

# Neerkattis

The Rural Water Managers

*Edited by*  
R. Seenivasan



**DHAN Foundation**  
India

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## Foreword

Water, a precious commodity, is closely related to human development. Over the centuries man has known to develop and manage the water resources for the benefit of mankind. Water development is seen as parallel to the development of nations of the world. India, a bastion of many cultures, has its own art of managing water in many forms and shapes, of which tanks are one of the most important in semi-arid areas and shaped the South Indian Development. Many of us believe that they still hold the key for the much-required rural development.

These are the days of mind boggling discussions haunting development managers about the sustainability of water development in many programmes. We in DHAN Foundation do believe that the answers for sustainable solutions always include local management of the available resources. The rural water managers are important and play a critical role in the local management of tank resources. Neerkattis, these water managers are called, help running these important systems for the wellbeing of the people and villages.

These managers who work in almost all the tanks make their livelihood based on providing their services like watering of crops, protecting the tanks and its resources, mobilizers of the local communities and general village workers. Over the time, like any other rural Institution, the tank as an Institution, has also changed a lot, and profiles of these managers have also changed. In many cases such changes have played havoc with their lives, but still many are thriving by adapting themselves to the changes. In a way, their lives are parallel to the performance of their tanks.

This monograph is an attempt to capture the life and livelihood of these water managers in many diverse contexts in South India. They show us the plight as well as the needed optimism for development workers concerned with water and rural development. Also the case studies offer the necessary lessons to learn and move forward from the present stagnant situation to a more dynamic institutionalizing of their roles in the changing contexts.

**M.P. Vasimalai**  
Executive Director

## Contents

1. Water Managers of South Indian Tank Systems .....	1
2. Profile of Neerkattis in a Big Tank System .....	19
3. Changing with the Times .....	24
4. Neerkatti in a System Tank .....	30
5. Water Manager in a Drought Tract .....	36
6. Neerkatti System in Ramanathapuram Big Tank .....	44
7. Profile of a Thotti from Chittoor .....	51
8. A Lady Manager from Chittoor .....	58
9. Neerkatti in Theni District .....	63
10. The Caste System and Water Management .....	67
11. Water Management in Changing Times .....	72

# **Water Managers of South Indian Tank Systems**

*R. Seenivasan\**

## **Water Tanks in India**

Most of the man made reservoirs with long bunds, trained channels and water regulating mechanisms are called as Tanks in India. These national structures in India serve capturing monsoon rainfall runoff occurring during a short duration of monsoon seasons and allow the crops to use the stored water during the dry spells in the non-rainy season in addition to catering to multiple uses. There are estimates which states that several thousand tanks exist across the country providing water for agriculture, drinking and domestic and village uses by plants, animals and human beings. The tanks range in all sizes with the smallest being reported to be having less than 1 ha to the largest having more than 5,000 ha of command area spread over several villages.

## **Significance of Tanks as Rural Infrastructure**

As in many countries depending on monsoon, the average annual rainfall in most parts of India ranges from 700 to 1200 mm. Although the rainfall occurs mostly during the monsoon, its distribution is so erratic and varied that much of the rainfall may fall in three to four months of a year. If plant, animal and human life has to sustain during the rest of the year, water that is flowing during a few months in the monsoon period must be conserved. Conservation of water by tanks involves two simultaneous processes. Firstly reduction of instant surface runoff through storage when it rains and secondly such stored water increases infiltration, and percolation and ensures availability of water round the year through subsurface storages.

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While there are tanks found everywhere in the country, their use is more prominent in three South Indian states: Tamil Nadu, Andhra Pradesh and Karnataka apart from parts of western India in Maharashtra, Gujarat, Rajasthan and parts of eastern and central Indian states of Orissa, West Bengal and Madhya Pradesh and Chattisgarh.

## **Tank Structures**

### ***Bunds***

Tanks are earthen banded reservoirs usually constructed across slopes of the landscape. They are found in all soil types except sand, and located in all socio-ecological, agro-climatic and rainfall areas of the country. Usually the tank system comprises tank structures, which constitute tank bund, sluices and surplus weirs; water spread area; catchment area; and command area.

While tank bunds are usually constructed across the slopes, many tanks are also situated in plains with very long bunds running into several kilometers. The bunds are simple earthen sections constructed using the earth removed from the tank site or brought specially for the purpose. The size vary based on the depth of water stored and soil types of the area.

### ***Sluice***

Tank water is let out of the tank through sluices, which are simple in design having a barrel embedded in the bund with a plug and rod at the entrance of the barrel to open or close the sluices; bigger sluices have rods with plugs operated from many levels standing on top of the bund. The bunds are usually packed toward the waterside with boulders or rubble to prevent from collapsing and eroding during monsoon down pour and due to wave action of the stored water in the tank.

### ***Weirs***

The weirs are of many types are meant to dispose off the surplus water from a tank safely to a downstream channel known as surplus course or

drainage channel. Weirs are components of tank structures built to dispose the excess runoff water received mostly from upstream catchments; in many instances the drainage course becomes the supply channel to a tank downstream paving way to the effective utilization of rainfall in a given watershed. The inter-linked tanks in a watershed are called *Tank Cascades*, which will have common supply or drainage channels. The anaicuts and culverts across ephemeral rivers and drainage channels regulate the monsoon flows to the tanks.

### **Water Managers**

Most of the tanks in south India had water guides / managers to effectively manage the water distribution. Each tank had one or more such water managers called *Neerkattis*<sup>1</sup>. There are no accurate estimates as to how many *Neerkattis* would have been involved in such tank management functions. If we make a guess from the number of tanks in the region, there would be around 4,000 *Neerkattis* in Gundar Basin, one of the dry basins measuring around 5,500 sq km of geographical area with around 2,500 small and big tanks. They are still working in the tanks providing irrigation and other services for the dependent communities.

The *Neerkattis* had several functions to perform ranging from supply of water to every field at the farm level to safeguarding the tank structures from all natural and man-made calamities. Their typical functions included the following. It need not be mistaken that all the functions can be observed in every tank. A great deal of variation and sophistication existed across the tanks in every basin. The description about the lives and functions of *Neerkattis* is only illustrative and not exhaustive.

### **Mobiliser of village labour**

The tank as a common property, requires collective action to remain fit and performing. The tank complex consists of various sub systems like

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<sup>1</sup> *Neerkattis* are equivalent of water managers called in many names as *Neerghanti*, *Kambukatti*, etc. in different parts of south India.



feeder channels, field channels, tank bund and structures like sluice outlets and surplus weirs and surplus courses. The feeder channels and the surplus courses have to be kept clean so that they carry as much water to feed and dispose off the surplus water of the tank during monsoons and floods. The cleaning and desilting of channels is an annual activity that needs to be carried out before the monsoon in a short period of time. Also the field channels in bigger tanks need cleaning and shaping. The *Neerkatti* acts as a planner, manager and mobiliser of farmers to organise these tasks. With the help of the village elders or administrators, he is responsible to do that. He estimates the required labourers after a careful study of the situation and the need for various types of labourers for jobs like jungle clearance, earthwork etc. As part of the duty, he informs every household personally or through public announcements of any important activity to be undertaken. Thus he ensures that the work is done.

### **Watch and Ward of Tank Assets**

The *Neerkatti* acts as a watchman of the tank against natural calamities like breaching due to floods and collapsing of sluices and weirs due to wear and tear. He is also the caretaker of tank usufructs coming from trees on tank bund, foreshore and the channels, apart from the withered and windfallen trees and twigs. Many villages in south India derive their revenue from such resources in tanks. The tank bund is a place for trees like *Tamarind*, Jamun and other trees of timber and economic value. The tank bed is a place where trees like *Accacia* sp. (Babul) which grow both in standing water and in drought conditions. These products from tanks are highly valuable and are the biggest source of revenue for the village. In many tanks, the *Neerkatti* is the guard for such trees apart from watching the crops in the agricultural fields against stray cattle damaging them.

### **Water Management Functions**

Water management functions in tank systems vary depending on the availability of water in tank storage, type and extent of crops, class of

farmers and set practices in the ayacut areas. While farmers are kept away from irrigating on their own, the *Neerkatti* ensures the water supply to every field in rotation. Strict rules for the purpose of irrigation regulation existed in all the tanks. *Neerkattis* are the only persons allowed to open and close the sluice outlets and regulate the flow of water to the fields and the farmers do not generally interfere. The most common forms of water regulation in times of normal and scarcity situations are described below.

### ***Normal Water Supply***

The most commonly observed system of water supply is that irrigation would start from the tail end fields to the head reach fields stage by stage. This method is believed to be the most efficient way of irrigation among the farmers. However, this is not the case in every village tank and varies greatly from place to place.

### ***Scarcity Management***

In rainfed tanks the availability of water in storage does not always match with the requirement. *Neerkattis* are responsible to manage the scarcity conditions and expected to tide over the crisis due to shortage of water. Though there are no uniform rules across tank areas, the following are the generally observed management practices in such situations.

### ***Restricting the Number of Wettings***

The *Neerkattis* restrict the number of wettings as decided by the farmers collectively taking care to prevent the crop losses by providing the threshold level of supply. This is an optimisation technique learned over a period of experience by the communities to get optimum yields.

### ***Reduction of Ayacut Area***

In case the restriction of irrigated area become necessary to use the water most efficiently, the area will be reduced. There are several ways by which this reduction is done. Usually a uniform area per family is fixed and a limited area close to the head reach is selected and all the farmers are assured water for piece of land for cultivation.

## **Farm Management**

On-farm operations related to irrigation of crops in the ayacut area are left only to the *Neerkattis*. The farmers are not allowed to attend to the irrigation functions. The *Neerkattis* are also expected to report to the farmers on the crop diseases and pests for taking up timely control measures.

## **Forecasting of Monsoon and Water Availability**

*Neerkattis* in many places are used to forecast the arrival of water to the tank, availability of water in terms of number of days of supply and selection of suitable crop varieties based on the water storage. There exist measuring posts in the form of pillars or stand posts close to the sluices to estimate the water availability and its adequacy for the crops.

## **Remuneration to Neerkattis**

Historically *Neerkattis* have been traditional village workers who have served the farmers in particular and the village society in general. Along with other village workers like washermen, blacksmith and barbers, they were looked after by the village community. A 'Patron-Client' system existed in most part of the south India, which has sustained them and their productive functions. The remnants are still seen even today in many areas. A range of arrangements existed to keep the *Neerkatti* system alive over centuries. These arrangements in many places are codified and legitimized to the maximum extent. They include the following:

### ***Share of Crop Produce***

The farmers are expected to pay the *Neerkattis* a share of their crop produce based on the area under cultivation. At the time of threshing of crops, *Neerkattis* collect either grains in pre-fixed measures based on the area or the bundles of harvested crop from each farmer served.

### ***Fixed Quantum of Grains per Family***

It is also reported that in many areas farmers pay the *Neerkattis* in kind per household irrespective of the crops cultivated and incomes derived from the fields.

### ***Land for Cultivation***

*Neerkattis* are also provided with a piece of land in the ayacut area in some villages. This land is allocated as *Neerkatti Manyam*<sup>2</sup> from the village common land. They are not expected to transact the land for sale or mortgage, but allowed to enjoy the land as long as they serve the village as *Neerkattis*. Similar *manyams* existed in the villages for other workers also.

### **Appointments**

The *Neerkattis* are mostly appointed from the local villages. Their selection, engagement and disengagement to work for the tank water management are decided locally. Various types of arrangements existed over the basin. They can be classified as follows.

#### ***Hereditary Appointments***

*Neerkattis* hail from the same family and the right to succession comes by birth in the family. The rights are transferred to sons and at times to sons in law also.

#### ***Annual Appointments***

*Neerkattis* are appointed annually in many places and provided with pieces of land. The land will be taken away from them once they relinquish the duties as *Neerkattis*.

#### ***Rotational Appointments***

It is also noticed in some cases that the appointments are made in rotation from among a group of families who are mostly relatives. The families of *Neerkattis* will have set rules among them to stake the right to be *Neerkattis*. While most of these *Neerkattis* are from lower castes, especially the scheduled castes, it is also found that there are people from other farming castes also.

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<sup>2</sup> Manyam is a gift for a common specific purpose.

Apart from the functions related to water management and tank systems, in many places, *Neerkattis* are also found to be serving other village common functions like carrying messages of death and birth. Other village functionaries like, *Thottis* to announce village functions, woodcutters for cremation of dead, watchmen for cremation grounds, torch bearers for temple processions, cremation etc. are also there in the villages. These services are observed whenever the *Neerkattis* are from the scheduled castes. These functionaries are paid for their services in kind or cash.

In a way the water management functions in tanks is highly complex and varying and many times look very simplistic however it is not. Several forces and factors decide about such a management practice and the farmers are intelligent enough to change. The management varies from village to village, tank to tank and sometimes sluice to sluice. This is based on several principles of which, equity among the farmers having different areas under cultivation, lands located at various places, frugal and efficient use of available water resources in order to maximize the returns and flexibility to accommodate emergent changes. The farmers are able enough to verify the changing situation and the required management actions and complexities.

In such a situation the job of a water manager is very crucial and essential. This has been learnt and practiced over centuries and modified time and again by the villagers through their collective mechanisms. The village level/tank level organizations are important in dealing with such a management along with the employers. The accompanying case studies identified from Tamilnadu and Andhra Pradesh show a picture of the plight of the tribe of *Neerkattis* and the changes in their lives in tune to the changes in tankfed agriculture. The studies also show the following observations which are against the conventional thinking about the rural scenario involving several caste groups in tank administration.

### **Social Castes of Neerkattis**

Most of the traditional *Neerkattis* are from the scheduled castes such as Pariah or Pallars. They are called by their caste names indicating the

jobs as Kulathukudumban, Madaipallan etc., Over the time, the situation has changed and today this is not true in every tank. Many tanks have got Neerkattis from varying castes which include some of the dominant castes of the area also. These changes are accepted by the village society and Neerkattis found to work in peace with the present social system. The case studies depict a fact that no Neerkattis could claim that they are being exploited in the name of the caste or their job. However, they claim their job does not command social respect as they deserve and it is not a full time.

