

26801
GOVERNMENT OF TRAVANCORE-COCHIN



BOARD OF STATISTICS

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

1953

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**REPORT ON THE CROP-CUTTING SURVEY ON KUMBHOM
CROP OF PADDY IN TRAVANCORE-COCHIN 1953**

This report deals with the crop-cutting survey on paddy conducted on the Kumbhom (February—March) crop of 1953 and covers all the taluks of the State except Devikulam and Peermade where the area under the crop is negligible. Three hundred and forty-five villages (i. e. about a twelfth of the total number of villages in the State) were selected for the Survey. 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 located at random and harvested.

It was possible to take only 1692 cuts as against the proposed number of 1725. The field staff visited 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 results of the analysis of the data collected 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 turn 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 G. M. F. aid and no aid respectively. It is found that there has been significant increase in the average yield in the following 11 taluks due to G. M. F. aid.

- | | |
|--------------------|------------------|
| 1. Vilavancode. | 6. Kottarakkara. |
| 2. Trivandrum. | 7. Kunnathur. |
| 3. Nedumangad. | 8. Ambalapuzha. |
| 4. Chirayinkil. | 9. Thodupuzh. |
| 5. Pathanamthitta. | 10. Kottayam. |
| 11. Talappalli. | |

(Sd.)

Secretary, Board of Statistics

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

Taluk	Area (acres)	No. of expts.	Mean yield of dry paddy lbs./acre	Standard error in lbs.	Total out-turn of dry paddy in tons	Total out-turn of rice in tons	Percentage standard error
1	2	3	4	5	6	7	8
Thovala	13287	29	2205	248	13079	8594	11.25
Agastiswaram	21873	60	1955	123	19090	12544	6.29
Kalkulam	20600	45	2166	148	19919	13089	6.83
Vilavancode	7794	30	1935	146	6733	4424	7.55
Neyyattinkara	11904	30	1288	104	6845	4498	8.07
Trivandrum	9377	30	1019	112	4266	2803	10.99
Nedumangod	13141	30	1435	70	8418	5531	4.88
Chirayinkil	12254	30	1281	261	7008	4605	20.39
Quilon	10404	30	1100	33	5109	3357	3.00
Kottarakkara	16149	40	1840	61	13265	8716	3.32
Kumathur	13055	30	1834	205	10689	7024	11.18
Pathanapuram	10908	30	2072	168	10090	6630	8.11
Shencotta	3068	30	2043	523	2798	1839	25.60
Pathanamthitta	5883	30	1600	42	4202	2761	2.63
Thiruvalla	23529	43	1331	201	13981	9187	15.10
Mavelikara	19662	30	1633	261	14334	9419	15.98
Karunagappalli	13296	45	1602	104	9509	6248	6.49
Karthikappalli	22449	55	1275	107	12778	8396	8.39

TABLE I—(cont.)

Taluk	1	2	3	4	5	6	7	8
		Area (acres)	No. of expts.	Mean yield of dry paddy lbs./acre	Standard error in lbs.	Total out-turn of dry paddy in tons	Total out-turn of rice in tons	Percentage standard error
Ambalapuzha	..	49342	130	1501	75	33063	21726	5.00
Shertalai	..	7731	30	1007	81	3475	2283	8.04
Chenganacherry	..	25464	50	1608	60	18280	12012	3.73
Kottayam	..	36442	90	1650	96	26843	17639	5.83
Vaikom	..	20812	50	1170	74	10872	7143	6.33
Meenachil	..	4606	30	1426	40	2932	1927	2.80
Thodupuzha	..	9805	30	1689	104	7393	4858	6.16
Muvattupuzha	..	22537	50	2121	52	21340	14024	2.45
Kunnathunad	..	35467	85	1401	47	22183	14376	3.35
Parur	..	12149	35	1405	103	7620	5007	7.33
Kanayannur	..	11095	30	1297	245	6424	4221	18.89
Craiganur	..	1728	10	670	151	382	251	22.50
Mukundapuram	..	36232	100	1281	116	20720	13615	9.06
Trichur	..	38310	125	1239	54	21191	13925	4.36
Chittoor	..	25762	90	1304	71	14997	9855	5.44
Talappilly	..	34274	110	1421	44	21743	14287	3.10
Total	..	620389	1692	1522	19	421571	277014	1.25

