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GOVERNMENT OF KERALA

REPORT ON CROP CUTTING
EXPERIMENTS
WINTER AND SUMMER PADDY
1987-'88

DEPARTMENT OF
ECONOMICS AND STATISTICS
TRIVANDRUM

1989

REPORT
ON
CROP CUTTING SURVEY ON WINTER
AND
SUMMER CROPS OF PADDY
1987-88

FOREWORD

The Department of Economics and Statistics is conducting crop estimation surveys on paddy from the year 1950, during each of the three crop seasons viz., Autumn (virippu), Winter (Mundakan) and Summer (Punja). The reports on the surveys are being published separately for Autumn (Khariff) crop and a combined one for winter and summer (Rabi) crops together. This report deals with the results obtained from winter and summer crop of paddy 1987-88.

It is prepared in the Agricultural Statistics Division of this Department.

Suggestions for the improvement are welcome.

Trivandrum,
3-3-1989.

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REPORT ON CROP CUTTING SURVEY ON WINTER AND SUMMER CROPS OF PADDY—1987-88

1. Introduction :

The Department of Economics and Statistics has been conducting crop cutting surveys on paddy in the State every year in the crop seasons Autumn (Virippu), Winter (Mundakan) and Summer (Punja) separately. The results of the survey are generally published in two volumes—one for Autumn (Khariff) and the other for Winter and Summer (Rabi) together. This publication relates to the results of the survey conducted during Rabi season in the agricultural year 1987-88 i.e. (November 1987 to June 1988).

2. Objectives

The yield estimation surveys are conducted to obtain the following estimates :

- (i) average yield of paddy (dry) per hectare at block, district and state level ;
- (ii) production of rice at block, district and state level ;
- (iii) productivity of high-yielding varieties of paddy at district and state level ;
- (iv) to study the productivity of the crop grown under different cultural practices.

3. Period of the Survey

The field work of the survey for Winter (Mundakan) season was from December 1987 to February 1988 and that for Summer (Punja) season was from March 1988 to June 1988.

4. Coverage

The survey was designed to cover the whole state except forest area. During winter season, the survey was conducted in all blocks, municipalities and corporations except in 9 blocks and 2 municipalities. In summer season, out of 151 blocks, 37 municipalities and 3 corporations, 49 blocks, 19 municipalities and 2 corporations were not covered, due to the non-availability of crop area.

5. Sampling design

The survey was conducted on a stratified multi stage sampling design. The sampling design hitherto followed for the sample survey under the scheme "Establishment of an Agency for Reporting Agricultural Statistics" was changed for framing block-level estimates from the crop

season-khariff 1987-88 onwards. Blocks are considered as strata and investigator zones in each block forming sub-strata and the first stage unit. Paddy growing survey sub-divisions in the selected cluster form the second stage unit. In each zone a list of survey sub-divisions of wet and dry land plots growing paddy under HYV irrigated, HYV un-irrigated local irrigated and local unirrigated are prepared. The required number of plots are selected by using circular systematic sampling method from this list. One kandom each was chosen by simple random after serially numbering them, anti-clock-wise starting from the south-west corner from the survey sub-division. They form the third stage unit. A square plot of side 5 metres located in the selected kandom formed the ultimate sample unit and the crop in the demarcated plot harvested, threshed, winnowed and weighed. The weight of the cleaned grains and other relevant details such as irrigation status, use of manure, fertilizers, insecticides, pesticides etc. were recorded in the prescribed schedule. In each investigator zone, 6 experiments per season are to be conducted. In each corporation and municipality the number is limited to 5 and 10 respectively.

Blocks in rural areas and municipalities and corporations in the urban areas in each district are treated as stratum. The blocks are again divided into a number of investigator zones depending on the area of the block, nature of land etc. Corporation area is divided into 3 investigator zones and municipality with an area of 10 sq. km. and above are treated as one investigator zone. These investigator zones formed for the EARAS Survey are treated as sub-stratum for the survey. The remaining small municipalities are grouped with the adjoining blocks.

In each investigator zone, 100 clusters of 5 survey sub-division numbers as in the basic tax register are selected for the survey. These 100 clusters are allocated among the wet and dry lands in proportion to the area under these categories in the zone.

In each investigator zone, list of wet land survey sub-divisions and dry land survey sub-divisions as per the basic tax register is prepared separately in an orderly manner (one village after the other). The required number of key plots (survey sub-divisions) are selected from each list in proportion to the wet and dry land area for forming the cluster using circular systematic sampling method. These key plots together with the two other adjacent plots on either side (stand facing the key plot in south north direction left and right in the horizontal direction) form the cluster. The wet land clusters of 5 survey sub-divisions each are visited every paddy season in an agricultural year in an investigator zone for the collection of area under paddy during the season. From these paddy growing plots in a season, 6 survey sub-division numbers are selected for crop cutting survey.

Three samples of 250 gms. each are collected for drilage experiment from each block. The first sample was collected at the beginning of the harvesting seasons, second towards the middle and third towards the end.

These samples were weighed immediately on receipt and dried. The process continued on alternative days till two consecutive weights were the same. The drriage ratio thus obtained was used for the estimation of dry weight of paddy.

6. Field work

The field work of the survey was attended to by the investigators under the immediate supervision of Taluk Statistical Inspectors and Taluk Statistical Officers. The Deputy Directors of the Districts were in overall charge for conducting the survey properly and timely. He is assisted by the District Officers and Additional District Officers.

During the crop seasons of winter and summer 1987-88, the total number of crop cutting experiments planned were 4168 and 1779 respectively.

The number analysed during winter and summer were 4100 (98%) and 1703 (96%) respectively. The number of crop cutting experiments planned and analysed in each block during winter and summer 1987-88 is furnished in tables 1.1 and 1.2 respectively.

7. Supervision

The survey was inspected at pre-harvest, harvest and post harvest stages by the Taluk-level and District level officers. The Statistical Inspectors and Taluk Statistical Officers were made responsible to inspect at least one experiment in each Investigator zone and the Deputy Director, District Officer and Additional District Officer, at least one in each block at harvest stage. The Statistical Inspector had to conduct, atleast one harvest stage inspection in each investigator zone subject to a minimum of 5 experiments in a block over & above the officers of the Agriculture Department had to conduct supervision on 1% of the crop cutting experiments.

The percentage of experiments inspected during winter and summer 1987-88 are given in the following table :—

Season	No. of crop cutting experiments conducted	Percentage of experiments inspected			
		Pre harvest stage	Harvest stage	Post-harvest stage	Total
Winter 1988	4100	20	8	1	29
Summer 1988	1703	25	11	1	37

8. Analysis of data

On completion of the field work of the survey the data collected were transmitted to the concerned District Officers of the Department and the consolidated data of each District were forwarded to the head office for tabulation, estimation, etc. The procedure adopted for estimation of various parameters at block, District and State level is described in the ensuing paragraphs.

9. Estimation

Mean yield of paddy, its standard error and production of rice were estimated from the data collected through the surveys. Estimation of mean yield has been done separately for the following categories of paddy and the weighted average is computed to obtain the mean yield of all varieties together.

1. High yielding varieties of paddy—Irrigated (HYV-1).
2. Do. Unirrigated (HYV-UI)
3. Local varieties of paddy irrigated (L-I)
4. Do. —unirrigated (L-UI)

(i) *Mean yield of paddy at block level.*—The following formula has been utilised to estimate mean yield of paddy at block-level.

$$\bar{x}_p = \sum_{j=1}^n \frac{x_{pj}}{p} \times 400 \times d, \quad \text{where}$$

n_p = Number of crop cutting experiments conducted on the pth category paddy in the block.

x_{pj} = Weight of paddy (in Kg.) obtained from the jth experiment on the pth category paddy of the block.

p = 1, 2, 3, 4 represents HYV—I, HYV-UI, L—I and L—UI respectively.

d = The weight of dry paddy per Kg. of the harvested produce obtained through driage experiments.

The experimental plot is 1/400th of a hectare and hence \bar{x}_p gives the mean yield of dry paddy per hectare of the pth category at block-level.

Mean yield of dry paddy of the block for all categories taken together obtained by computing the weighted average of the mean yield of all the

four categories, weights being the proportion of area under paddy of the respective classifications. Thus mean yield of dry paddy (all categories together) in Kg. per hectare of the block is given by :

$$\bar{x} = \frac{\sum_{p=1}^4 a_p \bar{x}_p}{\sum_{p=1}^4 a_p}, \quad \text{where}$$

a_p is the area under the pth category paddy in the block.

Mean yield of paddy for the District is obtained as the weighted average of mean yield of the blocks in the Districts, weights being the proportion of area under the crop in the respective blocks. So also mean yield of paddy for the State is computed as the weighted average mean yield of the Districts, weights being the proportion of area under the crop in the respective Districts.

