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

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 unclean drinking water
Safe Water Challenge in India

WITHOUT TREATED PIPED WATER: 822 M

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.

Source: Census 2011
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

URBAN SMALL WATER ENTERPRISES (USWEs)

Hyderabad, the capital of the recently created state of Telangana, is home to 7 million (m) people
Part of erstwhile Andhra Pradesh; one of the first Indian states in which rural SWES were set up
32% HHs in Greater Hyderabad are in slums [Census 2011]; 1476 slums are home to ~1.7 mn people

Water Supply for Urban Poor
- 1.25k out of 830k water tap connections are in slums; INR 150 for BPL connections Vs. INR 220 for others, per month
- GHMC and HMWSSB ply ~400 tankers, esp. for water supply to slums
- GHMC has partnered with a NGO for tap water quality assessment at HH level; conducted by SIEC

USAID

Primary source of drinking water, % respondents

- 52% respondents reported a waterborne disease incidence at home in past 6 months
- 91% felt water should be treated before consumption; out of them 40% use cloth as filter, another 45% boil it

Strengths
- People are well acquainted with and receptive to USWEs
- Apex municipal body, GHMC, values USWEs for drinking water supply to urban poor
- Prevailing USWEs are financially viable for local operators
- GHMC’s Urban Community Development (UCD) wing oversees USWEs’ operations; scope for better water quality compliance and monitoring

Challenges
- USWEs set up by independent entrepreneurs have no or limited water quality checks; no regulatory oversight
- Kiosks set up in partnership with GHMC have taken 6-9 months in commissioning due to regulatory delays

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Our Mission

Bringing Water to her
Solving for millions more

820,000 with Access
260 Stations by 2018

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
Ensuring 24x7 water supply

Water ATMs provide relief to low income dwellers with 24x7 availability of affordable safe drinking water

BOO (Build Own and Operate) Water ATMs in Hyderabad Slums 2017-2020

Inception
September 2017

Technology
Six Stage US Nano / UF Technology

GOVERNMENT SUPPORT
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)

SCALE OF PROJECT
50 stations in 2018
Incentives and capacity-building throughout the value chain

...including cluster-level field support services:
Women in Water

Women playing an 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

### Operating Models (Stations)

<table>
<thead>
<tr>
<th>Operating Models (Stations)</th>
<th>Full Time</th>
<th>Part Time</th>
<th>Total Livelihoods</th>
<th>Livelihoods per station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community (19)</td>
<td>24</td>
<td>42</td>
<td>66</td>
<td>3.5</td>
</tr>
<tr>
<td>Entrepreneur (173)</td>
<td>362</td>
<td>136</td>
<td>498</td>
<td>2.9</td>
</tr>
<tr>
<td>Self Help Group (31)</td>
<td>62</td>
<td>-</td>
<td>62</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>iJal Stations (228)</strong></td>
<td><strong>448</strong></td>
<td><strong>178</strong></td>
<td><strong>626</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

- **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
39% of users 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.

75% of men collect water from iJal Stations.

The chart indicates the following consumer registration based on station age:

- <1 year: 30%
- 1-2 years: 60%
- 2-3 years: 60%
- 3-4 years: 60%
- 4-5 years: 60%
- 5-6 years: 60%
- >6 years: 60%
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

**Beyond the Pipe from Pilot to Scale New Delhi**
- Chief Guest Mr. Arun Kumar Misra, Secretary, Department of Drinking Water and Sanitation
- Guest of Honor Mr. Vijay Bhaskar, Mission Director Department of Drinking Water and Sanitation

**Launch Safe Water Network**
- Enrolled in Planning Commission
- Concept of Small Water Enterprises (SWE)

**Beyond the Pipe**

**Partnersing For Sustainable Scaling of Community Safe Water Solutions H’bad**
- Chief Guest Mr. K T Rama Rao, Minister of Rural development and Panchayati Raj Telangana
- Guest of Honor Mr. Thakonda Rajaiah, Deputy CM of State of Telangana

**India Sector Report**
- TISS CSR Hub Registry
- GoT Endorsement to Expand across Telangana
- Inception of SWE alliance framework

**Charting the Roadmap to Scale Small Water Enterprises New Delhi**
- Chief Guest Mr. Neeraj Mundoli, Secretary Ministry of Urban Development AMRUT
- Guest of Honor Jason Singer USAID

