

U.S. - India Standards and Conformance Cooperation Project, Phase II Sustainable Solutions for Safe Drinking Water for All

June 26, 2018

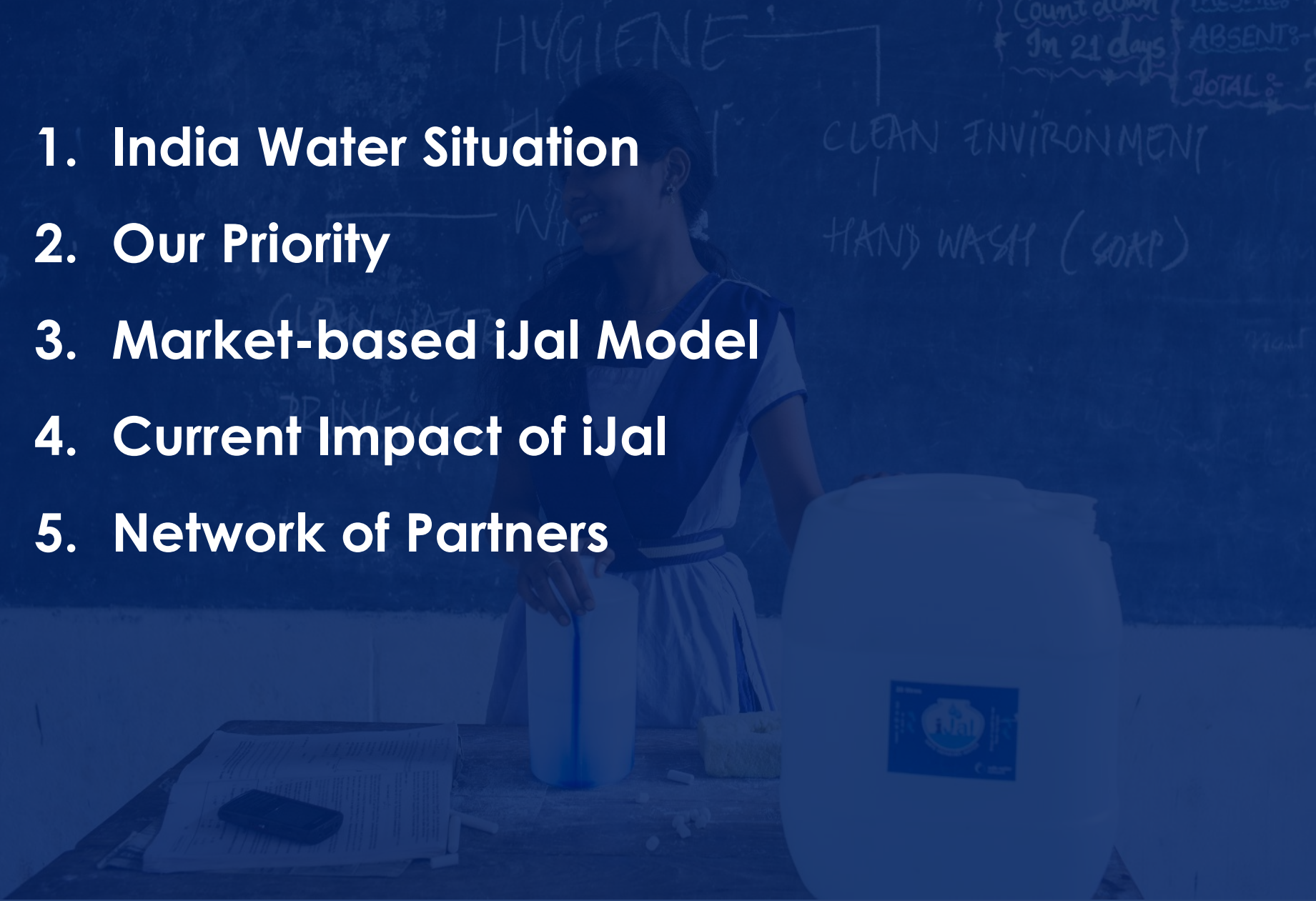


Session 1: Improving Water Efficiency & Sanitation in Homes & Buildings

Ravindra Sewak
India Country Director

Agenda

1. India Water Situation
2. Our Priority
3. Market-based iJal Model
4. Current Impact of iJal
5. Network of Partners



India Water Crisis

A satellite view of the Earth, showing the Indian subcontinent and surrounding regions. The landmasses are in shades of brown and green, while the oceans are dark blue. The text is overlaid on the image.

