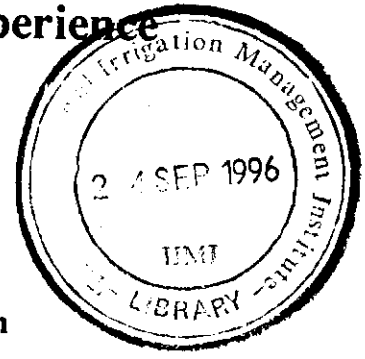
Status of Irrigation Management Transfer in India

Water Users' Association in Malayadipalayam Distributary of Parambikulam Aliyar Project: Farmers' Experience



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Water Users' Association in Malayadipalayam Distributary of Parambikulam Aliyar Project: Farmers' Experience

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Foreword

This booklet is one of the series of short narratives about farmers' efforts to create and manage water user associations. The purpose of the series is to provide other farmers in the state with succinct, readable, and interesting information about these efforts that might enable farmers to improve their access to the irrigation services. This study is being published in both Tamil and English. See the back cover for information about the other narratives in this series.

This narrative was written by V. Velaiah under the guidance of IIMA and IIMI team members. He lived with the farmers described here from October, 1994 to April, 1995. While there, he interviewed and observed the farmers in order to document the water user association and irrigation management transfer process at this site. The information presented here reflects the ideas and opinions of the farmers themselves.

V. Velaiah's effort was part of the study on Status of Irrigation management Transfer in India being carried out from 1993 to 1995 by the Indian Institute of Management, Ahmedabad, and the International Irrigation Management Institute, Colombo, with funding from the Ford Foundation. The study investigated and documented the policies and activities of agencies, non-governmental organizations, and others with regard to promoting irrigation management transfer from the government to farmers. The overall goal was to contribute to formulation of effective policies and programs with regard to irrigation management transfer in India. In addition to this series of short narratives, study results are reported in more traditional research reports and other forms.

The primary members of the IIMA/IIMI study team were Shashi Kolavalli, Amarlal Kalro, Gopal Naik, and S. Ramnarayan from IIMA, and Jeffrey D. Brewer, R. Sakthivadivel, and K.V. Raju from IIMI. Editing in Tamil was carried out by S. Subramanian and Dinakaran. The edited first draft was translated into English and reviewed by the study team, particularly by K.V. Raju and Shashi Kolavalli.

The members of the study team, including V. Velaiah, wish to thank the people of Village Malayadipalayam and Kumarapalayam, concerned government and non-governmental agencies who gave their hospitality and time to answer questions and explain how things work without expecting compensation. We sincerely hope that their experiences will be useful to others.

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Water Users' Association in Malayadipalayam Distributary of Parambikulam Aliyar Project: Farmers' Experience

Introduction

A fertile land is the indicator of a prosperous life, says a Tamil proverb. Water provides life to the fertile land. This is what the Tamil poet Tiruvalluvar meant when he said that there is no world without water. Managing water with the help of dams and canals has been practiced since ancient times. The farmer, too, has all along been involving himself in managing water. But his role has come down ever since the British handed over the responsibility of Managing water to the Public Works Department (PWD). After Independence, farmers have almost totally kept away from this responsibility.

It is obvious that water resources cannot be used effectively without farmers' help. This has prompted developing countries to create water management projects to ensure optimum use of the precious resource. The aim is to have a good harvest with minimal use of water. Water management projects have been planned to involve farmers in managing water.

The Project

The Parambikulam Aliyar Project (PAP) is located in Coimbatore district of Tamil Nadu. The project is completely different from all other projects and was started in 1965 as a joint effort by Tamil Nadu and Kerala. The main feature of the project is that it diverts the rivers running west to south in the Anna hills and is an indicator of the co-operation between the two states.

There are eight dams and seven irrigation canals in the project. Six of these dams are used for generating power and the other two - Tirumurthi and Aliyar - are used exclusively for irrigation. The Tirumurthi dam has

its name as it is situated near the Tirumurthi temple, whereas Aliyar dam got its name from the Aliyar river.

Periyar main channel has a potential command area of 128933 ha. This includes original command of 74884 ha and extension area of 54048 ha. Under the new pattern, the total potential command area (152693 ha) has been divided into four zones: I zone, 39903 ha; II zone 39845 ha; III zone 38066 ha; and IV zone 34879 ha. One interesting point is that Vaalpaarai, which gets the highest rainfall in Tamil Nadu, and Palladam, which receives the lowest are located in the PAP area.