(ii) *Standard error of block mean yield.*—Standard error of mean yield per hectare of the pth category paddy of the block is computed using the formula

$$s_p = \sqrt{\frac{M.S.S}{n}} \times 400d, \text{ where}$$

n_p = No. of crop cutting experiments conducted as pth category paddy of the block.

$$M.S.S = \frac{T.SS}{p - 1}$$

$$TSS = \sum_{r=1}^{np} x_{rj}^2 - \frac{\left(\sum_{r=1}^{np} x_{rj} \right)^2}{np}$$

x_{rj} is the weight of harvested produce obtained from the jth cut on the pth category paddy of the block.

Then standard error of the block mean yield is given by

$$S = \frac{\sqrt{\sum_{p=1}^4 (a_p s_p)^2}}{\sqrt{\left(\sum_{p=1}^4 a_p\right)^2}} = \frac{1}{\sqrt{\sum_{p=1}^4 a_p}} \sqrt{\sum_{p=1}^4 (a_p s_p)^2}$$

Where a_p represents the area of p th category paddy in the block.
The standard error of the District mean yield is obtained.

$$S = \frac{\sqrt{\sum_{i=1}^n (a_i s_i)^2}}{\left(\sum_{i=1}^n a_i\right)^2}, \text{ where}$$

n = number of blocks in the District

a_i = area under paddy in the i th block of the District and

s_i = standard error of the i th block mean yield.

Computation of the standard error of the State mean yield is also made utilising the same formula where 'n' will represent the number of Districts in the State, 'ai', area under paddy in the i th District and 'si' the standard error of mean yield of the i th District.

(iii) *Production of rice.*—The estimates of mean yield obtained from crop cutting survey and that of area obtained from area enumeration under the survey 'Establishment of an Agency for Reporting Agricultural Statistics' were utilised for computation of estimates of production of rice. In terms of weight, 65.7% clean rice is accounted for from dry paddy.

10. Results of the survey

(i) *General.*—Production of rice in the State during 1987-88 has been estimated at 10,32,585 tonnes which is less than 1,01,201 tonnes than that of previous year production of 11,33,786 tonnes.

State level estimates of area, mean yield of dry paddy and production of rice for 1986-87 and 1987-88 winter and summer are furnished below :—

(1) <i>Crop season</i>	(2) <i>Area under paddy (Hect)</i>		(3) <i>Mean yield of dry paddy in Kg. Hect.</i>		(4) <i>Production of rice in tonnes</i>	
	1986-87	1987-88	1986-87	1987-88	1986-87	1987-88
Winter	297068	293891	2545	2436	496623	470308
Summer	80166	69746	3204	3097	168754	141934

During the two crop seasons of winter and summer 1988, the area, mean yield and production of rice showed a decrease when compared to those for the previous year. Reports from districts show that the decline in yield rate was mainly due to drought, non-availability of sufficient rain at crucial growth period, pest attack, etc.

The scheme for block-wise estimation of mean yield and production was implemented from 1987-88 Autumn onwards and the number of crop cutting experiments have considerably increased than the previous year when taluk was the stratum.

The details of crop cutting experiments conducted for the two years are furnished below :—

<i>Year</i>	<i>No. of crop cutting experiments conducted</i>		
	<i>Autumn</i>	<i>Winter</i>	<i>Summer</i>
1986-87	1545	1612	1060
1987-88	3607	4100	1703

It may be seen that the percentage increase of crop cutting experiments during Autumn, Winter and Summer were 133, 154 and 61 respectively.

On an analysis of 4100 crop cutting experiments on winter paddy and 1703 experiments on summer paddy it has come to light that 40% of experiments during winter and 36% of experiments during summer had reported an yield rate between 2001-3000 kg./ha. while 17% of the experiments in winter and 19% of the experiments in summer recorded an average mean yield of 3000-4000 kg. per hectare. But 29% of the experiments in winter, 24% of experiments in summer, showed an average yield between 1001 and 2000 kg. hectare only. An yield per hectare of 1000 kg. and below was reported from 9% of the experiments during winter and from 6% of the experiments during summer.

Sl. No.	Yield range (kg/ha.)	Percentage of experimental plots	
		Winter 88	Summer 88
1	0	0.34	0.88
2	1—1000	8.46	5.75
3	1001—2000	28.63	24.08
4	2001—3000	40.32	35.70
5	3001—4000	17.20	18.61
6	4001—5000	3.90	9.04
7	5001—6000	0.83	4.29
8	6001—and above	0.32	1.65
	Total	100.00	100.00

The estimates of area, mean yield, standard error and production of rice at block level for winter and summer paddy 1988 are furnished in tables 1.1 and 1.2 respectively along with the number of crop cutting experiments analysed. The estimates of mean yield of winter and summer paddy for the six years from 1983 to 1988 are furnished in Table 2.1 and 2.2 respectively for a comparative study.

(ii) *High Yielding Varieties.*—The district-wise area under paddy, mean yield and production of rice for winter and summer 1987-88 are furnished in Tables 3.1 and 3.2 respectively in respect of high yielding varieties and other varieties. Details from the state as a whole are furnished in the table given below:—

Area and production of winter and summer paddy 1987-88 for the State

Varieties of paddy	Area under paddy (Ha.)		Mean yield of dry paddy (kg/ha.)		Production of rice (tonnes)	
	Winter 1988	Summer 1988	Winter 1988	Summer 1988	Winter 1988	Summer 1988
High yielding varieties	33763	31311	3034	3710	67295	76319
Other varieties	260128	38435	2369	2673	404858	67496
All varieties	293891	69746	2445	3138	472153	143815

The percentage area under high yielding varieties and other varieties of paddy during winter 1988 were 11 and 89 respectively whereas those for production were 14 and 86. Similar was the case with summer paddy 1988. In respect of area and production the percentages were 45 and 55, 53 and 47 for HYV and local respectively. The share of contribution of high yielding varieties to total production is much higher than that of local varieties, during both the seasons of 1987-88. The District-wise analysis shows that the productivity of local varieties exceeded that of high yielding varieties only in Palghat district during summer 1988.

The number of crop cutting experiments conducted in high yielding varieties, name of the variety corresponding to the highest average yield and yield rate in respect of each district for winter 1988 and summer 1988 are furnished in the following table.

High yielding variety with highest mean yield—Winter 1988.

<i>Sl. No.</i>	<i>District</i>	<i>Total No. of crop cutting experiments on HYV</i>	<i>Name of the H Y V corresponding to the highest mean yield</i>	<i>Highest meanyield (kg./ha.)</i>	<i>No. of experimental plots where HYV in Col. 4 was grown</i>
(1)	(2)	(3)	(4)	(5)	(6)
1	Trivandrum	37	Karthika	4464	1
2	Quilon	17	Santhosh	3735	1
3	Pathanamthitta	76	Bharathy	4906	9
4	Alleppey	33	M.O. 5	3589	2
5	Kottayam	148	Triveni	4145	1
6	Idukki	11	I.R. 8	4050	4
7	Ernakulam	54	Pavizham	3074	2
8	Trichur	39	Triveni	4226	1
9	Palghat	25	Jaya	3132	3
10	Malappuram	41	Culture	4300	1
11	Kozhikode	17	Bharathy	5102	1
12	Wayanad	25	Jaya	3611	4
13	Cannanore	80	Rohini	4626	1
14	Kasaragode	23	Triveni	3231	5

The highest yield rate has been recorded in Kozhikode District for Bharathy followed by the same variety in Pathanamthitta District and Rohini in Cannanore District among high yielding varieties of paddy during winter 1987-88.

**High yielding variety with highest mean yield
summer 1988**

<i>Sl. No.</i>	<i>District</i>	<i>Total No. of crop cutting experiments on HYV Paddy</i>	<i>Name of the HYV corresponding to the highest yield</i>	<i>Highest mean yield (Kg./ha)</i>	<i>No. of experimental plots where the HYV in Col. 4 was grown</i>
1	2	3	4	5	6
1	Trivandrum	8	Jaya	1567	3
2	Quilon	4	Pavizham	1266	2
3	Pathanamthitta	43	Bharathy	5444	2
4	Alleppey	63	Bhadra	5149	1
5	Kottayam	80	IR-5	4268	1
6	Idukki	No paddy			
7	Ernakulam	74	Annapurna	2674	1
8	Trichur	135	Karthika	4324	1
9	Palghat	32	Swarnaprabha	5146	1
10	Malappuram	116	Massoori	4264	1
11	Kozhikode	53	Jaya	3101	8
12	Wayanad	50	Sabari	5045	5
13	Cannanore	28	Aswathy	3176	1
14	Kasaragod	15	Aswathy	4853	5

For summer 1987-88 the highest yield rate has been recorded by Bharathy in Pathanamthitta district followed by Bhadra in Alleppey district, Swarnaprabha in Palghat district and Sabari in Wayanad district among high yielding varieties.

