumavu	Anacardium Occidentale
6	Grape vine	Munthiri	Vitis Vinifere
7	Custardapple	Seetha Pazham	Anona Squamosa
8	Guava	Pera	Psidium Guajava
9	Jujube	Elantha	Aiz rphus jujuba
10	Jack fruit	Plavu	Artocarpus Integriofolia
11	Lemon	Naranga	Citrus Lemon
12	Lime	Naranga	Citrus Aurantifolia
13	Mango	Mavu	Mangifer Indica
14	Pappaya	Pappaka	Carica Pappaya
15	Pineapple	Kaithachakka	Ananas Sativa
16	Pemogramate	Mathalam	Punica Cranatum
17	Sapota	Sapota	Achras Acharas Sapota
18	Pomello	Bamplimas	Citrus Mahima
19	Orange	Orange	Citrus retiaulate
20	Mangosteen	Mangosteen	Garcimia mangesteens
Vegetables			
1	Tapioca	Maracheini	Manihot Utilissima
2	Elephantear	Chembu	Celocasantiquorum
3	Elephant foot	Chena	Amorphophallus
4	Potato	Urulakizhangu	Solanumtuberosum
5	Sweet potato	Cheenikizhangu	Impomoca batatas
6	Radish	Mullangi	Raphanus sativus
7	Yam	Kachil	Dioscorea spp
8	Turnip	Seema Mullangi	Brassica Campestris
9	Carrot	Carrot	Daucus Carota
10	Bed pumpkin	Vellarimathan	Gucurbita Maxime
11	Brinjal	Vazhuthana	Solanum Malengena
12	Tomato	Thakkali	Lycopersum esculentum
13	Amaranthus	Cheera	Amaranthus Spp
14	Lady's finger	Venda	Ambelmoschus esaulenlus
15	Bitter gourd	Pavakka	Mamordica Charantia
16	Bottle gourd	Churakka	Lagenaria Siceraria
17	Snake gourd	Padavalanga	Trichosanthese angunia
18	Ridge gourd	Peechanga	Luffaacutangulata

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