Nearly 800 million people
in India
living beyond piped treated water

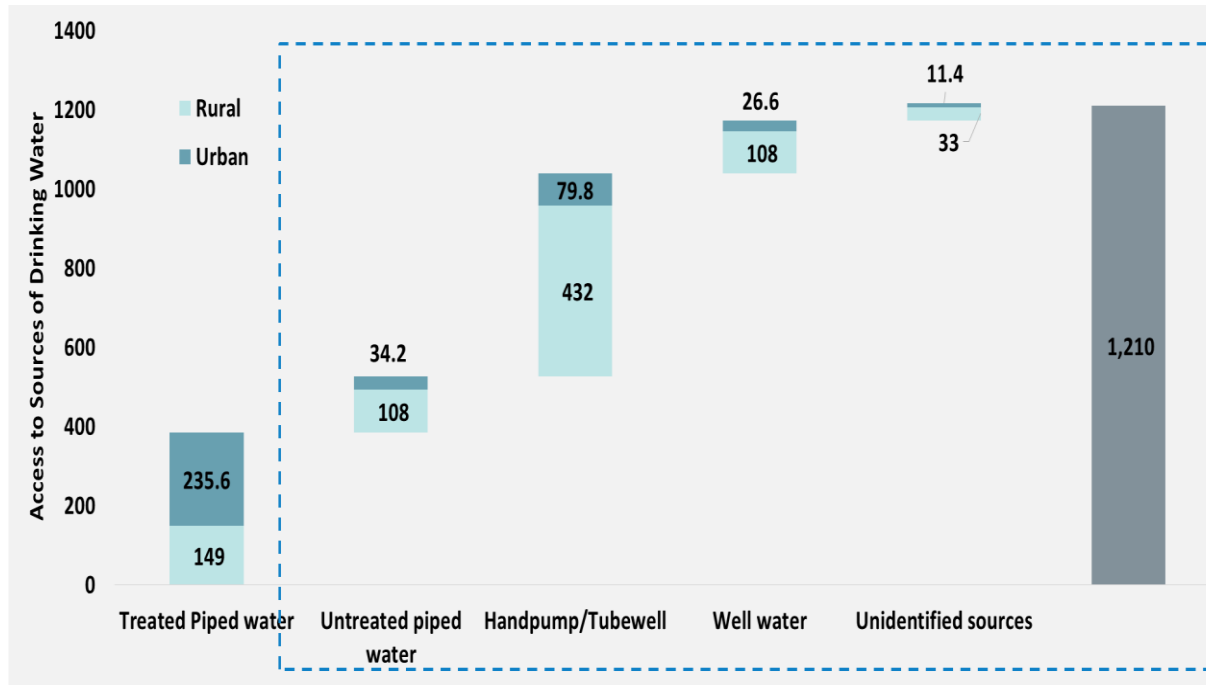
Millions have been spent on solutions

Nearly half fail within a year of launch


Every year, about 600,000 Indian children die of illnesses associated with unclear drinking water

