



Urban Water Security Management Toolkit

**Report on roundtable meeting to
discuss draft toolkit**



CEPT University, Ahmedabad
“Urban Water Security Toolkit”

Roundtable Discussion

10th March, 2017

Background

Water is a critical natural resource for the world’s growing urban areas. Today, cities face many daunting challenges, but water management is one of the most serious. Better urban water management requires that we treat Urban Water Cycle as one system and understand the relationship between various components. In most parts of India, cities face severe water crisis during summer months. Despite this, making cities water secure has remained a distant dream. Cities continue to depend on water being brought from far away. A paradigm shift is necessary for cities to manage their local water resources and plan for sustainable use of local resources.

Bhuj, a city located in the arid region of Kachchh in Gujarat has successfully survived centuries of low rainfall and droughts through traditional water management system, linking watersheds, lakes and wells. However, over the years, this conventional wisdom appears to have been lost. With the city’s growth, many water bodies in the city have disappeared, and ground water quality as well as quantity is depleting at a fast rate. Moreover present water supply system in Bhuj is dependent on multiple sources of water yet not able to cater to all its city’s demand.

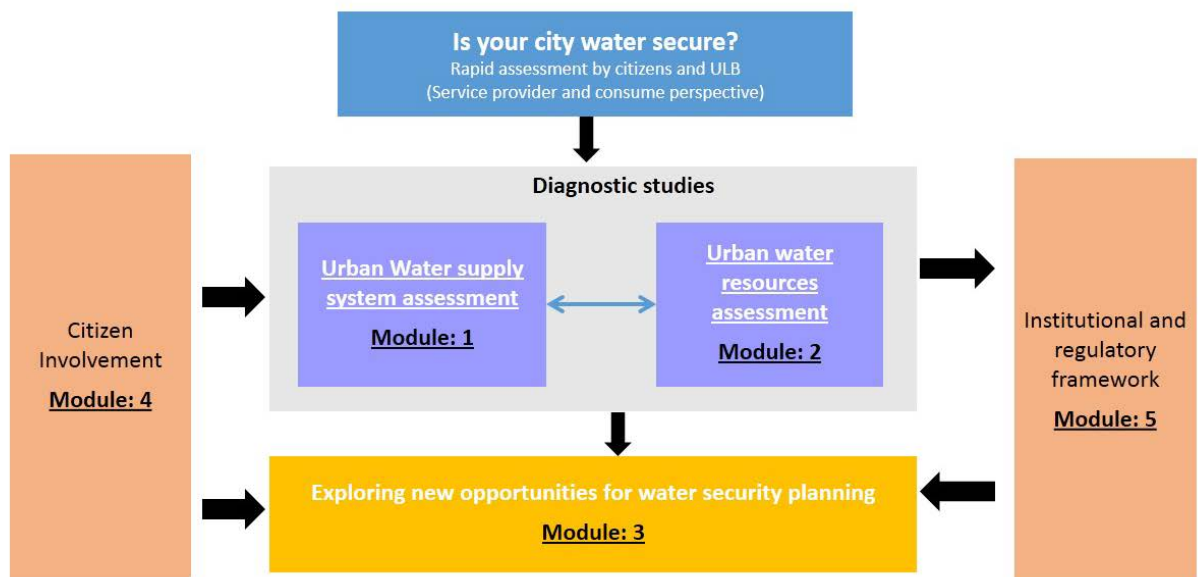
Realizing the deteriorating situation of water resources, Arid Communities and Technologies (ACT), a NGO in Bhuj initiated work on urban Participatory Ground Water Management (PGWM). ACT’s efforts combine a deep knowledge of history of water resources and a technical assessment of water resources through participatory ground water management process. It has conducted many demonstration activities to spread awareness amongst citizens about alternative sources. This story of Bhuj shows that the concept of ‘participatory approach’ can also be applied in the urban context and the city can achieve ‘water security’ with these efforts.

The Centre for Water and Sanitation (C-WAS) at CEPT University is knowledge partner to Arid Communities and Technologies (ACT) for urban water management activities in the city of Bhuj, Gujarat. Based on the Bhuj experience, CEPT has translated these lessons in developing generic guidelines and tools that can be used in other cities and pave way for them to become water secure.

Key Highlights of the Roundtable

A roundtable discussion was held to get feedback on the draft toolkit prepared by CEPT University. A presentation was made by the CEPT team on “Urban Water Security Toolkit”. The presentation explained the need and the approach of the toolkit and also gave an overview of the tools in it. The structure of the toolkit and each module were discussed in detail.

