



**Net Zero Pathway for businesses of East and North East India
20th March 2023, Hyatt Regency Kolkata**

SOURAV DASPATNAIK
MANAGING DIRECTOR – SWACH ENVIRONMENT PVT. LTD.



THE INDIA STORY – WATER STRESS

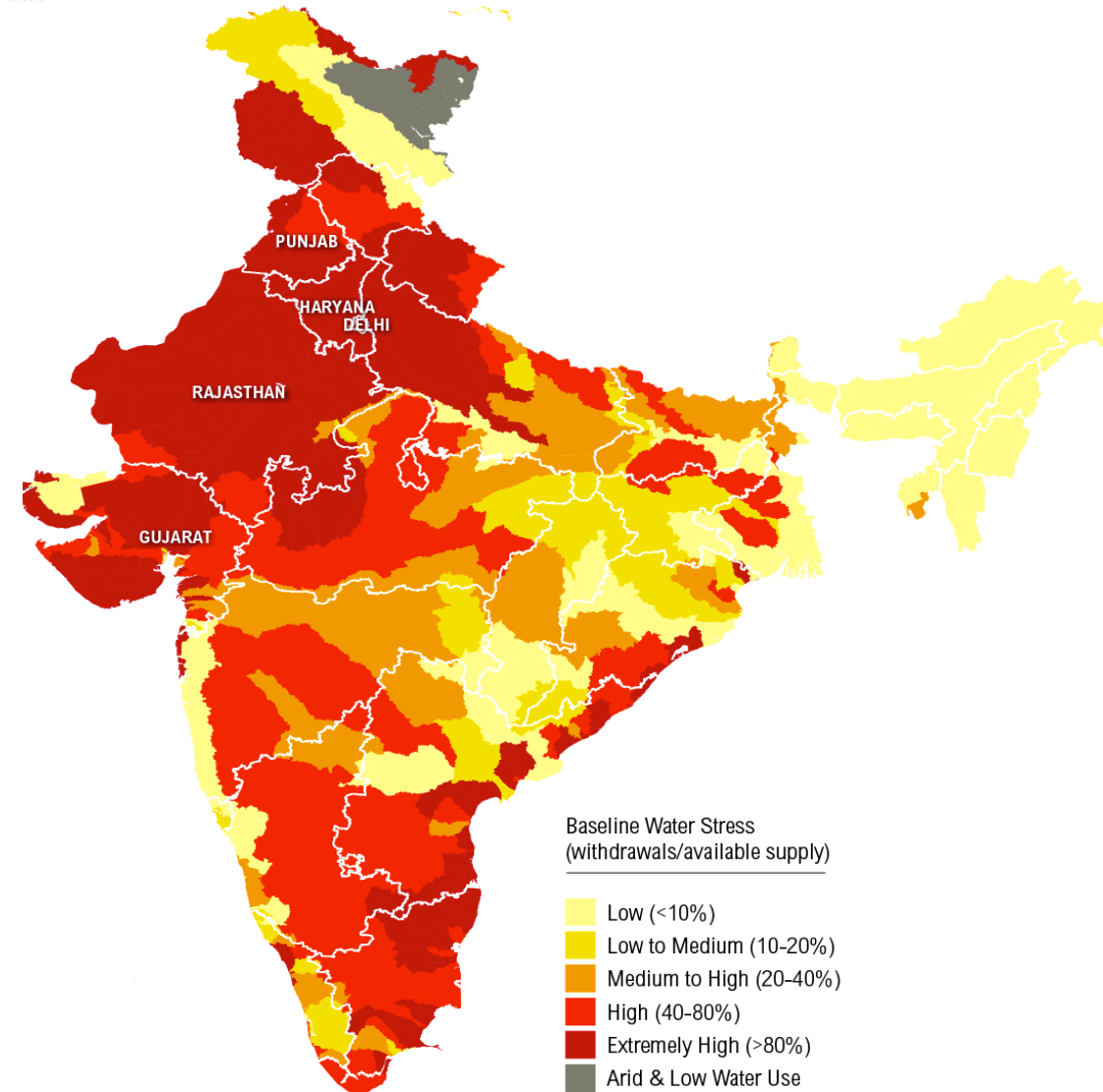
❖ NITI Aayog's Water Index Report revealed that out of the 1.2 Bn population more than **600 Mn people undergo extreme water stress** in India today and **~200,000** people die every year for lack of safe water

❖ **54% of rural households** live **without piped water** supply and **113 Mn** live **without access to clean water** close to their homes

❖ Almost **63% of the sewage** being **discharged** into the Indian Rivers is **untreated** which is further depleting the water resource

❖ **~USD 264 Bn** in investments are required to bridge the expected water supply gap by 2030

❖ **INDIA is the 2nd Largest populated country in the world.** Hence, **impact of Climate change on water will be very prominent.**





GOVERNMENT THRUST ON WATER

Key Government Programs

Jal Shakti Abhiyaan

Merging Ministries in **Jal Shakti**

National Mission for Clean Ganga

Nal se Jal - Tapped water by 2024

Swachh Bharat Mission

AMRUT scheme in 500 towns

Namami Gange – \$ 4.8 BN

Objective of reduction in pollution, conservation and rejuvenation of National River Ganga

Jal Jeevan Mission (Rural) – \$ 45 BN

Scheme to bring safe water to 2.38 crore households through tap connection, to be invested over next 5 years

Swachh Bharat – \$ 19 BN

Focus on complete faecal sludge management and waste-water treatment, to be implemented over 5 years

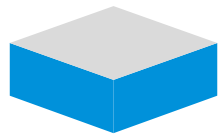
Jal Jeevan Mission (Urban) – \$ 38 BN

Universal coverage of water supply to all households in 500 AMRUT cities
Aims to provide tap water connection to 28.6 million urban households, as well as liquid waste management to be implemented over next 5 years

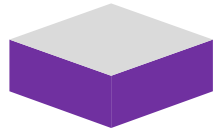


WATER – THE LIFELINE OF HUMAN EXISTENCE OR ENERGY GUZZLER?