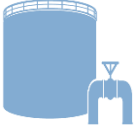
Safe Water Challenge in India

WITHOUT TREATED PIPED WATER: 822 M



*Figures in Millions


**RURAL &
SMALL TOWNS**
**100,000
SWEs**


URBAN
**14,000
SWEs**

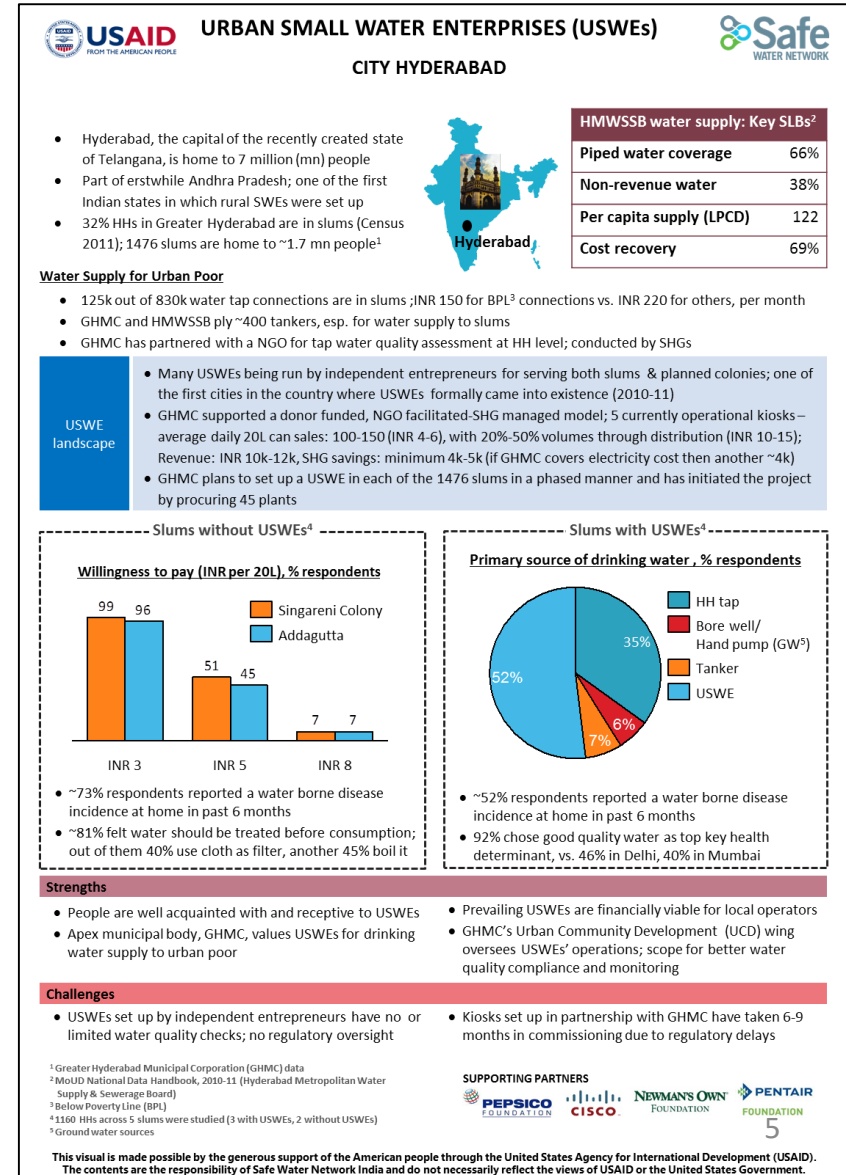
ESTIMATED MARKET 250 MILLION PEOPLE

India ranks a poor **132nd** out of 180 nations for its per capita water availability and a low of **120th** out of 122 nations for its water quality, according to the Water Resources Information System of India.

Water Crisis in Hyderabad city!



- Home to second largest slum dwellers in India – 23 %
- The poor live in 775 notified urban slums ~1.7 M people
- Poor get water through stand pipes or HMWS&SB tankers
- Water is supplied once in three days

