

HERITAGE MANAGEMENT OF TEMPLE TANKS IN AN URBAN SCENARIO - A CASE STUDY OF THIRUPPORUR, A TRADITIONAL TOWN IN THE STATE OF TAMILNADU, INDIA

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1. Introduction

Water has played an important role in the architectural heritage of India from early times. In India, traditional methods for water harvesting systems and water management systems have also been used successfully from ancient times. Each region has its own unique system depending on its topography, rainfall and the local needs of the community. In areas where the rivers were not snow-fed and therefore not perennial, particularly true of the lower peninsular regions, different kinds of tanks served multiple purposes - aesthetic, spiritual and practical. There were two main kinds of tanks: village ponds used as common property for a range of everyday chores like bathing or washing clothes, and temple tanks that were sanctified and served the vital purpose of recharging the ground water table.

2. Temple tanks of South India

One of the most characteristic features of the early South Indian cities and towns are the temple tanks which form part of the temple. Temple tanks (Figure 1) were powerful tools in town planning and served a very practical purpose - that of maintaining ground water tables and replenishing community water supplies - besides serving spiritual needs. Temple tanks were constructed to the east of every village, and multipurpose tanks to the west, on raised land, so that the harvested water would flow naturally to the fields. The temple tank has many historical and spiritual references. By linking a natural resource to a divine objective, temple tanks were protected by a code of conduct that bound everyone in their vicinity. The waters remained safe, recharging the ground water table, ensuring that wells in an entire circular radius of several kilometers did not run dry even during the hottest summer.

3. Addressing the problem

Today, many of the temple tanks in Tamilnadu have fallen into a state of disrepair. The main cause is urbanization, leading to the reduction of ground water level which

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resulted in the drying of temple tanks. The network of inlets and outlets that nourished the tanks is blocked either by unauthorized construction or with debris and litter. Saline seawater has entered some tanks in the vicinity of coastal areas that have over-exploited ground water. With unchecked withdrawal of water by private bore wells across the state, the water has literally been sucked out of the once full tanks. Ground water tables are under such stress that even rains have not succeeded in replenishing the beautiful tanks. In areas where open space is scarce, dried out tanks are misused.

Chennai city, the capital of Tamilnadu, India alone has around 40 temple tanks which are important urban elements. Looking at the vital role played by temple tanks in the structuring and functioning of the settlement around them various NGO's and government departments have come forward to revitalize these tanks and restore them to serve the local and spiritual needs of the community.

To cite an example - the Marundeeswarar temple in Thiruvannamiyur, one of the oldest shrines in Chennai city with a big temple tank. Sporadic and uncontrolled growth around the tank bed led to the blocking of the inlet and outlet pipes of the tanks. The exploitation of excess water by the neighboring community led to the reduction of ground water level which ultimately resulted in drying of the temple tank. The tank has been neglected for years and is covered in thriving vegetation, with its granite steps in a state of disrepair, growing increasingly unsafe for devotees. Realizing the pivotal role of temple tanks in maintaining a city's hydrological balance, the Chennai Corporation, assisted by the NGOs, has undertaken the restoration of the temple tank. However these interventions have come a long time after the collapse of the tank and the hydrological balance of this area.

4. Case study – Thiruporur temple tank, Chinglepet taluk, Kanchipuram district, Tamilnadu, India

4.1. Introduction

Thiruporur is a town 43 m south of Chennai on the Old Mahabalipuram Road (OMR) in Chinglepet Taluk, Kanchipuram District, 3 km away from the coast line of the Bay of Bengal. It covers an area of 7.9 km and its most important landmark is the Kandaswamy temple dedicated to Lord Muruga with the temple tank Saravana Poga.

In recent times, the OMR has been identified as the IT (Information Technology) corridor of Chennai city connecting the city with the Chinglepet highway and the ancient town of Thiruporur at the southern end of the IT corridor. The Second Draft Master Plan of the Chennai Metropolitan Area (CMA) published in April 2007 has brought Thiruporur within the CMA jurisdiction integrating this town with the rapid urbanization of the OMR. Hence there is great danger for the historic, architectural and cultural fabric of the town and its temple tank, the chief source of natural water supply to the community.

