

CHAPTER – 12

WATER RESOURCE MANAGEMENT IN SANGAM LITERATURE

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ABSTRACT

The entire Sangam literature is followed by the Tamil Epic Silappathikaram, show a great love for water resources and environmental developments for prosperity of the society, which is possible of one who desired to protect the nature by efficient water conservation and water management. South India has a rich tradition of tanks with the three southern states of Tamil Nadu, Karnataka and Andhra Pradesh contributing to close to 92% of the total irrigation by tanks in the 1970s. Two decades later, this number dwindled to close to 53%. A decade after that, in 2001, the total contribution of tank irrigation in all of India was estimated to be just around 5.18%. In stark contrast, other sources of irrigation such as borewells and tubewells have clocked consistent increase in percentage use. These report gives great alarm on the necessity of conservation of reservoirs is absolutely necessary for the need of an hour. Because, our mother earth is increasing heat and snow clods melted very fast, in such a situation everyone is talking about climate change, draughts, water scarcity which resulted in great loss to human activities on earth. Life on earth without water cannot be imagined. Hence this research gave impetus to reveal the facts in Sangam Literature. Water maintenance has been equipped with skills and expertise of mankind in design the water construction of reservoirs to dams. A safe crop environment has been developed and practiced to ensure that the water in the pond, percolation ponds, Oorani, lake, river, canal, well, sea, ocean, and all form of water body should not be contaminated and conserve water bodies with

proper guidelines to be effectively implemented as mentioned in Sangam Literature, which through light on good practices of Water Resource Management is absolutely necessary for lives on earth, and public must be coordinate with the administrators and avoid the danger of battle of war for water resource or water disaster in future.

KEY WORDS : Sangam Literature, Water Resource Management, Munneer, Salt water, Nanneer, Inneer, Conservation, Reservoir, Engineering Technology

INTRODUCTION

The entire Sangam literature is followed by the Tamil Epic Silappathikaram, show a great love for water resources and environmental developments for prosperity of the society, which is possible of one who desired to protect the nature by efficient water conservation and water management. In modern period Tamil Nadu is in on the streets looking for water, and experts blame it on poor management of water resources by the people and the government. But in ancient Tamil society holds a remarkably different tale on water resource management. Taking forward the legacy of Tamil people Ancient wisdom in water conservation and management started from Sangam Age, which epitomizes the Tamil culture, traditions and ancient civilization through a series of literary works. Thousands of years ago, Tamils were endowed with distinctly rare and exemplary knowledge in water management with simple engineering technology to collect water in water bodies. Ancient Tamil literature speaks eloquently about Tamils' knowledge in judicious use of water resources. History is awash (waterlogged) with evidences. Kings have built tanks and lakes to store water, some of which continue to exist and serve till date, well beyond a thousand years. Water, to them, was sacred and names it as goddess name and worshipping them. Hence, this research on "Water Resource Management in Sangam Literature" is necessary to enlighten the reader and create pride on Tamil culture through the ages.

AIMS AND OBJECTIVES

The aims and objectives of this research is to enlighten the necessity of preserving and conservation of water bodies. The main objectives of this research is to rejuvenate our ancient past glory of conservation of water bodies and create the readers to understand the value of the glorious Tamil literature and its value on environmental awareness and conservation of water resource management of ancient Tamil society. Let the readers to understand their scientific thinking of save water through literary works

and enlighten them in Sangam period, which is applicable through the ages and even at present scenario.

METHODOLOGY

This research paper is written based on literary evidences as primary source and printed books, articles, e-sources as secondary sources and follow explanatory, historic description justification with primary evidences. This research articles definitely cater the need of readers as well as the future researchers and policy makers to consider the facts behind them to conservation of water resource management in Tamil Nadu in particular and in the world in broader sense of safeguard water bodies for future generation.

In the history of Ancient Tamil Nadu, Sangam Period is the glorious period for Tamil literature which covers the entire life of human beings, and thought ethical values in the mind of Tamil Society. This research is mainly focussed on Water resource management and its value. Subsequently, it described that the values were inculcated in the minds of people through literature in Sangam Period. They were divide the lands into five major divisions, each division of land reflects the land of the people, culture, occupation, traditions, festivals and what not in Agananuru, Purananauru, Thirukural and a few more literary evidences has taken for this research on water resource management.

