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GOVERNMENT OF TRAVANCORE-COCHIN



BOARD OF STATISTICS

REPORT

ON

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

1952

**REPORT ON THE CROP CUTTING SURVEY ON KANNI  
OF PADDY IN THE TRAVANCORE-COCHIN STATE, 1**

The present survey which is the sixth in the series is on the Kanni (September-October) crop of 1952 and covers 34 out of the 36 taluks of the State. The two taluks left out are Devikulam and Peermede where the extent of paddy cultivation is comparatively small. Three hundred and sixty 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 those taluks. The villages in each taluk were selected at random and from each village selected, a random sample of five paddy fields were chosen. In each of these fields a square plot measuring  $16\frac{1}{2}$  by  $16\frac{1}{2}$  was harvested.

Eventhough every precaution was taken to make all the selected fields available for experimentation it was possible to take only 1,725 cuts as against the proposed number 1800. The field staff had to visit the fields twice during the period—first, to contact the owners and ascertain the date 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 the cuts, the weight of paddy obtained from the plot immediately after harvesting, threshing and winnowing the data 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. 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 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 was found that there has been significant increase in the average yield in the following taluks due to G. M. F. aid.

- |                    |                  |
|--------------------|------------------|
| 1. Neyyattinkara.  | 7. Vaikom;       |
| 2. Trivandrum.     | 8. Meenachil.    |
| 3. Kottarakara.    | 9. Thodupuzha.   |
| 4. Pathanapuram.   | 10. Kunnathunad. |
| 5. Pathanamthitta. | 11. Thalappally. |
| 6. Thiruvella.     | 12. Shenkottah.  |

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TABLE I  
Statement showing the estimated mean yield per acre and the total out-turn of dry paddy  
and the rice in 34 Taluks

Taluk	Area (acres)	No. of expts.	Mean yield of dry paddy lbs./acre	Standard error in lbs.	Total out-turn of paddy in tons	Total out-turn of rice in tons	% standard error
1	2	3	4	5	6	7	8
Thovala	11512	45	1943	98	9986	6562	5.04
Agastheeswaram	13000	75	1632	226	9471	6223	13.84
Kalkulam	20601	73	2070	119	19037	12509	5.74
Vilavancode	7770	50	2002	294	6944	4563	14.68
Neyyattinkara	12367	45	1135	94	6266	4117	8.25
Trivandrum	8847	35	1051	77	4150	2727	7.33
Nedumangad	13141	50	1232	109	7228	4750	8.85
Chirayankil	9982	35	945	66	4211	2767	6.92
Quilon	6805	35	959	48	2913	1914	5.01
Kottarakara	15012	60	1386	93	9289	6104	6.71
Pathanapuram	10208	40	1883	130	8581	5639	6.90
Shencottah	3505	25	2222	138	2477	2285	6.21
Kunnathur	10730	45	1100	136	5269	3462	12.36
Pathanamthitta	1555	30	1294	52	898	590	4.02
Thiruvalla	10781	39	1455	113	7003	4602	7.71
Mavelikkara	12007	45	1223	176	6556	4308	14.39
Karunakappally	14256	32	1491	107	9489	6235	7.18
Karthikappally	10428	55	1393	66	6485	4261	4.74

TABLE I—(cont.)

Taluk	Area (acres)	No. of expts.	Mean yield of dry paddy lbs./acre	Standard error in lbs.	Total out-turn of paddy in tons	Total out-turn of rice in tons	% standard error
	9	10	11	12	13	14	15
Ambalapuzha	3270	31	1355	168	1978	1300	12.40
Shertalai	16840	35	1060	138	7969	5236	13.01
Changanacherry	1621	30	1618	109	1171	759	6.47
Kottayam	3000	30	1359	116	1821	1197	8.54
Vaikom	7141	30	1150	62	3666	2409	5.39
Meenachil	4035	30	1790	172	3224	2118	9.61
Thodupuzha	9267	35	1170	92	4840	3180	7.86
Muvattupuzha	14541	45	1589	80	10315	6778	5.03
Kunnathunad	19661	115	1278	70	11217	7371	5.48
Parur	12123	40	1640	133	8876	5832	8.11
Kanayannur	23067	60	1417	83	14592	9588	5.86
Cranganur	143	10	1078	84	69	45	7.79
Mukundapuram	20974	125	1259	85	11788	7746	6.75
Chittur	22969	95	1492	62	15299	10053	4.16
Trichur	21223	80	1239	78	11739	7714	6.30
Talappally	35391	140	1850	74	29229	19206	4.00
<b>Total</b>	<b>407772</b>	<b>1725</b>	<b>1456</b>	<b>21</b>	<b>265046</b>	<b>174162</b>	<b>1.44</b>