The case studies also show that some of the tank farmers are appointing the Neerkattis on a year to year basis and the appointments are decided purely based on their performance and capacities instead of hereditary.

### **Respect for the Water Managers**

It is notable that the Neerkattis are not satisfied about their jobs not because of their wages or remuneration but for the respect they expect from the rest of the farming communities. They feel that their masters are many and everyone has a right to ask or shout at something against them for anything with or without reason if they are not satisfied with their job. This is true of the scheduled caste Neerkattis also and they feel they are not treated equally with the rest of the caste groups in the villages. However they are not forced to undertake this job against their will. The situation is not so static but changing through adopting new mechanisms in their jobs, many Neerkattis are paid in cash apart from the produce paid in kind.

### **Remuneration**

It is clear that the remuneration for the services of the Neerkattis is neither low nor they have better options than this in the village. On an average, Neerkattis are paid more than their wage labor rates for their services in all the places studied. However, the Neerkattis always run the risk of losing their revenues fully in case of droughts and monsoon failures. This is true of any farmer who is on the same and equal footing as that of the Neerkatti and loses his produce and incur substantial losses because of the same risk. An alternative arrangement is also done by the

farmers of the Parambur village that whenever the crop fails the Neerkattis still get a payment in cash for their job. Even though such a payment is not high enough to compensate his wages, but is a considerable amount for the job he has done and compensated duly. Such an arrangement provides a security and satisfaction for the Neerkattis to continue their job. In all of the cases studied the claims of the Neerkattis about their remunerations being low is not correct still they want a stable return. In general, the Neerkattis are better paid where the tanks are functioning better and there exists a vibrant collective action. Analysis of the cases shows that on an average, in a good year Neerkattis are receiving more than 20 bags (of 60 kg each) of rice and in some cases they get up to 40 bags (of 60 kg) which is equivalent of having 1-2 acre of land in a tank ayacut.

### **Permanence**

The job of the Neerkattis in most cases remains permanent and passed on to their heirs. The knowledge of the watering practices is thereby passed on to the next incumbent without any formal training being carried out. In some cases, they do have the right to lease out the tenure to someone else who is interested in taking the job whenever there is a better option (employment elsewhere) available for them to do. In case of more than one heir the job goes in rotation or division based on an equity defined by them. In none of the cases the Neerkattis felt that they would leave the job and search for some other opportunities which is a proof that the system is not dead and still thriving. Wherever, anyone has left the job it is due to the total breakdown of village or tank administrations or migrating to elsewhere for reasons beyond their control.

### **Changes in Village Polity**

The village polity is changing continuously and it reflects in land tenure, land transfers by sale or other means and administering the village properties such as the tanks. The Neerkattis and their works are also undergoing tremendous changes. While it can be said that many changes are good for the village public in general and a few are not. The present day village community lacks capable and truthful leaders who can make and administer impartial decisions related to the village affairs. Corruption

and favoritism have become the order of the day in many villages and the village collective organizations do not function well in such villages. Since, the water management and revenue generation from tank usufructs are needed for better and fair agricultural operations, Neerkattis and their jobs are one of the casualties of this type of village management.

In general, the village polity today is not dominated by the ayacutdar farmers alone in a given place. There are many other occupations and persons involved in such occupations are becoming important in the villages. Therefore, the ayacutdar farmers alone can not decide on the usufructs and other revenue uses of the tank. In such situations controlling usufructs or herds grazing in tank areas can not be enforced as they were in the earlier days. Neerkattis in many places can not do anything to stop any violations in that regard unless the village collective has a good amount of unity on matters related to the tank.

### **Changing Administration**

Another observation is that due to huge amount of braindrain from the villages the type of farmers who used to administer the tank is absent. However, many village communities are tackling such a braindrain and changes in the village situation through modern and more democratic methods. The case study of Parambur village and the water management is an example of such a change towards modern methods. The Parambur villagers opted for a more democratic registered society where elections are held and member/leader participation is ensured for a better resource use. The results are good enough to show that the newly-adopted mechanisms combined with the Neerkattis are paying good results. In the last 24 years, since the present management is in practice, the performance of the tank is significant. Of these total 24 years, around 12 years have been double crop, 10 years been single crop, half yield in 2 years was achieved for which the water management combined with the Neerkattis played an important role.

### **Lack of Leadership**

The case studies show that the villagers are lacking in good and reliable leaders to motivate them to undertake the collective works such as



mobilization of villagers to attend to emergencies and routine work related to tanks. Such works are part of the tank management and these days there is a definite reduction of such works. Many Neerkattis feel that the good leaders are important to make the tank function well and to do their jobs properly. This is more important in the case of tanks which are totally dependent on extended catchments where water has to be carried through well drained channels. In the absence of farmers not joining hands for the collective works, the water could not be collected and the tanks are bound to remain with less quantity of water.

### **Changing water management**

The case of the Kannangudi village shows that the traditional water management which is based on the castes is also being changed according to the changing contexts. In general, it is found that the system is very much equitable in bad years where everyone needs certain amount of income to cover their expenses. In such a complex situation also the role of Neerkattis are important in accomplishing an impartial distribution of the available water..

The Ramanathapuram big tank which is one of the biggest tanks in the state of Tamilnadu, is a good example of changing management and going with the modern times. The newly-formed farmers associations by the Department are based on the traditional management but built on modern principles of a Registered Society. The farmers find it convenient and behave as per the decisions and the Neerkattis are satisfied with their work done in a better and orderly manner. Efficient distribution of water and avoiding conflicts among the farmers have become the hallmarks of that particular village association.

### **Collective Action and Management**

It is also true that the Neerkattis want a stable management who can command an orderly behavior of the farmers and control the free riders whenever they need to be. In the absence of a stronger collective action either in a traditional village assembly style or a formal modern Society style, the Neerkattis are facing difficulty to control the farmers and

distribute water in a productive manner. One of the important difficulties faced by the Neerkattis lies in collecting their revenues from the land owners who often make them visit their homes repeatedly.

### **Declining social customs**

In general it is true that the customs and practices undergo changes and many times for the worse. This is felt seriously by the Neerkattis because of their role as a professional service person gets affected by the changes. For example the respect for the first opening of the sluice after the rains is done after a Pooja. The Pooja brings everyone to the site because of the customary practice and make them know the rules of the management including the potential changes or difficulties faced by the ayacutdars. In the absence of such an arrangement every farmer tries to make his case and force the Neerkattis to do what they want and the exchange of information flows only through individuals and not through a collective forum.

### **Neerkattis at Cross Roads**

The Indian village polity, social milieu and production systems have changed a lot over the last two centuries due to several reasons. Among these, the social changes due to advancement in crop production systems, change in crops, cropping practices and advent of electrical energy for lifting water from wells and borewells in command areas, had crippling effect on tank system management. The changes in crops in the ayacut area from paddy to cash crops like sugarcane and introduction of free or subsidised cost of electricity had made these village functionaries' life difficult. Besides, the tank systems are also left unattended by farmers as well as the government.

### **Change of Crops and Practices in Ayacut**

Paddy used to be the most common crop raised in tankfed areas of the basin. The advent of wells and borewells combined with cheap power has led to change of crops. Typically, tank ayacuts had good potential for groundwater and farmers have resorted to digging wells from the fifties.

Easy access to groundwater combined with the establishment of modern sugar mills induced the farmers to switch over from paddy to sugarcane in many tankfed areas. Sugarcane being an annual crop requiring irrigation for the whole year, it is fed from wells apart from the tank water. The tanks usually supply water for 3 - 5 months and farmers supplement it with groundwater. Farmers tend to irrigate their fields on their own or with other farm labourers and *Neerkattis* are not generally engaged for irrigating the sugarcane fields. The irrigation methods and frequencies for sugarcane being completely different from paddy, the farmers are forced to do without *Neerkattis*. So *Neerkattis* are out of their traditional job.

### **Collapse of village administration**

The change of village polity and administration had its own share of destabilising the *Neerkattis*. Today the usufructs and residual revenue from tanks are held by Panchayats through various government orders and settlements. On this count also the village functionaries like *Neerkattis* who used to safeguard the revenue from tanks became powerless.

### **Quick Fix Options to Growth: The rise of wells**

The collective action required to keep the tanks performing in the villages has become unnecessary because of the well irrigation which is privately owned at the farm level. So the functions other than water management done by *Neerkattis* have also not been attended by them.

### **Change of Land Ownership Pattern**

The twentieth century has seen education and industrialisation as the engine of change in village economy. The rich and affluent could get educated and leave the villages towards greener pastures and government jobs in the cities. The transfer of ownership from the erstwhile land owners to the newly emerging class of farmers took place at many places. Many of these class of farmers did not value the services of *Neerkattis* nor paid them adequately as their earlier counterparts had done. This practice again forced the *Neerkattis* either to leave the profession or do it in sub optimal manner.

## **Breakdown of Social Order / Discipline**

The breakdown of village unity, collective action and restraints on indiscipline in the villages has become the order of the day. These phenomena further aggravated by various social changes, feuds, conflicts and caste wars in the villages have left the villagers devoid of any discipline and common restraint towards exploiting common properties. In most of the villages the periodical meetings as a forum for collective action have either ceased to exist or reduced to caste group meetings discussing internecine or caste rivalries. This breakdown of social order has made the tanks victims of free riding and overexploitation. The *Neerkattis* are rendered powerless and their livelihoods have started declining along with the decline of tank performance.

## **What Needs to be Done?**

Today at the beginning of the millennium just after five decades of modern agriculture, combined with the failing of pumpset revolution in many parts of the southern India, the tankfed areas need revitalisation. The solutions are not only to 'improve' the performance of tanks but also to revive the engineering, administration and management regimes.

At a discussion in a group meeting of Neerkattis with a pointed question on 'how do you revive your jobs?' The Neerkattis retorted that the revival of their jobs is only possible by reviving the tank and the Institutions. The following are practical answers from their wisdom to attempt such an exercise.

1. Farmers should not attend to their water management functions. They should abstain from the tank bund and leave the tank to the *Neerkatti* and the local village tank associations.

This would mean that a new management regime, restrained behaviour, collective action and an individual responsibility to safeguard common property would emerge. It also means that the farmers have to be taught to get together and respect the need for a

management order and a manager who can run the business based on consensus.

2. Local illness to be cured: The encroachments on tank bunds, feeder channels, surplus courses and tank beds need to be evicted locally. This would mean that the farmers have to collectively restrain themselves from indulging in free for all and vacate the encroachments for the better performance of tanks.
3. Every tank should have an organization with irrigating farmers as the core and others users surrounded.
4. Every tank should be revived, its structure be recreated to its full strength.

This would mean that the existing tank rehabilitation methods and mechanisms which are fraught with 3 Cs “concrete, corruption and contractor,” should be replaced by locally needed works with high quality implementation through local farmers collectives. This also mean that the governments should liberalise the tanks and hand them over to the village associations for better management wherein Neerkattis play a critical role as an efficient manager.

## **Annexure 1**

### **Save the Tanks and Traditional Managers: Resolutions<sup>3</sup>**

1. The water use efficiency is 90 per cent in areas managed by the water managers whereas it is only 60 per cent in their absence. It was resolved to recognize the contribution of water managers in the effective use and distribution of water.
2. Since the quantity of freshwater available globally is reducing, the water managers' role is critical for ensuring inflow of water to the tanks and its equitable distribution. A resolution was passed to appoint water managers in all tanks.
3. In the present situation, appointment of water managers and their works change from place to place. They are either transferred or appointed according to the needs, or appointed in rotation and as a result the role of water managers in protecting the tank changes. Hence the water managers should be recognized as guardians of the tanks.
4. The symposium resolved to bring out the talents hidden in water managers and develop them, besides giving training to them to adopt new technologies to harvest water for proper distribution.
5. It was also resolved that a cadre of water managers should be created starting from tanks, cascade of tanks to the river basin. The water managers at the village level should work jointly with the tank farmers associations to ensure protection of the tanks.
6. The salary of water managers should be fixed on a monthly / crop basis. The tank federations should take steps to fix their salary and mobilize funds needed for it.

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<sup>3</sup> DHAN Foundation has organized the first Madurai Symposium in March 2003 where in a seminar and a public meeting of Neerkattis also took place. The day long event was participated by around 1200 Neerkattis from all parts of South India.

7. The minimum wages for water managers should be given irrespective of a bumper harvest or poor harvest. The tank federation and other service organisations should take the needed steps to see that they get it regularly.
8. The work of the water managers is fraught with risks. There is a need to create awareness about the nature of their work among farmers and take steps for their protection by the farmers.
9. The water managers doing exemplary service should be honored. The traditional technologies connected with their work should be included in school and college curriculum.
10. To raise the standard of living of the water managers and free them from usury, microfinance groups should be set up and should be integrated at the river basin and district levels. This, the seminar felt, would help raise their standard of living.

## **Profile of Neerkattis in a Big Tank System**

*G. Kannan\**

### **Introduction**

The Periyakulam tank is situated on the eastern side of Saptur village. This tank has the Sadhuharakiri hills as the catchment area. There are four supply channels from the hills which feed water to the tank. The total run-off for this tank is calculated as 130.280m<sup>3</sup>/sec during the rainy season. The registered ayacut is 145 ha, but it irrigates more than 240 ha through three sluices. This tank has two surplus weirs and 10 surplus shutters to regulate the surface run-off and protect the tank from breaching during the peak flood times.

The major crops grown in the tank command area are paddy, sugarcane, cotton and chillies. The supportive or secondary crops are sorghum and pearl millet. The major portion of the ayacut is covered by paddy and cotton. The income from paddy per acre ranges from Rs.5,000 to 9,000 depending on the variety grown and the pest management. The ayacut farmers get assured irrigation for two months from the tank and for the remaining days from wells fitted with pumpsets. There are 58 pumpsets in both open and bore wells in the tank command area. Hence there will not be any problem for single crop cultivation.