(iii) *Cultural Practices:*

(a) *Winter paddy 1987-88.*—During winter season out of the total 4100 experimental plots, 1969 plots (48%) were irrigated. Of these irrigated plots, 90% were applied with chemical fertilizers & 8% with other organic manures. Only 2% of the plots were unmanured. Out of 2131 unirrigated plots, 77% were applied with chemical fertilizers & 16% with other manures. In 7% of the plots no manures were provided. It is seen that 98% of the experimental plots cultivated with high yielding varieties of paddy were applied with chemical fertilizers or manures.

Plant protection measures such as insecticides, pesticides, etc. were resorted to in 79% of the experimental plots grown with high yielding varieties of paddy and 45% of the plots grown with local varieties.

(b) *Summer paddy 1988.*—Out of the 1073 experimental plots of summer paddy, 1435 (84%) plots were irrigated and 93% of the irrigated plots were applied with chemical fertilizers, and 5% with other organic manures. Only 2% of the plots were left unmanured. There were 268 unirrigated plots of which 91% were applied with chemical fertilizers and 6% with other manures. 3% of the unirrigated plots were unmanured. About 99% of the experimental plots cultivated with high yielding variety seeds were applied with chemical fertilizers and manures.

Plant protection measures such as treatment with insecticides, pesticides, etc. have been adopted in 73% of the plots. The treatment was done in 85% of the plots grown with high yielding varieties where as this percentage in the case of local varieties was only 64.

The district-wise details of mean yield and number of crop cutting experiments analysed in respect of winter and summer paddy 1987-88, grown under the various cultural practices are furnished in tables 4.1 and 4.2 respectively.

of the area and the yield of rice in the area. The yield of rice in the area is given in the following table.

(Tonnes)

Production of Rices

Standard error

Mean yield of dry paddy (Kg. Ha.)

Area (Ha.)

No. of Experiments

Planned

Analyzed

(3)

(4)

(5)

(6)

(7)

(8)

304

123

2325

199

TABLE C.L.F.
WINTER PADDY 1987-88

Block-wise estimates of Area, Mean yield and production of Rice

Sl. No. Block and Districts

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Athiyannur	18	18	343	2405	247	542
2	Nemom	30	27	522	1869	148	641
3	Parassala	24	21	956	2081	171	1307
4	Perumkadavila	30	29	1110	2021	177	1474
5	Kazhakkuttom	36	36	1167	1855	87	1422
6	Trivandrum (Rural)	8	8	699	2210	130	1015
7	Nedumangad	30	30	554	2280	131	830
8	Vellanad	30	28	946	1728	105	1074
9	Vamanapuram	30	30	1452	2582	141	2463
10	Chirayinkil	18	18	791	2457	162	1277
11	Arkala	23	23	829	2383	108	1298
12	Kilimanoor	36	34	2137	2765	97	3882
13	Corporation Trivandrum	6	6	199	2325	123	304

Municipalities

14	Attingal	6	6	196	1716	22	221
15	Nedumangad	10	9	184	2085	358	252
16	Varkala	10	10	71	1530	109	71
	TRIVANDRUM DISTRICT	345	333	12156	2263	39	18073
17	Anchalumoru	12	12	157	1850	143	191
18	Chittumala	18	18	558	2157	153	791
19	Ithikara	30	30	1430	2269	134	2132
20	Mughathala	18	17	749	2005	210	987
21	Karunagappally	18	18	1530	1822	100	1832
22	Chavara	12	12	672	1966	194	868
23	Ochira (Portion)	12	12	780	1942	297	996
24	Sasthamcottah (Portion)	24	24	1767	2414	109	2802
25	Kottarakara	30	29	1804	2954	115	3501
26	Vettikavala	30	30	2159	2862	95	4060
27	Chadayamangalam	30	30	1902	2658	114	3322
28	Anchal	30	30	1258	2864	117	2367
29	Pathanapuram	30	30	1229	2905	135	2346
	Municipalities						
30	Punalur	10	10	235	2630	73	406
31	Quilon	5	3	9	691	231	4
	QUILON DISTRICT	309	305	16239	2494	38	26605
32	Parakode	24	24	1743	3241	90	3712
33	Pandalam (Portion)	18	18	435	2999	176	857
34	Sasthamcottah (Portion)	6	6	414	2999	208	816
35	Kulanada (Portion)	18	16	269	3972	528	702
36	Konni	24	24	843	3010	161	1667
37	Elanthoor	23	22	901	2796	123	1655
38	Ranni	6	6	151	3538	89	351

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
39	Mallappally	22	22	297	4079	299	796
40	Koipuram	16	14	186	4124	269	304
41	Pulikeezh	14	14	87	4285	282	245
	<i>Municipalities</i>						
42	Pathana.nthitta	10	9	199	2807	220	367
43	Thiruvalla	9	1	3	2763	0	5
	PATHANAMTHITTA DISTRICT	182	176	5528	3215	57	11677
44	Thycattusseri	18	16	647	1005	143	427
45	Pattanakad	12	12	134	746	109	66
46	Kanjikuzhi	18	16	853	1041	268	583
47	Aryad	18	18	378	961	172	239
48	Ambalapuzha	12	11	930	2373	109	1450
49	Hari pad	18	18	1803	2697	219	3195
50	Muthukulam	18	18	1257	1481	142	1223
51	Ochira (Portion)	6	6	377	1591	151	394
52	Chengannur	18	16	3587	3088	375	7277
53	Kulanada (Portion)	6	6	241	2634	299	417
54	Mave likara	18	18	1296	1959	115	1668
55	Bharanikavu	18	17	1730	2333	211	2651
56	Pandalam (Portion)	6	6	436	1671	99	479
57	Veliyanad	16	13	3902	3999	217	10251
58	Champakulam	18	15	5477	3431	225	12345
	<i>Municipalities</i>						
59	Alleppey	10	10	281	3873	438	715
60	Chengannur	9	9	38	3200	384	80
61	Kayamkulam	10	10	349	2118	210	486

62	Mavelikara	9	9	13	1569	352	13
63	Sheratalai	10	10	67	633	64	28
	ALLEPPEY DISTRICT	268	254	23796	2814	90	43987
64	Madappally	21	20	1288	3143	188	2660
65	Vazhoor	9	9	34	2981	417	67
66	Kanjirappally	..	..	3629	3721	..	8871
67	Pampady	14	14	544	3511	218	1255
68	Ettumanoor	28	28	1247	4871	192	3991
69	Pallam	24	22	1524	2913	152	2917
70	Uzhavoor	30	30	1325	2690	85	2342
71	Lalam	28	28	4	3478	..	9
72	Erattupetta	1	1	843	2201	121	1219
73	Vaikom	28	28	2411	2608	178	4131
74	Kaduthuruthy	30	28				
	<i>Municipalities</i>						
75	Changanassery	8	8	91	4332	528	259
76	Kottayam	..	..	..	..	..	..
77	Palai	10	9	42	2754	422	76
	KOTTAYAM DISTRICT	231	225	12982	3259	213	27797
78	Thodupuzha	24	24	597	2997	180	1176
79	Elamdesam	24	24	1168	2995	159	2298
80	Idukki	2	2	328	3582	1541	772
81	Arudai	3	3	28	2935	345	54
82	Adimali	6	6	113	2361	246	175
83	Devicolam	2	2	149	3677	0	360
84	Kattappana	6	6	656	1661	71	716
85	Nedumkandam	1	1	7	488	..	2

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>Municipalities</i>						
86	Thodupuzha	9	9	210	2834	214	391
	Idukki DISTRICT	77	77	3256	2779	68	5944
87	Alangad	12	12	2106	2178	168	3013
88	Angamali	30	30	3916	2350	93	6045
89	Edappally	12	12	1200	2192	138	1728
90	Koovappady	30	30	3625	2278	146	5426
91	Kothamangalam	36	36	2533	2566	134	4270
92	Mulamthuruthi	23	23	2030	1714	118	2586
93	Muvattupuzha	30	30	1835	2790	120	3364
94	Palluruthi	..	..	..	..	..	..
95	Pampakuda	36	36	2238	2612	161	4355
96	Parakadavu	18	18	2500	2429	99	3990
97	Parur	..	..	..	..	..	..
98	Vadavukode	30	30	3633	2160	96	5155
99	Vazhakulam	34	34	5655	2298	84	8537
100	Vypeen	..	..	..	..	..	..
101	Vyttila	..	..	..	..	..	..
	<i>Municipalities</i>						
102	Angamaly	10	10	454	2624	63	782
103	Kothamangalam	10	10	561	1980	188	730
104	Muvattupuzha	10	10	136	2869	199	256
105	Perumbavoor	10	10	266	5865	217	1025
106	Tripunithura	10	10	102	1936	226	130
	<i>Corporation</i>						
107	Cochin	2	2	21	1885	640	26
	ERNAKULAM DISTRICT	343	343	3311	2364	35	51418