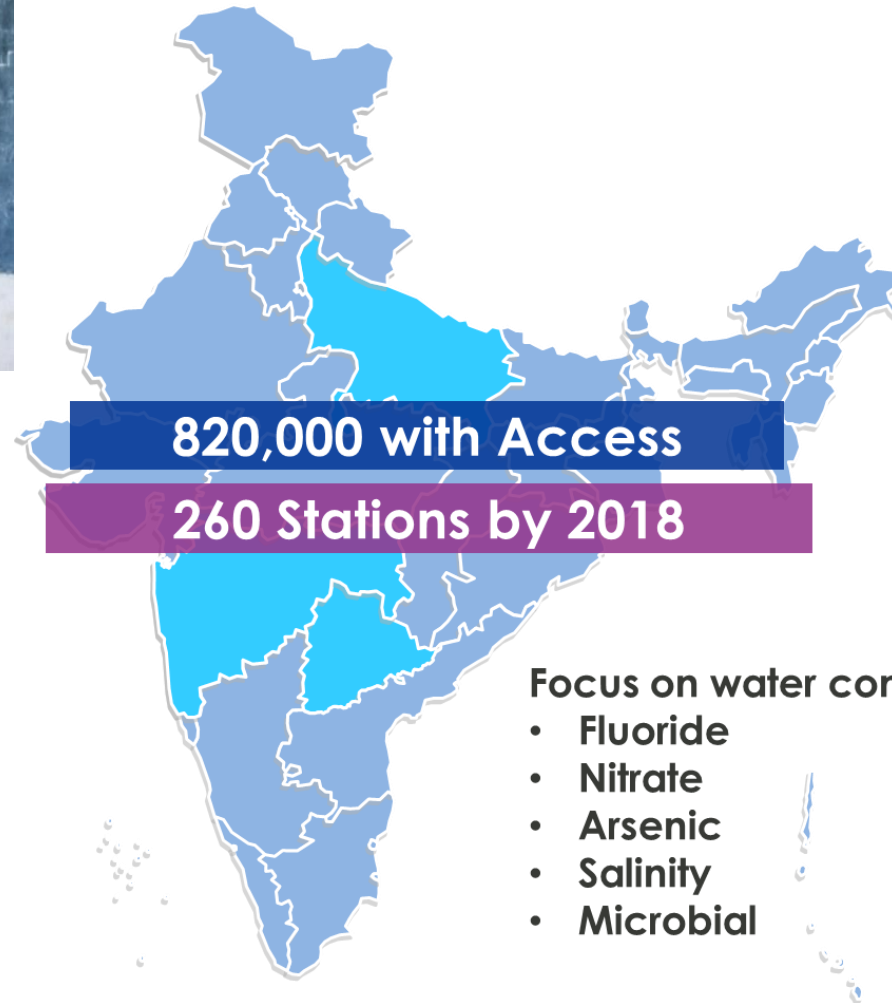


Our Mission



**Bringing
Water to her**

**Solving for
millions more**



Focus on water contamination:

- Fluoride
- Nitrate
- Arsenic
- Salinity
- Microbial

Program Areas

iJal Water Stations with 24x7 Water ATMs



- 228 iJal Water ATM Stations: community / entrepreneur owned
- Telangana, Hyderabad city, Maharashtra, UP
- GP Endorsed
- Access to over 820,000 people
- <2% downtime
- 13 iJal stations equipped with Solar system with Lithium Ion Batteries & Hybrid Inverter

Rainwater Harvesting



- 55 villages, 1022 household / community Kunds in Churu, Rajasthan
- Elimination of drudgery and water security

Knowledge Center



- Digital Tools as decision-support systems
- Manuals, Do-it-Yourself guides, toolkits
- Sector Reports
- Performance Standards
- Consumer Research
- Field Insights



Technology
Six Stage US Nano / UF Technology



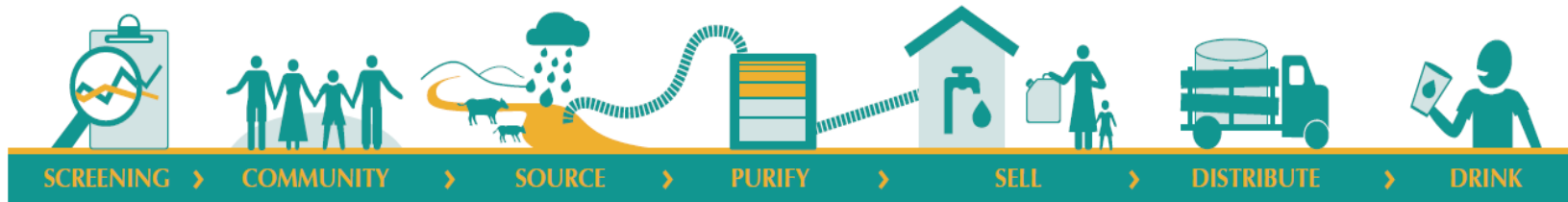
With principle consent from GHMC to make treated water available at five denominations to the urban slum residents in Hyderabad city.

WATER PRICING AT ATMs

₹1: Per Glass (500 ml)
₹2: Per liter
₹5: 10 liters
₹10: 20 liters
₹50: 100 liters (for bulk delivery)



Incentives and capacity-building throughout the value chain



...including cluster-level field support services:



Women in Water

Women playing a increasingly important role in consumer activation and operations



Rani Barakaum (far right)
Community WASH Mobiliser, leader of
“self-help group”



Surekha (far right)
Community WASH Mobiliser

Livelihoods Generation



Solar Powered iJal station –
Medak Hospital



Station Operator



Distributor
(Driver / Loader)



Self-Help Groups

Operating Models (Stations)	Full Time	Part Time	Total Livelihoods	Livelihoods per station
Community (19)	24	42	66	3.5
Entrepreneur (173)	362	136	498	2.9
Self Help Group (31)	62	-	62	2.0
iJal Stations (228)	448	178	626	

85 women at work!