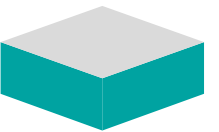
Parameter	National benchmark	Average performance of ULBs
Metering of Water Connection	100%	13%
Non-Revenue Water	20%	33%
Continuity of supply	24 hours	3 hours
Cost recovery	100%	39%
Tariff Collection Efficiency	90%	59%



Need for improving efficiency of electro mechanical equipment



Increasing maturity level of end-users

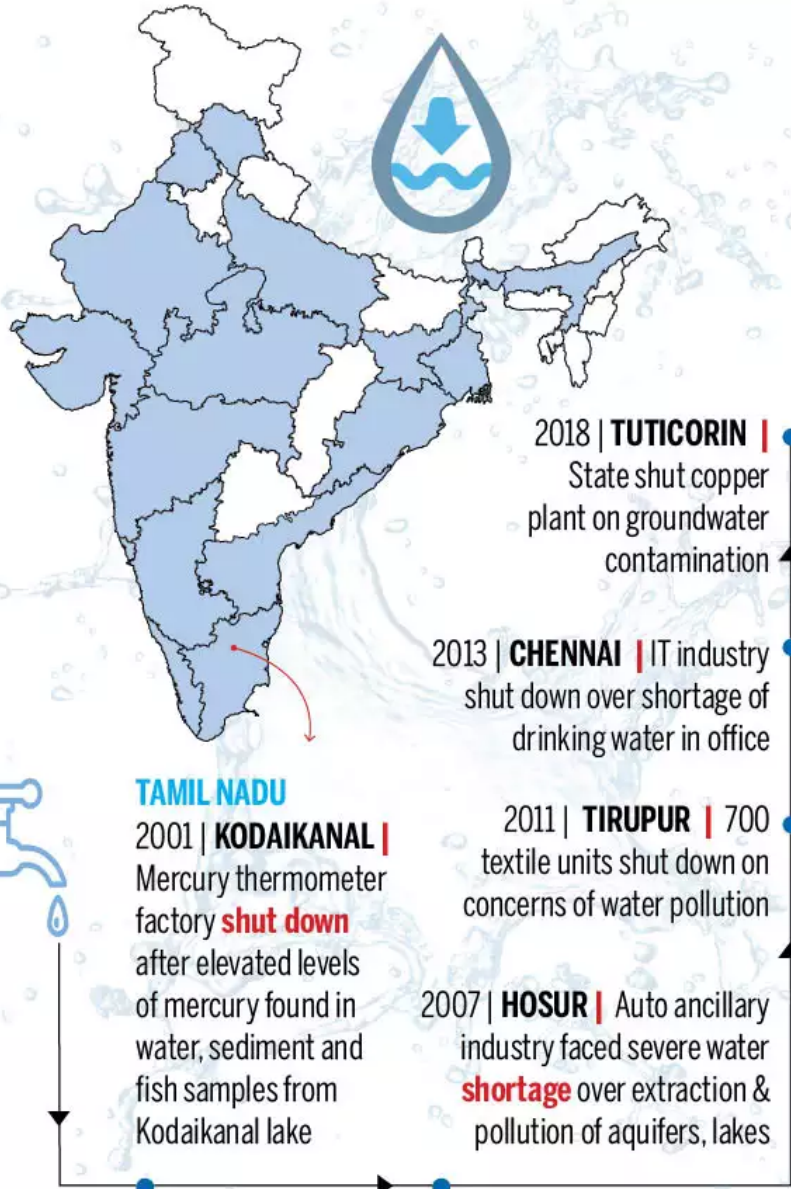


Regulatory push

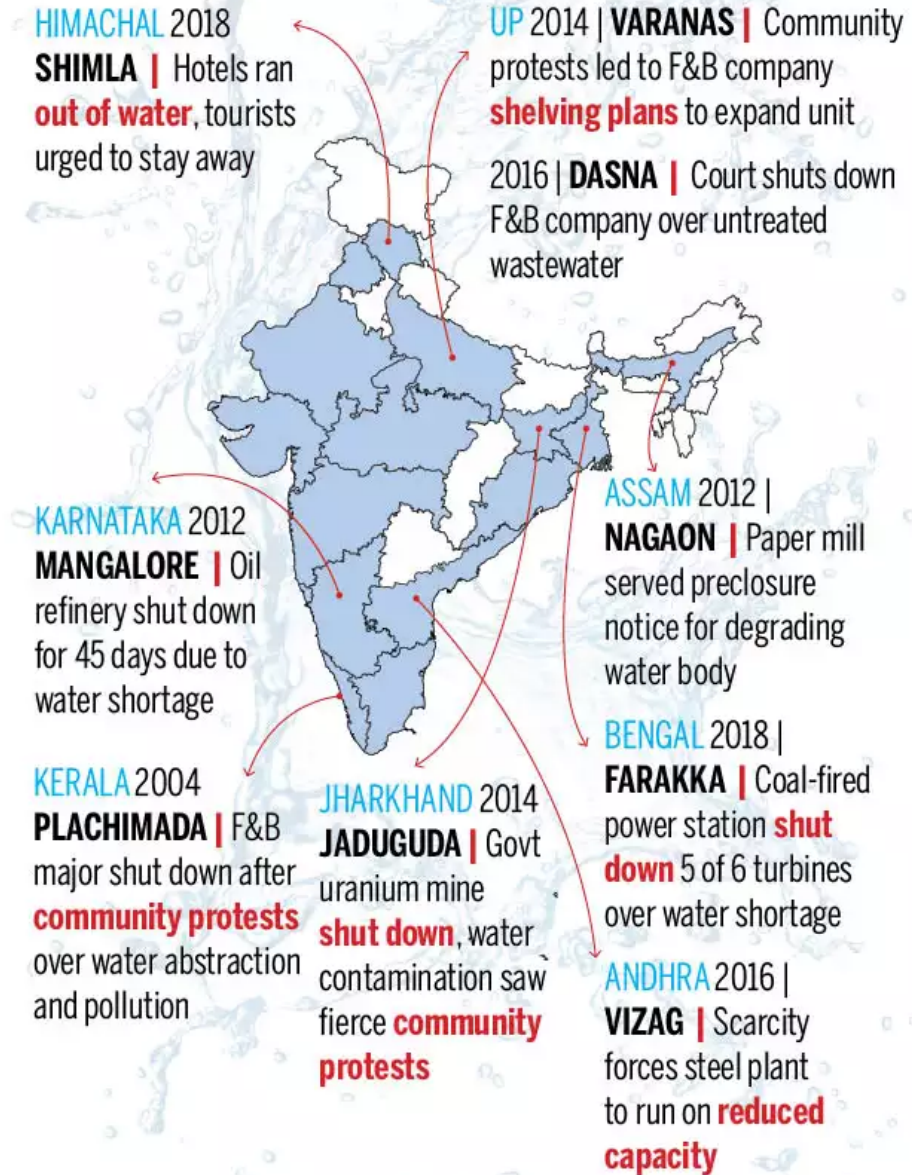
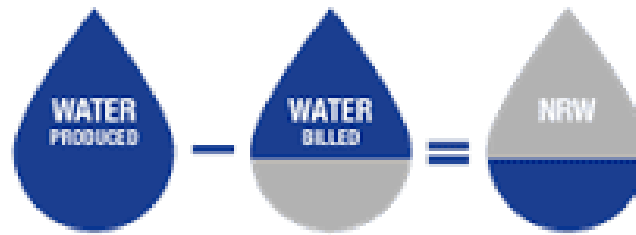
The average performance of the major Urban Local Bodies (ULBs) against the national service-level benchmarks is indicated in the table

