









Moving Towards Daily Water Supply Through Demand Management

Case of Gandhidham Municipal Corporation (GdMC)

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Gandhidham Municipal Corporation: Kachchh's First Municipal Corporation in a Water-Stressed and Climate-Vulnerable Region

Chronically drought prone region with a **frequency** of once in every **2.5 years**


THE HINDU

Kutch in the grip of worst drought: Desert grit


'We can only watch our animals die': A drought disaster in Kutch

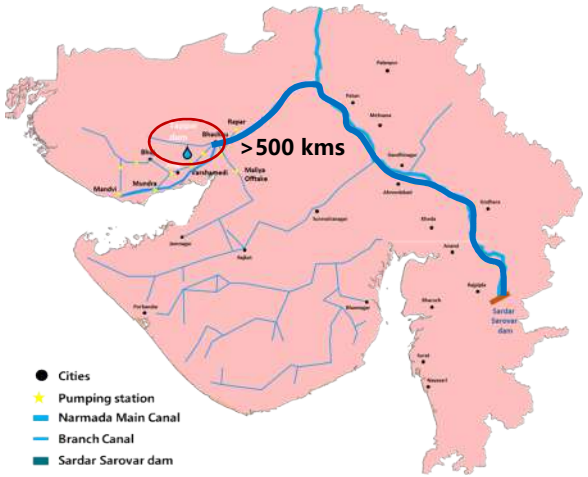
In Kutch, a northern Gujarat district, residents say their livelihoods are at risk as experts warn of a water crisis.


In Kutch, history has a habit of repeating itself

Rutam V Vora | Bhuj, March 28 | Updated On: Mar 28, 2019

The region is witnessing its worst drought in 30 years; 16 of its 20 dams have gone dry; there is drinking water but nothing for cattle; and yet, its people remain resilient

- **Over exploitation of ground water,** which is further aggravated by **salt water intrusion**
- **Dependent on Narmada Water**



Frequent **Urban flooding** scenario in **major parts** of the cities


THE TIMES OF INDIA

Rains pound Gandhidham, Anjar towns in Kutch

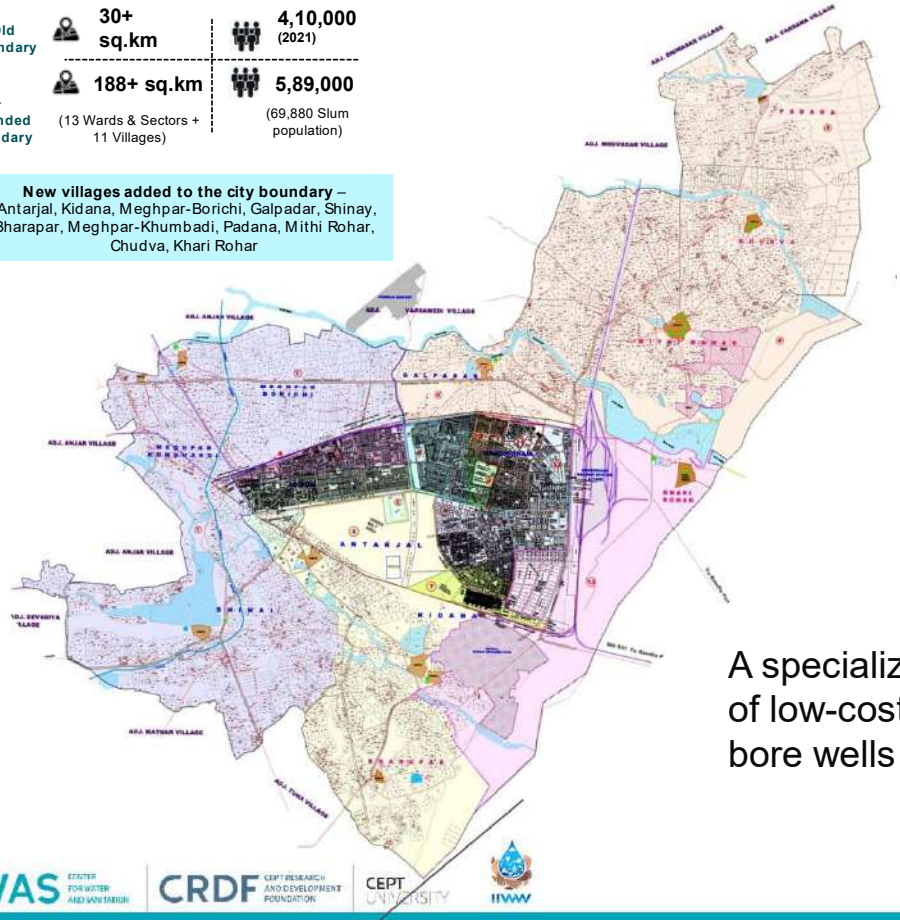
Rajkot: Heavy rain lashed Kutch's commercial city Gandhidham and Anjar on Saturday evening causing severe water-logging in many areas. However, the people welcomed the rain that gave them some respite from the humid heat.

