

UTILIZATION OF MANGALURU CITY SEWAGE WASTEWATER FOR INDUSTRIAL PURPOSE

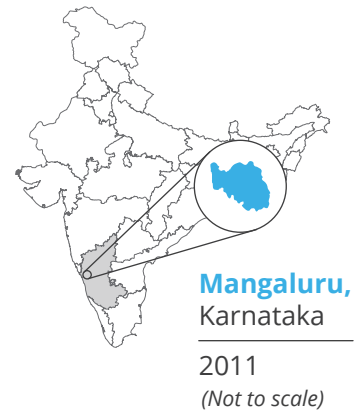
Project Highlights

- Reuse of wastewater for the Industrial purpose
- Reduction in the cost of Operation and Maintenance from the side of ULB for the Sewage Treatment Plant and the connected wet wells
- Adoption of separate Special Purpose Vehicle (SPV) for Monitoring and Supervising the activities Wastewater Utilization

Background

Mangalore is the chief port city of the Karnataka state located about 352 kilometers (220 mi) west of the state capital, Bengaluru between the Arabian Sea and the Western Ghat mountain ranges. It is the administrative headquarters of the Dakshina Kannada District and accessible via all forms of transport - Air, Road, Rail and Sea, thus, making it a unique location for commercial investments & activities. Mangalore's economy is dominated by the Industrial, Commercial, Agricultural processing and port-related activities. One of the largest SEZs in India, the MSEZ is in Mangalore. In view of this, Mangaluru City is receiving water from the 'River Netravati'. Since MSEZ has been established the demand for the supply of water was increased for the Industrial purposes, under the strong political will and administrative leadership of the Commissioner discussion was carried out with the MSEZ officials to take over the sewage wastewater produced within Mangaluru City Limits after secondary treatment of the wastewater.

Hence, a Special Purpose Vehicle (SPV) has been formed for operation and maintenance of the sewerage treatment plants and connected wet wells.



Project Objectives

- I. To utilize the wastewater, which was discharged to the sea after secondary treatment
- II. To reduce the stress on the existing water resources by Recycling and reuse of wastewater
- III. To reuse in diverse avenues such as non-potable domestic use; horticulture, agricultural, power plants, industries and others

Key Stakeholders

Mangaluru City Corporation

Approach

- Formation of Special Purpose Vehicle (SPV) for the implementation of the project
- Agreement between MCC & MSEZ Ltd.
- Approval from Government of Karnataka
- Operation and Maintenance of STPs and Connected Wet wells
- Cost Sharing of O&M by Mangalore SEZ Ltd (MSEZL) and Mangaluru City Corporation (MCC)
- Establishment of Sewage Treatment Plants and Wets within MCC Limits
- 4 STPs: Kavour (43.5 MLD/9.5 MGD), Bajal (20 MLD/4.40 MGD), Surathkal (16.5 MLD/3.63 MGD) & Pachanady (8.75 MLD/1.92 MGD)
- 22 No's of wet wells connected to their respective STPs

Financial Structure

The initiative is funded under the Smart Cities Mission

Achievements

Benefits and Co-benefits:

- Operation and Maintenance of three Sewage Treatment Plants (Kavoor, Surathkal and B. and connected wet wells/ Pumping station from Wet wells to STP) in Mangaluru.
- Reduction in dependency on natural water resources.
- Reduction of Financial burden on Mangaluru City Corporation for O&M of STP.
- Avoiding disposal of Secondary treated sewage in natural river body thereby Minimization of pollution loads on Fresh water sources & improving Environmental quality.
- Employment Generation



Success Factors

- Technical innovations for effective implementation of the project
- PPP type of arrangement for the implementation of the project

Limitations and Future Prospects

The project faced following challenges:

- Only 3 STPs have been tied up with MSEZ and the secondary treated wastewater is further treated to tertiary level and being reused for industrial purpose
- The 4th STP having a capacity of 8.75 MLD treatment facility, the wastewater after secondary treatment is being let to the river. Hence, the wastewater needs to be utilized such as non-potable domestic use; horticulture, agricultural, power plants, industries and others. Tertiary treatment plant needs to be setup for future to reuse the wastewater
- The uncovered area within the MCC limits needs to be covered using underground drainage system facility hence the wastewater is completely collected, recycled and reused. Thereby completely minimizing the pollution load on fresh water sources & improving Environmental quality

Source: Case received from the city

For more Information

- <https://blogs.adb.org/blog/mangalore-shows-way-wastewater-management-india>
- <https://www.genexutility.com/mangalore-model-wastewater-management-karnataka>
- <https://development.asia/insight/one-way-dispose-wastewater-turn-it-profit>