Saptur is a multi caste big village having 3540 households. The major castes are Thevar, Chettiyar, Nayakkar, Nadar, Sakkliyar, Paraiyar, Aasari, Kudumban and Pillai. The major land holders are Thevar followed by Nayakkar and Chettiyars. Other caste people have no land of their own and they are working as wage labourers. Some of the landless people have taken land on lease and are cultivating. Apart from agriculture,

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80 - small scale brick kilns and four milk dairies are there in and around the village.

These brick kilns and milk dairies provide considerable employment opportunities to the villagers. Male and female labourers are being paid Rs.60 - 100 and Rs.30 - 50 respectively. The dominant caste in this village, both in terms of wealth and population, is Thevars. They are the prime decision makers in all the matters from individual to society as a whole. A pathetic situation in the village is the existence of the Jasmani system (caste based occupation) introduced 60 years ago when Karmega Nayakkar was ruling this Samasthan.

Periyakulam tank plays a vital role in the village economy and also in the day-to-day life of the people. Agriculture is the primary occupation and this tank provides irrigation. Hence the farmers are getting an assured single crop. The brick makers are getting mud and fire wood from the tank as raw materials. Every year fish from the tank is auctioned and the village fish vendors get the benefit out of it. Once in every five years the Forest Department plants Accacia saplings in the tank waterspread area.

From the tank the Panchayat is getting revenue and the landless people are getting good employment with reasonable wages. When the tank is empty, grasses grown in the entire water spread area and the cattle owners are benefited as they use for cattle grazing.

### **General Water Management System**

The tank water is being managed by two persons i.e. Kulathumanian and Kulathukudumban. Kulathumanian is responsible for distribution and management of the water. If anything goes wrong, he has to answer both to the Revenue Department and village assembly. The major role for him is to control, supervise, recheck, direct and order the Kulathukudumban.

Kulathukudumban is the person who executes the directions of Kulathumanian. His major duty is to regulate the run off from the catchment and operate the sluice and shutters (opening and closing) as per the guidance received from Kulathumanian. The overall function of

both of them is to protect the tank from breaching and supply the water for irrigation.

### **Personal Profile**

Mr.Sankarapandian is the present the Kulathumanian. He is 65 years old and has two younger brothers. Since he is the elder son to his father, he assumed charge in 1957 in the age of 20. He belongs to Pariah caste. At present he is living alone in a simple house with its floor paved with mud. Three years back his wife Ramachi expired. He has no children.

Mr.Ramar, the Kulathukudumban is the sluice operator. He is doing this job on hereditary basis. His father had three sons and two daughters. He is the second son of his father and he has been nominated for the job because of his involvement and personal interest. All sons are married and settled separately in the same village. Ramar, now 60, is living with his wife. He belongs to the Pallar caste. During the off-season he also works as a wood cutter for cremation of dead bodies, thereby earning some money. Taken as a whole his financial status is very weak.

### **Existing System**

As a matter of fact Kulathukudumban and Kulathumanian have forgotten their individual responsibilities. Now both are doing the same work of shutter operations only. Because of their age and health conditions they could not perform their duties as earlier. So they are taking help from their family members/blood relations. Kulathumanian does not have any children, so he is deputing his younger brother's son (Rajendran) and Kulathukudumban is sending his second son (Gurusamy) for this work. Being hereditary jobs they are transferring their responsibilities to the new generation. During the harvest time Kulathukudumban and Kulathumanian collect eight *padi* (1 *padi*=1.1kg) paddy per acre separately from the farmers and share it with their relatives.

### **Sluice Operator**

The primary role for them is to regulate the water inflow and outflow from the tank. Kulathumanian is keeping the shutters and sluice keys (each key weighing 40 kg) in his custody all the time.

### **Tank Watchman**

When the tank gets filled, these two persons have to watch the tank day and night. They should stay in any one place on the tank bund because no one can predict the amount of water inflow during heavy rains. So both of them have to consult each other and release water when there is heavy inflow into the tank.

### **Announcer**

These two persons are responsible for ensuring the strength of tank bund. They have to walk on the bund and inspect it. If any small breach is found they will alert the villagers. The villagers can spend up to Rs.5000 for repair. If it exceeds Rs.5000 the Village Administrative Officer (VAO) should be informed and he will pay for it. In this regard the Kulathumanian and Kulathukudumban act as the liaison between the VAO and the villagers.

### **Protector**

Periyakulam tank is the first tank in this chain of tanks and the surplus goes to 13 more tanks downstream. During the scanty rainy years the lower tank farmers have the habit of damaging the shutters and sluices of Periyakulam tank to get water for their tank. So, to avoid this, both of them sleep near the sluice and shutters.

During the off-season they don't have much work to do in the tank. Once in a week, they walk along the bund and observe the tanks status. If they find any damage in the tank structure they will inform the village President and VAO to restore it. Exactly one month before the monsoon they have to get lubricants from either VAO or village President to keep the sluice and shutters ready and easy to operate.

Before two generations, the status of both Kulathukudumban and Kulathumanian was better than now. Earlier they had 1.50 acre maniam land in the head reach of the tank command. There they used to raise crops. These lands have been sold by their forefathers. During 1940s, the farmers and village President supplied them rain coat, torch light,

dress and separate rooms to stay. The cultivators also used to give them their share during harvest. But now no such things happen.

In the past, no farmer would dare to open the sluice and all followed the same procedure. But now farmers themselves open the sluice without the knowledge of the operators. If the operator does not give the key the farmers would break open the sluice shutter. So the Neerkattis have become least important and not respected properly.

The major reason for the non-cooperation from the farmers with the Neerkatti is declining of water management system and the drastic reduction in the area under paddy cultivation. Other crops like sugarcane and cotton also have become popular. Another reason is groundwater irrigation through wells / bore wells has become popular in tank command area. To maintain these pumpsets the farmers do not require the services of the Kulathumanian or Kulathukudumban.

### **Earnings**

The major income for both of them is from the paddy share they get from the farmers. Paddy harvesting is possible only once in a year using tank water and Kulathumanian does not have other source of income. He also has to share what he gets with Rajendran, because he is helping him throughout the year in his work. But Kulathukudumban's case is different as his son is also earning Rs.30 per day. However, the annual income of both Kulathumanian and Kulathukudumban is very meagre compared to what it was in the past.

The reasons for the declining importance of Neerkattis are many. The younger generation is not interested in it. The farmers cultivate non-paddy crops and consider the services of Neerkattis redundant and not required by them at all. In a good year, around 300 acres of paddy is cultivated and both of them earn around Rs.15,000 worth of paddy amounting to 44 bags weighing 60 kg each. Both of them have to share with anyone engaged by them for their assistance in need. In a bad year, the tank will irrigate around 200 acres of paddy and their returns will proportionately go down to that extent.

## Changing with the Times

*G. Kannan\**

### **Introduction**

Elumalai village has two tanks viz, the big tank and small tank. The Big tank farmers follow Neerkatti and water management systems. Almost all the farmers of this tank live in Elumalai and they belong to multicastrs (18 different castes). Elumalai has both urban and rural features. Some of the villagers migrated from surrounding villages have also purchased / taken on lease lands in the tank ayacut. Now-a-days the tank ayacut is getting reduced as lands are being converted as housing plots. Since this tank is located in the foothills of Sadhurakiri hills there is a good scope for water inflow from the catchment. This tank was rehabilitated in the year 1979 by the PWD. At present brick makers have encroached on some of the water spread area and they are the problem makers in this tank because they are scooping earth from it, resulting in loss of soil suitable for cultivation. They are also taking earth from the bund. In certain areas they dig deep disturbing the functioning of the tank and sometimes resulting in breaching of the bund. However, the brick industry is sprouting like mushrooms and the people support it as it provides employment for many. So, it seems, no one is bothered about the tank now.

Paddy, cotton, pearl millets, dhal, grams and jowar are the predominant crops raised by the farmers. Some of the well owning farmers cultivate sugarcane, banana and oil seed crops. As stated earlier, every year the agriculture field is getting decreased as settlements grow because of urbanisation.

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The villagers follow certain norms and traditions during the scanty rainy days. If there is no rain all the farmers will go to the Vasimalai temple and pray for rain. Their belief is that, after this prayer within 15-20 days rain will start. When the tank gets filled, the Neerkattis and Madaikankani collect money from the village elites and rich persons and arrange for a festival called “Madai Pongal”. Only after this celebration the sluices will be opened. Otherwise, they believe Vasimalai God will get angry and break the sluice and bund. Pongal and other things should not be given to anyone except the Neerkatti’s family.

There are 600 landless families in the village indirectly depending on the tank. They go for agriculture wage labour, brick industry, wood cutting and grass gathering for their cattle. Over 560 families are engaged in agriculture in the tank ayacut. So, the tank sustains the individual and village economy as a whole.

### **General Water Management System**

The Elumalai Big tank water is being managed by a group of persons, i.e., one Madaikankani (sluice supervisor), four Neerpaichies (water distributors) and one tank Kavalali (Tank watchman). Madaikankani is the person who supervises all the three sluices, and sees that the water is properly used. Neerpachies are the persons who irrigate all the field properly without any bias. Madaikankani has to decide when and which sluice need to be opened. At the same time he can receive the reports from the Neerpachies, because the Neerpachies know which field is in need of water immediately.

The primary duty of the Madaikavalali is to protect the tank from breaching and damage from external forces. He is acting as the watchman for the tank both during the season and off-season. During the season (when tank gets filled) he should stay only in the tank bund day and night. The shutter’s key will be with him always. There are three stone pillars inside the tank. If water touches the stone he should be active and alert to open the shutters. Because that is the MWL (Maximum Water Level). Rotationally Neerpaichi also will go with Madaikavalai during the peak season.

### **Personal Profile and their Appointment**

The present Madaikankani, S. Ayyapillai, is 50 years old and has two sons and a daughter. His position and work is not permanent like that of the Neerpachi. Every year, during the month of September, all the farmers and Neerpachies meet and select a new Madaikankani. The Neerpaichis have the power to change and reselect the Madaikankani. He can collect the paddy, 15 kg per acre, during the harvesting time as honorarium. One person can not become Madaikankani for a second time. This is the norm prevailing in this village.

Four Neerpaichies are there in the village namely, R. Karuppaiah (56), T. Vanamuthu (34), K. Karuppaiah (30), and M. China Karuppan (31). All of them belong to the scheduled caste (Pallar) who reside in the same village. They are not appointed persons as all are doing the work as a hereditary job.

At present, they don't have lands to cultivate. Like the Madaikankani, they are also getting paddy, 15 kg per acre, during the harvesting time. Apart from that, during the off-season they earn Rs.60 per day as wage labour from the near by bricks kilns. The Madaikavalali also earns paddy, 15 kg per acre, during the paddy harvesting period as his share. He belongs to the Pariah community and has no children. He lives with his wife and during the off-season both work as wage labours.

At present, the Madaikankani is appointed by the Neerpaichies based on their needs and demands. The powers of the Madaikankani have changed totally as the Neerpaichies are indifferent to their works. Hence conflicts are common between the Neerpaichies and Madaikankani regarding water management. Earlier, the Neerpachies had to irrigate the fields, but now the farmers are irrigating their lands. Because of this the Neerpachies have come out of this work. They have limited their functions to opening and closing the sluices and shutters. It has resulted in mismanagement and mismaintenance of tank structures and resources. Hence one third of the stored water is getting wasted every year, badly affecting agriculture. Presently, Ayyapillai is also doing the work of

Neerpaichi, such as sluices operation, watchman for the tank and desiltation of sluices. These works are described below.

### **Sluice Operation**

During the agriculture season, he is asked to open and close the sluice by the farmers. He has to ensure the opening and closing time (Morning 7.00 a.m. to Evening 7.00 p.m.) The farmers can also ask him to open the sluice even in the night. So, he should be ready with the key at any time.

### **Directing the Neerpaichies**

This is the real function for him to perform. When the tank is full, he has to allocate one sluice for a Neerpaichi to look after. This allocation should be on rotational basis so as to avoid partiality and favouritism in water distribution. But in reality the Neerpaichies are not following his direction on many occasions.

### **Desiltation / sluice Clearance**

During the off-season, he has to discuss with the Neerpaichies on desilting and removing the weeds both inside and outside of the sluices. He has to decide and arrange the required labours to do the job. But this year he did not get the support from the Neerpaichies and left the sluices as it were.

### **Watchman for the Tank**

Madaikankani has the crucial role of watching the tank. Every year the farmers build a temporary shed for the Madaikankani when the tank is full. He is supposed to ensure the strength of the tank bund. Once in every hour he has to walk on the bund to observe the tank status and water level. If the water level is above the marked level he should open the surplus shutters to send the water out of the tank.

In the last 30 years drastic changes have occurred in his life-style and duties. Earlier, he was doing the managerial functions like, controlling the



Neerpaichies, supervising their works, coordinating the Neerpaichies, staffing the labours to desilt, planning for the water management, ordering the Neerpaichies do to their works, directing them to avoid overlapping and misuse and reporting about their works. But, at present, these functions are no more in his hands. He is doing all the works which the Neerpaichies are supposed to do.

The major reasons for this change is the mode of appointment. Previously he was directly appointed by the 'Zamindhar' and he acted as an agent of the 'Zamindhar'. So, all the stakeholders, including the farmers, gave much respect to him. During that time he received salary both in kind and in cash from the 'Zamindhar'. Moreover, he shared a part of the income from the farmers as maniam. So, his lifestyle and living conditions were very high.

Presently, he is appointed by the farmers in consultation with the Neerpaichies. So, the actual subordinate has become superordinate and deciding authority for every thing. So, his status has become low. The working condition is also bad. Neerpaichies are dominating and directing the Madaikankani to do all the works. Though the tank has four Neerpaichies, the Madaikankani is operating all the sluices.