4.2. Historic and cultural heritage of Thiruporur

'Thirupporiyur' as the town has been mentioned in ancient inscriptions, was the cultural capital of the ancient Kumili Nadu region. Megalithic burial sites from the Neolithic period excavated from the surrounding hills indicate that a settlement existed in ancient times. According to surveys done by Mr. Bernard, a British engineer between 1767

and 1774, over 275 localities contributed a share of their produce to the Kandaswamy temple making it a cultural center and the temple in turn handed over a share to the Vaikunta Peermal temple at Kanchipuram, the ancient capital of the Pallava rulers [1]



Figure 1. View of Temple and temple tank

Legend has it that Saint Chidambara Swamikal built this temple 400 years ago, dedicated to Lord Kandaswamy. A water body Vallaiar Odai to the west side of the temple fed by underground springs was converted into a temple tank - Saravana Poigai [2]

The annual festival of the temple draws around *lakh* (lakh = one hundred thousand) devotees spread over ten days in the Tamil month 'Maasi' (January - February). The deity is taken in procession through the main processional streets. In addition, other festivals and auspicious days spread throughout the calendar year draw a large number of devotees especially in the Tamil months of 'Aypassi' (September - October) and 'Maasi' (January). During these days devotees take a dip in the sacred waters of the Saravana Poigai before making the ritualistic passage to the temple [3].

4.3. Physical structure of the town

The main streets run east- west connected at the ends by streets running north-south. The temple car procession is taken around the four streets - N. Mada Street, E Mada Street, S Mada Street and the W Mada Street. At the meeting of the West Mada Street and the North Mada Street the Malayadi Varam leads to the Kailasanathar temple on the hillock to the western side of the temple and the Vembadi Vinayakar temple at its base, thereby defining the inner sacred geography of the town (Figure 2).

The sacred topography is laid according to the principles laid down in the 'Mayamata' which says that the ground should rise slowly towards the south and the west,

ie. must slope towards the north and east. Thiruporur was noted for its irrigation canals and its water supplies. The 1772 record lists five ponds and 4 tanks. However today the only visible water bodies are the Kandaswamy temple tank - Saravana Poigai and the Thamarai Kulam (Lotus Pond). One of the other ponds at the north eastern end of the settlement has been converted into a sewage pond.

4.4. Architectural heritage of the town

The temple and its gopurams (entrance gate), mandapams (pillared halls) and temple tank; the chatrams (rest houses); the traditional thinnai (verandah), houses with pan tile roofing, are standing examples of the rich and ancient heritage. The Kandaswamy temple covers an area of 4 acres of land and the gopuram stands 21.5 M tall. The temple has a 24 pillared mandapam a 16- pillared mandapam, Saravathiya Mandapam where all the musical instruments are kept and played during festivals and poojas¹.

The unsympathetic approach to these heritage structures is evident within the temple complex itself where the granite walls are covered with ceramic tiles in a number of places. In addition, other heritage structures are being modified or replaced by new commercial developments which are changing the traditional town fabric into a commercial urban fabric. As much of the land around the temple belongs to the Devasthanam (temple administrative office), it is definitely possible to lay guidelines for change which are commensurate with the traditional setting and spiritual needs of the pilgrims.

4.5. Kandaswamy temple tank - Saravana Poigai

Saravana Poigai is the tank attached to the Kandaswamy temple. It measures 200' x 200' and has a mandapa built of granite in the geometric center of the tank. It is fed by underground fresh water springs and it is one of the reasons the temple tank has never dried up.

According to Stapathi Ganapathi² temple tanks are usually square in plan and the steps along the sides, odd in number, are constructed after the pit is excavated. The inlet into the tank will be in higher ground and the outlet at the lower end, so that the overflow is diverted to the 'kanmai' – a small pond- utilized for domestic purposes making the entire system a unique rain water harvesting system. As the temple tank is primarily for spiritual needs it is necessary that water is retained in the tank throughout the year. Hence open wells are sunk in the bed of the tank and these maintain the level of water in the tank.

The Saravana Poigai is fed by rain water collected from the hillock to the west of the temple and conveyed to the tank by means of an underground channel with its outlet at the higher south western end of the tank. During a monsoon the tank is filled to the brim immersing all the steps. The excess water is conveyed to a pond to the south east of the settlement through a drainage channel at the south eastern end of the tank. It is said that there are nine wells sunk in the bed of the tank but no one has really seen them as the tank has never run dry.

The Saravana Poigai therefore not only serves as an important focal point of this traditional settlement, but also in controlling the micro climate of the place helping to maintain the hydrological balance of the area.

