

GOVERNMENT OF TRAVANCORE-COCHIN



BOARD OF STATISTICS

REPORT

ON

CROP-CUTTING SURVEY ON  
KUMBHAM (FEBRUARY-MARCH)

CROP OF PADDY

IN

TRAVANCORE-COCHIN

1952

PRINTED BY THE S. C. P. AT THE GOVERNMENT PRESS,  
ERNAKULAM—1952

**REPORT ON THE CROP-CUTTING SURVEY ON KUMBHAM  
CROP OF PADDY IN TRAVANCORE-COCHIN 1952**

The present survey which is the fifth in the series, is on the Kumbham (February-March) crop of 1952 and covers 34 out of the 36 taluks of the State. The two taluks left out are Devikulam and Peermade where the extent of paddy cultivation is comparatively small. Three hundred and forty-five villages were selected for crop-cutting; this being about a twelfth of the total number of villages in the State. The number of villages allotted to each taluk was in proportion to the extent of paddy cultivation in that taluk. The villages in each taluk were selected at random and from each village selected, a random sample of five paddy fields was chosen. In each of these fields a square plot measuring  $16\frac{1}{2}'$  by  $16\frac{1}{2}'$  was harvested.

Even though every precaution was taken to make all the selected fields available for experimentation it was possible to take only 1701 cuts as against the proposed number of 1725. The field staff had to visit the fields twice during the period—first, to contact the owners and ascertain the dates of harvest and then to take the cut on the day of harvest.

The schedules returned by the field staff contained, besides the details of locating each cut, the weight of paddy obtained from the plot immediately after harvesting, threshing and winnowing, the date of harvest and the nature of G. M. F. aid, if any, received by the plot.

The analysis of the data collected was done in the office of the Board of Statistics. The results obtained are detailed in tables I to V given at the end of this report. Table I gives the acreage under paddy, the number of experiments conducted, the estimated average yield per acre, the total out-turns of dry paddy and rice and the percentage standard error for the taluks separately and for the State as a whole. Table II shows the estimated acreage, the number of experiments, the mean yield per acre and the corresponding standard error for fields which received G. M. F. aid and which did not receive any aid, separately. Table III sets out the results of the analysis of variance of yields from plots receiving Grow More Food aid and no aid respectively. It is found that there has been significant increase in the average yield in the following 12 taluks due to G. M. F. aid.

- |               |                  |                   |
|---------------|------------------|-------------------|
| 1. Nedumangad | 2. Neyyattinkara | 3. Chirayinkil    |
| 4. Shenkottah | 5. Thiruvalla    | 6. Changanacherry |
| 7. Kottayam   | 8. Vaikom        | 9. Kunnathunad    |
| 10. Trichur   | 11. Mukundapuram | 12. Thalappally   |

*Secretary, Board of Statistics*

TABLE I  
Statement showing the estimated mean yield per acre and the total out-turns of  
dry paddy and rice in different taluks

Taluk	1	2	3	4	5	6	7	8
	Acreage under paddy	Mean yield of dry paddy (lbs./acre)	Standard error in lbs.	Total outturn of paddy in tons	Total outturn of rice in tons	Percentage standard error		
Thovala	14000	2237	68	13981	9190	3.03		
Agastiswaram	21935	1902	169	18625	12238	8.88		
Kalkulam	20600	2045	86	18807	12358	4.20		
Vilavancode	7770	1798	201	6237	4098	11.18		
Neyyattinkara	11461	1213	54	6207	4079	4.45		
Trivandrum	8340	1569	141	5955	3913	8.98		
Nedumangad	13141	1469	252	8617	5367	17.15		
Chirayinkil	12216	1195	308	6517	4382	25.77		
Quilon	10813	1408	88	6794	4464	6.25		
Kottarakkara	16148	1984	116	14302	9398	5.84		
Kunnathur	13055	1863	125	10859	7135	6.71		
Pathanapuram	10862	2118	121	10269	6748	5.71		
Shenkottah	7657	2549	299	8714	5726	11.73		
Pathanamthitta	5883	1686	153	2240	1472	9.07		
Thiruvalla	19343	1666	65	14386	9453	3.90		
Mavelikkara	19662	1769	135	16075	10562	7.67		
Karunagappally	13296	1343	98	7974	5240	7.29		
Karthigapally	22414	1736	115	17371	11414	6.62		

TABLE I—(cont.)

Taluk	9	10	11	12	13	14	15
	Acres under paddy	$\frac{\text{Total}}{\text{Area}}$	Mean yield of dry paddy (lbs./acre)	Standard error in lbs.	Total outturn of paddy in tons	Total outturn of rice in tons	Percentage standard error
Ambalapuzha	45509	127	1700	69	34538	22695	4.06
Shertalai	7200	30	1335	148	4291	2820	11.09
Changanacherry	21701	60	1468	78	14222	9345	5.31
Kottayam	34928	88	1368	126	21331	14017	9.21
Vaikam	20469	48	1178	71	10763	7072	6.02
Meenachil	4522	30	1226	68	2475	1626	5.55
Thodupuzha	10567	30	1441	72	6798	4467	4.99
Muvattupuzha	22537	50	1886	86	18970	12465	4.56
Kunnathunad	35000	78	1476	43	23063	15155	2.91
Parur	12257	35	1326	113	7256	4768	8.52
Kanayannur	12157	35	1441	177	7821	5139	12.28
Cranganur	1767	10	709	109	559	367	15.37
Mukundapuram	36232	105	1346	54	21772	14306	4.01
Trichur	38312	112	1393	102	23820	15652	7.32
Chittur	24068	90	1799	146	19330	12702	8.12
Thalappally	34274	110	1844	60	28219	18543	3.25
Total	610074	1701	1624	18	439158	288288	1.11



TABLE II—(cont.)

