



GOVERNMENT OF KERALA

**REPORT ON AYACUT  
VERIFICATION  
OF MINOR IRRIGATION  
PROJECTS  
IN  
KOTTAYAM DISTRICT**

**DEPARTMENT OF ECONOMICS AND STATISTICS**

**DECEMBER 1985**



REPORT ON THE EVALUATION SURVEY OF MINOR IRRIGATION  
PROJECTS IN KOTTAYAM DISTRICT

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I. Introduction:

A survey to evaluate the function of the Minor Irrigation projects was conducted in Kottayam District during 1984. This was done as per the decision taken by the committee constituted to review the progress of Ayacut verification and collection of accurate data relating to M.I. works. For this study two out of 13, class-I M.I. works and 36 out of 360, class II M.I. works had been selected. Period of origin of the schemes of the above selected projects, area benefitted by them by way of irrigation or flood protection, original cost, date of completion, type of constructions and cost of maintenance were covered by the survey.

M.I. projects are classified into two, 1. Class I projects which costs about 2 lakhs and above, 2. Class II Projects which cost less than 2 lakhs.

Formally class-I and class-II M.I. works had been executed by Irrigation Division of P.W.D. and since 1976 Government, had decided that class-II M.I. works should be taken up only with people's participation. But now it is done by P.W.D. with Government funds for the maintenance of class-I works, Government had sanctioned an amount of Rs.500/- per hectare of the benefitted area. But for class-II projects the annual sanction is at the rate of Rs. 25/- per hectare of the benefitted area.

II. Sample design and Method of selection:

According to the records in the P.W.D. there are 13, class-I projects and 360 class-II projects covering an area of about 5096.18 hectares. M.I. works covering an area of about 10% of the total area had been selected at simple random. 2, class-I works and 36 class-II works had been selected for the study. The field work of the survey was conducted by Junior Statistical Inspectors under the supervision of the District Statistical Officer and the Assistant Director in the headquarters.

Class-I projects which costs Rs.2 lakhs or more contain lift Irrigation projects also. Class-II projects had been classified into different categories viz.

- Category 1 - Chira, Kulam, Tanks
- Category 2 - Deepening of Thodu, Canals etc.
- Category 3 - Cross bar and
- Category 4 - Others

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Following are the details of selection made for the conduct of the survey:

Category	Total No. in the District	Area covered by the project (Hts.)	Total No. in the category selected	Area covered by the selected projects (Hect.)
<u>Class-I:</u>				
1. M.I. projects	6	852.89	1	147.08
2. Life Irrigation projects	7	250.98	1	20.03
Total:	13	1103.87	2	167.11
<u>Class-II:</u>				
1. Chira/Kulam/Taluk	75	371.41	8	75.36
2. Thodu	62	1167.27	6	157.28
3. Cross bar	134	813.32	13	57.21
4. Others	89	1640.31	9	89.53
Total:	360	3992.31	36	379.38
Grand Total:	373	5096.18	38	546.49

III. Schedule and Questionnaire:

The proforma used for the collection of details of crops grown area irrigated and other details are appended. There are two proforma used for this purpose. Schedule-I is used mainly for canvassing basic details relating to M.I. projects, viz., the date of commencement, number of beneficiaries original cost of construction, expenditure for maintenance etc. Schedule-II is for recording area of land irrigated or brought under flood control from each survey number falling in the Ayacut region of each project. Irrigation particulars crop-wise are also collected. The details collected for the year 1983-84 in the prescribed proforma is consolidated at the headquarters.

IV. Results of the survey:

1. Class-I M.I. projects other than lift irrigation projects:

In Kottayam District there are 6 class-I M.I. projects other than lift irrigation projects covering an area of 852.89 hectares. One of these projects is selected for the study.

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The selected project is improvement of Kaniyanthodu in Udayanapuram in Vaikom Taluk. The area covered by this project is 147.08 hectares. The important crop covered by this project is paddy. Irrigated area (crop-wise) is furnished below:

Name of crop	Area irrigated by the project (Hts.)	%	Area not benefited (Hts.)	%
1. Paddy	82.32	71	32.95	29
2. Annual crops				
3. Perennial crops	21.18	67	10.63	33
Total:	103.50	70.4	43.58	29.6

1(b) Class-I Lift Irrigation projects:

Out of the 7 lift irrigation projects in Kottayam covering an area of about 250-98 hts. one project viz. Kidangoor L.I. Project, covering an area of about 20.03 Hts. is selected for the study. About 12.20 hts. of paddy fields are benefitted by the scheme. This is only 60.9% of the total area under the Ayacut of this project.

