

## India Urban Conference: Evidence and Experience

Context Anchor: Arghyam

Issue: Urban Water

### Academic Plenary Sessions

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**Format:** Arghyam will host two, traditional style panel discussions. The plenary will aim to set the context on urban water, while generating discussion on the challenges and solutions.

**Structure:** Each plenary will have 4 panelists and 1 moderator/chairperson

#### Plenary 1: Urban Water Resources: Taking Stock

Time slot: 9:00 am – 10:20 am

Water availability per capita in India has fallen from about 5 million liters in the 1950's to 1.3 million liters in 2010. This is a 75% drop that India has witnessed in the last 50 years, primarily due to an increasing population. For much of India's 'water history', the focus has been on large scale surface water projects to provide access, neglecting sources within the city and in the peri urban areas. Over time an enormous informal groundwater market has arisen in several cities to bridge the demand-supply gap. While this has been a critical coping strategy, it is very problematic as a long-term solution. More recently, rainwater harvesting and artificial recharge are being seen as an alternative source to bridge this gap. In terms of quality, the water sources face increasing stress from sewerage and industrial effluent pollution, dumping of solid waste and agricultural runoff. Overall the situation is dire with very few urban areas having successfully managed their water resources in order to provide adequate and safe water to all the residents. This panel session will try to provide an overview of the current status and outline critical structural (legal, management, implementation and financial) challenges that, if not addressed, will constrain sustainable growth of urban centers. The panel will also explore scenarios for the future and dwell on some solutions: what fraction of the city's water requirement can be met by local sources like rainwater harvesting and artificial recharge? Can we take a new view of cities as embedded within a river basin, and will this improve our planning?

## Plenary 2: Urban Water Institutions: Models, Gaps and New Challenges

Time slot: 10:30 am – noon

Water being a State subject, the State Government has the primary responsibility of the management and deployment of this resource to meet critical lifeline needs as well as for livelihoods, agriculture and industry. The administrative control and responsibility for development of water rests with various State departments and corporations. Under the 74<sup>th</sup> Constitutional Amendment Act, 1994, the city level function of water supply has been devolved to the municipalities and other urban local bodies. There exist different institutional arrangements in the urban water supply sector. For instance a few metros like Delhi, Chennai, Bangalore and Hyderabad have autonomous/semi-autonomous water supply and sewerage boards ('para-statals') with limited functional autonomy. In Mumbai, the municipal corporation handles water supply and sanitation. In cities like Amritsar and Ahmedabad, the capital works are the responsibility of the para-statal, while the municipal corporation looks after the operation and maintenance. Water supply for small/medium towns too is again managed through such different institutional arrangements. Water supply and sewerage utilities tend to be engineering focused due to the technical complexities involved, and therefore are not geared for citizen involvement and participative decision-making. The focus on the marginalized and the poor in urban settlements continues to suffer from lack of provision of basic services. The utilities are often not in control of aspects like management and protection of local surface water bodies. While groundwater has become a critical part of the picture in many cities, hardly any water utilities have tried to formalize this or even have a hydro geologist on their staff. For utilities that are responsible for the overall water supply within the State there is the need for integrated rural and urban planning, especially in the case for small and medium towns.

Other institutions that play a role in good urban water management include the state groundwater board, irrigation and water resources wing, pollution control board and urban development authorities. The convergence between these institutions is oftentimes inadequate. Some states have also taken steps for setting up independent autonomous bodies to regulate the sector. The session will explore the quality of urban water governance under different institutional approaches and some of the barriers in implementing institutional reforms.

## Deep Dives Sessions (DD)

**Format:** *These are 4 smaller sessions intended to generate deep discussion on a particular issue. They will be led by either one or two individuals (experts), who will make a short presentation before moderating/facilitating discussion, with a view to engage a diversity of people from the sector and outline possible areas for further research or investigation.*

**Structure:** *Each deep dive is to have 2-3 presenters, 2 discussants*

### **Deep Dive (DD): Universalizing Sanitation: Efficacy of Schemes and Barriers to Implementation**

**Time: 1:00 pm – 2:20 pm**

In India, it is estimated that only 33% have access to toilets within premises and only 28% have connections to sewerage. Overall about fifty million people in urban India resort to open defecation. Given this gargantuan problem, the aim of this deep dive session is to primarily explore the policy and implementation barriers in universalizing urban sanitation. Broadly, the session will explore some of the inconsistencies embedded in the national and state level design of schemes: How can there be better convergence and accountability throughout the governmental architecture? Do schemes reflect the real costs of implementation and facilitation (NGO costs and IEC, for example)? How can the process to leverage schemes be simpler?