With increased standard of living and increased disposable income, urban end-users are demanding better service levels. There is a shift in focus from infrastructure creation to service delivery, and this has resulted in increased adoption of digital solutions

- **Development of Technology framework**
- **Energy efficient electro mechanical system**
- **Reducing non-revenue water to below 20%,**
- **Re – cycling of treated wastewater to meet at least 20% of total city demand**

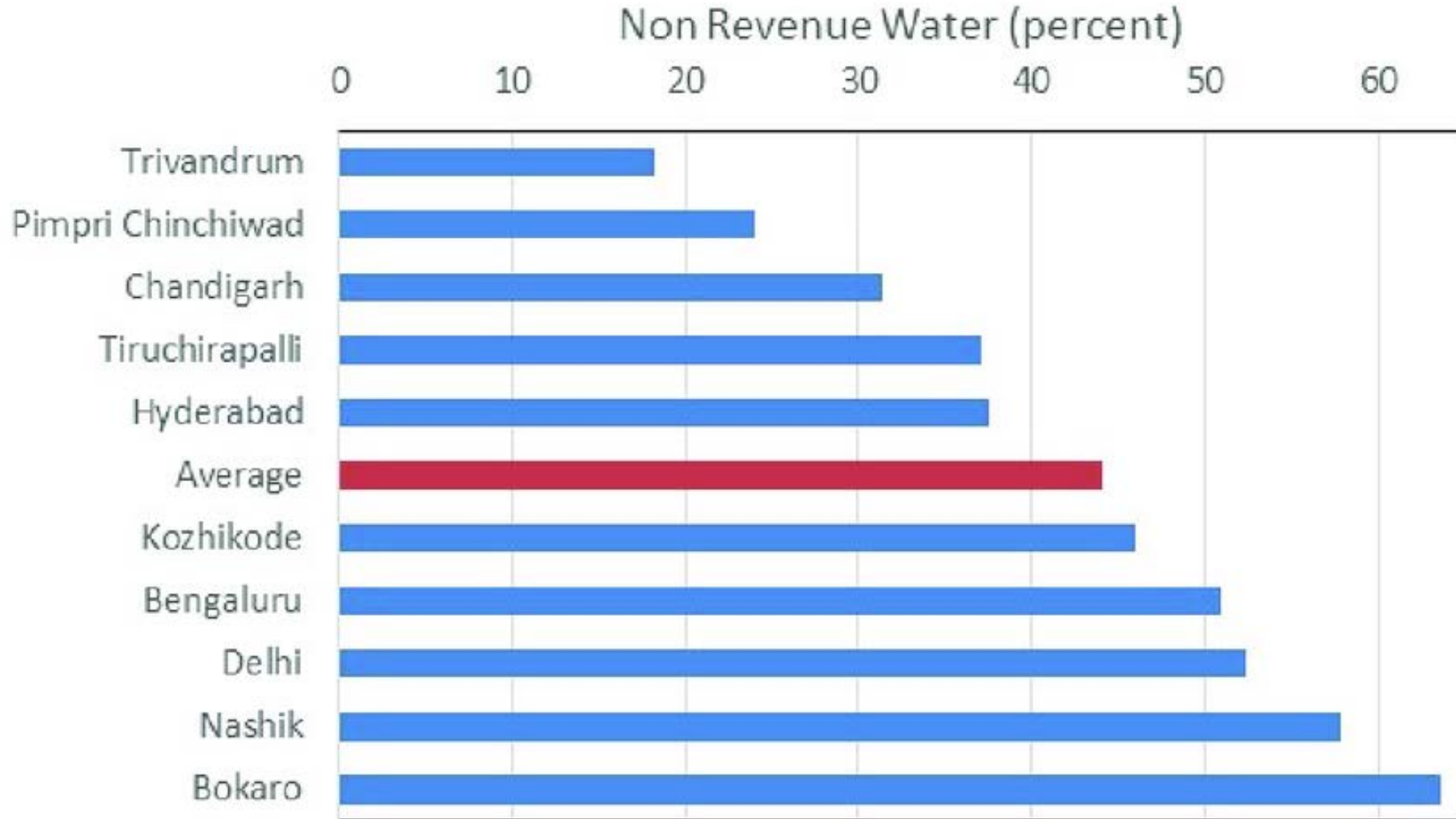


WHAT IS NRW?



