



GOVERNMENT OF KERALA

**SEASON
AND
CROP REPORT
1987-88**

DEPARTMENT OF ECONOMICS AND STATISTICS
THIRUVANANTHAPURAM—1992

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1990

P R E F A C E

This is the 29th issue in the series of season and crop reports relating to Kerala State. It is one of the important publications of the Department of Economics and Statistics, Government of Kerala and it deals with the different aspects of the agricultural economy of the state relating to the year 1987-'88. The data relating to land use, area under crops, production of important crops and irrigation particulars furnished in this report are based on the sample survey conducted under EARAS during the year 1987-'88.

This report was prepared by Smt. P.G. Sarojini Amma, Research Officer of the Agricultural Statistics Division under the immediate supervision of Smt. Shylaja Gopal, Assistant Director on the overall guidance of Sri. K. Achuthan, Joint Director.

I hope the report will give a comprehensive picture of the state of agriculture in Kerala during the year and it will be of much use to planners and research scholars.

Suggestions for the improvement of the report are welcome.

P.L. SREEDEVI AMMA,
DIRECTOR,
Directorate of Economics and
Statistics,
Thiruvananthapuram.

7. 2. 1990,
Thiruvananthapuram.

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**SEASON AND CROP REPORT OF KERALA
YEAR 1987-1988**

1.0 Introduction

Kerala with a geographical area of 38,863 Sq.kms. is one of the smallest states of Indian Union. It lies in the South West corner of India between 8° 18', and 12° 48' north latitude and 74° 52' and 77° 22' east longitudes and occupies 12% of the total geographical area of the country. Its coastal line is 580 Kms. long and its breadth varies from 130 Kms. in the middle to 32 Kms. in the extremities.

1.1 Formation

The State of Kerala was formed on 1st November 1956 by re-aligning the erstwhile Travancore-Cochin State excluding the Tamil speaking southern portion, the entire Malabar region and the Malayalam speaking portions of the South Canara District.

The physical configuration of the state is singularly diversified. The forest clad western ghat 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 lagoons adorn the narrow belt. These diverse characteristics of the land and the consequent changes in plant growth demarcate the state in to three distinct regions viz. the highland, the middleland and the low land.

The high land region comprises the ghat, forests and most of the reserve forests. The major produces are teakwood, rose wood and numerous other varieties of hard and soft woods. The annual rainfall is very high in this region compared to other regions. This land is suited for the cultivation of plantain crops like tea, coffee, cardamom and rubber. It covers an area of 18653 Sq.km.

The midland region with an area of 16231 Sq.kms. is famous for its diverse crops; while rice is grown in vallyes; coconut, arecanut, rubber, pepper and tapioca are grown on the slopes of the hills. Thus major and minor crops are cultivated intermixed with one another.

The low land covers an area of 3979 Sq.kms. and is monopolised by paddy and coconut. Fishing is a major source of livelihood of the people in this region.

Viewed from the angle of area, paddy is the most important crops of the state. There are three paddy crops viz. Autumn (Virippu), Winter (Mundakan) and Summer (Puncha). Coconut, arecanut, tapioca, pepper, rubber, tea, coffee and cardamom are the other most important perennial and semi-perrennial crops of the state. The important seasonal crops are pulses, ragi, sesamum, sugarcane, tapioca, groundnut, ginger, turmeric, etc. Rubber is cultivated on the lower high land regions in the midland region. Now-a days rubber is the most flourishing crops of the state.

Summer crop was originally a single crop raised on water-logged areas. But more and more lands are being brought under summer paddy by raising a third crop on lands where there are better irrigation facilities. But Autumn and Winter crops are more extensive than summer. Autumn crops is exclusively rainfed while winter crop is rainfed as well as irrigated from water drawn on irrigation canals.

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 on other neighbouring states for their food needs as the rice produced in the state less than half of the quantity required for the state. As the state received heavy rain from the two Monsoon, complete failure of crops and droughts are unknown. On the other hand there are seasonal floods which cause damage to crops.

1.2 Area

For administrative purpose, the state is divided into 14 district viz. Thiruvananthapuram, Kollam, Pathanamthitta, Alappuzha, Kottayam, Idukky, Ernakulam, Trisoor, Palakkad, Malappuram, Kozhikode, Wayanad, Cannoor and Kasaragode. Each district is subdivided into Taluks and Villages. There are 61 taluks and 1557 villages in the state at present. The total area of the state according to professional survey is 38863 Sq.k.s. This forms only 1.18% of the total area of the Indian Union. Kerala ranks seventeenth in respect of area comparing with the other states of the Indian Union. The district-wise distribution of area according to professional survey is given in the following table.

District-wise distribution of area of the state

Sl. No.	District	Area in Sq. Kms.	Percentage to total
1	2	3	4
1.	Thiruvananthapuram	2192	5.64
2.	Kollam	2579	6.64
3.	Pathanamthitta	2731	7.03
4.	Alappuzha	1256	3.23
5.	Kottayam	2204	5.67
6.	Idukki	4998	12.86
7.	Ernakulam	2408	6.20
8.	Trisoor	3032	7.80
9.	Palakkad	4480	11.53
10.	Malappuram	3348	9.13
11.	Kozhikode	2345	6.03
12.	Wayand	2132	5.49
13.	Cannoor	2997	7.71
14.	Kasaragod	1961	5.04
	State	38863	100.00

Idukki is the largest and Alappuzha is the smallest district of the state.

1.3 Rural Development

For the all around development of rural areas, the state is delimited into 151 blocks. The blocks at present implement various poverty alleviation programmes for the upliftment of the rural poor. The important programmes implemented by the blocks are (1) IRDP, (2) TRYSEM, (3) NREP, (4) RLEGP, etc. NREP and RLEGP have been merged into one single programme. More over various other poverty amelioration programmes were also being implemented through these blocks under New 20 Point Programmes.

1.4 Local self government

Panchayat in rural areas and Municipalities and Corporations in urban areas are the units of local self government in the state. At present, there are 1001 Panchayats 46 Municipalities and 3 Corporations in the state which are administered by the elected representatives of the local people.

1.5(a) Climate

The state is gifted with a salubrious climate. Since the state is a narrow strip of land lying between the high altitude mountains and sea there occurs heavy rainfall. Extreme climates are also not experienced in the state. The climate is that of a tropical forests with heavy rainfall, warm humidity of atmosphere and a fairly uniform temperature through out the year. The south west and north east monsoon winds blow over the state and control the climate. Due to these winds wide spread rains occur in the state. the south west monsoon starts from the beginning of June and extends upto September. The north east monsoon spell is from October to December.

About 66% of the total rainfall is received from the south west monsoon alone. The normal average rainfall is 2254.2mm with a range of (District average) 2001.6 and 3594.3 mm. A notable feature of the distribution of the rainfall is that it progressively increases from south to north and from west to east. Of late it has been observed a decreasing trend in the quantity of rainfall in the state year after year. The rainfall during the year 1987-'88 has shown a decreasing trend. The rainfall for the years 1986-'87 and 1987-'88 are furnished in the following table.

1.5(b) Rainfall

By virtue of its strategic location the agro climatic features of Kerala are generally favourable for intensive agriculture. However the

to year performance of the sector is critically dependent on the quantum and spread of the 2 monsoons. Against the normal of 3000 mm rainfall per annum, the quantum received during 87-'88 was 22542 mm. The summer showers and south west Monsoons during 1988, though deficient marginally by -8 and -1 percent respectively, could invigorate the crop production to an appreciable extent. It appears that the state is heading for a serious situation in the event of the total feature of summer shown of 1989.

District-wise distribution of average rainfall

Sl. No.	District	Average rain fall	
		1986-87	1987-88
1	2	3	4
1.	Thiruvananthapuram	1374.6	2032.0
2.	Kollam	869.1 xx	1931.0
3.	Pathanamthitta	1696.6	1303.6
4.	Alappuzha	2397.0	1845.9
5.	Kottayam	1629.7	1600.3
6.	Idukki	2003.3	2114.4
7.	Ernakulam	2352.7	2671.9
8.	Trissoor	2242.2	2573.7
9.	Palakkad	1748.4	1832.6
10.	Malappuram	71.0 xx	x
11.	Kozhikode	2628.3	2669.0
12.	Wayanad	1873.3	1565.2
13.	Cannoor	2263.1	2273.3
14.	Kasaragod	2519.4	2677.4
	State	2035.5	2254.2

xx Rainfall do not include details of all stations.

Unfortunately the north east Monsoon of 1988 failed almost completely recording the largest percentage of departure from normal since 1981.

(c) Temperature

Since Kerala is a narrow strip of land situated between high altitude mountains and sea, extreme temperature is not experienced. The average temperature of the state varies from 21° to 33°C.

1.6 Soil

Different types of soil are found in the different agro-climatic zones of the state. They are broadly classified as follows:

1. The hilly and forest soil seen all along with the eastern part of the state.
2. The sandy soil seen on the coastal belt.

3. The laterite soil seen in the mid-land.
4. The black soil seen in the paches on the eastern border of Palakkad district.
5. The peat or kari soil seen along the southern and eastern parts of vembanad lake and in small patches in Thiruvananthapuram district.
6. The red soil found in eastern tip of Thiruvananthapuram district

1.7 Minerals

The state is not rich in minerals. Major minerals like coal, iron ore and petroleum ore conspicuous by its absence. Consequently the state is industrially backward, among Indian states. Rare mineral sands such as ilmanite, monozite, rutile, zircon and silliminite are mined from the coastal line. The Kerala Mineral Exploitation and Development Project continued its activities during 1987-'88 also. The project under took the exploration and development of primary gold, gemstones, ornamental stones, placer gold and the programme for geological follow-up during 1987-'88.

1.8 Crops and crop season

The major crops grown in the state are food crops like paddy, pulses, mango, jack, cashewnut, tapioca and banana, and spices like pepper, cardamom, nutmeg, cereals, oilseeds like coconut, groundnut and gingelly and plantation crops like tea, coffee, rubber, cocoa, etc.

The period of sowing of various crops are mainly in the rainy season. Autumn, Winter and Summer are the seasons for paddy, the staple food of the people of Kerala. But most of the seasonal crops are sown well before the south west monsoon sets in the state. Though perennial crops dominate the agriculture sector of the state, intensive mixed cropping is the general pattern of cultivation. A special vegetable production programme with popular participation of 5 lakh home steeds was implemented with extensive support from Krishi Bhavans under Agriculture Departments.

1.9 Population

The population of the state as per 1981 census was 254.54 lakhs as against 213.47 lakhs during 1971. The density of population during 1981 was 655 as against 549 during 1971. The density of population for the country as a whole during 1981 was only 216. The decaded variation in population during this period 1971-'81 was 19.2% as against 26.2% of the decade 1961-'71. About 51% of the population during 1981 was female. The reason for this disparity in sex ratio of the state population is attributed to the outmigration of males to other parts of India and to other countries seeking employment. The average size of Kerala household was 5.8 as against the all India average of 5.6. According to

sample registration results the birth and death rates were 23.3 and 6.5 respectively during 1985. The infant mortality rate was 32 per thousand live births during 1985. The mean age at marriage was 27.2 years for males and 21 years for females. The rate of married couples per thousand population was 145 as against 169 for the country as a whole. About 70% of the people were literate as against 36% for the country as a whole. About 81% of the people live in villages as against 77% for India as a whole in 1981.

The district-wise population and density of population are given in the table below.

District-wise distribution of people

Sl. No. District	Population in lakhs	Percentage to total	Density of population/ Sq.km.
1	2	3	4
1. Thiruvananthapuram	25.96	10.2	1188
2. Kollam	22.96	8.9	903
3. Pathanamthitta	11.59	4.5	431
4. Alappuzha	17.29	6.8	1270
5. Kottayam	16.97	6.7	773
6. Idukki	9.72	3.8	189
7. Ernakulam	25.35	10.0	1077
8. Trisoor	24.40	9.5	815
9. Palakkad	20.44	8.0	466
10. Malappuram	24.03	9.4	667
11. Kozhikode	22.45	8.8	962
12. Wayanad	5.54	2.2	261
13. Cannoor	19.31	7.5	644
14. Kasaragod	8.73	3.4	565
State total	254.54	100.00	655

1.10 Housing and households

As per the 1981 census report there were 42.97 lakhs of occupied residential houses in Kerala with a density of 111 houses per sq.km. as against 34.18 lakhs with a density of 88 houses/sq.km. in 1971. Out of this 83% was in urban area. There were 44.23 lakh households in 1981 census with an average family size of 5.75. The corresponding figure for 1971 was 3543 lakhs and 6.33 respectively. There were 103 households per hundred occupied houses as against 104 households during 1971 census. The urban-rural breakup of the same during 1981 was 106 and 102 respectively indicating the the magnitude of housing problems in the state.

1.11 Occupation and employment

81 percent of the people of Kerala live in rural areas. Their main occupation is agriculture and related activities. Modern industries have come up here and there Urbanisation is slow for want of industrial growth. A good number of industries especially in the public sector are not functioning economically. Traditional industries like Coir, Cashew and handloom are not catching up with the time.

Chronic unemployment and under employment especially among the educated youth is one of the most serious problems faced by the state. At the end of November 1988, there were 28.99 lakhs job seekers on the live registers of the employment exchanges. The total number of professional and technical job seekers has increased. Meagre opportunities in the domestic labour market and the availability of a large number of educated and unemployed man power had facilitated its export to the Gulf Countries. It has also facilitated a vast inflow of capital in foreign currency into the State by way of remittance. But the state could not utilise these capital for productive purposes initially due to the inherent weakness of the manufacturing sector. Of late now many new schemes had been started for absorbing such capital. However a major portion of these funds had been diverted for the purchase of land and the construction of palated buildings. The main beneficiaries from these remittances were the landed class, local traders and the manufacturers of building materials of other states.

Under the unemployment assistance scheme of the state government an amount of Rs.63.60 crores has been disbursed to about 2.11 lakhs beneficiaries over a period of 7 years ending 31.3.1988.

Of the total population of 254.54 lakhs during 1981 only 77.1 lakhs were classified as workers. Out of this 9.80 lakhs were classified as marginal workers. Main workers constituted only 26.68% of the total population. The sex-wise distribution of the population according to workers and non-workers are furnished in the table given below.

Sex-wise distribution of population according to workers and non-workers 1981 (in '000)

Category	Males	%age	Females	%age	Total	%age
1	2	3	4	5	6	7
Total population	12528	100.00	12926	100.00	25454	100.00
Total workers	5624	44.89	2147	16.61	7771	30.53
Main workers	5141	41.04	1650	12.76	6791	26.68
Marginal workers	483	3.85	497	3.85	980	3.85
Non-workers	6904	55.11	10779	83.39	17683	69.47

The work participation rate or the percentage of workers to total population was 30.53 in 1981. The percentage of female workers to total workers was 27.63. While the work participation rate of males was 44.89, it was only 16.61 in respect of females. Marginal workers constituted 12.61% of the total workers. The sector-wise distribution of main workers is given in the following table.

Sector-wise distribution of main workers (in '000)

Sector	Males	%age	Females	%age	Total	%age
1	2	3	4	5	6	7
Primary	2587	50.32	908	55.03	3495	51.47
Secondary	947	18.42	349	21.15	1296	19.08
Tertiary	1607	31.26	393	23.82	2000	29.45
Total	5141	100.00	1650	100.00	6791	100.00

The table reveals that about 52% of employment was in the primary agriculture and allied activities, 19% in the secondary manufacturing sector and 29% in the tertiary sector.

Percentage distribution of working population in Kerala district-wise 1981

Sl. No.	District	Agricultural workers	Culti- vators	Agricul- tural labour- ers	Total	House- hold indus- trial works	Other work- ers	Total work- ers	%age of work- ers to total popul- ation
1	2	3	4	5	6	7	8	9	
1.	Thiruvananthapuram	8.69	33.36	42.05	4.00	53.95	100	27.09	
2.	Kollam	16.43	24.91	41.34	3.75	54.91	100	24.08	
3.	Pathanamthitta	27.88	27.87	55.75	1.76	42.49	100	25.81	
4.	Alappuzha	7.90	25.64	33.54	10.31	56.15	100	26.60	
5.	Kottayam	17.75	25.06	42.81	0.85	53.43	100	27.22	
6.	Idukki	22.48	25.73	48.21	0.85	50.94	100	34.57	
7.	Ernakulam	10.42	18.30	28.72	3.37	67.91	100	27.99	
8.	Trisoor	9.35	25.65	35.00	5.27	59.73	100	26.60	
9.	Palakkad	14.42	44.95	59.37	3.46	37.17	100	32.66	
10.	Malappuram	13.11	37.23	50.34	2.84	46.82	100	21.76	
11.	Kozhikode	5.56	14.49	20.05	2.80	77.15	100	21.87	
12.	Wayanad	21.16	39.62	60.78	0.98	38.24	100	33.59	
13.	Cannoor	12.22	27.27	39.49	2.09	58.42	100	25.43	
14.	Kasaragod	14.02	27.50	41.52	1.68	56.80	100	30.24	
	Total	13.07	28.23	41.30	3.68	55.01	100	26.68	

It is observed from the table that about 41% of the main workers were engaged in agriculture either as cultivator or as agriculture labourers. Agriculture workers in the district of Wayanad, Palakkad, Pathanamthitta and Malappuram were more than 50% of the total workers of the respective districts. The work participation rate was the highest in respect of the plantation district of Idukki and it was the lowest in respect of Malappuram district just below Kozhikode.

1.12 State income

The net domestic product of Kerala during 1987-'88 at current prices (Provisional) is estimated at Rs.7873 crores as against 7099 crores during the previous year. The percentage increase in growth of the net domestic product at current price during the year was about 11% as against 13% during the previous year. The net domestic product at 1980-'81 prices was estimated at 4048 crores as against 3899 (P) during the previous year with an increase of 3.8%. The sectorwise distribution is as follows.

Sector-wise distribution of state domestic product 1986-'87 & 1987-'88 and domestic product (Rs. crores) New Series

	1986-'87 (P)		1987-'8 (P)		%age growth	
	Current	Constant (80-81 previous)	Current	Constant (80-81 previous)	Current	Constant
1	2	3	4	5	6	7
Primary	2609	1436	2907	1505	11.4	4.8
Secondary	1527	802	1668	816	9.2	1.7
Tertiary	2963	1661	3298	1727	11.3	3.9
Total	7099	3899	7873	4048	10.9	3.8

P. Provisional estimate.

The three sectors have shown better growth rate during the year compared to the previous year.

1.13 Communications

The state has got a well developed infrastructure of communications, through the road system is fairly well developed in the midland and low land regions, the absence of a high way is keenly felt in the development of high land regions of the state. The state is connected with the neighbouring states at important points by road. Proximity of roads to village facilitates quick transportation of marketable surplus to towns ensuring reasonable profit to farmers. During the year the total road length in the state increased to 113545 kms. Out of which the length of surfaced road is only 22355 km. In respect of coverage, Kerala has a road length of 292 km/hundred sq.km. of area and 446 kms. lakh of population. The registration of motor vehicles in the state is ever on the increase. The passenger transport operators in the state are carried out both by private and public sector. Goods transport is the monopoly of the private sector.

The railway route length in Kerala consisting of 828 kms. of broadgauge and 113 kms. of metre gauge is one of the lowest in the country. Either ends of the state from south to north are connected by broadgauge line. The section between Kochi and Valayar is a double lined one. The metre gauge section runs between Kollam and Sencotta.

At present the capital city at Thiruvananthapuram is connected with major cities of the country by direct trains. This has considerably eased the inter state movement of the people.

Air traffic in the state is carried out by the Thiruvananthapuram, Kozhikode and Kochi Airports. Airport at Kozhikode was opened for traffic during 1987-'88. There are direct flights from Thiruvananthapuram to Gulf Countries, Colombo and Mali.

The backwaters, the rivers and the interlinking canals from Thiruvananthapuram to Badagara and from Valapattanam to Kasaragode provide ample scope for the development of a cheap inland water transport system for the low land and lower midland regions of the state. Coastal transport facilities are also ample with a major port Kochi, four intermediate ports at Vizhinjam, Neendakara, Alappuzha and Beypore and nine minor ports at Thiruvananthapuram, Kollam, Kodungalloor, Ponnani, Badagara, Tellicherry, Cannoor, Azhicode and Azhikal.

Three public sector agencies such as state water transport Department, Kerala Inland Navigation Corporation, and the water transport wing of Kerala Road Transport Corporation engaged in the Inland Water Transport agencies of the state. They own 96 passenger boats and the total passenger carried stood at 247 lakhs during the year.

The communication facilities in the state showed considerable progress over the years. The average area served by a post office in the state was 8.13 sq.km. in 1987-'88. The corresponding figure relates to the preceding year was 8.20 kms.

Kerala postal circle has 23 postal and 3 R.M.S. division with 90 subordinate offices 5 mail motor service divisions and one central stamp depot. The total number of post offices in the state registered a marginal increase of 34 numbers during 1987-'88. The network of post offices in the state consists of 50 head offices, 1971 sub offices together with extra departmental offices and 2761 branch offices. Introduction of speed post system in the state is a recent development. The actual number of Telephone connections during 1986-'87 stood at 168321 which went upto 184770 during 1987-'88. A notable feature of Kerala Telecom network is that all districts in the state except Kasaragode are connected with STD and no delay service facilities.

1.14 Tourism

Kerala State offers immense potential for tourism development with its beautiful beach resorts, hill resorts, backwaters, wild life sanctuaries, archaeological monuments, fairs, festivals, etc. To attract foreign as well as domestic tourists to the state, adequate infrastructural facilities by way of accommodation transport,

recreational and other facilities have to be provided. The agencies at present involved in the development of tourism in the state are the department of tourism and the Kerala Tourism Development Corporation.

2.0 Land utilisation

The estimates of various parameters relating to Agricultural Statistics in the state prior to 1975-'76 were framed on the basis of the data collected through land utilisation surveys organised by the Department. The estimates so obtained at Taluk and District level could not be assured of the desired precision due to the small sampling fraction adopted for these surveys. The quality and coverage of agricultural statistics thus available left much to be desired for. It is in this context the Government of India came up to finance a scheme for the Establishment of an agency for Reporting Agricultural Statistics (EARAS) as part of Timely Reporting Survey implemented in the reporting states. In the non-reporting states of Kerala, West Bengal and Orissa a variant of the scheme TRS to suit collection of Agricultural Statistics was introduced in the name of EARAS.