While the Govt of India has provided an appraisal of its main flag ship scheme, Individual Low Cost Sanitation (ILCS) scheme, many gaps remain on various fronts. In the same vein, the provision of sanitation is contingent on land tenure (Agra, Gujarat and Bhubaneswar being notable exceptions). Is it permissible to explore the waiver of land tenure to ensure the provision of basic services to one and all, especially the urban poor? While the crux of theme will try to focus on the primary barriers (financial, social) in construction, the theme will also touch upon the gaps and challenges in universalizing sanitation, especially in areas which suffer from a lack of sewage management and a drainage network

### **Deep Dive (DD): Understanding Groundwater**

**Time: 1:00 pm – 2:20 pm**

In many cities in India, groundwater has become a critical coping strategy for citizens in the absence of sufficient supply from the utility. Some utilities themselves have become heavily dependent on groundwater, Chennai being a notable example. In all this, a serious scientific understanding of groundwater in urban areas has been missing: most utilities don't have a hydro-geologist on their staff. A comprehensive database on the groundwater flow systems and groundwater availability in each hydro-geological setting is critical. This will enable a real time monitoring of the status of groundwater use and allow us to employ appropriate solutions. On the quality side, protection of aquifers from pollution and dumping of waste and agricultural runoff is needed for the larger sustainability of the aquifer and the watershed that recharges it.

In this context, Arghyam's experience with Mulbagal, a small town, in Karnataka may be useful. As part of an Integrated Urban Water Management (IUWM) intervention in Mulbagal, extensive studies were conducted to understand the quality and quantity of the groundwater resource that the city depends on. These studies have the potential to inform the city planning such that the town can understand the fluctuations in its groundwater table due to extraction and lateral flows; therefore, right decisions and the right financial allocations can be made to secure the town's current and future water for both quantity and quality. While studies of this nature allow for such an "invisible" resource to become "visible", many questions remain on how such knowledge should to be disseminated. Who will house and maintain such rich data? This session will start with a detailed look at the Mulbagal experience and explore other, similar efforts from across the country. The audience will be encouraged to critique these initiatives and seek viable options for Indian cities to come to grips with their groundwater dependence.

### **Deep Dive (DD): Challenges/constraints faced by water utilities**

**Time: 2:40 pm – 4:00 pm**

One of the much talked about areas of good governance has been the need for institutional reforms, particularly among the water utilities in order to make them more efficient, transparent and accountable. Urban water utilities are often identified as the weak component in the water supply sector. However, the truth is that these utilities do not function in isolation, but are part of a bigger picture and their functioning is influenced by several factors (external and internal). Utilities are faced with inadequate human resources, rapid technology changes, weak decision-making processes, ageing of infrastructure, power dynamics with other departments and elected representatives etc. This deep dive will provide a platform to representatives from urban water utilities to articulate issues related to the environment in

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599, 12<sup>th</sup> Main Road, HAL II Stage, Indiranagar, Bangalore – 560 008.

T: 080-41698941/42, F: 080-41698943; E: [info@arghyam.org](mailto:info@arghyam.org); W: [www.arghyam.org](http://www.arghyam.org), [www.indiawaterportal.org](http://www.indiawaterportal.org)



which they operate and the challenges that they face in delivering regular, equitable and sustainable services to all. The session will also look at some of the innovative interventions/mechanisms that utilities have taken up for improving governance and social aspects of service delivery.

**Deep Dive (DD) 4: Tour of the water harvesting and sewerage treatment facilities (Infosys campus, Mysore)**

**Time: 2:40pm – 4:00 pm**

The Infosys campus in Mysore has 8 lakes and open wells to facilitate groundwater recharge; the campus also has a bio membrane waste water treatment facility, which has the capacity to treat 50 lakh liters of water per day (currently it treats 35 lakh liters per day). The treated water is directly put back to use and is used for flushing in all 12,000 rooms available on the campus. A tour will be organised around the campus to see the operation of these facilities.