Economically also he is in a poor condition. All the Neerpaichies have free lands (maniam) in the tank ayacut. So, they are cultivating on their own. But Madaikankani has to collect paddy (15 kg per acre) from the farmers as his remuneration. He doesn't have any other source of income other than this. About, one third of the farmers are not willing to give their share to him because they don't want the Madaikankani's services. So, they are asking directly; "Why we should give share to you?"

Apart from that the Madaikankani's life has become vulnerable. When the tank is full, he has to stay in the tank day and night. Previously the farmers provided him a temporary shelter to stay and watch the tank, but this facility he does not get now. Hence he is struggling to protect himself from snakes, insects and other poisonous insects on the tank bund.

In addition to these, if rain comes he gets drenched and there is no way of escape for him. Previously he received the minimum requirement of

light, temporary shelter, bedsheet, raincoat, dresses etc. from the farmers, but now he has to arrange everything at his own expense.

The earnings of Ayyapillai depends on rain and tank fillings. When the tank gets filled up, his income will also increase. If the tank is empty or half filled he can not earn anything. His share is fixed and decided by the farmers once in five years. At present he earns three Marakkal (15 kg) per acre. This is applicable only for paddy and not for other crops. Normally there would be around 200 acres under paddy cultivation every year in case of full tank. If water storage level declines, paddy cultivable area gets reduced to 75 to 100 acres.

During the full tank season	-	200 acres under paddy cultivation
Share per acre	-	15 kg
	-	$200 \times 15 = 3000 \text{ kg}$
Total income	-	Rs.18,000
During the half tank season	-	75 acres under Paddy cultivation
Share per acre	-	15 kg
	-	$75 \times 15 = 1125 \text{ kg}$
Total Income	-	$1125 \times 6 = \text{Rs.}6750$

In case there is no rain, he cannot earn even a single paisa. It does not mean that, no one is cultivating paddy. Some of the well owning farmers grow paddy but they will not give any share to him. Prospects are very bleak about the future of Madaikankani as the farmers themselves get involved in water distribution at present.

# Neerkatti in a System Tank

*J. Mohan\**

## **Introduction**

Tanks are traditional water harvesting structures, having good water management systems. Neerkattis are the water managers to irrigate tank water to the command areas. Apart from the water management, they help in crop management, village festivals celebrations and other important events in their village. The Case of Neerkatti Mr. M. Muthaiya, Kannimarkulam tank, Cumbum valley of Muthuthevanpatti village in Theni district is presented here.

## **Kannimarkulam tank**

The Kannimarkulam tank is situated in Muthuthevanpatti village, which is three km away from Theni town. This is a system tank, which falls in the Cumbum valley. This is the last tank in Periyar system and gets feeding through Chathirapatti anicut, which is 48 km away from Periyar dam. The Chathirapatti anicut was constructed near Veerapandi and 2.69 km feeder channel was formed to connect Kannimarkulam tank. . There are 17 sluices in the feeder channel from the anicut and irrigate 329 ha. The tank irrigates 40 ha with one sluice. The farmers cultivate Paddy for two seasons and shift to pulses as the third crop. Farmers with fields in Muthuthevanpatti, P.C. Patti, Theni, Kakkivadanpatti, and Bodendrapuram villages are benefited by this tank command.

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## **Cumbum Valley**

The Periyar river originates on the western slopes of the Western Ghats at an altitude of about 1860 m and flows westward to join the Arabian sea. In the second half of the 19<sup>th</sup> century, it was decided to construct a dam across this river and divert the water to the eastern slopes through a tunnel to feed the rainfed tank commands of Madurai district as a social reform project. An agreement was signed by the Maharaja of Travancore to lease the land to the British Indian government for 999 years and the dam construction was completed in 1895.

The lands in Cumbum valley are fed by 16 anicuts through 19 channels and irrigate a command of 5954 ha for double crops and 2158 ha for single crop. After feeding the fields through the anicut the river finally reaches the Vaigai dam and merge with Vaigai river. The Assistant executive engineer at Uthamapalayam is in charge of the system. There are three section officers at Cumbum, Uthamapalayam and Palanichettipati to look after the system operation and maintenance. Kannimarkulam falls in the Palanichettipati section office.

## **Uses of the Tank**

- The main purpose of the tank is to irrigate 40 ha of tank command
- The villagers use to take bath and wash their clothes in the tank
- The villagers and outsiders use to wash their vehicles as it is located very near to NH 49.
- The villagers use to clean their cattle in the tank.
- Two main textile mills highly depend on this tank for fulfilling their water needs.
- The tank is used for rearing fish by the Fisheries Department

Five years ago, the tank control and maintenance was in the control of ayacutdars and they reared fishes in the tank. After that, the government took all rights in its hand. The farmers pay taxes to the Revenue Department twice in a year. They also pay for the water managers like Maniyakkarar, Neeranikkan and Neerkattis for their services as grains immediately after harvesting.

### **Water Management System in the Tank**

This tank has three level water management systems, which was followed traditionally. Maniyakkarar, Neeranikkan and Neerkattis are performing main role in water management in the tank. Maniyakkarar is usually from a higher caste (Pillai) having power to take decision to distribute the water and he is the apex person in water management. Neeranikkan is usually from a scheduled caste performing based on the command of the Maniyakkarar. Three Neeranikkans are existing in the village. Neerkattis are the persons to irrigate the lands in tank ayacut based on the advice of the Neeranikkans. There are eleven Neerkattis in the tank who are fixed by the ayacut farmers to irrigate their lands. Their responsibilities and duties are given below.

<b>Sl. No</b>	<b>Name of the water managers</b>	<b>Name of the Post</b>
1	A. Sundararaj Pillai	Maniyakkarar
2	S. Pounraj	Neeranikkan
3	S. Kamudurai	Neeranikkan
4	S. Parthiban	Neeranikkan
5	M. Muthaiya	Neerkatti
6	Karuppaiah	Neerkatti
7	Muthu	Neerkatti
8	Kayambu	Neerkatti
9	Murugan	Neerkatti
10	Nallakambu	Neerkatti
11	Chinnakalai	Neerkatti
12	Senthuran	Neerkatti
13	Ponnan	Neerkatti
14	Maniraj	Neerkatti
15	Mariyappan	Neerkatti

### **Role of Maniyakkarar**

Mr. A. Sundararajpillai, a 72 years old man is the maniyakkarar (local name). He is the main person for the water management of Kannimarkulam tank. He was elected by ayacutdars 32 years ago. He is also the president of the ayacutdar's association for the Kannimarkulam tank.

- He organizes ayacutdars meeting including Neeranikkan and Neerkattis to discuss about the availability of water, water distribution, cleaning the supply channels and others on need basis.
- He meets government officers like Executive Engineers and Sub Divisional Officers to ensure regular supply of water to the tank.
- He is solving water sharing problems among the farmers and considers farmers' request for irrigating their lands in the critical stages.
- He evicts the encroachers from water-spread area of the tank.
- The farmers pay 4 padis (1 padi = 1.5 kg) of paddy per 60 cents (one kuli) to him to meet out his expenses for traveling, work execution and others.

### **Roles of Neeranikkan**

- Ayacut farmers select Neeranikkans and they are from specific families traditionally.
- Three Neeranikkans are jointly working for water distribution.
- Ayacutdars pay 3 'padis' of paddy per 60 cents of land to Neeranikkans and three Neeranikkans share the same.
- Neeranikkan are working based on the command of Maniyakkarar to distribute the water
- They are responsible to bring the water from the main anicut by crossing nearly 17 sluices on the way of supply channel.
- They fix the rotational system and advise Neerkattis to follow the rotational system for water distribution.

## NEERKATTIS, The Rural Water Managers

- They solve field level water sharing problems, and act as mediators between farmers and Maniyakkarar.
- They are effectively engaged for five months in the water management and after that they are going for labour works.

### **Roles of Neerkattis**

- They are fixed by the ayacut farmers to irrigate and manage their lands.
- Based on the advice of Neeranikkan they are sharing water rotationally.
- Neerkattis are the main persons managing lands in the tank command from sowing to harvesting of the crop.
- They identify labourers for weeding, ploughing and harvesting the crop on request from the farmers.
- They are to inform the time of sowing, diseases of crops, time of fertilizing and harvesting of crops.

### **Mr. M. Muthaiya**

Mr. M. Muthaiya S/o Muthusamy, a 45 years old man, is an active Neerakatti in Kannimarkulam tank and is managing 24 acres in the tank command. He became a Neerakatti 25 years back. He is the man who is managing more lands in the tank command area. He has three married daughters and he lost his wife. He is from a scheduled caste and residing at Muthuthevanpatti village. He is living with his daughter in a colony house, which was constructed by the government. He is the important person and plays a vital role in irrigating and managing the lands. He is looking after activities from sowing to harvest of the crop cultivation with the knowledge of ayacut farmers.

### **Daily Routine Works of Muthaiya**

Early morning he goes to the field and starts his work as closing the rat holes and breakages of bunds to arrest leakage of water. He irrigates the lands in rotation. He ensures time of sowing, transplanting, and pest control, inputs supply to the crop and harvesting to the landowners. He arranges labourers for weeding, ploughing, transplanting and harvesting

of the crops. The land owners may come and check the number of labourers and supervise the works in their lands. Daily he returns to his home after 7.00 p.m.

### **Cropping pattern in the Tank Command**

He is engaged in managing the lands throughout the year. He is not involved in any work during Chithirai, (May). He can't go for other works out of 24 acres because of his tight engagement in his works.

Sl. No	Crop	Season
1	Paddy	June – September
2	Paddy	October – January
3	Pulses	February – April
4	Fallow	May

He gets one bag of paddy weighing 60 kg per 60 cent for a crop per season. After completion of paddy season, he gets Rs.50 per 60 cent for managing pulses in the tank from each farmer.

### **People's Perspectives**

During festival times like Pongal and Diwali the ayacut farmers give dhoties and some cash to him. At present, those formalities are not followed because of poor respect to the Neerkattis, given by the landowners and the Neerkattis feel it below their dignity to receive such things. Though, the farmers are giving poor respect to him, he is more faithful to them. He did not cheat them.

The Neerkattis can't attend important occasions in the families and relatives due to the tight engagements. Whenever Mr. Muthaiya falls ill and during some unavoidable circumstances he deposes his son-in-law to attend to his works as a Neerkatti.

### **Conclusion**

The Kannimarkulam is a system tank and the farmers can cultivate a minimum of one crop per year. If the rainfall is good, two crops will be cultivated definitely. So, the Neerkattis are getting normal income from their works.



# Water Manager in a Drought Tract

V. Venkatesan\*

## Introduction

Water is a prime, natural, precious and finite resource which needs to be conserved effectively. Hence there are frequent exhortations for water conservation and rain water harvesting. In districts like Ramanathapuram, the traditional water holding structure, namely tanks are the best examples of water harvesting, which were man made. Being the backbone of agriculture, the tanks are managed by the beneficiaries. They have the traditional water management system, which is being maintained from time immemorial.

## The District

The Ramanathapuram district is located in the southeastern part of Tamil Nadu. It has six taluks and 11 Panchayat Unions. High rate of illiteracy, marginality of the holdings, single-crop based cropping pattern, uncertainty of yield due to vagaries of monsoon and chronic drought are the characteristics of the district.

There are 3.26 lakh holdings in Ramanathapuram district with an operational area of 1.22 lakh ha of land. The average size of land holding is 0.93 ha. About 74 per cent of the landholders have below 1 ha. Around 16 per cent of the landholders have 1 to 2 ha, and only 10 per cent of the farmers have more than 2 ha of land.

Agriculture is the main source of livelihood and tanks play a vital role in the agricultural economy and human life in the district. Almost all the villages of the district have one or more tanks for agriculture and other domestic purposes.

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## **Sikkal Village**

### **Socio Economic Status**

Sikkal village is located in the Kadaladi block of the district. It comprises around 2000 families of various castes. Around 60 per cent of the houses are well-constructed. Though agriculture is the main occupation, most of the people depend on earnings from abroad. During non-agricultural season charcoal-making activity is carried out as a secondary occupation utilizing the abundantly available Prosopis trees. Sheep-rearing is another activity.

### **Agriculture**

Agriculture is the main source of livelihood. The main crop is Paddy and it is cultivated under irrigated as well as dry and semidry conditions. Pulses, chillies, and cotton are also grown. Monsoon decides the fate of agriculture. On an average, in every ten years, farmers face complete crop failure for three years and harvest only 50 per cent of the yield for four years and the rest as a good crop.

During 1980s, Paddy varieties like Mattai and Kuzhipudichan were predominant. As days passed they shifted to short duration varieties like ADT – 36. During the middle of 1980, cotton and chillies were introduced on an experimental basis. Later, they became main crops. Availability of water in tank decides the second crop. Lack of labour during peak period, higher wage rate, higher rate of inputs, low market rate for produces are the characteristics of Agriculture. Within ten years (1990 – 2000) nearly 100 acres of land were sold to nearby villagers due to difficulties in water management. As per the people's perception, nearly 50 acres of land will get converted as building sites within the next three years.

### **The tank**

The Sikkal tank is a PWD tank. It is one of the biggest tanks in the district. It has a water spread area of about 1,800 ha, irrigating around 2,000 ha. It has 8 sluices and a surplus weir. The length of the bund is around 8 Km, which covers four villages namely, Aandichikulam, Sikkal, Thottiyapatti and Pottalpacheri. In addition to its own catchment it receives

water from the supply channel 'Sikkal Nadugaal' and 'Kadambodai Channel' which are diversions from the main canal 'Ragunatha Cauvery'. Nearly one third of command area falls under Sikkal village. The surplus water from the tank acts as a source of supply for adjoining seven tanks namely Aandichikulam, Mathiyal, Vallampadal, Siraikulam, Kaluneer Mangalam, Chinna Ayakudi and Periya Ayakudi.

