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Irrigation System of the Later Pandyas (c.1190-1308 A.D)

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Abstract: In this paper an attempt has been made to examine the importance of irrigation system in the Medieval Pandyas of Tamil Country. The Pandya country was not blessed with perennial rivers or proper monsoon rains. The Tambraparani and the Vaigai along with small streams and rivulets from the Western Ghats. Which active during the monsoon periods but in the summer dry. Therefore it seeks to analyze the different types of irrigation, water management systems like distribution system; irrigation disputes as well as tax on irrigation were collected for maintenance of water bodies. In this context, irrigation by artificial means becomes important for raising crops in these regions.

Keyword: Irrigations, River, Check dams, Canals, Tank, Well, Water Management, Distribution systems, Taxes on irrigation maintenance.

Introduction: The Southern part of Tamil country was ruled by the Pandyas from 6th Century to 10th Century A.D (Popularly known as Early Panyas). It was known as the Pandya mandalam or the Pandya Country. It is interesting to note that with the wheel of fortune, their political power witnessed ups and down from the Sangam period (third century B.C) onwards to the Sixteenth Century A.D. The Pandya Country was not blessed with perennial rivers or proper monsoon rains. They had two rivers the Tambraparani and the Vaigai along with small streams originating from the Western Ghats which active during the monsoon periods but were dry in summer. The Pandyas of the first Empire had to face the vagaries of the monsoon. The *Iraiyanar Agapporul Urai* mentions twelve years of famine in the Pandya Country that led to the migration of learned scholars to other countries. But their efficient water management system relieved from the distress. Adopting new technical knowhow, utilizing the local man power and materials, decentralizing the administration by providing power more to the local assemblies (*Sabha*) they were succeed. Water management of irrigation mainly involves planning, developing, maintaining and administering their water resourced within their limitations in this study.

Irrigation

Irrigation is defined variously by different authors. It is the artificial application or Process of supplying water to soil to promote the growth of crops in countries where the rainfall is insufficient or comes in the wrong season.[1] The word 'Irrigation' is derived from the Latin word 'irrigo', i.e. 'ir' for in and 'rigo' for water (rain). It means sprinkling water or watering the land by causing a stream to flow upon it and spread over it or to water it by various artificial channels.[2]

Historicity of Irrigational Practices in Tamil Nadu

Agriculture has always been the most important occupation in the Tamil country. The economic prosperity of the Tamil kingdoms, ancient and medieval,

depended to a great extent on agricultural output, which in turn was largely depended on a sound system of Irrigation. The great Tamil Poet of the Sangam age, Tiruvalluvar, dedicates an entire chapter in the *Tirukkural* to the glory and greatness of farmers and their professions, the crops cultivated and the methods of irrigation. Tiruvalluvar states that water and mountains are the forts of a country.[3] He observes: 'The world cannot exist without water; water cannot be obtained if there will be no ceaseless supply of rainfall.[4]

Ilango in the *Silappathikaram* extols rain as "*Mamalai Porruthum, Mamalai Porruthum*" (Hail rain, hail rain).[5] In the early period, people used to reside near rivers for the sake of agriculture and drinking water. Hence, Avvaiyar says, "*Niragam Porundiya Uragattu iru*" (Reside in a place where there is plenty of water).[6] She also states "*Arila uruku-kalagu Pal*' (A place without a river is a dreary waste).

The sangam literature provides stray references to the irrigation system of the sangam period. The check dams across streams and rivers were known as '*karsirai*'.[7] Tolkappiyar compares "*karsirai*' with the brave warrior who checks the enemies' advance. The *Maduraikanchi* which describes Madurai city, the capital of the Pandyas, mentions *karsirai* which checked the floral rivers.[8]

Since Tamil Nadu has arid and semi-arid lands, and mainly depends upon monsoon rain, the rulers and the people were keen on the artificial irrigation system. Kudapulaviyanar tells the Pandya ruler Nedunjeliyan that the construction of irrigation system is the duty of the king.[9] Thus the sangam literature points out the importance given by the sangam rulers to irrigation.

The *Sirupanchamulam* mentions five activities which take one to paradise. Among them, three are excavating tanks, constructing Kalinga and digging canals.[10] The Sangam literature mentions the various components of tanks. The *Paripadal* refers to the strengthening of embankments.[11] Kalinga from which the excess water flows from the tank, was also known as *Kodi* and *Kadai*.

