CHAPTER I

TRADITIONAL IRRIGATION SYSTEMS IN TAMILNADU AND KARNATAKA

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Tanks, or more appropriately, Eries, constitute the traditional irrigation system in the peninsular states of southern India - particularly Andhra Pradesh, Tamilnadu and Karnataka. They have been a major source of irrigation in this region for several centuries. Many of them date back to millennia, as testified by inscriptions. They are perfectly suited to the peculiar physical characteristics of the states. That is, unlike the wide plains in Northern India, most of the open country in Karnataka, for instance, is of generally undulating character, where there is probably not a square mile in the whole country that is absolutely flat or level. The slopes of the country range from 10 to 20 feet per mile in the flat portions and as high as 60 to 80 feet elsewhere.[1] In Tamilnadu also, the plains slope gently towards the Bay of Bengal to the east. The maximum advantage has been taken of the topography to create an irrigation system that has stood the test of centuries. Describing the Tank system in Mysore, Major R.H. Sankey, Chief Engineer in Mysore in 1866 had this to say:

> "Of the 27,269 square miles covered by Mysore, nearly 60% has, by the patient industry of its inhabitants been brought under the Tank system. Unless under exceptional circumstances, none of the drainage of these 16,287 square miles is allowed to escape. To such an extent has the principle of storage been followed that it would now require some ingenuity to discover a site within this great area suitable for a new tank".[2]

Karnataka accounts for 10% of all the tanks in the country, while Tamilnadu accounts for 17% coming next only to Andhra Pradesh, which has 27% of all the tanks in the country. In 1986 there were 22742 tanks in Karnataka covering an *ayacut* (command area) of 623891 hectares;[3] in 1978-79, Tamilnadu had 38,000 tanks, with an *ayacut* of 2.2 million acres, 30% of the net irrigated area; about 80% of the total number of tanks have an *ayacut* of less than 100 acres each.[4]

Tank irrigation which used to be the largest single mode of irrigation even in the early seventies, has declined to 30% of the net irrigated area in Tamilnadu.[5] In Karnataka in 1984-85, 20% of the net irrigated area was under tanks.[6] This reflects a long period of neglect, as a result of shift in priorities, whereby the efforts of the government have been, over the last 100 years or so,largely directly to extension of irrigation through works of the larger type, and in particular, those involving diversion of river water for distribution through canals.[7] In addition to canals, (related to dams across rivers) wells, especially energized wells, have pushed tanks back from their place of prominence.

Thus, of the three major sources of irrigation, that is canals or river systems, tanks and wells - the second type as a choice is being eliminated slowly but steadily in a process which began 150-200 years ago. This is unfortunate, since this system represents a particulars societal organization. It is a community controlled system. Its very design (as opposed to a linear river system) promotes, not a linear hierarchical control system, but cooperation and consensus among its users, without which, not only the water source but also the physical and natural environment which is essential for its existence, cannot function. The tank or tanks being within the confines of a village or a small group of villages holds no scope for an outside authority to control *unless deliberately assumed.*

The vast majority of these tanks were designed and constructed centuries ago. The historical evidence dating the creation of the tank system also provide very valuable evidence of the system of management adopted and exercised by the local bodies in that period. Hundreds of stone inscriptions have been discovered, relating to tanks and village organization, belonging to various places and various times in South India covering a span of time from the 2nd to the 16th century AD from the Pallava, Pandiya, early Chola, later Imperial Chola and Vijayanagara empires which at one time or another included the modern states of Tamilnadu, Karnataka, Andhra Pradesh and Kerala.

All this evidence, when reconstructed into a pattern, pose quite an amazing contrast to present day Panchayat Institutions' role in irrigation.