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	Plots receiving Aid					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		
Thovala	..	..	..	..	11512	45	1943	98		
Agasteeswaram	..	..	..	..	13000	75	1632	226		
Kalkulam	5068	21	2078	181	15532	52	2067	195		
Vilavancode	583	3	2514	246	7187	27	1945	302		
Neyyattinkara	5157	12	1589	134	7210	33	970	37		
Trivandrum	3026	14	1367	38	5821	21	841	102		
Nedumangad	2641	11	1215	209	10500	39	1237	122		
Chirayinkil	1956	7	1191	155	8026	28	889	53		
Quilon	..	..	..	..	6805	35	959	48		
Kottarakkara	4594	25	1524	77	10418	35	1286	128		
Pathanapuram	6247	27	2108	118	3961	13	1417	131		
Shencottah	2450	16	2492	139	1055	9	1741	339		
Kunnathur	6889	23	1234	141	3841	22	960	131		
Pathanamthitta	1219	23	1386	58	336	7	988	122		
Thiruvalla	2275	7	1798	170	8506	32	1380	120		
Mavelikkara	..	..	..	..	12007	45	1223	176		

TABLE II—(cont.)

Taluk	Plots receiving Aid				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
Karunagappally	242	1	1724	97	14014	31	1484	112
Karthikeppally	2524	11	1311	..	7904	44	1413	74
Ambalapuzha	75	1	3203	..	3195	30	1295	128
Shertalai	1548	26	1765	182	16840	35	1060	138
Changanacherry	210	4	1517	..	73	4	1244	145
Kottayam	2421	15	1381	..	2790	26	1335	143
Vaikom	3268	24	1862	77	4720	15	920	50
Meenachil	2854	8	1431	155	767	6	1500	44
Thodupuzha	6834	23	1516	107	6413	27	1092	102
Muvattupuzha	2517	16	1551	70	7707	22	1665	94
Kunnathunad	..	..	..	..	17144	99	1234	41
Parur	..	..	..	..	12123	40	1640	133
Kanayannur	..	..	..	..	23067	60	1417	83
Cranganur	..	..	..	..	143	10	1078	84
Mukundapuram	11692	45	1596	145	20974	125	1492	85
Chittur	30047	107	1955	86	11277	50	1399	58
Trichur	..	..	..	..	21223	80	1239	78
Talappally	..	..	..	..	5344	33	1513	200
<b>Total</b>	<b>106337</b>	<b>470</b>	<b>1716</b>	<b>35</b>	<b>301435</b>	<b>1255</b>	<b>1386</b>	<b>25</b>

TABLE III  
 Analysis of variance of plot yields in (lbs.) 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.	D. F.	M. S.	D. F.	M. S.
	..	..	..	..	..	..	8	21.7	36	3.9	8	21.7	36	3.9	8	21.7
Thovala	..	..	..	..	..	..	14	149.3	60	1.8	14	149.3	60	1.8	14	149.3
Agastheeswaram	..	24.8	14	15.2	..	13	67.4	38	8.0	14	32.9	58	16.3	14	32.9	58
Kalkulam	6	10.9	1	25.8	..	5	93.9	21	8.9	5	101.3	24	9.2	5	101.3	24
Vilavancode	4	11.1	7	19.7	..	8	2.4	24	6.2	8	15.3	36	8.4	8	15.3	36
Neyyattinkara	4	1.8	9	1.3	..	5	7.7	15	2.1	6	8.1	28	3.6	6	8.1	28
Trivandrum	4	1.8	9	1.3	..	9	9.3	29	6.5	9	23.0	40	7.1	9	23.0	40
Nedumangad	3	17.8	7	9.3	..	6	2.9	21	1.3	6	5.9	28	1.5	6	5.9	28
Chirayinkil	3	5.4	3	1.2	..	6	6	28	3.2	6	3.1	28	3.2	6	3.1	28
Qulon	..	..	..	..	..	11	19.1	23	7.5	11	20.1	48	7.6	11	20.1	48
Kottarakkara	..	5.9	16	6.8	..	4	16.7	8	7.6	7	26.5	32	10.8	7	26.5	32
Pathanapuram	..	14.0	20	7.7	..	3	38.8	5	37.2	5	19.9	19	27.9	5	19.9	19
Shencottah	..	12.8	12	12.4	..	7	14.0	14	4.0	8	32.6	36	3.7	8	32.6	36
Kunnathoor	..	16.7	14	5.2	..	3	3.1	3	1.2	3	3.3	24	3.7	5	3.3	24
Pathanamthitta	..	1.3	17	1.1	..	7	17.5	24	1.7	7	22.9	31	2.0	7	22.9	31
Thiruvalla	..	6.2	2	0.9	..	9	52.8	35	7.0	9	52.0	35	7.0	9	52.0	35
Mavelikkara	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

