



GOVERNMENT OF KERALA

*Report on the
Sample Survey
on*
**Agricultural
Statistics**

**(E A R A S)
1986-87**



DEPARTMENT OF
ECONOMICS AND
STATISTICS,
TRIVANDRUM

1988

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PREFACE

This is the twelfth report in the series on the Sample Survey under the Scheme for the "Establishment of an Agency for Reporting Agricultural Statistics" (EARAS) conducted in the State during the year 1986-87. The scheme envisaged complete enumeration of all the villages of the State within a period of five years with a sample size of 20% of total villages every year. Two cycles of complete enumeration of all the villages in the State was over by the year 1985-86. The present report relates to the first year of the third cycle of complete enumeration conducted during the year 1986-87.

The report was prepared in the Agricultural Statistics Division of the department. Suggestions for the improvement of the report are welcome.

Trivandrum,
October 1988.

K. BALAKRISHNAN NAIR,
Director of Economics and Statistics.

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REPORT ON THE SAMPLE SURVEY UNDER THE SCHEME "ESTABLISHMENT OF AN AGENCY FOR REPORTING AGRICULTURAL STATISTICS" IN KERALA 1986-87

1. Introduction

This report deals with the results of the sample survey conducted under the scheme for the Establishment of an Agency for Reporting Agricultural Statistics (EARAS) in Kerala for the estimation of various parameters relating to the Agricultural sector of the state during the year 1986-87. This survey is part of an All India Scheme of Timely Reporting Survey designed to improve the conditions of the reporting of Agricultural Statistics on a time bound basis. But this scheme could not be implemented as such in Kerala where a proper agency for reporting agricultural statistics was not in vogue. This scheme was implemented in Kerala from the year 1975-76.

2. Objectives of the scheme

The Scheme EARAS as it is known in the state was designed to collect data for preparing the various estimates of area and yield statistics of crops for each agricultural year. It envisaged the complete enumeration of all villages of the state in a phased manner. So far two cycles of complete enumeration of all the villages of the state have been completed. The results obtained during the first year of the third cycle is dealt with in this report.

3. Design of the survey

Each of the 61 taluks of the State was taken as a stratum for the survey. Within each taluk revenue village which was the smallest well defined unit of revenue administration was taken as the unit of sampling. There were 1331 revenue villages in the state during 1986-87; out of which 267 villages were selected for the survey by simple random sampling method. The number of villages thus selected formed 20% of the total villages of the state.

4. Scheme of work

Though the village was the primary unit of enumeration the selected villages were sub-divided into a number of Investigator units for the even distribution of the work load among the Investigators taking into account the number of Investigators in hand, the area under wet and dry lands, the nature of the terrain and the number of crop cutting experiments to be conducted in each of the selected Villages. The Investigator units were equal in extent as far as possible with non-overlapping boundaries. Where clear natural boundaries were not available the units were formed on the basis of survey sub-division numbers.

The area enumeration and crop cutting experiments in each unit were done by the Investigators of this department. Area enumeration in the Travancore-Cochin region of the State was conducted on the basis of the survey sub-divisions marked on the litho maps of the villages whereas in the Malabar region it was based on the sub-divisions marked in the field measurement books though these sub-divisions might have undergone further divisions according to the basic tax register maintained in the village offices.

The preliminary work relating to the survey started with the preparation of a list of survey sub-division numbers classified as wet or dry according to the basic tax register. The details required for area enumeration were collected by the Investigators following the above sub-divisions. But a sub-division number in the litho-map or field measurement book as the case may be may contain more than one sub-division according to the basic tax register. In such cases the data will be collected on the basis of the sub-division in the litho map or field measurement book only.

The Investigators visited the wet lands three times during an agricultural year corresponding to the three seasons of Autumn, Winter and Summer to collect data on seasonal and annual crops. During the last visit data on land use, irrigation and perennial crops were collected. But only two visits were planned for the dry lands corresponding to the khariff and rabi seasons; the first visit for the collection of data on seasonal and annual crops and the second for the collection of the data on perennial crops.

Crop cutting experiments to estimate yield statistics were confined to the villages selected for the EARAS so that Investigators stationed in these villages could be utilized for this item of work also. Crop cutting experiments on the following crops were conducted during the year under report.

1. Paddy—Autumn, Winter and Summer Seasons
2. Tapioca
3. Coconut
4. Arecanut
5. Cashew
6. Pepper
7. Cocoa
8. Banana
9. Plantain
10. Sesamum
11. Jack
12. Tamarind
13. Sugarcane

The crop cutting experiments on the above crops were planned in all the taluks where the crops covered substantial areas. But when a particular village did not cover substantial area for a particular crop that village was not considered for crop cutting of that crop. The number of experiments to be conducted in each taluk for each crop was decided at the headquarters and the number of experiments in each Investigator unit was decided by the Deputy Director in consultation with other district and taluk level officers. The maximum number of experiments in each taluk was fixed as 30 for paddy for each season and 30 for tapioca during a year subject to a minimum of 2 experiments per village. The details of the number of taluks in which the crop cutting experiments were planned for each crop and number of crop cutting experiments to be conducted for each crop in each district of the State are furnished in tables 1 and 2 respectively.

5. Organisation of the survey

The responsibility for conducting the field work on area enumeration, crop cutting experiments, irrigation particulars, analysis of data and preparation of report is vested with the Department of Economics and Statistics. This being a centrally sponsored scheme 50% of the cost is being met by the Ministry of Agriculture, Government of India.

The staff pattern of the scheme is given below:

Staff pattern

Sl. No.	Designation of the posts	Strength under		
		LUS	EARAS	Total
A. Headquarters				
1.	Joint Director	..	1	1
2.	Assistant Director	1	3	4
3.	Research Officer	3	..	3
4.	Research Assistant	4	..	4
5.	Compilers	2	6	8
B. Field Staff				
1.	Deputy Director	..	3	3
2.	Addl. District Officer	..	11	11
3.	Research Assistant	..	5	5
4.	Taluk Statistical Officer/Statistical Inspector	51	74	125
5.	Compilers	9	2	11
6.	Investigators	159	721	880

LUS=Staff sanctioned under former Land Utilisation Survey.

6. Supervision

(a) *By Departmental Officers.*—Taluk Statistical Officer's in-charge of taluks are responsible for the taluk level supervision and the timely completion of field work. Statistical Inspectors were also posted in certain taluks where the work load was heavy. The district level supervision of field work was done by Additional District Officer, District Officer and the Deputy Director in-charge of the District. At the state level the Joint Director in-charge of the survey, the Additional Director and the Director supervised the work.

(b) *By Officers of the Department of Agriculture.*—As per the scheme 1% of the crop cutting experiments and area enumeration are to be supervised by the officers of the departments of Revenue and Agriculture. The departments were supplied with the list of villages and plots selected for crop cutting experiments for their active participation.

(c) *By Officers of the National Sample Survey Organisation.*—Supervision work on area enumeration and crop cutting survey under the scheme ICS was conducted by this department and the National Sample Survey Organisation on a 50:50 basis.

7. Training

Before the commencement of the field work one day training programme for the district level officers was organised. The taluk level officers and Investigators were given training for 2 to 3 days in each district by the district level officers. The officers from the National Sample Survey Organisation participated in these training programmes.

8. Period of the survey

The reference period of the survey was the agricultural year 1986-87 (July 1986-June 1987).

