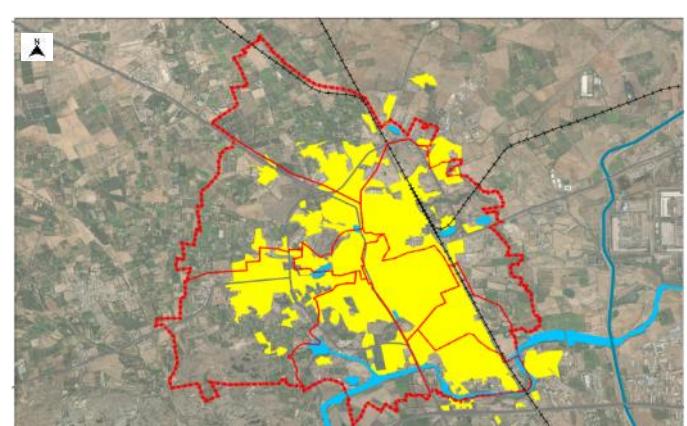


Innovative approaches for making cities water secure in Arid regions of Gujarat Case of Anjar and Gandhidham

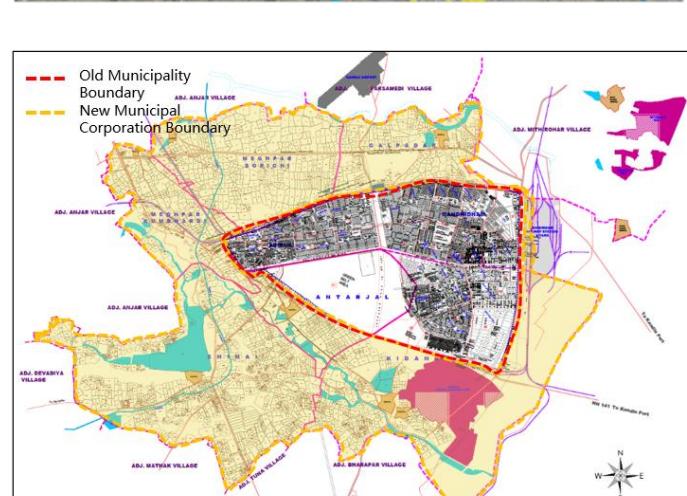
Dipti Tanna*, Priyadarshini Chaudhary**, Upasana Yadav***, Aasim Mansuri****, Dhruv Bhavsar*****

* dipti.tanna@cept.ac.in, ** priyadarshini.choudhary@cept.ac.in,
*** upasana.yadav@cept.ac.in, **** aasim.mansuri@cept.ac.in, ***** dhruv.bhavsar@cept.ac.in

Project Need and Study Area



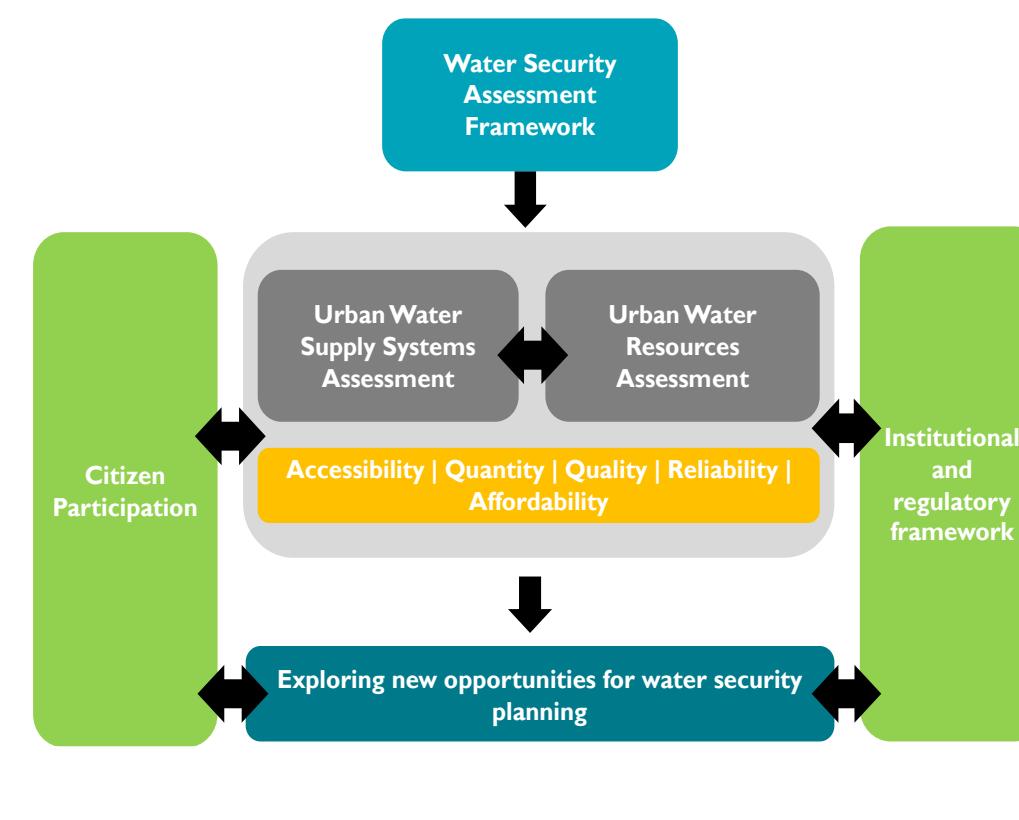
17.81 sq.km (9 Wards)
1,09,238 (29,214 Slums)
26,036 HHs (9,770 Slums)



