

USER-FINANCING IN SEWERAGE PROJECT IMPLEMENTATION, PALLAVARAM MUNICIPALITY

- **Background**

Less than a third of domestic sewage in India gets treated and even in large cities in the country, a significant portion of sewage goes untreated. Further, even in cities where sewerage projects have been executed, financial and O&M sustainability of these projects have been areas of concern.

Despite being a rapidly growing town, Pallavaram did not have a sewerage system. About 25,000 households had access to septic tanks. 7% of households were resorting to open defecation. Due to lack of a proper sewerage network, there was discharge of sewerage into open drains resulting in unhygienic environmental conditions and breeding of mosquitoes. So, when Government of Tamil Nadu took a policy decision to initiate a programmatic implementation of sewerage projects in all large towns and peri-urban areas within Chennai Agglomeration, Pallavaram which did not have a sewerage network, emerged as a logical contender for a sewerage system.

This case profiles the experience of **Pallavaram municipality**, one of the 25 ULBs in Tamil Nadu that have implemented sewerage systems with connection deposits from users as part of the project's financing mix and fixation of user charges to meet 100% O&M cost recovery. In Pallavaram, user deposits were set to cover nearly 30% of the project cost even as a combination of user charges and earmarked property taxes are envisaged to cover debt servicing and O&M costs during operations.

- **Location, Date**

Pallavaram, Tamil Nadu

- **Areas**

City Wards

- **Stage/Scale**

A Detailed Project report (DPR) for the Pallavaram Underground Drainage Scheme (UGSS) was prepared to cover all the 42 wards of the city.

- **Objective of the assignment**

The objective was to generate finances for Operation and Maintenance (O&M) for sewerage systems from User-Financing, targeting industrial, commercial and domestic users.

- **What was done**

User charges were fixed for pre-and post connection of sewerage systems for different categories of users that is, industrial, commercial and domestic users. The charges were used in the connection of sewage systems and in their Operation and Maintenance.

• Impact

- For the 15,650 connections provided, fixed deposit of INR 16.39 crore was collected. Upon completion of target connections of 16,602 were provided, the collection was expected to reach about INR 17.5 crore, translating to roughly 30% of the Project cost. At the same time, subsidized connections were provided to slum areas within the city. Notwithstanding the challenges faced during construction in terms of protests project locations and delays, the successful mobilization of user deposits was made possible owing to strong political commitment, a clear state-level policy on use of connection deposits and community support made possible through extended awareness creation initiatives by Urban Legislative Body (ULB) officials and elected representatives.
- Post provision of connections, the city faced resistance from some quarters as the user charges at INR 150 per month was significantly higher than the INR 75 per month collected in adjoining areas of Corporation of Chennai, where user charges for sewerage were not revised in recent years. As a measure to address citizen concerns, a proposal to introduce slab rate linked to size of property and property taxes paid was considered. ULB officials were confident that citizens would come around to see the benefits of the project and collection efficiency would improve from 30% in 2013-14 to over 70% in 2015.

• Challenges and Issues

- Even though the initial contracts were awarded and construction commenced, the Project faced some serious challenges that led to delays and warranted mid-course corrections and cost revision.
 - **Land acquisition challenges:** Delay in acquiring land for pumping station and public objection resulted in the halting of work in the construction site. Acquisition of land for main pumping station near Kilkattalai Lake was delayed due to litigation and had to be shifted to a different location.
 - **Additions to project scope:** The approved Detailed Project Report (DPR) for the project had not adequately assessed the rapid growth of population in the suburb. The population grew 50% and the properties had doubled within a decade. The ultimate population of 2.45 lakhs used to design the sewerage network for the ultimate year of 2036 was eventually reached by 2013 itself. This unanticipated growth of town led to pumping bottlenecks and re-sizing of select pumping mains. Additional street side lifting stations had to be added. As against 4 pumping stations and 2 lift stations, 4 pumping stations plus 7 lifting stations have been added.
- As a result, the Project faced significant delays and in 2009, the project cost had to be revised from the original estimate of INR 49 crore. The cost escalation was due to delay in acquisition of pumping station sites, change in location of main pumping station from Kilkattalai, tender access for collection system packages, change in alignment of the sewer lines, trunk main and pumping main, construction of an additional pumping station at Nanmangalam Nagar and presence of hard rock soil.
- Eventually, after mid-course corrections and a revised administrative sanction, the remaining two packages were awarded in 2009; four years after the initial contracts had been awarded. Construction was finally completed in 2013, 7 years after construction started, at a Project Cost of INR 59 crore and the project was handed over to Pallavaram municipality.