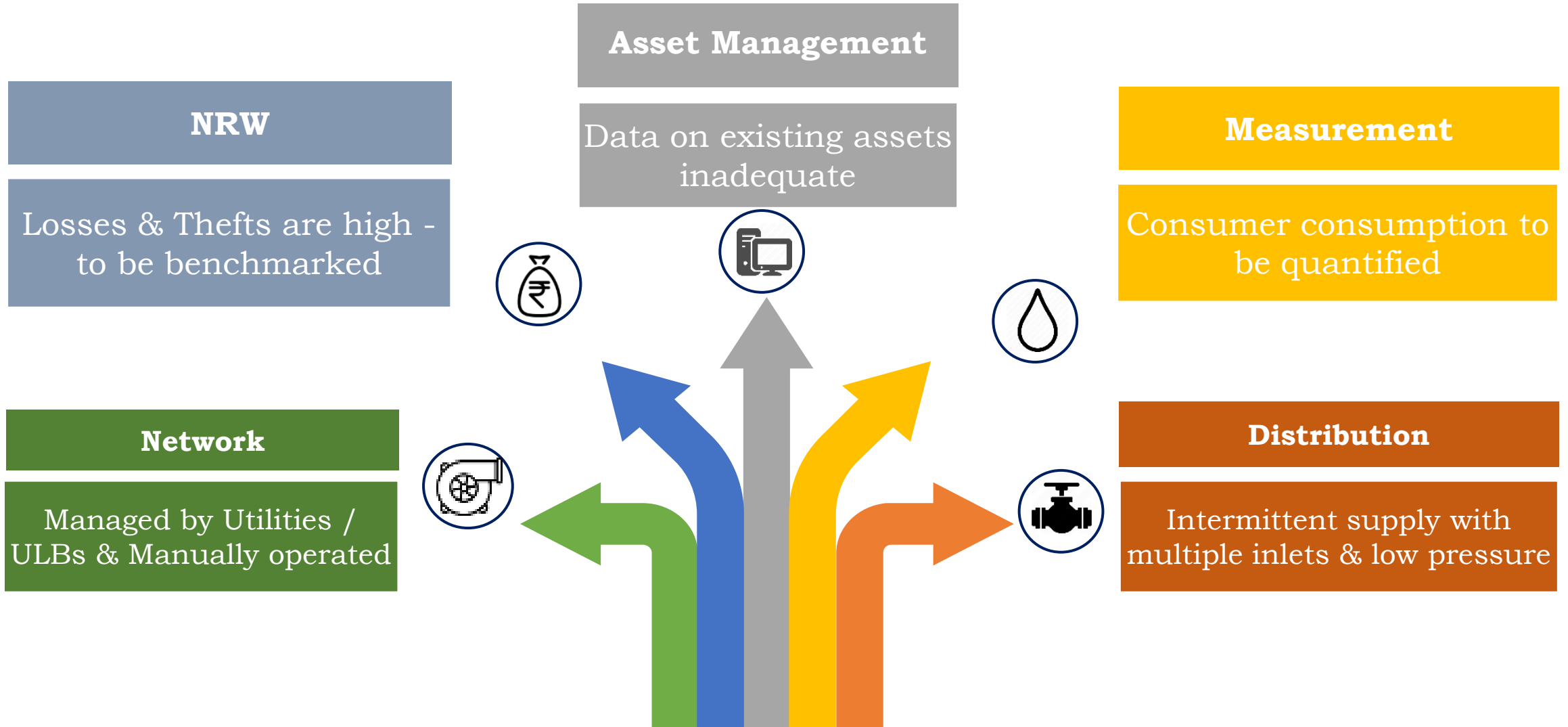


Extent of non-revenue water varies strongly from city to city. The average NRW among Indian urban water utilities surveyed was 44%.

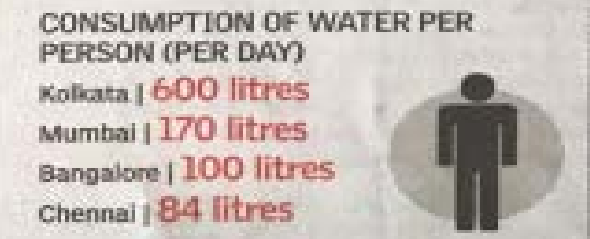
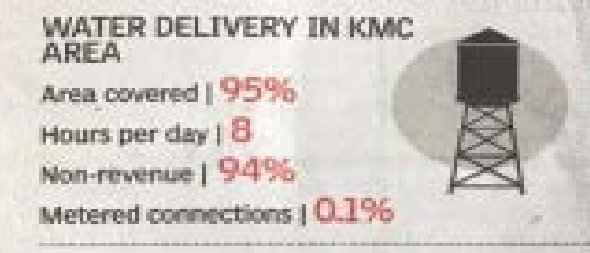
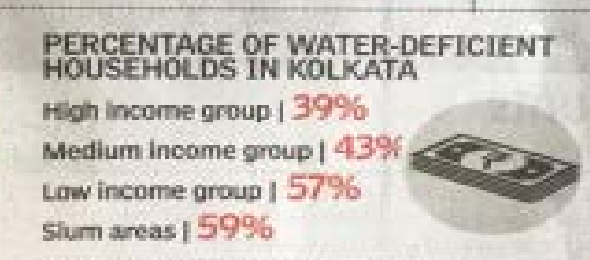
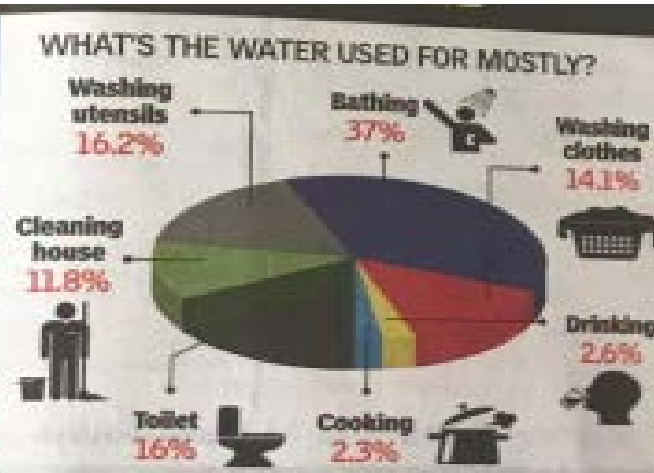