9. Time Schedule of Various items of work.

<i>Item of work</i>	<i>Date of commencement</i>	<i>Date of completion</i>
A. Area enumeration		
(i) Wet land		
(a) Autumn season	August 1986	October 1986
(b) Winter season	November 1986	February 1987
(c) Summer season	March 1987	April 1987
(ii) Dry land I/II visit		June 1987

B. Crop Cutting

- | | |
|-------------------|---------------|
| (i) Paddy— | |
| (a) Autumn season | November 1986 |
| (b) Winter season | February 1987 |
| (c) Summer season | June 1987 |
| (ii) (a) Tapioca | June 1987 |
| (b) Coconut | " |
| (c) Arecanut | " |
| (d) Pepper | " |
| (e) Cashew | " |
| (f) Cocoa | " |
| (g) Banana | " |
| (h) Plantain | " |
| (i) Sesamun | " |
| (j) Jack | " |
| (k) Tamarind | " |
| (l) Sugarcane | " |

(e) Sample check on area and yield estimation surveys :

- | | |
|--|---|
| (i) Area check of wet land | Autumn 15-10-1986
Winter 15-1-1987
Summer 30-4-1987 |
| (ii) Area check—dry land | June 1987 |
| (iii) Supervision of crop cutting experiments on tapioca | June 1987 |

10. Schedules and Instructions

Standard schedules and instructions were supplied to the field staff for the smooth conduct of the survey during the year 1986-87.

11. Difficulties encountered during the survey**I. Area enumeration**

(a) *Wet land.*—The nature and intensity of cropping peculiar to Kerala cropped up many problems during area enumeration. Paddy is the major crop grown on wet lands and 2 to 3 crops are raised on these lands according to the availability of water. Area enumeration of wet lands did not create much problems as in the dry land.

However a few problems which merit attention are enumerated below:—

(i) The Investigator usually visits a field for area enumeration once in a season. During the early period of the survey in each season it may happen that the crop may not have been raised. But if the field is sown usually and harvested during the previous season he has to enumerate the area as sown for the current season also. But on later visits it may be found that due to unforeseen circumstances sowing has been delayed resulting in that area lying fallow or a shifting of the crop to the next season.

(ii) The identification of the converted wet land into dry land takes much time of the primary workers in case where contiguous survey numbers belonged to the same cultivator lying in one stretch without any identification marks like survey stones.

(iii) Stretches of low lying wet lands where paddy is the only crop grown, often get inundated by floods or breaches of bunds, the area enumeration has to be repeated to ensure whether the crop sown immediately preceding the floods or breaches of bunds have survived and if not whether the cultivator may sow a second time which naturally will be delayed thus extending the harvest and crop season to the next season.

(iv) In water logged areas where conversion of wet land into dry land has taken place in isolated pockets, the identification and measurement of the area to record the extent of crops grown is a time consuming process especially when these patches are not easily accessible.

(b) *Dry land.*—(i) Multiplicity of crops grown in the dry land makes area enumeration very difficult.

(ii) In the Travancore-Cochin portion of the state, area under the crop, land utilization etc., are recorded following the litho survey sub-divisions which is the basic identification unit. The old survey maps available or often damaged and in certain cases they are not available at all. The last survey and settlement and arbitrary changes of boundaries of many survey sub-divisions have made identification difficult. On identification it is felt that the area of a unit is different from that recorded and physical measurement has to be taken to make good the change. In the Malabar region village maps are available. The primary workers have, therefore, to go by the field measurement book and for that he has to undertake frequent visits to the village office. This is time consuming.

(iii) It is found that large inaccessible areas with extensive cultivation are put under minor circuits in the litho maps which forms large number of survey sub-divisions as per the basic tax register. Consequently identification of various survey sub-divisions within a minor circuit is difficult without the aid of maps. In such cases enumeration has to be done holding wise. The tallying of area according to records and unit of enumeration is often found trying.

(iv) Most plots have a multiplicity of crops both seasonal and perennial. The allocation of area; if left to the discretion of primary workers may lead to serious errors. So the old method of standard allocation is not followed. Instead the number of palms/standards under perennial crops are actually counted. This takes up much time of the primary worker.

II. Crop Cutting Experiments

(i) There is no finality of dates proposed by the cultivator for harvesting with the result that the Investigator has to make repeated visits to conduct the experiment. Simultaneous harvestes in two fields at different places make him difficult to attend both the cuts.

(ii) In the water logged areas fixing of pegs to demarcate the cut is difficult.

(iii) There were large number of holdings below 10 cents. Most of these holdings belong to agricultural labourers. Since they leave their houses very early in the morning for work and return very late in the evening, harvesting of experimental trees falling within such plots entails repeated visits. Also harvesting of trees in such lands is done according to their necessity without any fixed plans making it difficult to ascertain the exact number of the nuts plucked as tender, barren or ripe.

III. Other difficulties

The workload of the primary worker was very heavy. He had to cover about 2000 acres. The wet land has to be enumerated three times and the dry land area two times. Besides he has to attend to the crop cutting on paddy, coconut, areacanut tapioca, cashew, pepper, cocoa, banana, plantain, sesamum, tamarind, jack and sugarcane. If all the crops are cultivated in the unit on sizeable areas, it was found very difficult for them to cover the entire items of work in any year. Eventhough two visits were proposed on dry lands the first visits to enumerate seasonal crops was uniformly the casuality in all the rounds including the one under report due to heavy workload, coupled with the shortage of primary workers in position due to administrative reasons. However the shortage of primary workers in position was kept to the minimum. It is feared that the heavy workload may adversely affect the quality of the data collected.

12. Estimation procedùre

The following estimates were prepared from the data collected through the survey.

- (1) Area under different utilisations.
- (2) Area under various crops
- (3) Area irrigated according to source
- (4) Area irrigated according to crops

The estimation procedure is detailed below:—

(a) *Land utilisation and irrigation.*—Notations used for estimating the area under various utilizations and irrigation are:—

N = Number of villages in the stratum (taluk)

n = No. of villages selected for area enumeration from the stratum.

A = Area of the stratum.

a = Areas of the selected villages in the stratum.

a_j = Area of the j th selected village in the stratum.

y_{ij} = Area under i th utilization in the j th selected village

y_i = Estimate of the i th utilization

$V(y_i)$ = Estimate of the variance of y_i

$$\text{Then } y_i = \frac{\sum_{j=1}^n y_{ij}}{\sum_{j=1}^n a_j} \times A$$

$$= \frac{A}{a} \frac{\sum_{j=1}^n y_{ij}}{\sum_{j=1}^n a_j}$$

$$V(y_i) = \frac{N(N-n)}{n(n-1)} \sum_{j=1}^n (y_{ij} - R_i a_j)^2$$

$$\text{where } R_i = \frac{\sum_{j=1}^n y_{ij}}{\sum_{j=1}^n a_j}$$

(b) *Area under crops.*—The area under various crops are estimated using the following notations.

N = No. of Village in the stratum (taluk)

n = No. of villages selected for area enumeration in the stratum.

W = Wet land area of the stratum.

D = Dry land area of the stratum.

W_j = Wet land area of the j th selected village in the stratum.

- d_j = Dry land area of the j th selected village in the stratum.
 y_{ij} = Area under i th crop in the wet land of j th selected village in the stratum.
 x_{ij} = Area under i th crop in the dry land of j th selected village in the stratum.
 Y_i = Estimate of area under i th crop in the wet land.
 X_i = Estimate of area under i th crop in the dry land.
 Z_i = $Y_i + X_i$ = Total area under i th crop

$$\text{Then } Y_i = \frac{\sum_{j=1}^n y_{ij}}{\sum_{j=1}^n w_j} \times W$$

$$X_i = \frac{\sum_{j=1}^n x_{ij}}{\sum_{j=1}^n d_j} \times D$$

$$V(Z_i) = V(y_i) + V(x_i)$$

$$= \frac{N(N-n)}{n(n-1)} \left\{ \sum_{j=1}^n (y_{ij} - R_i w_j)^2 + \sum_{j=1}^n (x_{ij} - R_{i2} d_j)^2 \right\}$$

$$\text{where } R_i = \frac{\sum_{j=1}^n y_{ij}}{\sum_{j=1}^n w_j} \text{ and}$$

$$R_{i2} = \frac{\sum_{j=1}^n x_{ij}}{\sum_{j=1}^n d_j}$$

(c) *Average yield of crops.*—The estimate of the average yield of a crop is obtained as the simple average of yields obtained from all the experiments.

