CHAPTER – V

ORIGIN, STRUCTURE AND FUNCTIONING OF
WATER USERS ASSOCIATION

Farmers’ involvement in the performance of several functions is the hallmark of traditional irrigation system in Tamilnadu. Strong collective institutions were developed by the users. The most distinctive features of these were collective labour for maintenance (generally called Kudimaramath), the appointment of watermen (known variously as neerkatti or kandottu) to distribute water fairly to farmers and overall management by village governmental institutions. However, compared to the British rule, there was a major change. With the paramount aim of collection of revenue, large scale irrigation works were constructed, with the establishment of Public Works Department (in mid 19th century). The officers generally downplayed the abilities of local farmers to manage irrigation and often interfered with local attempts of management. With growing disinclination of the farmers to maintain the irrigation system, the state passed the Madras Compulsory Labour Act of 1858 – the Kudimaramath Act – which
legalized compulsory labour for certain aspects of maintenance. The Act was ineffective.

After independence, the newly Indianised P.W.D. continued to function as before. Large reservoirs and diversion systems were constructed and put under PWD management. However, in course of time, it was felt that the capacity utilization was not up to the expectations, the important roadblock being the absence of a well built distribution network, below the sluices. Then, since 1970’s the Agricultural Engineering Department (AED) was made responsible for the Command Area Development Programme (CADP) to cater to On-Farm Development (OFD) works. A subsidiary object of the programme was to organize farmers below the sluices. In 1987, the National Water Policy advocated “Participation of farmers in management of the irrigation system”.

In the same year, Arumaisingh, an AED Staff, after his study visit to the Philippines, initiated the setting up and development of Water Users’ Associations (WUA) in the command of Lower Bhavani Project, as part of On-Farm Development. The programme soon caught up: The programme is based on creating WUAs at three
levels – Sluice Associations, Farmers’ councils, (at a single distributory channel level) and the Apex body in the whole command. These associations are to be legally registered under the Societies Registration Act, 1975. Funds, in the form of management subsidies, are provided by the Central government; the farmers are required to contribute at least one quarter of the subventions received.

Along with the AED programme, a few independent organizations also intervened to work out people’s participation in irrigation management. The Irrigation Management Training Institute (IMIT), Thiruchirappalli, worked its Salipperi model in the Cauvery delta (funded by the United States Agency for International Development (USAID). The distinctive feature of the model is that the IMTI puts up funds to match funds collected by the WUA members. The combined sum was credited with a bank and the interest accrued was used to pay WUA costs. The Center for Water Resources (CWR), Anna University, with funds from the Ford Foundation, laid emphasis on organizational works with farmers, by community organizers, to help the farmers organise themselves and collectively solve problems. The two non-government
organizations, the Association of Sarva Seva Farms (ASSEFA) and Professional Assistance for Development Action (PRADAN) have also been involved in irrigation development and management in the state. ASSEFA tries to get the villagers to undertake collective activities, rather than individual activities, and assists in the construction of wells and improvement of local tanks. The PRADAN provides techno-managerial assistance to the tank management agencies and it supplements the activities of District Rural Development Agency (DRDA).

Of late, the state has been implementing the Water Resources Consolidation Projects (WRC) with World Bank Funding. The ultimate objective of WRCP is to turn over, operation and maintenance responsibilities of distributory channel commands, of about 500 acres, to farmers’ organizations. The three tier organization model proposed in the WRCP is very similar to that used by Command Area Development Programme (CADP). The main difference is that while the CADP focused on improvements below the sluices, the WRCP focuses on major rehabilitation.
The enactment of the Tamilnadu Farmer’s Management of Irrigation System Act, 2000 is an important milestone in the history of irrigation management in Tamilnadu.

The purpose of this Act is “to promote and secure distribution of water among its users, adequate maintenance of the irrigation systems, efficient and economical utilization of water to optimize agricultural production, by involving the farmers and inculcating a sense of ownership of the irrigation systems in these in accordance with the water budget and the operational plan”. The Act provides for compulsory membership of farmers in an irrigation system for utilizing water from such a system. The collector of a district has the power to delineate the command area under an irrigation system and declare it to be the Water Users Association area for the purpose of formation of the WUA.