Village Government in Medieval South India

Local autonomy was a characteristic feature in medieval Tamil country as well as contemporary kingdoms in Mysore. Most of the evidence relating to the subjects of Village Government and Irrigation relate to the span of six centuries– from the 11th to 16th century. This period saw the rise and expansion of the major kingdoms in the south - the Imperial Cholas and the Vijayanagar Empire; the former held sway for a considerable period of time – 400 years– while the kings of the latter Empire ruled for about 200 years. A widely recognized distinctive feature of medieval South Indian states was the primacy of various kinds of assemblies in the governance of the numerous localized societies of which contemporary South India consisted.[8] The villages of that period were 'to a great extent self-governing, the forms of democracy which operated in them were perhaps more vital than those which have been so laboriously imposed on India in modern times'.[9]

While most of the information available relates to the Chola period, the beginning of the system of the village government that are seen in full swing under the Cholas can be traced to an earlier age.[10] The Pandiya and Pallava inscriptions of the eighth and early ninth centuries show a similar system though not quite so developed in operation throughout the Tamil country.[11] The system of local self-government which became perfected during the reign of the Imperial Cholas was distinguished by the presence and functioning of village assemblies or *Sabhas* comprising the adult males of each village. The

Sabhas were mostly associated with villages which had been granted to Brahmins–*Brahmadeya* villages. These *Sabhas* or Brahmin assemblies played a very important role in the administration of the country. It had several committees for the various purposes of village administration. The majority of the villages were not, however, *Brahmadeya*.[12] The inhabitants of these non-Brahmadeya villages were not Brahmins. But even here, village assemblies called *Ur* were usually found functioning.[13] The *Sabha* or Brahmin assembly took responsibility for the decisions to allocate agrarian resources to various requirements of the hundreds of *brahmadeyas* or *'agraharams'* of the region from the 9th to the 14th century.[14]

The *Ur* functioned in several places alongside the *Sabha* according as the business on hand required. On the other hand, the *Ur* was the only assembly in other places.[15]

While the *Sabhas* and the *Urs* were the organs of government at the village level, there also functioned *'Nagarams'* and *Nadus*; a *Nagaram* was a primary assembly of merchants which was organized as one of the local assemblies in important trade centers and was the only assembly in places where the mercantile interests overshadowed the rest. It was not so much in evidence as the *Sabha* and *Ur* but had much in common with them in their status and functions.[16] *Nadus* were territorial divisions, larger in scope, consisting of groups of villages.[17] In each *Nadu*, there was an assembly also called *Nadu*. *Nadus* were equally prevalent in the Tank country, and performed important duties particularly in regard to land revenue administration. They had a corporate character. More than 500 of these local territories are named in and can be located from the Chola inscriptions up to the 13th century.[18]

Karnataka or Kanarese country was no exception to the presence of decentralised self-governing institutions. From the 2nd to the 11th century A.D., Gangavadi, the area ruled by the Gangas was divided into *Nadus*, each containing a number of villages.[19] The territory which was under the control of the Kadambas followed by the Pallavas and thereafter by the Nolambas between the 8th and 10th century AD continued the same system of administration in which territorial divisions of larger size were called *Nadus*, each containing a specific number of villages. The villagers were *Mahaajanas* who apparently enjoyed large powers of administration. When the Cholas overthrew the Gangas by 1004 A.D., over the next century they introduced a more elaborate system of administration characterized by territorial divisions such as *Mandalams, Valanadus* or districts, *Nadus* or *taluks*, and villages variously called *Ur, Puras, Mangalas*[20] etc. The same system of governing by decentralised assemblies such as district assembly, assembly of members of commerce, village assembly and various committees existed in Chola-ruled Karnataka territory.

From his study of evidence regarding the existence and functions of village government in the Vijayanagar Empire, A.V. Venkatarathnam[21] reports that the autonomous village communities which flourished during the Chola and Chalukyan epochs did not totally disappear under the Vijayanagar Empire in spite of a strong centralised government. The Vijayanagar Monarchs did not

introduce measures by which the powers of local bodies would lapse to the Central Government.[22] Further these village assemblies were found to exist even under later Muslim rulers.[23]

Irrigation Management by Village Assemblies

An appraisal of the inscriptions relating to medieval South India, as reported by historians[24] reveal various functions relating to irrigation exercised by the village assemblies which indicate the following kinds of powers and functions that they possessed over irrigation.