13. Analysis of survey results:

The salient features of the results are summarised below:

(a) *Land Utilisation.*—The estimates of area, under various utilizations for the year 1986-87 with comparative data for the years 1975-76 and from 1980-81 to 1985-86 are furnished in table 13.1. The table reveals that the pattern of land utilization has undergone only marginal changes over the years. The net area sown has recorded steady but slow increase over the years from 1981-82. The area under current fallow is also showing a slightly increasing trend over the past two years under study. The area under cultivable waste has also increased during the year under report. But the area under non-agricultural uses has decreased during the year under report over the previous year. The changes may be attributed to some extent to the changes in the land utilization pattern of the samples selected during the year under report.

(b) *Area under principal crops.*—The area under principal crops for the year 1986-87 and comparative data for the year 1975-76 and from 1980-81 to 1985-86 are furnished in Table 13.2. The area under paddy, the staple food of the people of Kerala, showed a steadily declining trend over the years. The percentage of area under paddy to total cropped area in 1986-87 was only 23.2 as against 29.39% during 1975-76. The decrease in area under paddy during this period worked out to 23.6% in respect of Autumn crop, 25% in respect of winter crop and 10.5% in respect of summer paddy and 24% for all the seasons together. The area under arecanut and tapioca have also decreased considerably during this period. The area under cashewnut was also showing a decreasing trend during the last three years. However the area under coconut, pepper and rubber showed an increasing trend over the years. Since there was only very little change in the net area sown over the years the increase in area under coconut, pepper and rubber should have taken place at the expense of the area under, paddy, arecanut, tapioca, etc. Thus it is evident that a silent change in the cropping pattern was occurring in the State in favour of the perennial cash crops of the State which fetched comparably better returns than the seasonal crops like paddy, tapioca, etc. Paddy and coconut continued to be the most dominant crops of the State with about 48% of the total cropped area of the State under them during 1986-87 as against 53% during 1975-76.

(c) *Production of important crops.*—The production of important crops viz., paddy (season-wise), coconut, arecanut, cashew, pepper, rubber, banana, plantain and cardamom for the year 1986-87 together with those of the years 1975-76 and from 1980-81 to 1985-86 are furnished in Table 13.3.

The estimates of production of paddy, coconut, arecanut, cashew, pepper and cocoa are framed on the basis of yield estimation surveys conducted every year in respect of these crops. In the case of other crops conventional estimates of average yield obtained through ad hoc surveys were used to arrive at production estimates. The number of experiments planned for each crop for which yield estimation surveys have been conducted and the number of experiments analysed are furnished in Table 2 of the appendix tables. The number of experiments missed and the reasons thereof in respect of paddy and tapioca are furnished in Table 3 of appendix tables.

The estimates of production showed an overall decrease in respect of paddy, coconut, arecanut, pepper and cardamom while other crops showed an increase in production when compared to that of the previous year. Near drought conditions during the second half of 1985-86 followed by a late southwest monsoon and deficient rainfall during khariff season in most parts of the State have adversely affected perennial crops. Though Autumn paddy was near normal, drought conditions during the second half of the year have adversely affected winter and summer crops badly. Due to adverse weather conditions the area and production of many crops stood restricted during the year. In Wayanad, Cannanore and Kasargode the impact of adverse weather conditions was not so severe as in other parts of the State.

The mean yield estimated for various crops for which yield estimation surveys have been conducted during the year 1986-87 are furnished below:

Mean yield of crops

Name of Crop		Mean yield per hectare
1.	Paddy (1) Autumn 1986 (dry paddy)	2488 Kg./Hect.
	(2) Winter 1987 (")	2545 "
	(3) Summer 1987 (")	3204 "
2.	Tapioca 1986-87	17070 "
3.	Coconut (Nos.) "	4492 Nos./Hect.
4.	Arecanut (Nos) "	182928 "
5.	Cashew "	664 Kg./Hect.
6.	Pepper "	236 "
7.	Cocoa "	403 "
8.	Sesamum "	240 "
9.	Tamarind "	2537 "
10.	Banana "	11702 "
11.	Jack "	2833 Nos./Hect.
12.	Sugarcane (Gur) "	6557 Kg./Hect.
13.	Plantain "	4150 "

(d) *Area under irrigation*:—The area under irrigation by various sources in the State during the year 1986-87 was estimated at 2.99 lakh hectares as against 2.96 lakh hectares during the previous year. This shows an increase of only 1% in the area brought additionally under irrigation during the year 1986-87 over the previous year. The source of about 32% of the total area under irrigation was Government canals alone, while the source for another 28% was private tanks and wells. The net area irrigated formed 13.56% of net area sown in the State during 1986-87.

The gross area under irrigation in the State during 1986-87 was estimated at 4.26 lakh hectares as against 3.99 lakh hectares during the previous year. This shows that there was an increase of about 7% in the gross area irrigated during the year under report. Among the crops irrigated paddy covered about 70% of the gross irrigated area. The next important crops benefitted by irrigation was coconut with 19% and arecanut with 4% of the gross irrigated area. The gross area irrigated covered 14.82% of the total cropped area of the State.

The details of source-wise and crop-wise area under irrigation are furnished in Tables 16 & 17 respectively of the appendix tables.

TABLE 1.13.1

Land use classification—1975-76, 1980-81 to 1986-87

Area in Hectares ('00)

Classification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		1975-76	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
Total geographical area	38855	38855	38855	38855	38855	38855	38855	38855	38855
Forest	10815	10815	10815	10815	10815	10815	10815	10815	10815
Land under non-agricultural uses	2592	2698	2764	2759	2777	2797	2786	2630	
Barren and uncultivable land	785	858	856	862	866	858	831	823	
Permanent pastures and grazing land	199	54	54	53	52	42	42	37	
Land under miscellaneous tree crops	842	639	552	547	547	510	502	466	
Cultivable waste land	1134	1290	1302	1302	1289	1301	1256	1296	
Fallow other than current fallow	230	269	268	274	275	272	280	277	
Current fallow	366	436	545	445	429	417	432	443	
Net area sown	21892	21796	21699	21798	21804	21844	21910	22067	

Table 1. 13.1 (Contd.)

Classification	Percentage to geographical area									
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)		
1975-76	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1980-81	27.83	27.83	27.83	27.83	27.83	27.83	27.83	27.83	27.83	27.83
1981-82	6.67	6.94	6.96	7.10	7.14	7.20	7.17	6.78		
1982-83	2.02	2.21	2.20	2.22	2.23	2.21	2.14	2.13		
1983-84	0.51	0.14	0.14	0.14	0.14	0.13	0.11	0.09		
1984-85	2.17	1.64	1.42	1.41	1.41	1.31	1.29	1.19		
1985-86	2.92	3.32	3.35	3.35	3.32	3.35	3.23	3.34		
1986-87	0.59	0.69	0.69	0.71	0.71	0.70	0.72	0.71		
Current fallow	0.92	1.12	1.40	1.15	1.10	1.07	1.12	1.14		
Net area sown	56.34	56.10	55.85	56.10	56.12	56.22	56.39	56.79		

TABLE 1, 13.2

Area under important crops and their percentages to total cropped area

Crop	Area in hectares											
	1975-76			1980-81			1981-82			1982-83		
	Area	Per- tage	(3)	Area	Per- tage	(5)	Area	Per- tage	(7)	Area	Per- tage	(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
Paddy—Autumn	375043	12.58	349243	12.11	347098	11.95	342669	11.97				
Paddy—Winter	396392	13.30	354132	12.28	356073	12.26	352273	12.31				
Paddy—Summer	104587	3.51	98324	3.41	103700	3.57	89543	3.13				
Total	876022	29.39	801699	27.79	806871	27.77	778490	27.20				
Coconut	692945	23.24	651370	22.58	666618	22.95	674378	23.56				
Arecanut	76618	2.57	61242	2.12	61251	2.11	60816	2.12				
Cashew	109057	3.66	141277	4.90	139960	4.82	141307	4.94				
Pepper	108251	3.63	108075	3.75	108242	3.73	107467	3.75				
Tapioca	326865	10.96	244990	8.49	248069	8.54	227617	7.95				
Rubber	206686	6.93	237769	8.24	237769	8.18	256283	8.95				
Banana and plantain	52280	1.75	49262	1.71	49989	1.72	48038	1.68				

TABLE 1. 13.2 (Contd.)

