



SUSTAINABLE WATER MANAGEMENT THROUGH NON-REVENUE WATER CELL IN SURAT

Project Highlights

- Development of a dedicated cell, i.e., NRW cell to manage issue of non-revenue water
- Significant decline in the leakage per km length of pipeline as well as the complaints associated with water supply leakages

Background

Surat is the second largest city in Gujarat and is known as the commercial capital of the state. Surat Municipal Corporation (SMC) manages the water supply and sewerage system of the city. River Tapi is the major source of water supply and the city has piped water supply network since 1898. The growing population of the city has led the authorities to invest in the water supply system and it has implemented a new WATER SUPPLY Master Plan in 2015, which expects to cover the entire city and meet water demands up to the year 2041. The NRW has been reported to be at 20.4% under the SLB framework, hence is a serious cause of concern. Considering this, in order to enhance the water supply services of Surat, SMC constituted an NRW cell in 2007 with the mandate to plan, develop, implement and monitor an action plan for reduction of NRW.



Project Objectives

The NRW cell was formed with the objective of undertaking a thorough estimate of NRW levels and then progressively improving and maintaining overall NRW level at 20%. The NRW cell had six major objectives:

- I. Efficiency enhancement in transmission and distribution network
- II. Achieving equity in distribution
- III. Achieving financial recovery
- IV. Creating awareness for water conservation
- V. Conducting periodic water audit
- VI. Implementation of efficiency and equity measures as per requirement

Key Stakeholders

Surat Municipal Corporation (SMC)

Approach

The NRW cell was mandated with taking an integrated perspective in evaluating the efficacy of the initiatives and to ensure streamlined implementation. The following steps were taken by the cell:

- Identified leakage mapping as a priority initiative and involved identification of leakages based on current and historical complaints from citizens/areas and ground level assessment by SMC's Hydraulic department

- Thorough discussions with leakage team and fitters in various areas to identify the frequent leakage points
 - Leakage repairs were done at three levels based on the size of the pipes, i.e.,
 - Leakages in pipe sizes > 750mm: by outsourcing by AMC to private operators
 - Leakage in pipe sizes 550-750mm: by AMC
 - Leakages in pipe sizes < 550 mm: by zonal offices
- Leakage repairs

Financial Structure

The initiative has been majorly funded by SMC

Achievements



Benefits and Co-Benefits

The initiative yielded numerous impactful results:

- Reduction in leakage per km length of the pipeline: Ratio of the number of leakages per km length of the pipeline has drastically declined over the years
- Reduction in number of complaints: The number of leakages were reduced by 30% annually in all zones
- Effective and better tracking of complaints: Daily reporting of the leakage repairs is done by all the zones to the head office of SMC
- Leak Repairs and water savings: Identification and repair of over 185 frequent leakage points and over 110 contamination points post creation of the NRW cell. It also estimated saving to the extent of 708 ML of potable water translating to a net savings in water costs and road reinstatement cost of Rs. 212 Lakh annually

Limitations and Challenges

Presence of large number, i.e. ~60% of migrant population in the city making it difficult to spread awareness about the key challenges associated with floods

Future Prospects

SMC aims to extend this initiative at a full swing covering all the regions of the city.

Source:

1. https://pearl.niua.org/sites/default/files/books/GP-IN2_WATSAN.pdf
2. https://niti.gov.in/writereaddata/files/document_publication/BestPractices-in-Water-Management.pdf