(1) Ownership of water resources.
(2) Powers to arrange for construction, repairs and maintenance of tanks.
(3) Powers relating to land transactions relating to irrigation.
(4) Management of water supply.
(5) Levy and collection of cess for irrigation; powers to assign cess.
(6) Powers to engage and remunerate local functionaries.
(7) Dispute settlement.
(8) Maintenance of records.
(9) Relationship with Central Government in certain matters.

Ownership of Water Resources

That village bodies exercised full control over their irrigation sources can be deduced from various transactions entered into by them. (See Annexure II, Table I)

These transactions include:

(a) Purchasing water from other village bodies.
(b) Selling a tank.
(c) In cases where wholesale reclamation of lands and reconstruction of tanks were involved, sale of the tank system in its entirety - i.e. ayacut, tank, bund, tank beds, foreshore of tanks, channel and channel heads; in some cases, the foreshore catchment, usually dry lands were also sold and other village bodies purchased tank systems.
(d) Sale of fractional shares in tank water.
(e) Sale of share of fisheries.
(f) Sale of right to take a proportionate share of water along with parcels of land sold.
(g) Creating irrigation rights afresh; when lands were sold with no source of irrigation, vendees were permitted by the terms of the sale to excavate channels for diverting water from rivers.

Construction, Repair and Maintenance of Tanks

The construction of tanks in the middle ages by private individuals was considered an act of great spiritual merit. Therefore, we find most of the

evidence referring to individual grants made for construction of tanks. (see Annexure II, Table II) It was also considered a part of the duty of the state to undertake such works. Even kings built tanks for merit.[25]

The advantage of this value attached to the construction of irrigation works was that the person who built the tanks did so in order to give it away - as an act of charity - invariably to a body of people to be used for public good. This necessitated the receivers assuming collective responsibility over it. Secondly while the water resource was sought to be fully and beneficially utilized, it did not assume the character of a **commodity** solely for profit, that we see under a later colonial administration.

Construction of tanks was by

(a) Individuals
(b) Kings
(c) Village community jointly
(d) Temples which gave grants to *Sabhas* to construct tanks
(e) The State helped by granting land as reward to the builder or by remission of taxes

Maintenance and Repairs

Village Assemblies and other local bodies had a wide ranging strategy to deal with maintenance and repair of tanks. The main objective was to create funds for the work to be done. The evidence is overwhelmingly supportive of the fact that resources were raised locally. However, assistance from the Central Government was not precluded— royal grants were made. Prevention of damage was also planned; members of the governing body were held accountable for damages.

Sources of Funds were

(a) Gift of land - which was common; the gift was termed *eripatti, godage, (or kodigi), kulapatti* etc.
(b) Gift of land earmarked for specific pieces of work in relation to the tanks.
(c) Sum of money paid to the village assembly for the purpose by individuals.
(d) Endowments created for the tank by individuals, temples etc.
(e) Gift of gold which was also common.
(f) Gift of paddy.
(Village Assemblies administered endowments; they also, in recognition of gifts, exempted donors from certain taxes.)S
(g) Levy of grain annually, on land by village assemblies or tank supervision committees.
(h) Sale of land by village assembly for creating a fund.
(i) Selling the right of collecting the levy to individuals who later gave it over to the assemblies for a compensation or commission.
(j) Levying of fines for violation of other village regulations and crediting them to the tank fund.

(k) Land of defaulters of revenue temporarily taken over for benefit of tank for specific periods; and sold if defaulters did not pay within the stipulated time.

(l) Income realised by the lease of the right of fishing in the tank called *pasipattam* or *minpattam.*

The actual repair or maintenance work organized by village assemblies were

(1) Utilizing boats to remove silt.

(2) Labourers engaged to carry earth out of the tank and deposit it on the bund.

(3) Fishermen put in charge of certain duties like watching over dams, regulating flow of water, inform villagers and temple of problems etc., collection of canal tax and fishing tax.

(4) Payments made by assembly to buffaloman of tank cart- payments for oil, wheel grease, crowbar, pickaxe etc.

(5) Organizing labour contribution from ryots.