Area under important crops and their percentages to total cropped area

Crop	1983-84		1984-85		1985-86		1986-87	
	Area	percen- tage	Area	percen- tage	Area	percen- tage	Area	percen- tage
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Paddy—Autumn	327783	11.45	318611	11.08	279699	9.75	286569	9.98
Paddy—Winter	324560	11.34	326812	11.37	313423	10.93	297068	10.34
Paddy—Summer	87743	3.07	84956	2.96	85159	2.97	80166	2.79
Total	740086	25.86	730379	25.41	678281	23.66	663803	23.12
Coconut	682281	23.84	687483	23.91	704682	24.58	706107	24.60
Arecanut	59604	2.08	56778	1.98	58691	2.04	57734	2.01
Cashew	142339	4.97	136863	4.76	137747	4.80	133562	4.65
Pepper	106143	3.71	105835	3.68	121565	4.24	128865	4.48
Tapioca	233010	8.14	216742	7.54	202919	7.07	192878	6.71
Rubber	271200	9.48	311976	10.85	330315	11.52	347814	12.11
Banana and plantain	49593	1.73	51417	1.78	53002	1.84	53278	1.85

TABLE 1. 13.3

Production of important crops 1975-76, 1980-81 to 1986-87

Crop	Production of important crops ('00 tonnes)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		1975-76	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
Rice—Autumn	5523	5537	5569	5788	5204	5490	4620	4684	4966
Rice—Winter	5980	5485	5892	5657	5206	5399	5270	4966	1688
Rice—Summer	1809	1697	1933	1617	1669	1670	1841	1688	11338
Total	13312	12719	13394	13062	12079	12559	11731	11338	
Cocunut (million nuts)	3439	3032	3006	3184	2602	3453	3377	3173	
Arecanut	11387	10829	10702	11027	8318	9269	10664	10563	
Cashew	1224	828	789	755	774	723	802	887	
Pepper	246	289	275	245	245	174	331	304	
Tapioca	53902	40889	37451	38487	39240	36943	32769	32923	
Rubber	1288	1366	1395	1527	1622	1889	1847	2021	
Banana and plantain	2510	3059	3275	2894	3166	3312	3611	3623	
Cardamom	21	33	28	19	20	29	33	25	

TABLE 1. 13.3 (Contd.)

Crop	Percentage of increase or decrease to previous year									
	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87			
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)			
Rice—Autumn	+0.25	+0.58	+3.93	-10.09	+5.50	-15.85	+1.38			
Rice—Winter	-8.28	+7.42	-3.99	-7.97	+3.71	-2.39	-5.77			
Rice—Summer	+6.19	+13.91	-16.35	+3.22	+0.06	+10.23	-8.32			
Total	-4.45	+5.31	-2.48	-7.53	+3.97	-6.60	-3.36			
Coconut (Million nuts)	-11.83	-0.86	+5.92	-18.28	+32.71	-2.21	-6.05			
Areca nut	-4.90	-1.17	+5.04	-24.57	+11.43	-15.05	-0.95			
Cashew	-32.35	-4.71	-4.31	+2.52	-6.59	+10.92	+10.59			
Pepper	+17.48	-4.84	-10.91	0.00	-28.98	+90.22	-8.16			
Tapioca	-24.14	-8.41	+2.77	+1.96	-5.85	-11.30	+0.46			
Rubber	+6.06	+2.12	+9.46	+6.22	-2.03	-2.23	+9.42			
Banana and Plantain	+21.87	+7.06	-11.63	+9.40	+4.61	+9.02	+0.33			
Cardamom	+57.14	-15.15	-32.14	+5.26	+45.00	+13.79	-24.25			

TABLE 1

Distribution of taluks in each district and the number of Taluks in which experiments were planned—Crop—wise-1986-87

No. of taluks where experiments were planned

District	Paddy				Coconut	Arecanut	Cashewnut	Pepper	Cocoa	Banana	Sesamum	Jack	Tamarind	Plantain	Sugar cane
	Number of taluks	Autumn	Winter	Summer												Tapioca
Trivandrum	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4
Quilon	5	5	5	5	5	5	3	4	2	4	4	5	4	4	4
Pathanamthitta	5	5	4	5	5	3	1	5	3	4	4	5	5	5	5
Alleppey	6	6	5	5	6	3	2	2	6	4	5	6	6	3	2
Kottayam	5	5	4	5	5	1	1	5	5	4	1	5	5	5	2
Idukki	4	4	4	4	3	1	1	4	3	1	1	4	4	4	4
Ernakulam	7	7	7	6	7	6	3	5	5	5	5	7	7	5	5
Trichur	5	5	5	5	4	4	4	3	3	4	5	5	4	5	2
Paigat	5	5	4	5	5	2	3	2	3	5	5	5	5	5	2
Meppuram	4	4	4	4	4	3	4	3	3	4	3	4	4	4	4
Kozhikode	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Wayanad	3	3	3	3	3	3	3	3	2	3	2	3	3	3	3
Cannanore	3	3	3	3	3	3	3	3	3	3	2	3	2	3	3
Kasargode	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2
State	61	61	61	51	60	48	37	48	47	51	33	61	57	51	11

TABLE 2

Number of experiments planned in each district for each Crop and number of Experiments analysed in 1986-87

District	Paddy										Other crops			
	Autumn		Winter		Summer		Tapioca							
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)						
Trivandrum	125	111	120	112	64	53	126	123						
Quilon	145	144	145	144	64	44	116	116						
Pathanamthitta	88	88	84	84	84	72	64	64						
Alleppey	174	169	169	161	114	111	74	64						
Kottayam	130	122	115	112	92	91	108	108						
Idukki	72	32	77	73	5	5	56	46						
Ernakulam	215	210	190	190	148	148	100	100						
Trichur	146	138	150	146	120	114	106	106						
Palghat	165	163	160	153	81	76	90	90						
Malappuram.	125	123	125	121	84	82	128	128						
Kozhikode	84	81	84	83	66	66	90	90						
Wayanad	48	Nil	100	89	77	67	45	43						
Cannanore	95	94	84	84	72	71	100	97						
Kasargode	70	70	60	60	60	60	70	70						
State	1682	1545	1663	1612	1131	1060	1273	1245						

TABLE 2—(Contd.)

Other Crops

District	Coconut		Arecanut		Cashew		Pepper	
	A	B	A	B	A	B	A	B
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)								
Trivandrum	63	63	25	25	21	21	23	23
Quilon	41	41	25	24	23	23	25	25
Pathanamthitta	18	18	20	17	5	5	24	24
Alleppey	88	88	15	15	10	10	10	10
Kottayam	60	60	25	25	5	5	35	35
Idukki	23	20	10	10	5	5	64	59
Ernakulam	99	99	52	46	18	18	27	27
Trichur	59	59	50	50	21	21	18	18
Palghat	20	20	16	16	41	41	10	10
Malappuram	57	57	58	58	75	75	20	20
Kozhikode	57	57	40	40	19	19	41	41
Wayanad	9	9	30	27	18	18	30	30
Cannanore	39	39	40	40	75	75	45	45
Kasargode	17	17	32	32	60	60	25	25
State	650	647	438	425	396	396	397	392

TABLE 2--(Contd.)