The scheme envisaged collection of data for estimating area the yield statistics for each agricultural year by complete enumeration, of the villages of the state in a phased manner covering 20.1 of the selected villages in each year. The first cycle of the survey was completed within a period of six years 1975-'76 to 1980-'81 and the second cycle in 1985-'86. The first year of the 3rd cycle was completed in 1986-'87. But here also estimates framed were confined to district and state level only. Generation of lower level estimates other than district and state was conspicuous by its absence.

The need for building up block level estimates of area and production was badly felt with the introduction of crop insurance scheme by Government of India. In order to meet this increased demand for agricultural statistics at lower levels the sampling design hitherto followed in respect of land use and crop estimation surveys under the EARAS scheme was revised from 1987-'88 with a view to build up block level estimates of area and production statistics.

Under the scheme, blocks, City Corporations and Municipalities will be divided into investigator zones depending on the area, nature of land and in each investigator zone of 100 clusters of five survey sub division. These clusters will be allocated among the dry land and wet land in proportion to the area under these categories in the zone. The wet land clusters will be visited twice and dry land clusters twice in each year and utilisations collected for estimating different parameters on Agricultural Statistics.

The various classes of utilisation and their definitions adopted for the survey are furnished below.

1. Forests

All actual forest areas on land classified or administered as forests under legal enactments dealing with forests whether state owned or private.

2. Land put to non-agricultural uses

Area occupied by buildings, roads, countryyards, play grounds, railways, rivers, canals and other lands put to non-agricultural uses.

3. Barren and uncultivable land

Land like mountains, deserts, etc. and land which cannot be brought under cultivation unless at a high cost.

4. Permanent pastures and grazing land

All grazing land whether they are permanent pastures or not.

5. Miscellaneous tree crops

All cultivable land which is not included in the net area sown, but is put under some agricultural purposes like land under thatching grass, bamboo, bushes, etc.

6. Cultivable waste

All land available for cultivation or abandoned after a few years of cultivation for one or other reasons. Land once cultivated but not cultivated for five years in succession is also included in this category.

7. Current fallow

These are crop areas which are kept fallow during the current year.

8. Fallow other than current fallow

All lands which are taken up for cultivation, but temporarily out of cultivation for a period of not less than one year and not more than five years.

9. Net area sown

This represents the area sown with crops by counting the area sown more than once in the same year only once.

10. Total cropped area

This is the area obtained by counting as many times as has sown in a single year.

The land utilisation particulars of the state for the year 1987-'88 are furnished in table 2 of the summary tables and table 3.3 of the detailed tables. (The total area of the state referred to in various tables below is based on the area according to village papers which slightly differ from that under professional survey).

The district-wise details of area under various land uses are discussed in the following paragraphs.

2.1 Forest

The district-wise distribution of area under forests are given in the following table.

District-wise distribution of area under forests 1987-'88

S1. No.	Districts	Area under forests (Ha)	Percentage total	Percentage to total area of the district
1	2	3	4	5
1.	Thiruvananthapuram	49861	4.61	22.81
2.	Kollam	81438	7.53	32.34
3.	Pathanamthitta	155214	14.35	57.75
4.	Alappuzha	-	-	-
5.	Kottayam	8141	0.75	3.71
6.	Idukki	260907	24.12	50.67
7.	Ernakulam	8123	0.75	3.45
8.	Trisoor	103619	9.58	34.61
10.	Palakkad	136257	12.60	31.04
10.	Malappuram	103417	9.56	28.47
11.	Kozhikode	41386	3.83	17.74
12.	Wayanad	78787	7.29	37.07
13.	Cannoor	48734	4.51	16.42
14.	Kasaragode	5625	0.52	2.87
	State	1081509	100.00	27.83

The area under forests form 27.83 percentage of the total geographical area of the state. Though the percentage of area under forest to total was highest in respect of Idukki district, the percentage of area under forests to the geographical area of the district was highest in respect of Pathanamthitta district. In Idukki and Pathanamthitta districts more than 50% of the geographical area were covered by forests. In Alappuzha district there was not forest at all.

2.2 Land put to non-agricultural uses

The area under land put to non-agricultural uses during the year 1987-'88 was estimated at 2.85 lakh hectares as against the previous years estimate of 2.63 lakh hectares. The increase in area under this category may be attributed to the changes in the land use of the people. The total area under this category formed 7.33% of the geographical area of the state. The district-wise distribution is given below.

District-wise distribution of area under non-agricultural uses

Sl. No.	District	Area under non-agricultural uses	Percentage to total	Percentage to geographical area of the District
1	2	3	4	5
1.	Thiruvananthapuram	18860	6.62	8.63
2.	Kollam	23166	8.14	9.20
3.	Pathanamthitta	9149	3.21	3.40
4.	Alappuzha	24861	8.73	18.27
5.	Kottayam	21008	7.38	9.57
6.	Idukki	14158	4.97	2.75
7.	Ernakulam	34554	12.13	14.68
8.	Trisoor	24212	8.50	8.09
9.	Palakkad	30299	10.64	6.90
10.	Malappuram	20941	7.35	5.79
11.	Kozhikode	20279	7.12	8.69
12.	Wayanad	6379	2.24	3.00
13.	Cannoor	22113	7.77	7.4
14.	Kasaragod	14823	5.21	7.55
State total		284802	100.00	7.30

From the table it may be noted that though the percentage of area under non-agricultural uses to total area under this category was highest in respect of Ernakulam, the percentage of the same to the geographical area of the district was highest in respect of Alappuzha district. This is noted for its high density of population with numerous rivers and backwaters.

2.3 Barren and uncultivable land

The area under barren and uncultivable land for the year 1987-'88 was estimated at 72000 hectares as against 82000 hectares during the previous year. The area under this category covered about 20% of the geographical area of the state. The district-wise distribution of the above category is furnished below.

District-wise distribution of barren and uncultivable land 1987-'88

Sl. No.	District	Area under barren and uncultivable land (hec.)	Percentage to total	Percentage of geographical area of the district
1	2	3	4	5
1.	Thiruvananthapuram	1721	2.37	0.79
2.	Kollam	670	0.93	0.27
3.	Pathanamthitta	830	1.15	0.31
4.	Alappuzha	341	0.47	0.25
5.	Kottayam	2217	3.06	1.01
6.	Idukki	17200	23.73	3.34
8.	Trisoor	1706	2.35	0.57
9.	Palakkad	11971	16.51	2.73
10.	Malappuram	6340	8.75	1.75
11.	Kozhikode	2020	2.79	0.87
12.	Wayanad	1853	2.56	0.87
13.	Cannoor	10130	13.97	3.41
14.	Kasaragod	13634	18.80	6.95
	State	72491	100.00	1.87

The area under this category was highest in Idukki district followed by Kasaragod. The percentage of area under this category to the geographical area was highest in Kasaragod district.

2.4 Permanent pastures and grazing land

The estimated area under permanent pastures and grazing land for the year 1987-'88 comes top 3089 hectares as against 3711 hectares during the previous year. This formed only 0.08 percentage of the geographical area of the state. The area under this category was highest in Idukki district with 1750 hectares or 56.6% of the total area under this category.

2.5 Land under miscellaneous tree crops

The area under miscellaneous tree crops for the year 1987-'8 was estimated at 40606 hectares as against 46614 hectares during the previous year. The total area under this category constituted only 1.05 of the geographical area of the state. The area under miscellaneous tree crops was highest in Idukki district with 26% of the total area under this category.

2.6 Cultivable waste land

The area under cultivable waste land during the year 1987-'88 was

estimated at about 1.15 lakh hectares as against 1.3 lakh hectares during the previous year. Cultivable waste land formed only 2.97% of the geographical area of the state. The highest area under this category was enumerated from Idukki district. Palakkad and Kasaragod were the other districts with considerable area under cultivable waste. These three districts together covered about 63% of the total area under this category. The district-wise details are given below.

District-wise distribution of area under cultivable waste land 1987-'88

Sl. No.	District	Area under cultivable waste (hec.)	Percentage to total	Percentage to the geographical area of the district
1	2	3	4	5
1.	Thiruvananthapuram	1704	1.48	0.78
2.	Kollam	648	0.56	0.26
3.	Pathanamthitta	476	0.41	0.18
4.	Alappuzha	2311	2.00	1.70
5.	Kottayam	1139	0.99	0.52
6.	Idukki	28870	25.03	5.61
7.	Ernakulam	4571	3.96	1.94
8.	Trissoor	4528	3.92	1.51
9.	Palakkad	23883	20.71	5.44
10.	Malappuram	13444	11.66	3.70
11.	Kozhikode	2384	2.07	1.02
12.	Wayanad	5605	4.86	2.64
13.	Cannoor	5928	5.14	2.00
14.	Kasaragod	19851	17.21	10.12
State total		115342	100.00	2.97

2.7 Fallow other than current fallow

The area under this item during the year 1987-'8 was estimated at 28779 hectares as against 27727 hectares during the previous year. This formed only 0.7% of the geographical area of the state. Palakkad district accounted for the highest area under this category followed by Malappuram district. The lowest area was enumerated from Pathanamthitta district during the period under report.

2.8 Current fallow

The area under current fallow during the year 1987-'88 was estimated at 47605 hectares as against 44258 hectares during the previous year. This formed 1.22% of the geographical area of the state. Malappuram district accounted for the highest area under this category followed by Palakkad district.

The district-wise distribution of area under this category is furnished:

District-wise distribution of area under current fallow 1987-'88

Sl. No.	District	Area under current	Percentage to total	Percentage to geographical area of district
1	2	3	4	5
1.	Thiruvananthapuram	1336	2.81	0.61
2.	Kollam	1238	2.60	0.49
3.	Pathanamthitta	1254	2.63	0.47
4.	Alappuzha	2318	4.87	1.70
5.	Kottayma	3175	6.67	1.45
6.	Idukki	2193	4.66	0.43
7.	Ernakulam	3040	6.39	1.29
8.	Trissoor	5305	11.14	1.77
9.	Palakkad	7909	16.61	1.80
10.	Malappuram	9374	19.69	2.50
11.	Kozhikode	2082	4.38	0.89
12.	Wayanad	2202	4.62	1.04
13.	Cannoor	4385	9.22	1.88
14.	Kasaragod	1994	3.77	0.91
Total		47605	100.00	1.22

2.9 Net area sown

The net area sown during the year 1987-'88 was estimated at 22.11 lakh hectares as against 22.07 lakh hectares during the previous year. The net area sown covered 56.91% of the total geographical area of the state.

The district-wise distribution of the net area sown is furnished in the table given below.

District-wise distribution of net area sown 1987-'88

Sl. No.	District	Net area sown	Percentage to total	Percentage to the geographical area of the district
1	2	3	4	5
1.	Thiruvananthapuram	1.43	6.47	65.67
2.	Kollam	1.44	6.51	57.07
3.	Pathanamthitta	1.01	4.57	37.61
4.	Alappuzha	1.05	4.75	77.16
5.	Kottayam	1.82	8.23	82.71

(Contd.)

(Table contd.)

1.	2.	3.	4.	5.
6. Idukki		1.78	8.05	34.59
7. Ernakulam		1.80	8.14	76.48
8. Trissoor		1.56	7.05	52.05
9. Palakkad		2.14	9.68	48.76
10. Malappuram		2.02	9.14	55.78
11. Kozhikode		1.62	7.33	69.25
12. Wayanad		1.13	5.11	53.24
13. Cannoor		1.96	8.86	66.16
14. Kasaragod		1.35	6.11	68.66
State total		22.11	100.00	56.91

The net area sown was highest in Palakkad district followed by Malappuram district during the year 1987-'88. But the percentage of net area sown to geographical area was highest in Kottayam district with 82.71% and the same was lowest in Idukki district with only 34.59%. The net area sown in the districts of Pathanamthitta, Idukki, Trissoor, Palakkad, Malappuram and Wayanad were below the state average.

2.10 Area sown more than once

The area under this category for the year 1987-'88 was estimated at 6.89 lakh hectares as against 6.64 lakh hectares during the previous year. The area sown more than once constituted 31% of the net area sown and 17.7% of the geographical area. The district-wise distribution of area, sown more than once is presented in the following table.

District-wise distribution of area sown more than once 1987-'88
(In Hectares)

Sl.	District	Area sown more than once	Percent- to total	Percentage to net area sown	Percentage to geographi- cal area
1.	2.	3.	4.	5.	6.
1.	Thiruvananthapuram	65499	9.51	45.63	29.96
2.	Kollam	76245	11.07	53.05	30.28
3.	Pathanamthitta	17944	2.61	17.75	6.68
4.	Alappuzha	56689	8.23	54.00	41.67
5.	Kottayam	61623	8.95	33.93	28.07
6.	Idukki	36223	5.26	20.34	7.03
7.	Ernakulam	77892	11.31	43.28	33.10
8.	Trissoor	59580	8.65	38.23	19.90
9.	Palakkad	98167	14.26	45.87	22.36

(Contd.)

(Table contd.)

1	2	3	4	5	6
10. Malappuram		34966	5.08	17.26	9.63
11. Kozhikode		46993	6.82	29.08	20.14
12. Wayanad		30282	4.40	26.76	14.25
13. Cannoor		26237	3.81	13.36	8.84
14. Kasaragod		241	0.04	0.17	0.12
State total		688581	100.00	31.14	17.72

From the table it is noted that the area under the above mentioned category was highest in respect of Palakkad district with 14.26% of the total area under this category. But the percentage of area sown more than once to net area sown as well as the percentage to geographical area was highest in respect of Alappuzha district.

2.11 Total cropped area

The total cropped area is the sum of net area sown and the area sown more than once. The total cropped area of the state for the year 1987-'88 was estimated about 29 lakh hectares. The cropped area for the last year was 28.70 lakh hectares. The total cropped area formed 31.1% of the net area sown and 74.63% of the geographical area. The district-wise distribution is given in the table below.

District-wise distribution of the total cropped area

Sl. No.	District	Total cropped area (Lakh hect)	Percentage to total	Percentage to geograp- cal area	Intensity of cropp- ing %age
1	2	3	4	5	6
1.	Thiruvananthapuram	209056	7.21	95.63	146
2.	Kollam	219971	7.59	87.35	153
3.	Pathanamthitta	119030	4.10	44.29	118
4.	Alappuzha	161655	5.57	118.82	154
5.	Kottayam	243222	8.39	110.78	134
6.	Idukki	214332	7.39	41.62	120
7.	Ernakulam	257868	8.89	109.58	143
8.	Trisoor	215419	7.43	71.95	139
9.	Palakkad	312200	10.77	71.11	146
10.	Malappuram	237577	8.19	65.41	117
11.	Kozhikode	208573	7.19	89.39	129
12.	Wayanad	143456	4.95	67.49	127
13.	Cannoor	222530	7.68	75.00	113
14.	Kasaragod	134898	4.65	68.78	100
	State total	2899855	100.00	74.63	131

The gross cropped area was highest in Palakkad district with 3.12 lakhs hectares or 10.8% of the total cropped area. The percentage of gross cropped area to the geographical area (11.9%) as well as net area sown 154% was highest in respect of Alappuzha. The percentage of gross cropped area to net area sown or intensity of cropping was lost in Kasaragod district with 100%.

3.0 Area under crops

3.1 Classification of area under crops according to seasonal, annual and perennial crops.

Crops are classified as seasonal, annual or perennial according to the duration of each crops. Crops which have duration of one season (six months or less) are called seasonal crops. The crops which have a duration of more than one season and less than one year are called annual crops and crops which have a duration of more than one year are called perennial crops. The district-wise distribution of area under crops classified into seasonal, annual and perennial is furnished the table given below.

DISTRICT-WISE DISTRIBUTION OF AREA UNDER SEASONAL, ANNUAL AND PERENNIAL CROPS
(1987-'88. (AREA IN HECTARS)

Sl. No.	Districts	Seasonal crops			Annual crops			Perennial crops			Total cropped area
		Area (hec)	% of total	% of cropped area	Area (hec)	% to total	% to cropped area	Area (hec)	% to total	% to cropped area	
1	2	3	4	5	6	7	8	9	10	11	12
1.	Thiruvananthapuram	69883	7.90	33.43	5628	7.00	2.69	133545	6.86	63.88	209056
2.	Kollam	72282	8.18	32.86	4644	6.60	2.41	143045	7.35	65.03	219971
3.	Pathanamthitta	31955	3.62	26.85	5421	7.70	4.55	81654	4.20	68.80	119030
4.	Alappuzha	78826	8.92	48.76	3548	5.04	2.19	79291	4.08	49.05	161665
5.	Kottayam	52809	5.98	21.71	5758	8.18	2.37	184655	9.49	75.92	243222
6.	Idukki	18751	2.12	8.75	4928	7.00	2.30	190653	9.80	88.95	214332
7.	Ernakulam	96781	10.95	37.53	6749	9.59	2.62	154888	7.93	59.85	257868
8.	Trisoor	93925	10.63	43.60	5630	7.99	2.61	115864	5.95	53.79	215419
9.	Palakkad	179682	20.33	57.56	7932	11.26	2.54	124586	6.40	39.90	312200
10.	Malappuram	76456	8.65	32.18	6812	9.68	2.87	154309	7.93	64.95	237577
11.	Kozhikode	24909	2.82	11.94	3673	5.22	1.76	179991	9.25	86.30	208573
12.	Wayanad	29323	3.32	20.44	2258	3.21	1.57	111875	5.75	77.99	43456
13.	Cannoor	35286	4.00	16.85	4877	6.93	2.19	182425	9.38	81.96	222588
14.	Kasaragod	22777	2.58	16.88	2540	3.61	1.89	109581	5.63	81.23	134898
	State	883645	100.00	30.57	70398	100.00	2.43	194512	100.00	67.10	2899855

From the above table it can be seen that out of the total cropped area of 30.00 lakhs hectares 8.84 lakh hectares or 30.47% were covered by seasonal crops. 70 lakh hectares or 2.43% by annual crops and 19.46 lakh hectares or 67.10% by perennial crops.

The area under seasonal crops was highest in Palakkad district with about 20.33% of the area under seasonal crops in the state and the same was lowest in Idukki district with, only 2.12% Palakkad, Trisoor, Ernakulam, Alappuzha and Kollam districts together covered more than half of the total area under seasonal crops. Palakkad is the only district in the state with more than half of the total cropped area covered by seasonal crops. Almost all the other districts were dominated by perennial crops. Idukki district tops the list with above 89% of the total cropped area covered by perennial crops. Though the area under perennial crops was highest in Palakkad district the percentage of area under annual crop to total cropped area was highest in respect of Pathanamthitta district.

3.2 Classification of area under crops according to food and non-food crops

The crops may be classified into food and non-food crops according to the use. Intensive multiple cropping of seasonal annual and perennial crops is the pattern of cultivation in the state. The area under different crops classified into food and non-food crops are given in the table 2.2 of summary table and table 3.5 of detailed table.

A. Food crops

The area under food crops cover about 52.96 of total cropped area during 1987-'88 ie. 15.36 lakh hectares as against 15.91 lakh hectares during 1986-'87 and 16.05 lakh hectares during 1985-'86. Out of this food grains covered an area of only 6.38 lakh hectares of 22%, fruits and vegetables covered 5.72 lakh hectares or 19.73% and the remaining area under food crops was covered by commercial crop though edible.

The district-wise distribution of area under food crops is given in the following table.

DISTRICT-WISE DISTRIBUTION OF AREA UNDER FOOD CROPS (1987-'88 (IN HECTARES)

Sl. District No.	Area under food crops (1987-'88)								
	Food grains area	% to crop-ped area	Fruits & vegetable table	% to crop-ped area	Sugar crops & con-diments	% to crop-ped area	Total	% to cropped area	
1	2	3	4	5	6	7	8	9	10
1. Thiruvananthapuram	25490	12.19	71397	34.15	9116	4.36	106003	50.70	
2. Kollam	31695	14.41	63876	29.04	12517	5.69	108088	49.14	
3. Pathanamthitta	14376	12.08	28678	24.09	9568	8.04	52622	44.21	
4. Alappuzha	61250	37.89	30573	18.91	6155	3.81	97978	60.61	

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8	9	10
5. Kottayam		31641	13.01	34361	14.13	15058	6.56	81960	33.70
6. Idukki		6660	3.11	19789	9.23	94970	44.31	121419	56.65
7. Ernakulam		81633	31.66	33374	12.94	17152	6.65	132159	51.25
8. Trisoor		86177	40.00	30761	14.28	14082	6.54	131020	60.82
9. Palakkad		160809	51.51	46470	14.88	21688	6.95	828967	73.34
10. Malappuram		57598	24.24	56409	23.74	19204	8.08	133211	56.06
11. Kozhikode		16610	7.96	36315	17.41	21551	10.33	74476	35.70
12. Wayanad		21660	15.10	16756	11.68	29249	20.39	67665	47.17
13. Cannoor		25449	11.43	63520	28.54	34531	15.51	123500	55.48
14. Kasaragod		16989	12.59	39986	29.64	19971	14.81	76946	57.04
Total		638037	22.00	572265	19.73	325712	11.23	1536014	52.96

It can be seen from the table that food grains cultivation is concentrated in the districts of Alappuzha, Ernakulam, Trisoor and Palakkad.

The percentage of area under food crops to gross cropped area was highest in Palakkad with 73.34%. It was lowest in respect of Kottayam district i.e. 33.70%. The percentage of area under food crops to total cropped area is 52.90%.

The various aspects of the area under important food crops are summarised in the following paragraphs.

Paddy

Paddy is the most important of the crops cultivated in the state. Being a seasonal crop it is cultivated during the three seasons viz. Autumn, Winter and Summer. The season-wise distribution of area under paddy for the years 1985-'86, 1986-'87 and 1987-'88 are furnished in the table given below.

Season-wise distribution of area under paddy (hect. in lakhs)

	1985-86		1986-87		1987-88	
	1	2	3	4	5	6
		%		%		%
Autumn	2.80	41.30	2.87	43.22	2.40	39.74
Winter	3.13	46.16	2.97	44.73	2.94	48.67
Summer	0.85	12.54	0.80	12.05	0.70	11.59
All seasons	6.78	100.00	6.64	100.00	6.04	100.00

The above table reveals a declining trend in the area of paddy over the years. While the area under Autumn and Summer seasons showed decreasing trend, winter paddy registered an increase over the previous years.

Conversion of paddy fields into garden lands and non-agricultural uses like construction of house sites, roads or mining of clay for bricks manufacturing etc. are the causes of shrinking average under paddy over years. The district-wise distribution of area under paddy for 1987-88 is given below.

