

Wastewater treatment: Reverse Osmosis established at Kodungaiyur & Koyambedu, Tamil Nadu

Summary:

Owing to water scarcity in the region, sewerage and wastewater treatment is not only one of the major components of AMRUT scheme, but also, it is one of the State priorities in Tamil Nadu. In this context, the Hon'ble Chief Minister of Tamil Nadu made an announcement under Rule 110 in the State Assembly that the wastewater must be recycled and reused and basis of the announcement, Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) had proposed to setup wastewater treatment plant (Tertiary Treatment Reverse Osmosis) with a capacity of 45 MLD each at Kodungaiyur and Koyambedu.

Objective and rationale:

To fulfil the needs of water-intensive industries in Chennai.
To reduce the burden on the ground-water resources.

Key Stakeholders:

Tamil Nadu Sustainable Urban Development Project (TNSUDP), Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB); contractors appointed are VA TECH WABAG for Koyambedu Project, M/S BGR Energy System Ltd for Kodungaiyur project,



Implementation strategy:

The two wastewater treatment plants were proposed to be developed with private participation in Design, Build and Operate model for a period of 15 Years.

Earlier, the cost of construction was proposed to be arranged under the scheme of JNNURM and Tamil Nadu Investment Promotion Program (TNIPP) for development of Koyambedu project. However, there was no realisation of funds under JNNURM scheme from GoI. It was decided to arrange the construction cost through AMRUT Scheme. The same was sanctioned on 10 January 2017 by SLHPSC.

Similarly, for Kodungaiyur plant project, construction cost was proposed to be arranged under the scheme of Tamil Nadu Sustainable Urban Development Project (TNSUDP) with financial assistance from World Bank during initial stage. Later, it was decided to converge with AMRUT Scheme and the same was sanctioned by SLHPSC on 06 April 2017.

Resource utilization:

For Koyambedu wastewater treatment plant, a total INR 396.50 Crore has been estimated towards the cost of construction and Rs. 197.6 crore has been envisaged towards the operation and maintenance cost for period of 15 years. Similarly, for Kodungaiyur wastewater treatment plant, a total INR 235 crore is the estimated construction cost and INR 205 crore is the operation and maintenance cost for 15 years

Impact:

The Koyambedu's treatment plant has approximately 60 km pipelines for conveying the treated water to industrial parks of SIPCOT (Small Industries Promotion Corporation of Tamil Nadu). Treated water is being supplied to the industries located at the industrial parks of Sriperumpudur, Oragadam and Irungattukottai and approximately 691 industrial units are benefited from this project. The industries include Hyundai Motors, Nissan, Samsung India, Apollo Tyres and Nokia India. Similarly, Kodungaiyur's wastewater treatment project has approximately 28.5 km pipeline for conveying the treated water to industries located on the Manali-Ennore corridor and Manali-Minjur corridor in North Chennai.

Key Challenges and Lesson learnt:

AMRUT has recognized this requirement and projects have been converged and funded through the AMRUT scheme with appropriate central, State and ULB share. Proactiveness in decision-making and accountability, use of the latest technology and private participation (PPP mode), financial sustainability and project viability, interdepartmental co-ordination were the factors for completion of the projects in time. The DBO project also included a 15-year Operation and Maintenance period and was funded by the GoI funding and the Tamil Nadu Investment Promotion Program (TNIPP), demonstrating the local authorities' commitment in improving the difficult water conditions in the area.

Replicability and Sustainability:

The PPP model in these projects is a successful example that can be replicated in other States.

Fact Sheet:

Thematic area	Re-use of treated wastewater for industrial purposes
First-year of the program	2017
Responsible institution	State level nodal agencies, CMWSSB
Target audience	State government, industrial units
Coverage	Chennai, Tamil Nadu

Source: (T&RPPLANT AT KOYAMBEDU, 2018), (The Hindu, 2019) (New TTRO plant to quench the thirst of industries in Chennai, 2019)

<https://chennaietrowater.tn.gov.in/pdf/45MLDT.T&RPPLANTATKOYAMBEDU.pdf>,
<https://www.thehindu.com/news/cities/chennai/city-gets-its-second-tertiary-treatment-plant-at-koyambedu/article30119590.ece>,

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