WATER FESTIVALS IN SANGAM PERIOD

Munneer Vizhavu means the festival of three waters, which is a celebration of water in the Sangam Period. Experts say the three waters are those that create the soil, nourish, and erode it. The idea, experts say, was to preserve water bodies from being polluted. Ancient Tamil literature had different terms to connote different types of water. *Munneer* refers to the sea water is contain more salt (Uppu thanneer in Tamil) which is a convergence of water from rains, river and spring. The term also refers to its antiquity, implying that the sea was formed before the lands. Water from river was called *Nanneer* (Nalla Thanneer in Tamil) which is good water and without saltiness' and water used for drinking purposes was called *Inneer* means that sweet water.

TYPES OF WATER BODIES

The Tamil literature mentions 47 types of water bodies is an endorsement of the prescient wisdom of Tamils on harvesting water. A few of them are *Agazhi, Kuttai, Kulam, Oorani, Eri, Kanmmai, River, Kaalvai, Kalingal, Mazhaineer Vadikaal, Kinaru, (Keni), Anaikattu, Thangal, Oottru, Ayacut , Neerodai, Aruvi, Sunai* and so on. The names hold evidences to the keen interest of the kings and commoners took in harvesting water. While some names continue to be in existence as names of water bodies, several other names have been relinquished to the pages of history and literature. Some have assumed different connotations even now.

Agazhi (moats) around forts of the kings no longer exist except Vellore Fort in modern era in Tamil Nadu. *Agazhi* is used to safeguard their area and save water from the fort area at the time of rainy seasons and crocodile in the *Agazhi* to through the enemies in it and prey for it. Definetely *Agazhi* the term exist even now. *Kuttai* is referring to small water bodies which was originally a water body intended to bathe cattle. Now a day's *Kuttai* the term is referring to sewage water stagnated area.

Ooruni was a source of drinking water in villages even now we can see it in Karaikudi region, where security guards maintain *Ooruni* because no one is allow to use this *Ooruni* to pollute by washing bathe or cattle. *Ooruni* is a water body near or midst of village for drinking water supply to the public of that region. The difference between *Eris* used for irrigate fields, whereas *ooranis* provide drinking water. *Ooranis* are usually smaller and shallower than *Eris*. These tanks are dug out to catch the rainwater and store them up for later use. Water from the *Ooranis* remain the most preferred choice for drinking in many villages in Tamilnadu.

Eris are of two types – system and non-system *Eris*. System *Eris* are those which are fed by streams of rivers through a channel, while the non-system ones are stand-alone isolated tanks fed by rain. Most of the tanks in Tamil Nadu are system *Eris*. *Eri* (lakes) were used for irrigation for agricultural lands. *Thangal* also refers to lakes and was a term predominantly used in the northern part of Tamil Nadu. One among the five great epics, *Silappadhikaram* by Ilango Adigal speaks of the king who makes his country fertile by harvesting the rain water through construction of lakes and tanks, and puts them to prosperity of the public. Subsequently, residential places that have suffixes like *Eri* or *Thangal* (Velachery/Iyappanthangal for instance), are as starved as the rest of the city. At present, *Eris*, a system of cascading tanks, were once completely

managed by local communities. With centralization came disuse and lack of maintenance but an organization is working to revive them.

According to Su. Venkatesan the Writer and CPI(M) MP from Tamil Nadu says that there was a rather philosophical understanding of the importance of water in the past, the evidence for which can be found in Sangam literature. “Sangam believes a person’s character is shaped by water and soil. Life centered on water resources. The kings built villages around water bodies. They would first construct a well, and houses were built around the well. Water holds an important place in almost all the rites and rituals from birth to death.” For instance, *Senai Thottu Vaithal*, a ritual that has changed forms today with changing times, was originally intended to feed the village’s water for a baby as soon as it is born, which was carried out by the senior member of the family or the most lovable person of the family. Today, the ritual is done with honey and ghee, sometimes smeared on gold. When a woman gets married and shifts to her husband’s place, one of the first post-wedding rituals is to worship the water source. “She has to throw a betel leaf into the well, and has to pray to the well to accept her as its daughter,” When a woman passes away, water is brought from her birthplace to wash her before the funeral. In South Tamilnadu even now we could see these practices. Every region of Tamil Nadu has their unique practices of their caste in all occasions. Each caste has executed their own practices in all ceremonies in different way to establish their pride of ancestral practices.