District-wise distribution of area under paddy 1987-'88

Sl. District No.	Area under paddy (Hc)	Percentage to total	Percentage to cropped area of the district
1.	2.	3.	4.
1. Thiruvananthapuram	23300	3.86	11.15
2. Kollam	30227	5.00	13.74
3. Pathanamthitta	14102	2.33	11.85
4. Alappuzha	60763	10.06	37.59
5. Kottayam	29854	4.94	12.27
6. Idukki	5368	0.89	2.50
7. Ernakulam	79818	13.21	30.95
8. Trisoor	84176	13.93	39.08
9. Palakkad	144665	23.95	46.34
10. Malappuram	56471	9.35	23.77
11. Kozhikode	15580	2.58	7.47
12. Wayanad	21299	3.53	14.85
13. Cannoor	22505	3.73	10.11
14. Kasaragod	15954	2.64	11.83
State total	604082	100.00	20.83

About 21% of the gross cropped area was covered by paddy during 1987-'88 as against 23% during the previous year Palakkad district accounted for about 24% of the total area under paddy while Idukki district accounted for only 0.9% of the total and 2.50 of the gross cropped area of the district.

2. Other cereals and millets

Jowar, ragi and chema are the other important cereals and millets grown in the state. The total area under this category during the year 1987-'88 was estimated at 8244 hectares as against 6850 hectares during the previous year and formed 0.28% of the gross cropped area of the state.

Pulses

The area under pulses during the year was estimated at 25711 hectares as against 27901 hectares during 1986-'87 and 28396 hectares during 1985-'86. The area under pulses was below 1% of the gross cropped area of the state. About 35% of the total production of pulses was from Palakkad district alone. Pulses production was declining year by year.

Sugar cane

The area under Sugar Cane during the year 1987-'88 was estimated at 8228 hectares as against 8827 hectares during the previous year. Sugarcane area formed only 0.28% of the gross cropped area of the state.

Pepper

The area under pepper during the year was estimated at 1.46 lakh hectares as against 1.29 lakhs hectares during 1986-'87 and 121 lakh hectares during 1985-'86. The area under pepper was picking up gradually under the Agricultural Extension Programme of the Agricultural Department and Spices Board. The area under pepper was highest in Idukki district. The area under pepper formed 5.04% of the gross cropped area of the state.

Ginger

The total area under ginger during the year 1987-'88 was estimated at 14444 hectares as against 16591 hectare during 1986-'87. Ginger covered about 0.50% of the gross cropped area of the state. The area under ginger is highest in Wayanad district.

Turmeric

The area under this item during the year 1987-'88 was estimated at 3047 hectares as against 3226 hectares during the previous year. The highest area under turmeric was in Ernakulam with 642 hectares.

Cardamom

Cardamom is mainly grown on the slopes of the Western Ghats. The area under Cardamom during the year 1987-'8 was estimated at 64627 hectares as against 62740 hectares during the previous year. Cardamom occupied over Idukki district accounted for over 55000 hectares or 85.49% of the total area under cardamom. It occupied over 2% of the gross cropped area.

Arecanut

The area under arecanut in the state during 1987-'88 was estimated at 60535 hectares as against 57734 hectares during the previous year. Kasaragod was the major arecanut growing district of the state with about 17% of the total area under arecanut in the state as a whole. Arecanut covered an area of about 2% of the gross cropped area of the state.

Tamarind

Tamarind covered an area of 12563 hectares or 0.4% of the gross cropped area of the state during the year 1987-'88 as against 11585 hectares during the previous year. About 27.68% the total area under tamarind was enumerated from Palakkad district.

Mango

The area under mango during the year 1987-'88 was estimated at 67532 hectares as against 61999 hectares during the previous year. The area under mango was highest in Kozhikode district during the year under report. The area under this crop formed 2.33 of the gross cropped area of the state.

Jack

The area under jack during the year 1987-'8 was 63768 hectares as against 57817 hectares during 1986-'87. Jack accounted for about 2.2% of the gross cropped area. Kozhikode and Thiruvananthapuram were the major jack growing districts of the state.

Banana

The area under banana was estimated as 18939 hectares as against 18724 hectare during 1986-'87. Malappuram was the major banana growing district of the state. Banana occupied about 0.65% of the gross cropped area of the state during the year under report.

Other plantation

The area under other plantation cultivation during 1987-'88 was estimated at 37970 hectares as against 34554 hectares during the previous year. This crop formed about 1.31% of the gross cropped area of the state.

Pineapple

The area under pineapple was estimated at 4097 hectares as against 4425 hectares during 1986-'87.

Pappaya

The area under this crop was estimated at 11532 hectares during the year 1987-'88 and formed about 0.40% of the gross cropped area of the state.

Cashewnut

The area under cashew cultivation during the year 1987-'88 was estimated at 1.22 lakh hectare as against 1.34 lakh hectares during

1986-'87. The major cashewnut growing district was Canoor during the year under report with 27.34% of the total area under this crops and together with Kasaragod district covered about 49.67% of the total area under cashew.

Tubers

Kachil (Yam), Elephant yam (Chena) and Colocasia (Chembu) come under tubers and covered an area of 29480 hectares as against 29418 hectares during 1986-'87. Tubers covered about 1% the gross cropped area of the state.

Tapioca

Tapioca is cultivated during the three seasons of Autumn, Winter and Summer. But winter crop is the major one and covered about 63% of the total area of 1.73 lakh hectares under tapioca during 1987-'88. The area under tapioca formed about 5.96% of the gross cropped area of the state. Thiruvananthapuram and Kollam districts accounted for about 43.5% of the total area under tapioca of the State as a whole.

B. Non-food crops

The area under non-food crops during 1987-'88 was estimated at 13.64 lakh hectares as against 12.79 lakh hectares during 1986-'87 and 12.58 lakh hectares during 1985-'86. This shows that the area under non-food crops was maintaining an increasing trend over the years out of the total area under non-food crops oil seed crops covered an area of 8.04 lakh hectares, plantation crop an area of 4.73 lakh hectares. The district-wise distribution of important non-food crops according to sub groups are furnished in the following table.

District-wise distribution of non-food crops 1987-'88

Sl. District No.	Area under non-food crops (Hect)						Total	% to cropped area	
	Oil seed crops	% to cropped area	Plantation crops	% to cropped area	Other crops	% to cropped area			
1	2	3	4	5	6	7	8	9	10
1. Thiruvananthapuram	81240	38.86	19044	9.11	2769	1.32	103053	49.29	
2. Kollam	77879	35.40	31544	14.34	2460	1.12	111883	50.86	
3. Pathanamthitta	29578	24.85	34804	29.24	2026	0.70	66408	55.79	
4. Alappuzha	57980	35.86	4561	2.32	1146	0.71	63687	39.39	
5. Kottayam	48526	19.95	109678	45.09	3058	1.26	161262	66.30	
6. Idukki	13091	8.44	63007	29.40	11815	5.51	92913	43.35	
7. Ernakulam	67318	26.10	53037	20.57	5354	2.08	125709	48.75	

(Contd.)

(Table contd.)

1	2	3	4	5	6	7	8	9	10
8. Trissoor		70882	32.90	10062	4.67	3455	1.60	84399	39.17
9. Palakkad		45379	14.54	19997	6.41	17857	5.71	83233	26.66
10. Malappuram		78413	33.00	15881	6.68	10072	4.24	104366	43.92
11. Kozhikode		114306	54.80	15803	7.58	3988	1.91	134097	64.29
12. Wayanad		4312	3.01	65469	45.63	6010	4.19	75791	52.83
13. Cannoor		71838	32.27	17874	8.03	9376	4.21	99088	44.51
14. Kasaragod		38422	28.48	12478	9.25	7052	5.23	57952	42.96
State total		804164	27.73	473239	16.32	86438	2.98	1363841	47.03

The above table shows that oil seed crops covered an area of about 28% of the gross cropped area of the State, while plantation crops covered 16%. More than 54% of the gross cropped area of Kozhikode was covered by oil seed crops mainly coconut. Kottayam and Wayanad covered about 45 and 46% of their respective cropped area by plantation crops. The salient features of the area under important non-food crops are detailed below.

Ground nut

This crop is cultivated mainly in Palakkad district where the soil is particularly suited for the crop. The area under groundnut during the year 1987-'88 was estimated at 14749 hectares as against 12416 hectares during the previous year.

Seasamum

The area under Seasamum during 1987-'88 was estimated at 12326 hectares as against 14200 hectares during the previous year. The major seasamum growing district was Alappuzha. About 77% of the crop was in Alappuzha, Kollam, Ernakulam and Malappuram district together during the year under report.

Coconut

Coconut is the most important crop cultivated in the State. The area under this crop during the year 1987-'88 was estimated at 7.75 lakh hectares as against 7.06 lakh hectares during the previous year. This worked out to 26.7% of the gross cropped area of the state. 14.7% the total area under coconut was in Kozhikode district. The area under this crop was meagre in Wayanad where the climate is not quite suited for the crop.

Cotton

Cotton was cultivated in Palakkad district where the black soil found is suited for the cultivation of this crop. The area under cotton during 1987-'88 was estimated at 4922 hectare as against 5265 hectares during the previous year.

Tobacco

Tobacco is mainly cultivated in Kasaragod Taluk. The area under this crop during the year under report was estimated at 362 hectares as against 443 hectares during 1986-'87 and 498 hectares during 1985-'86.

Lemon grass

The area under lemon grass during the year 1987-'88 was estimated at 6142 hectares as against 6805 hectares during the previous year.

Coffee

Coffee is the plantation crop cultivated mostly on high ranges which is suited for this crop. The area under this crop was estimated at 65637 hectares as against 65641 hectares during the previous year and formed about 2.26% of the gross cropped area. The area under coffee was highest in Wayanad district with about 85% of the total area under coffee for the State as a whole and about 37% of the gross cropped area of the district.

Tea

Tea is mostly cultivated on the slopes of the western ghats. The area under this plantation crop during the year 1987-'88 was estimated at 34642 hectares as against 34639 hectares during the previous year. About 68% of the total area under tea was in Idukki district alone. About 1% of the gross cropped area of the State and 11% of the gross cropped area of Idukki district were covered under tea during the year under report.

Rubber

Rubber is the most important plantation crop cultivated in the state. The cultivation of this crop is spreading to all parts of the state. The area under the crop was estimated at 3.59 lakh hectares as against 3.5 lakh hectares during the previous year. About 1.02 lakh hectares or 28% of the area was found in Kottayam district. Rubber covered 41.8% of the cropped area of the district and 12.4% of the gross cropped area of the state as a whole.

Cocoa

Cocoa is grown intermixed with coconut trees and other crops. It is a recent addition to the plantation crops in the state. Kottayam district is the major cocoa growing area in the state. About 5000 hectares or 34% of the area was found in Kottayam district.

4.0 Irrigation

Crops like paddy require quantity of water to grow and hence irrigation is an essential input for cultivation. Kerala is blessed

with 41 west flowing and 3 east flowing rivers. Consequent on the nature of the terrain and heavy rainfall, these rivers provide vast potential for irrigation and power generation. It is estimated that 6 lakh hectares (net) or 14 lakh hectares (gross) could be brought under irrigation in Kerala through major and minor irrigation schemes. According to EARAS - estimates 3.01 lakh hectares (net) and 3.93 lakh hectares (gross) have been brought under irrigation during 1987-'88 as against 2.99 lakh hectares (net) and 4.26 lakh hectares (gross) during the previous year. Frequent floods and occasional drought often affect the crops adversely. Construction of dams and power generation are much easier than channeling the impounded waters to needy places for irrigation due to the undulating nature of the terrain consequently construction of irrigation facilities have not taken much head way in Kerala and a vast potential remains untapped. With the commissioning of various power generation and irrigation schemes flood control have been achieved to a considerable level. Due to ecological and other changes a declining trend in rainfall is noticed during the past few years. The deterioration in rainfall conditions has made it all the more important to think of storing flood water during heavy rains and use it during drought periods by constructing check dams of varying capacities. There were on going major and minor irrigation projects in the state. Besides these minor and left irrigation schemes as well as flood control schemes were also being taken up and implemented. Out of the ongoing schemes Kallada is in the advanced stage of completion and is expected to be completed in 1989-'90. Pampa is nearing completion. The scheme is programmed to be completed during 1989-'90 except for Kaviyur Branch Canal beyond 7th KM. In Periyar Valley the work of high level canal was completed and commissioned during December 1988. Works on the schemes Chitturpuzha, Moolathara, Pazhassi, Kuttiady Irrigation Project, Kanhirapuzha Project, Kariarkutty - Karappara and Kakkadavu are nearing completion. During 1987-'88 the total area brought under irrigation is 305651 had (net) or 392678 (gross). The details of area irrigated under various sources are furnished in the table below.

Source-wise area under irrigation

Sl No.	Source of irrigation	Area irrigated			
		1986-1987		1987-1988	
		Total	%	Total	%
1	2	3	4	5	6
1.	Govt. Canals	96494	32.24	102566	33.56
2.	Private Canals	4574	1.53	4546	1.49
3.	Govt. Tanks & Wells	4428	1.48	3690	1.20
4.	Private Tanks & Wells	85287	28.50	90679	29.67
5.	Minor & Lift irrigation	29978	10.02	25381	8.30
6.	Other sources	78503	26.23	78789	25.78
	Total	299264	100.00	305651	100.00

The above table reveals the fact that the government canals continued to be the biggest source of irrigation with about 33.56% of the total area under irrigation. Private tanks and wells come second with an irrigated area of 30% of the total area under an irrigation. About 26% of the irrigated area come under irrigation through other sources.

The crop-wise area under irrigation is furnished below.

Crop-wise area under irrigation

Sl. No.	Name of Crops	Area irrigated			
		1986-87		1987-'88	
		Total	%age	Total	%age
1.	2.	3	4	5	6
1.	Paddy	298440	70.12	256446	65.31
2.	Vegetable including tubers	5385	1.26	5332	1.36
3.	Coconut	80671	18.96	91620	23.33
4.	Arecanut	16669	3.92	15583	3.97
5.	Spices & condiments	1745	0.41	1737	0.44
6.	Banana	8025	1.89	8414	2.14
7.	Sugarcane	2001	0.47	1832	0.47
8.	Other crops	12652	2.97	11714	2.98
Total		425588	100.00	392678	100.00

There was about 8% decrease in the gross area irrigated during the year 1987-'88 over that of the previous year. About 65% of the gross irrigated area was covered by paddy as against 70% during 1986-'87 and 71% during 1985-'86. Decrease in the area brought under paddy was due to drought and other economic reasons.

Other major crop with considerable area under irrigation was coconut with about 23% and arecanut with about 4% of the gross irrigated area. The district-wise details of area brought under irrigation both source-wis and crop-wise are furnished in tables respectively of the detailed tables.

5. Weather and Crop Conditions

The state receives the benefit of both the South-west and North-east Monsoons blowing in the country. But the distribution of the rainfall may not necessarily be favourable to crop always. Under the influence of the monsoon winds wide spread rain occur in Kerala. In the state, cultivation is mainly dependent on rain. In times of normal rain, much irrigation is not necessary. But in prolonged drought conditions cultivation becomes very difficult even in irrigated lands as water sources would dry up. Excess rainfall flood and drought conditions do affect the crops occasionally in varying degrees. Hence cultivation is a gamble with the monsoons. Weather changes occur in Kerala like a cyclical fashion and the period of cycle is four to five

years. Normally there will be heavy rainfall during June, July and October every year and drought conditions prevail after December. The controlled supply of water is very essential for the healthy growth of crops both during rainy and dry seasons. The salient features on weather and crop conditions prevailed in the district during the year 1987-'88 are summarised below.

Thiruvananthapuram district

The important crops cultivated in the district are coconut, tapioca, rice, rubber, mango, jack, cashew, plantain, pepper and arecanut. The year witnessed normal rainfall in the district for the crops especially Virippu & Mundakan crop of paddy. The production and productivity of summer paddy was some what satisfactory compared to that for the previous year. The climate and rainfall were favourable to winter crop also. In Nedumangad Taluk puncha crop was very rare. In Chirayankil Taluk rain was not sufficient for punch crop. Uneconomic price of paddy and high input cost during the year discouraged farmers from using high yielding varieties of paddy and intensive manuring with chemical fertilizers and pesticides.

Kollam district

Coconut, rubber, tapioca, pepper, cashew, jack and mango are the important crops cultivated in the district. The rainfall received during the first half of the Khariff season was too late and paddy cultivation started very late. During winter season there was wide spread rain in all the Taluks at the flowering stage of the paddy. For summer paddy weather condition was satisfactory. Heavy rain and pest attack adversely affected the paddy crop. On the whole there was rain throughout the year. The continuous rain though affected paddy crop during winter and summer season, was beneficial to cash crops.

Pathanamthitta district

The important crops cultivated in the district are rubber, coconut, tapioca, paddy and pepper. The weather and crop conditions were favourable to Virippu and Mundakan crop of paddy except in Adoor Taluk. Heavy rain and flood occurred during the initial stages of Puncha season have adversely affected the crop especially in Kozhencherry, Thiruvalla, Adoor and Mallappally Taluks. There was shrinking in area under paddy cultivation since paddy fields were converted into garden lands non-agri uses like construction of house sites etc. On the whole the weather and crop conditions were beneficial to other perennial and cash crops. But yield rate of these crops declined shortly under the impact of the drought conditions of the previous year.

Alappuzha district

The main crops cultivated in the district are paddy, coconut, tapioca, tubers, pepper, sesamum, mango and rubber. The belated arrival of rain during initial stages of virippu season and the heavy rain occurred during the harvesting stage had badly affected the production

of virippu crop of paddy. For Mundakan season also the weather and crop conditions were not favourable and hence production of paddy was comparatively low. The climatic conditions were favourable to the puncha crop of paddy. The cultivators used the high yielding varieties of seeds, chemical fertilisers and pesticides at the proper time and production of paddy was high.

Kottayam district

The important crops cultivated are rubber, coconut, paddy, tapioca, pepper and cocoa. In general the climatic conditions were favourable to the paddy crops. Hence the production of paddy was comparatively better. Rare cases of natural calamities and pest attack were reported in Kottayam Taluk of the district. The cultivators were using high yielding varieties of seed, chemical fertilisers, pesticides, etc. at the proper time during cultivation. Yield rate in respect of other perennial crops declined sharply under the impact of drought conditions of the previous year.

Idukki district

The important crops cultivated in the district are cardamom, pepper, rubber, tea, coconut, tapioca and paddy. On the whole the belated arrival of the monsoon had affected most of the crops adversely. The production of cardamom, coffee and tea was low when compared to that for the previous year. In Peermade Taluk there was tendency for converting paddy lands for other crops especially cardamom. In Thodupuzha Taluk paddy cultivation was started at the right time since the monsoon was favourable. But there was about 10% damage to the paddy crop due to heavy rain and wind. On the whole there was considerable decrease in the production of seasonal crops during 1987-'88. Cyclone and drought conditions have affected the cash crops seriously during the year under report.

Ernakulam

The main crops cultivated in the district are paddy, rubber, coconut, tapioca, pepper and betelnut. Since the monsoon was active during the sowing season in Kothamangalam Taluk, agricultural operations were delayed and the area under autumn paddy declined to the extent of 30% and consequent reduction in productivity of the crop. In the Taluks of Parur, Kanayannur, Kochi and Alwaye the productivity of paddy was somewhat satisfactory compared to that in the previous year. The farmers had to face wide spread pest attack also during the period.

Trisoor district

The major crops cultivated in the district are paddy, coconut, rubber, cashewnut, betelnut and tapioca. During the year 1987-'88 the

district's rainfall was 2349.9 m.m. when compared to last years rainfall 2181 m.m. Rainfall was almost uniform in all Taluks of the district. The south-west monsoon commenced early during 1987-'88 but the north east monsoon was comparatively weak in the district. The climate was quite fair during the autumn season. Untimely rain during winter season badly affected paddy production during the season. Waterlogging was noted in some parts of the district. In Thalappilly and Kodungalloor Taluks the winter paddy was raised in time but pest attack during flowering time showed a nominal decrease in paddy production. There was no drought during summer season. Since there was sufficient water supply the crop was raised in time. The production of vegetables and tuber crops was quite good during the year. Production of pepper was badly affected by the drought of 1983. In general the weather condition was quite favourable. There was no natural calamities like flood and drought during the year.

Palakkad district

Paddy was the major crop of the district. Other crops with significant area are coconut, rubber, groundnut, tapioca, cashewnut, pulses, cotton and sugarcane.

The district is considered as the bread basket of the state as more than 30% of the net area sown was usually brought under paddy with the blessings of the major irrigation projects in the district. Paddy cultivation is dependent on timely rainfall. The belated arrival of rain during Autumn season had affected the production of paddy. Summer paddy though below normal was better than Autumn and Winter crops. Other seasonal and perennial crops were also badly affected by drought occurred during the preceeding year.

Malappuram district

The most important crops cultivated in the district were coconut, paddy, cashew, rubber, tapioca, arecanut and pepper. The total rainfall received during the year was very little and hence the problem of drought experienced for all crops in the early months. During the month of April 1988 there was cyclone in some parts of the district making damage to crops like banana, arecanut, rubber, coconut, etc. There was sufficient rain during the year 1988. Weather condition was dry in the 1st of August 1987 and in the 2nd half 3-4 heavy showers received. The weather conditions was satisfactory for harvesting, threshing, etc.

Due to the drought of 1987, the perennial crops were damaged to a great extent. Only minor incidence of pest attack was noticed in the district.

Kozhikode district

The major crops cultivated in the district are coconut, paddy,

rubber, pepper, cashewnut and arecanut. There was not enough rain for Virippu paddy in Quilandy Taluk. Even though the weather and crop conditions for winter paddy was favourable, the yield as a whole was not satisfactory. The untimely rain during pancha season had pushed down the productivity of paddy. On the whole the weather and crop conditions were favourable to crops. The production of coconut and banana was also low when compared to that of the previous year.

Wayanad district

The important crops cultivated in the district are coffee, paddy, pepper, rubber, coconut, tea, cardamom and ginger.

Autumn paddy was not produced in the district. Production of Mundakan paddy was also less by 20% when compared to that of the previous year. The weather and crop conditions were favourable during the beginning of the Pancha season. But the untimely rain during April and May had affected the crop adversely. The productivity of vegetables, pulses, and tubers was normal. The weather and crop conditions were favourable to the perennial crop but the timely rain during the harvesting season of the important crop pepper had affected the production adversely.