The Sangam literature mentions other components of tanks as well. The water from the tank was released through madagu. *Ilanchi* refers to small ponds found in gardens. *Kayam, vavi, tatakam, poykai* and *kuttam* denote water bodies not used for irrigation. *Eri kidangu* and *kulam* denote water bodies used for irrigation facilities. Small ponds were known as *endal* and *thangal*. If there were no doors to regulate the water-flow, the system was called *madai*. It was also known as *kumili*. The *Narrinai* mentions *Perunkulamadai nir vittena*.[12] The *Padirrupattu* mentions it as *Pudavu*.[13] The holes in the interior section of the *madagu* were known as *tulai* and *tumbu*.[14] Water from tanks was discharged to the fields through canals. The tanks were guarded by tank guards, who were responsible for the maintenance of the tanks and the release of water. The *Ahananuru* mentions them as *Perunkula kavalan*.

Types of Irrigation

River Irrigation

The importance of securing adequate water for irrigation was felt from the very early times. So the rulers adopted various methods not only store water but to supply it in times of dive necessity to facilitate cultivation.[15] The rulers of the First Pandyan Empire fully utilized rivers, jungle streams which were full during monsoon season. The dug tanks and connected them with canals which were taken off from the river banks. The fresh flow of water filled tanks in distant places was brought more

lands under cultivation.[16] Tirumalai mentions that "in the Pandyas river basins, the conjunction use of river and rain water and the storage system of tank spread all along the available gradient helped to minimize distress of which one does not hear so often in the river tracts, through to dry uplands rain-fed tracts, this was noticeable.[17] Inscriptions mention the rivers Tanporundam (Tambraparani) western Gundaru, Suruliaru, Kilgundaru, Vellaru'.

The Check Dams (*Anicut*)

The *anicut* was constructed on the river bed to check the flow of water and provide uninterruptive supply of water to the supply canals. With the passage of time they constructed permanent check dams. Already in the Sangam period Karikal Chola constructed *Kallanai* (stone dam) across the river Kaveri. The same technique was adopted by the Pandya rulers to construct the minor check dams. Parakramapandyan *Kallanai* (stone dam) as referred to in an inscription[18] of Jatavarman Srivallabha and a dam constructed across the river Thiruthikkaiyaru as mentioned in an Inscription of Rajaraja III. from Tiruvannamalai establish this fact.[19]

Canal Irrigation

The most important method adopted by the Pandyas was the river-cum-tank system. In this method, the supply canals brought water directly from the river to the tanks.[20] A number of canals or channels locally known as *arrukkal*. This storage water was utilized for irrigation. The canals were of two types namely the inundation canals and the perennial canals. Water can be drawn directly from the river without making any cross walls across them. It provided water only when the rivers were flooded. Perennial canals were made by constructing a barrage across the rivers. Canals and Channels were known in inscriptions as *vaykkals*.[21] A number of sub-canals, branch canals were fitted with many sluices of various dimensions at the appropriate places throughout its length and distributed water to a very long distance, known as *Kannaru* a canal had a number of sluices depending on the area covered under irrigation. The main canals known as *Perumkal* or *Perum vayakkal*, the sub-canals as *Siruvayakkal* and branch canals as *ulsiruvaykkal*.[22]

A record of Maravarman Sundarapandya I, secured from Silaiman, Madurai District, states that a local Chief Manabaranan Muvendavelan of Kappalur excavated channel called Tyganchiriya Peeraru (great river) from the river Kundabha (vaigai) under the orders of the king.[23] Another record, issued by Jatavarman Sundara Pandya informs us that the king built a new flood embankment the side of the river coleroon with the aid funds collected in the form of a special cess from the inhabitants of the neighbourhood.[24] Yet another record of Maravarman Vikrama Pandya III (1283 A.D.) obtained from Arakandanar (South Arcot District) tells us that Sundara Pandya Kandiyadevan, a feudatory of the king, dug a Phennal and built sluice for it to carry the water of the river Pennai. Irrigating the *devadana* lands in Nenmali.[25] Thus the Pandyas dug canals to take the river water to the nearby lands on the river bank.

Tank Irrigation

Tank irrigation was very prominent in Medieval Tamil nadu. The Pandyas constructed tanks which received water through the supply canals from the rivers. They were known as system tanks. The river-fed tanks are large. In the Vaigai river basin many tanks were constructed by the Pandyas.

Tanks were formed either by deepening the earth or by raising bunds depending on the level of earths and area, after careful and systematic planning. A record of Maranjadayan from Ramanathapuram informs us the excavation of an irrigation tank, strengthened the banks with stone revetment and fixed the sluices thereof.[26] In 1203 A.D. Mangaiyarkkarasiyar built a stone embankment to the tank of Tirumalainatha temple at Tiruvadadavur (Madurai District). In appreciation of this benefaction, the managing committee of the temple awarded her the right to irrigate some of her lands with the water from the tank.[27] In 1286 A.D. Jayasimha, a minister of Maravarman Vikrama Pandya III, dug a pond at Dalavanur (South Arcot District).[28] In 1308 A.D. A certain Kannan dug a lake called *Umayandi eri* at Pulvayal, the assembly of the place granted him *Padikaval* (the right of policing) right in the area called Rajarajapparru.[29]

