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Case Study

Adopting Integrated Urban Water Management in Indian Cities (AdoptIUWM)

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Project Partners



ICLEI South Asian Secretariat, ICLEI European Secretariat & Association of Flemish Cities and Municipalities (VVSG)

A Case Study on Revival Of Defunct Community Toilet – Kumthe Area, Solapur, Maharashtra

City Profile

Solapur is one of the largest cities in Southern Maharashtra and has been traditionally renowned for its textile industries (especially for its varied designs and quality of chadars and towels). The city was established in the 12th century and was Siddheshwar after named Saint who encouraged the residents to dig a big lake, which is now known as Siddheshwar Talab. The city and the fort of Solapur later were developed and built along the banks of Siddheshwar Talab by Bahamani Ruler

Mohammed Shah between 1338 AD and 1357 AD. Solapur Municipal Corporation (SMC) was formed in 1964 under the provisions of Bombay Provincial Municipal Corporations Act, 1949 and 74th CAA with an area of 23.23 Sq. Km under its jurisdiction. The municipal area of the city at present stands at 178.57 Sq. Km. Solapur city had 32 wards formerly which have now been increased to 98 wards. The present city limit includes 13 villages and hence, the core city lies at the center of the Municipal area and is surrounded by vast expanses of hinterland. Most of the outer areas of the city are not connected to municipal facilities.

Solapur City

- Area: 178.57 sq.km
- Total no. of wards: 98 wards
- Population (2011): 9.51 lakhs (2011 Census)
- Temperature: Min. 130C to max. 420C
- Precipitation: 617 mm (annual average)
- Water supply sources: Ujani dam, Bhima river Ekruk Lake and ground water

About Project

The European Union funded project Adopting Integrated Urban Water Management in Indian cities (AdoptIUWM) is implemented by ICLEI South Asia in partnership with ICLEI European Secretariat and Association of Flemish Cities and Municipalities (VVSG) in Solapur city. The aim of the project is to build the capacity of Indian local authorities (LAs) to undertake water sector reforms through the adoption of Integrated Urban Water Management (IUWM) principles and practices in their planning and implementation processes. The IUWM process under the IUWM toolkit was implemented in Solapur with the support of Solapur Municipal Corporation. Two pilot projects were selected through the IUWM process and consultations with multiple stakeholders. One of the pilot projects is concerned with recharge of the abandoned bore wells in the city and another on improve the dysfunctional community toilet.

Rationale Of The Pilot Project

With changing urbanization dynamics the basic service in the city is crumbling. Most of the areas in the outer city are still not collected to basic services like water pipelines, sewer lines and so on. City sanitation rankings were conducted in the country under the Nirmal Shahar Puruskar Scheme to catalyse states and cities to create more awareness on sanitation and its impact on public health and the quality of its water resources. The government conducted a rating exercise to set a baseline for self-assessment of cities, and highlighted the areas

where improvements are required. Solapur was ranked 302 out of the 423 cities in country (34 out of 38 cities in Maharashtra State) and falls under the red category in the baseline survey which means that Solapur city requires immediate remedial actions as far as sanitation is concerned¹.

There are about 190,600 households in the city. Approximately 146,945 households and only 77% have individual toilet facilities. There are 569 community toilets, 272 pay and use toilets in the city and 225 open defecation spots. As per its City Sanitation plan 2011, Solapur city is in need of 6236 toilet seats to meet the SLB criterion of 100 % toilet coverage. Future requirements of the city denotes that zone no. 4, 5, 6 and 1 are on top priority in terms of better community toilet facility requirements.

In line with the Swachh Bharat Mission to eradicate open defecation, ICLEI SA with support from Solapur Municipal Corporation chose to revive a defunct community toilet block under European Union funded project Adopting Integrated Urban Water Management in Indian cities (AdoptIUWM). Implemented by ICLEI South Asia in partnership with ICLEI European Secretariat and Association of Flemish Cities and Municipalities (VVSG) in four Indian Cities and Solapur city begins one of the them. The aim of the project is to build the capacity of Indian local authorities (LAs) to undertake water sector reforms through the adoption of Integrated Urban Water Management (IUWM) principles and practices in their planning and implementation processes.