Cannoor district

The important crops cultivated in the district are coconut, cashew, paddy, rubber, pepper, arecanut and tapioca. The rainfall conditions for Khariff and Rabi seasons in Cannoor Taluk were 1289.4 mm and 1017.3 mm respectively. The Autumn crop of paddy was normal during the year under report. The total production and productivity of the paddy for the year as a whole stood in a satisfactory condition when compared to that of the previous year. Due to lack of rain during the year 1987-'88 the yield of coconut, arecanut, tapioca was less. The drought and cyclone that occurred in Taliparamba Taluk had badly affected the crop. Heavy rain and cyclone made remarkable damages to crops like banana, tapioca in Thallasserry Taluk.

Kasaragode district

The important crops cultivated in the district are coconut, cashew, paddy, rubber, arecanut, pepper and tapioca. Rainfall was excess in Hosdurg Taluk but it was less in Kasaragode Taluk. Rainfall was somewhat normal in the 3 seasons and the weather conditions were favourable to crops. Damage due to pest attack was also comparatively low when compared to that in the previous year. The production and productivity of paddy for the year as a whole was satisfactory.

In general, though there was heavy rain in most of the districts of the state its distribution was not favourable to paddy. The belated arrival of the south west monsoon had affected the production of paddy

and other seasonal crops. Heavy rain and flood had occurred in most of the districts affecting the production of paddy crops. Crops both seasonal and perennial perished during this period. Production and productivity of almost all crops fell sharply in all districts except Palakkad and Kasaragod. Rare cases of natural calamities and pest attack were reported in certain districts. Untimely rain pushed down the productivity of crops both seasonal and perennial in certain districts. Damages to crops due to natural calamities were comparatively mild. Production of paddy for all seasons as a whole was not upto the mark. Under the impact of previous years drought conditions productivity in respect of most perennial crops fell sharply during the year. In general the adverse weather conditions had made considerable decrease in the productivity of the crops of the Agricultural Economy.

6.0 Production of important crops

The details of production of important crops in the state are given in table 2.3 of summary tables and in the detailed tables. The salient features of production of important crops are discussed below.

1. Rice

The total production of rice during the year 1987-'88 was estimated at 10.33 lakh tonnes during the year 1987-'88. The district-wise distribution of production of rice during the year 1986-'87 and 1987-'88 are furnished in the following table.

District-wise distribution of rice production in Kerala

District	Production of Rice %			Productivity Kg/Hectare		
	1986-87	1987-88	% change	1986-87	1987-88	% change
1	2	3	4	5	6	7
Thiruvananthapuram	43600	36577	-16.11	1714	1570	-8.40
Kollam	54791	53496	-2.36	1669	1770	+6.05
Pathanamthitta	24456	33490	+36.94	1863	2375	+27.48
Alappuzha	117799	123122	+4.52	1736	2026	+16.70
Kottayam	67907	66062	-2.72	2021	2213	+9.50
Idukki	14962	10657	-28.77	2112	1985	-6.01
Ernakulam	131063	119810	-8.59	1622	1501	-7.46
Trisoor	143297	130887	-8.66	1601	1555	-2.87
Palakkad	290976	266049	-8.57	1879	1839	-2.13
Malappuram	95684	79021	-17.41	1536	1399	-8.92
Kozhikode	19988	15996	-19.97	1103	1027	-6.89
Wayanad	57718	36261	-37.18	1924	1702	-11.54
Cannoor	38683	33606	-13.12	1435	1493	+4.04
Kasaragod	32862	27571	-16.10	1544	1728	+11.92
State	1133786	1032605	-8.92	1708	1709	+0.06

From the table it may be noted that the production of rice during the year 1987-'88 has decreased by 8.92% over that of the previous year.

The districts of Pathanamthitta and Alappuzha showed increase in production and while the other districts showed a decreasing trend over that of the previous year. The quantity of rice produced was highest in Palakkad district with about 26% of the total production. The yield rate per hectare was highest in respect of Pathanamthitta district while the same was lowest in Kozhikode district with only 1027 Kgs/hectare. The yield rate showed increase in the districts of Kollam, Pathanamthitta, Alappuzha, Kottayam, Canoor and Kasaragod.

The season-wise production of rice and yield rate for the years 1986-'87 and 1987-'88 is furnished below.

Season-wise distribution of paddy

Season	Production of rice (Lakh/Tonnes)		% Charge	Yield per hectare		% charge
	86-87	87-88		86-87	87-88	
1	2	3	4	5	6	7
Autumn	4.68	4.20	-10.26	1635	1748	+6.91
Winter	4.97	4.70	5.43	1672	1600	-4.31
Summer	1.69	1.42	15.98	2105	2035	-3.31
All seasons	11.34	10.32	-8.99	1708	1709	+0.06

The area production and productivity of paddy showed a decreasing trend during the year under report over that of the previous year. The production and productivity for all seasons except the productivity for autumn season had decreased over those of the previous year. But the over all productivity has increased by 0.06%.

2. Pulses

The production of pulses during the year 87-'88 was estimated at 18639 tonnes as against 20062 tonnes during the previous year. Palakkad district claimed 35% of the total pulses production in the State.

3. Sugarcane (Gur)

The quantity of gur produced in the state during the year 1987-'88 was estimated at 53807 tonnes as against 57883 tonnes during the previous year. Palakkad was the major gur producing district of the state.

4. Black pepper

The production of black pepper in the state was estimated at 46819 tonnes during the year 1987-'88 as against 30378 during the previous year. The quantity of pepper produced was highest in Idukki district where the area under pepper cultivation is also highest in the state.

5. Ginger

The production of dry ginger during the year 1987-'88 was estimated at 45511 tonnes as against 47652 tonnes during the previous year. Production of ginger was highest in Wayanad district.

6. Cured Turmeric

The quantity of cured turmeric produced in the state during the year 1987-'88 was estimated at 5841 tonnes as against 6259 tonnes during the previous year. The production of turmeric was highest in Kottayam district.

7. Cardamom

The estimates of production of processed cardamom stood at 2050 tonnes as against 2500 tonnes during the previous year. About 73.17% of the total production of processed cardamom was in Idukki district.

8. Betel nut

The estimated production of betel nut during the year 1987-'88 was 10665 million nuts as against 10563 million nut during the previous year. The production of betel nuts was highest in Kasaragod district.

9. Banana

The production of banana during the year 1987-'88 was estimated at 2.50 lakh tonnes as against 2.19 lakh tonnes during the previous year. The highest quantity of banana production was estimated in Malappuram district.

10. Other plantains

The production of other plantains during the year 1987-'88 was estimated at 1.73 lakh tonnes as against 1.43 lakh tonnes during the previous year. The production was highest in Thiruvananthapuram district during the year under report.

11. Mango

The production of mango during the year 1987-'88 was estimated at 2.26 lakh tonnes as against 2 lakh tonnes during the previous year. Palakkad district stood first in the production of this crop during the year under report.

12. Jack

The production of jack fruits during the year 1987-'88 was estimated at 1.61 lakh as against 1.63 lakh during the previous year. Cannoor district harvested the maximum number of jack fruits.

13. Pineapple

The quantity of pineapple produced in the state during the year 1987-'88 was estimated at 50639 tonnes as against 54927 tonnes during the previous year.

14. Cashewnut

Cashewnut production was estimated at 81481 tonnes during the year 1987-'88 as against 88710 tonnes during the previous year. Out of this 31434 tonnes were produced in Cannoor district alone.

15. Tapioca

The production of tapioca during the year 1987-'88 was estimated at 32.36 lakh tonnes as against 32.92 lakh tonnes during the previous year. Out of this 7 lakhs were produced in Thiruvananthapuram district alone. The district-wise production and productivity of tapioca was given in the following table.

District-wise distribution and production of tapioca

Sl. No.	District	Producing Tapioca Lakh/Tonnes	% to total	Yield rate per hectare (Tonnes)
1	2	3	4	5
1.	Thiruvananthapuram	7.00	21.63	16.76
2.	Kollam	5.38	16.63	16.08
3.	Pathanamthitta	2.23	6.89	18.32
4.	Alappuzha	1.98	6.12	22.00
5.	Kottayam	3.31	10.23	21.79
6.	Idukki	1.90	5.87	25.21
7.	Ernakulam	1.75	5.41	21.06
8.	Thrissoor	0.75	2.32	16.74
9.	Palakkad	2.28	7.05	19.89
10.	Malappuram	2.78	8.59	20.93
11.	Kozhikode	0.58	1.79	13.48
12.	Wayanad	0.58	1.79	28.33
13.	Cannoor	1.36	4.20	19.41
14.	Kasaragod	0.48	1.48	16.42
State		32.36	100.00	18.72

From the above table it can be seen that though the quantity of tapioca produced was highest in Thiruvananthapuram district the productivity was highest in respect of Wayanad district. Both the total production and productivity was lowest in Kozhikode district.

16. Groundnut

The production of groundnut during the year 1987-'88 was 13907

tonnes as against 5796 tonnes during the previous year. 99.9% of the total production was from Palakkad district alone.

17. Sesamum

The quantity of sesamum produced in the State during the year 1987-'88 was estimated at 3962 tonnes as against 3407 tonnes during the previous year. Alappuzha district produced about 22% of the total production of the crop in the state.

18. Coconut

The estimates of production of coconut for the year 1987-'88 stood at 3346 million nuts as against 3407 million nut during the previous year and 3377 million nuts during the year 1985-'86. The production of nuts had shown an increasing trend during the year under report. Kozhikode was the major coconut producing district of the state with 16% share in the total production of this commodity.

19. Cotton

The quantity of cotton produced in the State during the year 1987-'88 was estimated at 7944 bales of 170 Kgs. as against 8490 bales during the previous year. Cotton production was a monopoly of Palakkad district in the state.

20. Tobacco

The total quantity of tobacco produced in the state during the year 1987-'88 was estimated at 679 tonnes as against 831 tonnes during the previous year. Tobacco is the monopoly produce of Kasaragod district of the State.

21. Tea

The production of tea during the year 1987-'88 was estimated at 51952 tonnes as against 50335 tonnes during the previous year. About 77% of the total production of tea was from Idukki district alone.

22. Rubber

The quantity of rubber produced in the state during the year 1987-'88 was estimated at 2.17 lakh tonnes as against 2.02 lakh tonnes during the previous year. Though the production of rubber was increasing substantially over the recent years the gap between demand and supply continued to persist. Kottayam is the dominant rubber producing district and together with Ernakulam district share about 37% of the total production of rubber in the state.

23. Cocoa

The production of cocoa during the year 1987-'88 was estimated at 5857 tonnes as against 6036 tonnes during the previous year. Kottayam is the major cocoa producing district in the state.

7. Sowing, harvesting and peak marketing periods

The information on sowing, harvesting and peak marketing periods on important crops are furnished in table 2-6 of summary table.

8. Farm price of important commodities

The average farm price of certain important agricultural produces during the year 1987-'88 is furnished 3.11 of detailed tables.

9. Agricultural wages

District-wise detail of agriculture wages classified into skilled (for carpenter and mason) and unskilled for paddy field and other agricultural labourers both men and women) separately for the year 1987-'88 are furnished in table 3.12 detailed below.

10. Live stock, poultry and agricultural implements

The details of live stock, poultry and agricultural implements as available from the quinquennial live stock census 1987 are furnished in table 2.5 of summary tables and 3.13 of detailed tables.

PART II
SUMMARY TABLES

Table 2.1
Classification of area according to utilisation

Sl. No.	Head of classification	Area 10		Percentage to total	
		Sq. Km.			
1	2	3	4	5	6
1.	Total area according to village paper.	38855	38855	100.00	100.00
2.	Forest	10815	10815	27.83	27.83
3.	Land put to non-agricultural uses	2630	2848	6.77	7.33
4.	Barren and cultivable land	824	725	2.12	1.87
5.	Permanent pastures and other grazing land.	37	31	0.10	0.08
6.	Land under miscellaneous trace crops	466	406	1.20	1.04
7.	Cultivable waste land	1296	1153	3.34	2.97
8.	Current fallow	443	476	1.14	1.23
9.	Fallow other than current fallow	277	288	0.71	0.74
10.	Net area sown	22067	22113	56.79	56.91
11.	Area sown more than once	6636	6886	17.08	17.72
12.	Total cropped area	28703	28999	73.87	74.63
13.	Total cultivated area	22787	22877	58.65	58.38
14.	Total cultivable area	24549	24436	63.18	62.89

Table 2.2
Area under crops in Kerala 1986-'87 and 1987-'88

Class of crop	Name of crop	Area (Hectare)		%age change
		1986-'87	1987-'88	
1	2	3	4	5
Cereals & millets	1. Paddy	663803	604082	-9.00
	2. Jowar	2040	2559	+25.44
	3. Ragi	1162	1552	+33.56
	4. Other cereals & millets	3648	4133	+13.29
	5. Total cereals & millets	670653	612326	-8.70
Pulses including tur	6. Pulses	27901	25711	-7.85
Sugar crops	7. Sugar cane	8827	8228	-6.79
	8. Palmyreh	11377	11360	-0.15
	9. Total sugar crops	20204	19588	-3.05
Spices and condiments	10. Pepper	128865	146081	+13.36
	11. Chillies	838	755	-9.90
	12. Ginger	16591	14444	-12.94
	13. Turmeric	3226	3047	-5.55
	14. Tamarind	11585	12563	+8.44
	15. Cardamom	62740	62627	+3.01
	16. Arecanut (Betel)	57734	60533	+4.85
	17. Other spices	4389	4072	-7.22
	18. Total spices & condiments	285968	306124	+7.05
Fresh fruits	19. Mango	61999	67632	+8.92
	20. Jack	57817	63768	+10.29
	21. Banana	18724	18939	+1.15
	22. Other plantain	34554	37970	+9.89
	23. Pineapple	4425	4097	-7.41
	24. Other fruits	20147	20784	+3.16
	Dry fruits	25. Cashewnut	133562	121550
26. Total fruits		331228	334640	+1.03
27. Tubers		29418	29480	+0.21
Vegetables	28. Sweet potato	3996	3399	-14.94
	29. Tapioca	192878	172908	-10.99
	30. Other vegetables	28685	31838	+10.35
	31. Total vegetables	254977	237625	-6.81
Oil seeds	32. Coconut	706107	775365	+9.81
	33. Sesamum	14200	12326	-13.20
	34. Groundnut	12416	14749	+18.79
	35. Other oil seeds	1863	1724	-7.46
	36. Total oil seeds	734586	804164	+9.47

(Contd.)

(Table 2.2 contd.)

	1	2	3	4	5
Fibre	37. Cotton		5266	4922	-6.51
	38. Betel leaves		1231	1164	-5.44
	39. Tobacco		443	362	-18.28
Drugs & narcotics	40. Lemon grass		6805	6142	-9.74
Plantation crop	41. Tea		34639	34642	+0.01
	42. Coffee		65641	65637	-0.01
	43. Cocoa		14978	14003	-6.51
	44. Rubber		347814	358957	+3.20
	45. Total drugs, narcotics and plantation crops		471551	480907	+1.98
	46. Fodder grass		1941	1827	-5.87
	47. Green manure crops		9708	10555	+8.72
Other non-food crops	48. Other non-food crops		56332	61466	+9.11
	49. Total non-food crops		1279383	1363841	+6.60
	50. Total cropped area		2870314	28899855	+1.03
	51. Area sown more than once		663578	688581	+3.77
	52. Net area sown		2206736	2211274	+0.21

Table 2.3
Production of important crops 1986-'87 and 1987-'88

Sl. No.	Name of crops	Unit	Quantity 1986-87	Product 1987-88	Percent- age change
1	2	3	4	5	6
1.	Rice	Tonnes	1133786	1032605	-8.92
2.	Jowar	"	1030	1295	+25.73
3.	Raji	"	965	1281	+32.75
4.	Other cereals	"	2759	3185	+15.44
5.	Pulses	"	20062	18639	-7.09
6.	Sugarcane (gur)	"	57883	53807	-7.04
7.	Black pepper	"	30378	46819	+54.12
8.	Dry chillies	"	806	735	-8.81
9.	Dry ginger	"	47652	45511	+4.49
10.	Cured turmeric	"	6259	5841	-6.68
11.	Processed cardamom	"	2500	2050	-18.00
12.	Areca nut (Betel nuts)	Million nuts	10563	10665	+0.97
13.	Nutmeg	"	5118	4770	-6.80
14.	Tamarind	"	20394	31484	+7.11

(Contd.)

(Table 2.3 contd.)

1	2	3	4	5	6
15. Jack		1000 Nos.	163799	181367	+10.73
16. Mango		Tonnes	200561	226105	+12.74
17. Banana		"	219104	249933	+14.07
18. Other plantain		"	143235	172576	+20.48
19. Pineapple		"	54927	50639	-7.81
20. Pappaya		"	43953	50460	+14.80
21. Cashewnut		"	88700	81481	-8.15
22. Drumstic		"	13771	15585	+13.17
23. Sweet potato		"	33270	28213	-15.20
24. Tapioca		"	3292302	3236352	-1.70
25. Groundnut		"	5796	13907	+130.94
26. Sesamum		"	3407	3962	+16.29
27. Coconut		Million nuts	3173	3346	+5.45
28. Cotton		Bale of 170 Kg.	-	7944	-6.52
29. Tobacco		Tonnes	831	679	-18.29
30. Lemongrass oil		"	326	316	-3.07
31. Tea		"	50335	51952	+3.21
32. Coffee		"	23550	22925	-2.65
33. Rubber		"	202129	216562	+7.14
34. Cocoa		"	6036	5857	-2.97

Table 2.4
Average farm (harvest) prices of certain agricultural commodities

Sl. No.	Commodity	Unit	Average farm price		Percentage change
			1986-'87	1987-'88	
1	2	3	4	5	6
1.	Paddy	Qt1.	244.14	261.64	+7.17
2.	Coconut	00'Nos.	223.13	276.72	+24.02
3.	Arecanut	"	10.60	10.37	-2.17
4.	Tapioca	Qt1.	94.20	103.67	+10.05
5.	Cashewnut	"	1348.10	1102.02	-18.25
6.	Banana	00'Nos.	61.62	67.63	+9.73
7.	Pepper	Qt1.	5223.30	4412.39	-15.52
8.	Ginger	"	1143.21	1621.91	+42.40
9.	Sugarcane	MT.	246.58	295.04	+19.65

Table 2.5
Number of livestock, poultry and agricultural machinery

Sl. No.	(2)	(3)	Census (1977)	Census (1982)	Census (1987)	
1	2	3	4	5	6	
1.	Cattle	Males over 0-3 years	(d) Breeding (b) Working (c) Others Total	3462 353672 13980 371114	10699 233048 22226 265973	12470 133737 10993 157200
		Females over 3 years	(a) Breeding 1 in Mil 2. Dry 3. Not Calved (b) Working (c) Others Total Youngstock Total cattle	705040 585474 74794 2569 3103 1370980 12539633 3006059	864272 561476 83483 - 3384 1512615 1318187 3096775	1014973 533888 125537 - 28927 1701325 1565460 3423985
2.	Buffaloes	Males over 3 years	(a) Breeding (b) Working (c) Others Total	1777 210199 6798 218774	3282 166088 13432 182801	2520 3652 92514 98686
		Females over 3 years	(a) Breedings: 1. In Milk 2. Dry 3. Not calved	86698 55646 9013	82730 48878 5710	81572 35044 6355
		Females	(b) Working (c) Others Total Youngstock Total Buffaloes	5039 1196 157592 78034 454400	- 1473 138791 86992 408584	- 1514 124585 106250 329421
3.	Goat		(a) One year & above (b) Below 1 year Total	956695 726602 1683297	1165438 838357 2003795	911338 669224 1580562
4.	Sheep		(a) One year & above (b) Below 1 year Total	- - 2543	3610 3449 7059	16370 13585 29955

(Contd.)

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(Table 2.5 contd.)

1	2	3	4	5	6
5. Horses & ponies	(a) 3 years & above	-		46	133
	(b) Below 3 years	-		26	236
	Total		90	72	369
6. Mules			N11	323	28
7. Donkeys			266	370	165
8. Camels			-	4	-
9. Pigs			172375	127147	137090
	Others (Elephant)		-	451	-
	Total livestock		5319033	5644580	5501575
		Dogs	-	1156438	1289186
		Others	-	434677	77198
	Total livestock including dogs & others		5319033	7235695	6867959
10. Poultry	(a) Fowls	12956186		14519039	17091792
	(b) Ducks	429569		530354	846091
	(c) Others	3095		3154017	57915
11. Ploughs	(a) Wooden	316975		228566	142482
12. Carts	(b) Iron (steel)	69191		47383	40168
		20525		8245	6345
	Carts Sugarcane crushes	(a) Power	459	71	81
		(b) Bullocks	863	95	118
13. Oil engines			28759	24475	39286
15. Electric pumps			25973	74456	176971
16. Tractors			783	1335	1917

Table 2.6
Sowing harvesting and peak marketing seasons of principal crops in Kerala

Sl. No.	Name of Crop	Season	Period of sowing	Period of ploughing	Period of harvesting	Peak marketing period
1.	2.	3.	4.	5.	6.	7.
1.	Rice	Autumn Winter Summer	April-July August-November October-December	July-October October-January January-March	August-October November-January March-May	September-November December-March March-June
2.	Ragi	I. Crop II. Crop III. Crop	April-July September-October May-June December	August-September October-November September-October January-February	September-November December-January October-November February	September-November December-January October-November
3.	Small Millets	Autumn Summer	April-July January-February	July-November March	September-November April	December-January April
4.	Redgram	Autumn Winter Summer	May-August August-November February-March	June-September September-November May	August-October October-January May	August-October December-January June
5.	Horsegram	Autumn Winter Summer	February-April September-November December-February	March-April October-November January-April	April-June November-January April	May-June November-February April
6.	Greengram	Autumn Winter Summer	June-August October September-October	August-September November October-November	August-September November-December November-December	September-December November-December December-January
7.	Blackgram	Winter Summer	March-June September-October	July-August October-November	June-September November-December	September-October December-January

(Contd.)

(Table 2.6 contd.)

1	2	3	4	5	6	7
8.	Other	Autumn Winter Summer	April-July September-December December-March	July-August October-December January-April	June-September November-February February-June	September-October December-March April
9.	Sugar Cane	Autumn Winter Summer	October-February November-March June-October	-- -- September-October	October-December December-February October-January	November-December January-February January
10.	Ginger	Autumn Winter	March-July March-June	-- --	November-February December-February	December-February December-March
11.	Pepper	Winter Summer	June-August July	July-October July-September	November-February January-April	November-March March-May
12.	Cotton	Winter	June-October	November-December	December-March	February-March
13.	Sesamum	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 Potato	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.	Lemongrass	--	May-June	--	January-February April-May	January-February April-May

(Contd.)