According to the size, the tanks were variously known as *Mahatatakam, tatakam, Pereri, eri* and *Kulam*. Most of these tanks were fed by rain and some cases by rivers and rarely by springs too. The tanks in the Tirunelveli plains were rainfed which stored water during the monsoon seasons. The water that was stored in the tank was let act for irrigation through its sluices which are referred to in epigraphs as *madai, kumili, thumbu* and *kannaru*.[30] Generally, a tank had more than one sluice. The big and small sluices are called as *Perumadai* and *Sirumadai*.[31] The water spread area of tank is known as *Kulappararu* land and the land irrigated by a tank is called *Kulapunjay*.[32]

Well Irrigation

Wells were widely used as a vital source of irrigation. Commonly well were known as *kinaru* and *keni* while the big ones as *perumkeni*. Generally, wells were dug out by private parties. But, they were allowed to sink wells anywhere as they liked and required to obtain permission from the royal authorities and local bodies. The Dalavaypuram copper plates inform us the cultivation of land throughout the year with the help of three wells.[33]

Three methods of raising the water were adopted according to the height of the field from the source of supply. For the low lifts a bucket was used swung on a rope, this was raised and lowered by two men, while third lift. it over the field.[34] Wells fixed with such devices are known as *iravikinaru* which exist even today in many parts of Tamil Nadu.

Distribution System

The water stored in various sources was let out to irrigate the different areas in times of acute scarcity. But, in supplying water to the fields under irrigation, a well laid out distribution system was followed.

Distribution of water so as to reach even the tail end land, a cycle of turns or rotation called *vattam* and an order of turns named *murai* were adopted. As such, the vendees were also informed to draw their proportionate share of water from the respective *ayacuts* of each field in its own turn only. The flow of various fields was measured in terms of *naligai* (a time unit of 24 minutes). Various records mention this method. For instance, a record of Sundarapandya[35] from Pudukottai informs us that *urar* (members of *Ur*, the village assembly) sold water for seven *naligai* to irrigate the land of a local temple.

Three record of Maravarman Sundarapandya I,[36] found in the Gopalanathaswami temple at Mannar Koil, Tanjore district, refer to a gift of water which overflowed from the tank of a certain village for the benefit of the temple.[37]

Irrigation Disputes

In the extension of irrigation projects and distribution of water. We come across the occurrences of occasional feuds and disputes in some areas. Rules for the proper distribution of water also existed. An inscription dated 1228 A.D. registers a deed of sale of water (*nir-vilai*), stipulating the method by which the water had to be carried through a breached talk to another tank for the purpose of irrigation.[38]

An inscription from Cholesvarar temple at Ponnamaravathi (Pudukottai District) dated in the 8th regnal year of Sundarapandya, refers to a water dispute that arose between the temple authorities and the king's men. It contains a royal order addressed to the temple authorities of Ponnamaravathi.[39]

A.Appadorai renders the passage as follows: "In 1259 A.D. we have an order from king Sundara Pandyadeva to the temple authorities not to take water from *Idangai mikaman* for the purpose of irrigation.[40] The Pudukottai manual also states that Sundara Pandya while settling an irrigation dispute forbade the temple authorities to take water from *Idangai mikaman* tank.[41] dispute that arose between the *urar* of Terkattur and Muniyandal over a canal supplying water to Merkuli tank but not to the tank of Govindamangalam is found mentioned in a record of Maravarman Kulasekhara I dated A.D.1302 from Manisandar in Tirumangalam taluk.[42] But as this record is incomplete we do not get other points of the dispute and the subsequent deliberations.

Maintenance of Irrigation

In the system of water management, maintenance of water bodies is equally important as their construction. Several records speak of the utmost care evinced by the rulers, the village assemblies namely the *Ur*, the *sabha*, the *nadu* and the *nagaram* and other benefactors not only to extent irrigation but to undertaken repair and renovation works whenever found necessary separate tank committee collected *eri-variyam* (tank-committee)[43] was created exclusively to look after the irrigation tanks situated within the jurisdiction of the respective *brahmadeya* villages.

Jatavarman Sundara Pandya made a gift of hundred *diramam* (coin) for deepening a tank at Suttamalli.[44] Besides those endowments, taxes levied on irrigation (*nir-vilai*) were also allotted to undertake repair works. Another record of Jatavarman Sundarapandya's reign one person was appointed to supervise the irrigation. He was also in-charge of *anicut* (dike). His duty was to see that water did not overflow from dams, to direct the water properly into the tank and find some defects, if any, in the tank and the dam.[45] If there were some defects, he should report the matter to the villagers. The *Vettiyal* (the village servant) had to repair the dam on receiving the information from watchman.