During 1980s, the tank received frequent fillings from its supply channels. As days passed the situation changed. Due to severe infestation of *Apilanthus* weed the water holding capacity of the tank became poor. At present, the tank faces the following problems,

- Severe silting of supply channel
- Reduction in water supply
- Interference by communal and political parties on tank management
- Lack of leadership

### **Management System**

Ten years back, there was an informal association, for governing the tank system, but later on, it was dissolved due to lack of leadership. In the late nineties Mr. Periyasamy, the Sikkal Panchayat President succeeded in creating awareness among the people to clear the weeds and the weeds were removed. Nearly 750 man days were mobilized in this regard from the village. In addition to this they contributed Rs. 40,000 as cash for this work.

### **Water Management In the past**

During the period of the King Ramanatha Sethupathy, the zamindars owned the properties of the tank (water and other usufructs). The village had 7 categories of service people involved in various activities of a village. They are as follows,

During these feudal times there were only 50 households belonging to the seven categories managed the village affairs. Among them, the Kavalkarar (category 4) was considered an important and powerful ones. They were kept under the direct supervision of the King. Their responsibilities were:

**Table: 1 Category of the people and their duties**

<b>Name of the Category</b>	<b>Duties</b>
1. Velar	Manufacturing the idols
2. Poosari	Organising 'Poojas' in the temple.
3. Aasari	Carpenter
4. Kavalkarar	Managing the tank properties and other village assets.
5. Pillaimar	Keeping accounts of all transactions.
6. Konar	Ensuring the committed worship during Pooja.
7. Nayakkar	Organising grievance days

- Protecting tank usufructs.
- Regularising water flow in sluices.
- Ensuring periodical maintenance of tank structures (Kudimaramathu).
- Collection of Paddy grains from the farmers for their services.

Mr. Pitchai was one such 'Kavalkarar' who handled the responsibilities listed above.

### **Protecting Tank Usufructs**

The Kavalkarar protected the usufructs like trees and fish. The persons who violated the norms were identified and handed with suitable punishment. Besides this, he ensured the timely sale of usufructs and the payment. The amount received was handed over to the Accountant (Category – 5) and taken for consolidation.

### **Regularising the Sluices**

Kavalkarar also regularized water according to the nature of the crop and water availability in the tank. He was the person who was incharge for the sluice operation, and often solved the disputes arising among the farmers.

### **Ensuring Periodical Maintenance of Tank Structures**

The supply channel, tank bund and sluices were periodically cleared and managed properly. He would discuss with the Zamindars about the status of the tank components every week. The clearing operation was named as 'Kudimaramathu'. During the execution, the works were allotted to all the people and he ensured the completion of the work at the end of the day.

### **Collection of Paddy Grains from the Farmers**

During those days, the Zamindars owned the yield from the land. The farmers were not allowed to take back all their produces. They were taxed with a quantum of produce as decided by the zamindars. Hence, it was the 'Kavalkarar' who measured the quantum of produces and report to the higher authority. They named it as "Azhagu Mirasu".

To carry out the responsibilities, the man was provided with a wage in the name of "Oozhiyam". He got the benefit in following ways

- He recovered a part of the produces collected from the field.
- He got exemption from paying taxes on land and water.
- He was exempted from paying contribution for temple construction and festivals.
- He was treated like a VIP during festivals.
- He had been provided with 7 acres of wetland by the zamindars.

After Mr. Pitchai, his heirs had been doing the work, however without any legal authority but as a custom. The heirs of Mr. Pitchai (an ancient Neerkatti) are still looking after the tank. Even now they have the right on all the tank components. They can stop/open water from any sluice at any point of time. A document written by the King, which is being preserved says that the heirs of Mr. Pitchai are entitled to hold the tank properties for ever. Now the relatives of Mr. Pitchai constitute a village called "Pottal Pacheri" with 70 households.

### **Present Status of Water Management**

In recent years, the villagers appoint the 'Neerkattis' (water regulators) to regularize the operation. They appoint one person for each sluice.

They work under the guidance of the village leaders. Their duties are,

- Protecting tanks from leakages.
- Sluice operation
- Protecting the field from animals.

They are paid 5 Padis (around 7.5 kg of paddy) at a time per acre of cultivated. He will report to the villagers whenever he finds any violation by anybody. At the end of the season, they recover the grains from each landowner. There are 8 sluices among which 6 sluices are provided with the Neerkattis. They have no responsibility to solve the disputes arising out of water sharing. Instead, they report to the village elders to take necessary action in this regard.

### **A case of Mr. Karuppaiah**

#### ***Family background***

*Karuppaiah, a 55 years old man, is living in a small hut. He has two sons who are married. At present, five persons are residing in the hut. Basically, he is an illiterate farmer. He doesn't have land of his own. Instead, he cultivates the land taken on lease. He is a native of Ulaiyur which is located 10 km from Sikkal. He was brought to Sikkal by his uncle when he was 20 years old. Later, he got married and is living in the village.*

#### ***Occupation***

*Karuppaiah cultivates crops like paddy and chillies. He goes for construction works during off-season. Besides this, he is a Neerkatti for one of the sluices of Sikkal tank. During the season, he works as a farmer and as a Neerkatti. For labour works he gets a wage of Rs.70 per day. As Neerkatti he gets wages from crop produces for sluice operation. He gets the remuneration of 7.5 kg /acre of paddy crop and Rs. 100 per acre for chillies crop for his services.*

### **Role as a Neerkatti**

*He has been working as a Neerkatti since 1970. He has taken charge from his uncle who was acting as the longtime Neerkatti of the sluice. Locally, he is referred as “Neerpaichi” and he is wellknown to all. Whenever the tank receives first rainfall, he will start regulating the sluice. He doesn’t wait until he receives instruction from anybody. He plays four roles as follows,*

- *Closing the sluices when it rains*
- *Opening the sluice for irrigation (6.00 a.m – 6.00 p.m)*
- *Protecting the field crops from animals*
- *Closing the sluice without leakage when the paddy crop matures.*

*In addition to these, he is expected to solve minor disputes arising out of water sharing among the farmers.*

*According to him, the following were his comforts and discomforts*

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<b>Comforts</b>	<b>Discomforts</b>
<ul style="list-style-type: none"><li>• Assured employment opportunity for three months.</li><li>• Respect from the society</li><li>• Honest and dedicated job</li></ul>	<ul style="list-style-type: none"><li>• Day and night work</li><li>• Uncertainty in yields results in uncertainty in remuneration.</li><li>• Disturbance through violation of norms by local people</li></ul>

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### **Scope as a Neerkatti**

*The district faces frequent drought. This results in uncertainty in his job and remuneration. Unless they raise crop, they may not get adequate food. At present he has a debt to the tune of Rs. 15,000 for which he pays interest at the rate of Rs.500 every month. He feels that the system may not be liked by the younger generation because of the uncertainties in agriculture and less respect for agriculture as an occupation in general.*

# Neerkatti System in Ramanathapuram Big Tank

*P. Rajan\**

## **Introduction**

The Ramanathapuram Big Tank is one of the major tanks in the lower Vaigai irrigation system. It is located at the end of the Vaigai river. Through a supply channel it receives water directly from Vaigai. Excess water from this tank (if any) goes to the sea. Through the southern regulator this tank feeds the Chakarakottai tank, which is one of the major tanks.

The length of the bund is 10.05 kilometres, and the capacity of the tank is 618 m.c. feet. It has eight sluices, including the northern regulator. This tank irrigates an ayacut area of 1604 ha. Seven small tanks are situated below the big tank which serve like a supply tank for irrigation. The small tanks are called as “Endal tanks”. The big tank irrigates the ayacut directly and also through these “Endal tanks”.

In this tank ayacut area, the farmers mainly cultivate paddy and chillies. The chilli crop is being cultivated in the upland areas of the ayacut. Before the construction of the Vaigai dam, the farmers mainly preferred chilli crop but paddy cultivation increased after the dam was built. Instead of direct sowing method, transplantation method was followed in more areas as the farmers got assured supply of water from the Vaigai dam. As per convention on September 15<sup>th</sup> of every year, water should be released from the Vaigai reservoir to the Ramnad Big tank but this depend on the rains. Before the construction of the Vaigai dam, this tank used to be

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filled very often but it has become the thing of the past. In the past, even during April-May the tank used to breach several times due to summer rain floods. Now this has become a mythical story and the tank remains a barren land filled with shrubs and bushes instead of water.

### **Crops Grown**

Before 1970, the farmers raised two crops per year, but now one time cultivation is followed, because of water restriction in the Vaigai river. Before 1990, Thilainayagam, Varikaradanai samba, Arai samba, Mootta manaavari, Karutha kari, Manaavari (black), Kuruva kalanjiam and Ariyan were the main and traditional paddy varieties cultivated. They were six months duration crop. Now CO 43, Poompalai, Karthigai samba, IR20, MDU-5, Asian10, White ponni and Kalsar ponni (red) are the main varieties used (5 months duration crop). These varieties are cultivated under transplantation method but in considerable area paddy is being cultivated under direct sowing method. Also where the traditional seeds like Murungaikar, Kuruvai Kalanjiam, Kuruvai Kari, and Varikaradanai samba are grown. Cotton crop is also grown, in a few acres.

After harvesting paddy and chillies, the farmers go for minni gram cultivation as it gives them an additional income. Minni gram is being utilized as animal fodder and it increases soil fertility also. During summer, farmers cultivate crops like pagal, cucumbers, corn, minni and pani gram in the water-spread area of the tank.

Ramanathapuram big tank covers 13 villages. They are Thoruvallur, Kavarankulam, Papakkudi, Kalathavur, Edayanvalasai, Surunkottai, Surankottai colony, Kottagai, Mudunaal, Nochivayal, Achundanvayal, Kooriyur, Putthendal. Caste wise the people belong to Pillai-velalar, Konar, Servai, Muslims, Pandaram, Schedule caste C's (Pallar, few Sakiliyars). Among these categories, SC (Paller) are in majority. Next come Konars, Servais and Muslims.

### **Present System of Tank Management**

The people of the 13 villages collectively manage the tank–water systems. There are four levels of well-organized authoritative bodies existing since

1991. The Ramanathapuram Big Tank Farmers Association is a registered body.

The four levels of management mentioned above are the Ramanathapuram big tank Farmers Association, Sluice Committees, Village Committees and Neerkattis. The Sluice Committee is selected among the tank farmers and consists of three persons. Among them one is chosen as the leader of the committee. These members are also members of the Executive committee of the Ramanathapuram big tank Farmer's Association. The executive committee meeting is held every month and the general body meets once in a year. The Association collects a membership fee of Rs.10/- per acre from farmers in all the 13 villages. This Association is a member of the Ramanathapuram Traditional Vaigai Ayacut Farmers Federation. The Association and Federation have undertaken many struggles, conducted conferences and released books and pamphlets. There is a village committee in all the 13 villages, which appoints the Neerkattis. The village committee meetings are conducted every month regularly.

The above four bodies have different roles to play in the water management system. The Farmer's Association governs the water regulation in all sluices along with PWD luscars and Engineers. The sluice opening and closing works are done by PWD luscars but they act as per the advice of the Farmer's Association. During water supply periods each sluice committee decides the quantum of water release daily. Every sluice committee leader will express the demand to the Farmer's Association office bearers and they together decide the shutter release level in all sluices. Other than this, the Farmer's Association has to take timely steps for getting water from Vaigai dam and check illegal water use on its way to the Ramanathapuram big tank. They also have to solve conflicts arising among villagers on sharing the water.

The village committees control and manage the feeder channels from big tank, "Endal tank" (which is below the big tank)", Endal tank sluices and feeder channels. The main works of the Neerkattis are cleaning up of supply channels and irrigating the fields as assigned by village committee.

### **Neerkatti system in Kavarankulam village**

Kavarankulam is a small village, which is a part of Thoruvalur panchayat, having one “Endal tank” called as Kavarankulam tank. This tank gets water from Ramnad Big Tank through northern regulator. The northern regulator surplus course acts as a big “Endal tank”. It has eight sluices among them Kavarankulam tank gets Big Tank water from the first sluice. Kavarankulam tank has also six unconstructed – Thumbu (pipe) sluices. These sluices irrigate 110 ha of land.

Paddy and chillies are the main crops grown in this village. In some parts, cotton is also being cultivated. In the paddy cultivation both direct sowing and transplantation methods are followed. In the direct sowing method Kuruvai Kalanjiam, Murungai kar like old traditional paddy varieties are utilized and in the transplantation method MDU-5, Kalsar Ponni and White Ponni are used.

The village has 200 families, and all of them belong to Pallars, a scheduled caste. The village committee manages the affairs of the people. This committee is changed once in a year and selected by the village meeting, which meets every month regularly.

Kavarankulam village is following the Neerkatti system for the past eight years in the present form. Annually, the village meeting selects and appoints Neerkattis (three in number) on daily wages of Rs. 70 each. It also fixes an irrigation fee Rs.50/- per acre, and appoints one more person (unpaid) for collection of fee and for ensuring irrigation, who is called as Receipt Issuer. Each and every farmer should pay the fee to this person and get a receipt from him and that should be given to Neerkattis. After getting the receipt from farmers the Neerkatti will irrigate the field. The collected receipts should be sent to Receipt Issuer. He will check the collection of fee and field irrigation. The village committee will audit this.

Mr. Kalimuthu, 55 years old, is working as a Neerkatti for the past eight years. He has two wives, three-\*/ sons and five daughters. Two sons and three daughters are married. He has five acres of wetland and cultivates paddy and chillies regularly and cotton occasionally. He is

authoritative but democratic in demeanor and he knows well all the villagers, and ayacut areas. He is an expert in agricultural work also. So the villagers have selected him continuously but the other two are changed every year. Mr. Kalimuthu earns around Rs.6,300 (Rs.70 per day for three months).