- 23 women entrepreneurs-cum-operators
- 62 Self Help Group members

Towards Sustainability with Innovations



Remote Monitoring System



Digital Tools



Solar-power run iJal Station



Consumer Activation

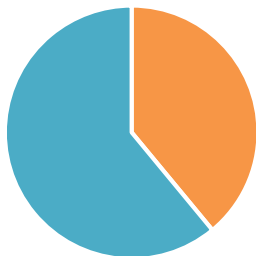


Water ATMs



Women Financial Education

Consumer Dashboard



39% are registered users



51% of users reported a decrease in medical expenses



73% of parents reported reduced school absenteeism

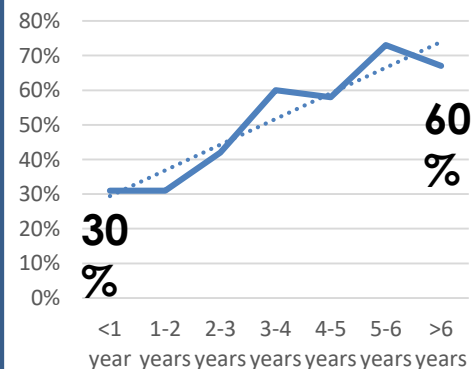


60% of consumers reported a reduction in lost work days



75% of women collected water from traditional sources

Consumer Registration based on Station Age



Current Impact of iJal

Operations

228
iJal Stations 

820,000
water access 

Water Quality
as per national
standards 

OpEx
positive
from day 1 

Innovation

191
Water ATMs 

111
can washers 

13
solar enabled 

RMS
at all stations 

Metrics


216
Million liters
(annualized) 


39%
registrations 

<2%
Downtime 

626
Livelihoods
generated 

Consumer

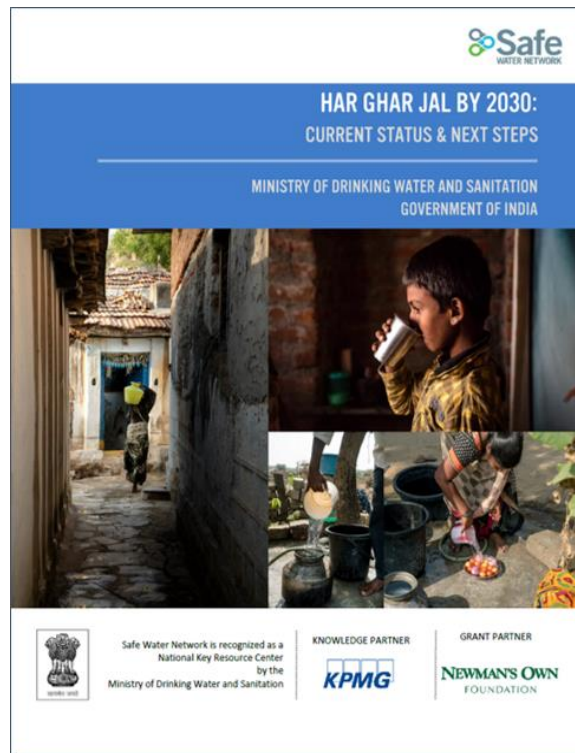
51%
reduction in
medical bill 

73%
claim reduction in
school absenteeism 

60%
reduction in loss of