110+ sq.km (13 Wards & 13 Sectors + 11 Villages)
5,89,000 (69,880 Slums)
1,62,50 HHs (13,950 Slums)

- Chronically drought prone
- Strained Ground Water
- Climate Change – Erratic Rain fall, Urban flooding

Assessment Framework and Key Findings



"Water Security is access of water for basic human needs in adequate quantity and quality, which is reliable and affordable."

High dependency of distant water
Questioning source sustainability?

Depleting Groundwater levels

Poor groundwater quality with salinity ingress

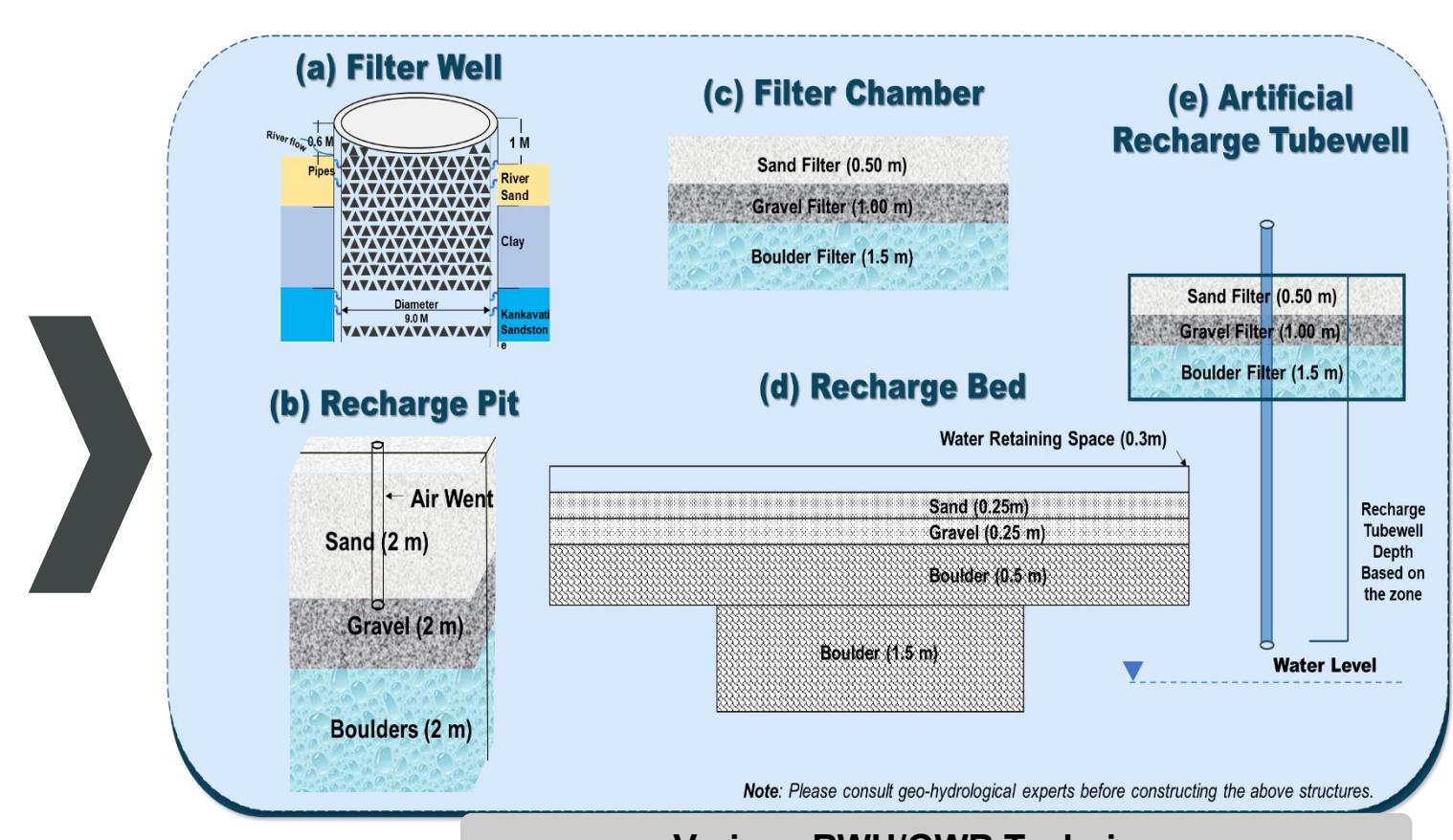
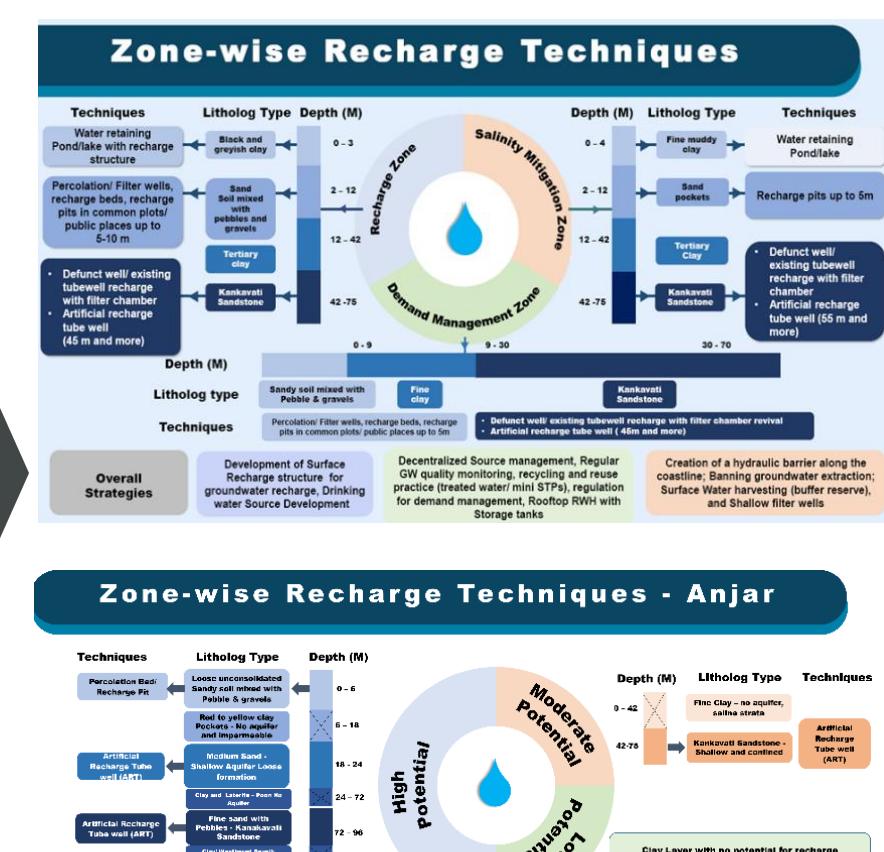
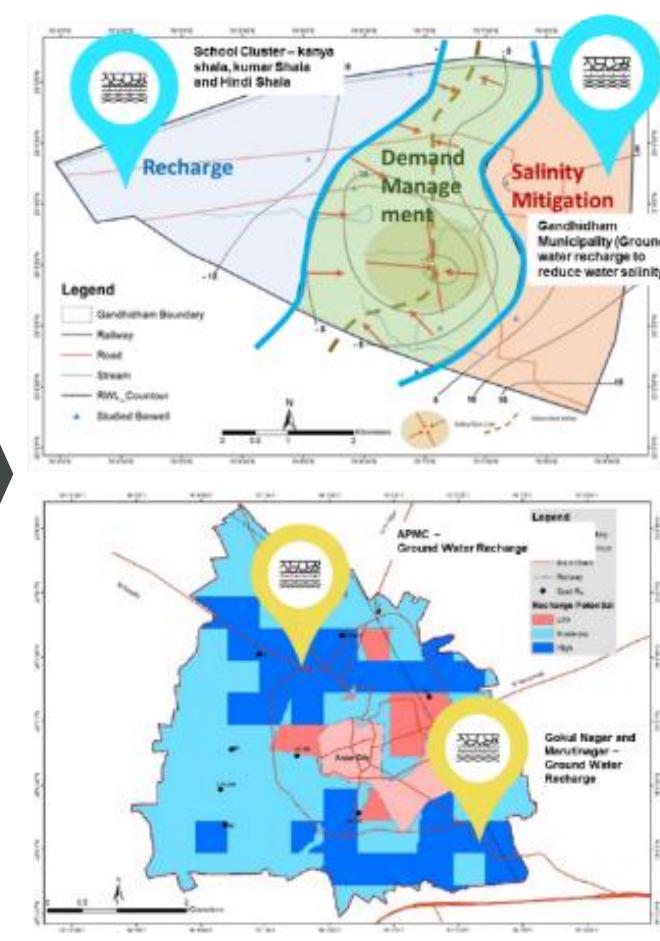
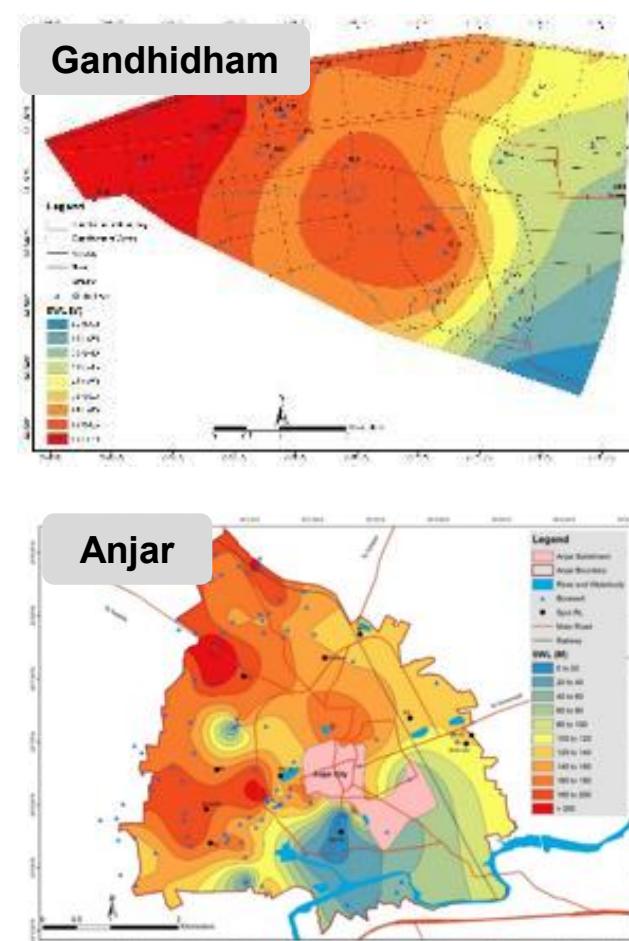
Urban Flood situation during monsoon

