Traditional Irrigation Institution in the Tank Water Management: Case of Tamil Nadu, India

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Introduction

The traditional irrigational institutions have functioned relatively effective in almost all the tank villages in Tamil Nadu, India until the early 1970s. There were two layers of irrigation functionaries at village level. One is to enforce the rule and regulation for sharing and caring of tank water resources and another one to execute the work based on deemed direction of rules in force. While upper caste large farmers invariably constituted in the first category, the scheduled caste farmers and labourers were employed for second type of employment like sluice operation, field water management and others. In this second type of employment the water man traditionally called as "*Neerkatti*" has an important role to play since the quantity of irrigation water is become very scarce. The *Neerkatti*es are critical for ensuring inflow of water to the tank and its equal distribution among the field in ayacut. This paper proposed to capture contemporary condition of traditional irrigation institution and its efficiency and in particular the role of the *Neerkatti* on tank water management. This paper provides empirical evidence about different type of irrigation functionaries existed and their perceived roles and performance. This paper based on our field survey in seven tank irrigated villages in south west part of Madurai district in Tamil Nadu, India. The first part of this paper would explain about general over view of the study area and details about existing traditional institutional structure to manage tank water. The second part deals about detailed discussion about traditional irrigation functionaries and their role perception and performance in the tank water management, remuneration system and their present status. The third part gives an elaborate discussion about norms and regulation of traditional system in water management, penalty system in force and their suitability to present condition. The final would provide concluding comments and policy implication.

The study area

The study villages are situated in Peraiyur Taluk of Madurai district, 60 km way from southwest of Madurai city. Among the seven villages, the five villages are contiguous with each other. The total population of these villages is 4445 and average of 635 in each village. The annual average rainfall ranges from 700 to 1150 in Madurai district and these villages receives around 700 mm since these villages located in rain shadow region. Of these, 29 percent of the rainfall is contributed by the southwest monsoon which occurs around May and June and 52 percent by the northeast monsoon which occurs around October and November. The rainfall received during the northeast monsoon is very crucial and act as deciding factor of practicing agriculture in general and paddy cultivation in particular. Among the seven tanks three which has more than 100 acre of ayacut area are managed by Public Works Department (PWD) and remaining four which has less than 100 acres of ayacut are managed by Panchayat Union (PU). From the perspective of PWD and PU at present no tanks in these seven villages have formal or informal institution to manage tank water. But our experience in the field shows that all the villages has

traditional irrigational functionaries called " *Neerkatti*" and four village has relative better management arrangement through their traditional irrigation institution. It is interesting to note that even in the absence of traditional institution at village level, the farmers are able to say about their *Neerkatti* who bear the responsibility of distributing water from the tank to the farmers equally.

Table 1: General detail of tanks and availability of irrigation functionaries in the study villages

Village	Tank Name	Command Area (Acre)	Cultivated area (Acre)	No. of caste groups	No. of Sluices	No. of *Neerkatti* families	Functioning of traditional irrigation institution
Koovalapuram	Periya Kanmoi	155	108	5	2	5	No
Kadaneri	Periya Kanmoi	104	75	9	1	3	Yes
Meenachipuram	Akka kulam	35	10	2	1	2	Yes
Silaimalaipatti	Oorkavalan kanmoi	70	31	9	2	4	No
A.Paraipatti	Veppankulam	87.5	80	5	2	5	Yes
Sittuloti	Periya Kanmoi	109	95	5	2	8	Yes
Jariusilampatti	Vagai kulam & Thankal kulam	85	53	3	2	4	Yes

Source: Field survey on June 2008 and Village revenue register from village administrative officer

Importance of *Neerkatti* in Traditional Tank Water Management

The "*Neerkatti*es" are omnipresent who are work almost all the tank villages making their livelihood based on their services like sluice operation, irrigation to the field, protecting tank resources and so on. In the mean time, like any other institution, tank as an institution, has also changed a lot and profiles of these functionaries also changed. In many cases, our field experience showed that, such changes have played havoc with their lives, but still many are thriving by adopting themselves to the changes (Vasimalai, 2003). Among the study villages, four villages have "*Neerkatti*" community and three villages did not have "*Neerkatti*" community. By custom, the "*Neerkatti*es" are expected to execute some responsibilities. We have made an attempt to know how much of these roles are executed by the *Neerkatti*es in our study villages. We have discussed with all the village *Neerkatti*es for the year 2007 in June 2008. Based on their performance, the role executed by them in the year 2007 and recent past is presented here. It is interesting to know that water regulation through sluice operation, mobilize labour to clean up supply channel for augmenting water to the tank and equal distribution of water is executed in the all the villages where the *Neerkatti*es are present. The case studies indicated that successful local institution adopts many ways to augment water supplies for their tanks. Wherever the institution is able to ensure water supplies for the tank, they perform well. Hence, mobilization of labour for collective action becomes very important to maintain the supply channels in order to augment water supply from streams and rivulets. Every year before onset of the monsoon, around September the farmers organized themselves in a common place after being informed by *Neerkatti* through leaders. They usually cleaned the bushes and thorns and repair breaching in the supply channels. The every Household having land in ayacut is requested to contribute labour for common work. The household is not participating in the common work without valid reason has to pay penalty money to the institution. It could deserve to be note that one function of traditional irrigation institution in many villages surveyed is to mobilize community labour for the purpose of repairing field channels. Community labour does not appear to be used systematically in