Prevention of Damage

An important inscription of 1202 A.D. reveals that the members of the governing body made themselves accountable for any damage done to water sources by reason of any feuds or quarrels among them. (See Annexure II, Table II for details).

Powers of Village Assemblies regarding Land Transactions relating to Irrigation

Power to enter into transactions relating to land constituted the most significant of powers necessary for the protection and developmentof irrigation sources. It is thislegal power that was surrendered to the British colonial government, which loss has notbeen recouped to this day. A factor which facilitated the existence and exercise of this power by village authorities was that the village as a whole was responsible for payment of stipulated land revenue to the Central Government. This gave the local bodies the flexibility of remitting taxes of individuals. The fundamental change effected by the British land revenue administration was to bring the cultivator into direct contact with the government for the payment of land revenue bypassing the village administrative body. Village headmen and accountants were however co-opted into the 'government' as Revenue Servants.

Powers relating to land exercised by local bodies of medieval South India are: (See Annexure II, Table III)

(1) Selling fallow land of the village to be able to make bunds or dig channels to irrigate cultivable land.

(2) Setting apart village land for tank and making such land tax free, by themselves undertaking to pay the taxes and dues thereon.

(3) Setting apart part of the irrigated land for public purposes.

(4) Selling of land or ayacut and tank as part of reclamation efforts.
(5) Selling wasteland, covered with rubble and stone and weeds to individuals to excavate tanks.
(6) Selling breached tanks in public auction for reclamation and reconstruction.
(7) Selling land of defaulters of revenue.
(8) Selling tanks and ayacuts along with catchment area of dry lands, trees, fisheries and water.
(9) Granting land to persons who repaired tanks.

Management of Water Supply

Arrangements for the management of water supply was an important function of local bodies; some illustrations of functions which reveal those managerial powers are:

(a) Arrangement for the distribution of water between villages and the temple (which had borne the cost of tank reconstruction) in the ratio of their holdings.
(b) Prescribing the method of supply and distribution of water as part of the sale of land by the local body.
(c) Prescribing rules prohibiting the use of water in specific circumstances by specific persons.
(d) Prescribing rules for the economical use of water by cultivators.
(e) Selling water in terms of hours of drawal, or by the use of cycle of turns *(vattam)* or order in turns *(murai)*.
(f) Prescribing rules for distribution among cultivators.
(g) Describing lands as entitled to irrigation from specific channels.

Levy and Collection of Cess by Village Assemblies

This was a function widely prevalent. (See Annexure II, Table V)

(a) Where there were no endowments created specifically for annual repairs, a special cess called *eriayam* was collected from ryots according to specified rates.
(b) Setting apart certain incomes derived from other cesses or levies as *eriayam*.
(c) The tank supervision committee was empowered to collect a regular cess.
(d) Assigning right to collect paddy at specified rate from cultivators to individuals in return for a lump sum payment of cash for irrigation works.

The powers of taxation by village assemblies for local purposes - taxing, granting exemptions from taxes and dues, as well as assignment of dues - without any reference to the King's Government and in exercise of their own powers was quite commonly exercised. Besides these assignments and remissions of taxes and dues, the village assemblies became responsible for another class of tax remission. This latter type helped the assemblies to raise

large amounts : i.e. in lieu of a lump sum payment made in advance to it, the assembly undertook to pay all dues to the local and central governments on particular plots of land for all time. The lump sum in these instances was the capitalized value of the annual dues chargeable to the land and was generally called *irai dravyam* or *irai-kaval*. Such advance payment in lump sum of future taxes was due to two general causes. First, persons who endowed charities for setting apart land often desired to secure for such land freedom from all dues and imposts, and the common way of doing this was to pay their capitalized value to the assembly of the village where the land was located making them responsible for all future payments. Secondly, the assemblies on their own initiative often raised money in this manner for immediate capital expenditure for public purposes which could not be financed otherwise.[26]

Dispute Settlement

The rule was that disputes were settled locally, the exception being that royal officers were sometimes invited to settle disputes. Whether the disputes occurred between cultivators or between the village and the temple they were settled by the *urar* or by arbitrators, whose opinion was generally accepted. Punishments or compensations were decided or organized locally. Disputes were also attempted to be avoided by clear prescription regarding irrigation rights of involved parties. (See Annexure II, Table VI)

Relationship of Local Bodies with the Central Government

The Central Government was in evidence comparatively to a lesser extent in the matter of management of irrigation, though it was by no means entirely absent.