Functioning of the Project

When PAP became operational in 1968, the irrigated area was around 2.5 lakh hectares. Wet crops to be planted in 20 per cent of the area and dry crops in the rest. The former were given 60 duty water and the latter 180 duty. On an average, both got around 85 duty water. Water was released for seven days and stopped for the next seven days. To compensate for non-supply, twice the amount was released in those seven days.

Initially, only 50 to 60 per cent of the land was brought under irrigation. But farmers gradually increased the cultivated area and now, the entire area is irrigated. Total area under irrigation increased considerably as the government increased the boundaries of the project.

Water Source

The south-west (June to September) and the north-east monsoons (October to November) are the sources of water for the project but mostly from the former. The Tirumurthi and Aliyar dams rely a lot on the other six dams on the project. This dependence and the increase in the irrigated area posed problems for the project authorities in supplying water. It was not possible to satisfy the needs of all the farmers. As a solution, the project authorities introduced zonal irrigation system.

Zonal Irrigation System

The irrigated area had increased to 2.58 lakh acres in 1972. In 1973, the 3-Zone system was introduced to tide over the water shortage. The area was divided into three zones and each zone got water once in two seasons (18 months). As 80 per cent water was for dry crops, each zone got water for only 135 days. Even here, water was given for seven days followed by a seven day gap. So, in each season farmers got water only for 67.5 days.

The water problem could be said to be solved only to some extent after the zonal system was introduced. Though a few canals were dug in the PMC area under the Jawahar Rozgar Yojana (JRY), they were not utilized fully. But the government, with an eye on the 1993 by-elections, announced that some newer areas in PAP would also get water.

The entire area (152693 ha) was now divided into four zones. The project authorities announced that the farmers, who were getting water once in 18 months, would now get it once in 24 months. The farmers opposed this measure as they feared this would reduce the underground water level leading to destruction of vegetation like coconut trees. They obtained a stay from the Madras High Court for scrapping the four zone system. Later, the High Court vacated the stay and upheld the legality of the zonal system.

Four Zone System

The project area was divided into four zones of a) 39903, b) 39845 ha, c) 38066, and d) 34879 ha respectively. Two zones would get water every year for two seasons. When the new system was implemented, the farmer filed a review petition in the Supreme Court against the system. The matter is still sub judice.

Problems Faced by Farmers

Water scarcity has been perennial ever since the implementation of PAP. Water is available through two sources: distributary and ground.

Groundwater is entirely dependent on the monsoon or the water available in the distributary. With the implementation of the zonal system of irrigation, farmers depend more on groundwater. They, however face several problems.

1. As the Malayadipalayam distributary is in a poor condition, farmers do not get enough water. Moreover, there is no proper water distribution system.

2. As the groundwater level is entirely dependent on the canal water and the monsoons, groundwater availability is very poor.

3. Farmers dump all their wastes in the distributary which reduces the water flow.

4. There is no proper maintenance of the distributary. PWD does not care much about the Malayadipalayam distributary as there is hardly any water in the canal.

5. Water distribution by PWD also leaves lot to be desired. Water is supplied according to availability, not according to farmers' needs.

6. The land in the area has little capacity to retain water, resulting in the need for more water.

Crop Pattern

When PAP was implemented, the project authorities decided to provide 80 per cent water to dry crops and 20 per cent to wet crops. It was also suggested to plant wet crops in the water seepage and low lying areas. But this move was a failure because the areas got hardly any water. This plan of 80 per cent dry crops and 20 per cent wet crops could not be implemented properly for the following reasons :

1. Enough water was not available for the areas designated for wet crops. At the same time, dry crops too suffered because of leakages in the canal.

2. As water was available in plenty in areas near PAP, farmers there adopted new crop patterns.

3. The soil in the area is more suited to coconut trees. Because of shortage of labourers, farmers concentrated more on planting coconut trees.

4. There was a huge gap between two periods of water supply in the zonal system.

5. Farmers preferred to go in for drip irrigation.

Area of Research

The 16th Farmers' Council, which falls in the Palladam taluka of Coimbatore district, commands an area of 1,557 ha. The entire area is serviced through three branch canals and six direct sluices. There are 12 sluice associations two each for the branch canals and one each for the sluices.

The first farmers' council was set up by the Agricultural Engineering Department where zonal irrigation councils were functioning. The 16th Council was set up in the first phase itself on October 8, 1992, and registered on November 27, 1992.