The members constituting the general body for respective WUAs shall have the right to elect the president and members of the managing committee, representing various territorial constituencies of WUA. The district collector in the respective areas shall make arrangements for such elections.
Two or more WUAs will form a Distributory Committee and presidents of all WUAs will become members of such Distributory Committee ex-officio, and all such members shall constitute the general body of such distributory committees. In addition, there shall be a Managing committee for every distributory committee.

Further, a Project committee is constituted for every project area which will be delineated by the Government. ‘The president of every distributary committee in the project area shall be members of such Project committee, ex-officio, and all such members shall constitute the general body for such a Project committee’. On top of all these, the government by notification, may constitute an Apex Committee with a chairman and such number of members or/and powers as may be prescribed by the government. The purpose of the Apex committee is stated to be laying down the policies and guidelines for implementation of the provisions of this Act.

The following are some of the functions to be performed by a Water Users’ Association under this Act.

- Planning and implementation of a rotational water supply system;
- Maintenance of irrigation system, right from distributory to field channels;
- Promoting economy in the use of water;
- Assisting Revenue authorities in the collection of water charges;
- Maintenance of Register of water users;
- Maintaining a data or inventory of the irrigation systems with the areas of operation;
- Removing the encroachments of canals, drains and tank poromboke;
- Resolution of disputes among the members of the association.
- Raising of resources.

Similarly, distributory committees and project committees also have some prescribed functions to perform. One of these relates to preparation of an operational plan, based on its entitlement, area, soil and crop pattern, and they also have to ensure maintenance of canal, network, proper distribution of economy and efficiency in the use of water.

Thus, farmers’ involvement in irrigation management has gone a full circle, from farmers enjoying full managerial
responsibility in the traditional organization, the state usurping it in course of time, and now preparing the grounds to turn over it to its original holders.

The farmers of the district have been associated with different organizations of their own. Politically associated farmers’ organizations such as the Tamilnadu Vivasagai Sangam have their affiliates here. Narayanasamy Naidu’s Vivasagai Sangam has also its branches here. A number of Bhoomi Pathukappu Sangams are also functioning, especially in the coconut growing areas. There are primarily two types of water users organizations – puravu – a traditional type – and the state – sponsored pasanadar sabhas.

The PWD, Agricultural Engineering Department and the NGOs formed and registered 50 WUAs in the district. Now there are fifty Water User Associations in the District (at the sluice level) and nine Distributory Committees (at the channel distributory level) one Project Committee (at the dam project level) formed in the year 2009. Among them 20 WUAs are coming under the Thovalai and Agastheeswaram Taluks of Kanyakumari district.
Following are the formal and informal WUAs functioning in the study area:

1. Arumanalloor puravu vivasayigal sangam.
2. Derisanamcope puravu viva saigal sangam.
3. Boothapandy puravu viva saigal sangam.
4. Erachakulam puravu viva saigal sangam.
5. Veeranayar anamangalam puravu viva saigal sangam.
6. Puthery viva saigal sangam.
7. Melaputhery puravu viva saigal sangam.
8. Thirupathisaram puravu viva saigal sangam.
9. Arasiyarkal, Peyodukal, Pallikondonkal pasana viva saigal sangam.
10. Vilavadikal pasana viva saigal sangam.
11. Theroorkulam pasana viva saigal sangam.
12. Parakkaikulam pasana viva saigal sangam.
13. Suchindrumkal pasana viva saigal sangam.
15. Pillapethakal pasana viva saigal sangam.
16. Thathayarkulam, Nullikulam, Manikaputherrikulam viva saigal sangam.
17. Aralvoimozhi, Thovalai, Chenbagaramanputhoor pasana kulam vivasayigal sangam.

18. N.P. Mettukkal puravu vaikal pasana vivasayigal sangam.


20. Thovalai channel pastomadai muthal thanumalayan madai varai pasana vivasyigal sangam.


22. Marunthuvalmalai channel pasan vivasayigal sangam.

23. Nilapparai pasana vivasayigal sangam.

24. Nanjilnadu puthanar prathana kalvai pasanadhar vivasayigal sangam no.3.

25. Thovalai channel pasana vivasayigal sangam.


27. Thovalai prathana kalvai pasana vivasayigal sangam no.2.

28. Aralvoimozhi, Thovalai village prathana kalvai direct pasana vivasayigal sangam.

Of the above twenty eight, the first eight are the traditional puravus and the last twenty are state-sponsored WUAs. In addition to these, there are more than ten unregistered puravus
functioning in the study areas of Thovalai and Agasteeswaram taluks.