CURRENT TRENDS – WATER SECTOR

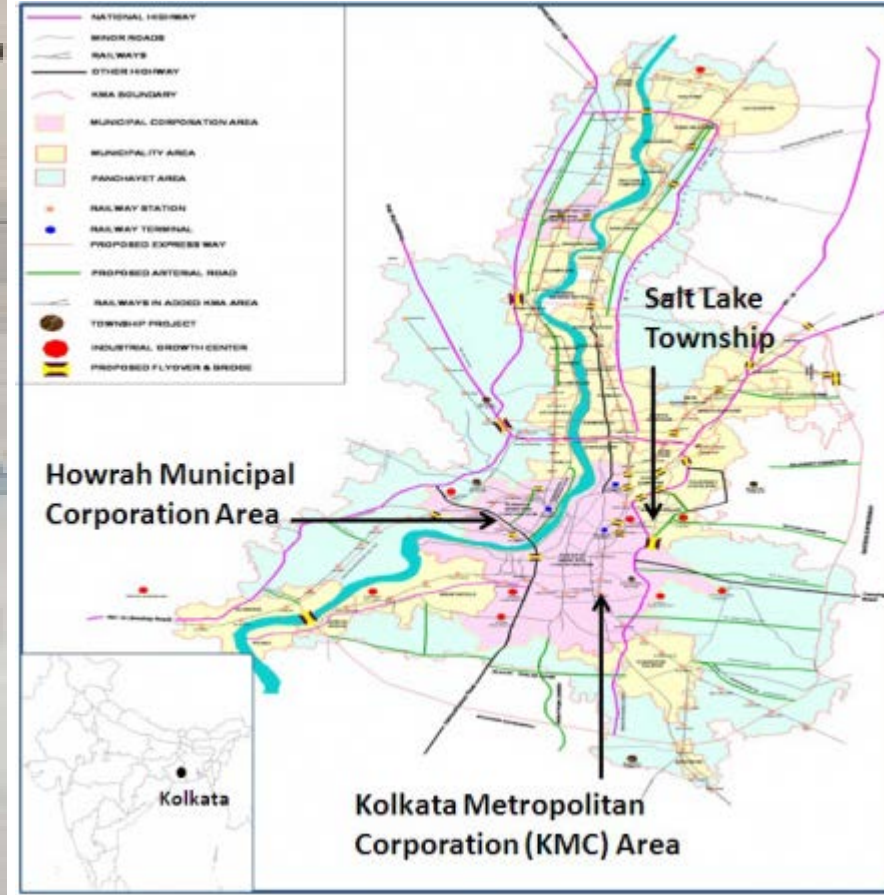


Smart Water Management - Need of the hour



KOLKATA – THE WATER SCENARIO

Kolkata is ranked as No2 in water risk index





If you can't measure it,
you can't manage it.

Components of Smart Water

Pressure Management

- **Pressure Regulating Valves**
- **Pressure transmitters**
- **Sub-DMA approach**

Leakage Management

- **Active Leakage Control**
- **Leak Detection Equipment**

Command & Control

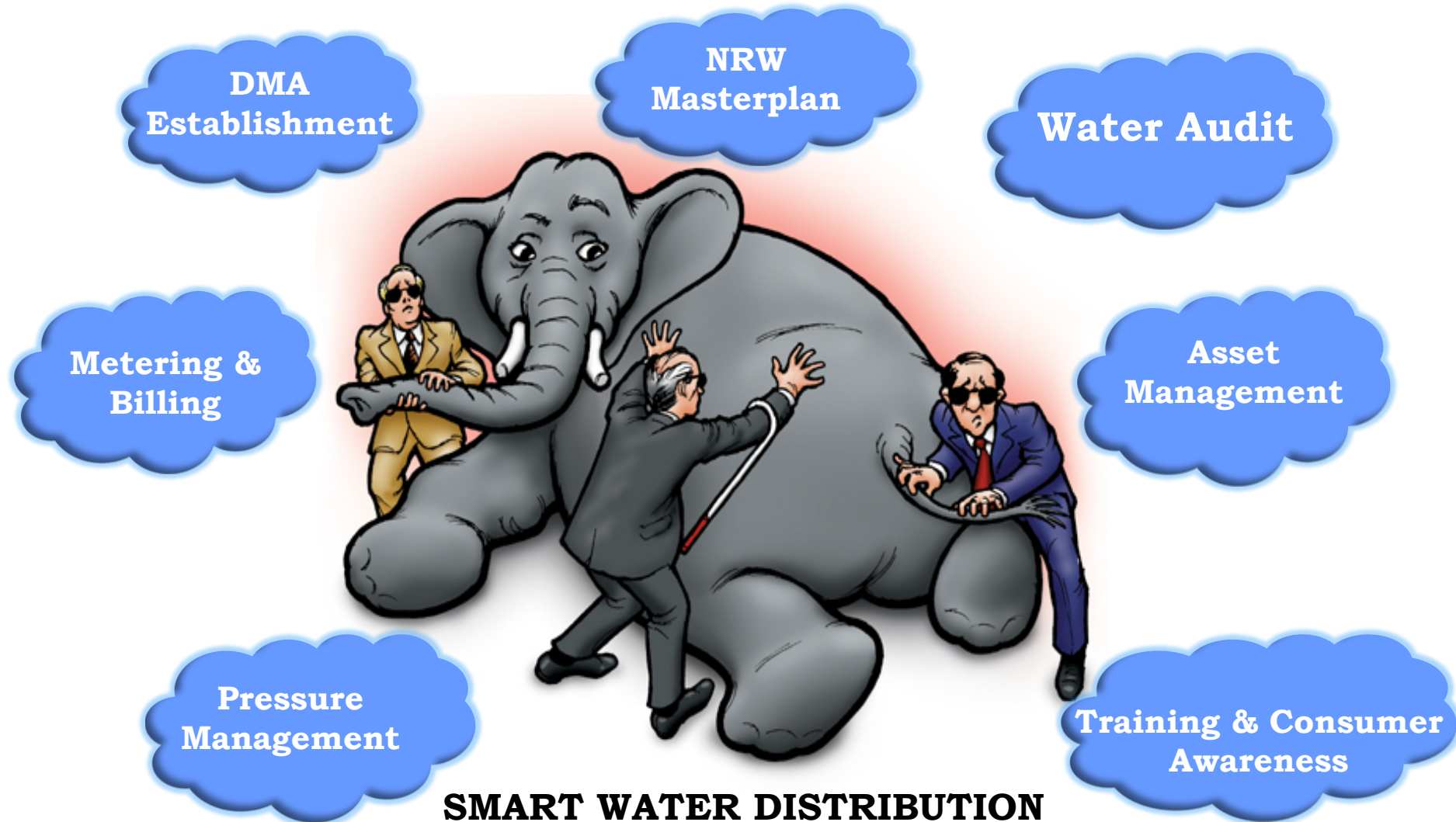
- **Asset Management - GIS**
- **CRM, SCADA & IMIS**

