

Improved Household Level Sewage Connectivity through Capacity Development of Stakeholders Engaged in Plumbing

Context

In 2008 Ministry of Urban Development (MoUD) approved the National Urban Sanitation Policy (NUSP) with the aim to improve the sanitation situation in urban areas of India.

According to census 2011, 9.96 million (12.6%) urban households do not have access to latrines and defecate in the open and 4.74 million (6%) depend on Public toilets. Although sewerage systems widely exist, over 37 per cent of faecal matter is not disposed of safely. This imposes significant public health and environment costs to urban areas that contribute more than 60% of the country's GDP.¹

The National Urban Sanitation Policy (NUSP) based on the 74th Constitutional Amendment Act (1992), aims to strengthen Urban Local Bodies (ULBs). The overall goal of the policy is to transform urban India into sanitised, healthy and liveable cities and towns. Particular focus is given to improvement of hygienic conditions for the urban poor and women through cost-efficient technologies. The NUSP incorporates a paradigm shift and follows integrated concepts in the design and implementation of sanitation strategies. All cities and states are requested to act at par with the NUSP to develop State Sanitation Strategies (SSS) and City Sanitation Plans (CSPs) respectively. A City Sanitation Plan is a planning document that shall achieve the stepwise implementation of the goals spelt out in NUSP whereas SSS creates enabling environment for the latter.

As part of its programme 'Support to the National Urban Sanitation Policy (SNUSP)', Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH supports the MoUD in the aforementioned implementation of policy guidelines.

NUSP reiterates the process of sanitation-related utility management and encourages Urban Local Bodies (ULBs) to regain ownership of the same. However, lack of human resources and capacities to handle problems hamper this process. Therefore, the role of capacity development is crucial in achieving and sustaining 100% sanitation. This can be addressed through training, recruitment of manpower, organisational restructuring and establishment of Standard Operating Procedures.

During the preparation of City Sanitation Plans (CSPs) it was observed that issues relating to household level connectivity to septic tanks and to sewerage systems, improper disposal of wastewater, etc. are affecting overall city sanitation. To mention some specific examples: In Shimla, households are not connected to the sewerage system even though these are in place resulting in under utilisation of STP (Sewage Treatment Plant) capacities. In Nashik, the wastewater reaching STPs is less concentrated in organic load and one reason mentioned by the local officials is the direct connection of septic tank overflows to the sewer whereas ideally the septic tanks should be by-

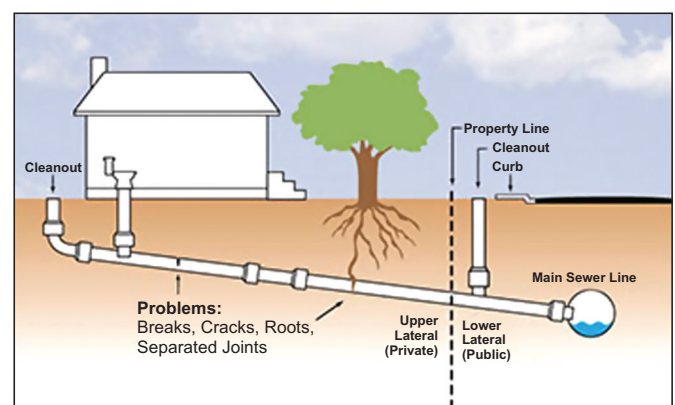
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Country	India
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passed. In some cities, septic tanks are not properly sealed and/or connected to any soak pit or secondary treatment but directly discharge into storm water drains or water bodies. One of the main reason for all the above is weak capacities of human resources engaged in these activities. It has been realized that the aspect of household level connectivity to sewerage system or septic tank is neglected by residents and workforce involved in this activities due to lack of knowledge/capacities. The ground reality, therefore, calls for strengthening of the capacities of stakeholders engaged in plumbing at municipal level. It is crucial that plumbers understand the concept and design of a city's water supply and sewerage system which will enable them to guide and install proper household connections and understand its impacts on overall sanitation in city.