Malayadipalayam Distributary

The Malayadipalayam distributary is on the right-hand side of PMC at the 54th km. Malayadipalayam, Kumarapalayam and Arugampalayam villages get water from this distributary. There are 11 sluices and one tail dam which provide irrigation to 292 ha.

Soil

The red-coloured soil is full of limestones and does not retain water and moisture content is poor. Soil is calcareous and salt percentage is very low. These soils are better suited for cultivation of dry crops.

Socio-economic Structure

The land area in Malayadipalayam and Kumarapalayam villages is more than 283 ha. According to the 1991 census, the two villages account for a population of 7,745. Of them, 1,556 belong to lower castes and form a considerable portion of labourers. Others belong to backward castes. Most of them belong to Vellala Gounders community. They own 90 per cent of the land holdings on the command area.

Ninety per cent of the land is with the Vellala Gounders; 80 per cent of whom depend on farming. Forty per cent of the farmers have their dwellings in the farms.

Most big farmers depend on agriculture and money lending. Some 40 per cent of the farm labourers work in textile mills in the surrounding towns of Tiruppur, Palladam, and Pollachi.

There are wide differences in the level of land holdings among the Vellala Gounders from 14.17 ha to 0.30 ha. Individually or jointly they own the wells in this area.

Irrigation Plan

PAP functions under a superintending engineer. Four executive engineers function under him -one each in Parambikulam, Vaalpaarai, Pollachi and Udumalapettai. Eleven assistant executive engineers and 33 assistant engineers assist them.

Under the four zonal irrigation system, farmers are informed of the water release through newspapers and radio at least 10 to 15 days in advance.

Water is provided for two seasons each year for two zones. While one zone gets water from August to December, the other gets water from January to May.

Farmers' Bodies in PAP

After 1973, a zonal farmers' association was formed for each zone. These bodies have helped farmers in solving water problems of their respective zones, providing water to coconut trees, and preserving groundwater. The associations came under one umbrella body when they filed a case against the four zone system. However, these bodies have not been able to find a permanent solution to the water problem.

The Tamil Nadu government introduced the Command Area Development Plan (CADP) in 1982. In the first phase, on farm development plan (OFD) was implemented through the Agricultural Engineering Department. This gave boost to farmers' morale.

Under CADP, the mud canal was converted into lined canal and underground pipes were laid. PWD earned respect for this work from the farmers.

The farmers have now set up sluice associations and farmers' councils. So far, 67 sluice associations have been formed through 51 irrigation community organizers (ICOs).

Aims of Farmers' Councils

The farmers' councils undertake or provide the following services:

1. To repair branch canals and farm canals and distribute water.

2. To distribute water equitably.

3. To obtain loans and grants from the government for farmers.

4. To provide fertilizers and other products to farmers at competitive prices.

Growth of Farmers' Councils

Farmers' bodies got a fillip only after 1970. They concentrated mainly on getting more water from the irrigation department in times of scarcity, but could not find ways to share water equitably.

It was at this point of time that the Agricultural Engineering Department decided to set up farmers' councils to implement irrigation development plans. ICOs were given the responsibility for the job and were required to go to meet farmers and inform the advantages in forming farmers' councils.

Structure of Farmers' Councils and Sluice Associations

Sluice associations were formed to solve problems of areas falling under each sluice. Farmers' councils were formed through the associations. In each sluice association there is a president, a secretary and a treasurer. One of them was chosen to represent the association in the farmers' council.

Apart from a representative each from the sluice associations, the councils' management comprised the president, vice-president, secretary, assistant secretary, treasurer, and advisor. Farmers were admitted as members. However, not all farmers have joined the councils.

The councils were given a government grant of Rs 275 per ha in three installments of Rs 100, Rs 100 and Rs 75. The 16th farmers' council got Rs 1,55,700 as the first instalment for 1,557 ha two years after its formation.

Activities of Sluice Associations

Though each sluice has an association, they are not registered and do not have any rules or regulations. They also do not have the authority to deal in money matters, but have treasurers. They concentrate more on distribution of water. The Agricultural Engineering Department has given the farmers a rotational water supply card. The amount of water to be supplied is decided (by AED) on the basis of the area. In the absence of sufficient water supplies, the sluice associations directly function.