Almost all ancient Tamil literature has spoken about the importance of water, if not directly, by drawing comparison to human virtues. Taking forward the legacy of Tamil people Ancient wisdom in water conservation and management started from Sangam Age, which epitomizes the Tamil culture, traditions and ancient civilization through a series of literary works. “Raising Ridges raises water, Raising water raises crops, Raising crops raises the citizens and Raising the citizens raises the King” is one of the famous lines of Tamil Poetess Avvaiyaar, taken from an ancient Tamil Literature ‘Puranaanuru’, which speaks about the importance of water as follows:

“வரப்புயர நீருயரும் நீருயர நெல்லுயரும்
நெல்லுயரக் குடியுயரும் குடியுயரக்
கோலுயரும் கோலுயரக் கோனுயர்வான்” (Puranaanuru)

The above lines of Aavaiyar reveals that how to save water, utilize it for surplus production of agricultural products, which leads economic standard of citizens, which is the base for prove the kings' efficiency in administration. She has insisted the value of water in agricultural activities, not only agriculture she insist the code of Kings to follow for efficient administration.

“நீர்இன்று அமையாது உலகெனின் யார்யார்க்கும்
வான்இன்று அமையாது ஒழுக்கு” (Thirukkural 20)

The above mentioned couplet of Thiruvalluvar perhaps recorded the universal truth in his remarkably brilliant words that “*Neer Indri Amaiyathu Ulagu*”. The PM in his Independence Day speech on 15th August, 2019 quoted a Tirukkural written by the Tamil Sage *Thiruvalluvar*: “*Neerindru Amaiyaadhu Ulakenin Yaaryaarkkum; Vaanindru Amaiyaadhu Ozhukku,*” meaning world could not survive without water. The couplet goes on to say how there will be a collapse of morality if the rains fail and failure or vagaries of rain cause for the morality degraded would happened in the society.

நீரின் றமையா வலகம் போலத்
தம்மின் றமையா நயந் தருளி (Natrinal 1: 6-7)

The poetry lines of Natrinai mentioned the information of Thiruvalluvar in his couplet, which predict the importance of water for the survival of world. It informed the message to the society that to save water for the existence of world.

வையை உடைத்த மடையடைத்தக் கண்ணும்
பின்னு மலிரும் பிசிர் போல வின்னும் – (Paripaadal -6)
ஆறு குளம் நிறைக்குற போல அல்குலும் – (Akananuru – 11)
ஊர் உண் கேணி உண் துறைத் தொக்க - (Kurunthokai – 399)

The above Sangam literary evidences from Paripadal, Ahananuru and Kurunthogai inculcate the value of safeguard water bodies and its maintenance in time otherwise it cause for damage to life. It further thought the lesson that the places where to save water when it is surplus and prevent waste of water.

“பெருங்குளக் காவலன் போல
அருங்கடி அன்னையும் துயில் மறந்தனளே” - Akananuru

Akanaanuru songs are informed by a very sensitive concern for nature and environment. A song in Akanaanuru mentions that how a mother would sacrifice on her sleep to protect her newborn, just like that a man appointed to safe guard at the larger lakes. The security guard saves the lake like as a mother safeguard her own womb. Here the poet insist the importance of protecting water bodies like their own wards and insist the need of protection and conservation of water bodies.

“வருவிசை புனலைக் கற்சிறை போல
ஒருவன் தாங்கிய பெருமையானும்” - Tolkapiyam

The above mentioned Tolkaapiyam poetry which is the earliest of Tamil literature, *Tolkaapiyam*, draws comparison between a warrior marching to take on a mighty army, and the dams that stop the force of flowing water. In doing so, the song elaborates on the importance of *karsirai* is a term denote dam in those days. Like that several poems speak virtuously of kings who have taken effort to preserve water bodies. Some in Puranaanuru illustrate the points to be considered in the construction of lakes. Some hail as immortal the king who has built water bodies in low-lying areas.

“இடியுடைப் பெருமழை எய்தா ஏகப்
பிழையா விளையுள் பெருவளம் சுரப்ப
மழைபிணித்(கு) ஆண்ட மன்னவன்” – Silappadhikaram

To many poets, as is evident from many poems, water was as personal as it was political or social. It was as important to protect and nurture a water body like a newborn, as it was to feel proud about it, like a warrior taking on a mighty army. This cherished, celebrated bond between human beings and nature were lost in present scenario and have failed in understanding nature and using the resources as judiciously as it was done in the past. The administrators and the public have to learn lessons from the Sangam period to conservation of water for the well being of human kind.