**The Puravus**

The Tamil word ‘puravu’ is derived from the term ‘purathal’ which means ‘to protect’; the king himself is known as ‘purappon’ or ‘one who protects’, and thus the term ‘puravu’ also means ‘that which protects’.

The Agasteeswaram inscription of 1438 A.D.\(^1\) mentions about, ‘Kulankal and puravu’ where the former refers to tanks, and the latter refers to the ayacuts of the tanks. A 1784 order of the Travancore King\(^2\) refers to the ‘puravukkars’ or the people of the puravu. The latter document clearly delineates the duties of the state and the people of the puravus towards the tanks. It is the duty of the state to desilt and deepen the tanks, while it is the responsibility of the puravukkars to operate and maintain the sluices, weirs and inlets of the tanks. The puravus were interested in the augmentation of local water resources as well. The puravu of Theroor, on their own, have excavated the Therekal - the channel that takes water from the Pazhayar Veeranarayananamangalam dam to Theroor tank.\(^3\)
Of course, the main function of the puravu is water management, filling of tanks and opening of the sluices of tanks. Tanks could be filled up during the monsoons; but even then, the feeder channels are to be kept open in time. It would be a sight to see the puravu people guarding the channel sluices at higher levels kept closed, while water is let into their tanks. Actually, the puravus spend a lot to grease the palms of P.W.D. to accomplish this. A Travancore Government order of 1824-25 points out that the Pandyankal – the principal canal that brought water to the river Pazhayar and channels of Nanchil Nadu - are to be maintained by the community labour of all the cultivators of Nanchil Nadu. Every ayacutdar was required to send an able-bodied person to contribute labour for such works. If he was not in a position to do so, he should send a hired substitute, or contribute the required money for labour.

In times of scarcity, the puravu arranged for equal sharing of scarce water by the people. This is executed by “Kandottus” appointed specially for the purpose. It is worth mentioning that the Kandottus see that the tail end lands are watered first and in that way, equity in distribution is attained.
The opening of some tank sluices (eg. Kannadiakulakalan sluice of Theroor tank) requires special skill. In some villages, the local fishermen people (chavalas) have acquired special skill and only they are employed for this purpose.

Turning to the organizational pattern of these bodies, most of them were just informal; all villagers participate in the deliberations of puravus. It was just a community body. Now-a-days, puravus formally register themselves under the Societies Act. Registration is preferred for, the P.W.D. used to give preference over grazing/fishing/lotus rearing in tanks to registered bodies.

**Table 5.1 Features of puravus**

<table>
<thead>
<tr>
<th>Puravu at</th>
<th>Caste of the leader</th>
<th>Representation to other castes</th>
<th>Age range of office bearers</th>
<th>Income from duck tending (Rs. P.A.)</th>
<th>Expenditure to bring water (Rs. P.A.)</th>
<th>Donation to temples (Rs. P.A.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arumanalloor</td>
<td>F.C.</td>
<td>Nil</td>
<td>50 – 60</td>
<td>10,000</td>
<td>Nil</td>
<td>1,000</td>
</tr>
<tr>
<td>Derisanamcope</td>
<td>F.C.</td>
<td>OBC</td>
<td>45 – 60</td>
<td>5,000</td>
<td>Nil</td>
<td>1,000</td>
</tr>
<tr>
<td>Boothapandy</td>
<td>F.C.</td>
<td>BC</td>
<td>45 – 55</td>
<td>5,000</td>
<td>Nil</td>
<td>2,000</td>
</tr>
<tr>
<td>Erachakulam</td>
<td>B.C.</td>
<td>FC</td>
<td>50 – 65</td>
<td>2,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Veeranarayanamangalam</td>
<td>S.C.</td>
<td>FC</td>
<td>50 – 60</td>
<td>5,000</td>
<td>1,000</td>
<td>Nil</td>
</tr>
<tr>
<td>Puthery</td>
<td>F.C.</td>
<td>Nil</td>
<td>50 – 60</td>
<td>8,000</td>
<td>Nil</td>
<td>1,000</td>
</tr>
<tr>
<td>Vadiveeswaram</td>
<td>S.C.</td>
<td>FC</td>
<td>50 – 60</td>
<td>5,000</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Thirupathisaram</td>
<td>O.B.C.</td>
<td>FC</td>
<td>50 – 60</td>
<td>10,000</td>
<td>2,000</td>
<td>1,000</td>
</tr>
</tbody>
</table>