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LEGEND

- | | | |
|-----------------------|---------------------|--------------------------|
| 1 - Kandaswamy Temple | 4 - Vinayaga temple | 7 - Water Body |
| 2 - Temple at Hillock | 5 - Hillock | — Processional Path |
| 3 - Temple tank | 6 - Sewage Pond | — Onstreet Parking |
| | | — Old Mahabalipuram Road |

Figure 2. Physical infrastructure of Thiruporur Town

4.6. Impact of Urbanization on Thiruporur and key issues

1. Thiruporur (Figure 3) is at the tail end of the IT Corridor which is a 30 M wide road and it tapers to a 12 M road – West Mada Street. A bottleneck is therefore created where the OMR runs through the town. The 12 M wide road is sandwiched between the hillock and the Saravana Poigai (temple tank). Therefore there is no

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scope for widening the road to take the traffic of the OMR. If the hillock is cut to accommodate the OMR then there is a danger that the temple tank will get cut off from the source of water supply.

2. In traditional towns the temple and its tank provided a code of building, as the buildings in the immediate vicinity of the temple and its pradakshina patha (processional path) could not be taller than the temple gopuram. However there is a danger that this unwritten code will get violated as the focus of development is shifted on to the OMR.
3. Small scale commercialization is already evident on the West Mada Street and in the case the road is widened by cutting the hillock, heavy commercialization will take place, thus disturbing the traditional fabric and making the tank inaccessible to the devotee on the western side. Eventually the tank and its environment will face degradation.



Figure 3. View of temple at hillock

4. On street parking takes place in the streets around the tank which are barely 12M wide making it inconvenient for the pedestrian and polluting the vicinity of the temple tank.
5. The North Mada Street and the East Mada Street are 18M wide streets. When this town is integrated into the Chennai Metropolitan Area (CMA), once the Master Plan comes into force it will succumb to land pressures and multi storied structures which are permissible under the Development Control Rules of the metropolitan city. This will put pressure on land, infrastructure and ground water.
6. Sporadic growth and uncontrolled development may lead to the blocking of the underground rain water drains which serve not only to replenish the water of the temple tank but also the pond beyond which serves the domestic needs of the community.

4.7. Heritage Management of Thiruporur and its temple tank

Owing to the fact that the town of Thiruporur (Figure 4) has emerged as a very sensitive zone due to the growth of the Chennai Metropolitan city there is a need for integrated conservation and heritage management of the town as issues cannot be examined in isolation. This will directly help in the heritage management of the temple tank and the traditional rain water harvesting system.



LEGEND

- | | | |
|---|-----------------|---|
| 1 - Kandaswamy Temple | 5 - Hillock | --- Heritage Zone to be protected |
| 2 - Temple at Hillock | 6 - Sewage Pond | - - - Proposed Rerouting of OMR |
| 3 - Temple tank | 7 - Water Body | — Proposed Water Channel from Temple tank to the pond |
| 1,2,3,5,7 - Heritage Structures to be protected | | ▨ Proposed Parking |

Figure 4. Heritage management of Thiruporur temple and temple tank

Status of the town

The town of Thiruporur was a cultural center in earlier times and continues to be one owing to the importance of the deity consecrated in the Kandaswamy temple and the numerous activities worship generates. Hence this town has to be recognized and declared a cultural and heritage center.

Listing of Heritage resources

Although there is concern for the preservation of monuments by many agencies such as the INTACH³ and MCF⁴, the first step in this direction is to declare the heritage sites and resources within the town as protected. The following structures have to be listed as heritage and protected structures in the town of Thiruporur:

List of Heritage structures and sites:

- a. Archaeological sites: Megalith burial sites belonging to the Neolithic period.
- b. Religious structures and complexes:
 - Kandaswamy temple (1200A.D)
 - Kailasanathar temple (1200A.D)
 - Vembadi Vinayakar temple
- c. Traditional systems:

Rain water harvesting system linking the two outlined water bodies.

 - Saravana Poigai (Temple tank of the Kandaswamy temple)
 - Thamarai Kulam (to be checked)
- d. Secular Buildings:
 - Nagaveedu or Kathirikka Mudaliar Chatram
 - Senguntha Mudaliar Chatram
 - Thondai Mandala Vellala Aadi Saiva Vellalar Chatram

A number of other chatrams⁵ have fallen into a state of disrepair and are beyond conservation and restoration.

Besides, heritage resources need to be identified and incorporated in the Chennai Master Plan II for future sustainability.

Demarcation of Heritage Zone

A comprehensive heritage and development plan needs to be drawn up demarcating the heritage zone. In Thiruporur, the area defined by the four processional streets and the hillock to the west needs to be delineated as the heritage zone and in the detailed conservation plan, building controls in relation to height, material, architectural and other aesthetic details should be exercised.