Gujarat Braces for a Wet Weekend; Heavy Rain Alerts Issued over Kachchh, Jamnagar, Sabar Kantha, Surendranagar, Mahesana

Gandhidham's Transition to a Municipal Corporation: Addressing the Growing Need for Water Security through National Missions

Old boundary	30+ sq.km	4,10,000 (2021)
+ Extended boundary	188+ sq.km (13 Wards & Sectors + 11 Villages)	5,89,000 (69,880 Slum population)

New villages added to the city boundary – Antarjal, Kidana, Meghpar-Borichi, Galpadar, Shinay, Bharapar, Meghpar-Khumbadi, Padana, Mithi Rohar, Chudva, Khari Rohar



Atal Mission for Rejuvenation & Urban Transformation (AMRUT) 2.0

Circular economy of water, Aquifer Management plan, NRW reduction, Metering



Jal Shakti Abhiyan: Catch the Rain

Jal Sanchay Jan Bhagidari (2024)

A specialized component focusing on community-led construction of low-cost, artificial recharge structures and reviving defunct bore wells

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Water Security Action Plan identified Moving towards daily water supply as a key initiative to improve municipal services

Key findings

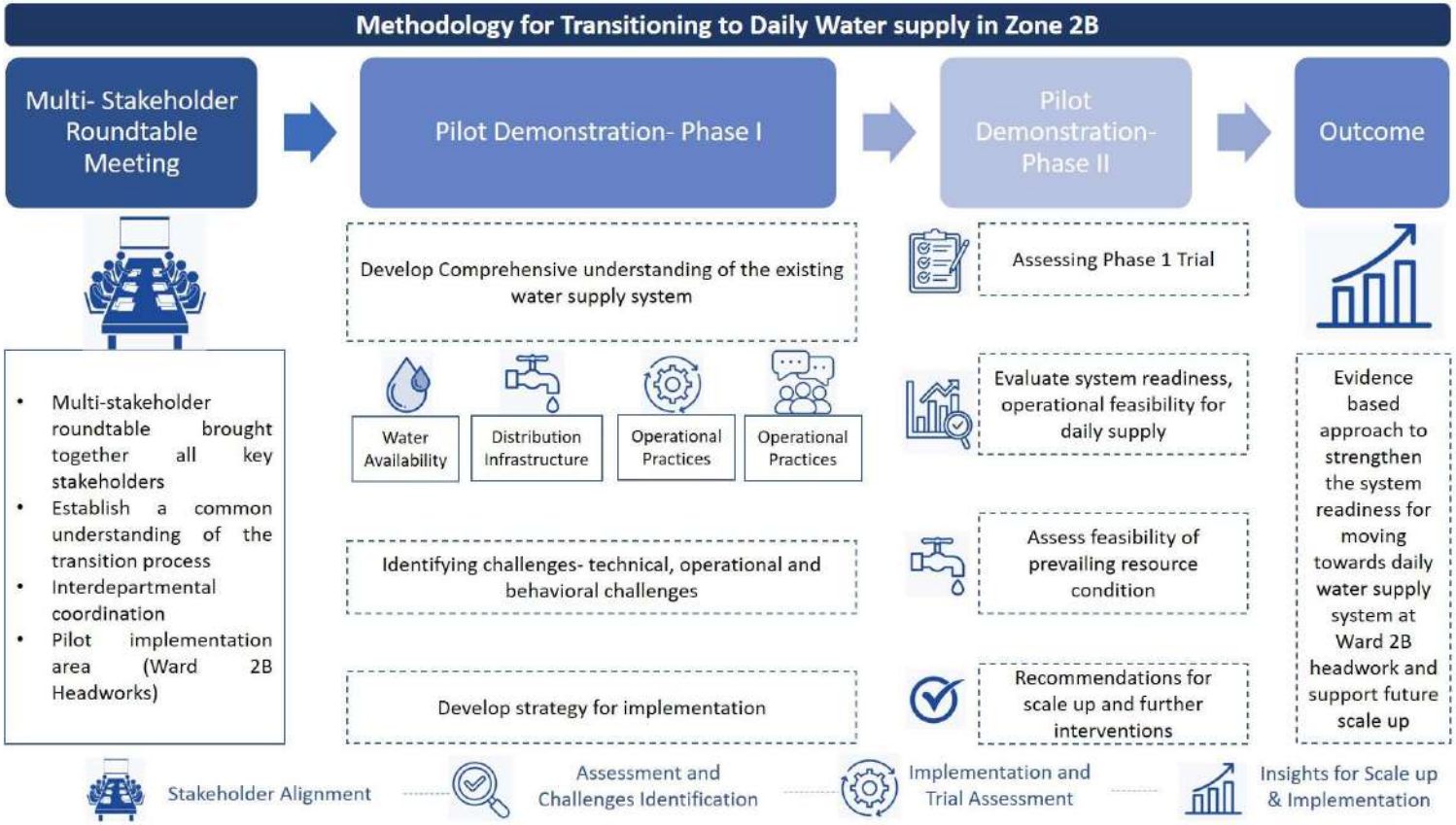
- High dependency of distant water
  Questioning source sustainability?