108	Anthicaud	21	2158	3037	492	4305
109	Cherpu	24	2046	3162	296	4251
110	Ollukara	30	3449	2552	49	5783
111	Puzhakkal	36	3667	2509	119	6045
112	Chowannur	24	6022	1972	128	7802
113	Pazhayannur	29	4131	2354	113	6388
114	Vadakkancherry	36	7073	2003	51	9308
115	Chowgbat	23	412	1009	89	273
116	Mullassery	18	905	1971	233	1172
117	Thalikulam	16	55	896	117	33
118	Chalakudy	36	1976	2423	133	3146
119	Irinjalakuda	24	2677	2098	246	3690
120	Kodakara	24	1852	2627	128	3196
121	Mala	30	3540	2266	107	5271
122	Vellangullur	24	1992	2030	119	2657
123	Kodungallur	6	697	704	198	322
124	Mathilakom	18	471	715	116	222
	<i>Municipalities</i>					
125	Chowghat	..	424	988	..	275
126	Chalakudy	..	273	2202	..	395
127	Irinjalakuda	..	229	2300	..	346
128	Kodungallur	9	71	1682	158	77
129	Trichur	..	140	2544	..	234
	TRICHUR DISTRICT	429	44259	2242	40	65192
130	Alathur	42	9785	2619	130	16834
131	Kuzhal Mannam	47	8483	2386	157	13298
132	Palghat	42	7963	2535	128	13260
133	Kollengode	41	10317	2544	241	17241
134	Nenmara	18	2482	2886	195	4706
135	Chittoor	25	6086	2979	308	11912
136	Mannarghat	54	4932	2077	93	6729

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
137	Attappadi	10	10	209	3647	339	501
138	Srekrishnapuram	42	37	3663	2193	123	5278
139	Pattambi	30	28	4218	2359	86	6537
140	Ottappalam	36	36	2491	2316	147	5311
141	Thrithala	33	32	3678	2104	137	5084
	<i>Municipality</i>						
142	Chittur-Thathamangalam	10	10	1409	3061	346	2834
143	Palghat	10	10	1102	2861	252	2071
144	Shornur	10	9	564	2070	194	767
	PALGHAT DISTRICT	451	441	68382	2501	58	112363
145	Malappuram	36	36	1976	2326	109	3020
146	Manjeri	30	28	1508	2388	107	2366
147	Kondotty	42	42	2186	1867	165	2682
148	Vandoor	48	47	4047	2519	104	6698
149	Nilamboor	24	24	2266	2306	279	3433
150	Andathode	18	18	423	1817	157	505
151	Ponnani	30	30	2614	1625	126	2790
152	Perunthalmanna	42	41	3066	2170	125	45372
153	Mankada	24	24	2256	2371	112	3515
154	Thirurangadi	28	26	2102	1849	113	2554
155	Vengara	34	34	1393	2332	103	2134
156	Tirur	30	29	1994	1693	178	2218
157	Kuttipuram	30	29	2492	2274	121	3723
158	Thannur	22	22	1718	2000	119	2258
	<i>Municipalities</i>						
159	Manjeri	10	10	308	2866	103	580
160	Malappuram	10	10	82	3174	159	171
161	Tirur	10	10	190	1971	202	246
	MALAPPURAM DISTRICT	468	460	30621	2151	34	43265

162	Balusseri	21	1248	1349	134	1106
163	Perambra	15	1041	1671	84	1143
164	Meladi	18	572	1144	151	430
165	Panthalayani	15	293	918	144	177
166	Kozhikode	20	439	1796	72	518
167	Chelanur	21	409	1305	92	351
168	Koduvally	24	1331	2112	153	1847
169	Kunnamangalam	21	2358	2022	156	3133
170	Badagara	18	266	978	82	171
171	Thuneri	25	349	602	116	138
172	Kunnummal	28	543	1685	97	601
173	Thodanur	24	466	1029	122	315
	<i>Corporation</i>					
174	Calicut	10	277	1222	188	223
	<i>Municipalities</i>					
175	Badagara	10	93	918	222	56
	KOZHIKODE DISTRICT	270	9685	1604	50	10209
176	Kalpatta	61	2639	2211	94	3834
177	Mananthavady	72	7284	2848	96	13628
178	Sultan Batory	72	8495	2312	117	12905
	WAYANAD DISTRICT	205	18418	2510	67	30367
179	Kuthuparamba	42	639	1615	181	678
180	Per. voor	43	600	2407	138	949
181	Iritty	49	2464	3194	264	5171
182	Iellicherry	24	505	1866	201	619
183	Cannanore	11	90	1116	243	66
184	Edakkad	36	734	2335	100	1126

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
185	Thaliparamba	47	47	1239	2189	78	1782
186	Pavannur	59	59	1908	2212	141	2773
187	Irikkur	48	48	1160	2644	28	2015
	<i>Municipalities</i>						
188	Tellicherry	3	3	4	1163	..	3
189	Cannanore	..	..	..	..	..	..
	CANNANORE DISTRICT	362	362	9343	2473	79	15182
190	Kanhangad	48	48	1583	2725	83	2834
191	Neelieswar	54	54	1491	2031	82	1990
192	Manjeri	56	55	2010	2604	106	3439
193	Kasargode	54	54	598	2716	92	1067
	<i>Municipalities</i>						
194	Kasaragode	6	6	287	2676	476	505
195	Kanhangad	10	10	146	2492	108	239
	KASARAGODE DISTRICT	228	227	6115	2507	52	10074
	STATE	4168	4100	293891	2445	21	472153

TABLE 1.2

SUMMER PADDY 1988

Block-wise Estimates of Area, Mean Yield and Production of Rice

Sl. No.	Block/District	No. of experiments		Area (Ha)	Mean yield of dry paddy (Kg./Ha)	Standard error	Production of Rice (Tonnes)
		Planned	Analytical				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Athiyar	6	6	119	680	399	53
2	Nemom	12	11	64	1712	221	72
3	Parasala	6	5	26	2166	240	37
4	Perumkadavila	..	..	..	..	..	..
5	Kazhakuttom	..	..	..	..	..	..
6	Trivandrum Rural	..	..	..	..	..	..
7	Nedumangad	..	..	..	..	..	..
8	Velland	..	..	..	..	..	..
9	Vamanapuram	..	..	..	..	..	..
10	Chirayinkil	2	2	4	0	0	0
11	Varkala	3	3	11	0	14	0
12	Kulimanoor	..	..	..	..	..	..
<i>Corporation:</i>							
13	Trivandrum	..	..	..	..	..	..
<i>Municipalities :</i>							
14	Attingal	..	..	..	..	..	..
15	Nedumangad	..	..	..	..	..	..
16	Varkala	..	..	..	..	..	..
				224	1101	69	162
TRIVANDRUM DISTRICT							

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
17	Anchalammoodu	..	..	..	..	..	..
18	Chittumala	..	..	..	..	..	..
19	Ithikara	.. 5	.. 5	.. 39	.. 0	.. 0	.. 0
20	Mughathala	..	..	..	..	..	..
21	Karugappally	..	..	..	..	..	..
22	Chavara	..	..	..	..	..	..
23	Ochira (Portion)	..	..	..	..	..	..
24	Sasthamcotta (Portion)	.. 1	.. 1	.. 6	.. 676	.. 0	.. 3
25	Kottarakkara	..	..	..	..	..	..
26	Vettikavala	.. 1	.. 1	.. 6	.. 43	.. 0	.. 0
27	Chadayamangalam	..	..	..	..	..	..
28	Anchal	..	..	..	..	..	..
29	Pathanapuram	.. 3	.. 3	.. 5	.. 1210	.. 223	.. 4
<i>Municipalities :</i>							
30	Punalur	..	..	..	..	..	..
31	Quilon	..	..	..	..	..	..
	QUILON DISTRICT	10	10	56	190	20	7
32	Parakode	1	1	2	403	0	1
33	Pandalam (Portion)	18	18	493	2788	105	903
34	Sasthamcotta (Portion)	..	..	..	..	..	..
35	Kulanada (Portion)	.. 12	.. 8	.. 437	.. 5622	.. 85	.. 1614
36	Konni	..	..	..	..	..	..
37	Elanthor	.. 8	.. 6	.. 48	.. 2660	.. 398	.. 82
38	Ranni	..	..	..	..	..	..
39	Mallappally	.. 3	.. 3	.. 136	.. 5171	.. 44	.. 462
40	Koipuram	12	10	223	4315	177	632
41	Pulikcezh	23	22	2335	4878	262	7483

Municipalities :