Metering & Billing

- **Multi Jet, AMR & AMI**
- **Billing and Revenue Management**



INTEGRATED & HOLISTIC APPROACH – WAY AHEAD



CASE STUDY – HALDIA WATER SERVICES

<p>Project Model</p>	<ul style="list-style-type: none"> ➤ The project is based on PPP model (DBFOT) ➤ Concession Period: 15 years
<p>Project Scope</p>	<ul style="list-style-type: none"> ➤ O&M of the existing 2x25 MGD WTP with SCADA ➤ Repair and refurbishment of existing facilities of WTP, Pumping Stations, UGR, network ➤ Maintenance of existing 180 Km transmission & distribution network ➤ 24x7 water supply to a varied mix of Industrial, Commercial, Municipal and Domestic customers ➤ Bulk water meter supply to ~400,000 beneficiaries
<p>Status</p>	<ul style="list-style-type: none"> ➤ Project under execution since Nov-2019

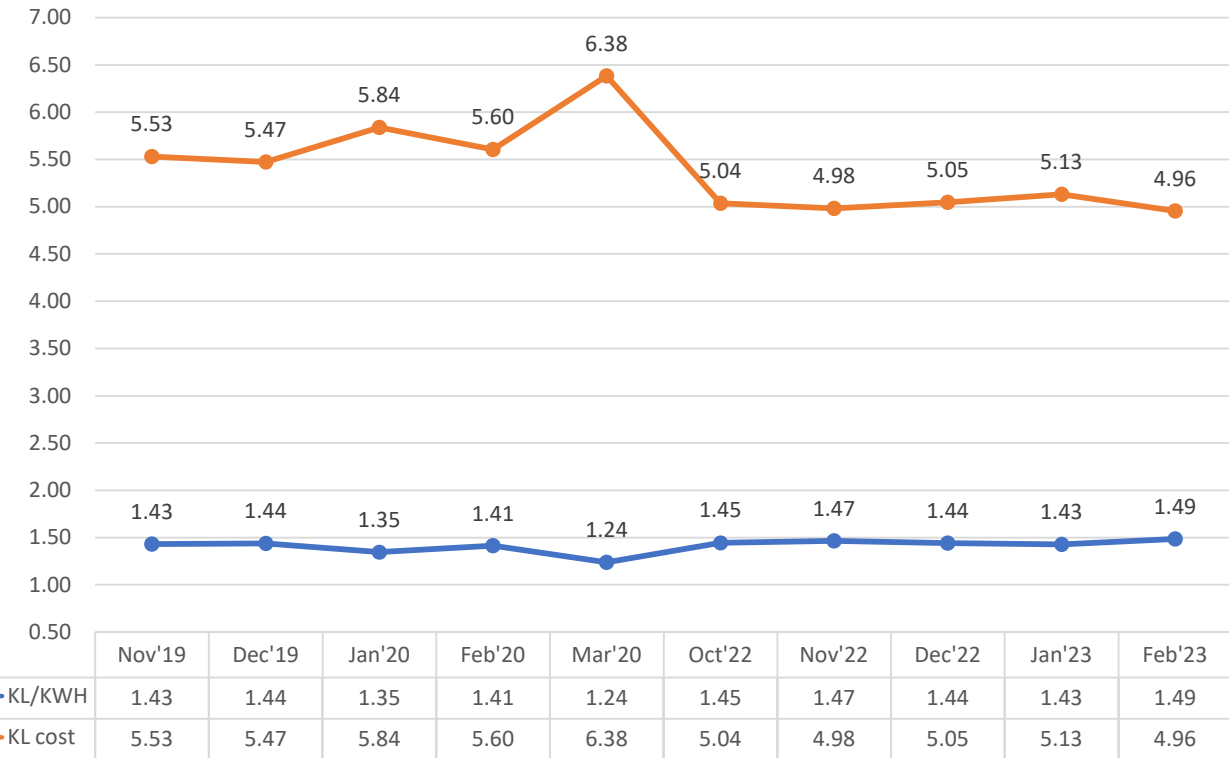
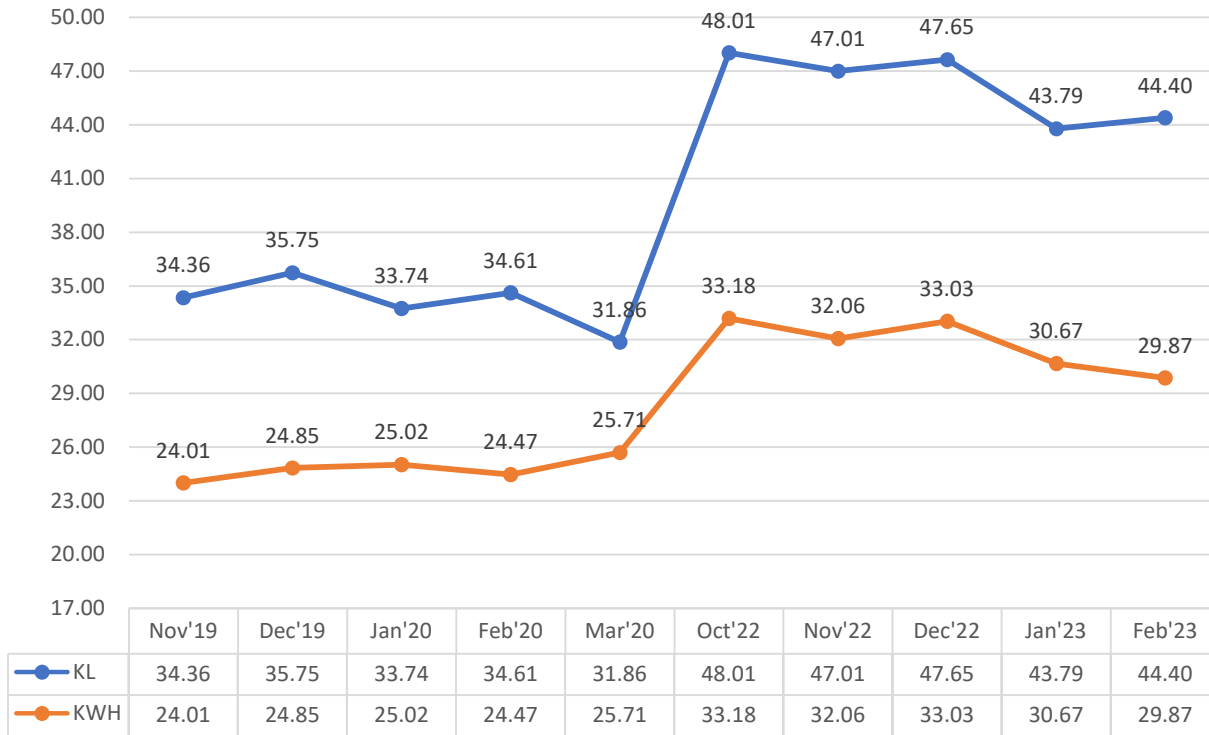
- In July 2019 – project of O&M of the 50 MGD WTP under PPP model for a period of 15 years was awarded to HWSPL, Consortium of Shristi Infrastructure Development Corp. Ltd., Swachh Environment Pvt. Ltd. and Ion Exchange (I) Ltd.
- **Population served:** Over 400,000 population with Bulk Water to Municipal Corporation
- All Industries, Vital installations and Port serviced as a One City Operator