- Depleting Groundwater levels
- Poor groundwater quality with salinity ingression
- Urban Flood situation during monsoon
- **Intermittent Water Supply-**
  Once in 4 days in Gandhidham
- Issues related to Water supply in Slum pockets

Key Challenge

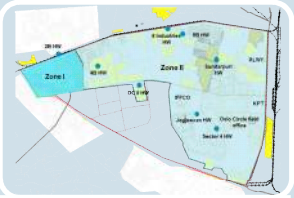
- Water Source
- Municipal Services
- Institutional & Financial Initiatives
- Awareness & Engagement

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Methodology and approach developed to move towards daily water supply in pilot location before scaling it up citywide



Strategic implementation of daily water supply at pilot location – based on filed visit and stakeholder consultation



Understanding Existing System

- Source
- Storage Capacity
- Valve operations
- Network- Supply areas
- Supply timings





IEC – Behavioural Change

- Water Conservation
- Usage of booster pumps
- Storing water beyond requirement



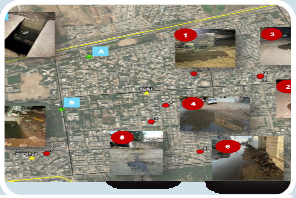




Conducting Trial Run

- Strategy discussion – including GdMC+ GWSSB+ GUDC
- Trial Run
- Bucket survey





Demand Management

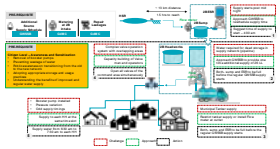
- Meter installation at Source and WDS
- Addressing Leakage issues