Source: Survey data: FC – Forward Caste, BC – Backward Caste, OBC– Other Backward Caste, SC – Scheduled Caste, P.A. – Per Annum
From the contents of the above table, it is possible to learn the dynamics of the organization. Of the puravus, the traditional land owning class of Vellalas (FC) continue to hold power in four puravus, while the emerging class (of Nadars) leads one and a Yadhava (OBC) leads another puravu, two puravus are led by SC people. This means that the puravu leadership is changing hands. Further, representation has been given in the executive committee of the puravus to other (than the leading) castes as well. This also reflects the slowly broadening of the managerial base of the puravus. Turning to the age composition of the office bearers of the puravus, in most cases, persons above 50 are leading the affairs of the puravu.

The principal source of income to the puravus is the amount collected from the duck tenders. Further, the puravus receive an amount from the cattle dung gatherers from the off-shores of the tank beds. By leasing lotus rearing and fish rearing also, the puravus used to receive a good sum. The puravus of Pazhayar basin as seen from the above table receive an annual income of Rs. 5000 – 10000 from duck tending. Now a days, the P.W.D. directly gives on lease the fishing rights, preferably to the fishermen.
bodies; similarly, with the spread of tractor tilling (which affects the breeding and growth of worms in the soil) the duck tenders are not coming forward with rich offers. Further, with the expansion of coconut cultivation, and the recurrence of the water stress in the season end, the scope for duck tending is reduced.

The puravus have to spend an amount to make water not taken away by the villagers in the upstream. For that purpose, they have to spend a lot. The above table shows that Erachakulam, Veeranarayananamanglam and Thirupathisaram, NP Mettukkal, Nanjilnadu Puthanar No.1, and No. 3. puravus spend an amount ranging from Rs. 1,000 to 2,000 for this purpose. As community bodies, the puravus have to contribute to the conduct of local festivals, besides contributing (an amount ranging from Rs. 500 – 1,000) to the P.W.D. for the celebration of the P.W.D. Day at the Nagaraja Temple (Nagercoil) festival. The puravus have a band of servants – the opener of sluices, the Kandottus and the ayacut watchmen. These servants are paid by the local farmers themselves in the form of sheafs of paddy at the field itself, at the time of harvesting.
In 1923, the Travancore State P.W.D. introduced a plan to control water use in Nanchil Nadu. Elected Irrigation Boards were to be formed, and villagers who owned or held one acre or more of irrigated land, would constitute the electorate. The boards were empowered to collect a cess of not more than Re. 1 per acre from the water users. The collected money would be spent in employing irrigation workers (kandottu) to distribute water in the ayacut. The target was to form 21 boards in Thovalai and 45 in Agasteeswaram taluks. The rate of the cess, the wages and functions of the Kandottu were all fixed by the local P.W.D. officials. This intrusion of the state into the traditional strongholds of the village community was opposed by the farmers. They refused to participate in the elections to the boards. A few boards, which were formed here and there also failed to rise to the occasion. As a result, in 1932-33 all Irrigation boards were defunct and this experiment shows the relevance of puravu and its customary rules of functioning.5

The places where traditional puravus struggle to co-exist with the pasana sabhas, the latter bodies are appealing to the state to grant them exclusive rights over fishing, lotus rearing, grazing etc.,
which at present provide the victuals to many a puravu. And, in this progressive, weakening of the community-based puravus and the boosting up of state-aided Pasana Sabhas one could be the mighty socio-economic revolution that reverberates in the post-independence rural India.

**Sabhas**

Formation of Pasanadar sabhas (WUA) mentioned variously as Water Users Association in the Act of 2000, Farmer’s councils in the by-laws, Pasana Vivasayigal Sangams in the registration documents and Pasanadar Sabhas or simply, Sabhas by the survey respondents, was started in 1994 by the Agricultural Engineering Department in the district. In 1999, the work was handed over to the Public Works Department. The services of a Non-Governmental Organization was hired for the formation of WUAs. Thanks to the efforts of the P.W.D. and the NGO, (The Thiruvalluvar Social Service Movement), 50 WUAs have been formed and registered in the district. Of these, 20 are found in the study area.