any of villages where PWD directly runs WUAs (Bardhan, 2000). However, the kind of large scale labour mobilization for system maintenanace can no longer be found in the rural areas as it was in the past. This lowered enthusiasm has often been cited as evidence for deterioration of traditional irrigation institution (Lam, 2001). Irrigation functionaries are also responsible for watching and guarding tank bed, surplus weir and sluices during the tank season. It is suspected that farmers, who encroached tank foreshore area, surreptitiously damage the surplus weir, breach the tank bunds and open the sluices in the night times in order to avoid submergence of their cultivated field. *Neerkatti*es also watch the tank bunds carefully during the heavy rain and if he suspects the possibility of breach he will inform the villagers and mobilizes the labour to safeguard it. The *Neerkatti*es in traditional institutions still play major role particularly when the tank receives normal or just below normal rainfall. *Neerkatti*s are almost working as water managers in the tank system. Even though they are not technically qualified, they could judge by experience available tank water, and timing and amount of water release from the sluice very well. In normal rainfall year *Neerkatti* did not irrigate farmer's fields. During the water shortage periods, they are asked to irrigate all the farmer's field in order to assure equal water distribution. When the *Neerkatti* withdraws services, farmers to assert defacto individual control over water and leaving the sluice open. Water wastage, inequality and serious crop losses resulted from the absence of *Neerkatti* (Mosse, 2006).

Table 2: Remuneration for Irrigation Functionaries

S.No	Position	Remuneration
1	Nattamai/ Maniyam/ Ambalam	Honorary Position
2	Kaladi/ Kanakkupillai/ Pokkistari	Rs 250 – 500 per Year
3	Neerkati/ Kaval/ Kudumban (1 padi = 1.25 Kg ; 1 Marakkal = 4.5 Kg)	8 Padies or 4 Marakkal per acre/Season Land for cultivation Preference in the leasing temple land Preference in leasing tank assets like trees and fisheries
4	Thotti	4 Padies or 2 Marakkal per Acre/ Season Free Meal during work

Table 3: Occupational position of *Neerkatti* in the Study villages

Position	Number of *Neerkatti*es	Percentage	Average Annual Income
Only as *Neerkatti*	0	0	-
As *Neerkatti* and Cultivate own land	6	19.35	12,480
Neerkatti + Leased in Land cultivation	4	12.95	10,110
Neerkatti + Landless Labour	9	29.00	13,115
Not as *Neerkatti* at all (Labour and Non agriculture work)	12	38.70	14,550
Total	31	100	

Table 4: Incentives and Disincentives in *Neerkatti* and Work

Incentives	Disincentives
Assured employment opportunities for 3 to 6 month	Undignified treatment received from upper caste farmers
Preferences for leasing temple lands	Difficulty in collecting wages from farmers
Priority in leasing tank assets	Exploitation of labour
Honour during religious ceremony	Uncertainty of tank filling leads to uncertainty of employment
Exempted from common fund	Violation of rules by fellow farmers
	Day and Night work

Source: Field Survey, June 2008

Summary and Conclusion

Traditional tank irrigation institution is existed in the all the villages studied in one form or another. However the functionality of these institutions at the village level is highly varied and much prone to change according to the socio economic development of the region. Traditional institution has two layers of irrigational functionaries at village level and some villages have middle level also. Because of the change in land use pattern and caste based discrimination, three out of seven villages are not supported with lower level irrigation functionaries. In consequence, water distribution and up keeping of resources are very poor and it resulted with more than 50 percent of the tank command area left fallow every year. Lower level irrigational functionaries locally called as *Neerkatti* and they are recognized as water manager of the village. The *Neerkatti* has numerous roles to play in the traditional institution. In the past the *Neerkatti*es were relatively doing better since the tank also perform better. But after the innovation of ground water extraction technology, change in cropping pattern from paddy to other crops, growing of fallow land in command area sizably reduced their remuneration. In the mean time government abolished Zamindar system and redistributed the land to landless labourers. It dissipates custom of permanent labour and landlords from the upper caste felt that the lower caste people slowly leaving from their control. They are continuously trying to show their authority over the lower caste people in general and in particular to the *Neerkatti*. The reduced remuneration and unfair treatment received by the *Neerkatti* based on their caste provided enough reason to show reluctance towards their profession. In a result no *Neerkatti* family is ready to depend entirely on his profession. In the absence of *Neerkatti* the water management in the tank level is very difficult since all the farmers tend operate the sluice whenever they need water. The study brings some issues to consider for policy implication. Caste difference existing in the village makes difficult in organizing tank water management at village level. Despite the traditional irrigation institution has clear advantage over the centralized management in the perspectives of detailed understanding of local condition, proximity to resources, and dependability on tank water but their managerial ability is being diseased now as lower level irrigation functionaries are reluctant to work for the institution. This reluctance has root in caste discrimination rather than economic incentives. While government effort through reservation policy for scheduled caste people, provides education and employment but not assuring equal social status. Hence, the important intervention needed for revamping traditional institution and there by tank irrigation system is ensuring dignified treatment for lower level irrigation functionaries through policy intervention.

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