II. Class-II - M.I. Projects:

The class-II M.I. projects are clarified into 4 categories.

1. Chira/Kulam/Tank
2. Thodu-Deepening etc.
3. Cross bar and
4. Others

Out of the 360 class-II projects covering an area of 3992.31 hts. 36 projects covering an area of 379.38 hts. have been selected for study.

Table-II reveals the number of projects selected and the percentages of area benefitted by the way of irrigation or flood protection. According to it only 48% of the land is benefitted by the category (1) viz. Chira/kulam etc. 96% by category (2) viz. thodu etc. 85% by category (3) viz. Cross bar and 68% of by category (4) viz. others. On the whole it is estimated as 78% of the area was benefitted by the class II projects. Table III & IV, give the details of area crop-wise, category wise benefitted by class-II works. Out of the total 2852.64 hts. of Autumn paddy only 6% is benefitted by category (1), 37% by category (2), 21% by category (3) and 36% by category (4). Total area benefitted by winter paddy is 2596.16 hts. Out of this 5% is benefitted by category (1), 29% by category (2), 24% by category (3) and 42% by category (4) by way of irrigation or flood protection. Summer crops covered only

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111.73 hts. of which 43% is benefitted by category (2), 39% by category (3) and 18% by category (4). About 181.39 hts. of land was covered by seasonal, annual and perennial crops. 13% of this is benefitted by category (1). 37% by category (2), 37% by category (3) and 13% by category (4). Area of land under paddy (season-wise) benefitted by class-II works are given below (in hts.)

Category	Chira/ kulam/ tank		Thodu		Cross bar		Others	
	I	FP	I	FP	I	FP	I	FP
Autumn	155.55	..	1052.66	..	611.58	..	392.70	640.15
Winter	136.70	..	743.50	..	623.87	..	428.50	663.59
Summer	..	..	47.85	..	43.96	..	19.92	..
<b>Total:</b>	<b>292.25</b>	<b>..</b>	<b>1884.01</b>	<b>..</b>	<b>1279.41</b>	<b>..</b>	<b>841.12</b>	<b>1303.74</b>

I - Irrigated.                      FP - Flood protected.

Total net area irrigated is 3233.4 hts. of 90.43% is the area covered by paddy. This is 2924.17 hts.

V. Maintenance of M.I. projects:

Annual maintenance of irrigation projects class I are usually done by PWD and an amount at the rate of Rs.500/- per hect. benefitted by the project is sanctioned for this purpose. But this survey reveals that proper utilisation of the funds is not made in this regard. An amount of Rs.85,445 has been reported for the maintenance of 9 class II projects.

VI. Summary and conclusions:

This report is presented on the basis of the results obtained from the verification of 2 class-I M.I. projects and 36 class-II M.I. projects. It is observed that only 78% of the area Ayacot are reported by PWD in Kottayam District is benefitted by M.I. projects by way of irrigation facilities or flood protection. Out of this 90.43% is area irrigated under paddy. This is far below the results expected from these projects. This may be due to the following reasons.

1. The projects could not serve the necessities of the beneficiaries of the Ayacut area.

2. The projects have been started long ago and proper annual maintenance had not been done so that the beneficiaries could not make the maximum utilisation of them.



3. The rate of amount sanctioned as grant for the maintenance of the projects are very old and with this meagre rate proper maintenance cannot be done at present and (4) proper monitoring of maintenance is not done by the Irrigation Department or Panchayat Department.

With a view to overcome all these draw backs and for the proper utilisation of the facilities provided by the M.I. projects effective steps are to be taken. Annual maintenance should be done, if required with necessary alteration so that more area can be brought under cultivation by the beneficiaries of these projects. Government should enhance the rate of grant sanctioned for the maintenance of the projects. Yearly maintenance and control should be vested upon the committee formed with Government officials as well as representatives of local people.