(a) Kings would construct tanks and other irrigation works.
(b) They could give grants of land as rewards to individuals who built tanks.
(c) They would force, by royal orders, villagers to pay the local cess towards the tank fund.
(d) They would create endowments in favour of temples to have tanks constructed or maintained.
(e) They would provide money or grant land to donees with a condition that the donee should set apart a sum for upkeep of a pond or tank.
(f) Royal officers would intervene in village disputes on the invitation of the local assembly.

Thus the Central Government played a supportive role rather than proprietary role. It was the local bodies which exercised that prerogative. Literally hundreds of inscriptions from the middle ages in South India testify to the widespread (both in time and space) involvement of local bodies in irrigation management involving a wide spectrum of functions. The evidence proves conclusively that village bodies exercised proprietorship over their

water sources. The local bodies possessed all the necessary skills for the purpose.

However, from the 19th century, the scenario changed radically under colonial rule; this system was eroded slowly but surely over the next hundred and fifty years.

Since Independence, in spite of the efforts at establishing Panchayat Raj, this process has not been reversed.

Notes

1. *Records Connected with the Tank System, Mysore*, 476 PWD 1918, 5 (Karnataka State Archives - KSA - Bangalore).
2. *Ibid.*
3. *Minor Irrigation Statistics at a Glance*, 1988 (Minor Irrigation Department, Government of Karnataka).
4. *Tank Irrigation in Tamilnadu: Some Macro and Micro Perspectives* (MIDS, 1986).
5. *Ibid.*
6. *Statistical Outline of Karnataka 1984-85*, Directorate of Economics and Statistics (Banglore, 1987).
7. *Study of the Problems of Minor Irrigation*, Programme Evaluation Organisation, Planning Commission (1961).
8. Burton Stein, *The Cambridge Economic History of India*, Vol. I, 34-35 (Ed. by Dharma Kumar, 1982).
9. Percival Griffiths, *The British Impact on India*, 482 (Frank Cass & Co. Ltd., 1965).
10. K.A. Neelakanta Sastri, *The Colas*, Vol. II, 267 (University of Madras, 1937).
11. *Ibid.*
12. Noburu Karashima, *South Indian History and Society: Studies from Inscriptions AD 850-1800, 3 (Oxford University Press, 1984).*
13. *Ibid.*
14. Burton Stein, *supra* note 8 at 35.
15. K.A. Neelakanta Sastri, *supra* note 10 at 268.
16. *Id.* at 293.
17. For administrative purposes, Chola territory was divided into several divisions called Mandalams. Mandalams were subdivided into Valanadus, Valanadus into Nadus, each of the latter consisting of a number of villages.
18. Burton Stein, *supra* note 8 at 35.
19. *Mysore Gazetteer*,C.Hayavadana Rao, Vol. IV.
20. *Ibid.*
21. A.V. Venkatarathnam, *Local Government in the Vijayanagar Empire*, (Prasaranga, University of Mysore, 1972).
22. *Id.* at 18.

23. *Karnataka State Gazetteer*, Part II (Gazetteer of India, Government of Karnataka).
    A Persian record from Hukeri of the Adilshahi times speaks of the presence of all the members of the Assembly including the *barabalutis* of the town being present when a fountain intended to provide water to the town was installed.
24. K.A. Neelakanta Sastri (1937); A. Appadorai. (1936); V. Venkayya (1903-4) and R. Tirumalai (1981).
25. The inscriptions on tanks built by kings quote from religious treatises of the period, extolling the merit of such construction. *See* Epighraphia Indica, XIV, 107-08.
26. K.A. Neelakanta Sastri, *supra* note 10 at 301.