The salient features of these WUAs are given in the following table.
### Table 5.2 General features of Sabhas

<table>
<thead>
<tr>
<th>Name of the sabha</th>
<th>No. and year of registration</th>
<th>Area of ayacut (in acres)</th>
<th>No. of farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manakudiyankal pasana vivasayagal sangam</td>
<td>122/1999</td>
<td>107</td>
<td>339</td>
</tr>
<tr>
<td>Pillapethakal pasana vivasayigal sangam</td>
<td>129/1999</td>
<td>91</td>
<td>383</td>
</tr>
<tr>
<td>Thathayarkulam, Nulikulam, Melaputherikulam pasana vivasayigal sangam</td>
<td>12/2000</td>
<td>575</td>
<td>2500</td>
</tr>
<tr>
<td>Theroorkulam pasana vivasayigal sangam</td>
<td>282/2000</td>
<td>688</td>
<td>1910</td>
</tr>
<tr>
<td>Vilavadikal pasana vivasaiagal sangam</td>
<td>30/3000</td>
<td>110</td>
<td>280</td>
</tr>
<tr>
<td>Suchindrumpal pasana vivasayigal sangam</td>
<td>33/2000</td>
<td>364</td>
<td>1159</td>
</tr>
<tr>
<td>Arasiyarkal, peyodukal, palli-kondankal pasana vivasayigal sangam</td>
<td>38/2000</td>
<td>367</td>
<td>510</td>
</tr>
<tr>
<td>Parakkaikulam pasana vivasayigal sangam</td>
<td>41/2000</td>
<td>364</td>
<td>858</td>
</tr>
<tr>
<td>Aralvoimozhi, Thovalai, Chenbagaramanputhoor pasanakulam vivasayigal sangam</td>
<td>59/2003</td>
<td>311</td>
<td>402</td>
</tr>
<tr>
<td>N.P. Mettukkal Pirivu vaikal pasana vivasayigal sangam</td>
<td>61/2003</td>
<td>81</td>
<td>110</td>
</tr>
<tr>
<td>Nanjil nadu puthanar kalvai pasana vivasayigal sangam no.1</td>
<td>57/2001</td>
<td>151</td>
<td>199</td>
</tr>
<tr>
<td>Thovalai channel pastomadai muthal thanumalayanmadaivarai pasana vivasayigal sangam</td>
<td>51/1999</td>
<td>75</td>
<td>82</td>
</tr>
<tr>
<td>Nanjil nadu puthanar prathana kalvai pasana vivasayigal sangam no.2</td>
<td>53/1999</td>
<td>150</td>
<td>175</td>
</tr>
<tr>
<td>Marunthuvalmalai channel pasana vivasayigal sangam</td>
<td>52/1999</td>
<td>65</td>
<td>80</td>
</tr>
<tr>
<td>Nilapparai pasana vivasayigal sangam</td>
<td>50/1999</td>
<td>70</td>
<td>101</td>
</tr>
<tr>
<td>Nanjil nadu puthanar prathana kalvai pasanadhar vivasayigal sangam no.3</td>
<td>31/1999</td>
<td>99</td>
<td>120</td>
</tr>
<tr>
<td>Thovalai channel pasana vivasayigal sangam</td>
<td>58/2002</td>
<td>74</td>
<td>91</td>
</tr>
<tr>
<td>Thovalai prathanakalvai pasana vivasayigal sangam no.1</td>
<td>67/2004</td>
<td>115</td>
<td>131</td>
</tr>
<tr>
<td>Thovalai prathana kalvai pasana vivasayigal sangam no.2</td>
<td>64/2004</td>
<td>101</td>
<td>90</td>
</tr>
<tr>
<td>Aralvaizmozghi, Thovalai village prathana kalvai direct pasana vivasayigal sangam</td>
<td>62/2003</td>
<td>71</td>
<td>60</td>
</tr>
</tbody>
</table>
It is possible to understand from the contents of the above table that the state-sponsored WUAs were organized in the study area, only as late as 1999 and 2000. It is found that there is no consistency in the area of operation of individual sabhas. It ranges from 70 acres in Nilapparai Pasana Vivasayigal Sangam to 688 acres in Theroorkulam. However, this is unavoidable because the command area of the different tanks and kals are different in size. The number of farmers to be served by individual sabhas is also not uniform. It ranges from 60 in Aralvoimozhi, Thovalai Prathanakalvoi direct Vivasayigal sangam to 2,500 in Thathayarkulam, Nullikulam and Manicka – Putherikulam area.

A close look at the contents of the above table show some of the deficiencies in the organization of the sabhas.