(Table 2.6 contd.)

1	2	3	4	5	6	7
17.	Tapioca	Autumn Winter Summer	July-October March-May June-October October-November	-- -- -- --	July-August November-March March-July April-May	July-September December-February March-July
18.	Mango	--	--	December	April-May September	April-May September
19.	Arecanut	--	--	June	July-September	August-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.	Tobacco	Winter	November-December	--	March-April	May-June

PART III
DETAILED TABLES

Table 3.1
Monthly normal rainfall (revised) in m.m. (1987-'88)

District	Janu-ary	Febr-uary	March	April	May	June	July	Augu-st.	Sept-ember	Octo-ber	Novem-ber	Dec-ember	Annual
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Thiruvananthapuram	26.0	27.6	13.2	216.8	53.6	466.4	242.9	110.0	321.9	43.8	224.2	17.3	1568.5
Kollam	x	x	x	x	125.0	388.0	x	248.5	382.0	25.0	x	x	1168.5
Pathanamthitta	x	77.8	x	346.0	209.0	503.4	423.8	351.4	517.6	x	198.6	6.8	2634.4
Alappuzha	x	29.1	110.5	116.4	234.8	530.7	289.3	340.0	686.0	130.5	90.5	22.6	2842.1
Kottayam	x	x	225.5	102.8	67.0	36.8	344.0	396.0	381.0	89.0	104.5	x	1543.6
Idukki	x	2.0	x	x	125.9	315.0	390.8	364.3	352.3	35.4	2.5	x	1588.2
Ernakulam	x	51.	51.1	207.7	112.1	589.5	644.2	439.2	617.0	76.7	107.6	38.1	2888.3
Trissoon	x	x	x	25.8	134.2	670.1	587.1	506.2	631.6	104.5	71.4	65.7	5916.9
Palakkad	x	x	x	269.0	124.8	241.0	376.0	340.7	465.1	26.5	5.5	15.5	1864.1
Malappuram	x	x	x	x	x	x	x	x	x	x	x	x	x
Kozhikode	x	0.3	x	186.6	325.4	837.2	744.7	477.1	434.8	86.3	78.3	88.6	3259.3
Wayanad	x	26.4	6.4	97.4	173.1	243.8	710.8	391.8	279.0	54.4	x	12.0	1995.1
Cannoor	x	2.0	x	74.0	20.0	997.0	914.0	462.0	396.0	84.0	44.0	30.0	3255.0
Kasaragode	x	x	x	81.3	119.4	1065.1	899.6	450.5	418.4	64.2	36.0	28.2	3162.7
State	26.0	21.3	40.7	178.7	158.2	529.5	547.3	375.2	452.5	68.4	87.5	32.5	2517.8

x - Not reported - No rainfall

Table 3.2
Average monthly rainfall for the year 1987-'88 (in m.m.)

District	Total	July	Aug- ust	Sept- ember	Octo- ber	Nov- ember	Dec- ember	Janu- ary	Febr- uary	March	April	May	June
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Thiruvananthapuram	2032.0	53.1	343.4	205.7	211.8	193.4	221.0	26.0	27.6	13.2	216.8	53.6	466.4
Kollam	1931.0	121.0	406.0	122.0	336.0	308.0	125.0	x	x	x	x	125.0	388.0
Pathanamthitta	1303.6	89.6	211.0	202.4	264.3	209.2	98.0	x	x	22.5	102.8	67.0	36.8
Alappuzha	1845.9	52.2	533.1	120.3	449.2	167.2	81.0	x	2.0	x	x	125.9	315.0
Kottayam	1600.3	5.9	21.5	122.7	111.5	167.5	35.0	x	77.8	x	346.0	209.0	503.4
Idukki	2114.4	207.1	393.6	x	269.7	222.6	x	x	29.0	110.5	116.4	234.8	530.7
Ernakulam	2671.9	297.8	594.3	144.5	282.2	314.9	72.7	x	5.1	51.1	207.7	112.1	589.5
Trisoor	2573.7	344.2	544.9	x	237.6	226.0	148.9	x	x	x	267.8	134.2	670.1
Palakkad	1832.6	341.7	304.4	174.1	168.0	209.6	x	x	x	x	269.	124.8	241.0
Malappuram	x	x	x	x	x	x	x	x	x	x	x	x	x
Kozhikode	2669.0	x	428.3	124.8	429.9	265.4	71.1	x	0.3	x	186.6	325.4	837.2
Wayanad	1565.2	246.7	286.8	148.0	203.0	123.0	10.6	x	26.4	6.4	97.4	173.1	243.8
Cannoor	2273.3	226.0	383.1	182.0	279.0	x	105.0	x	2.0	x	74.0	252.0	997.0
Kasaragod	2677.4	268.1	674.6	111.7	152.9	164.6	39.7	x	x	x	81.3	119.4	1065.1
State	2254.2	187.8	394.2	150.7	261.2	214.3	91.6	26.0	21.3	40.7	178.7	158.2	529.5

Table 3.3
Classification of area under land utilisation (in hect.) 1987-'88

District	Total geographical area	Forest	Land put to non-agricultural uses	Barren & uncultivable land	Permanent pastures & other crops not including land ded in net area	Permanence- miscelane-ous trees	Land under miscelane-ous trees	Fallow other than current fallow	Cultivable waste	Net sown area	Area sown more than once	Total cropped area
Thiruvananthapuram	218600	49861	18860	1721	27	238	1704	1296	1336	143557	65499	209056
Kollam	251838	81438	23166	670	19	209	648	724	1238	143726	76245	219971
Pathanamthitta	268750	155214	9149	830	6	126	476	609	1254	101086	17944	119030
Alappuzha	136058	-	24861	341	6	95	2311	1150	2318	104976	56689	161665
Kottayam	219550	8141	21008	2217	30	200	1139	2041	3175	181599	61623	243222
Idukki	514962	260907	14158	17200	1750	10564	28870	1211	2193	178109	36223	214332
Ernakulam	235319	8123	34554	1858	99	809	4571	2289	3040	179976	77892	257868
Thrissur	299390	103619	24212	1706	92	1125	4528	2964	5305	155839	59580	215419
Palakkad	438980	136257	30299	11971	167	8786	23883	5675	7909	214033	98167	312200
Malappuram	363230	103417	20941	6340	212	2365	13444	4526	9374	202611	34966	237577
Kozhikode	233330	41386	20279	2020	84	2398	2384	1117	2082	161580	46993	208573
Wayanad	212560	78787	6379	1853	90	3004	5605	1466	2202	113174	30282	143456
Kannur	296797	48734	22113	10130	272	6521	5928	2363	4385	196351	26237	222588
Kasaragod	196133	5525	14823	13634	235	4166	19851	1348	1794	134657	241	134898
State	3885497	1081509	248802	72491	3089	40606	115342	28779	47605	2211274	688581	2899855

Table 3.4
Percentage distribution of area under various classes of utilisation 1987-'88

District	geographical area	Land under various classes of utilisation												
		3	4	5	6	7	8	9	10	11	12	13		
Thiruvananthapuram	100	22.81	8.63	0.79	0.01	0.11	0.78	0.59	0.61	65.67	29.96	95.63		
Kollam	100	32.34	9.20	0.26	0.01	0.08	0.26	0.29	0.49	57.07	30.28	87.35		
Pathanamthitta	100	57.75	3.40	0.31	0.00	0.05	0.18	0.25	0.47	37.61	6.68	44.29		
Alappuzha	100		18.27	0.25	0.0	0.07	1.70	0.85	1.70	77.16	41.67	118.82		
Kottayam	100	3.71	9.57	1.01	0.01	0.09	0.52	0.93	1.45	82.71	28.07	110.78		
Idukki	100	50.67	2.75	3.34	0.34	2.05	5.60	0.23	0.43	34.59	7.03	41.62		
Ernakulam	100	3.45	14.69	0.79	0.04	0.35	1.94	0.97	1.29	76.48	33.10	109.58		
Thrissoor	100	34.61	8.09	0.57	0.03	0.38	1.51	0.99	1.77	52.05	19.90	71.95		
Palakkad	100	31.04	6.90	2.73	0.04	2.00	5.44	1.29	1.80	48.76	22.36	71.12		
Malappuram	100	28.47	5.76	1.75	0.06	0.65	3.70	1.25	2.58	55.78	9.63	65.41		
Kozhikode	100	17.74	8.69	0.86	0.04	1.03	1.02	0.48	0.89	69.25	20.14	89.39		
Wayanad	100	37.07	3.00	0.87	0.04	1.41	2.64	0.69	1.04	53.24	14.25	67.49		
Kannur	100	16.42	7.45	3.41	0.09	2.20	2.00	0.79	1.48	66.16	8.84	75.00		
Kasaragod	100	2.87	7.56	6.95	0.12	2.12	10.12	0.69	0.91	68.66	0.12	68.78		
State	100	27.83	7.33	1.86	0.08	1.05	2.97	0.74	1.23	56.91	17.72	74.63		

Table 3.5
District-wise area under crops 1987-'88 (in hectares)

District	Cereals and millets				Total Jower Ragi Other cere- als	7	8	9	Pulses-including-tur-			Total food- grains	
	Autumn	Winter	Summer	Total					Autu- mn	Win- ter	Sum- mer		Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Thiruvanantha- puram	10920	12156	224	23300	-	7	8	23315	122	425	1628	2175	25490
Kollam	13932	16239	56	30227	-	4	10	30241	800	265	389	145	31695
Pathanamthitta	4626	38	3948	14102	-	1	14	14117	26	79	154	259	14376
Alappuzha	19858	23796	17109	60763	-	1	-	60764	47	134	305	486	61250
Kottayam	9778	12982	7094	29854	-	2	-	29856	18	228	1399	1785	31641
Idukki	2112	3256	-	5368	30	175	248	821	94	198	547	839	6660
Ernakulam	31044	33111	15663	79818	3	5	137	79963	394	215	1961	1670	81633
Trisoor	25380	44259	14537	84176	7	20	35	84238	1430	209	300	1939	86177
Palakkad	74376	68382	1907	144665	2488	1310	356	13029	2512	5367	901	8780	160809
Malappuram	22690	30621	3160	56471	5	8	29	5613	453	124	508	1085	57598
Kozhikode	3855	9685	2040	1580	10	9	6	15605	279	277	449	1005	16610
Wayanad	-	18418	2881	21299	1	5	8	21313	8	11	328	347	21660
Cannoor	12700	9343	462	22505	10	3	30	2258	22	1597	1282	2901	25449
Kasaragod	9174	6115	665	1954	5	2	42	16003	40	34	600	986	16989
State	240445	293891	69746	604082	259	152	4133	612326	6385	9475	9851	257711	638037

(Contd.)

(Table 3.5 contd.)

District	Sugar crops					Spices and condiments										Total
	Sugar cane	Palmyrah	Total	Pep- per-rah	Chil-18	Gin-19	Tur-meric-20	Carda-21	Betel-22	Tama-23	Clo-24	Nut-25	Nut-26	Cinn-27	Total	
Thiruvananthapuram	17	476	493	4304	-	142	22	110	2311	1520	143	65	6	8623		
Kollam	170	27	197	7761	-	643	128	637	2235	773	66	65	12	12320		
Pathanamthitta	1943	34	1977	4908	-	402	41	279	1520	255	70	109	7	7591		
Alappuzha	913	15	928	2775	-	149	14	-	1900	297	22	50	20	5227		
Kottayam	238	371	609	10014	-	1907	544	23	1768	407	291	358	37	15349		
Idukki	2030	173	2203	32794	-	2156	217	55250	1974	162	67	124	23	92767		
Ernakulam	42	312	354	7324	-	2242	642	-	4487	768	116	1190	29	16798		
Trisoor	5	690	695	4481	-	164	133	-	6569	1635	66	316	23	13387		
Palakkad	2807	6810	9617	2051	246	526	271	2931	2369	3478	5	54	140	12071		
Malappuram	8	1585	1593	5473	52	275	66	188	9941	1491	9	73	43	17611		
Kozhikode	14	330	344	13599	15	1072	338	194	5110	741	15	66	57	21207		
Wayanad	11	255	266	19052	8	3787	211	4255	1516	129	7	5	13	28983		
Cannuur	20	165	185	23048	78	600	267	760	8708	667	4	120	94	34346		
Kasaragod	10	117	127	8497	356	379	153	-	10127	240	-	76	16	19844		
State	8228	11360	19588	146081	755	14444	3047	64627	60535	12563	881	2671	520	306124		

*Commodity Board figures

(Contd.)

(Table 3.5 contd.)

District	Fresh-fruits			Total	Dry-fruits- Cashew- nut	Total fruit trees				
	Jack	Mango	Banana				Other plan- tain	Pine- apple	Papa- ya	Others
	29	30	31	32	33	34	35	36	37	38
Thiruvananthapuram	6799	6030	682	4496	313	668	830	19818	4871	24689
Kollam	5428	5152	1126	2919	332	680	417	16054	7836	22890
Pathanamthitta	2628	2088	1318	1953	128	356	420	8891	2293	11184
Alappuzha	2789	4533	495	1956	149	699	552	11173	4752	15925
Kottayam	3569	2994	1584	3279	604	786	580	13396	1180	14576
Idukki	2981	1738	321	2317	258	476	684	8775	923	9698
Ernakulam	3726	4763	2390	3485	751	1172	729	17016	3079	20095
Trissoor	3655	5295	1702	3629	225	1546	642	16694	5807	22501
Palakkad	4007	6073	2048	2925	147	620	1778	17598	10090	27688
Malappuram	5493	7101	3285	2821	151	1564	472	20887	15759	36646
Kozhikode	7900	9081	944	2492	193	1569	644	22823	3670	26493
Wayanad	5930	2918	928	1220	97	170	635	11898	918	12816
Cannuur	6731	7546	1423	2750	670	881	513	20514	33230	53744
Kasaragod	2132	2220	693	1728	79	345	356	7553	27142	34695
State	63768	67532	18939	37970	4097	11532	9252	213090	121550	334640

(Contd.)

(Table 3.5 contd.)

District	Vegetables			Tapioca			Other vege- table	Total vege- table	Total food crops	
	Drum- stick	Tubers	Sweet- potato	Autumn	Winter	Summer				
	39	40	41	42	43	44	45	46	47	48
Thiruvananthapuram	2514	1387	101	18356	17929	5474	41759	827	46708	106003
Kollam	1720	4513	25	9847	23088	511	33446	282	39986	108088
Pathanamthitta	510	4281	4	1315	10307	565	12187	512	17494	52622
Alappuzha	818	4149	39	1502	6844	653	8999	643	14648	97978
Kottayam	1112	2023	21	1052	13754	412	15218	1411	19785	81960
Idukki	373	1027	86	751	665	125	7541	1064	10091	121419
Ernakulam	1015	2061	44	2122	5532	677	8331	1828	13279	132159
Trisoor	809	1577	92	1288	2846	376	4510	1272	8260	131020
Palakkad	952	2118	1208	5063	5365	1023	11451	3053	18782	228967
Malappuram	1298	1684	1190	4802	6942	1497	13241	2350	19763	133211
Kozhikode	2948	2210	60	2065	1766	436	4267	337	9822	74476
Wayanad	283	1234	13	701	838	503	2042	368	3940	67665
Cannur	884	668	99	1580	4983	448	7011	1114	9776	123500
Kasaragod	391	428	417	303	2344	258	2905	1150	5291	76946
State	15627	29480	3399	50747	109203	12958	172908	16211	237625	1536014

(Contd.)

(Table 3.5 contd.)

District	Oil seed crops					Non-food crops				Plantation crops				Total	
	Ground-nut	Sesamum	Coco-nut	Others	Total	Fibre		Drugs & Narcotics		Tea*	Coffee	Rubber	Cocoa		
						Cotton	Total	Be-tel	Lemon grass						
	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
Thiruvananthapuram	-	35	81028	177	81240	-	120	-	36	156	1023	50	17210	761	19044
Kollam	5	1545	76172	157	77879	-	97	-	18	115	600	202	30186	556	31544
Pathanamthitta	-	152	29403	23	29578	-	79	-	11	90	762	176	32990	876	34804
Alappuzha	1	3583	54292	104	57980	-	35	-	3	38	-	23	3459	1079	4561
Kottayam	-	44	48384	98	48526	-	53	-	42	95	2009	1166	101727	4776	109678
Idukki	-	161	17880	50	18091	-	2	-	2710	2712	23601	5667	32076	1663	63007
Ernakulam	-	1920	65244	154	67318	-	81	-	381	462	2	274	51302	1459	53037
Trisoor	1	994	69715	172	70882	-	69	-	34	103	447	32	8992	591	10062
Palakkad	14740	1099	29051	489	45379	4922	5	-	114	119	685	2291	16843	178	19997
Malappuram	2	2448	75917	46	78413	-	547	-	74	621	174	-	15344	363	15881
Kozhikode	-	44	114200	62	114306	-	30	-	415	445	-	-	15075	728	15803
Wayanad	-	140	4114	58	4312	-	2	-	1349	1351	5339	55756	4113	261	65469
Cannur	-	92	71705	41	71838	-	14	3	658	675	-	-	17460	414	17874
Kasaragod	-	69	38260	93	38422	-	30	359	297	686	-	-	12180	298	12478
State	14749	12326	775365	1724	804164	4922	1164	362	6142	7668	34642	65637	358957	14003	473239

(Table 3.5 contd.)

District	Fodder crops	Green manure crops	Other Non- food crops	Total Non food crops	Total cropped area
	64	65	66	67	68
Thiruvananthapuram	257	361	1995	103053	209056
Kollam	279	610	1456	111883	219971
Pathanamthitta	146	578	1212	66408	119030
Alappuzha	116	147	845	63687	161665
Kottayam	255	273	2435	161262	243222
Idukki	283	245	8575	92913	214332
Ernakulam	99	240	4553	125709	257868
Trisoor	59	404	2889	84399	215419
Palakkad	64	1278	11474	83233	312200
Malappuram	20	2978	6453	104366	237577
Kozhikode	37	1030	2476	134097	208573
Wayanad	66	395	4198	75791	143456
Cannoor	94	996	7611	99088	222588
Kasaragod	52	1020	5294	57952	134898
State	1827	10555	61466	1363841	2899855

Table 3.6
District-wise area under crops 1987-'88 percentage distribution

District	Total cropped area	Total food crops	Total non-food	Net area sown	Area sown more than once	Cereals & Millets						Total food grains	
						Paddy		Jowar		Total	Pulses		
						Autumn	Winter	Summer	Total				Ragi & other cereals
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Thiruvananthapuram	100	50.71	49.29	68.67	31.33	5.22	5.81	0.11	11.15	0.01	11.15	1.04	12.19
Kollam	100	49.14	50.86	65.34	34.66	6.33	7.38	0.03	13.74	0.01	13.75	0.66	14.41
Pathanamthitta	100	44.21	55.79	84.92	15.08	3.89	4.64	3.32	11.85	0.01	11.86	0.22	12.08
Alappuzha	100	60.61	39.39	64.93	35.07	12.28	14.72	10.58	37.58	0.00	37.59	0.30	37.89
Kottayam	100	33.70	66.30	74.66	25.34	4.02	5.34	2.92	12.28	0.00	12.28	0.73	13.01
Idukki	100	56.65	43.35	83.10	16.90	0.99	1.52	-	2.51	0.21	2.72	0.39	3.11
Ernakulam	100	51.25	48.75	69.79	30.21	12.04	12.84	6.07	30.95	0.06	31.01	0.65	31.66
Trissur	100	60.82	39.18	72.34	27.66	11.78	20.55	6.75	39.98	0.03	39.11	0.90	40.01
Pathankkad	100	73.34	26.66	60.56	31.44	23.82	21.90	0.61	46.34	2.36	48.70	2.81	51.51
Malappuram	100	56.07	43.93	85.28	14.72	9.55	12.89	1.33	23.77	0.02	23.79	0.45	24.24
Kozhikode	100	35.71	64.29	77.47	22.53	1.85	4.64	0.98	7.47	0.01	7.48	0.48	7.96
Wayanad	100	47.17	52.83	76.89	21.11	-	12.84	2.01	14.85	0.01	14.86	0.24	15.10
Kannur	100	59.46	40.54	86.21	11.79	5.70	4.20	0.21	10.11	0.02	10.13	1.30	11.43
Malappuram	100	57.64	42.36	99.82	0.18	6.80	4.53	0.49	11.82	0.94	11.86	0.73	12.59
Malappuram	100	58.07	41.93	76.26	23.74	8.29	10.13	2.41	20.83	0.29	21.12	0.88	22.00

(Contd.)

(Table 3.6 contd.)

	Vegetables					Total food crops	Oil Seeds			Total		
	Drum-stick	Tubers	Sweet potato	Tap1-ca	Other vegetables		Ground nut	Sesamum	Coco-nut		Others	
	15	16	17	18	19	20	21	22	23	24	25	26
Thiruvananthapuram	1.20	.72	0.05	19.98	0.40	22.35	50.71	-	0.02	38.76	0.08	38.86
Kollam	0.78	2.05	0.01	15.21	0.13	18.18	49.14	0.00	0.70	34.63	0.07	35.40
Pathanamthitta	0.43	3.60	0.00	10.24	0.43	14.70	44.21	-	0.13	24.70	0.02	24.85
Alappuzha	0.51	2.57	0.02	5.56	0.40	9.06	60.61	0.00	2.22	33.58	0.06	35.86
Kottayam	0.46	0.83	0.01	6.26	0.58	8.14	33.70	-	0.02	19.89	0.04	19.95
Idukki	0.17	0.48	0.04	3.52	0.50	4.71	56.65	-	0.08	8.34	0.02	8.44
Ernakulam	0.39	0.80	0.02	3.23	0.71	5.15	51.25	-	0.75	25.30	0.06	26.11
Trissur	0.38	0.73	0.04	2.09	0.59	3.83	60.82	0.00	0.46	32.36	0.08	32.90
Palakkad	0.30	0.68	0.39	3.67	0.98	6.02	73.34	4.72	0.35	9.31	0.16	14.54
Malappuram	0.55	0.71	0.50	5.57	0.99	8.32	56.07	0.00	1.03	31.95	0.02	33.01
Kozhikode	1.41	1.06	0.03	2.05	0.16	4.71	35.71	-	0.02	54.75	0.03	54.80
Wayanad	0.20	0.86	0.01	1.42	0.26	2.75	47.17	-	0.10	2.87	0.04	3.01
Kannur	0.40	0.30	0.04	3.15	0.50	4.39	55.48	-	0.04	32.21	0.02	32.27
Kasaragod	0.29	0.32	0.31	2.15	0.85	3.92	57.04	-	0.05	28.36	0.07	28.48
State	0.54	1.02	0.12	5.96	0.56	8.20	52.97	0.51	0.42	26.74	0.06	27.73

(Contd.)