42	Pathanamthitta	10	10	274	5149	577	927
43	Thiruvalla	87	78	3948	4666	161	12104
PATHANAMTHITTA DISTRICT							
44	Thycattussery	..	..	..	..	..	..
45	Pattanakad	..	..	..	..	..	..
46	Kanjikuzhi	..	..	..	..	..	..
47	Aryad	..	..	..	..	..	..
48	Ambalapuzha	12	11	1306	3301	217	2833
49	Haripad	12	12	2117	3847	391	5351
50	Muthukulam	6	6	253	4313	448	717
51	Ochira (Portion)	..	..	..	..	..	..
52	Chengannur	19	15	1003	3634	364	2395
53	Kulanada (Portion)	6	6	280	3088	49	568
54	Mavelikara	16	11	977	3702	561	2376
55	Bharanikav	9	9	56	761	112	28
56	Pandalam (Portion)	5	5	426	4173	676	1168
57	Veliyanad	18	10	5108	3912	730	13130
58	Champakulam	18	12	5381	3972	145	14044
<i>Municipalities :</i>							
59	Alleppey	..	2	29	787	..	15
60	Chengannur	..	8	173	3612	449	411
61	Kayamkulam	..	..	..	..	..	..
62	Mavelikara	..	..	..	..	..	..
63	Sherthalai	..	..	..	..	..	..
ALLEPPEY DISTRICT							
64	Madappally	131	107	17109	3829	106	43036
65	Vazhoor	17	16	1899	3349	370	4178
66	Kanjurappally	..	..	..	..	..	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
67	Pampady	4	4	14	3759	352	35
68	Ettumanur	21	15	1194	3389	364	2659
69	Pallam	30	28	3366	4558	1163	10079
70	Uzhavoor	..	..	..	..	..	..
71	Lalam	..	..	..	..	..	..
72	Erattupettah	..	..	..	..	..	..
73	Vaikom	..	..	16	3389	..	36
74	Kaduthuruthy	6	6	296	2797	319	544
	<i>Municipalities</i>						
75	Changanacherry	10	10	155	3487	350	355
76	Kottayam	7	7	26	3374	531	58
77	Palai	..	..	..	..	..	..
	KOTTAYAM DISTRICT	95	86	7094	3907	210	18209
78	Thodupuzha						
79	Elamdesam						
80	Idukki						
81	Arudai						
82	Adimali						
83	Devikulam						
84	Kattepana						
85	Nedumkandam						
	<i>Municipalities</i>						
86	Thodupuzha						
	IDUKKI DISTRICT						
87	Alangad	18	18	1390	2536	158	2316
88	Angamaly	30	30	3006	1820	121	3594

No Summer Paddy

89	Edappally	6	143	1997	108	188
90	Koovappady	30	2097	2012	95	2772
91	Kothamangalam	25	531	2067	111	721
92	Mulamthuruthy	7	104	1991	55	136
93	Muvattupuzha	12	429	2129	224	600
94	Palluruthy	..	..	..	..	..
95	Pampakuda	18	850	2271	155	1268
96	Parakadavu	12	2114	2256	124	3133
97	Parur	..	..	..	..	..
98	Vadavukode	30	1810	1697	135	2018
99	Vazhakulam	34	2329	1786	86	2733
100	Vyppin	..	..	..	..	..
101	Vythila	..	..	..	..	..
<i>Municipalities :</i>						
102	Angamaly	10	255	2459	70	412
103	Kothamangalam	10	336	1925	154	425
104	Muvattupuzha	10	22	1589	246	23
105	Perur,bavoor	10	247	1676	87	272
106	Thripunithura	..	..	..	..	..
<i>Corporation :</i>						
107	Cochin	..	..	..	..	..
ERNAKULAM DISTRICT		262	15663	2003	42	20611
108	Anthicaud	18	1163	3094	125	2364
109	Cherpu	24	1514	3235	203	3218
110	Ollukkara	23	567	2617	133	975
111	Puzhakkal	27	2141	3612	148	5081
112	Chowannur	19	812	5192	283	2770
113	Pazhayannur	10	69	2294	484	104
114	Wadakkancherry	21	514	2499	260	844

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
115	Chowaghat	15	14	387	4200	324	1068
116	Mullassery	12	11	742	2991	247	1458
117	Thalikulam	..	..	..	..	..	..
118	Chalakudy	27	27	1259	2035	128	1683
119	Irinjalakuda	22	22	1618	2871	256	3652
120	Kodakara	22	21	627	2857	156	1177
121	Mala	30	30	1490	2319	132	2270
122	Vellangallur	19	19	641	2500	494	1053
123	Kodungallur	..	..	..	..	..	..
124	Mathilakam	6	6	64	4073	394	171
	<i>Municipalities</i>						
125	Chowaghat	..	..	56	4225	..	155
126	Chalakudy	9	9	283	2114	200	393
127	Irinjalakuda	..	..	369	3304	..	801
128	Kodungallur	..	..	..	..	..	..
129	Trichur	..	..	221	3161	..	459
	TRICHUR DISTRICT	304	299	14537	3046	53	29096
130	Alathur	19	19	479	3683	204	1159
131	Kuzhal Mannam	6	6	59	3147	177	122
132	Palghat	..	..	..	..	..	..
133	Kollangode	..	..	..	..	..	..
134	Nenmara	12	12	632	4321	242	1794
135	Chittur	..	..	..	..	..	..
136	Mannarghat	38	38	303	2090	131	416
137	Attapadi	10	10	192	4035	299	509
138	Sreekrishnapuram	17	15	83	2072	211	113
139	Pattambi	10	9	30	2537	237	50
140	Ottappalam	3	1	15	3450	0	34
141	Thrithala	16	15	103	2261	234	153

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
166	Kozhikode	1	1	3	3440	0	7
167	Chelannur	18	15	174	1601	144	183
168	Koduvally	17	15	218	1732	166	248
169	Kunnamangalam	19	18	169	1441	129	160
170	Badagara	..	..	..	..	..	..
171	Tuneri	..	..	..	..	..	..
172	Kunnummel	9	9	85	3456	229	193
173	Thodannur	2	1	2	3616	0	4
	<i>Corporation</i>						
174	Calicut	6	6	12	1522	34	12
	<i>Municipalities</i>						
175	Badagara	..	..	..	..	..	..
	<i>Kozhikode District</i>						
	Kozhikode District	145	128	2040	1838	92	2464
176	Kalpetta	29	29	281	2708	121	500
177	Mananthavady	70	70	1382	3019	118	2741
178	Sulthan Battery	72	72	1218	3332	167	2666
	<i>Wayanad District</i>						
	Wayanad District	171	171	2881	3121	91	5907
179	Kuthuparamba	5	5	10	2071	308	14
180	Peravoor	36	36	190	1915	101	239
181	Iritty	29	29	132	1384	126	120
182	Tellicherry	..	..	..	..	..	..
183	Cannanore	..	..	..	..	..	..
184	Edakkad	13	13	31	1375	156	28
185	Thaliparamba	..	..	..	..	..	..
186	Payannur	7	7	21	1305	235	18
187	Irikur	10	10	78	2244	294	115

Municipalities

188	Tellicherry	..	..	..	..	..	..	..	..
189	Cannanore	..	..	..	..	..	..	..	..
	CANNANORE DISTRICT	100	100	462	1759	76	534		
190.	Kanhangad	29	29	111	3072	212	224		
191	Neeleswar	14	14	52	2091	197	71		
192	Manjeswar	22	22	233	2646	73	405		
193	Kasargode	14	14	141	2526	152	234		
	<i>Municipalities</i>								
194	Kasargode	6	6	67	1522	379	67		
195	Kanhangad	10	10	61	2345	150	94		
	KASARGODE DISTRICT	95	95	665	2506	69	1095		
	STATE	1779	1703	69746	3138	38	143795		

TABLE 2.1
Taluk-wise estimates of mean yield of dry Paddy (Kg./Ha.) during
winter season 1983-1988

Sl. No.	Taluk/District	1983	1984	1985	1986	1987	1988
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Neyyattinkara	2577	1681	2451	2108	2516	1989
2	Trivandrum	1933	1818	2300	2101	1668	2036
3	Nedumangad	2534	1536	2235	2323	2257	2137
4	Chirayinkil	2242	2056	2460	2541	2993	2398
	TRIVANDRUM DISTRICT	2341	1783	2368	2290	2431	2172
5	Quilon	2224	1917	2482	2000	2491	2065
6	Kottarakkara	2502	2267	2753	2893	2909	2813
7	Kunnathur	2672	2030	2610	2429	2859	2414
8	Pathanapuram	3338	1863	2791	3140	2945	2828
9	Pathanamthitta	2787	2486	..	..	..	..
10	Karunagappally	2056	2173	2163	1803	1472	1899
	QUILON DISTRICT	2569	2115	2574	2510	2556	2471
11	Kozhencherry	..	..	2797	3079	2719	3122
12	Ranni	..	..	1557	2415	2920	3283
13	Adoor	..	..	3033	2554	2677	3137
14	Thiruvalla	..	..	3972	3776	3451	3852
15	Mallappally	..	..	1425	3209	2660	4145
	PATHANAMTHITTA DISTRICT	..	..	2842	2861	2765	3227