The villages, which follow Neerkatti system, appoint Neerkattis when the Ramnad Big Tank water level goes below three feet. If the water level of the tank is above the three feet, they don't follow the Neerkatti system because the villagers do not face any problem and if they appoint Neerkattis at this time, they feel the money spent on Neerkattis is avoidable and unnecessary. But if there is inadequate supply of water in Ramanathapuram big tank, there arise many problems from village to village, within village, within caste, inter caste and between strong and weak farmers. To solve these problems, the villagers follow the Neerkatti system. After the implementation of this system there has been no problem and no violence. The farmers utilize water economically as they are trained to a new water management system. Since there is continuous water scarcity during the past few years, these villages follow the Neerkattis system continuously.

**Annexure 1**

**HYDRAULIC PARTICULARS OF RAMNAD BIG TANK**

Full Tank Level	:	+10.050 m
Maximum Water Level	:	+10.350 m
Top Bund Level	:	+11.900 m
No. of Sluices	:	8
Length of Bund	:	10.05 km – Top Width: 7.00 m
Length of Foreshore Bund	:	4.25 km - Top Width: 3.00 m
Length of Parallel Bund	:	2.60 km - Top Width : 3.00 m
Side Slopes: Front	:	1 ½: 1
Rear	:	2:1
Water Spread Area	:	14.50 Sq. km (or) 5.60 Sq. miles
Capacity of the tank	:	618 M.Cft (or) 17.49 M.Cum.
Depth of Storage at F.T.L.	:	2.27 M (or) & 7'6"(WRT SILL of SR)
Registered ayacut	:	3962.45 acres (or) 1603.58 ha
Lowest sill of sluice	:	15.42 (or) 4.70 m
Catchments Area : Free	:	8.24 Sq.miles or 21.10 Sqm.km.
Catchments Area : Combined	:	14.34 Sq.miles (or) 37.22 Sqm.km.
No. of tanks above	:	7
Yield per Sq.mile of catchments	:	5.32 M.Cft
Yield from catchments	:	50 M.Cft
Supply from channel	:	1850 C/S
Number of Days of Flow	:	10 Days
Yield from channel	:	1600 M.Cft
Total Yield	:	1650 M.Cft
Flood Discharge from catchments	:	2980 Cusecs.
Flood Discharge from channel	:	3800 Cusecs.
Total flood discharge	:	6780 Cusecs.
No. of Surplus arrangements		
1. 1013 Ft. Weir	:	1093 C/s.
2. Northern Regulator	:	1563 C/s.
3. Southern Regulator	:	3820 C/s.
Flood Discharge through surplus Arrangements at F.T.L	:	6476 C/s.
Flood Discharge through surplus Arrangements at M.W.L.	:	11,969 C/s.

Neerkatti System in Ramanathapuram Big Tank - P. Rajan

**Annexure 2**

**DETAILS OF SLUICES ON RAMNAD BIG TANK**

<b>Sluice No.</b>	<b>LS in Meters</b>	<b>Sill WRT MSL in Meter</b>	<b>Size of Vent In meters</b>	<b>Ayacut In Acres</b>	<b>Supply Details</b>
1	1978	+6.780	0.60 X 0.60	118.84	Direct
2	2380	+6.275	0.60 X 0.60	541.72	Direct & Pappa kudy tank
3	3290	+6.985	0.60 X 0.60	236.82	Direct
4	3899	+4.700	0.60 X 0.60	16.206	Direct & Kalathavur tank
5	4500	+6.355	0.45 X 0.60	575.49	Direct & Allikulam tank
6	5744	+4.900	0.38 X 0.60	441.89	Direct & Nochvayal tank, Mallivayal tank
7	6744	+5.935	0.60 X 0.60	587.08	Direct & Kooriyur tank
8	7605	+6.255	0.45 X 0.60	550.32	Direct & Marichikattye tank
Northern Regulator at 1810 M		+7.925	1.50 X 2.10	748.23	Direct & Kavarankulam tank
<b>Total</b>				<b>3962.45</b>	

**SURPLUS ARRANGEMENTS**

<b>1. 1013.00 Feet weir</b>	From L.S. 679.70 M
	To L.S. 988.50 M
Length of weir	108.80 (or) 1013'0"
Crest Level	+ 10.050
No. of sand vents	4 Nos.
Size of vents	1.80 X 1.80 M
Sill of vents	+ 8.250 M
Total Discharge at F.T.L.	1093 cusecs.
Total discharge at M.W.L.	5430 cusecs.
<b>2. Northern Regulator</b>	At L.S. 1810 M
No. of vents	5
Size of vents	4 Nos. 3.05 X 2.10 M
	1 No. 1.50 X 2.10 M
Sill Level	+ 7.925
Ayacut to supply vent	748.23 acres (Combined)
Total discharge at F.T.L.	1563 C/s.
Total discharge at M.W.L.	1930 C/s.
<b>3. Southern Regulator</b>	At L.S. 8399 M
No. Of vents	6.
Size of vents	3.05 X 2.30 M
Sill Level	+ 7.775
Discharge at F.T.L.	3820 C/s.
Discharge at M.W.L.	4609 C/s.
<b>4. Falling Shutter Anicut</b>	
Length of weir	178.30 M
Sill Level (Crest)	11.100 M
No. of Shutters	45
Size of Shutters	3.66 X 0.60 M
Maximum discharge	13,373 C/s.
Length of supply channel	3000 M

# Profile of a Thotti from Chittoor

*B. Sadasiva\**

## Abstract

Traditionally, Neerkattis are called as “Thotti” in the villages in this part of Andhra Pradesh. They are the main functionaries in the tank management, watch and ward for tank assets. The Neerkattis have several functions ranging from supply of water to every farmer’s land and to safeguard the tank from all natural and man-made calamities. Neerkatti ensures the water supply to every field in the ayacut area on a rotation basis.

The Neerkattis are the only persons allowed to open, close and regulate the flow of water to the fields and the farmers are kept away from the bund for all practical purposes. The Neerkatti is the care-taker of tank usufructs coming from trees on tank bund and foreshore apart from watching the crops in the agricultural fields. Here is a case study related to Mr. Erramunepagari Sonnappa, a traditional water manager belonging to Basinepalle village of Punganur Taluk of Chittoor District in Andhra Pradesh.

## Introduction about the Tank

Manchineella Kunta Tank is a small rain fed-tank situated in Basinepalle village of Rangamma Cheruvu Cascade of Punganur Mandal in Chittoor District. The tank has a water-spread area of 8.5 ha and a registered ayacut area of 2.42 ha. The total number of ayacutdars are 37.

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\* Project Executive, DHAN Foundation, Punganur, Andhra Pradesh



This indicates that the average land holding of the farmers in the ayacut area is very very minimal. The farmers are cultivating dry land paddy in the ayacut area of the tank (locally, they are known as *Byrodlu*). Due to the high intensity of marginal farmers in the ayacut area, water distribution through sluice to the command area is a very difficult task for the Neerkatti.

### **History of the Village**

Nearly 100 years back, the villagers stayed adjacent to the Manchineella Kunta tank. During that time, the entire villagers utilized the tank water for drinking purposes due to the sweetness of the water. So, they named the tank as Manchineella (Good water) Kunta (Tank). The original name of the village is Basivinayunipalle. Due to the lengthy nature of the village name, gradually it has been changed to Basinepalle. But, still in the Government records the name is Basivinayunipalle.

### **Introduction about Neerkatti**

Mr. Erramuneppagari Sonnappa, the Neerkatti who is the watch and ward of Manchineella Kunta tank assets, is the son of Erramuneppagari Narayanappa. He belongs to the scheduled caste. Narayanappa was an experienced Neerkatti in the village. He got the Neerkatti work from his father as a hereditary work. Now, Sonnappa is working as the Neerkatti. In addition to Manchineella Kunta, Sonnappa is doing Neerkatti work for Setti Kunta and Kotha Cheruvu (one out of two sluices) tanks, as these two tanks are located adjacent to this village.

Sonnappa's parents are residing with him. He got this Neerkatti work 9 years back. He has three children; all are female with 1 ½ years to 6 years of age. His younger brother, Mr. Venkata Ramana, got married during August – 2002 and both the families are staying in the same house. As a whole, nine members are staying in the same house (Joint family).

Sonnappa is the mobiliser of the farmers for three minor irrigation tanks. With the help of the village leaders, he is responsible to do the Neerkatti work. As a part of his duty, first he informs all families in the village by

giving ‘tom-tom’ or ‘Dandora’ (Public announcements) and later he informs each and every targeted household in the village.

In addition to Neerkatti work, he is also working as a messenger for sending death related messages, marriages, festivals to the relatives of the villagers living outside.

His father has three brothers. For the past several years, these three people were working as Neerkattis for the tanks which were located adjacent to their village. Now also, all these three families are doing their Neerkatti work through their sons. Actually, these three families are doing

<b>S. No</b>	<b>Particulars</b>	<b>Manchineella Kunta</b>	<b>Setti Kunta</b>	<b>Kotha Cheruvu</b>
1	Village	Basinepalle	Basinepalle	Basinepalle
2	Panchayat	Vanamaladinne	Vanamaladinne	Vanamaladinne
3	Mandal	Punganur	Punganur	Punganur
4	District	Chittoor	Chittoor	Chittoor
5	Location	South - Western side and 350 m. distance from the village	South-East side and 150 m. from the village	North - Western side and 200 m. distance from the village
6	Survey Number	318	266	96
7	Ayacutdars	37 members	22 members	54 members
8	Ayacutdars belongs to	Basinepalle	Basinepalle, Vanamaladinne	Nakirepalle, Basinepalle, Kothuru, Vanamaladinne
9	Ayacut area	6.07	36.00	68.00
10	Water spread area	21.15	24.00	40.50
11	Type of tank	Rainfed	Rainfed	Rainfed
12	Other water sources available in the ayacut area	Open well - 1	Bore wells - 2	Bore wells - 6 Open wells - 2

Neerkatti work in rotation. During this year, Sonnappa is doing the job for the three tanks mentioned earlier. Though he is doing this work during this year, I had interacted with the remaining two families also.

### **Rotational Procedure**

Once in every three years, each family will get the opportunity for doing Neerkatti work. One year the family will do Neerkatti work and another year the same family will do Village Thotti work. They will shift their family duties on Ugadi (Telugu new year day) of every year.

### **The details of these tanks are:**

In the ayacut area of the three tanks mentioned above, paddy (Tella Hamsa) is the most predominant crop. Farmers are cultivating this variety where water availability is satisfactory. In the ayacut area, some of the farmers are cultivating sugarcane as they have assured irrigation source (either bore well or open well).

During water scarcity periods, most of the farmers shift to dryland paddy variety (Traditionally called as 'Byrodlu') in the ayacut area of the three tanks. During the time of cultivating this variety, very limited wettings are enough in order to get good crop.

### **In the village as a Thotti, they have to do**

- Gathering villagers for their village common meetings (during festival period, any important occasions, etc.)
- Collection of money from the villagers for the common cause
- Doing Tom–Tom work in the village for making announcements.
- Basinepalle village has 157 households and for doing the 'Thotti' work, he gets 2 Ballalu per house. (One Ballalu is equal to 2.25 kg of paddy).

### **Land holdings**

He has of dry land of one acre near Manchineella Kunta tank and of 20 cents of wet land in the ayacut area of Manchineella Kunta. In addition

to this land, he has 5 acres of dry land at another place of the village border. He got the wet land in the ayacut area of Manchineella Kunta as Thotti Manyam. In the dry land, they are cultivating groundnut, bajra, etc. In the wet land, they have cultivated mulberry during this year. His family also has 18 sheep tended by his father.

### **Distribution of Water in the Ayacut Area**

Neerkatti will provide irrigation to the tail end fields and later slowly they will irrigate the fields located nearer to the sluice. Again, they will go in reverse direction – from near by sluice fields to the tail-end fields of the ayacut area. Now-a-days also, the Neerkattis are following the same procedure. This method is believed to be the most efficient way of irrigation among the farmers.

### **Remuneration**

They get produce for their work as Neerkatti. They also get 8 ‘Vaadhelu’ for 20 cents of ayacut area from the farmers. (1‘Vaadhe’ means approximately 1 kg of Paddy will come along with Paddy straw).

### **Analysis of his Earnings**

Mr. Sonnappa is receiving revenue from two works year by year on rotation basis. The details are as follows:

- For Village Thotti work he receives around 2.25 kg of paddy grains from 157 families which amount to 706.5 kg of paddy.
  - i) From Manchineela Kunta
    - = 6.07 acres X 8 Vaadhelu / 0.20 acres
    - = 242.80 kg of Paddy
  - ii) From Setti Kunta
    - = 36.00 acres X 8 Vaadhelu / 0.20 acres
    - = 1440 kg of Paddy

iii) From Kotha Cheruvu for a single sluice of 27.32 acres.

= 27.32 acres X 8 Vaadhelu / 0.20 acres

= 1092.80 kg of Paddy

Though, he is earning a large measure of produce, this amount is not sufficient for his entire family in order to sustain their livelihood. In a good year with good amount of rainfall, he gets around 58 bags of paddy weighing 60 kg each . Of course the collection is tedious and some farmers dodge to give their due in single visits.

He gets his remuneration from all the farmers in these three tankfed areas but as monsoon failure is playing havoc his earnings are also coming down year by year. Apart from this, his job is a rotational job with other two Neerkatti families and they take their turn on alternate years.

### **His feelings as Neerkatti**

He is feeling that he is doing good job for that village community. He is also proud of his work. But, his family members (he and his father) are demanding that just like in Karnataka, they want a honorarium from the government during the paddy season time for doing his job.