(Table 3.6 contd.)

	Sugar Crops										Total				
	Sugar cane	Pal-mirah	27	28	29	30	31	32	33	34		35	36	37	38
Thiruvananthapuram	0.01	0.23	0.24	2.06	-	0.07	0.01	0.05	1.11	0.73	0.07	0.03	0.01	0.01	4.13
Kollam	0.08	0.01	0.09	3.53	-	0.29	0.06	0.29	1.01	0.35	0.03	0.03	0.01	0.01	5.60
Pathanamthitta	1.63	0.03	1.66	4.12	-	0.34	0.04	0.23	1.28	0.21	0.06	0.09	0.01	0.01	6.38
Atappuzha	0.56	0.01	0.57	1.72	-	0.09	0.01	-	1.18	0.18	0.01	0.03	0.01	0.01	3.23
Kottayam	0.10	0.15	0.25	4.12	-	0.78	0.22	0.01	0.72	0.17	0.12	0.15	0.02	0.02	6.31
Idukki	0.95	0.08	1.03	15.30	-	1.01	0.10	25.78	0.92	0.08	0.02	0.06	0.01	0.01	43.28
Ernakulam	0.02	0.12	0.14	2.84	-	0.87	0.25	-	1.74	0.30	0.04	0.46	0.01	0.01	6.51
Trissur	0.00	0.32	0.32	2.08	-	0.08	0.06	-	3.05	0.76	0.03	0.15	0.01	0.01	6.22
Palakkad	0.90	2.18	3.08	0.66	0.08	0.17	0.09	0.94	0.76	1.11	0.01	0.02	0.04	0.04	3.87
Malappuram	0.00	0.67	0.67	2.30	0.02	0.12	0.03	0.08	4.18	0.63	0.00	0.03	0.03	0.03	7.41
Kozhikode	0.00	0.16	0.16	6.52	0.01	0.51	0.16	0.09	2.45	0.36	0.01	0.03	0.03	0.03	10.17
Wayanad	0.01	0.18	0.19	13.28	0.01	2.64	0.15	2.97	1.06	0.09	0.01	0.01	0.01	0.01	20.21
Kannur	0.01	0.07	0.08	10.36	0.04	0.27	0.12	0.34	3.91	0.30	0.00	0.05	0.04	0.04	15.43
Kasaragode	0.01	0.09	0.10	6.30	0.26	0.28	0.11	-	7.51	0.18	-	0.06	0.01	0.01	14.71
State	0.29	0.39	0.68	5.04	0.03	0.50	0.10	2.23	2.09	0.43	0.03	0.09	0.02	0.02	10.56

(Contd.)

(Table 3.6 contd.)

District	Fresh fruits				Dry fruits		Total fruits		
	Jack 41	Mango 42	Banana 43	Piñtain 44	Pineapple 45	Papaya 46		Others 47	Cashewnut 49
1									50
Thiruvananthapuram	3.25	2.88	0.33	2.15	0.15	0.32	0.40	0.48	9.48
Kollam	2.47	2.34	0.51	1.33	0.15	0.31	0.19	7.30	10.86
Pathanamthitta	2.21	1.75	1.11	1.64	0.11	0.30	0.35	7.47	9.40
Alappuzha	1.73	2.80	0.31	1.21	0.09	0.43	0.34	6.91	9.85
Kottayam	1.47	1.23	0.65	1.35	0.25	0.32	0.24	5.51	6.00
Idukki	1.39	0.81	0.15	1.08	0.12	0.22	0.32	4.09	4.52
Ernakulam	1.45	1.85	0.93	1.36	0.29	0.45	0.28	6.60	7.79
Trissur	1.70	2.46	0.79	1.68	0.10	0.72	0.30	7.75	10.45
Palakkad	1.28	1.95	0.66	0.94	0.05	0.20	0.56	5.64	8.87
Malappuram	2.31	2.99	1.38	1.19	0.06	0.66	0.20	8.79	15.42
Kozhikode	3.79	4.35	0.45	1.19	0.09	0.76	0.31	10.94	12.70
Wayanad	4.13	2.03	0.65	0.85	0.07	0.12	0.44	8.29	8.93
Kannur	3.02	3.39	0.64	1.24	0.30	0.40	0.23	9.22	24.15
Kasaragod	1.58	1.65	0.51	1.28	0.06	0.26	0.26	5.60	25.72
State	2.20	2.33	0.65	1.31	0.14	0.40	0.32	7.35	11.54

(Contd.)

(Table 3.6 contd.)

District	Drugs and Narcotics				Plantation crops			Fodder			Other		Total		
	Fibre cotton	Betel- leaves	Toba- cco	Lemon grass	Tea	Coffee	Rubber	Cocoa	Total	Green manure crops	non- food crops	non- food area		Total	
															Total
1	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
Thiruvananthapuram	0.06	-	-	0.02	0.08	0.49	0.02	8.23	0.37	9.11	0.12	0.17	0.95	49.29	100
Kollam	0.04	-	-	0.01	0.06	0.27	0.09	13.72	0.25	14.34	0.13	0.28	0.66	50.86	100
Pathanamthitta	0.07	-	-	0.01	0.08	0.64	0.14	27.72	0.74	29.24	0.12	0.49	1.02	55.79	100
Alappuzha	0.02	-	-	0.00	0.02	-	0.01	2.14	0.67	2.82	0.07	0.09	0.52	39.39	100
Kottayam	0.02	-	-	0.02	0.04	0.83	0.48	41.82	1.96	45.09	0.10	0.12	1.00	66.30	100
Idukki	0.00	-	-	1.27	1.27	11.01	2.64	14.97	0.78	29.40	0.13	0.12	4.00	43.35	100
Ernakulam	0.03	-	-	0.15	0.18	0.00	0.11	19.89	0.57	20.57	0.04	0.09	1.77	48.75	100
Trissur	0.03	-	-	0.02	0.05	0.21	0.01	4.17	0.27	4.67	0.03	0.19	1.34	39.18	100
Palakkad	1.58	0.00	-	0.04	0.04	0.22	0.73	5.39	0.06	6.40	0.02	0.41	3.68	26.66	100
Malappuram	0.23	-	-	0.03	0.26	0.07	-	6.46	0.15	6.68	0.01	1.25	2.72	43.93	100
Kozhikode	0.01	-	-	0.20	0.21	-	-	7.23	0.35	7.58	0.02	0.49	1.19	64.29	100
Wayanad	0.00	-	-	0.94	0.94	3.72	38.87	2.87	0.18	45.64	0.05	0.28	2.93	52.83	100
Cannur	0.01	0.00	-	0.30	0.31	-	-	7.84	0.19	8.03	0.04	0.45	3.42	44.52	100
Kasaragod	0.02	0.27	-	0.22	0.51	-	-	9.03	0.22	9.25	0.04	0.76	3.92	42.96	100
State	0.17	0.04	0.01	0.21	0.26	1.20	2.26	12.38	0.48	16.32	0.06	0.36	2.12	47.03	100

Table 3.7
Production of important crops 1987-88

District	(In tonnes)														
	R i c e				Total	Jowar	Ragi	Other Cereals	Pulses	Sugar Cane (gur)	Black Pepper	Dry Chillies	Dry ginger	Cured Turmeric	
	Autumn	Winter	Summer	2											3
Thiruvananthapuram	19071	17345	161	36577	-	5	4	498	89	1009	-	215	14		
Kollam	27129	26360	7	53496	-	3	5	1204	897	2961	-	974	217		
Pathanamthitta	10078	11719	11693	33490	-	1	10	201	13912	2018	-	790	149		
Alappuzha	35985	43883	43254	123122	-	1	-	420	4816	872	-	311	26		
Kottayam	21785	26838	17439	66062	-	1	-	1565	1255	1441	-	4026	1553		
Idukki	4751	5906	-	10657	13	147	265	694	12663	13300	-	7315	529		
Ernakulam	48082	50989	20739	119810	1	5	87	1196	221	1770	-	6896	742		
Trissur	36060	66565	28262	130887	3	16	23	1384	26	1275	-	414	224		
Palakkad	148723	113113	4213	266049	1266	1075	2717	6611	19596	375	261	1318	523		
Malappuram	29752	43073	6196	79021	2	8	18	805	42	1273	46	422	112		
Kozhikode	3866	9678	2452	15996	4	9	4	764	75	2844	13	1679	406		
Wayanad	-	30354	5907	36261	-	5	6	265	58	10068	8	17875	618		
Kannur	18788	14287	531	33606	4	3	19	2263	105	5887	73	2008	564		
Kasaragod	16273	10198	1100	27571	2	2	27	769	52	1726	334	1268	164		
State	420343	470308	141954	1032605	1295	1281	3185	18639	53807	46819	735	45511	5841		

(Contd.)

(Table 3.7 contd.)

District	Ground nut	Betel													
		15	16	17	18	19	20	21	22	23	24	25	26		
Thiruvananthapuram	-	305	4815	5463	11932	7746	27593	3967	700239	511	3767	3016			
Kollam	2	351	2314	15996	13809	14758	14627	3896	538109	120	591	1708			
Pathanamthitta	-	338	874	5574	7174	19411	10988	1411	223292	24	2368	437			
Alappuzha	-	264	905	10136	2761	6664	8521	1538	198062	241	3647	587			
Kottayam	-	304	1127	3817	11820	24813	17900	6523	331578	168	5337	429			
Idukki	-	321	307	2859	11984	6597	14808	2970	190111	695	952	391			
Ernakulam	-	1111	2929	12464	8607	33742	17132	8275	175511	345	4861	801			
Trissoor	-	1340	3610	23356	14605	20571	9670	1852	75500	721	6636	1438			
Palakkad	13903	226	7738	44236	11648	25993	8638	1791	227759	9671	4600	954			
Malappuram	2	1371	3376	30513	14073	38424	12247	1613	277071	10169	9543	1360			
Kozhikode	-	840	640	29295	12567	11355	7176	2603	57526	334	769	2780			
Wayanad	-	324	58	3420	16806	11673	7372	1308	57842	65	1322	305			
Kannoor	-	1558	1820	30108	36852	19133	9147	11532	136060	987	4361	956			
Kasaragod	-	2012	971	8858	6735	9053	6757	1360	47692	4162	1706	423			
State	13907	10665	31484	226106	181367	249933	172576	50639	3236352	28213	50460	15585			

(Table 3.7 contd.)

District	Seasamum		Coconut		Cotton		Lemon		Tea*	Coffee*	*Rubber	Cocoa	*Proces- sed Car- damom	Raw Cashew- nut
	million nut	27	28	29	30	31	32	33						
Thiruvananthapuram	11	332	-	-	65	-	2	470	35	10048	238	6	2277	
Kollam	1168	306	-	-	44	-	1	166	143	22125	140	35	6563	
Pathanamthitta	59	121	-	-	99	-	1	210	126	19343	611	15	240	
Alappuzha	877	242	-	-	20	-	1	-	16	3108	554	-	1889	
Kottayam	4	184	-	-	506	-	3	48	825	57074	2136	1	490	
Idukki	75	61	-	-	175	-	184	39864	4011	16543	549	1500	194	
Ernakulam	581	337	-	-	3143	-	43	-	194	23863	888	-	1264	
Trisoor	327	376	-	-	179	-	1	1466	23	7617	188	-	3094	
Palakkad	302	76	7944	-	32	-	20	952	1622	8866	29	180	4888	
Malappuram	478	295	-	-	123	-	2	-	-	13403	135	10	7673	
Kozhikode	8	546	-	-	22	-	7	-	-	14051	137	11	1495	
Wayanad	45	5	-	-	8	-	23	8776	15930	1800	69	250	543	
Kannoor	21	304	-	-	246	6	19	-	-	11002	106	42	31434	
Kasaragod	6	161	-	-	108	673	9	-	-	7719	77	-	17337	
State	3962	3346	7944	679	4770	679	316	51952	22925	216562	5857	2050	81481	

* Commodity Board Estimates.

Table 3.8
Net area irrigated (source-wise) 1987-'88
(in hect:)

District	1	2	3	4	5	6	7	Minor &		9	10
								Govt. canal	Private canal		
Thiruvananthapuram		4508	243	736	214	18	464	826	1125		8134
Kollam		531	55	73	73	17	430	257	2207		3643
Pathanamthitta		484	172	8	24	28	84	272	2417		3489
Alappuzha		2033	20	48	13803	27	962	3080	3047		23020
Kottayam		1556	532	328	217	19	211	487	2043		5393
Idukki		623	40	64	54	8	34	150	1793		2766
Ernakulam		20857	62	429	1787	300	6977	8807	8180		47399
Trissoor		16422	701	633	11666	199	12125	5529	16942		64217
Palakkad		51819	204	275	4745	10	6854	1451	5327		70685
Malappuram		725	1168	70	3496	42	6930	3110	12185		27726
Kozhikode		2359	82	129	222	20	503	1021	794		5130
Wayanad		129	252	13	27	8	21	48	5991		6489
Kannoor		231	445	61	334	67	4256	38	7403		12835
Kasaragode		289	570	44	5469	16	8697	305	9335		24725
State		102566	4546	2911	42131	779	48548	25381	78789		305651

Table 3.9
Gross area under irrigation (crop-wise) 1987-'88

(in hect:)

District	Other												Total
	1	2	3	4	5	6	7	8	9	10	11	12	
	Paddy	Tubers	Vege- tables	Coconut	Arecanut	Cloves & spices nutmeg	Banana	Betal leaves	Sugar cane	Others	Total		
Thiruvananthapuram	6310	16	397	881	1	17	1	336	59	-	585	8603	
Kollam	2825	6	204	200	1	5	-	36	62	-	383	3722	
Pathanamthitta	4952	1	94	36	1	2	2	108	9	119	22	5346	
Alappuzha	4118	366	477	18155	37	41	111	130	15	70	1311	24831	
Kottayam	6635	15	175	21	-	79	23	69	10	2	901	7930	
Idukki	2305	5	8	13	2	15	6	1	-	399	34	2788	
Ernakulam	60096	7	44	12555	735	336	57	1051	13	-	1111	76005	
Trissoor	47967	32	294	31764	3613	78	387	697	18	-	855	85705	
Palakkad	74320	4	864	4244	1868	11	226	986	6	1236	2147	85912	
Malappuram	19744	132	796	3991	2684	3	44	1615	483	-	731	30223	
Kozhikode	2212	18	144	531	62	2	1	1058	13	-	1665	5706	
Wayanad	10571	2	62	40	5	-	-	32	-	-	51	10763	
Kannoor	8360	22	460	4517	820	20	128	1448	9	6	1045	10835	
Kasaragode	6031	30	657	14672	5754	-	142	847	30	-	146	28309	
State	256446	656	4676	91620	15583	609	1128	8414	727	1832	10987	392678	

Table 3.10
District-wise distribution of operational holdings according to size 1985-'86

District	0.02		1.00		2.00		4.00		10.00		Total	%
	2	3	4	5	6	7	8	9	10	11		
Thiruvananthapuram	426193	10.67	11784	4.17	2844	2.73	558	2.27	104	2.56	441483	10.01
Kollam	375926	9.41	11439	4.05	2209	2.12	274	1.10	103	2.54	389951	8.85
Alappuzha	316648	7.93	12428	4.40	3530	3.39	854	3.47	122	3.00	333582	7.57
Pathanamthitta	209112	5.24	14452	5.12	3363	3.23	487	1.98	66	1.62	227480	5.16
Kottayam	243377	6.09	26550	9.40	12441	11.94	2855	11.60	473	11.64	285696	6.48
Idukki	131258	3.29	30549	10.82	8097	7.77	1915	7.78	1388	34.17	173207	3.93
Ernakulam	371733	9.31	20803	7.37	7168	6.88	1413	5.76	84	2.07	401201	9.10
Trissoor	391965	9.82	21535	7.63	5926	5.69	990	4.02	162	3.99	420578	9.54
Palakkad	302793	7.58	30408	10.77	15349	14.72	4900	19.90	476	11.72	353926	8.03
Malappuram	372870	9.34	21768	7.71	8861	8.50	2113	8.58	194	4.78	405806	9.21
Kozhikode	373665	9.36	17982	6.37	5888	5.65	992	4.03	170	4.19	398697	9.04
Wayanad	74116	1.86	15072	5.34	8258	7.92	2173	8.83	460	11.32	100079	2.27
Kannoor	276419	6.92	30431	10.78	14093	13.51	3547	14.40	120	2.95	324610	7.36
Kasaragode	127164	3.18	17136	6.07	6200	5.95	1549	6.28	140	3.45	152189	3.45
State	3993239	100.00	282337	100.00	104227	100.00	24620	100.00	4062	100.00	4408485	100.00

Table 3.11
Average farm prices of certain commodities (farm price) 1987-'88
(In Rs.)

District	Paddy		Coconut		Arecanut		Tapioca		Cashew		Banana		Pepper		Ginger		Sugarcane	
	Qt.l.	2	100 Nos.	3	100 Nos.	4	Qt.l.	5	Qt.l.	6	100 Nos.	7	Qt.l.	8	Qt.l.	9	M.T.	10
Thiruvananthapuram	290.31		264.81		12.93		75.92		955.83		86.28		4566.67		-		-	
Kollam	261.54		278.52		11.78		86.79		1023.67		75.05		3940.63		1875.00		-	
Pathanamthitta	249.25		283.08		12.38		98.83		1125.63		77.43		4513.15		1604.17		220.31	
Alappuzha	259.81		295.96		13.43		115.83		902.50		87.25		3961.50		-		333.33	
Kottayam	257.56		298.46		10.85		100.00		1077.50		77.43		4401.32		1624.31		-	
Idukki	266.74		310.78		10.42		115.47		1054.17		67.93		4499.01		1497.92		342.50	
Ernakulam	270.55		305.99		10.83		96.30		1112.50		59.95		4493.82		1915.71		-	
Trissoor	254.09		282.33		12.24		100.94		1094.00		65.16		4275.00		-		-	
Palakkad	262.13		277.79		10.25		84.82		1128.13		61.81		4550.42		1616.25		284.00	
Malappuram	255.93		246.52		9.22		101.22		953.33		63.09		4411.46		1100.00		-	
Kozhikode	277.60		240.56		6.36		131.01		1227.08		61.17		4467.01		1737.39		-	
Wayanad	252.29		239.58		7.72		107.22		1125.00		48.67		4556.67		1670.23		-	
Kannoor	261.81		273.40		7.54		123.75		1348.96		54.08		4559.30		1638.08		-	
Kasaragode	243.33		276.25		9.18		113.25		1300.00		61.54		4577.60		-		-	
State	261.64		276.72		10.37		103.67		1102.02		67.63		4412.39		1627.91		295.04	

Carpenter
(in Rs.)Table 3.12
Agricultural wages - 1987-'88

District	July	Aug- ust	Sep- tember	Octo- ber	Nov- ember	Dec- ember	Jan- uary	Feb- ruary	March	April	May	June
1	2	3	4	5	6	7	8	9	10	11	12	13
Thiruvananthapuram	40	40	40	40	40	40	40	40	40	45	45	47.50
Kollam	50	50	50	50	50	50	50	50	50	50	50	50
Alappuzha	50	50	50	50	50	50	50	50	50	50	50	50
Kottayam	47.50	47.50	47.50	47.50	47.50	50	50	50	50	50	50	50
Ernakulam	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	50	50	52.50
Trissoor	50	50	50	50	50	50	50	50	50	50	50	50
Palakkad	37.50	37.50	37.50	40	40	40	40	40	40	40	40	40
Malappuram	47.50	47.50	47.50	47.50	50	50	50	50	50	50	50	50
Kozhikode	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50
Kannoor	50	50	50	50	50	50	50	50	50	50	50	50

(Contd.)

Table 3.12 contd.)

District	July	Aug- ust	Sep- tember	Octo- ber	Nov- ember	Dec- ember	Jan- uary	Feb- ruary	March	April	May	June
1	2	3	4	5	6	7	8	9	10	11	12	13
Thiruvananthapuram	40	40	40	40	40	40	40	40	40	45	45	47.50
Kollam	50	50	50	50	50	50	50	50	50	50	50	50
Alappuzha	50	50	50	50	50	50	50	50	50	50	50	50
Kottayama	47.50	47.50	47.50	47.50	47.50	50	50	50	50	50	50	50
Ernakulam	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	50	50	52.50
Trissoor	50	50	50	50	50	50	50	50	50	50	50	50
Palakkad	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50
Malappuram	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	50	50	50
Kozhikode	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50	47.50
Kannoor	50	50	50	50	50	50	50	50	50	50	50	50

(Contd.)

(Table 3.12 contd.)
Agricultural wages 1987-'88 (3) paddy field labour (A - Men)

1	2	3	4	5	6	7	8	9	10	11	12	13
Thiruvananthapuram	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	30	30	30
Kollam	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
Alappuzha	30	30	30	30	30	30	30.50	30.50	30.50	30.50	30.50	30.50
Kottayam	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50	26.50
Ernakulam	33	33	33	33	33	33	33	33	33	33	33	35.50
Trissoor	33	33	33	33	33	33	33	33	33	33	33	33
Palakkad	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	19
Malappuram	32.50	32.50	32.50	32.50	32.50	35	35	35	35	35	35	35
Kozhikode	27.50	27.50	27.50	28.50	28.50	28.50	28.50	31	31	31	31	31
Kannoor	42	42	42	42	42	42	44	44	44	44	44	44

(Contd.)

(Table 3.12 contd.)
Paddy field labour (B - Women)

1	2	3	4	5	6	7	8	9	10	11	12	13
Thiruvananthapuram	20	20	20	20	20	20	20	20	20	20	20	20
Kollam	19	19	19	19	19	19	19	19	19	19	19	19
Alappuzha	14.50	14.50	14.50	14.50	14.50	15	15	15	15	15	15	15
Kottayam	14.50	14.50	14.50	16	16	16	16	16	16	16	16	16
Ernakulam	16.50	18	18	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50
Trissoor	17	17	17	18	18	18	18	18	18	18	18	18
Palakkad	12	12	12	12	12	12	12	12	12	12	12	12
Malappuram	17	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50
Koahikode	18.50	18.50	20	20	20	20	20	20	20	20	20	20
Kannoor	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	20

(Contd.)