Other Crops

District	Cocoa		Banana		Sesamum		Jack	
	A	B	A	B	A	B	A	B
(1)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Trivandrum	9	9	12	12	..	..	20	20
Quilon	8	8	20	20	16	13	20	20
Pathanamthitta	13	13	14	14	..	..	14	14
Alleppey	25	25	12	9	21	12	16	15
Kottayam	25	25	18	17	..	..	24	23
Idukki	17	17	3	3	5	5	14	14
Ernakulam	34	34	20	20	25	19	21	21
Trichur	17	15	20	20	22	19	17	17
Palghat	16	15	15	15	15	14	19	19
Malappuram	25	20	20	20	10	7	20	20
Kozhikode	17	15	15	14	..	..	23	23
Wayanad	12	12	10	10	6	6	13	13
Cannanore	14	14	15	15	6	6	18	18
Kasargode	11	11	11	11	3	3	8	8
State	243	233	205	200	129	104	247	245

TABLE 2—(Concl'd)

District	Other Crops												
	Tamarind		Plantain				Sugar-cane						
	A	B	A	B	A	B	A	B	A	B			
(1)	(26)	(27)	(28)	(29)	(30)	(31)	(26)	(27)	(28)	(29)	(30)	(31)	
Trivandrum	20	20	18	18	18	..	..	..	..	..	..	..	..
Quilon	18	18	18	15	15	..	..	..	..	..	..	..	..
Pathanamthitta	15	15	15	15	13	..	..	..	..	..	..	..	..
Alleppey	12	12	12	11	11	..	..	..	..	..	..	..	..
Kottayam	13	13	13	25	25	..	..	..	..	..	..	..	..
Idukki	8	6	6	..	..	..	..	..	..	..	..	..	..
Ernakulam	23	23	23	25	25	..	..	..	..	..	..	..	..
Trichur	27	27	27	25	25	..	..	..	..	..	..	..	..
Palghat	59	59	59	25	25	..	..	..	..	..	..	..	..
Malappuram	21	21	21	20	20	..	..	..	..	..	..	..	..
Kozhikode	15	15	15	15	15	..	..	..	..	..	..	..	..
Wayanad	6	6	6	11	11	..	..	..	..	..	..	..	..
Cananore	10	10	10	15	15	..	..	..	..	..	..	..	..
Kasargode	5	5	5	9	9	..	..	..	..	..	..	..	..
State	252	250	229	229	227	90	90	90	90	78	78	78	78

A—No. of experiments planned.

B—No. of experiments analysed.

TABLE 3

District-wise number of experiments missed in respect of paddy and Tapioca by reason in 1986-87

District	Paddy												Tapioca			
	Autumn				Winter				Summer							
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Trivandrum	4	..	10	..	..	..	8	..	..	..	..	11	..	..	..	3
Quilon	..	..	1	..	1	..	..	..	..	..	..	20	..	..	..	..
Pathanamthitta	..	..	..	..	..	..	..	..	..	..	..	12	..	..	..	..
Alleppey	4	..	1	..	8	..	5	..	2	..	..	1	..	..	..	10
Kottayam	..	..	8	..	..	..	3	..	..	..	..	1	..	..	..	..
Idukki	2	..	6	..	2	..	2	..	..	..	..	..	..	..	..	10
Ernakulam	..	..	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Trichur	4	..	4	..	4	..	..	..	3	..	..	3	..	..	..	..
Palghat	..	..	2	..	..	..	7	..	..	..	..	5	..	..	..	..
Malappuram	1	..	1	..	..	..	4	..	1	..	..	1	..	..	..	..
Kozhikode	..	..	3	..	..	..	1	..	..	..	..	..	..	..	..	..
Wayanad	..	..	..	..	1	..	5	..	..	..	..	10	..	..	..	2
Cannanore	..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	3
Kasarode	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
State	15	..	42	..	16	..	35	..	6	..	65	..	..	..	..	28

1—Primary workers' absence or leave.

3—Rejected at the analysis stage.

2—Prior harvest by Cultivator.

4—Other reasons.

TABLE 4

Number of Investigators according to number of crop cutting experiments
on paddy conducted by them during 1986-87

Number of experiments	Number of Investigators		
	Autumn	Winter	Summer
4 experiments or less	684	716	648
5 to 8 experiments	68	70	52
More than 8 experiments	3	8	10
Total	755	794	710

TABLE 5

Number of experiments inspected during the year 1986-87

Sl. No.	Season	Number of experiments analysed	No. of experiments inspected at -						Percentage of experiments inspected at		
			Harvest stage		Pre-harvest stage		Post harvest stage		Harvest stage	Pre-harvest stage	Post harvest stage
			DLO	TLO	DLO	TLO	DLO	TLO			
1.	Autumn	1545	58	643	13	331	..	10	45.37	22.27	0.65
2.	Winter	1612	49	685	7	319	..	6	45.53	20.22	0.37
3.	Summer	1060	19	423	4	210	..	32	41.70	20.19	3.02
Total		4217	126	1751	24	860	..	48	..	..	..

D. L. O.—District level officer.

T. L. O.—Taluk level officer.

TABLE 6

District-wise area under principal crops—Paddy 1986-87

District	Area under paddy (in Hectare)			Total	Percentage sampling error		
	Autumn	Winter	Summer		Autumn	Winter	Summer
Trivandrum	12398	12766	280	25444	5.61	5.56	5.58
Quilon	15832	16857	135	32824	5.71	9.48	20.01
Pathanamthitta	5003	5957	2170	13130	22.36	4.51	13.44
Alleppey	29001	17429	21408	67838	8.45	12.65	11.36
Kottayam	12744	13571	7288	33603	5.42	6.84	13.69
Idukki	2976	3671	438	7085	1.39	9.63	..
Ernakulam	33365	33060	14392	80817	5.18	7.76	18.96
Trichur	29688	41600	18239	89527	7.28	6.44	17.49
Palghat	82945	71007	912	154864	3.66	5.17	16.14
Malappuram	27247	30463	4598	62308	9.49	11.45	36.89
Kozhikode	5007	10384	2732	18123	8.72	12.82	27.48
Wayanad	22	24355	5622	29999	..	14.19	42.09
Cannanore	17243	9196	522	26961	9.45	15.91	36.97
Kasargode	13098	6752	1430	21280	5.29	8.75	23.84
State	286569	297068	80166	663803	..	..	..

TABLE 7

District-wise area under principal crops—Tapioca during 1986-87

District	Area (in hectare)			Standard error (%)	
	Autumn	Winter	Summer		Total
Trivandrum	21541	21319	6554	49414	17.53
Quilon	12449	20005	538	32992	17.55
Pathanamthitta	1132	11355	706	13193	19.17
Alleppey	1761	7708	757	10226	8.91
Kottayam	1225	17206	554	18985	5.81
Idukky	960	7868	106	8934	11.77
Ernakulam	2512	6668	680	9860	11.45
Trichur	1624	3515	307	5446	14.48
Palghat	5294	5070	689	11053	11.44
Malappuram	5646	8446	1232	15324	5.96
Kozhikode	1704	1282	506	3492	25.72
Wayanad	813	1038	448	2299	30.12
Cannanore	1248	6048	534	7830	17.30
Kasargode	423	3104	303	3830	25.17
State	58332	120632	13914	192878	

TABLE 8

District-wise area under principal crops—Coconut 1986-87

District	Number of trees ('00)			Area in hectare	Percentage of sampling error
	Bearing	Young	Total		
Trivandrum	107189	64259	171448	75528	7.62
Quilon	92015	58360	150375	70599	5.43
Pathanamthitta	38733	16982	55715	26158	15.10
Alleppey	68377	48052	116429	49126	5.11
Kottayam	83970	22616	106586	49118	6.75
Idukki	17288	11041	28329	16188	17.71
Ernakulam	90559	43941	134500	59251	4.82
Trichur	84180	60864	145044	61200	6.36
Palghat	28225	32640	60865	25681	12.33
Malappuram	85884	67775	153659	65387	9.43
Kozhikode	175809	76387	252196	106412	14.12
Wayanad	1669	7062	8731	3684	30.33
Cannanore	88373	61656	150029	63303	9.45
Kasarode	47852	33846	81698	34472	20.38
State	1010123	605481	1615604	706107	