D. F. = Degrees of Freedom.

M. S. = Mean Square.

TABLE III—(cont.)

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.
Kerunagappally	..	4.7	..	4.8	6	14.4	24	7.8	6	13.8	25	7.5
Karthikappally	..	..	..	..	9	9.3	34	6.4	10	9.3	44	5.9
Ambalapuzha	..	..	..	..	5	19.0	24	5.8	5	35.2	25	7.9
Shertalai	..	32.5	20	5.3	6	26.2	28	3.3	6	26.2	28	3.3
Changanacherry	..	..	3	1.8	1	13.4	2	0.4	5	13.9	24	4.8
Kottayam	..	0.7	9	3.2	5	17.8	20	3.4	5	15.9	24	3.7
Vaikom	..	7.8	18	2.6	4	1.6	10	2.6	5	4.5	24	4.4
Meenachil	..	5.0	3	1.4	3	0.6	2	0.3	5	8.5	24	2.9
Thodupuzha	..	9.5	15	7.7	6	10.4	20	1.7	6	11.5	28	2.8
Muvattupuzha	..	1.1	5	3.5	5	7.4	16	3.1	8	11.1	36	5.0
Kunnathunad	..	..	..	..	22	1.2	76	0.6	22	2.2	92	2.5
Parur	..	..	..	..	7	27.7	32	6.3	7	27.7	32	6.3
Kanayannur	..	..	..	..	11	16.2	48	4.3	11	16.2	48	4.3
Cranganur	..	..	..	..	1	0.4	8	2.3	1	0.4	8	2.3
Mukundapuram	..	20.1	35	18.3	24	35.3	100	3.7	24	35.3	100	3.7
Chittoor	..	..	..	..	10	7.3	39	10.5	18	14.5	76	14.2
Trichur	..	32.9	80	2.7	15	19.1	64	3.8	15	19.1	64	3.8
Talappally	..	..	..	..	14	21.7	18	2.7	27	44.4	112	3.4



TABLE IV

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

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

Source	Sum of Squares	D. F.	Variance
Between taluks ..	3032.94	20	151.65*
Between villages ..	2999.77	129	23.25*
Within villages ..	2882.23	320	9.01

(b) Plots which received no aid

Source	Sum of Squares	D. F.	Variance
Between taluks ..	6419.73	33	194.54*
Between villages ..	8692.21	261	33.30*
Within villages ..	12000.24	960	12.50

(c) Plots of both kinds

Source	Sum of Squares	D. F.	Variance
Between taluks ..	9853.97	33	298.67*
Between villages ..	11324.28	309	36.65*
Within villages ..	18046.28	1382	13.06

\*Denotes significance at 1 per cent level.

TABLE V

Percentage reduction due to driage in different Taluks

Taluk	% reduction	Taluk	% reduction
Thovala	7.7	Karthikappally	14.6
Agasteeswaram	11.1	Ambalapuzha	9.0
Kalkulam	10.0	Shertalai	8.5
Vilavancode	10.2	Changanacherry	8.5
Neyyattinkara	9.7	Kottayam	11.8
Trivandrum	12.4	Vaikom	8.2
Nedumangad	11.1	Mecnachil	10.7
Chirayinkil	11.7	Thodupuzha	13.3
Quilon	11.7	Muvattupuzha	13.6
Kottarakkara	12.9	Kunnathunad	12.1
Pathanapuram	11.3	Parur	8.4
Shencotah	7.6	Kanayannur	9.6
Kunnathur	11.7	Cranganur	9.6
Pathanamthitta	11.3	Mukundapuram	10.1
Thiruvalla	6.9	Chittur	5.1
Mavelikkara	11.9	Trichur	8.4
Karunagappally	13.8	Talappally	10.3

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