For a Tamil who lived in the Sangam age, Yagna was a symbolic ritual reenactment for all the processes, inner and outer, natural and social. The Vedic fire ritual also brought rain and represented the cyclic relations of nature. Silapathikaram describes Havis-fed smoke as fertilizing the womb of the cloud for rain. The lines in Silapathikaram describing the city of the Cholas speak of the smokes from the Yagna where the Brahmins offer the Havis, spiraling above the towers of the city, reaching the rain-carrying clouds, fertilising them to provide rain.

“உழைப்புலிக் கொடித்தேர் உரவோன் கொற்றமொடு
மழைக்கரு உயிர்க்கும் அழல்திகழ் அட்டில் மறையோர்
ஆக்கிய ஆலுதி நறும்புகை இறைஉயர் மாடம் எங்கணும்
போர்த்து மஞ்சூழ் மலையின் மாணத் தோற்றும் மங்கல
மறையோர் இருக்கை” ... **Silappathikaram**

The above silappathikaram poetry lines make it clear that they performed some kind of natural worship to get rain. Because there is no perennial rivers in Tamil Nadu, they are all fed by the monsoons. Some years the rivers periodically filled with rain water. However sometimes due to vagaries of rain they worship nature and create some kind of good smoke to get rain, which is mentioned clearly in Silappathikaram. It reveals that Tamil Society know how to get rainfall by creating smoke by burning some kind of natural roots or straw, bark etc.

SIMPLE ENGINEERING TO CREATE A SERIES OF CASCADING TANKS

When the rain is surplus, these rivers have to cross state boundaries before they irrigate the fields downstream. Several hundred years ago, a system was devised to utilize the water flowing in the rivers to the fullest before it reached the sea. It was a simple act of engineering that diverted the river water into tanks through dug out earthen channels, which in turn took care of the irrigation needs of neighbouring villages. While it was easy to divert water to nearby villages, it wasn't that simple to connect those that was far away from the source. Engineers devised a simple solution- a series of cascading tanks. The outflow from one tank would serve as the inflow for the next one in the series since the tanks were designed to allow the excess water to flow out after it has reached its capacity. The thought and effort put into designing these massive chains of receptacles and over-flow channels hundreds of years back is awe-inspiring. No concrete, no hi-tech machinery; all mud and man power. The system and the non-system

Eris and their Ayacuts

At present in Tamil Nadu, the extent of the *Eri's 'Ayacut'*, which is the area that is irrigated by a particular tank, determines the way in which it is governed. For example, if the water from the tank irrigates 100 acres of land around it, then the tank's *'Ayacut'* is said to be 100 acres. If the *'ayacut'* is over 100 acres, the tank is categorized as a 'PWD Tank', where the Public Works Department of the state is responsible for its maintenance and upkeep. If it is less than 100 acres, then tank is a designated Union/Block-level tank managed by the local Panchayat.

ROLE OF NEERKATTI

Conceptualizing and constructing these structures is one thing but to keep them viable in the long term is another altogether because that completely dependent on the way they are maintained and managed. Since village life is centered on water and agriculture, the importance of keeping these structures well-oiled was not lost on the community. Ways were devised to retain the incoming water based on the requirement of the village and the excess was allowed to flow into the next tank in the series. A dedicated person called the '*neerkatti*' (*Lashkar – official term*) who kept a close watch on the water level and was in charge of channelling this water to individual fields.

COLLECTIVE RESPONSIBILITY OF PUBLIC

Villagers showed their gratitude by sharing a part of their bounty with *Neerkatti*. The entire village got together to perform repair and maintenance work – called '*kudimaramathu*' to keep all the physical structures intact. But everything changed with the entry of the British. From the knowledgeable '*neerkatti*' and a concerned community, the management of these tanks went to a centralised channel under the Public Works Department. However, Ngo's and voluntary organizers still working to bring back the past glories of conservation of reservoirs in particular areas by creating awareness of water resource management and its values among the local public and won their support to save water bodies. For instance, DHAN Foundation has been working to bring back community participation and ownership for over two decades. They have invested a great deal of time and energy in bringing the community together to organize themselves into groups called '*vayalagams*' to manage their village tanks and ponds in an efficient and sustainable manner.