To address the issue of weak capacities in this sector and to bridge the institutional gap GIZ has developed a training module for municipal plumbers focusing on household level connectivity.

Objective

The overall goal is improvement of citywide sanitation, health and environment through introduction of good practices for household level wastewater discharge. This will be achieved by developing a customised training module for plumbers and integrating it into existing plumbing training courses.



¹ National Urban Sanitation Policy, Ministry of Urban Development, Government of India, Oct 2008.

The key objectives are:


- Development of manuals and TOTs for plumbers focusing on household connections.
- To identify training institutes that can roll out such training for municipal plumbers at State level
- To monitor the impact of the training on the citywide sanitation improvements

Approach

The focus was to develop a training module on specific plumbing aspects of connecting households to the septic tanks or sewerage systems. A desk review of existing training manuals and technical specifications was done that includes Indian Standard Codes (IS code), Uniform Plumbing Code India 2011, CPHEEO manual, existing plumbing courses etc. The desk review followed by appraisal study in GIZ supported four cities to understand on the ground problems in connectivity issues and incorporate the lessons learned into the training module. Partner training institutes such as Maharashtra Environmental Engineering Research and Training Academy (MEETRA) in Nashik, Maharashtra, Industrial Training Institute, Shimla, Himachal Pradesh, Training division of Kerala Water Authority, Thiruvananthapuram, Kerala, PHED training Division, Raipur, Chhattisgarh were identified for technical support and for review of the content of newly developed plumber training module on time to time.

Test run training were organized for municipal plumbers in Shimla, Nashik, Kochi and Raipur for ground testing of manual and getting feedback from plumbers working on field. The target group for the test trainings were plumbers registered with Municipal Corporations. Training of trainers programmers were also conducted to train the instructors from various institutes in Himachal Pradesh and Maharashtra.

Stop Manual Scavenging



The Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act 2013 covers manual clearing of human excreta in an insanitary latrine or in an open drain or pit, a drain carrying sewage, sewer and on railway tracks. Offences under this act are cognisable and non-bailable.

Elimination of manual scavenging is a 'National Priority' of Government of India

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Plumber's training test run at MEETRA, Nashik and Shimla

Findings and Output

A review of existing plumbing courses, modules and manuals revealed that most of the conventional training programmes in the various institutes focus on household level plumbing whereas network (sewer) plumbing is completely neglected. The registry of database of plumbers with the local municipal corporation was another issue that needs to be addressed. Most of the municipal administrations do not have an updated list of licensed plumbers and those who do are not up to date. This module developed by GIZ is based on the learnings from cities, analysis of regional scenarios, ground realities and detailed assessment of current plumbing practices, feedback from test runs and discussions with experts from various regions across the country.

The newly developed plumbers training module mainly deals with the concepts for household level connectivity including:

- Connections to the main sewer lines and septic tanks
- Identification of cross connections and methods to avoid them
- Basic conditional and functional assessment of septic tanks and criteria for designing and cleaning of septic tanks,
- Different wastewater treatment technologies,
- Tips for improving plumbing on ground and health-related aspects of plumbers

Next Steps

The newly developed training module will help in reducing the capacity gaps and can be a part of on-going plumbing courses or refresher trainings for already certified plumbers. This can be linked with existing plumbing courses of local and state training institutes for providing training on household level connectivity and improved sanitation in urban areas. A cadre of trained plumbers and trainers will be developed for improving sanitation in cities and the achievement of NUSP vision of 100% sanitised cities. A handbook for plumbers will also be developed for field use of plumbers with simple tips and dos and don'ts on household level connectivity and related issues.

Monitoring of impacts of plumbers training programmes on this particular issues will be done through the indicators provided under Service Level Benchmarking (SLB) during city sanitation ranking exercises as part of Annexure III (NUSP) in all four cities selected for the purpose.

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