CASE STUDY – HALDIA WATER SERVICES

KWH and KL





HALDIA WATER SERVICES – TOWARDS NET ZERO

**Reduction in NRW
from 27% to 17%**

**94% increase in
consumers**

**Reduction in water
contamination
complaints**

**Customer
satisfaction**

**Over 80 %
consumers have
water meters**

**Reduction in losses
at water treatment
plant**

**24 hr. Toll Free
Complaint Number**

**24X7 Drinking Water
Supply**

**Formation of
DMAs**



CASE STUDY – NANGLOI WATER SERVICES



NWS
Nangloi Water Services Pvt. Ltd.
Client: Delhi Jal Board



Project Model

- The project is based on PPP model (DBFOT)
- Government Grants: 70% on capex related to Water Infrastructure & 100% on capex related to associated Road Restoration Works
- Concession Period: 15 years

Project Scope

- Revamping & up-gradation of 40 MGD WTP
- Construction of 2 new UGRs with pump house
- Water supply for ~1 mn people within an area of 129 sq km
- Providing ~0.35 Mn smart water meter installation
- SCADA implementation
- 1,600 Km transmission & distribution network
- Formation of 35 nos DMAs

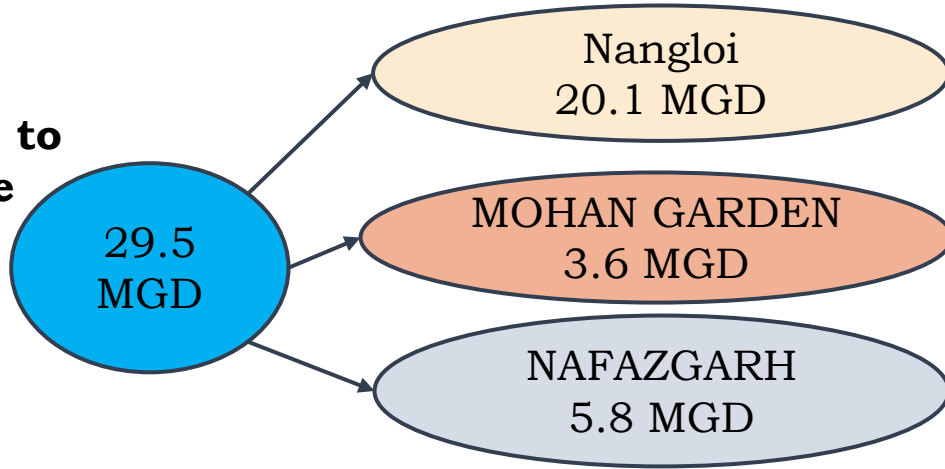
Status

- Operational since Sep 2013
- Substantial completion of Capex over 90%

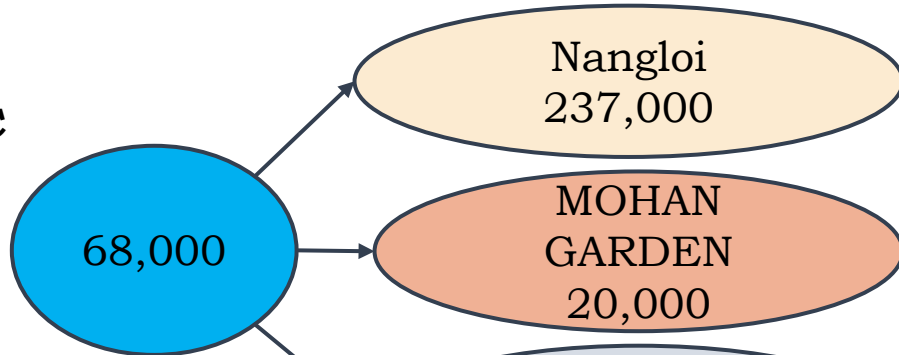


September, 2013

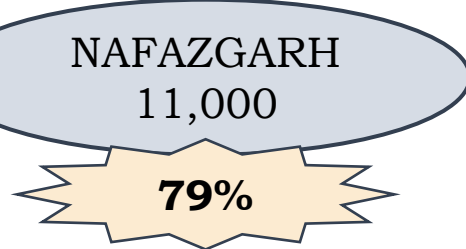
Water Supplied to PPP Zone



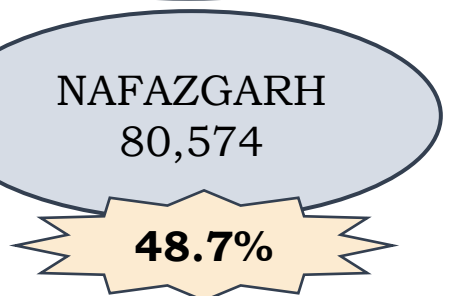
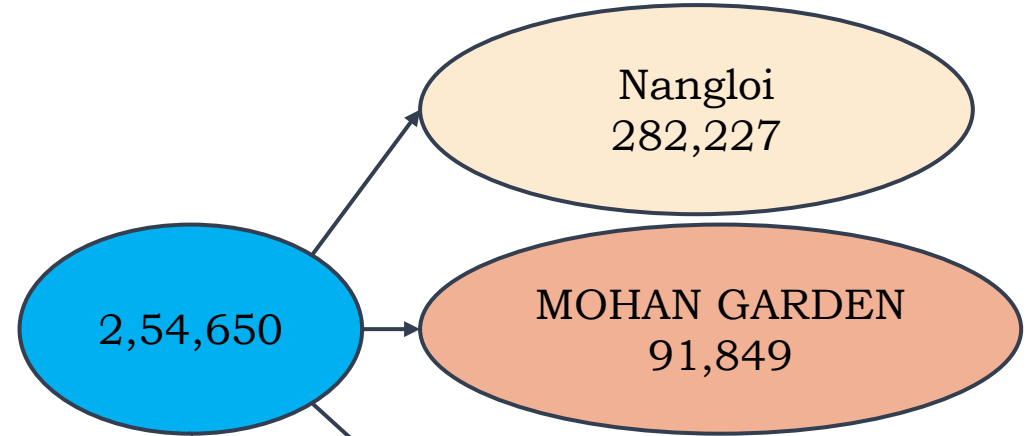
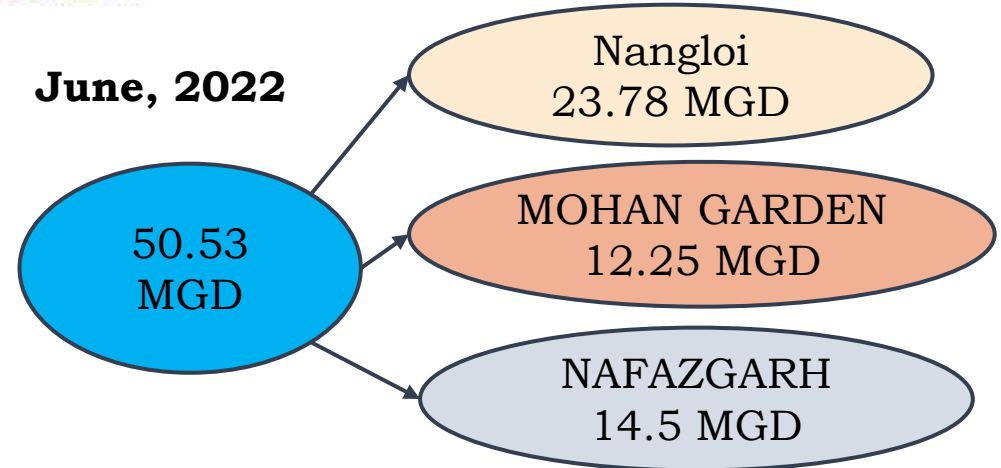
Active HSC



NRW Level



June, 2022