work days 

75%
men collect water
from iJal 

Knowledge Products: Policy and Advocacy

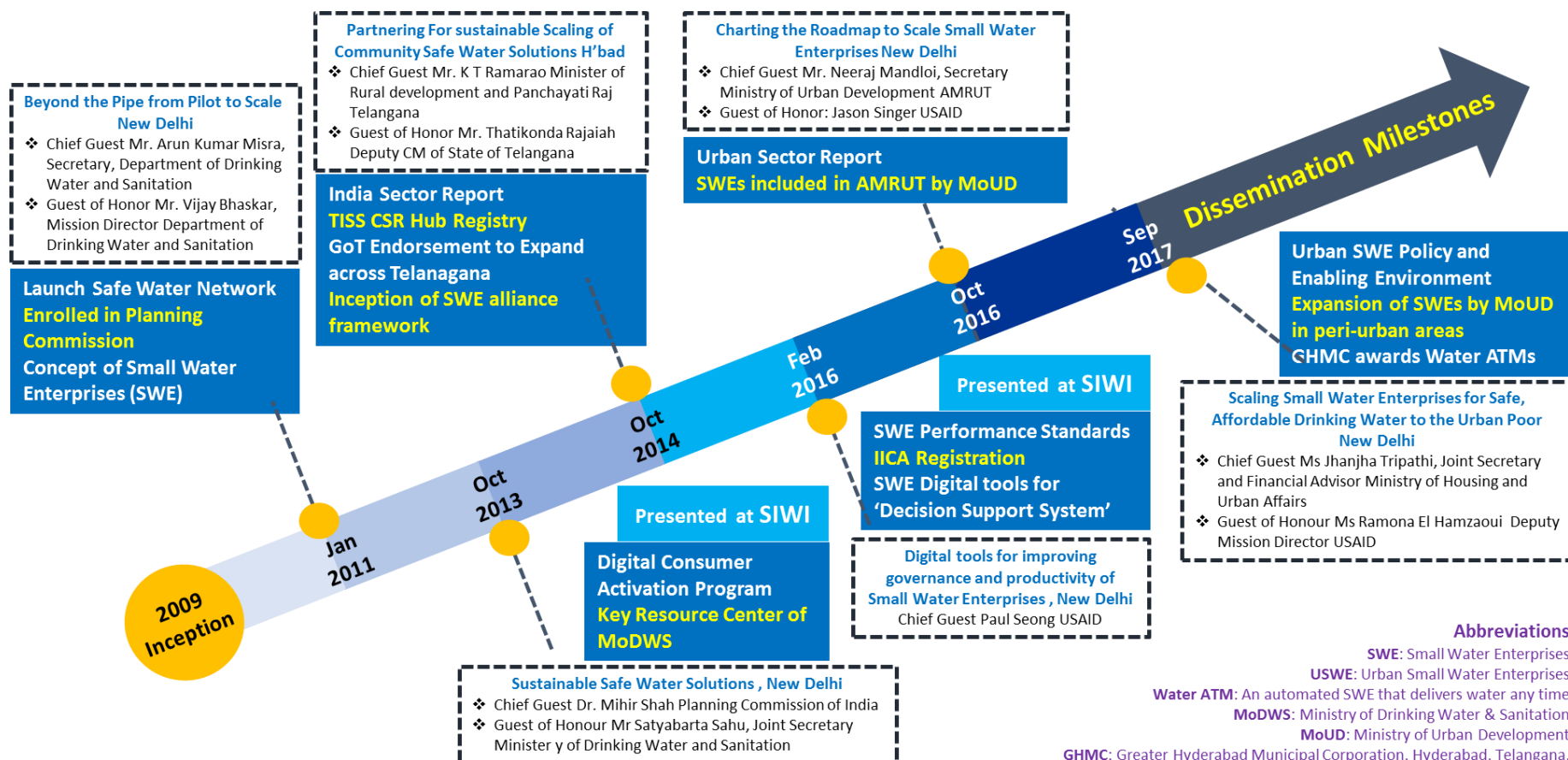


Har Ghar Jal by 2030: Current Status & Next Steps



Policy & Enabling Environment for Urban Small Water Enterprises

Advancing through Beyond the Pipe Forum: Noteworthy Achievements and Outcomes



Water Quality: NABL Approved Lab



Bhagavathi Ana Labs Pvt. Ltd.
 Plot No. 7-2-C 7 & 8/4, Industrial Estate, Sanathnagar, Hyderabad - 500 018, INDIA
 Tel: +91 40 2381504 / 23810505 • www.bhagavathianalabs.com
 CIN: U4220MH1995PTC284370

TEST REPORT

Certificate No.: TC-5040
NABL HY-001

Name & Address of the Customers :
 M/s. SAFE WATER NETWORK INDIA (SWN)
 The Centrum, TB-3, 3rd Floor,
 369-370, Sultanpur, Main Mehrauli Gurgaon Road,
 New Delhi-110 030

Test Report No. : BALPL17-18/CL-2303/17
 Lab Sample Code : 16230302/17
 Issue Date : 27/02/2018
 Customer Ref. : Mail
 Ref. Date : 16/02/2018

Sample Details : Raw Water
 Date of Registration : 16/02/2018
 Date of commencement of testing : 16/02/2018
 Date of completion of testing : 27/02/2018
 Sample Condition of receipt : Found Ok
 Ambient