1. There is a deficiency in the coverage of the sabhas.

   a) There are no sabhas at the Therekal and Parakkaikal region.

      It should be remembered that these two are directly catering to their ayacut. The absence of sabhas in the region is compensated by the existence of three puravus in the region (Veeranarayanamangalam, Thirupathisaram and Mela-
puthery). In the Mission dam ayacut also no sabhas are organized.

b) Similarly at the head reach, Veerapuli Anicut and Kutty anicut area are also not covered by any sabha. In this region, a registered puravu at Arumanalloor is functioning for long.

2. In a couple of cases, the coverage of the sabhas is unwieldy. For instance, while the Peyodekal and Pallikondan kal lie above the Chattupudur dam in the head reach, the Arasiyarkal is located just below the Chattupudur dam in the mid reach. This makes coordination of activities difficult.

3. In many cases, within the area of functioning of sabhas, a number of puravus are already functioning (some, more effectively, as well). In the Arasiyarkal, Peyodekal and Pallikondan kal sabha area, three puravus are functioning for long. Similarly, in the Vilavadi kal sabha area, there are two puravus Erachakulam and Puthery.

4. In one case, an old puravu was bifurcated into two pasana sabhas, Manakudiyankal sabha and Pillapethakal sabha. (Till recently, a Thamaraikulam puravu was functioning in this area, which is now liquidated).
**Table 5.3 Specific features of sabhas**

<table>
<thead>
<tr>
<th>Name of the sabhas</th>
<th>Caste of The leader</th>
<th>Representation to other castes</th>
<th>Age range of office bearers</th>
<th>Income from duck tending (Rs. P.A.)</th>
<th>Expenditure to bring water (Rs. P.A.)</th>
<th>Donation to temples (Rs. P.A.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manakudiyankal pasana vivasayigal sangam</td>
<td>F.C.</td>
<td>B.C.</td>
<td>60 – 70</td>
<td>15,000</td>
<td>Nil</td>
<td>300</td>
</tr>
<tr>
<td>Pillapethakal pasana vivasayigal sangam</td>
<td>B.C.</td>
<td>F.C.</td>
<td>50 – 55</td>
<td>6,000</td>
<td>Nil</td>
<td>2,000</td>
</tr>
<tr>
<td>Thathayarkulam Nullikulam Manicakaputherikulam pasana vivasayigal sangam</td>
<td>S.C.</td>
<td>F.C.</td>
<td>45 – 50</td>
<td>5,000</td>
<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Theroorkulam pasana vivasayigal sangam</td>
<td>F.C.</td>
<td>B.C.</td>
<td>50 – 60</td>
<td>-</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Vilavadikal pasana sangam</td>
<td>F.C.</td>
<td>S.C.</td>
<td>45 – 55</td>
<td>1,00000</td>
<td>1,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Suchindrumkal pasana viva-siyagil sabh</td>
<td>F.C.</td>
<td>S.C.</td>
<td>45 – 55</td>
<td>1,00,000</td>
<td>1,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Arasiyarkal, Peyodukal, Palli-kondankal pasana vivasayigal sangam</td>
<td>F.C.</td>
<td>O.B.C.</td>
<td>55 – 60</td>
<td>-</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Parakkaikulam pasana vivasayigal sabh</td>
<td>F.C.</td>
<td>B.C.</td>
<td>60 – 70</td>
<td>50,000</td>
<td>1,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Aralvoimozhi, Thovalai, Chenbagaramanputhoor pasanakulam vivasayigal sangam</td>
<td>BC</td>
<td>FC</td>
<td>55 – 60</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>N.P. Mettukkal Pirivu vaikal pasana vivasayigal sangam</td>
<td>FC</td>
<td>BC</td>
<td>45 – 50</td>
<td>4000</td>
<td>1000</td>
<td>400</td>
</tr>
<tr>
<td>Nanjilnadu puthanar kalvai pasana vivasayigal sangam no.1</td>
<td>FC</td>
<td>SC</td>
<td>50 – 55</td>
<td>5000</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Thovalai channel pastomadaimuthal thanumalaynamadaivarai pasana vivasayigal sangam</td>
<td>SC</td>
<td>BC</td>
<td>60 – 65</td>
<td>-</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Nanjil nadu puthanar prathana kalvai pasana vivasayigal sangam no.2</td>
<td>FC</td>
<td>BC</td>
<td>40 – 45</td>
<td>3000</td>
<td>Nil</td>
<td>500</td>
</tr>
<tr>
<td>Marunthuvalmalai channel pasana vivasayigal sangam</td>
<td>BC</td>
<td>BC</td>
<td>50 – 55</td>
<td>-</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Nilapparai pasana vivasayigal sangam</td>
<td>BC</td>
<td>BC</td>
<td>50 – 55</td>
<td>-</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>Nanjilnadsu puthanar prathana kalvai pasana-dhar vivasayigal sangam no.3</td>
<td>FC</td>
<td>BC</td>
<td>55 – 60</td>
<td>4000</td>
<td>1000</td>
<td>Nil</td>
</tr>
</tbody>
</table>
Table 5.3 brings out some of the salient features of the sabhas. That the traditional land owning class (F.C.) is yielding to the other classes as well is seen reflected in SC and BC people leading, in two sabhas and six sabhas respectively and being represented in the executive body. As in the case of puravus, the sabhas are manned by elders of the age group of above 50 (The reason is to be found in the conversion of erstwhile puravus into sabhas in most cases). Excepting a few sabhas, all others continue to receive a decent amount from duck tending (which ranges from Rs. 5,000 to Rs. 1,00,000). It is pertinent to note that there is no correlation between the amount received from duck tending and the area of the ayacut of the sabhas. While both Suchindrum and Parakkai sabhas are having the same area of ayacut, the former receives twice the amount received by the latter. It is said that
duck tending is feasible only when water is logging in the fields, and by allowing the tank sluices opened to wet the fields at the time of duck tending. Some puravu heads are of the opinion that this practice –especially after second crop harvest - will deplete the water storage in the tanks, which will tell upon the timely dry – sowing of the next first crop. As income from duck tending depends on this water factor, the sabhas organized in the Thovalai channel region could not receive an income from duck-tending, as fed by canals, there is neither water logging nor perennial flow of water in the tail end. The sabhas that take water from kals have to spend a lot to bring water from the nearby dams, in preventing the people in the upper reaches drawing the channel water; the Theroor sabhas is spending a larger amount on this head, for, the canal that feeds the tank (Theroor kal) is longer (6.5 miles) and there are 16 sluices on the way. The sabhas in Thovalai channel are found to be not spending for bringing water because, it is the PWD which decides the release of water in this channel. Donations to the temples are an important item of expenditure of the sabhas; such donations are made not only to the local/community temples, but also to the P.W.D. for its celebrations in the Nagaraja temple at
Nagercoil. The affluent Suchindrumkal sabha (which gets Rs. 1,00,000 annually from duck tending) has donated to the expansion of the nearby veterinary hospital as well.