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Improvement of Irrigation Statistics. Aquent verification Survey

Kottayam - District.  
Table - I

(Area in hectares)

Category	Total in the District	Total area covered by the project	Total No. in each category selected for the survey	Total area by the selected category (in hect.)	Total area irrigated by the selected category (in hect.)	Percentage of Irrigated area as per the survey.	
	1	2	3	4	5	6	7
M.I. Class I	6	852.89	1	147.08	103.50	70.37%	
L.I.	7	250.98	1	20.03	12.20	60.91%	
Total Class I	13	1103.87	2	167.11	-	-	
Class II							
1. Chiro, Kalliy, Pank	75	371.41	3	75.36	-	-	
2. Thodu	62	1167.27	6	157.28	-	-	
3. Cross-bar	134	813.32	13	57.21	-	-	
4. Others	19	1640.31	9	89.53	-	-	
Total Class II	360	3992.31	36	379.38	-	-	

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Table II

NET IRRIGATED BY M.I. (CLASS II) WELLS IN KOTTAYAM DISTRICT (Area in hectare)

Category of Wells	Total no. in the District.	Total no. selected for the survey	Total area of irrigated according to P.T.D.	Total area irrigated (including P.P.) as estimated from the survey (Net)	Percentage of Col. 5 to Col. 4
1. Open, Tandon, Tank	75	3	371.41	176.28	48
2. Pond	62	6	1167.27	1120.58	96
3. Cross bar	134	13	813.32	691.32	85
4. Others	89	9	1640.31	1115.41	68
Total	360	36	3992.31	3105.59	78

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Table - III

Gross area irrigated - crop wise as obtained from the survey.

TYPE OF CROP

(Area in hectare)

Kottayam District.

	Autumn			Winter			Summer			Seasonal, Annual & perennial crops		
	I	F.P	UI	I	F.P	UI	I	FP	UI	I	FP	UI
1	2	3	4	5	6	7	8	9	10	11	12	13
Chiro/maize/Tent	155.55 (6%)	-	-	136.70 (5%)	-	-	-	-	-	22.60 (13%)	-	11.60
Wheat	1052.66 (37%)	-	1064	743.50 (29%)	-	10.64	47.05 (43%)	-	1.40	67.92 (37%)	-	9.30
Gross bar	611.58 (21%)	-	-	623.87 (24%)	-	20.59	43.96 (39%)	-	17.53	66.45 (37%)	-	14.90
Others	392.70 (36%)	640.15	50.26	428.50 (42%)	663.59	245.70	19.92 (1%)	-	-	8.72 (13%)	14.60	202.42
Total	2212.49 (100%)	640.15	68.90	1932.57 (100%)	663.59	276.93	141.73 (100%)	-	13.93	165.69 (100%)	15.62	311.44



Table IV

Season-wise Gross Area irrigated - Paddy (Area in Hect.)

Season	Chitra, Kullar Tank		Thodu		(Gross Bar)		Others	
	I	F.P	I	F.P	I	F.P	I	F.P
Autumn	155.55	-	1052.66	-	611.50	-	392.70	640.15
Winter	136.70	-	743.50	-	623.07	-	428.50	663.59
Summer	-	-	47.05	-	43.96	-	19.92	-
Gross area	292.25	-	1844.01	-	1279.41	-	841.12	1303.74

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Table V

Kottayam District

Net area irrigated - Crop-wise as obtained from the Paddy

Type of work	Paddy			Other seasonal crops			Annual crop			Perennial crop		
	I	FP	UI	I	FP	UI	I	FP	UI	I	FP	UI
Share, Kullom, Tank	155	-	-	19.00	-	-	3.60	-	3.10	-	-	7.70
Todu	1052.66	-	10.64	26.20	-	-	31.16	-	-	-	8.56	9.38
Cross bar	663.17	-	-	26.95	1.02	-	26.20	-	30.00	11.30	-	53.94
Others	488.58	663.59	276.93	104.60	15.82	49.60	61.09	-	160.40	-	-	108.44
Total	2260.58	663.59	277.57	178.75	16.84	49.60	124.05	-	202.50	19.16	-	100.36

Percentage of Net area irrigated under Paddy to the total net area irrigated : 90.43%

Total net area irrigated : 3233.47

Total net area irrigated under Paddy : 2924.17 Hec

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Number of Class II - Minor Irrigation works incurred maintenance expenditure during the last 4 years

Table - VI

Year	No.	Canal, Tiltan, Tank, Thodhi Expenditure (Rs.)	No.	Expenditure (Rs.)	Cross bar No.	Expenditure Rs.	Others No.	Expenditure Rs.	Class I L.I	
1	2	3	4	5	6	7	8	9	10	11
1979-80	-	-	-	-	-	-	-	-	-	-
1980-81	-	-	1	877	1	62780	-	-	-	-
1981-82	1	7774	-	-	1	4442	-	-	-	-
1982-83	3	11952	1	1881	1	180	-	-	-	-
Total		15285		2758		67402				

Not selected in each category

Total No. of works which undertook maintenance - 9

Total expenditure - 89445/-





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