Tax on Land for Maintenance of Irrigation Work and Water Supply

We have very instructive references to the maintenance of irrigation which prevailed in Tamil Nadu under the later Pandyas. Records from a Vishnu temple at Kuruvithurai in Pandya mandalam mention the irrigation works of Jatavarman Srivallabadeva whose chuck dam (anicut) called Parakrama Pandyan Kallanai, the canals and water sources of Virapandyakal, Parakrama Pandya *Pereri* and reservoir

like Srivallabhapereri existed[46] and also *erivari*,[47] *pasipattam*,[48] *niranai*,[49] *eri-min-pattam*,[50] and *vayakkal pattam*,[51] were collected for maintenance of irrigation.

Conclusion

Irrigation that was carried through rivers, canals, tanks, wells and springs not only relieved the agriculturalists from their dependence on monsoons but provided them a ray of hope of obtaining a good harvest, consequent more lands including barren lands were brought under cultivation which increased agricultural production, income of the people and economy of the state. It provided employment opportunities to the local idle. People and controlled the havoc of flood, drought and famine. Proper repair and renovation works were carried out with the help of private and public endowments besides utilizing the irrigation taxes. With a proper and systematic planning, if irrigation is extended to many of the places in the Pandya country, this dry land will be converted into a fertile garden land.

References:

1. T.M.Srinivasan, *Irrigation and water supply: South India 200 B.C.-1600 A.D.* New Era Publications, Madras, 1997, p.1.
2 N.D.Gulhati, *Irrigation in the World – A Global Review: International Commission and Drainage,* New Delhi, 1955, p.viii.
3. *Tirukkural*, No.737.
4. *Ibid.*, No.2, LL.1-10.
5. *Silappadikaram, Uraipayiram: Puhar Kandam* No.7.
6 *Konraivendan*, No.51.
7. *Silppadikaram*, Poruladikaram:: Purattinaiyiyal, Nos.6-7.
8. *Maduraikanchi*, LL.725-726.
9. *Purananuru:* No.18, LL.28-30.
10. *Sirupanchamulam*, No.64.
11. *Paripadal*: No.6, LL15-20.
12. *Narrinai*, No.340, L.3.
13. *Padirrupattu*, No.27.
14. *Nanmanikadigai*, No.73.
15. M.Desayar, "Irrigation in Medieval Tamilnad", *Quarterly Journal of Mythic Society*, Bangalore, Volume LXXXVI, 1995,
16. C.Manoranjithamani, "Water Management in Southern Tamil Nadu (16th Century to 10th Century A.D.)", *SIHC*, Vol.35, Warangal, 2015, p.360.
17. R.Tirumalai, *The Pandyan Township*, (Part II), Department of Archaeology, Chennai, 2003, p.202.
18. *SII.*, Vol.XIV, No.223.
19 *SII.*, Vol.VIII, No.83.
20. C.Manoranjithamani, *op.cit.*, p.360.
21. *SITI.*, Vol.III, Part II, p.xc.
22. *SII.*, Vol.XVII, No.614.
23. *ARE*, 1961-62, No.333.
24. *ARE*, 1918, No.518, 1919, Para 26.

25. *ARE*, 1934-35, No.200; Para 22.
26. T.V.Mahalingam, *South Indian Polity*, University of Madras, Madras, 1967. p.341.
27. *ARE*, 1962-63, No.497.
28. *ARE*, 1905, No.54.
29. PSI, No.478.
30. M.Desayar, *op.cit.*, p.18.
31. R.Tirumalai, *Studies in Ancient Township of Pudukottai*, Madras, 1981, p.156.
32. *SII*., Vol.XXIII, No.353.
33. M.Desayer, *op.cit.*, pp.19-20.
34. K.Mavalirajan, *Medieval Society and Agrarian Slavery*, Kolkatta, 2014, pp.128.
35. *SII.*, Vol.VIII, No.9.
36. *Ibid*., Nos.399, 405 and 406.
37. *Ibid*., para 9.
38. *ARE*, 1916, No.27, Para 26.
39. PSI, No.552.
40. A.Appadorai, *Economic Conditions of Southern India*, Vol.I, University of Madras, Madras, 1990, p.229.
41. *Ibid*., p.230.
42. IPS, No.876.
43. *ARE*, 322 of 1923.
44. *SII.*, Vol.XXIII, No.136.
45. *ARE*, 1909, Para 26.
46. *SII*, Vol.XVI Nos.223 & 224.
47. *ARE*, 318 & 324 of 1908.
48. *Idem*.
49. Rajan Gurukkal, *Irrigation and water supply in South India (300-1300 A.D.)*, Chennai, p.15.
50. T.M.Srinivasan, *op.cit.*, p.8.
51. *ARE*, 326 of 1918.