16	Karthigappally	1582	3561	1522	2627	1444	2171
17	Mavelikkara	1975	1826	1997	1945	2663	1982
18	Chengannur	2934	2838	2688	3668	3818	2959
19	Thiruvalla	2522	2725	..	..	..	..
20	Kuitanad	4619	3128	3050	4355	3601	3787
21	Ambalapuzha	537	1841	1310	1329	2378	2026
22	Sherthala	901	919	867	606	697	888
	ALLEPPEY DISTRICT	2449	2501	2057	2620	2609	2807
23	Changanacherry	4270	3729	2222	2608	4154	3259
24	Kanjirappally	2273	2650	2616	2917	3161	2967
25	Kottayam	3146	3097	3358	3211	4064	3645
26	Vaikom	3463	2408	2549	2081	2734	2464
27	Meenachil	2761	3045	2760	3200	2997	2897
	I. OTTAYAM DISTRICT	3288	2884	2818	2717	3383	3147
28	Peermade	2125	2113	2392	2629	4254	2128
29	Devicolum	3772	2395	3227	2968	3566	2545
30	Udumbanchola	3413	3313	3631	3451	3600	2046
31	Thodupuzha	3043	2552	2796	2970	2834	2986
	IDUKKI DISTRICT	3297	2775	3160	3172	3161	2761
32	Kothamangalam	2403	2006	2535	2509	2836	2437
33	Muvattupuzha	2378	2617	2847	2998	3019	2723
34	Cochin	..	..	..	..	..	..
35	Kanayannur	1949	2300	2330	1885	2300	2048
36	Kumathunad	2439	1619	2491	2625	2527	2220
37	Alwaye	2532	2137	2552	2529	2496	2408
38	Parur	1824	1089	2636	2557	1841	2207
	ERNAKULAM DISTRICT	2354	1973	2554	2565	2545	2344
39	Cranganore	1527	833	1330	944	1335	1162
40	Mukundapuram	1896	2406	2346	2906	2316	2312
41	Trichur	2507	2415	2382	2857	2334	2707

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
42	Thalappally	2216	2261	2381	2290	2475	2158
43	Chowghat	1343	1795	1234	1926	1375	1277
	TRICHUR DISTRICT	2094	2255	2261	2542	2291	2289
44	Chittur	3322	3877	3581	3458	3002	2799
45	Alathur	3692	3646	3553	2730	2768	2591
46	Palghat	2443	3210	2753	2461	2326	2459
47	Ottapalam	2036	2165	2147	2352	2343	2239
48	Mannarghat	2466	1968	2250	2708	2139	2345
	PALGHAT DISTRICT	2849	3150	2957	2750	2582	2518
49	Perinthalmanna	2310	2042	2568	2459	2698	2223
50	Ponnani	1899	1919	1913	1673	2308	1704
51	Tirur	1820	1913	1772	1970	1677	2050
52	Ernad	2136	2012	2388	2542	2795	2286
	MALAPPURAM DISTRICT	2043	1975	2164	2248	2377	2141
53	Kozhikode	2029	1578	2154	2090	1879	1784
54	Quilandy	1734	1356	1766	1810	1646	1269
55	Badagara	1339	1459	1188	1477	1450	1247
	KOZHIKODE DISTRICT	1793	1479	1861	1886	1721	1521
56	Vythiri	2574	3150	2897	2589	2415	2204
57	Sultans Battery	2702	2865	3231	2872	2915	2312
58	Mananthavady	2361	3128	2150	2663	3568	2848
	WAYANAD DISTRICT	2536	3068	2758	2722	3050	2508
59	Tellicherry	1786	1435	1647	2043	1713	2342
60	Cannanore	1877	1347	1754	1933	2258	2115

61	Thaliparamba	2274	2305	2057	2820	2218	2403
62	Hosdurg	2034	2304	1722	2189	..	..
63	Kasargode	2388	2274	2191	2393	..	..
	CANNANORE DISTRICT	2108	1956	1900	2319	2058	2327
64	Hosdurg	..	..	..	..	2310	2423
65	Kasargode	..	..	..	..	2435	2667
	KASARGODE DISTRICT	..	..	..	..	2377	2538
	STATE	2444	2442	2514	2559	2545	2436

TABLE 2.2
Taluk-wise estimates of Mean yield of dry Paddy (Kg./Ha.) during the summer season
(1983-88)

Sl. No	Taluk/District	1983	1984	1985	1986	1987	1988
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Neyyattinkara	1587	1900	1863	1513	1218	1826
2	Trivandrum	2196	1261	1051	2047	995	680
3	Nedumangad	2214	935	1015	978	1049	..
4	Chirayinkil	710	1535	870	468	846	0
	TRIVANDRUM DISTRICT	1914	1539	1419	1645	1049	1094
5	Quilon	961	713	1354	1444	1319	0
6	Kottarakkara	1450	1034	602	1686	1617	43
7	Kunnathur	895	651	2323	2529	1336	676
8	Pathanapuram	3213	1034	..	2906	1336	1210
9	Pathanamthitta	3460	1040	..	..	..	..
10	Karunagappally	1893	1361	2985	2450	2720	..
	QUILON DISTRICT	2077	906	1547	1912	1409	190
11	Kozhencherry	..	..	1974	4332	1889	4934
12	Ranni	..	..	..	3259	2815	0
13	Adoor	..	..	4503	3531	3762	2623
14	Thiruvalla	..	..	4487	4373	5080	4754
15	Mallappally	..	..	1728	4509	3450	..
	PATHANAMTHITTA DISTRICT	..	..	4391	4321	4695	4508
16	Karthigappally	3242	3748	4729	3640	3303	3905
17	Mavelikkara	3466	4199	3382	4596	5332	3594
18	Chengannur	3737	3136	3559	4690	4260	3441

19	Kuttanad	3856	3581	3280	4211	4227	3994
20	Ambalapuzha	3429	3794	3072	3185	3464	3301
21	Sherthala	..	..	..	..	..	..
	ALLEPPEY DISTRICT	3763	3759	3502	4148	4237	3848
22	Changanacherry	5725	3061	3830	4440	3498	3412
23	Kanjira, pally	..	..	4019	4019	3301	..
24	Kottayam	4805	2716	3787	4393	3749	3963
25	Vaikom	2506	1748	1522	3301	3252	2795
26	Meenachil	3825	3745	3189	4308	2937	3151
	KOTTAYAM DISTRICT	5138	2840	3793	4394	3638	3737
27	Peerumade	..	..	..	..	1001	..
28	Devicolam	1558	1530	3628	1940	2377	..
29	Udumbanchola	1530	1534	3115	3422	2429	..
30	Thodupuzha	1530	1522	4122	1547	1547	..
	IDUKKI DISTRICT	1532	1533	3353	2881	2360	..
31	Ko-hamangalam	1567	2229	2099	1952	2133	2035
32	Muvattupuzha	2199	2758	2203	2255	2886	2142
33	Cochin	..	..	..	..	..	..
34	Kanayannur	556	2771	2721	2621	3672	1994
35	Kunnathunad	1675	1833	2539	2467	2462	1797
36	Alwaye	2700	2224	2307	2410	2341	2025
37	Parur	1649	2654	2950	2460	2358	2522
	ERNAKULAM DISTRICT	2141	2184	2456	2413	2464	2015
38	Cranganur	2352	1447	2429	3736	3511	3650
39	Mukundapuram	2321	2167	2458	3113	2396	2467
40	Trichur	2622	3133	2605	2780	3042	3224
41	Tthalappally	2181	2316	4231	3549	3793	3473
42	Chowaghat	2759	2727	2390	3281	4468	3654
	TRICHUR DISTRICT	2503	2671	2729	3027	2974	2959

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
43	Chittur	3298	1889	3266	2174	905	4321
44	Alathur	1593	1605	2352	1247	1791	3568
45	Palghat	1640	1746	1506	2111	1641	..
46	Ottapalam	2556	1994	1596	2279	2916	2220
47	Mannarghat	1903	1819	2099	1940	1679	2475
	PALGHAT DISTRICT	2487	1878	2275	2076	2191	3363
48	Perinthalmanna	1972	4657	1947	2111	2031	2963
49	Ponnani	3673	2447	2888	3687	3004	3243
50	Tirur	2750	2191	2778	3254	3029	2843
51	Ernad	1219	1589	1394	2078	2566	2089
	MALAPPURAM DISTRICT	2729	2467	2557	3137	2884	2984
52	Kozhikode	1424	1180	1961	1763	1815	1580
53	Quilandy	1756	1466	2302	1794	2304	1830
54	Badagara	1627	1373	3788	2853	1745	3464
	KOZHUKODE DISTRICT	1624	1353	2319	1869	2088	1829
55	Vythiri	1518	3390	2486	2800	1433	2708
56	Sultan's Battery	2085	3028	3328	1939	3019	3332
57	Mananthody	1900	3058	2240	3227	2352	3019
	WAYANAD DISTRICT	1921	3099	2704	2669	2409	3121
58	Tellicherry	991	1363	1738	1182	1110	1715
59	Cannanore	1060	1197	976	1609	2029	1375
60	Thaliparamba	1852	1628	2295	1779	1768	1983