TABLE II

Statement showing mean yield of dry paddy per acre with its standard error for fields which received G.M.F. aid and no aid respectively

Taluk	Fields which received aid				Fields which received no aid				
	2	3	4	5	6	7	8	9	Standard error
	Estimated average	No. of expts.	Mean yield of dry paddy (lbs./acre)	Standard error	Estimated average	No. of expts.	Mean yield of dry paddy (lbs./acre)		
Thovala	..	..	..	..	13287	29	2205		248
Agastiwaram	..	..	..	..	21873	60	1955		123
Kalkulam	8335	17	2263	197	12265	28	2108		155
Vilavancode	1660	6	2423	439	6134	24	1814		196
Neyyattinkara	5450	11	1377	194	6454	19	1237		119
Trivandrum	2265	10	1253	88	7112	20	903		140
Nedumangad	3788	8	1865	123	9343	22	1280		67
Chirayinkil	3064	6	1928	260	9190	24	1120		270
Quilon	..	..	..	..	10404	30	1100		33
Kottarakara	7299	18	2248	60	8850	22	1507		117
Kunnathur	5222	11	2205	243	7833	19	1621		212
Pathanapuram	9138	24	2136	208	1770	6	1819		225
Shencotta	3068	30	2043	523	..	..	..		..
Pathanamthitta	5689	27	1617	35	194	3	1452		192
Thiruvalla	7387	14	1376	219	16142	29	1309		203
Mavelikkara	122	2	1805	112	19540	28	1621		166

TABLE II—(cont.)

Taluk	Fields which received aid				Fields which received no aid				
	Estimated acreage	No. of expts.	Mean yield (lbs./acre)	Standard error	Estimated acreage	No. of expts.	Mean yield (lbs./acre)	Standard error	
1	2	3	4	5	6	7	9	10	
Karunagappalli	..	..	..	..	13296	45	1602	104
Karhikappalli	..	..	..	..	22449	55	1275	107
Ambalapuzha	36222	74	1621	71	13120	56	1345	215	
Sherthallai	..	..	..	..	7731	30	1007	81
Changanacherry	23834	46	1644	59	1630	4	1205	48	
Kottayam	24635	55	1790	113	11807	35	1430	129	
Vaikom	8783	23	1203	66	12029	27	1142	39	
Meenachil	1534	6	1593	45	3072	24	1385	150	
Thodupuzha	3128	23	1811	87	6677	7	1293	97	
Muvattupuzha	10015	19	2073	59	12522	31	2151	83	
Kunnathunad	18939	41	1459	62	16528	44	1348	37	
Parur	2187	5	1600	221	9962	30	1373	133	
Kanayannur	..	..	..	..	11095	30	1297	245
Cranganur	..	..	..	..	1728	10	670	117
Mukundapuram	3319	8	1530	98	32913	92	1260	122	
Trichur	..	..	..	..	38310	125	1239	54
Chittoor	..	..	..	..	25762	90	1304	71
Talapilli	14327	63	1626	50	19947	47	1147	66	
Total	209420	547	1721	33	410969	1145	1421	23	

TABLE III
Analysis of variance in (lbs.)² per plot of 1/160th of an acre

	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	..	..	..	..	23	5.93	5	71.01	23	5.93	5	71.01
Agastiwaram	..	6.58	..	8.58	48	8.58	11	35.57	48	8.58	11	35.57
Kalkulam	10	7.70	6	11.44	20	11.44	7	24.96	36	8.44	8	38.23
Vilavancode	2	1.66	3	32.81	18	6.01	5	34.58	24	14.11	5	24.86
Neyyattinkara	6	2.25	4	12.25	13	7.19	5	8.39	24	5.66	5	12.71
Trivandrum	5	2.25	4	2.92	14	4.42	5	14.59	24	4.81	5	14.80
Nedumangad	4	23.79	3	7.57	16	12.84	5	4.78	24	16.42	5	5.72
Churayinkil	4	24.92	1	9.88	19	3.99	4	68.17	24	8.40	5	79.81
Quilon	..	14.51	..	2.97	24	3.33	5	1.38	24	3.33	5	1.38
Kottarakkara	5	16.41	5	25.00	14	14.85	7	12.03	32	13.92	7	5.83
Kunnathur	18	4.28	5	33.63	13	19.88	5	33.02	24	16.17	5	49.45
Pathanapuram	24	17.47	5	305.73	2	0.13	3	7.94	24	5.21	5	32.85
Shencotta	21	4.29	5	1.32	..	..	..	..	24	17.47	5	305.73
Pathanamthitta	6	21.66	7	25.37	20	4.07	2	2.03	24	4.89	5	2.07
Thiruvalla	1	0.99	..	..	22	27.96	5	30.00	34	4.21	8	65.57
Mavelikkara	..	..	..	..	..	..	..	..	24	15.52	5	79.96

TABLE III—(cont.)