Management under a nodal agency

Urban management framework is generally characterized by the administration and technical sectorisation of responsibilities. The administration of Thiruporur town currently comes under the village panchayat⁶. However with the inclusion of this town

within CMA, the town will come under the purview of other governmental agencies such as the CMDA⁷, TNWSSB⁸; Metro Water; Corporation of Chennai; TNEB⁹, etc.

With the declaration of the town as a heritage settlement and cultural center, there will be a necessity for coordination and convergence in conservation under a nodal agency and formulation of locally based community development programs which will include upgradation, regeneration and provision of essential infrastructure in areas where there is a concentration of identified heritage structures.

Preservation of Environmental Quality

Besides preserving heritage resources and developing the aesthetic quality of urban design the nodal agency should guide the local body on any project or development proposal which affects the skyline or the aesthetic and environmental quality of the surroundings. In this context it is necessary to seek solutions to re-route the OMR around the hillock on the west so as to prevent high rise development in the vicinity of the heritage zone which otherwise would have a detrimental effect on the process of conservation and the heritage management of the water harvesting system of this area.

Land use Planning

Government offices to the west of the tank draw large crowds for land registration and other related work on a day to day basis. These offices can be relocated to more suitable locations to prevent the over commercialization of this stretch. The land use around the tank should be largely residential with small scale commercialization to cater to the needs of the devotees. This should also be applicable to the area delineated as the heritage zone.

Water Resource Management

A water resource management plan needs to be drawn up to identify traditional concepts of historic rain water harvesting. In the case of Thiruporur the temple tank and the Thamarai Kulam are integral components of a water harvesting system which are essential not only to maintain hydrological balance and serve the spiritual needs of the community but important urban design elements which govern the code of conduct around the area. Therefore these areas need to be conserved and protected so that they do not fall a prey to development and encroachment. The municipal water supply to the town has to be boosted by the government so that the temple tank is not used for domestic purposes, such as bathing and washing clothes. Besides a sewerage system has to be provided for the entire settlement and connected to a sewage treatment plant before disposal.¹⁰

The other tanks and ponds moreover, which are seasonal need to be identified and protected mainly from landfill to which most low lying areas are subjected to in an urban scenario. A comprehensive plan for water management should integrate these tanks and ponds with a rain water harvesting system which at the grass root level deals with implementation of rain water harvesting systems for all old and new structures to enable the recharge of ground water and collection of surplus in the ponds and tanks.

Provision for car parking

With urbanization, rapid growth in the number of vehicles on roads becomes evident and this problem multiplies during festival times and auspicious days throughout the

calendar year when large numbers of devotees throng Thiruporur and its temple. Cars, pedestrians and impromptu shops on such occasions cause congestion on the streets around the temple tank and add to the pollution of the tank and the surrounding areas.

Delineating car parking to the east of the town just beyond the East Mada Street and re-routing the pilgrim route to the temple will help decongest the area around the temple tank. Much of this land is not cultivable and belongs to the Devasthanam; this can be organized into parking lots especially during festival times.

Maintenance Plan

A maintenance plan to regularly inspect the heritage structures, resources and their surrounding areas needs to be outlined to prevent untoward developments and damage/deterioration of the heritage resources.

5. Conclusions

To conclude, change is inevitable but what is important is that change needs to be regulated and monitored before the irreversible happens and heritage is lost to mankind. Thiruporur is on the threshold of that change and only a comprehensive and integrated approach to urban and heritage management will guide its sustainability for posterity.

Notes

- 1 Worship ritual
- 2 Ganapathi Stapathi is the director of the Vaastu Architecture and editor cum publisher of 'The Sculptor Speaks', Chennai
- 3 Indian National Trust on Art and Cultural Heritage
- 4 Madras Craft Foundation
- 5 Accommodation for the pilgrims
- 6 Local Government
- 7 Chennai Metropolitan development authority
- 8 Tamilnadu Water Supply and Sewerage board
- 9 Tamilnadu Electricity Board
- 10 At present the settlement has open drains which pollute the ground water.

References

- [1] Thiruporur, My town, Pub: MCF 2006
- [2] PRAHALATHA S., 2000, *History of Thiruporur* (unpublished Thesis), MIDS, Madras University, Chennai
- [3] KRISHNAN R., 1999, *Thirupporur Sthala Varalaru* (The history of Thirupporur), Thirrupugazh pathipagam, Chennai

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