- **Innovation**

When user financing was introduced in Alandur sewerage project in the late 1990s, it was seen as an innovative financing mechanism, but doubts persisted on its replicability. Since then the Government of Tamil Nadu has implemented sewerage schemes in over 40 cities many of which have involved some level of user financing and elements of the user charge structure discussed here. From a financing and financial sustainability stand point therefore, the experience at Pallavaram and several other cities in Tamil Nadu suggest that user financing is indeed a replicable idea for expanding waste-water treatment.

- **Lessons learnt**

Some of the lessons learnt that can be considered for replication or modification is as follows:

- **Benefits of a city-wide sewerage system:** Pallavaram town was devoid of sewerage system and sewage disposal was dependent upon the septic tanks and public conveniences, which were directly and indirectly polluting the ground water. Apart from providing a city-wide solution, care has been taken to make the project inclusive by connecting slum areas and low-income neighbourhoods with subsidised connection charges.
- With a participative approach and credible implementation, user-financing is do-able and provides a means to tackle the financing challenges. Traditionally, sewerage projects have tended to rely excessively on capital grant funding and projects have been constrained when grant financing has not been available. The experience of Pallavaram and other cities show that with a credible implementation plan, citizen participation can help alleviate pressure on grants which can be disbursed on the basis of project appraisals and assessment of ability to pay.
- **Importance of O&M sustainability:** Financial sustainability during O&M phase is equally important to ensure sustained operation. In case of Pallavaram, while there is a provision for periodic escalation of user charges to reflect cost inflation, it is important that this is implemented in practice.
- **Harmonization of user charges across the state:** Resistance has been seen owing to higher user charges of INR 150 collected vis-à-vis Chennai Corporation of INR 75. As GoTN scales up its sewerage program, it would need to, in consultation with ULBs, articulate a Tariff Policy for urban services that would harmonise mechanisms for setting targets for cost recovery, tariff fixation and revision while balancing affordability and sustainability considerations.
- **Benefits of a state-level nodal urban financing framework:** The project also suggests that having a strong nodal urban financing framework for effective design, development and appraisal of projects can help bridge the capacity gaps and help programmatic replication of ideas across the state

- **Financials**

- In 2005, GoTN accorded administrative sanction for the project. The project cost was estimated at INR 49 Crore. The project was appraised by the Tamil Nadu Urban Infrastructure Financial Services Limited (TNUIFSL), the fund manager for the Tamil Nadu Urban Development Fund (TNUDF) and the initial financing plan envisaged a combination of long term loans and user deposits. Grants in TNUDF-III were introduced

as viability gap funding to make the project feasible. User charges were fixed to meet O&M costs and Debt Servicing. The implementation of the Project involved a variety of stakeholders.

- Since Underground sewer projects are capital intensive in nature and have a long life of assets, it was proposed to fix the repayment tenor at 15 years and 5 years moratorium with an interest rate of 8.5%. The Loan Agreement between TNUDF and Pallavaram Municipality incorporated payment security mechanisms including escrow of user charge revenues and earmarked property taxes and creation of a debt service reserve fund.

• **Economic sustainability/Revenue Model**

- The revenue model is based on User-Financing as described above. However, certain aspects such as; developing a standard user charge across the state, having a strong nodal urban financing framework and providing periodic escalation of user charges for O&M activities were taken into consideration.
- A sample of user charges that was proposed during the project is given below. This can be used to understand the future projections.
 - **Connection deposits:** Connection charges for different categories of users were fixed as follows:
 - Domestic: INR 10,000 per house connection
 - Commercial: INR 20,000 per connection
 - Industrial: INR. 20,000 per connection
 - **User fees:** The user charges to cover O&M cost were proposed to be collected at the following rates:
 - INR 150 per month per connection from the domestic users
 - INR 450 per month per connection from commercial and
 - INR 750 per month from industrial users.

• **Implementer Contact Persons**

- **Pallavaram Municipality**
<http://municipality.tn.gov.in/pallavapuram>

• **Sources and References**

- National Institute of Urban Services . (2015). *Compendium of Good Practices: Urban Water Supply and Sanitation in Indian Cities* . n.a.: ICRA Management Consulting Service Limited .