TABLE 9

District-wise area under principal crops—Areacanut—1986-87

District	Number of trees ('00)			Area under crops (in Hectare)	Percentage of sampling error
	Bearing	Young	Total		
Trivandrum	50023	11145	61168	2865	6.55
Quilon	44947	16708	61655	2823	7.01
Pathanamthitta	24701	5001	29702	1360	29.42
Alleppey	29305	16555	45860	2133	7.81
Kottayam	38363	8848	47211	2145	7.14
Idukki	33579	17724	51303	2333	11.67
Ernakulam	85871	29774	115645	5259	2.60
Trichur	105156	26388	131544	5982	13.38
Palghat	37062	7455	44517	2090	10.45
Malappuram	156138	32775	188913	8865	12.49
Kozhikode	89246	23495	112741	5288	13.94
Wayanad	16843	9658	20501	1243	36.55
Cannanore	88385	28777	117162	6441	17.99
Kasargode	115870	46148	162018	8907	3.48
State	915489	280451	1195940	57734	

TABLE 10

District-wise area under principal crops—cashewnuts 1986-87

District	Number of trees ('00)		Area under crops (in hect)	Percentage of sampling error	
	Bearing	Young			
	Total				
Trivandrum	12885	5295	18180	6060	9.24
Quilon	15690	4407	20097	6699	5.84
Pathanamthitta	4770	2136	6906	2302	12.84
Alleppey	8061	3849	11910	3970	16.87
Kottayam	3051	1146	4197	1399	7.62
Idukki	2433	885	3318	1106	25.52
Ernakulam	7782	2949	10731	3577	3.34
Trichur	17457	4035	21492	7164	13.87
Palghat	26409	8079	34488	11496	3.73
Malappuram	48066	9885	57951	19317	7.73
Kozhikode	9150	3168	12318	4106	16.75
Wayanad	2358	918	3276	1092	29.77
Cannanore	97815	15762	113577	37859	7.36
Kasargode	61743	20502	82245	27415	14.37
State	317670	83016	400686	133562	

TABLE II

District-wise Area under principal crops—Pepper 1986-87

District	No. of standards ('00)			Total area in hectares	Percentage of sampling error
	Bearing	Young	Total		
Trivandrum	22747	5264	28011	5002	21.29
Quilon	32066	8064	40130	7166	14.34
Pathanamthitta	20423	3405	23828	4255	17.41
Alleppey	12482	6294	18776	3353	4.69
Kottayam	53452	10304	63756	11385	3.51
Idukki	120988	41026	162014	28931	19.60
Ernakulam	25575	9330	34905	6233	7.34
Trichur	16470	5236	21706	3876	10.64
Palghat	5538	2901	8439	1507	22.67
Malappuram	21476	5863	27339	4882	18.12
Kozhikode	50870	18217	69087	12337	15.91
Wayanad	68163	16486	84649	15116	25.49
Cannanore	71075	20182	91257	16296	16.18
Kasargode	37262	10483	47745	8526	11.18
State	558587	163055	721642	128865	

TABLE 12

District-wise area under plantation crops—during 1986-87

District	Area in hectares			
	Rubber	Tea	Coffee	Cardamom
Trivandrum	15636	1022	50	164
Quilon	37288	600	380	637
Pathanamthitta	28709	762	..	279
Alleppey	3831	..	23	..
Kottayam	88853	2009	1171	24
Idukki	27734	23609	5770	53050
Ernakulam	43057	2	274	..
Trichur	10048	447	32	..
Palghat	17334	665	2292	3180
Malappuram	18578	174	..	188
Kozhikode	16451	..	..	194
Wayanad	5670	5349	55649	4264
Cannanore	19752	..	..	760
Kasargode	14873	..	..	..
..State	347814	34639	65641	62740

TABLE 13

District-wise area under annual crops—1986-87

District	Area in hectares					
	Banana	Plantain	Sugarcane	Pineapple	Betel leaves	
Trivandrum	796	5091	19	352	134	
Quilon	1357	2515	202	426	113	
Pathanamthitta	1143	1681	1988	148	80	
Alleppey	577	1700	1087	181	41	
Kottayam	1914	3191	318	509	66	
Idukki	394	2201	1537	306	5	
Ernakulam	2308	3144	40	663	88	
Trichur	2107	3322	5	288	84	
Palghat	1795	2331	3572	193	7	
Malappuram	3009	2568	7	189	539	
Kozhikode	1055	2125	3	217	36	
Wayanad	814	1082	14	116	2	
Cannanore	1260	2264	23	785	21	
Kasargode	195	1139	12	52	15	
State	18724	34554	8827	4425	1231	

TABLE-14

District-wise area under Seasonal Crops during 1986-87

District	Area in hectares								
	Pulses			Total	Jowar	Ragi	Other Millets	Chillies	Ginger
Kharif	Rabi	(3)	(4)							(5)	(6)	(7)	(8)	(9)
Trivandrum	155	2544	2699	2	14	17	..	..	176
Quilon	817	679	1496	..	5	4	..	..	871
Pathanamthitta	31	272	303	..	2	11	..	..	478
Alleppey	58	542	600	..	5	6	..	..	171
Kottayam	187	1849	2036	..	3	4	..	..	2596
Idukki	133	904	1037	49	205	161	..	..	2653
Ernakulam	437	1289	1726	4	3	207	..	..	2767
Trichur	1761	659	2420	8	29	104	1	1	185
Palghat	2801	5949	8750	1944	857	2901	199	199	474
Malappuram	470	806	1276	8	12	43	74	74	339
Kozhikode	222	885	1107	..	14	9	17	17	1406
Wayanad	4	388	392	4	9	10	8	8	8324
Cannanore	26	2979	3005	16	2	41	106	106	706
Kasargode	40	1014	1054	5	2	130	433	433	445
State	7142	20759	27901	2040	1162	3648	838	838	16591

TABLE-14 (contd.)

District	Area in hectares									
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
	Turmeric	Sweet Potato	Tubers	Other vegetable	Sesamum	Groundnut	Lenon-nut	Cotton	Tobacco	
Trivandrum	28	110	1809	763	18	10	43	..	..
Quilon	66	32	3476	222	2024	..	20	..	..
Pathanamthitta	19	3	3666	447	187	..	14	..	..
Alleppey	21	45	5081	787	3936	10	4	..	..
Kottayam	609	19	2546	1197	57	..	46	..	..
Idukki	250	121	1284	875	210	..	2365	..	..
Ernakulam	713	53	2374	2285	2121	..	412	..	..
Trichur	157	113	1985	1115	1150	..	45	..	..
Palghat	286	1472	1539	2630	1207	12365	133	5265	4	
Malappuram	83	1302	1929	2020	2875	8	71	..	..
Kozhikode	271	67	1845	274	55	..	603	..	..
Wayanad	274	16	1053	282	162	..	1680	..	..
Cannanore	271	119	506	884	127	3	1072	..	..
Kasargode	178	524	325	949	71	20	297	..	439	
State	3226	3996	29418	14730	14200	12416	6805	5265	443	

TABLE-15

District wise area under perennial crops during 1967-68 / 286-87

District	Area in hectares							
	Jack	Mango	Tamarind	Pappaya	Drum-stick	Palmyrah	Cloves	Nutmeg
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trivandrum	7014	7209	1765	633	2579	565	125	78
Quilon	4669	4455	674	566	1437	21	69	78
Pathanamthitta	2245	1753	226	303	471	31	63	91
Alleppey	2403	3953	265	591	678	11	21	107
Kottayam	4196	3683	485	706	1251	436	335	441
Idukki	2490	1617	162	595	333	189	61	144
Ernakulam	3192	4556	739	1013	1070	314	113	1184
Trichur	3534	4742	1423	1412	699	857	58	283
Palghat	3647	5290	3060	527	778	6850	6	65
Malappuram	4753	6343	1314	1293	1033	1362	6	92
Kozhikode	7081	7546	663	1392	2531	326	13	59
Wayanad	4921	2470	112	130	271	208	6	6
Cannanore	5818	6414	486	750	525	102	5	185
Kasargod	1854	1968	211	270	299	105	2	103
State	57817	61999	11585	10181	13955	11377	883	2916

TABLE-15 (Contd.)