(Table 3.12 contd.)
Other agricultural labour (Men) - year 1987-'88

District	July	August	Sept- ember	Octo- ber	Nov- ember	Dec- ember	Janu- ary	Febru- ary	March	April	May	June	Average
	2	3	4	5	6	7	8	9	10	11	12	13	14
Thiruvananthapuram	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	32.50	32.50	32.50	32.50	30.83
Kollam	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
Alappuzha	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Kottayam	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
Ernakulam	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	37.50	35.21
Thrissur	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.50	33.04
Palakkad	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	18.75	19.00	18.77
Malappuram	35.00	35.00	35.00	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	37.50	36.88
Kozhikode	27.50	27.50	27.50	27.50	28.50	31.00	31.00	31.00	31.00	31.00	31.00	31.00	29.63
Kannur	42.00	42.00	42.00	42.00	42.00	42.00	44.00	44.00	44.00	44.00	44.00	44.00	43.00

(Contd.)

(Table 3.12 contd.)
Other agricultural labour (Women) - year 1987-'88

District	2	3	4	5	6	7	8	9	10	11	12	13	14
	Thiruvananthapuram	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50	27.50
Kollam	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
Alappuzha	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Kottayam	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50	24.50
Ernakulam	16.50	18.00	18.50	19.50	19.50	19.50	19.50	19.50	19.50	19.50	19.00	22.00	19.21
Thrissur	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	21.50	22.50	21.58
Palakkad	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25	12.25
Malappuram	15.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	19.58
Kozhikode	21.00	21.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00	22.67
Kannur	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00

Table 4

Table 3.13
Number of livestock, poultry and agricultural machinery and implements in
Kerala 1987 cattle census

Sl. District No.	Males over three years						Females over three years				Total	Young stock	Total
	Breed- ing	3	4	5	6	Total	In milk	Breed- ing	Not	Other			
1	2	3	4	5	6	7	8	9	10	11	12	13	
1. Thiruvananthapuram	383	4455	456	5294	15311	4414	937	146	20808	11582	37684		
2. Kollam	57	2081	88	2226	3453	1552	241	98	5344	3954	11524		
3. Pathanamthitta	44	1200	28	1272	1302	607	83	45	2037	1704	5013		
4. Alappuzha	51	2061	48	2160	1253	442	76	25	1796	1391	5347		
5. Idukki	222	1127	251	1600	7154	3275	589	170	11188	8075	20863		
6. Kottayam	45	945	50	1040	2077	793	157	24	3051	1887	5972		
7. Ernakulam	93	5308	154	5555	5585	1764	272	82	7703	5249	18507		
8. Thrissur	302	7252	278	7832	11938	4543	861	236	17578	18282	43692		
9. Palakkad	549	28941	635	30125	10616	6426	1170	190	18402	21542	70069		
10. Malappuram	349	17039	631	18019	9615	4373	765	269	15022	15978	49019		
11. Wayanad	114	12622	222	12958	2282	1559	259	70	4170	3553	20681		
12. Kozhikode	41	775	80	896	2524	1001	145	31	3701	2405	7002		
13. Kannur	81	637	90	808	4519	2191	284	61	7055	4945	12808		
14. Kasaragod	189	8071	641	8901	3943	2104	516	67	6630	5709	21240		
Total	2520	92514	3652	98686	81572	35044	6355	1514	124485	106250	329421		

(Contd.)

(Table 3.13 contd.)

S1. District No.	Sheep			Goats			Horse and Ponies			
	One year & above	Below one year	Total	One year & above	Below one year	Total	3 years & above	Below 3 years	Total	
1	2	3	4	5	6	7	8	9	10	11
1. Thiruvananthapuram	3598	3402	7000	117974	83635	201609	-	-	-	-
2. Kollam	2603	2247	4850	101524	82032	183556	-	-	-	-
3. Pathanamthitta	838	575	1413	39963	28404	68367	-	-	-	-
4. Alappuzha	1357	1389	2746	46992	39381	86373	-	-	-	-
5. Idukki	1227	1031	2258	45308	28692	74000	46	31	77	77
6. Kottayam	676	657	1333	74772	51268	126040	2	1	3	3
7. Ernakulam	471	473	944	65525	50857	116382	4	4	8	8
8. Thrissur	610	462	1072	74468	58374	132842	10	24	34	34
9. Palakkad	2488	1376	3864	82922	51188	134110	39	86	125	125
10. Malappuram	674	596	1270	92422	75170	174412	1	4	5	5
11. Wayanad	87	61	148	19250	13171	32421	29	71	100	100
12. Kozhikode	726	437	1163	66051	49937	115998	-	-	-	-
13. Kannur	488	309	797	52202	39082	91284	-	10	10	10
14. Kasaragod	527	570	1097	25135	18033	43168	2	5	7	7
Total	16370	13585	29955	911338	669224	1580562	133	236	369	369

(Contd.)

(Table 3.13 contd.)

Sl. No.	District	Total live stock								
		1	2	3	4	5	6	7	8	9
		Mules	Donkey	Camels	Pigs		Dogs	Rabbits		
1.	Thiruvananthapuram	-	23	-	7944	518510	211331	3679		
2.	Kollam	-	-	-	311	509629	158791	1955		
3.	Pathanamthitta	-	3	-	1311	296092	71793	5055		
4.	Alappuzha	-	-	-	306	294596	67284	3311		
5.	Idukki	24	81	-	38610	328224	110070	76378		
6.	Kottayam	1	-	-	42013	451406	92074	16201		
7.	Ernakulam	-	-	-	15900	475595	127149	10091		
8.	Thrissur	-	-	-	3959	445290	72264	5394		
9.	Palakkad	-	55	-	1675	513833	98446	2379		
10.	Malappuram	-	1	-	438	454910	46504	3999		
11.	Wayanad	-	-	-	4642	180295	54451	3627		
12.	Kozhikode	3	2	-	1969	388634	63700	2298		
13.	Kannur	-	-	-	14230	391140	49746	3852		
14.	Kasaragod	-	-	-	3782	253421	63583	8979		
	Total	28	165	-	137090	5501575	1289186	77198		

(Contd.)

(Table 3.13 contd.)
Poultry & agricultural implements and machinery

Sl. No.	District	Fowls	Ducks	Others	Total	Agriculture implements				Electric pumpsets	Tractors
						Wooden plough	Steel plough	Carts	Sugarcane Crusher		
1	2	3	4	5	6	7	8	9	10	11	12
1.	Thiruvananthapuram	1824751	27819	4499	1857069	3309	4949	313	4	2389	14
2.	Kollam	1380034	60887	4941	1445862	7194	10760	433	8	5798	26
3.	Pathanamthitta	924006	47677	2863	974546	1415	1261	56	4	3607	14
4.	Alappuzha	1012722	274179	3724	1290625	3777	2412	89	10	11217	89
5.	Kottayam	674997	9627	3707	688331	2920	1083	62	8	1806	41
6.	Idukki	1432770	131876	7395	1572041	1529	597	72	3	8886	30
7.	Ernakulam	1662853	180390	6034	1849277	14237	2451	179	11	22755	207
8.	Thrissur	1656374	62311	4774	1729459	7731	2499	737	14	65581	227
9.	Patakad	1263222	13131	7567	1283920	38309	3714	4228	38	10598	802
10.	Malappuram	1994678	16419	6719	2017816	21591	1685	81	3	14539	193
11.	Kozhikode	1330736	8053	1504	1340293	4292	1602	6	1	6372	16
12.	Wayanad	424975	2659	446	428080	13833	5072	42	-	783	204
13.	Kannur	887104	8426	2568	898098	3797	411	3	1	10292	10
14.	Kasaragod	522575	2637	1174	626386	18477	1672	44	3	12348	44
	State	17091797	846091	57915	17995803	142482	40168	6345	118	176971	1917

(Contd.)

(Table 3.13 contd.)
Kerala xivth quinquennial livestock census 1987 - livestock and poultry
Cattle

(Indigenous cattle)

Sl. No.	District	Males						Females				Total young stock	Total
		Males over three years			Females over three years			Not yet		Calved			
1	2	3	4	5	6	7	8	9	10	11	12	13	
		Used for breeding	work	Others	Total	In milk	Dry	Calved	Others	Total			
1.	Thiruvananthapuram	527	3659	559	4745	22740	11348	2812	757	37557	28379	70781	
	Rural	442	3440	447	4329	19873	10120	2406	598	32997	24887	62213	
	Urban	85	219	112	416	2867	1228	406	159	4560	3492	8568	
2.	Kollam	386	6034	367	6787	32746	23081	3685	1566	61078	56216	124081	
	Rural	349	5931	354	6634	31371	22468	3548	1490	58874	54445	119953	
	Urban	37	103	13	153	1375	643	140	76	2204	1771	4128	
3.	Pathanamthitta	275	1474	126	1875	24344	18008	3800	1727	47879	44350	94104	
	Rural	268	1402	112	1782	23108	17316	3656	1698	45778	42712	90272	
	Urban	7	72	14	93	1236	692	144	29	2101	1638	3832	
4.	Alappuzha	107	1189	64	1360	20068	11936	2677	826	35507	30077	66944	
	Rural	98	1164	57	1319	18050	11104	2513	734	32401	28069	61789	
	Urban	9	25	7	41	2018	832	164	92	3106	2008	5155	
5.	Idukki	531	2497	426	3454	18021	13174	2907	986	35888	30672	70014	
	Rural	528	2483	424	3435	18331	12097	2830	984	35042	29911	68388	
	Urban	3	14	2	19	490	277	77	2	846	761	1626	
6.	Kottayam	172	975	141	1288	19713	14233	2709	694	37349	30708	69345	
	Rural	169	971	135	1275	18691	13839	2667	685	35882	29541	66698	
	Urban	3	4	6	13	1022	394	42	9	1467	1167	2647	

(Contd.)

(Table 3.13 contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13
7.	Ernakulam	456	7328	737	8521	41430	23936	4816	994	71176	68635	148332
	Rural	440	6925	716	8081	35822	21713	4334	804	62673	61764	132518
	Urban	16	403	21	440	5608	2223	482	190	8503	6871	15814
8.	Thrissur	518	7741	276	8535	38480	18879	3224	989	61572	62470	132577
	Rural	508	7510	272	8290	36412	18021	3030	938	58401	59742	126433
	Urban	10	231	4	245	2068	858	194	51	3171	2728	6144
9.	Patakkad	1703	23689	1931	27323	48527	30133	5332	1205	85198	87585	200106
	Rural	1680	21414	1917	27011	46712	29540	5207	1173	82632	85100	194743
	Urban	23	275	14	312	1815	593	125	33	2566	2485	5363
10.	Malappuram	935	18596	1133	20664	39079	22583	4155	1168	66985	70010	157659
	Rural	918	17635	1066	19624	37322	21750	4015	1134	64221	67289	151134
	Urban	17	961	67	1040	1757	833	140	34	2764	2721	6525
11.	Wayanad	245	13219	550	14014	14274	12045	2537	513	29369	28242	71625
	Rural	245	13219	550	14014	14274	12045	2537	513	29369	28242	71625
	Urban	-	-	-	-	-	-	-	-	-	-	-
12.	Kozhikode	460	7316	398	8174	49352	32093	9820	1019	92284	86134	186592
	Rural	449	7151	367	7967	46373	30379	9373	980	87105	81967	177039
	Urban	11	165	31	207	2979	1714	447	39	5179	4167	9553
13.	Kannur	366	5191	353	5910	44610	26000	7888	788	81286	82939	170135
	Rural	364	5189	352	5905	44193	27833	3842	783	80651	82415	168971
	Urban	2	2	1	5	417	167	46	5	635	524	1164

(Contd.)

(Table 3.13 contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13
14. Kasaragode		692	17403	1181	19276	37615	23467	6269	1418	68769	71656	159701
	Rural	668	17120	1163	18951	35946	22447	5949	1345	65687	68830	153468
	Urban	24	283	18	325	1669	1020	320	73	3082	2826	6233
Kerala		7373	116311	8242	131926	451799	282916	62631	14651	811992	778073	1721996
	Rural	7126	113554	7937	128617	426470	271472	59904	13859	771713	744914	1645244
	Urban	247	2757	3518	3309	25321	11444	2727	792	40284	33159	76752

(Table 3.13 contd.)
xvth quinquennial livestock census 1987, scheduled-1 - livestock & poultry crossbred cattle

Sl. No.	District	Males													Young stock total	Total
		Males over 2½ years						Females						Total		
		Used for breeding	work	Others	Total	In milk only	Not yet calved	Others	Total	Dry	calved	Others	Total			
3	4	5	6	7	8	9	10	11	12	13						
1.	Thiruvananthapuram	838	1853	460	3151	71975	27625	6148	-	107514	82804	193469				
	Rural	599	1696	419	2714	63447	25046	5504	-	95471	74501	172686				
	Urban	239	157	41	437	8528	2579	644	-	12043	8303	20783				
2.	Kollam	378	1404	275	2057	59484	29276	5536	2257	96553	86607	185307				
	Rural	332	1354	273	1959	56328	28222	5261	2214	92025	83484	177468				
	Urban	46	50	2	98	3156	1054	275	43	4528	3213	7839				
3.	Pathanamthitta	211	309	78	598	40018	19100	5998	1811	66927	58276	125881				
	Rural	208	292	75	575	37399	18098	5750	1766	63013	55083	118671				
	Urban	3	17	3	23	2619	1002	248	45	3914	3273	7210				

(Contd.)

(Table 3.13 contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13
4.	Alappuzha	150	309	59	518	44028	19362	5716	1410	70516	61846	132880
	Rural	140	298	50	488	38777	17513	5337	1316	62943	55777	119208
	Urban	10	11	9	30	5251	1849	379	94	7573	6069	13672
5.	Idukki	499	772	221	1492	38753	20762	4804	1236	65555	55250	122297
	Rural	495	772	215	1482	37703	20399	4738	1230	64150	54070	119702
	Urban	4	-	6	10	970	363	66	6	1405	1180	2595
6.	Kottayam	281	518	120	919	67366	35650	7442	1331	111789	93991	206699
	Rural	275	514	108	897	64149	34572	7244	1278	107243	90436	198576
	Urban	6	4	12	22	3217	1078	198	53	4546	3555	8123
7.	Ernakulam	448	1914	222	2584	61028	23485	5604	936	91053	81885	175522
	Rural	398	1825	204	2427	52153	20947	4933	726	78759	72477	153663
	Urban	50	89	18	157	8875	2538	671	210	12294	9408	21859
8.	Thrissur	365	1655	149	2369	44700	16697	3341	1002	65740	63005	131114
	Rural	342	1803	142	2287	41183	15664	3075	964	60886	58933	122106
	Urban	23	52	7	82	3517	1033	266	38	4854	4072	9008
9.	Palakkad	518	3065	321	3904	33851	13646	3061	493	51051	48874	103829
	Rural	507	2976	317	3800	31940	13076	2935	461	48412	46491	98703
	Urban	11	89	4	104	1911	570	125	32	2639	2383	5126

(Contd.)

(Table 3.13 contd.)

T	2	3	4	5	6	7	8	9	10	11	12	13
10. Malappuram		363	2486	365	3214	23127	9598	2039	509	35273	33619	72106
Rural		354	2427	355	3136	22302	9265	1981	486	34034	32596	69766
Urban		9	59	10	78	825	333	58	23	1239	1023	2340
11. Wayanad		145	1067	79	1291	15179	7986	2165	314	25644	23743	50678
Rural		145	1067	79	1291	15179	7986	2165	314	25644	23743	50678
Urban		-	-	-	-	-	-	-	-	-	-	-
12. Kozhikode		340	744	152	1236	24739	10603	3464	421	39227	35442	75905
Rural		315	715	136	1166	21684	9708	3069	398	34859	32243	68278
Urban		25	29	16	70	3055	895	395	23	4368	3189	7627
13. Kannur		315	713	153	1181	31280	14175	4459	536	50450	50245	101876
Rural		311	713	148	1172	30426	13880	4390	531	49227	49164	99563
Urban		4	-	5	9	854	295	69	5	1223	1081	2313
14. Kasaragod		246	417	97	760	7646	3007	1129	254	12036	11630	24426
Rural		241	400	92	733	6999	2769	1049	241	11058	10837	22628
Urban		5	17	5	27	647	238	80	13	978	793	1798
15. Kerala		5097	17426	2751	25274	563174	250972	60906	14276	899328	787387	1701989
Rural		4662	16852	2613	24127	519749	237145	57431	13399	827724	739845	1591696
Urban		435	574	138	1147	43425	13827	3475	877	61604	47542	110293

PART IV
APPENDICES

Appendices

Working class consumer price index numbers

The Consumer Price Index Numbers for the state are being compiled in respect of 15 selected centres with the base 1970 = 100. The indices for the various centres for the years 1986-'87 and 1987-'88 are furnished below.

Table 4.1
Consumer price index numbers for various centres

Sl. No.	Centre	Yearly average consumer price index numbers		Percentage change
		86-87	87-88	
1	2	3	4	5
1.	Thiruvananthapuram	368	389	5.71
2.	Kollam	379	402	6.07
3.	Punalur	348	372	6.90
4.	Alappuzha	354	378	6.78
5.	Kottayam	361	382	5.82
6.	Mundakkayam	350	365	4.20
7.	Munnar	341	370	8.51
8.	Ernakulam	363	371	2.20
9.	Chalakydy	355	386	8.73
10.	Thrissur	346	378	9.25
11.	Palakkad	365	376	3.01
12.	Malappuram	361	393	8.87
13.	Kozhikode	360	390	8.33
14.	Meppadi	362	383	5.80
15.	Kannur	340	386	13.53

The percentage change was lowest in respect of Ernakulam centre with 2.20%.

(Table 4.1 contd.)
 Monthly statement showing the consumer prices index numbers for
 the agricultural year 1987-'88 (New series)

(Base 1970 = 100)

Sl. No.	Centre	July	August	Sept. ember	Octo-ber	Nov-ember	Dec. ember	Janu-ary	Febru-ary	March	April	May	June	Average
		3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Thiruvananthapuram	383	385	384	382	385	387	390	390	391	393	396	402	389
2.	Kollam	393	393	392	391	397	400	405	405	407	409	411	416	402
3.	Punalur	361	364	364	363	366	370	374	378	378	378	379	384	372
4.	Alappuzha	369	371	371	369	375	378	382	383	384	383	384	392	378
5.	Kottayam	375	377	376	374	379	381	384	386	387	386	387	392	382
6.	Mundakayam	357	357	356	355	362	365	369	370	370	371	373	378	365
7.	Munnar	360	363	363	361	366	370	373	374	374	374	376	381	370
8.	Ernakulam	358	362	362	361	368	370	375	376	376	376	380	387	371
9.	Chalakyudy	376	378	377	376	381	384	388	390	392	393	397	403	386
10.	Thrissur	367	367	368	368	374	378	381	381	382	384	387	394	378
11.	Palakkad	365	369	370	369	372	375	380	380	380	379	382	388	376
12.	Malappuram	385	385	384	382	387	390	394	395	398	400	404	411	393
13.	Kozhikode	379	381	380	379	384	386	391	393	395	397	401	408	390
14.	Meppady	374	375	375	373	376	379	383	386	389	391	394	402	383
15.	Kannur	379	380	379	377	380	382	385	388	391	393	397	405	386

(Table 4.1 contd.)

Monthly statement showing the consumer price index numbers for
the agricultural year 1987-'88 (old series)

Sl. No.	Centre	July	August	Sept- ember	Octo- ber	Nov- ber	Dec- ember	Janu- ember	Febru- ary	March ary	April	May	June	Average
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.	Thiruvananthapuram	3324	3342	3333	3316	3342	3359	3385	3385	3394	3411	3437	3489	3376
2.	Kollam	3356	3356	3348	3339	3390	3416	3459	3459	3476	3493	3510	3553	3430
3.	Punalur	3025	3050	3050	3042	3067	3101	3134	3168	3168	3168	3176	3218	3114
4.	Alappuzha	3148	3165	3165	3148	3199	3224	3258	3267	3276	3267	3276	3344	3228
5.	Kottayam	3281	3299	3290	3273	3316	3334	3360	3378	3386	3378	3386	3430	3343
6.	Munnar	2880	2904	2904	2888	2928	2960	2984	2992	2992	2992	3008	3048	2957
7.	Ernakulam	3161	3196	3196	3188	3249	3267	3311	3320	3320	3320	3355	3417	3275
8.	Chalakydy	3301	3319	3310	3301	3345	3372	3407	3424	3442	3451	3486	3538	3391
9.	Thrissur	3215	3215	3224	3224	3276	3311	3338	3338	3346	3364	3390	3451	3308
10.	Kozhikode	3612	3631	3621	3612	3660	3679	3726	3745	3764	3783	3822	3888	3712

The monthly consumer price index numbers for the year 1987-'88 for the above 15 centres have been furnished in table 4.1. The monthly consumer price index numbers for the 10 centres of the old series using the linking factor have also been computed and furnished in the table 4.1 for the purpose of comparison.

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 a ratio of the index of prices received and the index of prices paid by farmers expressed as a percentage.

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

1. Paddy, 2. Coconut, 3. Arecanut, 4. Cashewnut, 5. Tapioca, 6. Ginger, 7. Pepper, 8. Banana, 9. Sugarcane.

The index number of prices paid by the farmer is a measure of relative change in the expenditure incurred by the farmer for farm cultivation cost and domestic consumption as a result of changes in wages rates, cost of implements, cost of manure, cost of maintenance of the live stock and prices of consumer goods as compared to the situation in the base year.

The index of parity between prices received and prices paid by the farmer during each month of the year 1986-'87 and 1987-'88 are furnished in the table 4.2.1.

Table 4.2.1
Index number of parity (base 1952-53 = 100)

Sl. No.	Month	86-'87		87-'88	
		1	2	3	4
1.	July		90		102
2.	August		91		102
3.	September		98		100
4.	October		101		97
5.	November		102		97
6.	December		103		96
7.	January		100		95
8.	February		99		94
9.	March		99		93
10.	April		100		94
11.	May		101		93
12.	June		103		93
	Average		99		96

The index of parity which stood at 102 points during July 1987 decreased gradually and stood at 93 points by the end of May and June 1987. The average index for the state as a whole was 96 for the year 1987-'88 as against 99 point for the previous year.

4.3 Quarterly average retail prices of some important commodities

The trends in the quarterly average retail prices of 12 important commodities at the district headquarters town during the year 1987-'88 are discussed in the following paragraphs.

1. Rice F.P/Kg./Medium

The price of medium rice distributed through the fair price shops were more or less uniform between the centres except for Wayanad centre. The price ranged between Rs.2.58 at Thiruvananthapuram and Rs.1.85 at Wayanad during the 1st three quarters and Rs.2.80 to Rs.2.87 during the last quarter.