Activities of Farmers' Councils

The councils' duties were to distribute water properly, solve water related problems, distribute fertilizers and other products, and improve productivity. But they have not bothered to do anything. The government grant has been deposited in a bank account. They have not even bothered to collect members' fees or admit new members. Till March 1995, 64 councils were set up under the PAP area. Moves to set up farmers' cooperatives are also on.

The sluice associations and farmers councils, however, had no proper objectives. The bodies were formed on the basis of similar bodies functioning in the Lower Bhavani project area, where the problems were different. While the Lower Bhavani farmers got water once a year, PAP farmers got water only once in two years. The PAP farmer did not know who had the authority in water distribution. He depended more on groundwater.

The water card does not say who should get water first or who should look after the distribution. It also does not specify the dates of water release.

Though the councils are supposed to look after water distribution and canal maintenance, these activities are done by PWD. The councils have not been given any powers, thereby leaving them clueless. They have no

idea how to distribute water or how to penalize farmers violating water distribution rules.

The irrigation rules have not been formed according to PAP requirements. The farmers want the councils to concentrate more on improving productivity instead of distributing water. All these indicate that the councils were formed by AED only to reach certain previously set `targets'. This is the reason why they are non-functional. Since they have not spent the first instalment of the grant, they are not eligible for the next.

PWD and Water Management

In Tamil Nadu, all work regarding irrigation is done by PWD. But till February 1995, PWD had not consulted farmers' organizations on irrigation. The Water Resources Consolidation Project (WRCP), to be implemented with World Bank's assistance, requires farmers' associations to be set up in all areas. Therefore, PWD has started setting up farmers' bodies in the State. In the first phase, such associations are being set up in the Amaravati dam area of PAP. However, PWD has not shown any interest in the farmers' councils set up by the Agricultural Engineering Department. PWD officials say that government does not give grants for setting up farmers' associations, but wants the associations to be set up by collecting Rs 100 from each farmer. The farmers, however, are not prepared to pay the amount and look for grants or aid from the government. PWD feel that setting up such bodies will not suffice. The farmers have to be enlightened on irrigation management. PWD must be involved in water distribution because, it says, differences between farmers on water distribution will affect the functioning of the bodies.

How Irrigation is Carried Out

As said earlier, farmers are informed through newspapers and radio 10 to 15 days in advance of water release. The canals and sluices are operated through laskars. Water supply is in alternate weeks. All the sluices are opened during the first three days and the last two days, while only some

sluices are opened during the other days. The laskar, who operates the sluices, is not interested in knowing whether water has been distributed properly.

Water is not distributed among the headreach, middlereach, and tailreach farmers. while 90 to 100 per cent of the requirements are met in the case of headreach farmers, only 70 to 80 per cent and 50 to 60 per cent of the requirements are met in the case of middlereach and tailreach farmers. Water is distributed by the farmers among themselves. They do not follow the rotational water supply card. This is because though the card says how much water the farmers should take, it does not say anything about when he should take it. Farmers depend more on well water and do not bother much about canal water. The limit in timing for using canal water is followed only when there is no water in the wells. When this study was being done, water was being distributed for seven days followed by a gap of 14 days because of water scarcity. Therefore, farmers depended even more on ground water.

Coconut growers of the command area do not bother much about canal water as 80 per cent of their lands are under groundwater supported drip irrigation system. Though coconut cultivation is not permitted in the command area owners bypass it by agreeing to pay penalty tax.

Present Situation

In the 16th farmers' council Malayadipalayam canal areas, not all farmers were aware of the existence of the council or sluice associations. Moreover, the government too has not drawn up any plan on the farmers' role in water distribution. This has resulted in confusion among farmers on how to distribute water.

Farmers feel that the councils must concentrate more on storing of the crop, distributing fertilizers, pesticides, and the like, and arranging drip irrigation facilities for coconut trees.

Malayadipalayam distributary command area, as much as PAP area faces four major problems:

a) Water is supplied once in two (or three) years
b) Area under coconut is increasing
c) Farmers do not get communication on water releasing and closing dates
d) Extension of command area has increased the irrigation intervals (from 18 months to 24 months or 30 months)

Many fields within the distributary command area have been kept fallow owing to temple land, uplands or poor quality of the soil. On an average each sluice of this distributary irrigate between 42 to 55 ha. Only one sluice i.e. 7L has a board indicating warabandi schedule (21 acres and 168 hours). Fields till Sluice No. 8L are cultivated in two seasons. One with canal water and another with groundwater. Majority of the wells are open wells and till sluice No. 4L, these wells get recharged from the flow in the PAP main canal. All sluices have pucca gates with padlocks. During the beginning of the season, the laskar adjusts the gates and locks it up for the rest of the season.