The WUAs are basically managerial institutions, in augmenting, conserving and distributing water resources.

In 1977 the Tamilnadu Government, while dealing with the question of delegating power to PWD officials for declaring opening up of reservoirs for irrigation purpose, grouped the irrigation systems of the state into three categories, with reference to their size and importance. The systems under category shall be opened only with the prior order of the government. The Kanyakumari district was put under this category. The normal date for opening up of the reservoir for irrigation was put at first of June. It was also laid down that whenever the seasonal condition warranted, a postponement of it could be done by giving due intimation to the ryots in advance.

The order of the government aiming at uniform rules throughout the state was only a source of hardship to the ryots of Kanyakumari district and of friction between them and the
department. It was reported that “after the formation of the district in 1956, the new officers posted to the district dealt with problems without knowing the peculiar features of the district and they treated the irrigation system of Kanyakumari district like those in other parts of Tamilnadu.  

Actually, the new order put the traditional cropping calendar out of gear. The dam is scheduled to be opened (instead of the customary 20th May) on first of June. The delay denies timely watering of standing crops used to be sown in late April. When the tanks were also emptied for getting the lands sown, this would create very serious problems.

The officers suggested an alternative cropping cycle – the first season operation starts from 1st June (the date of opening of the reservoir) and to end in October, and the second from the last week of October to end in February. Wet cultivation is to be practiced in both the seasons.

Two important drawbacks of this arrangement are evident.

1. North-east monsoon rains in October seriously affect harvesting, resulting in heavy losses (especially of hay).
2. The arrangement is based on the assumption of a particular date of opening of canals (which could be postponed). Under these circumstances, seeing the reservoirs opened on the due date becomes the primary function of the WUAs.