2. Tapioca (raw/Kg.)

The price of tapioca fluctuated between Rs.1.29 at Ernakulam to Rs.2 at Kannur during the last quarter. The price of this commodity was steady in Alappuzha, Ernakulam and Wayanad during the 1st three quarters.

3. Blackgram/Kg.

A marginal fluctuation in price was seen over the quarters in most of the centres. Stability in price could not be seen in any centre during all the quarters of the year.

4. Coconut oil/Litre

The price of coconut oil showed a fluctuating trend in most of the centre over the four quarters. Price varies between Rs.36.53 at Idukki centre to Rs.28.56 in Wayanad centre during the first quarter.

5. Gingelly oil/Litre

A more or less fluctuating trend in prices can be seen in most of the centres during the four quarters of the year. The highest price quoted was 32.59 from Kannur centre during the 3rd quarter and the lowest quotation of Rs.21.29 was reported from Kozhikode during the last quarter.

6. Chillies/Kg.

The price of chillies showed a fluctuating trend from quarter to quarter. It was lowest in the first quarter and highest during the second quarter in most centres.

7. Coconut/Dozen

The price of coconut followed more or less the same trend of that of the oil. The price fluctuated between Rs.29.21 at Kozhikode centre during the 2nd quarter and Rs.58.88 at Wayanad centre during the 1st quarter.

8. Sugar/(F.P.)/Kg.

The price of sugar distributed through the fair price shops was uniform between the centres. It was Rs.4.85 during the 1st quarter and 2nd quarter and 5.10 during the 3rd and 4th quarter.

9. Tea/Kg.

The price of tea showed an increasing trend over the quarters in most of the centres. It was steady in Kollam and Alappuzha centres in all the quarters.

10. Coffee powder/Kg.

The price of coffee powder also showed an increasing trend over the quarters in most of the centres. The highest price Rs.42.60 was quoted in Thrissur centre during the 3rd quarter and the lowest price at Rs.31. in Malappuram centre during the 1st quarter.

11. Tobacco (Jaffna)/Kg.

These can be seen violent fluctuation in price of the above commodity between centres. While the price was at Rs.12.50 in Kollam centre, it was at Rs.23.08 in Wayanad centre during the 1st quarter.

12. Tobacco (Vadakkan)/Kg.

The price of this item is also fluctuated violently between centres. It was stable in most of the centres through out the year. The lowest price was quoted at Rs.14 in Thiruvananthapuram centre in all the quarters. The highest price was quoted from Wayanad centre at Rs.30.55 during the 2nd quarter.

4.4 Export of agricultural commodities through the ports of Kerala

The quantity of value of agricultural commodities exported through the ports of Kerala during the year 1987-'88 are furnished in Table 6.4.

There was about 15.37% increase in the value of commodities exported through the ports of Kerala during the year 1987-'88 over that of the previous year. The quantity of Cardamom, Cashew Kernel, Oil cake and marine products exported had declined while other like Coffee, Coir and Coir products, Ginger, Pepper, Rubber manufacture, Tea etc. increased considerably during the year under report.

Table 4.3
 Quarterly average retail prices of essential commodities of
 district head quarters 1987-'88

Sl. No.	Commodity/quarter	Patha-														
		Thiru- vanan- tha- puram	4	5	6	7	8	9	10	11	12	13	14	15	16	
1.	Rice-F.P./Kg.	I	2.58	2.58	2.58	2.58	2.58	2.62	2.58	2.58	2.59	2.58	1.85	2.58	-	
		II	2.58	2.58	2.71	2.58	2.60	2.66	2.58	2.58	2.59	2.58	1.85	2.58	-	
		III	2.58	2.58	2.98	2.58	2.85	2.58	2.58	2.58	2.59	2.58	1.85	2.58	-	
		IV	2.80	2.58	2.58	2.58	2.60	2.58	2.58	2.58	2.59	2.60	2.59	2.85	2.59	
2.	Tapfoca	I	1.50	1.54	1.50	1.50	1.50	1.40	1.46	1.36	1.50	1.51	1.50	1.93	-	
		II	1.30	1.60	1.50	1.50	1.61	1.40	1.40	1.50	1.40	1.51	1.64	1.50	2.00	
		III	1.41	1.60	1.50	1.50	1.60	1.40	1.40	1.50	1.50	1.52	1.66	1.50	2.00	
		IV	1.41	1.60	1.50	1.50	1.53	1.58	1.29	1.41	1.38	1.51	1.71	1.50	2.00	
3.	Black gram/Kg.	I	6.90	6.65	-	6.00	6.93	8.00	7.00	6.43	6.73	6.21	6.75	8.51	7.00	
		II	7.19	7.41	-	6.35	6.89	8.47	7.27	6.49	7.22	6.72	7.00	8.50	7.29	
		III	7.81	7.00	-	7.21	7.46	8.97	8.77	6.69	9.63	6.52	7.00	8.89	7.44	
		IV	7.44	7.41	-	6.40	7.50	9.33	8.08	6.18	7.42	6.52	7.52	9.02	7.43	
4.	Coconut oil/Kg.	I	33.27	31.99	-	31.48	33.26	36.53	31.46	31.15	31.94	32.28	28.90	28.56	32.41	
		II	34.07	31.79	-	31.35	31.91	34.73	30.84	31.58	32.08	32.38	31.60	33.81	31.79	
		III	33.37	31.54	-	31.06	31.54	32.02	30.33	31.06	31.36	31.61	30.90	33.05	30.81	
		IV	32.50	30.27	-	29.92	30.84	31.96	29.30	30.58	30.96	31.44	30.56	32.69	30.64	
5.	Gingelly oil/Ltr.	I	28.97	27.81	-	26.53	30.71	31.00	27.51	27.13	27.90	27.34	25.71	-	28.86	
		II	27.98	28.78	-	25.41	27.19	28.52	29.26	26.79	26.73	26.44	23.63	27.57	30.00	
		III	28.10	28.80	-	23.66	26.74	28.91	26.08	24.82	25.59	25.83	24.28	27.04	32.59	
		IV	27.18	27.53	-	22.57	26.00	24.24	23.72	22.88	24.36	25.21	21.29	25.46	27.88	

(Contd.)

(Table 4.3 contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	6. Chillies/Kg.	I	19.03	16.32	-	15.67	17.31	16.16	16.90	16.67	16.15	14.79	15.64	17.46	17.95
		II	26.66	21.28	-	19.00	21.07	20.00	22.70	22.15	18.91	18.09	20.53	20.71	23
		III	23.71	19.95	-	20.08	21.25	22.18	22.95	21.03	20.59	18.75	21.52	21.78	22.56
		IV	21.31	18.40	-	19.85	20.51	21.13	20.98	19.94	18.73	18.50	20.86	20.69	22.31
	7. Coconut/Doz.	I	36.00	37.50	-	41.46	38.31	44.00	43.50	39.00	37.25	32.86	30.03	58.88	33.60
		II	36.00	39.00	-	40.00	37.90	46.00	41.80	40.00	38.66	31.34	29.21	48.00	33.60
		III	39.00	40.50	-	37.06	39.58	48.00	41.60	42.00	38.75	36.81	33.37	48.25	36.50
		IV	35.40	39.50	-	36.00	40.21	45.16	40.60	40.75	37.90	38.93	35.15	48.35	37.40
	8. Sugar F.P./Kg.	I	4.85	4.85	-	4.85	6.45	48.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85
		II	4.85	4.85	-	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85
		III	5.10	5.10	-	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
		IV	5.10	5.10	-	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
	9. Tea/Kg.	I	42.44	44.50	-	42.00	38.70	22.80	38.60	42.28	42.20	42.30	42.20	32.00	41.57
		II	-	44.50	-	42.00	38.70	39.00	37.80	42.72	42.53	42.30	42.20	31.88	42.28
		III	42.85	44.50	-	42.00	38.54	39.00	37.40	42.90	42.62	42.30	42.30	31.88	42.50
		IV	42.85	44.50	-	42.00	37.40	39.00	37.40	42.90	42.72	42.32	42.48	31.85	42.50
	10. Coffee powder/Kg.	I	35.00	35.00	-	35.00	35.27	34.25	35.00	42.50	35.00	31.00	35.63	35.00	35.25
		II	37.16	36.04	-	36.40	36.88	34.25	36.16	42.50	35.62	31.05	37.50	36.17	37.03
		III	37.50	37.50	-	36.50	37.00	34.25	37.00	42.50	36.66	32.40	37.50	38.16	37.50
		IV	37.50	37.50	-	36.50	37.00	34.25	37.00	42.50	35.58	34.00	37.50	37.81	37.50
	11. Tobacco/Kg.	I	14.00	19.36	-	16.00	19.00	17.00	16.00	15.50	19.50	18.00	24.71	33.00	26.96
		II	14.00	19.36	-	15.20	19.00	15.60	16.00	15.29	18.00	18.66	25.58	30.55	29.66
		III	14.00	19.36	-	15.00	18.21	15.00	16.00	15.00	18.00	20.73	26.03	30.00	28.00
		IV	14.00	19.36	-	18.58	17.02	14.75	16.00	15.00	18.00	21.00	25.71	31.00	24.00

(contd.)

Table 4.5
Classification of soil

Sl. No.	District	Type of soil	Details of distribution
1	2	3	4
1.	Thiruvananthapuram	1. Fairly rich brown loam of lateric origin. 2. Sandy loam 3. Riches dark brown loam of granite origin.	Loam of Middle part of the district. Western coastal region Eastern hilly part of the district.
2.	Kollam	1. Sandy loam 2. Laterite soil 3. Hill and forest soil.	Karunagappally and part of Kollam taluk. Kottarakkara and part of Kunnathur and Pathanapuram taluk. Part of Pathanapuram taluk.
3.	Pathanamthitta	1. Laterite soil 2. Hill and forest soil.	Pathanamthitta, Mallappally, Ranny and parts of Thiruvalla taluks. Parts of Pathanamthitta and Ranny taluks.
4.	Alappuzha	1. Sandy loam 2. Sandy soil 3. Clay and loam with much of acidity. 4. Laterite soil	Karthigappally and Mavelikkara taluks. Sherthalai and Ambalapuzha taluks. Kuttanad Chengannur and part of Mavelikkara.
5.	Kottayam	1. Laterite soil 2. Alluvial soil	Part of Meenachil, Changanacherry and Kottayam taluks. Parts of Changanacherry and Kottayam taluks
6.	Idukki	1. Laterite soil 2. Alluvial soil	Peermade and Thodupuzha taluks. Devicolam and Udumbanchola taluks.
7.	Ernakulam	1. Laterite 2. Sandy loam 3. Alluvial	Moovattupuzha and part of Kunnathunadu. Parur, Cochi and Kanayannur taluks. Part of Aluva and Kunnathunadu.
8.	Thrissur	1. Sandy loam 2. Laterite 3. Granite 4. Clay	Part of Mukundapuram, Thrissur and Chawghat taluks. Western portion of Talappilly and Eastern part of Thrissur taluks. Northern part of Talappilly. Back water area in chowghat and part of Mukundapuram.

(Contd.)

(Table 4.5 contd.)

1	2	3	4
9. Palakkad	1. Sandy soil 2. Laterite 3. Black soil	Riverside areas. Ottappalam, Perinthalmanna, Mannarghat and Palakkad taluks. North eastern portion of Chittor taluk.	
10. Malappuram	1. Sandy soil 2. Laterite	Coastal areas of the district. Major parts of the district barring coastal areas.	
11. Kozhikode	1. Laterite 2. Sandy	Major parts of the district barring coastal areas. Coastal areas.	
12. Wayanad	1. Laterite	Most parts of the district.	
13. Kannur	1. Laterite 2. Sandy	Major parts of the district barring coastal areas. Coastal areas.	

Table 4.6
Conversion ratio between the raw materials and the processed product

1. Rice	Rice (cleaned) production 2/3 of paddy production.	
2. Cotton	Cotton lint production 1/3 of kapas production cotton seed production 2/3 of kapas production 2 times of cotton lint production.	
3. Groundnut	Kernels to nuts in shell	70 per cent
	Oil to nuts in shell	28 "
	Oil to kernels crushed	40 "
	Cake to kernels crushed	60 "
4. Sesamum	Oil to seeds crushed	40 "
	Cake to seeds crushed	60 "
5. Caster seeds	Oil to seeds crushed	37 "
	Cake to seeds crushed	63 "
6. Coconut	Copra to nuts one ten copra	6775 nuts
	Oil to copra crushed	62 per cent
	Cake to copra crushed	38 "
7. Neem seed	Oil to Kernel crushed	45 to 50 per cent
	Cake to kernels crushed	52 to 55 "

Table 4.5 contd.)

(Contd.)

Table 4.6 (contd.)

1	2	3	4
8. sugar	Gur from cane crushed		10 per cent
	Crystal sugar from gur refined		62:40 "
	Crystal sugar from cane crushed		9:97 "
	Khandassari sugar from gur refined		37:5 "
	Molasses from cane crushed		3:5 "
9. Cashewnuts	Cashew kernels		25 per cent of cashewnut
	Butter from mixed milk		6:3 Per cent
	Ghee from mixed milk		5:3 "

Table 4.7
Analysis of important fertilizers

Sl. No.	Name of fertilizer	Nitrogen (N.Percent)	Phosphate (P2 O5)	Potash (K2 O)
1	2	3	4	5
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 cyanamide	20.00	-	-
9.	Urea	46.00	-	-
10.	Superphosphate - 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.	Caster cake	4.30	2.00	1.00
19.	Mustard cake	4.50	1.50	-
20.	Muhua cake	2.50	0.80	1.80
21.	Neemcake	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	0.86	-	-
26.	Horse manure	0.86	-	-
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	3.50	0.50
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

Table 4.8
**Insect/pests affecting paddy crops, thier distribution
 and som practical methods of control.**

Sl. No.	Name of pest	Nature of damage	Control measure
1	2	3	4
1.	Rice swarming cater pillar (spodoptoro mouritia)	Defoliation plants reduced to stumps nursery and early growing states attached.	Spray D.D.T. at 1.5 Kg. a.i. per hectare or endrin at 250 gm. a.i. per hectare.
2.	Rice stem borer (Schcenna-biur in cestulus)	Caterpillar bores into stem causing dead hermarts and white ear heads. All stages of plant susceptible to attack	Set light traps in the field to catch and destroy moths. Collect egg masses from nursery plant destroy them. Spry 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 (Leptocorisa actua)	Sucks milk of tendergrains leaving them chaffy	Bust B.H.C. or spray Endrin or parathion at deses given above.
4.	Rice Hispa Discladispa (Hispa Armigera)	Adults feed on the green matter of leaves and grubs mine of the leaves	Spray D.D.T. endrin or parathion at above doses.
5.	Rice case worms Nymphua dopunetalis	Caterpillar in lead cade defoliates.	-do-
6.	Paddy gall fly (Diptera)	The maggot bores into central shoot and causes the formation of elongated hal-low gall called silver shoot.	Spray endrin or parathion at 250 gm. a.i. per hectare 4 times at weekly intervals from 15th day after transpiantation set up light traps.
7.	Paddy mealy bug	Dives within leaf sheaths in colonies sucking sap causing stunting of crop.	Spray parathion at 250 gm. a.i per hectare phospha midor (Dimecro 100%) solum at 100 ml per hectare or Dimothocate (Reger at 312 ml. per hectare
8.	Paddy leaf hoppers and jaccfidus	Cause weakening of crop by desapping in colonies.	Dust B.H.C.
9.	Paddy leaf roller Chapha-loorocies medainalies G.	Caterpillar folds leaves and feeds on green matter. Attached field show white patches.	Dust B.H.C. or spray D.D.T. at doses given above.

Table 4.9
List of raingauge stations in Kerala

1	2	3	4
Thiruvananthapuram		Idukki	
1.	Ponmudi	1.	Chinnar
2.	Varkala	2.	Marayur
3.	Attingal	3.	Munnar
4.	Nedumangad	4.	Devicolam
5.	Thiruvananthapuram (B)	5.	Kumily
6.	Neyyattinkara	6.	Peermade (Taluk)
7.	Parassala	7.	Peermade (Residency)
8.	Thiruvananthapuram (Aerodrome)	8.	Vandanmedu
9.	Vellayani (A.N.)	9.	Velloor
		10.	Karikode (Thodupuzha)
Kollam		Ernakulam	
1.	Kottarakkara	1.	Malayattur
2.	Punalur	2.	Parur
3.	Karunagappally	3.	Perumbavoor
4.	Ariankavu	4.	Aluva
5.	Kollam	5.	Neriyamangala.
6.	Paravur	6.	Muvattupuzha
7.	Kulathupuzha	7.	Cochi (b)
8.	Nilamel	8.	Ernakulam
		9.	Piravom
Pathanamthitta		Thrissur	
1.	Konni	1.	Kodungallur
2.	Adoor	2.	Mukundapuram
3.	Thiruvalla	3.	Thrissur
4.	Pathanamthitta	4.	Thalappilly
		5.	Ollurkkara
Alappuzha		6.	Peechi
1.	Arukutty	7.	Chalakydy
2.	Cherthala	8.	Potta
3.	Alappuzha (b)	9.	Muttathur
4.	Ambalapuzha	10.	Thumburmoozhi
5.	Chengannur		
6.	Harippad	Palakkad	
7.	Mavelikkara	1.	Alathur
8.	Kayamkulam	2.	Palakkad
		3.	Parali
Kottayam		4.	Ottappalam
1.	Vaikom	5.	Cherplassery
2.	Pala	6.	Mannarkkad
3.	Ettumanoor	7.	Chittur
4.	Kanjirappally	8.	Pattambi
5.	Kottayam		
6.	Changanacherry	Malappuram	
7.	Kottayam (Agromet)	1.	Perinthalmanna
8.	Kumarakom	2.	Ponnani

(Table 4.9 congtd.)

1	2	3	4
	Kozhikode		
1.	Kozhikode	3.	Manjeri
2.	Koilandy	3.	Nilambur
3.	Vadakara	4.	Thirurangadi
4.	Muthanga		
5.	Kuppady		Wayanad
6.	Kuttiyadi (Dam)	1.	Vythiri
7.	Kuttiadi (P.H)	2.	Mananthavady
		3.	Perfa
		4.	Chediath
	Kannur		
1.	Thaliparamba		Kasaragod
2.	Kannur	1.	Hosdurg
3.	Thalassery	2.	Kasaragod
4.	Irikkur	3.	Kasaragod (Agromet)
5.	Payyannur		
6.	Mahe		

Table 4.10
Glossary of English, Botanical and Malayalam
names of crops

Sl. No.	English name	Malayalam name	Botanical name
1.	Paddy	Nellu	Oryza Sattiva
2.	Ragi	Koovaraku	Eicusinc Coracana
3.	Jower	Cholam	Sorghum Valgare
4.	Bajra	Kambu	Ponnistum Typhodem
5.	Kodamillet	Varagu	Pasaplum Scrobiculatum
6.	Chama	Chama	Panicum Miliare
7.	Wheat	Gothambu	Triticum Vulgare
8.	Barley	Barley	Hordeum Vulgare
9.	Maise	Mokke Cholam	Zea mays
		Pulses	
1.	Black gram	Uzhunnu	Phasco mungo
2.	Greengram	Cherupayar	Phascolus Aureus
3.	Horsegram	Muthira	Dolichos Biflorus
4.	Bedgram	Thuvara	Cajanus Cajan
5.	Cowpea	Perumpayar	Vfgna Sinensis
		Sugar	
1.	Sugarcane	Karimbu	Sacharum Officianarum
2.	Palmirah	Karimpana	Boreassus flabellifar
		Condiments and spices	
1.	Chilly	Mulagu	Capsium Sapp
2.	Turmeric	Manjal	Curcuma Ienga
3.	Cardamom	Elom	Elatteria Cardamom
4.	Coriander	Kothamalli	Coriandrum Sativum
5.	Mustard	Kadugu	Brassica sap

(Contd.)

1	2	3	4
6. Pepper		Kurumulagu	Pipper Nigrum
7. Comin		Jeerakom	Ciminumoymium
8. Garlic		Veluthully	Allium Sativum
9. Long pepper		Thippili	Piperlongum
10. Ginger		Inchi	Zingiber Officinale
11. Nutmeg		Jathi	Myristica Fragrans
12. Cinnamom		Karukappatta	Cinnamomum Zoilanica
13. Clove		Grampu	Engnnia Caryophyllate
14. Chinchona		Cinchona	Cinchona Officinalis
15. Arecanut		Adakka	Areca Catechu
Fruits			
1. Banana		Vazha	Musa Paradisiaca
2. Plantain		Vazha	Musscipientium
3. Bread fruit		Seemaplavu	Artocarpusincisa
4. Bullocks heart		Malamunthiri	Anonarceticulate
5. Cashew		Kasumavu	Anacardiumoccidentale
6. Grape vine		Munthiri	Vitis Vinifere
7. Custardapple		Seetha Pazham	Anona squamosa
8. Guva		Pera	Psidium Guajava
9. Jujube		Elantha	Aiz rphus jujuba
10. Jack fruit		Plavu	Artocarpus Intergriofolia
11. Lemon		Naranga	Citrous Lemon
12. Lime		Naranga	Citrous Aurantifolia
13. Mango		Mavu	Mangifer India
14. Pappaya		Pappakka	Carica Pappaya
15. Pineapple		Kaithachchakka	Ananas Sativa
16. Pemogramate		Mathalam	Punica Crantaum
17. Sapota		Sapota	Achras Acbrass Sapota
18. Pomello		Bamplimas	Citrus Mahima
19. Orange		Orange	Citrus retaulate
20. Mangosteen		Mangosteen	Garcimia mangesteens
Vegetables			
1. Tapioca		Maracheeni	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	Discarea sapp
8. Turnip		Seema mullangi	Brassica compsstria
9. Carret		Carret	Dancus Carrot
10. Bed Pumpkin		Vellarimathan	Gucurnita Maxime
11. Brinjal		Vazhuthana	Solanum Malengena
12. Tomato		Thakkali	Lydcoperseum esculentum
13. Amaranthus		Cheera	Amaranthus Sapp
14. Lady's finger		Venda	Abelmoschus esaulenius
15. Bitter gourd		Pavakka	mamordica Charantia
16. Bottle gourd		Churakka	Lagenaria Siceraraia
17. Snake gourd		Padavalanga	Trichosanthese angunia
18. Ridgegourd		Peechanga	Luffaacutangulata

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