Though farmers' bodies are being set up under WRCP, farmers are confused whether the existing bodies will also be utilized under the scheme. But PWD and agricultural engineering department officials feel that the government wants PWD to set up farmers' bodies in areas where similar bodies have not been set up by the agricultural engineering department and vice versa.

Farmers are confused why two government bodies are carrying out the same work. Though all farmers do not get sufficient water through the OFD scheme, they feel that they are getting more water than earlier and that the irrigated area has increased by 20 to 30 per cent.

Though PWD has more authority, farmers have more faith in the agricultural engineering department. Farmers feel that PWD must coordinate with farmers' associations in water management, maintenance,

and repairs, and that the associations must be given more powers which will make them function better.

What Officials Feel About Farmers' Bodies

As the farmers' councils comprise only large farmers, project officials feel that only large farmers will benefit. Farmers are also not bothered about canal water as there is enough well water. Moreover, OFD will succeed only if the farmers' bodies too are involved in the plan.

Salient Features of Tirumurthy Dam

Length - 8792 ft
Maximum water level - 1337 ft
Gross capacity - 1935 ft
Net capacity - 1706.63 ft
Water spread area - 1.56 sq miles

Hydraulic Particulars of PMC

Canal length - 124 km
Vent size - 6 + 5
Vents - 3
Discharge capacity - 1031 cusecs
Area lined - 124 km
Area irrigated - 377242 acres

Malayadipalayam Distributary

Canal length - 2.4 km
Velocity - 1.56 ft
Bed width - 2 ft
No of sluices - 11 + tail dam
Area irrigated - 292 ha
No. of members of WUA - 153
Total landholders - 486

Zone-wise Ayacut Area (PMC)

Under Ist zone- 39903 ha
II zone - 39843 ha
III zone - 38066 ha
IV zone - 34879 ha
Total area - 152693 ha

List of case studies published in local languages under Irrigation Management Transfer Project

Case Studies conducted in Gujarat and published in Gujarati

1. Water Users' Association in Anklav Subminor, Mahi Kadana Project: Farmers' Experience
2. Water Users' Association in Right Bank Canal of Pingot Medium Irrigation Project: Farmers' Experience
3. Water Users' Association in Left Bank Canal of Baldeva Medium Irrigation Project: Farmers' Experience
4. Water Users' Association in Bhestan Minor (Mohini), Ukai Kakrapar Project: Farmers' Experience
5. Water Users' Association in Bhima Lift Irrigation Scheme: Farmers' Experience

Case Studies conducted in Maharashtra and published in Marathi

1. Water Users' Association in Phulewadi Lift Irrigation Scheme: Farmers' Experience
2. Water Users' Association in Kadoli Lift Irrigation Scheme: Farmers' Experience
3. Water Users' Association in Minor 7, Mula Project: Farmers' Experience
4. Water Users' Association in Parunde Minor Irrigation Project: Farmers' Experience
5. Water Users' Association in Hadshi Minor Irrigation Project: Farmers' Experience
6. Water Users' Association in Minor 17, 18, 18A, 19 and Distributary 1, Waghad Project: Farmers' Experience
7. Water Users' Association in Minor 10, Bhima Project: Farmers' Experience

Case Studies conducted in Tamil Nadu and published in Tamil

1. Water Users' Association in XIth Branch Canal, Periyar Vaigai Project: Farmers' Experience

2. Water Users' Association in Kedar Tank: Farmers' Experience
3. Water Users' Association in Dusi Mamandur Tank: Farmers' Experience
4. Water Users' Association in 28L and 29R Outlets of Mettupalayam distributary in Lower Bhavani Project: Farmers' Experience
5. Water Users' Association in Malayadipalayam Distributary of Parambikulam Aliyar Project: Farmers' Experience
6. Water Users' Association in A9 Mahilanchery Channel (Saliperi), Cauvery-Valappar Project: Farmers' Experience
7. Water Users' Association in Panchanthangipatti Tank: Farmers' Experience
8. Water Users' Association in Pillayarkulam Tank: Farmers' Experience
9. Water Users' Association in Vagaikulam Tank, North Kodaimelalagian Channel, Tambraparani Project: Farmers' Experience

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