Another technological issue is that of keeping in good repair the sluices and shutters at the outlets. Here also, while in the case of channels the PWD owes the primary responsibility, in the case of tanks, the local organizations share the responsibilities with the PWD.

The PWD is expected to maintain the sluices in good repair. March - May is the period during which the repair works are to be completed, for on the last day of February, the dam is closed and on the 1\textsuperscript{st} June, water is scheduled to be released in the channels. Only in March – April, the budgetary allocations will be made for the purpose. Naturally, the works are hastily done. It is expressed that “in the nearest past, renovation works had not been carried out. If anything was undertaken hastily before 15 days of release of water the works would not be carried out as per the required standard.”

It should be pointed out that the root cause for encroachments lies in the mismanagement of tanks, channels and rivers. Allowing the tanks and river beds to silt and permitting the overgrowth of water plants over such areas not only arrests the flow of water in the water course, but also, besides restricting its width and depth, tempts the land hungry to make profitable use of such “no man’s” land.

Encroachment of river banks reduces the river’s discharging capacity even in normal years, flood water runs into the channels at the time of rainy seasons causing flood damages to the Pazhayar river system as well as to the crops and heavy loss the to the public property.

The representatives of farmers raise the issue of encroachments in almost all monthly farmers’ meetings.

Another technological issue is that of pollution in the canals and dams. The first two miles of Parakkaikal which branches off from Kumari dam is located within the municipal limits of Nagercoil. Pollution of this irrigation channels through municipal and industrial waste has been increasing of late to such an extent that repair works cannot be executed.
Previously, drinking water supply to many municipalities and villages was taken directly from canals and as such, people were very cautious in polluting these canals. With provision of treated and piped water supply to the municipalities and villages, many municipalities have started discharging their drainage disposal directly into the channels, thus polluting the canal water. In addition, large scale use of chemical fertilizers has also exacerbated the pollution problem of irrigation canals by the return flow from irrigated lands.\textsuperscript{11}

With the discharge of urban/municipal waste water into the river and supply channels, the degree of weed infestation and proliferation of aquatic weeds has considerably increased in recent times. Urban sewage, when added to the area where water hyacinth is present, quickens the process of spreading and multiplication. The leaves of water hyacinth are very good cattle food. The other weed, ipomea, was introduced in the fifties as green leaf manure for compost.

The use of these weeds by farmers is gradually disappearing. This affects flow in the channels. The PWD removed the weeds in one season. But then the weeds proliferated in the next season
and the department did not have enough maintenance grants to attend to this cleaning regularly. The use of aquatic weeds as green leaf manure shall be propagated by Agricultural Extension Services. This will ensure the removal and profitable use of these weeds. A biological method of control is also suggested. If the Weevil Neochetina Cichhoniae (available in Bangalore) are released over the water hyanth infected areas, they will eat away the plants.12

A problem that could be tackled only by the WUAs is that related to distribution of water between the headreach and the tailend. Generally, extravance in the headreach and frugality in the tail end in the use of water is found. The main considerations that decide irrigation intensity are the water need of the crop, the water retention capacity of the soil and the availability of water. In the study area, the problem has a worsening dimension in having hard soil at the head reach and sandy soil at the tail end, both requiring regular and continuous supply of water. Evidently, the institution of Neerpachi/Kandottu is becoming relevant in the district, even in normal times.
REFERENCES


2. Chidambaram Pillai P. (ed.) Mudaliar Olaigal (Tamil) 1930, No.50, p.25


7. WRCP, Kodayar System Stage 11- Annexure X, Sheel No. 18/30 and 31.

8. This new crop cycle suggests a nursery based culture. This entails the use of more water – 20 percent of total requirements for nurseries and another 21 percentage at the stage of transplanting. Further, nurseries are to be raised over separate plots or at a corner of the field to be transplanted. These used to raise practical problems, especially for small farmers.


11. Krishnal N.T. et al., “Water Pollution in Pazhayar, 1989, Planning Forum S.T. Hindu College, Nagercoil. The study “shows that the dissolved oxygen content of Pazhayar river is decreasing gradually after entering Nagercoil town”. The velocity of the water is also less and the water is more or
less stagnant due to the sabari dam across the river. As a result decomposition takes place due to CO\textsuperscript{2} and SO\textsuperscript{2} are produced which deplete the oxygen content of the water”, pp. 10-11.