Sample Location : Jookal, Jayashanker

Qty. Received : 2litX1no.
 Tests Required : As per Mail Dated.16.02.2018

Sample submitted by the customer

Page No. 1/3

S.No.	Test Parameters	UOM	Test Method	Requirement (Acceptable Limit) as per IS 10500: 2012	Permissible Limits in Absence of Alternative Source as per IS 10500:2012	Test Results
1	Colour	Hazen Units	IS: 3025 (P.4)	5 max.	15 max.	<1
2	Turbidity	NTU	IS: 3025 (P.10)	1 max.	5 max.	<1
3	pH	--	IS: 3025 (P.11)	6.5 to 8.5	No Relaxation	7.39
4	Electrical Conductivity	µs/cm	APHA 2510-B	---	---	3850
5	Total Dissolved Solids	mg/l (ppm)	IS: 3025 (P.16)	500 max.	2000 max.	2507
6	Total Hardness as CaCO ₃	mg/l (ppm)	IS: 3025 (P.21)	200 max.	600 max.	1905
7	Non Carbonate Hardness as CaCO ₃ *	mg/l (ppm)	By Calculation	---	---	1376.9
8	Calcium Hardness as CaCO ₃ *	mg/l (ppm)	By Calculation	---	---	632.1
9	Alkalinity to Phenolphthalein as CaCO ₃	mg/l (ppm)	IS: 3025 (P.23)	---	---	Nil
10	Total Alkalinity to Methyl Orange as CaCO ₃	mg/l (ppm)	IS: 3025 (P.23)	200 max.	600 max.	529.2
11	Calcium as Ca	mg/l (ppm)	IS: 3025 (P.46)	75 max.	200 max.	263
12	Magnesium as Mg	mg/l (ppm)	IS: 3025 (P.46)	30 max.	100 max.	310
13	Sodium as Na	mg/l (ppm)	IS: 3025 (P.45)	---	---	81.6
14	Potassium as K	mg/l (ppm)	APHA 3500 K-B	---	---	9.8
15	Chloride as Cl	mg/l (ppm)	IS: 3025 (P.32)	250 max.	1000 max.	778
16	Sulphates as SO ₄	mg/l (ppm)	IS: 3025 (P.24)	200 max.	400 max.	128
17	Nitrates as NO ₃	mg/l (ppm)	APHA 4500 NO ₃ -B	45 max.	No Relaxation	419
18	Nitrite as NO ₂	mg/l (ppm)	IS: 3025 (P.34)	0.02 max.	---	0.04

Verified By:
 Dr. Chaitali Roy
 Team Leader
 Authorized Signatory

*marked parameters are not covered under NABL scope.

A704713

Note: This Report is subject to the terms and conditions mentioned overleaf

Raw Water Test Report
Jookal iJal Station
Jayashanker district, Telangana

Bhagavathi Ana Labs Pvt. Ltd.
 Plot No. 7-2-C 7 & 8/4, Industrial Estate, Sanathnagar, Hyderabad - 500 018, INDIA
 Tel: +91 40 2381504 / 23810505 • www.bhagavathianalabs.com
 CIN: U4220MH1995PTC284370

TEST REPORT

Certificate No.: TC-5040
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Name & Address of the Customers :
 M/s. SAFE WATER NETWORK INDIA (SWN)
 The Centrum, TB-3, 3rd Floor,
 369-370, Sultanpur, Main Mehrauli Gurgaon Road,
 New Delhi-110 030

Test Report No. : BALPL17-18/CL-2303/18
 Lab Sample Code : 16230302/18
 Issue Date : 27/02/2018
 Customer Ref. : Mail
 Ref. Date : 16/02/2018

Sample Details : Treated Water
 Date of Registration : 16/02/2018
 Date of commencement of testing : 16/02/2018
 Date of completion of testing : 27/02/2018
 Sample Condition of receipt : Found Ok
 Ambient