TOWARDS NET ZERO - 24X7 WATER SUPPLY & NRW



NANGLOI WATER SERVICES – TOWARDS NET ZERO

**Reduction in NRW
from 75% to % 49%
reduction in 26%**

**Service Delivery:
193% Increase
81000 to 276,000
connections**

**Volume Billed: 196%
32 MLD to 95 MLD**

**Customer
satisfaction
increased by over
60%**

**Length of Pipe Line
Network increased
from 819km to 1900
km an increase of
122%**

**Operator Rate
increased by over
32% from Rs 14.99 /Kl
to Rs 19.79/KL**

**24 hr. Toll Free
Complaint Number**

**Improvement in
Collection efficiency
by over 123%**

**Lowering of Power
consumption by
over 15% leading
to power
incentive**

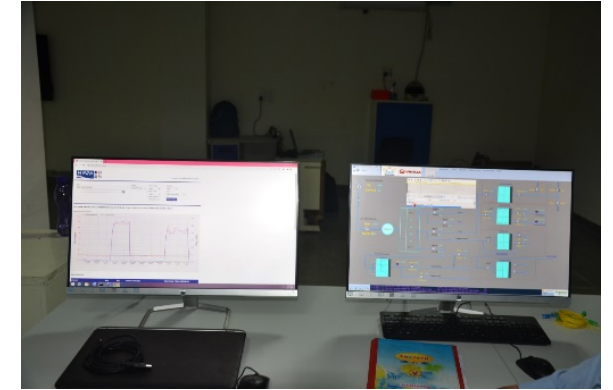
NET ZERO – THE WAY AHEAD



Implement Solar



Regular maintenance



Proper implementation of
SCADA

Formation of DMAs

Reduction in NRW

Reduction in losses at water treatment plant

Implementation of water meters for end users

Power Efficiency , reduction in Power KWH/KL



For further details, please contact:

Mr. Sourav Daspatnaik
Managing Director – Swach Environment Private Limited
Director – Haldia Water Services Private Limited
Director – Nangloi Water Services Private Limited

Mobile: +91 90071 42318

Email: sourav.daspatnaik@swachenv.com

Website: www.swachenv.com



Registered Office:
Unit No. 130A 18th Floor
Infinity Business Center
Infinity Benchmark Building
Salt Lake Electronics Complex
Plot G1, Block - GP, Sector – V Salt Lake
Kolkata-700091, West Bengal


Thank you.