**Urban Sector Report**
- SWEs included in AMRUT by MoUD

**Dissemination Milestones**
- **Sep 2017**
  - Urban SWE Policy and Enabling Environment Expansion of SWEs by MoUD in peri-urban areas
  - GHMC awards Water ATMs

- **Oct 2016**
  - Scaling Small Water Enterprises for Safe, Affordable Drinking Water to the Urban Poor New Delhi
  - Chief Guest Ms. Jhanjha Tripathi, Joint Secretary and Financial Advisor Ministry of Housing and Urban Affairs
  - Guest of Honour Ms. Ramona El Hamzaoui, Deputy Mission Director USAID

- **Feb 2016**
  - Presented at SIWI
  - SWE Performance Standards
  - IICA Registration

- **Oct 2014**
  - Presented at SIWI
  - Digital tools for ‘Decision Support System’

- **Oct 2013**
  - Sustainable Safe Water Solutions, New Delhi
  - Chief Guest Dr. Mihir Shah Planning Commission of India
  - Guest of Honour Mr Satyabarta Sahu, Joint Secretary Ministry of Drinking Water and Sanitation

- **Jan 2011**
  - Digital Consumer Activation Program
  - Key Resource Center of MoDWS

**Abbreviations**
- SWE: Small Water Enterprises
- USWE: Urban Small Water Enterprises
- Water ATM: An automated SWE that delivers water any time
- MoDWS: Ministry of Drinking Water & Sanitation
- MoUD: Ministry of Urban Development
- GHMC: Greater Hyderabad Municipal Corporation, Hyderabad, Telangana,
### Raw Water Test Report

**Jookal iJal Station**  
**Jayashanker district, Telangana**

<table>
<thead>
<tr>
<th>B.No.</th>
<th>Test Parameters</th>
<th>UOM</th>
<th>Test Method</th>
<th>Requirement (Acceptable Limits) as per IS 10500:2012</th>
<th>Rehmeda Labs Limits in absence of Alternative Source as per IS 10500:2012</th>
<th>Test Result</th>
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<tbody>
<tr>
<td>1</td>
<td>Colour</td>
<td>ppm</td>
<td></td>
<td>5 max.</td>
<td>10 min.</td>
<td>11</td>
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<tr>
<td>2</td>
<td>Turbidity</td>
<td>NTU</td>
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<td>1 max.</td>
<td>1 max.</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>pH</td>
<td>7.0</td>
<td></td>
<td>5.5 to 8</td>
<td>No Reaction</td>
<td>7.09</td>
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<tr>
<td>4</td>
<td>Iron</td>
<td>ppm</td>
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<td>0.3 max.</td>
<td>0.05 max.</td>
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<td>5</td>
<td>Total Coliforms</td>
<td>Log</td>
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<td>Max 100</td>
<td>Max 10</td>
<td>45</td>
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<tr>
<td>6</td>
<td>Total Hardness as CaCO3</td>
<td>ppm</td>
<td></td>
<td>200 max.</td>
<td>500 max.</td>
<td>216</td>
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<tr>
<td>7</td>
<td>Free Carbons</td>
<td>ppm</td>
<td></td>
<td>200 max.</td>
<td>500 max.</td>
<td>182.9</td>
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<tr>
<td>8</td>
<td>Total Hardness as CaCO3</td>
<td>ppm</td>
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<td>200 max.</td>
<td>500 max.</td>
<td>156.7</td>
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<td>Calcium Hardness as CaCO3</td>
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<td>11</td>
<td>Sodium</td>
<td>ppm</td>
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<td>150 max.</td>
<td>100 max.</td>
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<tr>
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<td>Magnesium</td>
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<td>13</td>
<td>Chloride</td>
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<td>200 max.</td>
<td>200 max.</td>
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<td>14</td>
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<td>16</td>
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<td>5 max.</td>
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*Tested by: Dr. G. Veerabhadra*

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<td>1.6</td>
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<td>pH</td>
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<td>6.5 to 8</td>
<td>No Reaction</td>
<td>6.5</td>
</tr>
<tr>
<td>5</td>
<td>Sodium</td>
<td>ppm</td>
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<td>100 max.</td>
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*Verified By: [Signature]*
Thank You