Figure 1 Framework of Urban water security toolkit



Key discussion points made by the participants are summarized below.

1. Defining the scope of toolkit and applicability to stakeholders

There was a general consensus that existing toolkits on water security by international organizations provide useful frameworks but are very general. Moreover, most of these toolkits address large regions. This effort of preparing a toolkit aimed at small urban location was appreciated. It was suggested that while this toolkit provides a step by step guide for city governments, planners and other local users, the scale at which this toolkit can be applied should be made clear upfront.

While planning for water necessitates that a watershed should be taken up as the unit of analysis, this poses a challenge for urban local authorities. They have limited jurisdictions, much smaller than the watershed boundary. Administrative boundaries do not coincide with natural boundaries. Moreover, due to high percentage of built up area, natural drains become unrecognizable. It was suggested that there should be some description of how smaller catchments or micro watersheds can be identified.

It was also felt that though the toolkit is comprehensive enough and covers all aspects in a simple and step-by-step manner, the narrative of Bhuj must be described upfront. This can enable the reader to understand the context.

Additionally, it was suggested that the benefits and usage of the toolkit for each category of audience can be explained at the start of each module. A brief description of the “message” in each module may be given, along with possible focus areas for different groups of users. An example given was that of importance of hydro-geological studies. A planner may be keen to look at detailed studies, while a citizen may be more concerned about depleting water levels in the wells.

2. Participatory approach for behavioural change and extent of involvement

In understanding urban water resources, citizen’s involvement plays a very important role. The communities can be involved in the planning process and it can result in behavioural change as well. However, for this the information and data points need to be made relatable to non-technical persons. For example, for conveying the urgency of depleting groundwater, instead of saying 18 MCM reduction in groundwater it can be addressed as depletion of water by 300 ft depth or compare it to the annual rainfall or inches of water needed for a particular crop. The way it is communicated makes an impact on the mindset of a citizen. Such measures can be a part of the toolkit which helps in bringing behavioural change amongst the citizens as well as the officials and help them understand the importance of the water.

The extent of citizen focus of the toolkit was debated and it was noted that even though citizen participation is extremely helpful, the focus of this toolkit is also for professional planner and local government that has the mandate for planning. It was suggested that the toolkit has to balance these two aspects and where citizen engagement is possible, the language and data points may be made simpler.

3. Evaluating distant water sources

Participants were in agreement that water security can never be obtained by being dependent on bulk water import. However, it was agreed that in many cases water import may be inevitable. It was discussed that the significance of distant water sources must be identified properly as to know what aspects of water import could result into water insecurity.

A suggestion was made to address the water sources according to the degree of control that the Urban Local Body (or the water supply agency) has on the water resources, in terms of jurisdiction, geography

and access. In this framework, the ULB has limited control over distant sources, but are in full control of local water resources. It was also noted that water import also has political influences. It is now seen as more of a precaution than a necessity. Prior appropriations from water projects for urban use are established and therefore cities are wary of using local sources on fear of losing out on their allocations.

4. Inclusion of financial aspects

There was a consensus among the participants about the need to include economic and financial costs related discussion in the toolkit. From the citizens' perspective, willingness to pay for the services can be added. It was suggested that citizens must be made aware of the "real" cost of bringing water to their doorsteps. Citizens should also be told about what they pay to the ULB for water and what the private water suppliers charge. This will make them realise the value of water. Publication of ground water levels in the local media periodically by the ULB should also be added in the toolkit. .

5. Benchmark for water demand

There was discussion on the applicability of the water supply benchmark of 135 lpcd and whether it can be applied in all cities or not. At present, the amount of water used is always taken as the demand. A way must be found to determine the actual demand of a city. It was argued that 135 lpcd may be high for smaller urban centres. It was pointed out that the Service Level Benchmarks (SLB) of Government of India for water supply is 135 lpcd. The CPHEEO suggests that for cities that do not have sewerage system, a daily supply of 70 lpcd may be sufficient. It was agreed that the toolkit should highlight this aspect.

In the perspective of planning for water security, it was suggested that needs and demands of the average citizen grow overtime. With economic growth, rising income and changing lifestyle, there will be an increase in water demand. This should be highlighted and the norms of water demand (whether 135 or higher) should be incorporated in future projections. It was also noted that the water demand of non-domestic users such as industry, commercial establishment and urban agriculture also needs to be considered in assessing water demand of a city.

6. Groundwater governance

Assessment of groundwater withdrawals in urban areas is a difficult task. This is largely because there is no record of private wells in an urban area. In absence of proper regulations, there is no control on citizens drilling new bore wells. It was suggested that ULBs can undertake a census of private wells and borewells and link them with water tariff. (case of Bangalore).