Sample Location : Jookal, Jayashanker

Qty. Received : 2litX1no.
 Tests Required : As per Mail Dated.16.02.2018

Sample submitted by the customer

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S.No.	Test Parameters	UOM	Test Method	Requirement (Acceptable Limit) as per IS 10500: 2012	Permissible Limits in Absence of Alternative Source as per IS 10500:2012	Results
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2	Turbidity	NTU	IS: 3025 (P.10)	1 max.	5 max.	<1
3	pH	--	IS: 3025 (P.11)	6.5 to 8.5	No Relaxation	6.5
4	Electrical Conductivity	µs/cm	APHA 2510-B	---	---	262
5	Total Dissolved Solids	mg/l (ppm)	IS: 3025 (P.16)	500 max.	2000 max.	142
6	Total Hardness as CaCO ₃	mg/l (ppm)	IS: 3025 (P.21)	200 max.	600 max.	20
7	Non Carbonate Hardness as CaCO ₃ *	mg/l (ppm)	By Calculation	---	---	7.84
8	Calcium Hardness as CaCO ₃ *	mg/l (ppm)	By Calculation	---	---	7.84
9	Alkalinity to Phenolphthalein as CaCO ₃	mg/l (ppm)	IS: 3025 (P.23)	---	---	Nil
10	Total Alkalinity to Methyl Orange as CaCO ₃	mg/l (ppm)	IS: 3025 (P.23)	200 max.	600 max.	12
11	Calcium as Ca	mg/l (ppm)	IS: 3025 (P.46)	75 max.	200 max.	3
12	Magnesium as Mg	mg/l (ppm)	IS: 3025 (P.46)	30 max.	100 max.	3
13	Sodium as Na	mg/l (ppm)	IS: 3025 (P.45)	---	---	26.5
14	Potassium as K	mg/l (ppm)	APHA 3500 K-B	---	---	0.5
15	Chloride as Cl	mg/l (ppm)	IS: 3025 (P.32)	250 max.	1000 max.	26
16	Sulphates as SO ₄	mg/l (ppm)	IS: 3025 (P.24)	200 max.	400 max.	<1
17	Nitrates as NO ₃	mg/l (ppm)	APHA 4500 NO ₃ -B	45 max.	No Relaxation	42
18	Nitrite as NO ₂	mg/l (ppm)	IS: 3025 (P.34)	0.02 max.	---	<0.01

Verified By:
 Dr. Chaitali Roy
 Team Leader
 Authorized Signatory

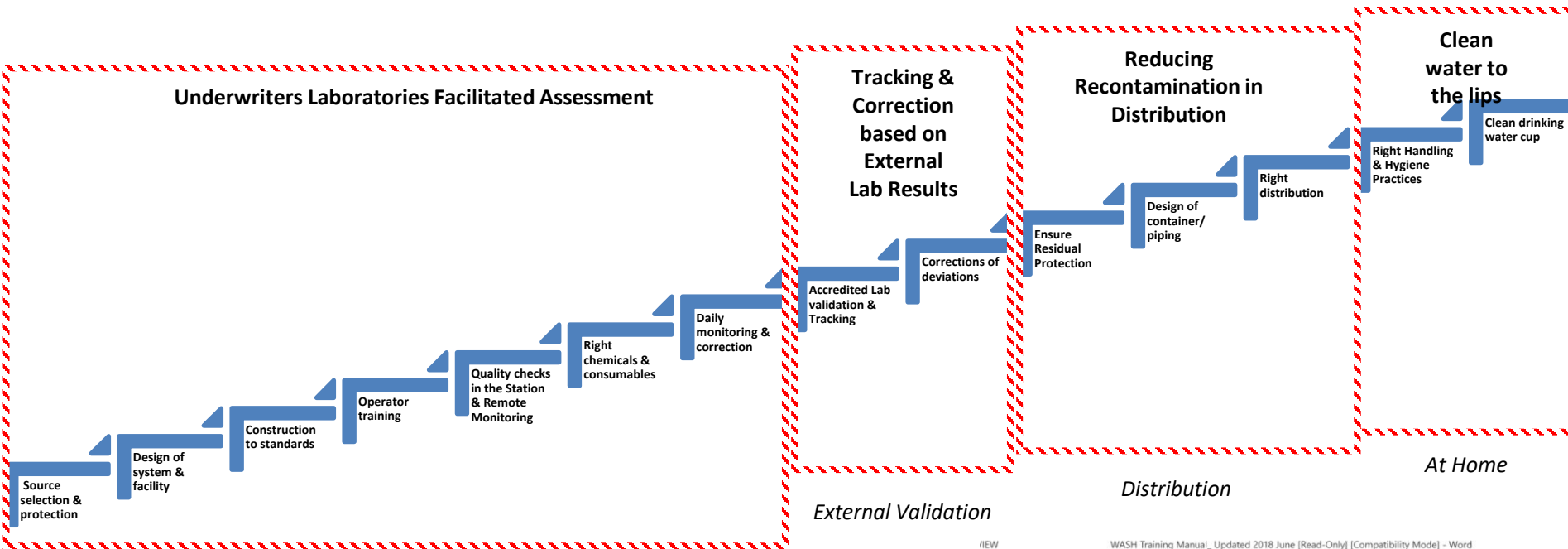
*marked parameters are not covered under NABL scope.

A704660

Note: This Report is subject to the terms and conditions mentioned overleaf

Treated Water Test Report
Jookal iJal Station
Jayashanker district, Telangana

Stairway : Quality Assurance ladder to safe water



Safe Water Station

External Validation

Distribution

At Home

/IEW

WASH Training Manual_Updated 2018 June [Read-Only] [Compatibility Mode] - Word





Thank You