

PLANNING FOR CITYWIDE INCLUSIVE SANITATION (CWIS)

A research project based out of Eawag-Sandec to develop a novel planning methodology for the paradigm shift in urban sanitation for cities of developing countries. It aims to bridge top-down and bottom-up planning approaches for different sanitation contexts. With a focus on India, at a time when sanitation has received its highest priority and such research will be useful for future citywide inclusive sanitation planning.

Context

The urban sanitation challenge is exacerbated by population increase and rapid urbanisation. Present predictions are that about 70% of the world's population will be urbanised by 2050, with an additional 2.25 billion people from the developing world across Asia, Africa and Latin America living in cities. Such urbanisation almost always surpasses the sanitation infrastructure provision in developing cities, and presents an opportunity to move from conventional sanitation systems to a whole spectrum of decentralised sanitation technologies. However, the right scale of decentralisation has yet to be determined. Further, sanitation planning has traditionally followed a top-down approach without consideration of local knowledge and stakeholder preferences, but the above calls for an innovative and holistic approach, that considers the engineering aspects, as well as the incorporation of social, economic, institutional, cultural and environmental factors in inclusive urban sanitation planning.

Research Objectives

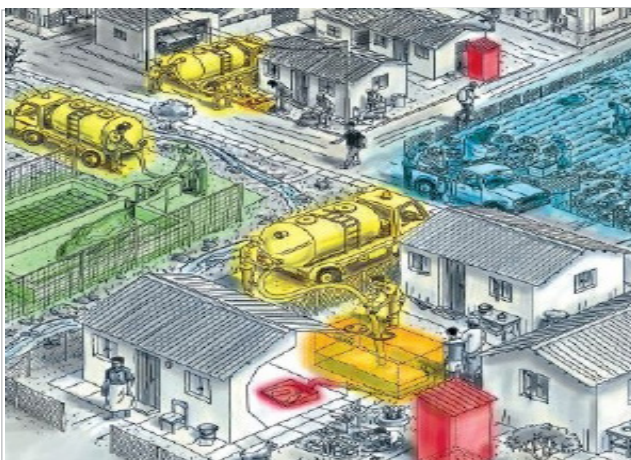
The aim of this research is to comprehensively understand current sanitation planning practices and then develop a bridged methodology combining top-down and bottom-up approaches. Such a holistic methodology would synthesize information about the existing sanitation landscapes of cities in low and middle income countries and systematically provide context specific, stakeholder inclusive solutions adhering to the principles of CWIS. These would encompass factors such as equity, environmental & public health, resource recovery among others.

Focus Region

India has made sanitation and sustainable urbanisation a national priority since 2014, as is evident from national level schemes, such as the Swachh Bharat Mission, Smart City Initiative and more recently Jal Jeevan Mission. With success in eliminating open defecation, there is still a need for managing the entire sanitation value chain. In the face of rapid urbanisation, and political will water and sanitation is receiving in the country, India is a uniquely suited case to study. Two challenges of urban sanitation will be analysed – retrofitting in megacities, and peri-urban regional planning of urbanising secondary cities. The key cities for this research include Chennai, Bangalore, Mysore, and Coimbatore.

Methodology

A mixed-method of quantitative and qualitative research methodologies will be applied to truly make the study holistic. Stakeholder mapping, policy and governance analysis, key-informant interviews, social network analysis, focus group discussions, household surveys and document analysis, qualitative comparative analysis, and financial analysis will form the core of the research. Based on these, firstly a comprehensive diagnostic study on sanitation planning in India is carried out. Secondly the framing of CWIS and its principles, targets and indicators are clarified. Finally, an evidence-based step-wise bridged approach to CWIS planning will be formulated. The scope for such an approach will also be studied based on case studies indicated earlier and with expert development agencies and local governments.



Different (de-)centralised sanitation systems could exist in an urban area.

Doctoral Researcher

Abishek S Narayan

This is an inter-disciplinary PhD project of based out of Eawag and ETH Zurich, under the supervision of Dr. Christoph Luthi and Prof. Max Maurer.

Eawag-Sandec
 Oberlandstrasse 133,
 8600 Dübendorf, Switzerland

Potential Partners

- Gates Foundation
- World Bank
- SuSanA / GIZ

Linked Projects at Eawag

- 4S
- ConCaD
- WINGS

Further information:

www.sandec.ch/CWIS
abishek.narayan@eawag.ch