	Plots receiving				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.
Karunagappalli	..	..	..	..	35	4.72	9	18.03	35	4.72	9	18.03
Karthikappalli	53	5.83	..	10.21	44	10.21	10	24.70	44	10.21	10	24.70
Ambalapuzha	..	..	20	9.78	36	9.78	19	19.75	104	7.53	25	28.59
Sherthalli	..	..	..	1.04	24	1.04	5	7.91	24	1.04	5	7.91
Changanacherry	36	6.84	..	6.22	..	6.18	3	0.36	40	6.71	9	7.04
Kottayam	39	5.11	15	24.41	21	6.18	13	18.29	72	5.40	17	32.25
Vaikom	14	3.91	8	3.94	18	1.86	8	1.63	40	5.55	9	10.57
Meenachil	2	0.94	3	0.53	18	7.31	5	20.49	24	4.96	5	1.81
Thodupuzha	17	13.68	5	7.47	4	1.82	2	2.68	24	11.49	5	12.80
Muvattupuzha	13	3.95	5	2.97	23	2.76	7	7.70	40	3.42	9	5.34
Kunnathunad	26	0.84	14	5.10	30	1.53	13	2.33	68	2.09	16	7.21
Parur	4	9.52	..	..	24	2.05	5	20.76	28	4.22	6	14.54
Kanayannur	..	..	..	..	24	4.50	5	70.14	24	4.50	5	70.14
Cranganur	..	..	..	..	8	9.09	1	18.42	8	9.09	1	18.42
Mukundapuram	..	8.26	3	1.87	73	66.64	18	53.87	80	68.04	19	52.08
Trichur	..	..	..	..	101	7.56	23	14.02	101	7.56	23	14.01
Chittoor	..	..	..	..	72	18.06	17	30.58	72	18.06	17	30.58
Talappilli	43	2.67	19	5.79	27	1.09	19	6.45	88	2.82	21	7.73

TABLE IV

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

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

Source	Sum of Squares	D. F.	Variance
Between taluks ..	3350.24	24	139.59*
Between villages ..	3560.32	154	23.12*
Within villages ..	2689.97	368	7.31

(b) Plots which received no aid

Source	Sum of Squares	D. F.	Variance
Between taluks ..	2972.00	32	92.87*
Between villages ..	6139.79	265	23.17*
Within villages ..	6963.12	847	8.22

(c) Plots of both kinds

Source	Sum of Squares	D. F.	Variance
Between taluks ..	6473.17	33	196.15*
Between villages ..	9982.86	304	32.83*
Within villages ..	12161.50	1354	8.98

*Denotes significance at 1 per cent level.

TABLE V

Percentage reduction due to driage in different Taluks

Taluk	% reduction	Taluk	% reduction
Thovala	3.95	Karthikappalli	8.22
Agastiswaram	3.36	Ambalapuzha	5.60
Kalkulam	6.16	Shertalai	4.40
Vilavancode	6.20	Changanacherry	4.79
Neyyattinkara	4.90	Kottayam	4.51
Trivandrum	7.90	Vaikom	4.38
Nedumangad	6.90	Meenachil	6.00
Chirayinkil	6.81	Thodupuzha	5.90
Quilon	7.40	Muvattupuzha	5.20
Kottarakkara	6.50	Kunnathunad	6.10
Kunnathur	6.20	Parur	5.80
Pathanapuram	6.10	Kanayannur	6.61
Shencottah	7.58	Cranganur	5.80
Pathanamthitta	6.66	Mukundapuram	4.69
Thiruvalla	5.76	Trichur	6.00
Mavelikkara	6.60	Chittur	4.67
Karunagappalli	5.00	Talappilli	4.40

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