The team from ICLEI South Asia and Solapur Municipal Corporation, based on site visits and discussions with stakeholders at site, finalized the community toilet block in Kumthe area (towards the city periphery in ward 51) for implementation of the pilot project. Kumthe area is a rapidly expanding peri urban settlement with a mix of pukka houses and upcoming kuccha houses (tin sheds). Owing to its location, most of the residents are daily wage workers. Until recently, it was not connected to a Municipal water supply network or sewerage network (some parts of the network are being laid now under AMRUT). There are very few individual toilets and most them are not functional due to lack of water, electricity or a drainage connection. The area faces high instances of open defecation (especially near railway tracks) due to the rapid growth of the settlement and lack of infrastructure connectivity.

Kumthe pocket has three defunct community toilets which have been abandoned due to shortage of water, electricity and poor maintenance. The identified community toilet block has eight male and 12 female toilet units and can be used by more than 120 families in that community. The existing septic tank of the block is completely defunct and owing to lack of water availability and cleanliness, the block has been abandoned.



Old toilet blocks

A comprehensive strategic approach is adopted to upgrade the present abandoned community toilet and to implement community engagement activities. Under the pilot project, revival of this community toilet block and emphasis on recycling/reuse of treated wastewater along with provision of a water facility with adequate O&M structure for the block was established through community participation. Infrastructural restoration and financial sustainability of the toilet blocks were the key parameters for consideration. Revival of the toilet block will act as a model for replication in other defunct community toilets across the city.

A household survey was conducted to understand the willingness of users to use the community toilet and the existing coverage and functionality of community toilets in the area. The surveys showed that nearly 56% of the household toilets are defunct due to drainage (55%) or water availability (45%) related issues. Revival of this community toilet is likely to cater to nearly 300 persons during peak hours and also helps in eradicating open defecation in the area.

Community Engagement

Community consultations were undertaken to understand the issues being faced by the residents in terms of water and sanitation, sensitize the community on WASH and to discuss potential for revival of the community toilet. The final design and O&M structure for revival of this toilet on pay and use basis was also discussed with the stakeholders. Awareness generation activities were conducted for improved ownership amongst stakeholders.

Key features

- Awareness and capacity building of local stakeholders
- Revival of eight male and 12 female toilet blocks
- Decentralized onsite wastewater treatment and reuse for flushing without physical contact
- Roof rain water harvesting for ground water
- Pay and use at the toilet facility
- SMC proposed about 51bio/e-toilets and tertiary treatment at STPs for recycles and reuse of black water under the Smart City Mission of Government. of India

Implementation

To close the urban water loop in the area, the key components of the scheme include:

- Provision of water storage facility for the toilet block
- Revival of all toilet units: eight male and 12 female
- Provision of water efficient fixtures
- Provision of decentralized wastewater treatment units (Anaerobic baffle reactor followed by constructed wetland)
- Reuse of treated wastewater for flushing without any contact with the user
- Provision for cleaner on a monthly pay basis (To be facilitated by community/SMC)
- User fee recovery for maintenance of toilet block (To be facilitated by community/SMC)
- Rainwater harvesting for recharge of bore well supplying water for use in the toilet block

The renovation activities in the block like replacing WCs, plumbing, flooring, white topping, painting, water tank were carried out. A monitoring and evaluation framework was developed for the sustainability of the project. The framework was developed using IUWM toolkit focusing on smooth operation of the system in the future. A workshop was conducted to train the slum committee and maintenance staff of SMC on O&M requirements

of the system. The Operation and management (O& M) framework was shared with the stakeholders. Residents were asked to use this toilet with community ownership and coordinate with SMC to address issues which might come up. The treatment plant will provide treated wastewater for reuse after 3 to 4 months of the working. SMC officials assured effective and efficient use of the same.

Outcomes

Presently more than 60 families are interested to use this toilet on a regular basis through the pay and use system. The Municipality will make arrangements for water supply until the treatment plant is fully operational to provide treated wastewater. Women especially, and the youth group committed to maintain the toilet facility on a pay and use basis. Residents showed interest to maintain cleanliness in the toilets and assured their cooperation to overcome open defecation, security and health problems by using the community toilet. Solapur Municipal Corporation has shown interest to replicate it in other areas.



Stakeholder consultation on rainwater harvesting at the revived defunct community toilet



ICLEI – Local Governments for Sustainability, South Asia

C- 3, Lower Ground Floor, Green Park Extension, New Delhi - 110 016, India
Tel: +91-11-4974 7200, Fax: +91-11-4974 7201, Email: iclei-southasia@iclei.org



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