District	Area in hectares							
	(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		Cinna- mon	Cocoa	Other fruit crops	Other oil seeds	Fooder crops	Green manure crops	Other non food crops
Trivandrum	10	817	1036	201	231	323	1753	1343
Quilon	16	604	345	223	236	544	1032	705
Pathanamthitta	6	741	356	19	130	175	2387	2232
Alleppey	23	1209	484	91	307	262	5040	3125
Kottayam	44	5059	676	109	319	214	19423	5888
Idukki	28	1739	837	63	118	214	2387	2232
Ernakulam	34	1784	624	182	74	342	5040	3125
Trichur	29	639	572	153	74	342	5040	3125
Palghat	165	186	1836	538	50	1128	19423	5888
Malappuram	11	374	560	58	24	2679	5888	2110
Kozhikode	68	724	755	69	42	868	2110	4848
Wayanad	16	284	779	46	74	365	4848	6768
Cannanore	119	464	640	46	106	1220	6768	5678
Kasargode	21	354	466	65	96	872	5678	56332
State	590	14978	9966	1863	1941	9708	56332	56332

TABLE-16

Source wise area under Irrigation during 1986-87

District	Area in hectares						Total
	Government Canal	Private Canal	Government tanks and wells	Private tanks and wells	Minor and lift Irrigation	Other source	
Trivandrum	5281	383	1026	885	1044	1395	10014
Quilon	478	70	78	485	235	3055	4401
Pathanamthitta	517	172	26	128	405	1627	2875
Alleppey	2523	13	83	13887	2677	3085	22268
Kottayam	1196	389	328	654	947	2699	6213
Idukki	576	43	75	76	189	1815	2774
Ernakulam	18290	74	895	8132	10725	9754	47870
Trichur	17725	622	930	21616	5928	14655	61476
Palghat	45483	279	373	12106	2125	4989	65355
Malappuram	590	745	108	12265	4362	12899	30969
Kozhikode	2760	105	262	724	1029	929	5809
Wayanad	271	550	15	81	33	6567	7517
Cannanore	397	799	155	4279	76	6552	12258
Kasaragode	407	330	74	9969	203	8482	19465
State	96494	4574	4428	85287	29978	78503	299264

TABLE-17

Crop wise Area under Irrigation during 1986-87 (area in hect.)

District	Paddy	Vegetable	Tubers	Coconut	Arecanut	Cloves, nutmeg and Cinnamon
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Trivandrum	8787	437	27	828	1	17
Quilon	3970	228	6	184	9	4
Pathanamthitta	4156	125	1	129	2	..
Alleppey	9968	569	223	15948	49	52
Kottayam	10659	285	15	11	..	106
Idukki	3173	9	5	9	2	13
Ernakulam	62142	60	9	11593	688	379
Trichur	55840	353	64	28914	2670	67
Palghat	86483	827	7	4099	1849	13
Malappuram	22297	1017	192	2907	1972	3
Kozhikode	3355	141	19	211	119	2
Wayanad	12715	70	2	28	4	..
Cannanore	6872	143	33	3468	318	23
Kasargode	8023	517	1	12342	8986	..
State	298440	4781	604	80671	16669	679

TABLE 17 (contd.)

District	Other condiments and spices	Banana	Betel leaves	Sugarcane	Others	Total
(1)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	2	382	80	2	1006	11569
Quilon	..	50	77	2	278	4808
Pathanamthitta	3	67	6	65	43	4597
Alleppey	97	130	23	74	830	27963
Kottayam	19	113	18	2	1046	12274
Idukki	6	1	..	178	29	3425
Ernakulam	20	956	12	1	1671	77531
Trichur	260	625	28	..	977	89798
Palghat	317	998	6	1671	2127	98397
Malappuram	60	1471	424	..	826	31169
Kozhikode	2	925	9	..	1840	6623
Wayanad	..	28	..	..	61	12908
Cannanore	128	1711	9	6	1082	13793
Kasargode	152	568	41	..	103	30733
State	1066	8025	733	2001	11919	425588

TABLE-18

1986-87

Irrigated and Unirrigated area under high yielding and other varieties (Autumn Paddy) (Area in Ha.)

District	High yielding			Other varieties			Total	
	Irrigated	Unirrigated	Total	Irrigated	Unirrigated	Total	Irrigated	Unirrigated
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Trivandrum	181	1297	1478	3309	7611	10920	3490	8908
Quilon	111	11857	11968	33	3831	3864	144	15688
Pathanamthitta	..	2189	2189	..	2814	2814	..	5003
Alleppey	..	11055	11055	..	17946	17946	..	29001
Kottayam	764	8419	9183	447	3114	3561	1211	11533
Idukki	61	496	557	250	2169	2419	311	2665
Ernakulam	5359	4559	9918	12185	11262	23447	17544	15821
Trichur	297	5139	5436	1776	22476	24252	2073	27615
Palghat	6054	8178	14232	25006	43707	68713	31060	51885
Malappuram	430	3775	4205	492	22550	23042	922	26325
Kozhikode	..	929	929	..	4078	4078	..	5007
Wayanad	..	8	8	..	14	14	..	22
Cannanore	97	6796	6893	51	10299	10350	148	17095
Kasaragod	8	2017	2025	119	10954	11073	127	12971
State	13362	66714	80076	43668	162825	206493	57030	229539

TABLE—19

Irrigated and Unirrigated area under high yielding and other varieties
(Winter Paddy)—1986-87

(Area in Ha.)

District	High yielding				Other varieties				Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Trivandrum		736	688	1424	4429	6913	11342	5165	7601	
Quilon		145	276	421	3593	12843	16436	3738	13119	
Pathanamthitta		994	744	1738	1113	3106	4219	2107	3850	
Alleppey		1698	3291	4989	363	11577	12440	2561	14868	
Kottayam		5722	4460	10182	1706	1683	3389	7428	6143	
Idukki		1222	438	1660	1491	520	2011	2713	958	
Ernakulam		4317	426	4743	25901	2416	28317	30218	2842	
Trichur		3342	850	4192	32188	5220	37408	35530	6070	
Palghat		3537	326	3863	51159	15985	67144	54696	16311	
Malappuram		1232	1341	2573	15565	12325	27890	16797	13666	
Kozhikode		533	378	911	120	9353	9473	653	9731	
Wayanad		2126	3798	5924	5940	12491	18431	8066	16289	
Cannanore		905	208	1113	5303	2780	8083	6208	2988	
Kasargode		868	3	871	5598	283	5881	6466	286	
State		27377	17227	44604	154969	97493	252464	182346	114722	

TABLE-20

Irrigated and Unirrigated area under high yielding and other varieties

(Summer Paddy) 1986-87

(Area in Ha.)