Development of detailed plan

- Supply Schedule
- Informed water management system



Demand Management Strategy for Transitioning to daily water supply

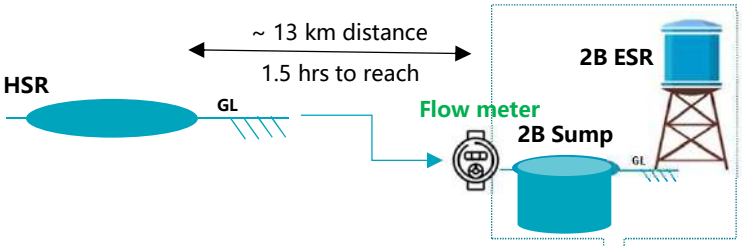
PRE-REQUISITE

- **Additional Source Supply Schedule** — GWSSB
- **Metering at 2B intake** — GdMC
- **Repair Leakages** — GdMC

PRE-REQUISITE

Citizen Level (IEC) – Awareness and Sensitization

- Removal of booster pumps
- Preventing wastage of water
- Public awareness on transitioning from the old to the new network
- Adopting appropriate storage and usage practices
- Understanding the benefits of improved and regular water supply



Supply starts post mid night

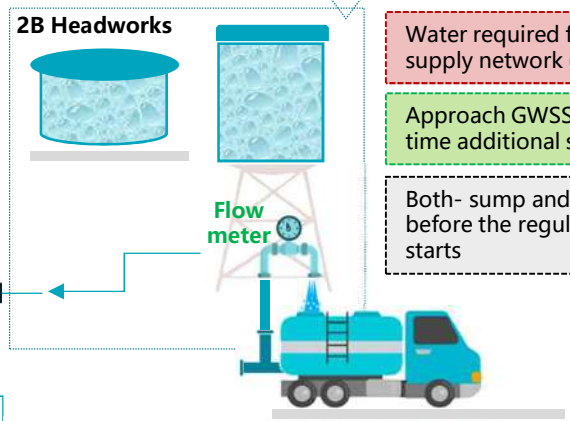
Approach GWSSB to reschedule supply time

Suggest time of supply to start – 4:30 am **1**

Complex valve operation system with overlapping areas

Capacity building of Valve man and operators

Open all valves of the command area simultaneously **4**



Water required for dead storage in supply network (pipeline)

Approach GWSSB to provide one time additional supply of 26 LL

Both- sump and ESR to be full before the regular GWSSB supply starts **2**



- Booster pump installed
- Pressure variation
- Odd supply timings

Supply to each HH at the same time slot

Supply water from 6:30 am to 7:30 am to each HH **5**

Municipal Tanker supply

Restrict tanker supply or install Flow meter at outlet

Both- sump and ESR to be full before the regular GWSSB supply starts **3**

Challenge | Approach | Action

From Dialogue to Implementation: Building Stakeholder and Grassroots Support for Daily Water Supply



Ensuring **Effective Coordination** across Stakeholders



Engaging and preparing valve operators while capturing their inputs on anticipated challenges to ensure a smooth transition



Conducted **bucket survey training for valve operators**

Key Learnings for moving towards daily water supply

Governance & Coordination



Ensuring **Effective Coordination** across Stakeholders/ departments



Defined **Roles and Responsibilities**



Efficient Operations – Valve operations, Monitoring Gaps

Demand Management



Installation of **meters for quantification** of water allocation



Repair of **leakages** across the network



Pressure Management through regular testing/ measuring

IEC - Awareness and Sensitisation



Avoid usage of **Booster Pumps** at HH level



Storage of **excess Water/ Wastage of Water**



Supporting **city administration** during such transitions

THANK YOU



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About us

The Center for Water and Sanitation (CWAS) is a part of CEPT Research and Development Foundation (CRDF) at CEPT University. CWAS undertakes action-research, implementation support, capacity building and advocacy in the field of urban water and sanitation. Acting as a thought catalyst and facilitator, CWAS works closely with all levels of governments - national, state and local to support them in delivering water and sanitation services in an efficient, effective and equitable manner.

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