### **Study on other Neerkattis**

Salient features of the observation made during the discussions with eight Neerkattis of Itukanellore and Bathalapuram villages and also with farmers in Nekkondi Panchayat in Punganur Mandal of Chittoor District are presented below:

- Neerkattis are sacrificing their life for doing / fulfilling their duty. But, at the same time, they are not getting suitable remuneration from the farmers to sustain their livelihood.
- They are not getting full co-operation from the respective ayacutdars. This is due to the rise of free riders in the village.
- According to farmers as well as in Neerkattis perception, the way of thinking of Neerkattis has drastically changed. The Neerkattis

are not doing their duties properly. They are easily bribed by farmers to show favours.

- In general, the mutual co-operation is reducing between farmers and Neerkattis.
- According to the Neerkattis, they are getting produce as remuneration from the farmers for paddy crop only. Previously, Neerkattis were getting remuneration for all crops which were grown in the ayacut area. Now, the Neerkattis are demanding the same practice.
- Because of lack of sufficient water for distributing to all farmer's fields in the ayacut area, Neerkattis are facing problems while distributing water to ayacutdars. But Neerkattis are doing that duty in a planned way. First of all, they will release water to the tail end fields and from there they will irrigate the lands of nearer fields of the tank bund. Meanwhile, there is a chance of misuse of water by the ayacutdars.
- Now, the way of thinking by the farmers has also changed. Previously, Neerkattis were treated by the farmers as their family members. Now, ayacutdars are not giving even the minimum respect to Neerkattis.
- Because of the local disputes with in the village members and polity, Neerkattis are facing a lot of problems.
- Though income of Neerkattis has declined, they are not willing to leave that occupation due to their personal interest. The income they get is not sufficient to maintain their livelihood. However, this revenue is seen as an additional income for the family apart from their wage, earnings.
- Eventhough there are no compulsions from the farmers to force anyone to do the Neerkattis job, in general none of them is ready to renounce their occupations.

## A Lady Manager from Chittoor

*J. Tulasi Devi\**

### Introduction

The history goes back to the Zamindari system during which seven tanks around Punganur were constructed and named after seven sisters. Pungamma Cheruvu is one of the seven tanks. People believe that all these tanks were constructed with the help of paddy straw and the sites of all these tanks were the paddy threshing yards once.

### Ayacutdars

The actual ayacutdars belong to Singirigunta, Aravapalle and Marlapalle villages and Punganur town. Farmers of 5-10 surrounding villages cultivate these lands by taking the lands on lease.

### Features of the Tank

No. of surplus weirs	:	02
No. of Sluices	:	04
No. of open wells in the Ayacut area	:	20
No. of bore wells in the Ayacut area	:	00
No. of distribution channels	:	06
Water spread area	:	182.25 ha
Catchment area	:	combined catchment
Ayacut area	:	164 ha

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This tank has a famous surplus weir called “50 stones surplus weir”. It has two surplus weirs side by side. The tank bund is used as a road because it is maintained properly and no damage is done to it. The bund extends up to Rayala Cheruvu surplus weir. The road to Ramasamudram divides the water-spread area and so a part of waterspread has been detached and encroached.

Encroachment of water-spread and command area is a major problem. Majority of the command area lies very near to the town and hence is converted into dwelling areas resulting in one of the sluice becoming useless. It has been closed and a temple was constructed there. Recently, the government has allowed the cultivation of the water-spread area to combat the serious fodder problem during the drought of 2002-2003.

### **Agriculture**

The main crop grown in the ayacut area is Paddy as first and second crop (if the tank gets filled). Apart from paddy (first crop) brinjal, tomato, and ragi will be grown as second crop if the tank is not completely filled. And when the tank is half filled, the framers having open well, will go for second crop of paddy.

### **Culture**

Whenever the tank was filled the farmers will celebrate the occasion

- By doing teppa tirunala( By offering buffalo).
- Attana Pongali in the month of October for praying to the Goddess to give more yields (By offering sheep).
- They will conduct special pooja for the Goddess Pungamma by keeping broomstick, chata and nose ring to safeguard the tank.
- During drought condition, all ayacutdars will conduct pooja in tank bed to get rains and they distribute rice kanji and also offer a sheep. The meat will be equally shared by all the ayacutdars.

Apart from these, the people from pot maker’s community will do Pooja every day for Pungamma as they believe that she belongs to their community.



### **Details of Neerkattis**

When the tank is filled the Neerkattis or their family members have to stay in the shed constructed on the tank bund as they have to watch against any damage that may occur to the bund.

The tank is having four sluices and six feeder channels. They are ,

1. Koneti 'Tumu' (sluice) - Koneti 'tumu' kaluva (channel)- managed by Mr. Narayanappa of Mangalam village. However, the sluice has been closed permanently in the recent years.
2. Gunta Tumu and Gunta tumu kaluva managed by Mrs. N.R. Nagappa of Punganur town.
3. Bapineedi Tumu and Bapineedi tumu kaluva managed by Mrs. N.R. Nagappa from Punganur town.
4. Pedda Tumu and Pedda Tumu Kaluva managed by Mr. Gangulappa of Punganur; Kambala Kaluva managed by Mr. Gopal of Singirigunta village; Isaka Kaluva managed by Mrs. N.R. Nagappa of Punganur town. These two channels namely Kambala and Isaka channels flow only during the surplus years and not a regular feature in a year.

Among all the Neerkattis we have selected Mrs.Nagappa for the study. Nagappa used to do sheep skin trade apart from being a Neerkatti but not now. His wife has become the Neerkatti in his place and she is the Neerkatti for the two sluices and three feeder channels. The job of the Neerkattis are based on a rotation except in a single family who are hereditarily doing a single sluice management without any interruption. The rotational practice of other Neerkattis is a permanent system and every year one family will be given the responsibility. Some times the Neerkattis do sell or lease their turn for a payment if they think fit.

### **Profile of Neerkatti**

Peddammaiah is her original name. She lives in her own house in Punganur town. She had studied up to 7<sup>th</sup> class and does not have any lands. Peddammaiah has two sons and three daughters, of whom two daughters

and the son were married. All are daily labourers. Now, one of the sons and a daughter are living with her.

### **Routine of the Neerkatti**

Before cultivation starts, the Neerkattis organize all the ayacutdars to clean up the feeder and field channels in the command area of the tank. Once the irrigation starts she has to go in the morning as any other Neerkatti to open the sluice for supplying water to the fields. When the tank is filled, sluice will be opened continuously and she will decide who has to get water. She does the watch and ward to prevent cattle grazing the fields at the same time. In the morning and afternoon food for the Neerkatti will be served by any one of the ayacutdars who gets irrigation on that day. She used to stay up to 6 p.m in the fields in her job. In the off-seasons she used to stay at home looking after the grand children.

### **Tank Management**

The ayacutdars are self organized by forming a Water Users Association (WUA). The management of water will be done by Neerkatti who belongs to Punganur town. The problem solving in water sharing will be done by WUA in presence of Neerkatti.

### **Income of Neerkatti**

1. Ten bags of paddy grain per two channels per crop (26 bundles of paddy straw with grains per acre will be given to Neerkatti). This is  $\frac{2}{3}$ rd of the total grains and remaining  $\frac{1}{3}$ rd grains will go to the assistant called thoti to the Neerkatti.
2. During Ganga jatara festival the Neerkatti will hold the buffalo during the procession and the villagers will give money.

### **Perceptions about the Past, Present and Future**

- Earlier Neerkattis of this tank were satisfied with the income out of this profession and every one used to give respect to them. They also got extra grains during threshing. The Neerkattis felt in general

## NEERKATTIS, The Rural Water Managers

their job as a respectable one because the ayacutdars used to resolve conflicts in the presence of a Neerkatti. Their words were considered very important for a decision.

- Now, the respect to them is declining in general and the farmers try and solve problems through their newly-formed Water Users Association (WUA) and ignore Neerkattis. The family members not interested in this profession since it is a difficult and tedious. The respect for the traditional customs are coming down for example, the ayacutdars do not perform Pooja before they open the sluice.
- In future she is thinking of giving up the profession on a lease to some one from her village. This is mainly due to her age and hard work required. She feels that a consolidated salary or a fixed remuneration from the government would be the best option for this job since it is becoming difficult to collect the revenue from all the farmers.

# Neerkatti in Theni District

*J. Mohan\**

## **Introduction**

The Dombuchiamman tank is located at Dombucherry village at Bodi block of Theni district. It is a rainfed tank and is in the custody of Bodi Panchayat union. The tank is also in the list of local irrigation tanks. The tank has 26.775 ha as registered ayacut. Dombuchiamman tank gets water from three sources. They are Suthaganga odai, Periya odai and Ammanuthu odai. The surpluses from Meenatchipuram tank and Chettikulam tank also feed this tank through suthaganga odai. This tank has three sluices, of which two sluices have not been working for the past three years. The first sluice was used to release the floodwater from the tank.

## **Agriculture in the Tank Command**

During earlier days, when the tank received sufficient water cultivated paddy was in the first season and groundnut, maize and ragi in the second season. At present, the farmers are cultivating maize and cotton in their lands. The lands fed by three sluices are lying fallow due to scanty rainfall during most of the years in the recent decades.

## **Usufructs Right**

Earlier the tank products, fishes and trees were under the control of the association. Though Maniyakkarar is in incharge of the properties, he is not able to collect the contribution from the farmers after renovation.

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NEERKATTIS, The Rural Water Managers

The villagers celebrate Pongal in the tank while opening the sluices for the first time in the beginning of the agricultural season.

### **Customs**

The ayacut farmer's contribution of Rs.50 per year is used for cleaning supply channels and feeder channels. Neerkattis collect those money. Maniyakkarar is the next important person for water management. He won't get any salary/ remuneration for his works. Problem solving in water harvesting and guiding the Neerkatti is the main role of the Maniyakkarar. If the farmers cultivate paddy the farmers have to put one more person to irrigate their lands. The Neerkatti opens the sluice at 6 a.m. and close at 6 p.m.

After the tank get filled, the villagers are gathered by Neerkattis and they discuss how to irrigate the lands and other important decisions were taken in the meetings. They open the sluice by preparing Pongal and sacrifice a cock for satisfying the god.

Maniyakkarar monitors the wage collection of the Neerkattis. If any farmer did not give wage to Neerkattis, the Maniyakkarar helps to solve the problem. Maniyakkarar holds a honorary post without any payment from the farmers.

### **Profile of Neerkatti**

Mr. Veeran who is the son of Mr. Veeranan, a 70 years old man is looking after water management and doing this works for more than 40 years. His father was a Neerkatti earlier. He has a son and one wife. The government constructed a small house freely as he belongs from schedule caste community and he lives there with his wife.

### **Daily works of the Neerkattis**

Whenever the tank is full, he goes there early in the morning and opens the sluice. He will be going round all the fields and check for any leakage

or wastage of water. He will select the fields according to the water requirement and irrigate them. He will return home late in the evening.

After irrigating all the command areas, he will close the sluice for one month, as the soil has more clay content. He opens the sluice after one month. He opens the sluice three times per season.

When the monsoon rains occur he will check all the incoming channels and ensure more water reaching the tank. He will remain in the tank area during day and night to guard the tank bunds. He will inform the maniyakkarar whenever he notices weaker spots on the bunds. The maniyakkarar, in turn, will arrange to send persons to strengthen the bunds.

The Neerkatti will attend to irrigate the field for five months. If adequate water is available in the tank, the farmers will take up a second crop. The farmers will pay one 'Kuruni' (8 kg) of paddy or other produces to the Neerkatti per season. During the off-season, the Neerkatti will go for some wage earning works. Whenever farmers grow maize or cotton, they pay Rs.30 to the Neerkatti.

### **The situations before thirty years and at present**

Thirty years ago, the water availability and monsoon were good, and the farmers gave share to the Neerkattis. He earned enough for his survival. At present, the rainfall is not good. So, the entire structure of the command was changed. As the farmers have converted to cotton and maize, they pay to the Neerkattis in cash. So, the Neerkattis are facing more financial problems. Recently he had handed over his job to his son. Presently he takes food two times a day and sends his wife for agriculture coolie work.

### **Importance of Neerkattis**

During Karthigai days, (Chokkapanai) the Neerkatti construct Palmyra towers to celebrate the Karthigai Theepam. At the tree the Neerkatti

## NEERKATTIS, The Rural Water Managers

construct two towers at the locations. The villagers honor him with new dothis and some money. Every year they do this practice. During a Karthigai day the Neerkattis goes to temples which are situated in the tank for lighting the lamps. The celebration method has been changed at present and the farmers are giving Rs.30/- to them. During Puratasi pongal time, the Neerkatti will be dancing with the sprit of god. For the last three years the festival was not celebrated, because of the less unity among farmers. Earlier the association gave 1.75 acre of land to him. But he was evicted from the land subsequently.

### **Conclusion**

In rainfed tanks, rainfall plays a major role to determine the income of the Neerkattis. When compared to the counterparts in the system tank areas, the rainfed tank Neerkattis are poorer and do not get any regular income from their profession.

# The Caste System and Water Management

*S. Duraipandi\**

## **Introduction**

In the livelihood development of farmers, 'Tankfed Agriculture' has become an important component that needs to be protected through regular maintenance for effective performance. Non-system tanks are dependent on rain for storage of water but the rain is erratic year after year. Because of the changing and vagaries of monsoon, there is no assurance of the tanks getting water throughout the year. Hence there is an urgent need for implementing water distribution practices in all types of tanks.

In the olden days, the beneficiaries of the tanks used to form a committee to look after the tanks and irrigation practices. As years passed, this traditional system has slowly disappeared resulting in wastage of water during irrigation. However, the traditional old practices are still being followed in many places with various modifications. Given below is the water distribution practice of Kannangudi tank in Thiruchirapalli district.

## **Village profile**

Kannangudi village is situated 43 km southeast of Thiruchirapalli and 14 km northeast of Keeranur town. There are 182 farmers cultivating the command area of 116.5 ha and residing at Kannangudi village and its hamlets namely Oorathipatti and Vellaipillayarpatti. The major communities having land under this tank command are Pillai, Kallar, Christian, Muslim, etc. Nearly 90 per cent of the people are dependent on tank agriculture along with dry land farming.