To understand the relation of various stakeholders with groundwater, it was suggested that groundwater units could be defined as: Households relation with groundwater, institutions relation with groundwater and an areas (city area/neighbourhood level) relation with groundwater. For getting groundwater details some android based applications were also suggested namely: Jalsankhya and Humara Bhujal. Apart from this, a common platform can also be developed where the data collected for various projects could be shared with each other. The toolkit should include these aspects.

7. Exploring new opportunities for water sources

Participants agreed on the focus on alternate water opportunities. Rainwater harvesting, groundwater recharge and wastewater reuse could be packaged together. The rainwater harvesting is always focused on building level with roof rainwater harvesting activities. However, groundwater recharge at society level should also be highlighted. Example: In Pune, a group of 5-6 societies covering an area of 5-6 sq km. have formed a consortium and developed a public groundwater recharge systems. It was also suggested that programs like AMRUT, Smart Cities Mission can also have such practices showcased on their dashboards.

As a way forward, the feedback from this roundtable will be used to update the toolkit. Efforts will be made to provide a narrative of Bhuj upfront and key messages for various stakeholders at the start of each module.




Agenda

Time	Session	Presentation by
11:00- 11:15	Welcome and Workshop Objectives	CEPT, Arghyam
11:15- 12:15	Presentation on Urban PGWM toolkit	CEPT
12.15 - 13.30	Round Table Discussion	
13:30-14:00	Wrap up and Closing Remarks	

List of Participants

Sr. No.	Name of the Participant	Designation, Organization
1	Dr.Himanshu Kulkarni	Founder Trustee and Executive Director, ACWADAM, Pune
2	Vishwanath S	Arghyam
3	Dr. Parthasarthy	Director & Professor, GIDR
4	Anoop Nagar	Regionl Director, CGWB, Gujarat
5	Dr.Yogesh Jadeja	Director, ACT, Bhuj
6	Anil Mehta	Jheel Sanrakshan Samiti
7	Bishwadeep Ghose	Director Programmes, Arghyam
8	Madhavi Purohit	Senior Manager, Arghyam
9	Dr. S S Rao	Water Infotech
10	Dr. R K Sama	EX-WASMO
11	Kavita Maheta	Independent Consultant
12	Manisha Jadeja	ACT, Bhuj
13	Gaurav Parmar	ACT_Bhuj
14	Soni Kishan	ACT_Bhuj
15	Nisha Subramaniam	Arghyam
16	Alka Parecha	People in Centre
17	P Sundaram	Jheel Sanrakshan Samiti
18	Prajakta Shinde	Academic Associate, CEPT University
19	Jeevan Roy	CEPT University
20	Shipra Patel	CEPT University
21	Dhwani Shah	CEPT University
22	Ravi Indrajit Singh	Academic Associate, CEPT University
23	Prof. Mona Iyer	Professor, CEPT University
24	Prof. Madhu Bharati	Professor, CEPT University
25	Prof. Shubhrangshu Goswami	Professor, CEPT University
26	Dr. Dinesh Mehta	Professor Emeritus, CEPT University
27	Dr. Meera Mehta	Professor Emeritus, CEPT University
28	Mahroof Mohammad	Senior Research Associate, CEPT University

Sr. No.	Name of the Participant	Designation, Organization
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30	Aasim Mansuri	Senior Research Associate, CEPT University
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32	Dhara Shah	Senior Project Executive, CEPT University
33	Upasana Yadav	Research Associate, CEPT University
34	Aditi Dwivedi	Research Associate, CEPT University
35	Urvi Patel	Research Associate, CEPT University
36	Nilesh Parmar	Research Associate, CEPT University
37	Panini Vaidya	Research Associate, CEPT University
38	Jigisha Jaiswal	Research Associate, CEPT University



Knowledge Management and Advocacy Partnership for Participatory Ground Water Management in Bhuj

The Centre for Water and Sanitation (CWAS) at CEPT University has been established to focus on improving water and sanitation services in India. The Centre carries out various activities – research, training, advocacy to improve delivery of urban services.

CEPT University is the Knowledge Partner to Arid Communities and Technologies (ACT) for ground water management activities in the city of Bhuj, Gujarat. Through CWAS, CEPT is supporting ACT in documentation of processes related to Participatory Ground Water Management (PGWM) in Bhuj. Based on this study, CWAS is developing guidelines to promote Participatory Ground Water Management in Indian cities.

This report has been prepared by CWAS at CEPT as part of the Bhuj PGWM project.

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