Role of NGO'S and Government agencies to protect water bodies in Tamilnadu is highly appreciable in certain part of Tamil Nadu. For instance, DHAN has been working with individuals and organizations to renovate *Ooranis* which have gone into disuse. It had partnered with the Government of Tamil Nadu and Anna University, Chennai to rejuvenate *Ooranis* under the integrated rainwater harvesting programme. *Ooranis* in Pattikadu and Edaiyur were renovated under this scheme. The Madras Atomic Power Station (MAPS) as part of its Corporate Social Responsibility initiative has sponsored the renovation of an oorani in Nallur village close to its home base

Kalpakkam. Desilting of the existing *Oorani* is underway in the village. Locals are involved at all stages, including planning, executing and monitoring.

NON-SYSTEM TANKS

As per the report of Kanchipuram has a total of 1942 tanks irrigating over 60,000 hectares of farmland in the district. Here, tank irrigation still leads the chart, but it may not retain the top spot for too long since individual irrigation sources like borewells and tubewells are catching up. After Pudukottai, Kanchipuram is the chart leader when it comes to utilizing non-system tanks for irrigation in the state. For instance, Thalambedu Tank association is one of the oldest functioning vayalagams in the Thirukazhundram block of Kanchipuram. Its current President Kanniappan has been at the helm of affairs for over a decade now. When the *vayalagam* was started in 2000, people from the village got together to clean up the Thezhappanthangal Eri, the first in the open catchment cascading sequence. The association collected money from the '*Ayacutdhaar*' (Ayacut farmers) to kick start the work at Rs. 3/ cent (1 Cent is close to 435 sq. ft.) of a farmer's holdings. Few kilometres away, the Pulleri Tank Association also adopted a similar approach when they first started out. The contribution was not restricted just to money. Villagers pitched in with their ploughing and clearing skills as well. Their main job is to make sure the tank is fit in all ways to supply water for the irrigation needs of the 280 acre strong *ayacut*. Physical maintenance includes desilting the tank to make sure the holding capacity does not decrease with its age due to siltation, strengthening of bunds to prevent the earthen banks from giving way during floods and the regular maintenance of the '*madhagu*' (sluices) and the '*kalangal*' (surplus weir through which excess water is let out) by the Ayacut farmers themselves, who were retain our past glory of water resource management followed our ancient traditional methods of collective responsibility to retain water resource and implement agricultural activities which is mentioned in Sangam literature. Members of tank associations in Thirukazhukundram block feel that the importance of the '*Eri sangam*' or the tank federations is diminishing quickly. However, *ayacut* farmers have managed to stay together to protect their symbiotic relationship with each other and their water sources.

CONCLUSION

The research conclude that if there is a will there is a way, both the administrators and public together to retain all water bodies and save for future generation by transforming knowledge of water resource management and its values to the present and forth coming generations and avoid scarcity of water and maintain prosperity of the land in Tamil Nadu by following the beneficiary schemes mentioned in Tamil literature.

Because, as per the reports of Ministry of Agricultural statistics, South India has a rich tradition of tanks with the three southern states of Tamil Nadu, Karnataka and Andhra Pradesh contributing to close to 92% of the total irrigation by tanks in the 1970s. Two decades later, this number dwindled to close to 53%. A decade after that, in 2001, the total contribution of tank irrigation in all of India was estimated to be just around 5.18%. In stark contrast, other sources of irrigation such as borewells and tubewells have clocked consistent increase in percentage use. These report gives great alarm on the necessity of conservation of reservoirs is absolutely necessary for the need of an hour. Because, our mother earth is increasing heat and snow clods melted very fast, in such a situation everyone is talking about climate change, draughts, water scarcity which resulted in great loss to human activities on earth.

Life on earth without water cannot be imagined. Hence this research gave impetus to reveal the facts in Sanggam Literature. Water maintenance has been equipped with skills and expertise of mankind in design the water construction of reservoirs to dams. A safe crop environment has been developed and practiced to ensure that the water in the pond, percolation ponds, Oorani, lake, river, cannal, well, sea, ocean, and all form of water body should not be contaminated and conserve water bodies with proper guidelines to be effectively implemented as mentioned in Sangam Literature, which through light on good practices of Water Resource Management is absolutely necessary for lives on earth, and public must be coordinate with the administrators and avoid the danger of battle of war for water resource or water disaster in future.

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