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POST EVENT

1-DAY NATIONAL WORKSHOP - A ROADMAP FOR SMALL-SCALE STPS IN INDIA: FULFILLING THEIR POTENTIAL FOR HEALTHY AND WATER-SECURE CITIES

The aim of this event was to present the results of a two year research project and to discuss with participants how to take small-scale sanitation forward in India.

By Lukas Ulrich



ON 5 APRIL, a national workshop on small-scale sewage treatment plants was organized in New Delhi by Eawag, BORDA, IIT Madras, and CDD Society, etc.

Ever-growing Indian cities are facing enormous water and sanitation challenges, ranging from supply of sufficient quantities and qualities of water, treatment of used water and sludge, and protection of aquatic environments. For wastewater management alone, huge financial resources are needed to build and operate the required infrastructure.

Besides underground drainage and large-scale sewage treatment plants (STPs), small-scale sanitation (SSS) systems are becoming increasingly important. Such systems consist of small-scale sewerage networks and STPs, allowing for treatment and recycling of used water near its point of generation. In order

to protect the environment, improve public health and relieve water stress in urban India, SSS systems have a key role to play.

The benefits of such systems, typically serving 10 to 1000 households, have long been recognised. These systems allow for stage-wise, modular and flexible implementation and thus, cost-effective local wastewater treatment and reuse. Small-scale STPs are therefore gaining interest and the number of units installed in India is growing fast. However, a majority of these systems are underperforming owing to poor planning and weak monitoring systems, poorly trained personnel and other reasons. In some Indian cities this has recently made the headlines as new STP and water reuse policies faced the wrath of building owners and apartment associations, highlighting the need for pragmatic solutions.

Evidence-Based Policy Recommendations for More Sustainable Small-Scale Sanitation

In view of these challenges, a research project called “Small-Scale Sanitation Scaling Up” (4S) was launched in 2016. The Bill and Melinda Gates Foundation-funded study is supported by the Ministry of Housing and Urban Affairs (MoHUA) and aims to evaluate the current experience with small-scale STPs. Over the last two years, the research consortium consisting of Eawag (Switzerland), IIT Madras, BORDA (Germany), and CDD Society studied more than 300 existing SSS systems and their enabling environment. The final project goal is to provide policy recommendations to increase the success rate of these systems so they can fulfil their potential.

A National Workshop on Small-Scale STPs

At the workshop held in New Delhi the research consortium presented the results of their field study to a national audience. 120 participants attended the event, including stakeholders from government, utilities, industry, academia, donors and NGOs. The workshop provided a platform

to discuss the prerequisites for a successful scale-up of SSS systems that ensures public health, environmental protection, and safe water reuse.

The Way Forward

The scale-up of SSS is already a reality in India. An estimated 20,000 systems have been built to date, providing an alternative to conventional large-scale STPs. The 4S results show that the necessary treatment performance for water reuse can be achieved by a wide range of suitable technologies available on the market. However, an array of practical challenges currently hinders systems from fulfilling important sustainability requirements. This leads to a large number of underperforming systems that are unable to fulfil their purpose. What is currently missing is a strategic management and regulation of the scale-up process. In other words, suitable policy and institutional frameworks have to be established to facilitate and support the planning, implementation, handover and long-term operation of well-designed systems.

Several key recommendations emerged from the workshop presentations and discussions:

- A management system with

clear responsibilities and adequate human resources is needed, starting with a centralised, geo-referenced database for planning and monitoring of SSS systems.

- An online database could boost the market for treated water by matching producers with potential users.
- Technology choice should follow a more systematic process, ensuring the consideration of lifecycle costs of systems.
- Design guidelines and minimum standards for small STPs are required to ensure units are able to reach performance expectations.
- Adequate training, certification and accreditation mechanisms are needed to capacitate and support operators.
- Technology providers and designers should provide operational support and take responsibility for good performance during the first years of operation.
- There is a need for pragmatic water quality standards for small STPs, taking into account different reuse options.
- The right financial incentives should be provided to stakeholders, such as property tax rebates for apartment owners who correctly operate STPs.