Taluk	Fields which received aid				Fields which received no aid			
	Estimated acreage	No. of Expts.	Mean yield of dry paddy (lbs./acre)	Standard error	Estimated acreage	No. of Expts.	Mean yield of dry paddy (lbs./acre)	Standard error
Ambalapuzha	28352	54	1779	95	17157	73	1641	54
Shertalai	18967	49	1557	56	7200	30	1335	148
Changanacherry	25986	55	1402	95	2734	11	1069	176
Kottayam	13692	29	1276	76	8942	33	1310	100
Vaikom	3853	28	1245	87	6775	19	1029	75
Meenachil	10567	30	1441	72	669	2	960	219
Thodupuzha	383	1	1403	52	22154	49	1964	69
Muvattupuzha	12860	19	1747	139	22540	59	1388	38
Kunnathunad	8335	23	1251	139	3922	12	1468	220
Parur	..	..	..	..	12157	35	1441	177
Kanayannur	..	..	..	..	1767	10	709	100
Cranganur	1884	5	1836	411	34348	100	1321	52
Mukundapuram	6436	24	1729	160	31876	88	1393	76
Trichur	18302	59	1980	75	24068	90	1799	146
Chittur	..	..	..	..	15972	51	1688	71
Thalappally	..	..	..	..	..	..	..	..
Total	234794	617	1713	25	375300	1084	1593	21

TABLE III

Analysis of variance of plot yields in (lbs.)<sup>2</sup> per plot of (1/160)th of an acre

Taluk	Plots receiving aid				Plots without aid				Combined			
	Within villages		Between villages		Within villages		Between villages		Within villages		Between villages	
	D. F.	M. S.	D. F.	M. S.	D. F.	M. S.	D. F.	M. S.	D. F.	M. S.	D. F.	M. S.
Thovala	..	..	..	..	24	25.5	5	26.3	24	25.5	5	26.3
Agastiswaram	8	8.4	7	15.3	48	0.9	11	67.0	48	0.9	11	67.0
Kalkulam	2	0.9	2	35.9	32	7.4	11	8.5	48	7.2	11	17.4
Vilavancode	10	4.6	5	3.2	19	8.7	5	25.4	25	7.5	4	47.1
Neyyattinkara	10	3.3	3	21.3	8	3.6	5	6.3	24	5.5	5	3.3
Trivandrum	7	7.9	3	2.5	11	8.3	4	10.0	24	7.4	5	23.4
Nedumangad	8	23.8	2	106.8	14	7.4	4	15.7	24	7.4	5	74.4
Chirayinkil	7	1.5	2	30	15	2.4	3	3.2	24	2.6	5	110.9
Quilon	16	5.4	7	9.8	11	3.0	5	9.6	24	3.0	5	9.1
Kottarakkara	24	6.6	5	18.1	9	3.0	6	11.6	32	4.6	7	19.7
Kunnathur	21	8.3	5	19.5	..	..	..	..	24	6.6	5	18.1
Pathanapuram	15	4.3	5	60.8	..	..	..	..	24	7.2	5	22.0
Shenkottah	21	1.5	5	4.6	2	0.9	4	1.3	24	9.2	5	104.8
Pathanamthitta	23	4.4	8	7.5	2	0.8	1	1.7	24	24.0	5	4.9
Thiruvalla	..	..	..	..	22	11.8	8	19.6	34	5.7	8	7.0
Mavelikkara	..	..	..	..	..	..	..	..	22	11.8	5	19.6





TABLE IV

Analysis of variance of plot yields pooled for the State  
in (lbs.) 2 per plot of (1/160)th of an acre

(a) Plots which received G.M.F. aid

Source	Sum of Squares	D. F.	Variance
Between taluks ..	1496.78	26	57.53*
Between villages ..	2996.09	174	17.21*
Within villages ..	4556.19	392	11.62

(b) Plots which received no aid

Source	Sum of Squares	D. F.	Variance
Between taluks ..	3744.54	31	120.70*
Between villages ..	5717.86	253	22.60*
Within villages ..	7834.32	799	9.81

(c) Plots of both kinds

Source	Sum of squares	D. F.	Variance
Between taluks ..	6427.58	33	194.77*
Between villages ..	9967.92	313	31.84*
Within villages ..	16085.52	1354	11.88

\* denotes significance at 1 per cent level.

TABLE V

Percentage reduction due to driage in different taluks

Taluk	% reduction	Taluk	% reduction
Thovala	5.5	Karthigappally	6.8
Agastiswaram	5.8	Ambalappuzha	7.8
Kalkulam	5.4	Sherthalai	9.0
Vilavancode	5.5	Changanacherry	9.4
Neyyattinkara	8.3	Kottayam	8.0
Trivandrum	6.2	Vaikam	6.0
Nedumangad	9.1	Meenachil	7.7
Chirayinkil	6.4	Thodupuzha	8.1
Quilon	8.9	Muzattupuzha	5.2
Kottarakkara	6.4	Kunnathunad	8.0
Kunnathur	7.2	Parur	4.7
Pathanapuram	4.7	Kanayannur	8.6
Shenkottah	7.2	Cranganur	8.6
Pathanamthitta	7.8	Mukundapuram	4.4
Thiruvalla	8.8	Trichur	5.9
Mavelikkara	8.8	Chittur	5.7
Karunagappally	5.6	Thalappally	6.0

1121

124