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\* Project Executive, DHAN Foundation, Kottampatti, Madurai



### **Traditional Water Distribution Practices**

In the olden days, the Pillai community was the dominant caste of the village. The entire ayacut is divided into two parts, namely Karai I and Karai II. It was said that, a Kallar caste family residing in the nearby village called Oorathipatti was brought to Kannangudi for the job of watch and ward. The family was given shelter and land for its livelihood along with the rights to participate in the village festivals. Since then, the population of Kallars and other caste groups grew up considerably. After that, the whole ayacut got divided into 5 Karais. The Karais were formed for sharing of water during the cropping seasons. Four out of 5 Karais had the combination of upper castes and others. The fifth one, temple lands were owned by Christian community. Each Karai was headed by a leader/mirasdar from two upper castes, the Pillai and the Kallar.

### **Structure and Priority in Water Sharing**

Each Karai was further divided into two parts - primary and secondary parts, - with a view to fix up the priority in using the tank water. The

***Table. 1 Details of breakup of priority in water sharing***

<b>S.No</b>	<b>Categories</b>	<b>Priority</b>	<b>Caste lands</b>
1	Primary part of I Karai	First	Pillai lands
2	Primary part of II Karai	Second	Kallar lands
3	Primary part of III Karai	Third	Pillai lands
4	Primary part of IV Karai	Fourth	Kallar lands
5	Primary part of V Karai	Fifth	Temple lands
6	Secondary part of I Karai	Sixth	Service people + Kallar lands
7	Secondary part of II Karai	Seventh	Service people + Muslim lands
8	Secondary part of III Karai	Eighth	Service people + Muslim + Kallar lands
9	Secondary part of IV Karai	Ninth	Service people + Muslim + Kallar lands
10	Secondary part of V Karai	Tenth	Christian lands

primary part consisting of upper castes and temple lands got the first priority. The secondary part, consisting of Kallar, service people, Muslims and Christians got the second priority. The break up details of priority is given in the table 1.

### **Water Allocation and Irrigation**

The water allocation and irrigation pattern were on the basis of established priority. The sluice operator from Pallar community called as 'Kuzhumikkaran' was traditionally appointed by the villagers to look after the sluice operation. The water sharing was based on time slots of 30 minutes for 1.86 ha. The time sharing envisages over 33.17 hours of irrigation including travelling time to reach the field for the entire tank command of 116.05 ha. The quantity of water supplied and time duration were taken care of by the heads of each Karai. The distribution of command area and time allotment in traditional Karai system are given in table 2.

***Table. 2 Distribution of ayacut and time allotment in traditional Karai system***

<b>S. No.</b>	<b>Description</b>	<b>Extent (ha)</b>	<b>Time Allotment (hours)</b>
1	I Karai	23.76	6.49
2	II Karai	31.85	9.08
3	III Karai	28.28	8.07
4	IV Karai	22.33	6.24
5	V Karai Temple lands + Christian caste lands	9.83	2.49
<b>Total</b>		<b>116.05</b>	<b>33.17</b>

This traditional system was followed when the tank had storage up to half tank level or below. During surplus period, the farmers were free to take water for irrigation. If there was any conflict in sharing the water among farmers even when the tank was full, the villagers would implement the above schedule to avoid conflicts.

### **Deficiencies in the Traditional System**

- Uncertainty of water supply to Christian community because of last priority in sharing
- The marginal farmers give up the agricultural practices further, as they could not get water to their small plots within available time, which encouraged the big farmers belonging to upper castes to get additional quantum of water.
- Lands covered in all the Karais were not contiguous, which leads to wastage of water.
- There was no water guide for distribution based on the allotted time slots.

Christians made efforts to rectify these drawbacks because they had been given last priority only. They lodged a complaint with the Revenue Department about their inability to get sufficient water within the existing time allotment. The revenue authorities intervened and discussed the problem at a joint meeting. At the end, the upper caste people accepted the proposal to increase the time for the Christian community to some extent but the Christians were not satisfied. So, they decided to boycott the services in the upper caste group lands during the agriculture operations. This forced the traditional water management system temporarily being stopped during the early eighties.

### **Present Water Management Practices**

A team from Anna University visited to the village in order to study the participatory approach concept. During the study, they came to know about the deterioration of traditional water distribution practices. A series of in-depth and elaborate discussions among the farmers resulted in a new system being formulated in which full-time sluice-wise Neerkattis

were appointed by the Farmers Association in order to take care of irrigation. The traditional “Kuzhumikkaran” was retained to look after the duty of opening and closing of the sluices. In this changed context, certain regulatory measures taken by the “Sangam” in distributing the tank water are given below.

- During nursery period, all farmers are free to take water. But, the power of operation of sluices is vested with the Kuzhumikkaran.
- Well-owners are advised to take water from their wells
- After the completion of transplantation no farmer has the right of irrigation to their fields directly. The full time sluice-wise Neerkattis will take care of the distribution of water from tail to head ends..
- A committee has been constituted for the supervision of water distribution
- There will be no irrigation during nights.
- The offenders, irrespective of caste, are reprimanded by imposing penalty.
- The water distribution system is implemented when there is water at full tank level. If the water in the tank is low the appointment of Neerkattis will be avoided.

### **Payments to Neerkattis**

The wages fixed for the Neerkattis is Rs.50 per day. The wage given is based on the total number of days worked. The supervisor can get Rs.25 per day. The payment to the sluice operator will be Rs.10 per day. The contribution of farmers towards the wages of Neerkattis is in the form of grains. The Neerkattis could take the responsibility of collecting paddy from all farmers at the rate of 8 kg per acre. The collection of paddy grains by the Neerkattis as their remuneration is around 38 bags of 60 kg each, this is considered as a handsome revenue for the Neerkattis.

# Water Management in Changing Times

*S. Duraipandi\**

## **Introduction**

Water is becoming a prizable commodity in recent days as its availability is decreasing day by day. So it needs conservation and judicious utilisation. There are large number of tanks in Tamil Nadu and they need to be taken care of in order to keep the system functional. Now-a-days, scientists, researchers and well-wishers of agriculture stress the need for proper utilisation of water. The Government, and NGOs also reiterate this. In the past, the farmers appointed Neerkattis to look after the tank irrigation. But the system of appointing Neerkatti is being followed only in a few tanks at present due to non co-operation from farmers. As the farmers fail to take enough care for water distribution and as they themselves take up irrigation activities on their own, failure of crops is very common.

The following assessment is made after studying the lesson learnt by the farmers' association of Parambur tank, in Pudukottai district on their water distribution system.

## **Village Profile**

Parambur village is situated 22 km from Pudukottai on the Pudukottai Manaparai road. The Parambur tank is located in the southern direction at a distance of 500 m from the village. The ayacut area of the tank is

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around 300 acres with 200 farming families residing at Parambur main village and its hamlets Kallampatti and Mettupatti. More than seven castes are holding lands under the tank ayacut of whom, the Muslim population is the dominant group both in numbers and in land holdings. The other caste groups having lands under the tank are scheduled caste, Sourashtra, Kallar, etc.

### **Water Distribution Practice Before 1978**

In the past, there was one 'Madaipallan' appointed by a nine member committee called 'Karaikaran'. The committee members were selected from among the big farmers by lot.

*The duties of the committee were*

- To control the activity of Madaipallan
- To frame time schedule when the water level goes down in the tank
- To supervise the irrigation done by the farmers based on the time allocation
- To resolve problems, if any.

The duties of Madaipallan were only to open and close the sluices. The farmers themselves irrigated their lands. Though he was not involved directly in irrigating the fields, he was responsible to safeguard the tank and its structures at the time of floods. Other than tank related activities, he also acted as an informer about meetings and as a worker during festivals.

During times of decreased water level in the tank, the committee called 'Karaikaran', prepared a time schedule for irrigation. As the committee was composed of big farmers only, their decision was very often biased in favour of the big farmers, resulting in the neglect of small farmers. As years passed, the committee lost its charm and each farmer took up the responsibility to irrigate his land by himself.

## **Formation of Association**

As time passed, the small farmers realized that they should have some common strategy in sharing the water so that their interests might be saved. So, they approached the District Collector and requested him to help them in this regard. Based on their request, the Collector visited the village along with revenue officials and helped them start the “Pasanatharar Committee” with 21 members (19 farmers + karnam+ village accountant).

In the year 1994, the “Pasanatharar Committee” was renamed as “Parambur Kanmoi Pasana Vivasayehal Sangam” and got registered under the Society Registration Act 1975 with a 21 member Executive Committee (20 farmer + VAO) in the year 1994 for the implementation of tank rehabilitation programme by PWD under EEC fund.

## **Water Distribution Practice After 1978**

### *Selection of Neerkattis*

In order to reintroduce the water distribution system, the EC selected five members as Neerkattis, after calling for applications from all sections of people. After careful examination of the applications, the committee selected five members for looking after water distribution. Though there used to be Neerkattis from all castes, at present, only the Paraiyar and Pallar are acting as Neerkattis.

### *Duties of Neerkattis*

- Arresting leakage in sluices
- Cleaning of supply channel by engaging labourers
- Irrigating all fields from tail to head.
- Watch and guard trees on the bund.
- Collection of paddy after harvest from all members

- Inform any encroachment in supply channel and irrigation channels
- Pass information to all EC members about meetings
- Other activities related to tank and sangam if any

The appointment is by lot. No Neerkatti was appointed for Mettumadai. But the Pallamadai would have two Neekattis.

### **When tank receives water for one month**

After the rain, the sangam members would visit the tank in order to assess the quantity of water in the tank. If the tank has received water for a month, then the committee would instruct the Neerkatti to open the sluice for nursery preparation. There are some norms being followed by the sangam for nursery preparation. They are:

- The farmers who have below one acre of land are permitted to raise nursery for their entire land holding
- The farmers who have 1-5 acres land will be permitted to raise nursery for half of their land holding
- If they have more than five acres they are advised to raise nursery for 1/3 of their total land holding

After some days, if the tank received water again, all the farmers would be allowed to raise nursery for their remaining portions of the land. After the completion of transplantation, the Neerkatti would take control of the tank and he will distribute water to all fields from tail to head. No individual farmer would be allowed to take the responsibility of irrigation. They would be permitted to oversee the activities of Neerkattis.

When there was no further rain and the Executive Committee (EC) was convinced that the water available in the tank may not be sufficient it would decide against irrigating the whole area. The farmers who got below one acre of land is allowed to take water for their entire land holding. But, all the big farmers would not be permitted to take water for



their entire land holdings. They are given water for half of their land holding.

### **When tank got filled**

When the tank received enough water, the EC permitted the raising of nursery for the whole extent and the transplantation would be completed based on the period of nursery preparation. After the whole ayacut area is transplanted, only the Neerkatti is allowed to look after the irrigation. The farmers should not interfere in the activities of Neerkatti in any way. In the middle of cropping season, if the committee found that water was sufficient only for a month but the crops would require irrigation for two months then, committee would instruct the Neerkatti not to irrigate all the lands of big farmers (more than one acre). The big farmers could get water only for half of the total transplanted area. By adopting such practices, the sangam said that they could avert crop failure atleast in half of the land of all the cultivating farmers.

### **Action Against the Violators**

All the Neerkattis are strictly advised to follow the rules and regulations without any deviation. The pattadars list and their land holding details will be given to the respective Neerkattis so that they could follow the irrigation without any difficulties. If any problem arises during irrigation, the Neerkatti can represent that problem to the committee. The farmers who act against the rules and regulations are summoned before the EC after issuing notices to them. The committee would then convene a meeting and if any farmer is found to have violated the norms it would impose a fine on him. If he refuses to pay the fine, the police would be informed and legal action would be taken.

During the pending of the enquiry against the farmer, the irrigation to his field would be stopped, and further irrigation would be given only after the settlement of the charge against him. However, if the farmers feared that the process of enquiry and decision-making etc may take more time, then they would be asked to pay Rs.200 to the EC and would be allowed

to take water continuously. If found guilty the penalty amount would be deducted from his deposit of Rs.200 and the farmer would get the balance amount if the penalty is less.

### **Payment to Neerkattis**

Each and every farmer should give 15 kg of paddy to the sangam as a wage for Neerkatti. The Neerkattis are responsible to collect the grains. They collect the paddy at the time of harvest from the farmers by visiting respective farmers houses. When the total paddy has been collected, each Neerkatti would be given 15 bags (60 kg/bag) of paddy as wage. The wage to the Neerkattis will be reduced whenever the crops yielded less than the expected level. If the whole ayacut area was not successfully harvested, then the Neerkattis would be given Rs.1000 per member as wage.

If a farmer refuse to give the wages as decided by the committee, then the list of defaulters would be given to the Neerkattis and they would be instructed not to give water to their fields during the next cropping season. If that farmer approaches the committee and request for water, the committee would call a meeting and the farmer would be given water only after he pays the pending payment dues.

### **Special Features of Parambur Tank Farmers Association**

- The Neerkatti need not be from the schedule caste
- The payment of wages to Neerkatti is ensured by the sangam
- The president and secretary of sangam are continuing in their posts since 1978. Only the treasurer has been changed
- The duties, quantum and payment of Neerkatti is mentioned in the bylaws of the sangam
- The Village Administrative Officer (VAO) is one of the EC members of the sangam

## NEERKATTIS, The Rural Water Managers

- The payment to Neerkatti is made once a year even though the farmers go for second crop.
- One irrigation is assured at an interval of 8 days.
- The well owners may supplement well water to their field.
- The EC member may be removed if he is absent for three meetings continuously
- The sangam also donated Rs.20,000 for temple construction.
- Achievements record

The sangam has achieved significant successes in water management which is reflected as follows. In the past 24 years, since 1978 (the formation of sangam) double crop is achieved in 12 years, single crop in 10 years and half yield in 2 years. This is a notable achievement considering the tank performances in general in the area.



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