61	Hosdurg	1534	2203	2230	2276	..	..
62	Kasargode	2190	2345	2252	2378	..	..
	CANNANORE DISTRICT	1772	2066	2113	2055	1303	1749
63	Hosdurg	..	..	..	..	1903	2650
64	Kasaragod	..	..	..	..	2267	2450
	KASARGOD DISTRICT	..	..	..	..	2127	2518
	STATE	2945	2894	2993	3290	3204	3097

TABLE 3.1
High Yielding and other varieties of paddy
District-wise Area, Meanyield and Production of Rice—Winter 1933

Sl. No.	District/State	High yielding varieties			Other varieties			Total		
		Area in hectare (3)	Mean yield of dry paddy (kg./hectare) (4)	Production of rice (tonnes) (5)	Area in hectare (6)	Mean yield of dry paddy (kg./hectare) (7)	Production of rice (tonnes) (8)	Area in hectares (9)	Mean yield of dry paddy (kg./hectares) (10)	Production of rice (tonnes) (11)
1	Trivandrum	1111	2469	1802	11045	2142	15543	12156	2172	17345
2	Quilon	414	2805	763	15325	2462	25597	16239	2471	26360
3	Pathanamthitta	2188	3546	5098	3340	3017	6621	5528	3227	11719
4	Alleppey	5073	3533	11774	18723	2610	32109	23796	2307	43883
5	Kottayam	5664	3201	11910	7318	3105	14928	12982	3147	26838
6	Idukki	215	3164	447	3041	2732	5459	3256	2761	5906
7	Ernakulam	2799	2416	4443	30312	2337	46546	33111	2344	50989
8	Trichur	4884	2898	9299	39375	2214	57266	44259	2288	66565
9	Palghat	3555	2875	6714	64827	2498	106399	68382	2518	113113
10	Malappuram	2145	2680	3777	28476	2100	39296	30621	2141	43073
11	Kozhikode	498	2127	696	9187	1488	8982	9685	1521	9678
12	Wayanad	1976	3144	4081	16442	2432	26273	18418	2508	30354
13	Cannanore	2955	2703	5248	6388	2154	9039	9343	2327	14287
14	Kasargode	286	2900	545	5829	2521	9653	6115	2538	10198
	STATE	33763	3002	66597	260128	2362	403711	293891	2436	470308

TABLE 3.2
High Yielding and other varieties of paddy
District-wise Area, Meanyield and production of Rice—Summer 1988

Sl. No.	District	High yielding			Local varieties						Total
		Area in hectare (3)	Mean yield of dry paddy (kg./hectare) (4)	Production of rice (tonnes) (5)	Area in hectare (6)	Mean yield of dry paddy (kg./hectare) (7)	Production of rice (tonnes) (8)	Area in hectares (9)	Mean yield of dry paddy (kg./hectares) (10)	Production of rice (tonnes) (11)	
1	Trivandrum	41	1411	38	183	1023	123	221	1094	161	
2	Quilon	11	553	4	45	101	3	56	190	7	
3	Pathanamthitta	2805	4925	9076	1143	3485	2617	3948	4508	11693	
4	Alleppey	7894	4078	21151	9215	3651	22103	17109	3848	43254	
5	Kottayam	6721	3757	16588	373	3391	831	7094	3737	17419	
6	Idukki	..	..	..	..	..	..	..	..	..
7	Ernakulam	2489	2042	3339	13174	2010	17400	15663	2015	20739	
8	Trichur	6879	3532	15961	7656	2437	12301	14537	2959	28262	
9	Palghat	303	3029	603	1604	3426	3610	1907	3363	4213	
10	Malappuram	1982	3161	4116	1178	2688	2080	3160	2984	6196	
11	Kozhikode	1051	2277	1572	989	1354	880	2040	1829	2452	
12	Wayanad	919	3935	2376	1962	2739	3531	2881	3121	5907	
13	Cannanore	127	2289	191	335	1545	340	462	1749	531	
14	Kasarode	89	3369	197	576	2386	903	665	2518	1100	
	STATE	31311	36556	75212	38435	2642	66722	69746	3097	141934	

TABLE 4.1

District-wise No. of Experiments and mean yield of paddy

Sl. No.	Districts	Irrigated						Total		
		Chemically manured		Other manured		Not manured		No. of expt.	M. Y.	
		No. of expt.	Mean yield	No. of expt.	M. Y.	No. of expt.	M. Y.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1.	Trivandrum	HYV	3	2440	..	..	..	..	3	2440
		Local	93	1881	..	..	..	..	93	1881
		Total	96	1898	..	..	..	..	96	1898
2.	Quilon	HYV	10	2939	..	..	..	..	10	2939
		Local	59	2829	..	..	1	2245	60	2820
		Total	69	2845	..	..	1	2245	70	2837
3.	Pathanamthitta	HYV	38	3756	..	..	..	..	38	3756
		Local	27	3791	..	..	..	..	27	3791
		Total	65	3770	..	..	..	..	65	3770
4.	Alleppey	HYV	5	2917	..	..	..	..	5	2917
		Local	2	2999	..	..	..	..	2	2999
		Total	7	2941	..	..	..	..	7	2941
5.	Kottayam	HYV	49	2889	..	..	..	..	49	2889
		Local	56	2605	..	..	..	..	56	2605
		Total	105	2738	..	..	..	..	105	2738
6.	Idukki	HYV	11	2597	..	..	..	..	11	2597
		Local	48	3009	1	2671	..	..	49	3003
		Total	59	2933	1	2671	..	..	60	2928
7.	Ernakulam	HYV	49	2417	..	..	..	..	49	2417
		Local	245	2395	6	2211	8	2673	259	2400
		Total	294	2399	6	2211	8	2673	308	2402

(Contd.)

(Kg./Ha-) According to various cultivation practices

Winter Paddy 1987-1988.

				<i>Unirrigated</i>				<i>Treated with plant</i>	<i>Not Treated with plant</i>		
<i>Chemically manured</i>		<i>Other manured</i>		<i>Not manured</i>		<i>Total</i>		<i>Protection chemicals</i>	<i>Protection chemicals</i>		
<i>No. of M. T. expt.</i>		<i>No. of M. T. expt.</i>		<i>No. of M. T. expt.</i>		<i>No. of M. T. expt.</i>		<i>No. of M. T. expt.</i>		<i>No. of M. T. expt.</i>	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
33	2519	..	..	1	2420	34	2516	30	2498	7	2560
200	2440	1	1600	2	2092	203	2038	150	1811	146	2171
233	2108	1	1600	3	2201	237	2107	180	1926	153	2189
7	2859	..	..	..	..	7	2859	3	4251	14	2617
210	2358	17	2224	1	564	228	2340	54	2761	234	2366
217	2374	17	2224	1	564	235	2356	57	2839	248	2380
37	3390	..	..	1	4137	38	3410	55	3635	21	3447
72	2901	1	3205	..	..	73	2905	57	3331	43	2897
109	3067	1	3205	1	4137	111	3078	112	3480	64	3077
27	3203	..	..	1	1299	28	3135	30	3160	3	2520
153	2342	34	913	32	713	219	1882	89	2780	132	1294
180	2471	34	913	33	731	247	2024	119	2876	135	1322
99	3598	..	..	..	..	99	3598	142	3296	6	3957
21	3078	..	..	..	..	21	3078	69	2749	8	2603
120	3457	..	..	..	..	120	3457	211	3117	14	3184
..	..	..	..	..	..	..	..	7	1973	4	3689
17	2465	..	..	..	..	17	2465	37	2932	29	2777
17	2465	..	..	..	..	17	2465	44	2779	33	2888
5	2483	..	..	..	..	5	2483	44	2466	10	2236
20	2414	9	1771	1	787	30	2167	215	2441	74	2185
25	2428	9	1771	1	787	35	2212	259	2445	84	2191

(Contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
8. Trichur	{ HYV	33	2908	..	..	..	..	33	2908
	{ Local	216	2401	24	1878	8	2181	248	2343
	{ Total	249	2468	24	1878	8	2181	281	2409
9. Palghat	{ HYV	19	3055	..	..	..	..	19	3055
	{ Local	258	2587	13	1847	3	1893	274	2546
	{ Total	277	2621	13	1847	3	1893	293	2579
10. Malappu- ram	{ HYV	18	2852	3	2908	1	4000	22	2912
	{ Local	138	2312	62	2091	10	1945	210	2230
	{ Total	156	2375	65	2129	11	2131	232	2294
11. Kozhikode	{ HYV	..	..	..	..	..	..	..	..
	{ Local	2	2822	..	..	1	2616	3	2754
	{ Total	2	2822	..	..	1	2616	3	2754
12. Wayanad	{ HYV	8	3320	..	..	..	..	8	3320
	{ Local	4	2740	5	2330	1	1384	10	2399
	{ Total	12	3127	5	2330	1	1384	18	2809
13. Cannanore	{ HYV	62	2837	4	1224	2	1858	68	2714
	{ Local	153	3712	37	1920	5	2541	195	3342
	{ Total	215	3460	41	1852	7	2346	263	3179
14. Kasargode	{ HYV	12	2703	1	2426	..	..	13	2682
	{ Local	145	2677	7	1855	3	1924	155	2625
	{ Total	157	2679	8	1927	3	1924	168	2629
STATE	HYV	317	2888	8	1964	3	2507	328	2862
	Local	1446	2620	155	1970	40	2194	1641	2548
	Total	1763	2668	163	1970	43	2216	1969	2600

(Contd.)