Intermittent Water Supply- Alternate day in Anjar and once in 4 days in Gandhidham

Issues related to Water supply in Slum pockets

Technical Studies and Surveys

Geohydrological Study- Zone Wise Recharge Techniques



Various RWH/GWR Techniques

IEC and Capacity Building Exercise



Jal Sanrakshan Mela – 1200+ attendees



50+ Engineers
35+ Plumbers
30+ School Teachers



Ramnavami Rally in Anjar- 30,000+ visitors

Vikshit Bharat Yatra & Seva Setu

Pilot Demonstration



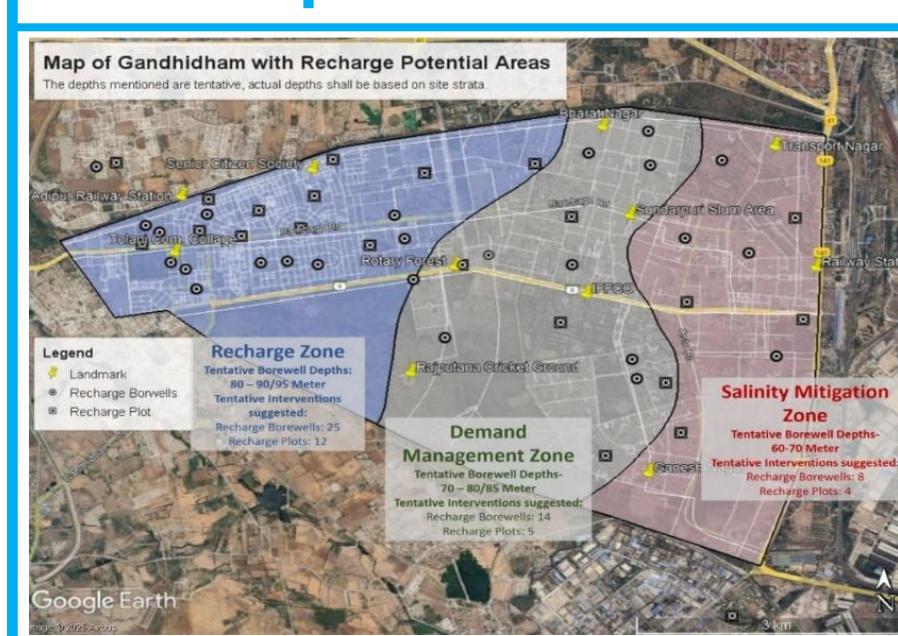
40,000+ Litres fresh water available for 3000+ students, through Rainwater Harvesting

56+ million litres groundwater recharging annually through GWR equivalent to drinking water for 10,000+ HHs

Action Plan

| | Key Initiatives | What? | Where? | Outcomes |
|---|---|--|--|--|
| 1 | Augmenting water sources | Strengthening local surface water resources | Shinai Lake, Tapar Dam | Source availability during emergency situation |
| 2 | Improving Municipal Water Services | Rainwater harvesting (RWH) and ground water recharge (GWR) | BB + BN slums - Sundernagar + Main Market, IFFCO, DPT, SRC, DPS, Mount Carmel, Tolani college | Water availability, Stormwater management, Flood mitigation, GW recharge |
| 3 | Strengthening Institutional and financial framework | Aquifer/groundwater (GW) management | Across the city | Guideline for city GW monitoring |
| 4 | Generating Awareness and Engagement | Reviving local water bodies (Lake, talab etc.) | Shinal, Antarpal, SHN, Tolani, Rotary, Ramat, Panchayat, Jh. Xavier's, SP Park, Karuna vih, Police Training center | Groundwater recharge, Depletion control, Quality improvement, Flood mitigation |
| | | Increase in green coverage in city | Common PLOTS (SRC), Gopalpur, Udaipur, similar residential areas | Reducing surface runoff, preventing urban flooding |

Project Impact Scale-up at Gandhidham



USD 3,50,000 would be invested by the state government in 50+ ground water recharge structures

Theme Park



The Rainwater Harvesting (RWH) Theme Park at Adisar Park in Adipur, Kutch, is Gujarat's first-of-its-kind demonstration park dedicated to rainwater harvesting and groundwater recharge.

References:

Water Secure and Climate Resilient Cities - Anjar and Gandhidham- Citywide Assessment
Geo-hydrological and Aquifer Studies - Gandhidham and Anjar
Water security action plan for Anjar and Gandhidham

Jal Sanrakshan Mela

Workshop on water conservation through rainwater harvesting and ground water recharge: Establishing urban planning linkages
Rainwater Harvesting Theme Park - Gandhidham