District	High yielding						Other varieties						Total	
	Irrigated	Unirrigated	Total	Irrigated	Unirrigated	Total	Irrigated	Unirrigated	Total	Irrigated	Unirrigated	Total	Irrigated	Unirrigated
Trivandrum	30	44	74	102	104	206	132	148						
Quilon	9	4	13	79	43	122	88	47						
Pathanamthitta	1887	110	1997	162	11	173	2049	121						
Alleppey	6607	10403	17010	800	3598	4398	7407	14001						
Kottayam	1908	3328	5236	112	1940	2052	2020	5268						
Idukki	100	69	169	49	220	269	149	289						
Ernakulam	2600	..	2600	11780	12	11792	14380	12						
Trichur	6838	2	6840	11399	..	11399	18237	2						
Palghat	160	36	196	567	149	716	727	185						
Malappuram	2751	8	2759	1827	12	1839	4578	20						
Kozhikode	1640	19	1659	1062	11	1073	2702	30						
Wayanad	2154	322	2476	2495	651	3146	4649	973						
Cannanore	65	..	65	451	6	457	516	6						
Kasarode	159	..	159	1271	..	1271	1430	..						
State	26908	14345	41253	32156	6757	38913	59064	21102						

TABLE 21

Land use classification—District-wise-1986-87

District	Total Geo- graphical area according to village papers	(Area in Hectare)				
		(2)	(3)	(4)	(5)	(6)	(7)
(1)		Forest	Land put to non-agricul- tural uses	Barren and uncultivable land	Permanent pasture and miscellaneous tree crops	Land under miscellaneous tree crops
Trivandrum	218600	49861	16515	2114	34	224
Quilon	251838	81438	21269	851	24	268
Pathanamthitta	268750	155214	7912	1078	6	103
Alleppey	136058	..	28229	366	7	126
Kottayam	219550	8141	18356	2579	41	265
Idukki	514962	260907	13840	19418	2081	12426
Ernakulam	235319	8123	34314	2393	132	1052
Trichur	299390	103619	21012	2034	123	1309
Palghat	438980	136257	28367	13682	214	9404
Malappuram	363230	103417	18458	7375	300	2885
Kozhikode	233330	41386	16351	2262	122	2652
Wayanad	212560	78787	5781	2267	106	3237
Cannanore	296767	48734	20011	10447	267	7828
Kasaragod	196133	5625	12602	15477	254	4835
State	3885497	1081509	263017	82343	3711	46614

TABLE 21 (Contd.)

District	Cultivable waste land than current fallow	Fallow other than current fallow	Current fallow	Net area sown	Area sown more than once	Total cropped area
(1)	(8)	(9)	(10)	(11)	(12)	(13)
Trivandrum	2158	1441	1361	144892	72713	217605
Quilon	864	919	1624	144581	75536	220117
Pathanamthitta	565	661	1219	101992	6295	108287
Alleppey	2018	1067	2413	101832	63770	165602
Kottayam	1621	2070	2839	183638	60542	244180
Idukki	33630	1127	1982	169551	29865	199416
Ernakulam	5321	2208	2949	178827	68588	247415
Trichur	5385	2868	4702	158338	56444	214782
Palghat	23347	4343	6286	217080	98755	315835
Malappuram	14285	4497	8522	203491	33674	237165
Kozhikode	2288	1293	2282	164694	35060	199754
Wayanad	6453	1386	1766	112777	35366	148143
Cannanore	7317	2629	4710	194854	19207	214061
Kasaragod	24390	1218	1603	130189	7763	137952
State	129582	27727	44258	2206736	663578	2870314

TABLE 22

District-wise production of important crops—1986-87

(in Tonnes)

District	Rice			Total	Jowar	Ragi	Other cereals
	Autumn	Winter	Summer				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trivandrum	23016	20391	193	43600	1	11	10
Quilon	26358	28308	125	54791	..	4	2
Pathanamthitta	6940	10822	6694	24456	..	2	8
Alleppey	28324	29881	59594	117799	..	4	6
Kottayam	20325	30164	17418	67907	..	2	2
Idukki	6659	7624	679	14962	21	173	172
Ernakulam	52475	55289	23299	131063	2	3	131
Trichur	45050	62611	35636	143297	3	24	67
Palghat	169212	120451	1313	290976	989	704	2211
Malappuram	39406	47567	8711	95684	3	11	27
Kozhikode	4498	11742	3748	19988	..	14	6
Wayanad	20	48799	8899	57718	2	9	7
Cannanore	25805	12431	447	38683	7	2	26
Kasargode	20321	10543	1998	32862	2	2	84
State	468409	496623	168754	1133786	1030	965	2759

TABLE 22 (contd.)

District	Pulses	Sugar cane (Gur)	Black Pepper	Dry Chi- llics	Dry Ginger	Cured turmeric	Processed Carda- mom	Betel- nuts (Million nuts)
(1)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Trivandrum	618	100	1049	..	715	18	5	430
Quilon	1289	1066	1509	..	2443	112	1	481
Pathanamthitta	235	14234	1201	..	1247	69	1	378
Alleppey	519	5734	1046	..	549	39	..	422
Kottayam	1786	1677	1570	..	6243	1739	..	361
Idukki	858	9588	4958	..	7635	609	1985	319
Ernakulam	1236	211	874	..	9134	824	..	1323
Trichur	1728	26	977	1	301	264	..	1178
Palghat	6589	24936	216	211	1151	552	205	237
Malappuram	947	37	851	66	667	141	1	1374
Kozhikode	842	16	2506	15	2004	326	2	1009
Wayanad	299	74	5331	8	12216	802	265	286
Cannanore	2344	121	5663	99	2053	573	35	1096
Kasargode	822	63	2627	406	1294	191	..	1669
State	20062	57883	30378	806	47652	6259	2500	10563

TABLE 22 (contd.)

District	Tama- rind	Mango	Jack	Banana	Other plan- tain	Raw cashew- nut	Tapioca	Sweet potato
(1)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
Trivandrum	5592	6531	12310	8767	20466	1856	765917	557
Quilon	2018	13833	11878	17378	9708	6427	539419	154
Pathanamthitta	775	4681	6129	16535	9380	2601	279692	18
Alleppey	808	8839	2379	7814	6919	1563	152367	278
Kottayam	1343	4696	13897	21456	19688	546	416341	152
Idukki	307	2671	10010	9358	16794	179	184934	978
Ernakulam	2819	11923	7374	25573	10595	1293	192566	416
Trichur	3143	20917	14122	22486	9036	3578	89042	886
Palghat	6809	38532	10602	22793	6201	5135	145126	11786
Malappuram	2976	27256	12177	29873	9168	8307	215762	11126
Kozhikode	573	24343	11259	10565	7650	1761	37364	373
Wayanad	51	2895	13951	9697	5518	619	65591	130
Cannanore	1326	25592	31854	14850	8558	38172	145560	1187
Kasargod	854	7852	5857	1979	3554	16673	62621	5229
State	29394	200561	163799	219104	143235	88710	3292302	33270

TABLE 22 (Contd.)

District	(25)	(26)	(27)	(28)	(29)	(30)
	Pappaya	Groundnut	Sesamum	Coconut (million nuts)	Cotton (Bale of 170 kg)	Tobacco
(1)	(25)	(26)	(27)	(28)	(29)	(30)
Trivandrum	3570	2	5	343	..	..
Quilon	492	..	559	340	..	..
Pathanamthitta	2016	..	52	132	..	..
Alleppey	3084	2	980	253	..	..
Kottayam	4794	..	14	202	..	..
Idukki	1190	..	23	42	..	..
Ernakulam	4202	..	316	308	..	..
Trichur	6063	..	271	312	..	..
Palghat	3910	5787	565	57	8498	7
Malappuram	7891	1	503	248	..	..
Kozhikode	682	..	13	527	..	..
Wayanad	1011	..	40	3	..	..
Cannanore	3713	1	49	257	..	..
Kasargod	1335	3	17	149	..	824
State	43953	5796	3407	3173	8498	831

TABLE 22 (contd.)

District	Lenongrass (1)	Tea (31)	Rubber (32)	Cocoa (33)	Pineapple (34)	Drumstick (35)	Drumstick (36)
Trivandrum	3	913	9266	215	4462	3097	1428
Quilon	1	222	21418	116	4999	404	487
Pathanamthitta	1	281	17146	606	1632	484	349
Alleppey	1	..	2948	658	1868	845	1243
Kottayam	3	170	54583	2026	5497	780	1083
Idukki	163	38017	15913	806	3523	2387	292
Ernakulam	47	..	21816	920	7306	568	324
Trichur	2	1344	6580	199	2371	895	13771
Palghat	24	1453	8143	1	2351	54927	6036
Malappuram	2	..	12611	140	2019	13771	202129
Kozhikode	10	..	13076	122	2927	50335	50335
Wayanad	29	7935	1777	57	1565	292	292
Cannanore	31	..	9682	87	13512	568	568
Kasargod	9	..	7170	83	895	324	324
State	326	50335	202129	6036	54927	13771	13771

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