(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
6	2736	..	..	..	..	6	2736	38	2927	1	1143
84	1798	47	1217	9	1049	140	1555	218	2167	170	1919
90	1861	47	1217	9	1049	146	1603	256	2280	171	1915
5	2424	1	2965	..	..	6	2514	20	2929	5	2908
112	2241	22	2290	8	1553	142	2210	182	2525	234	2359
117	2248	23	2320	8	1553	148	2222	202	2565	239	2370
14	2197	4	2033	1	2759	19	2192	34	2641	7	2270
152	2072	44	1809	13	1711	209	1994	207	2248	212	1980
166	2083	48	1828	14	1786	228	2011	241	2303	219	1989
13	2183	3	1601	1	1362	17	2034	12	2020	5	2068
146	1469	72	1291	27	1159	245	1383	43	1571	205	1363
159	1527	75	1304	28	1166	262	1425	55	1669	210	1380
13	3188	1	3062	3	2445	17	3050	13	3410	12	2840
91	2539	49	2329	30	2167	170	2413	24	2262	156	2435
104	2620	50	2344	33	2192	187	2471	37	2665	168	2464
11	1786	1	1567	..	..	12	1768	51	2807	29	2159
43	2214	38	2037	6	1336	87	2076	106	4398	176	2080
54	2127	39	2025	6	1336	99	2039	157	3881	205	2091
10	3180	..	..	..	..	10	3180	18	2992	5	2561
45	2212	3	1860	1	2228	49	2991	95	2585	109	2465
55	2388	3	1860	1	2228	59	2359	113	2650	114	2469
280	3071	10	2041	8	2387	298	3018	497	3005	129	2671
1366	2189	337	1672	130	1367	1833	2036	1546	2518	1928	2085
1646	2339	347	1683	138	1426	2131	2173	2043	2636	2057	2122

District wise number of Experiments and Mean Yield of paddy

Sl. No.	District	Irrigated.								
		Chemically Manured		Other manured		Not manured		Total		
		No. of experiments	Mean yield	No. of experiments	Mean yield	No. of experiments	Mean yield	No. of experiments	Mean yield	
1	2	3	4	5	6	7	8	9	10	
1	HYV	8	1184	..	..	..	..	8	1184
	Trivandrum Local	17	1429	..	..	..	..	17	1429
	Total	25	1351	..	..	..	..	25	1351
2	HYV	3	1210	..	..	..	..	3	1210
	Quilon Local	..	..	..	..	..	..	..	..
	Total	3	1210	..	..	..	..	3	1210
3	HYV	40	4839	..	..	..	..	40	4839
	Pathanamthitta Local	26	3484	..	..	..	..	26	3484
	Total	66	4305	..	..	..	..	66	4305
4	HYV	44	3833	..	..	..	..	44	3833
	Alleppey Local	11	2101	..	..	..	..	11	2101
	Total	55	3486	..	..	..	..	55	3486
5	HYV	12	4218	..	..	..	..	12	4218
	Kottayam Local	6	3609	..	..	..	..	6	3609
	Total	18	4015	..	..	..	..	18	4015
6	HYV	..	..	..	..	..	..	..	..
	Idukki Local	No Summer paddy—1987-88			
	Total	..	..	..	..	..	..	..	..
7	HYV	71	2034	1	572	..	..	72	2014
	Ernakulam Local	183	1986	..	..	..	..	183	1986
	Total	254	1999	1	572	..	..	255	1994
8	HYV	135	3673	..	..	..	..	135	3673
	Trichur Local	158	2470	1	1777	3	2630	162	2469	
	Total	293	3025	1	1777	3	2630	297	3016	

(Kg./Hect.) According to various cultured practices

Summer 1987-88

Chemically manured		Unirrigated				Treated with plant protection chemicals		Not treated with plant protection chemicals			
Chemically manured		Other manured		Not manured		Total		Treated with plant protection chemicals		Not treated with plant protection chemicals	
No. of experiments	Mean yield	No. of experiment	Mean yield	No. of experiment	Mean yield	No. of experiment	Mean yield	No. of experiment	Mean yield	No. of experiments	Mean yield
11	12	13	14	15	16	17	18	19	20	21	22
..	..	..	..	..	..	..	..	5	1213	3	1136
2	0	..	..	..	..	2	0	18	1271	1	1417
2	0	..	..	..	..	2	0	23	1258	4	1206
1	43	..	..	..	..	1	43	4	918	..	..
6	676	..	..	..	..	6	676	6	113	..	..
7	103	..	..	..	..	7	103	10	435	..	..
3	2471	..	..	..	..	3	2471	43	4673	..	..
9	3120	..	..	..	..	9	3120	35	3390	..	..
12	2958	..	..	..	..	12	2958	78	4098	..	..
19	3988	..	..	..	..	19	3988	59	3855	4	4250
33	3308	..	..	..	..	33	3308	43	2973	1	4412
52	3556	..	..	..	..	52	3556	102	3483	5	4282
68	3703	..	..	..	..	68	3703	80	3780	..	..
..	..	..	..	..	..	6	3609	6	3609	..	..
68	3703	..	..	..	..	68	3703	86	3768	..	..
..
88	..	..	..	..	..	..	..	..	..	..	..
..
2	1515	..	..	..	..	2	1515	62	2036	12	1813
5	2146	..	..	..	..	5	2146	158	2029	30	1785
7	1966	..	..	..	..	7	1966	220	2031	42	1793
..	..	..	..	..	..	..	..	133	3675	2	3371
2	2239	..	..	..	..	2	2239	141	2501	23	2250
2	2239	..	..	..	..	2	2239	274	3072	25	2340

1	2	3	4	5	6	7	8	9	10
	HYV	27	2953	2	2907	..	..	29	2950
9	Palghat Local	75	2888	7	1677	4	1396	86	2720
	Total	102	2905	9	1950	4	1396	115	2778
	HYV	106	3024	5	2252	3	1021	114	2938
10	Malappuram Local	73	2640	14	2006	1	2068	88	2533
	Total	179	2867	19	2071	4	1283	202	2761
	HYV	41	2257	1	2822	2	1976	44	2257
11	Kozhikode Local	53	1296	11	1315	7	1661	71	1335
	Total	94	1715	12	1441	9	1731	115	1688
	HYV	36	3989	3	2409	..	..	39	3868
12	Wayanad Local	42	2974	15	1918	3	2285	60	2675
	Total	78	3443	18	2000	3	2285	99	3145
	HYV	27	2354	1	879	..	..	28	2302
13	Cannanore Local	50	1540	12	1645	..	..	62	1561
	Total	77	1826	13	1586	..	..	90	1791
	HYV	15	3392	..	..	..	..	15	3392
14	Kasragode Local	80	2361	..	..	..	..	80	2361
	Total	95	2524	..	..	..	..	95	2524
	HYV	565	3155	13	2154	5	1390	583	3118
	STATE : Local	774	2293	60	1693	18	1870	852	2241
	Total	1339	2657	73	1775	23	1766	1435	2597

11	12	13	14	15	16	17	18	19	20	21	22
3	2926	..	..	..	..	3	2926	24	3113	8	2452
9	2102	..	..	1	2500	10	2143	62	2882	34	2255
12	2308	..	..	1	2500	12	2322	86	2946	42	2293
2	2824	..	..	..	..	2	2824	106	3056	10	1655
6	2061	2	923	..	..	8	1777	71	2689	25	1846
8	2252	2	923	..	..	10	1986	177	2909	35	1792
8	3455	1	1958	..	..	9	3289	39	2566	14	2059
4	1865	..	..	..	..	4	1865	23	1676	52	1225
12	2925	1	1958	..	..	13	2851	62	2236	66	1403
11	3972	..	..	..	..	11	3972	17	4912	33	3365
43	2946	12	2239	6	2597	61	2773	26	2833	95	2695
54	3155	12	2239	6	2597	72	2956	43	3655	128	2867
..	..	..	..	..	..	..	..	16	2623	12	1872
8	1451	2	1009	..	..	10	1362	15	201	57	1884
8	1451	2	1009	..	..	10	1362	31	1451	69	1882
..	..	..	..	..	..	..	..	10	3854	5	2472
..	..	..	..	..	..	..	..	41	2248	39	2480
..	..	..	..	..	..	..	..	51	2562	44	2479
177	3552	1	1978	118	3539	598	3313	103	2469
127	2530	16	1837	7	2494	150	2454	645	2383	357	2076
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