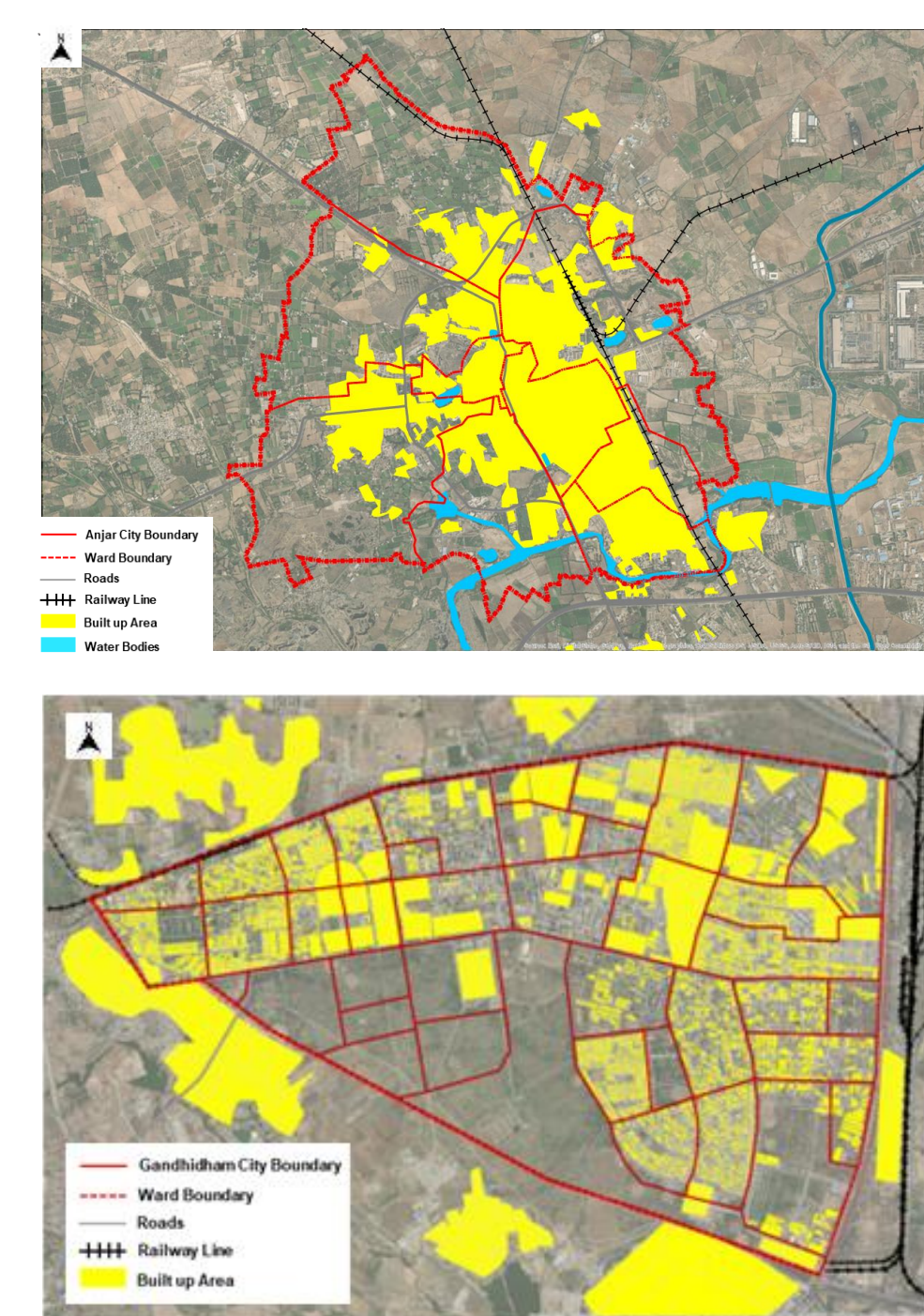


Geohydrological Study for Sustainable Groundwater Management in Anjar and Gandhidham

AUTHORS – PRIYADARSHINI CHOUDHARY, DIPTI TANNA AND UPASANA YADAV

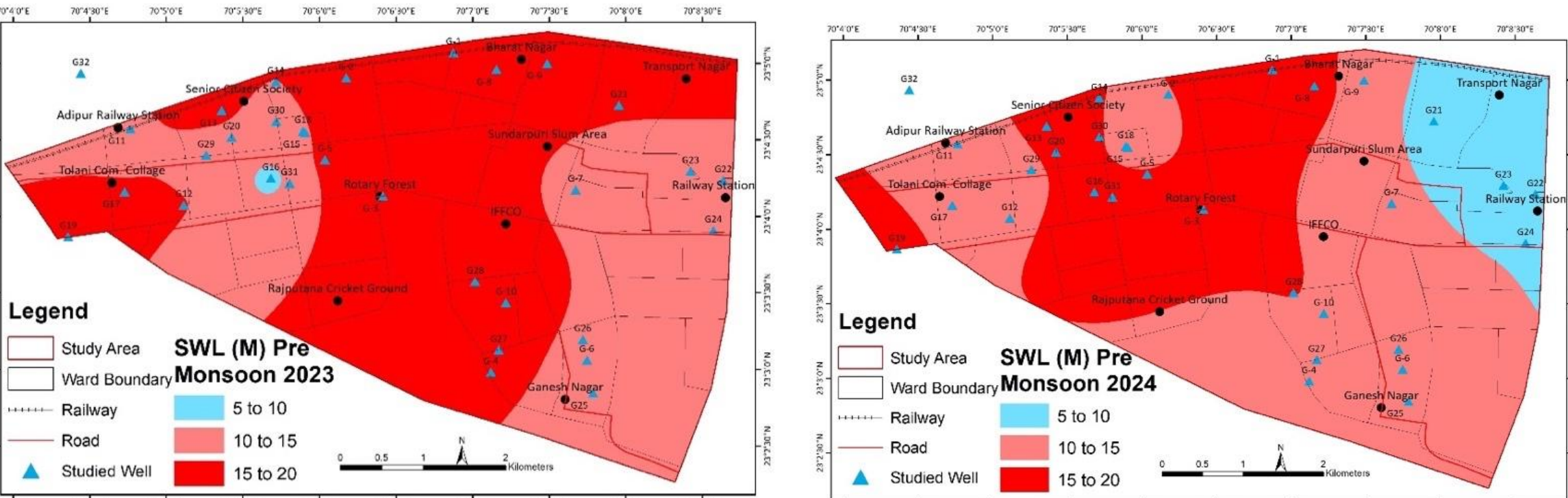
City Profile

Anjar and Gandhidham

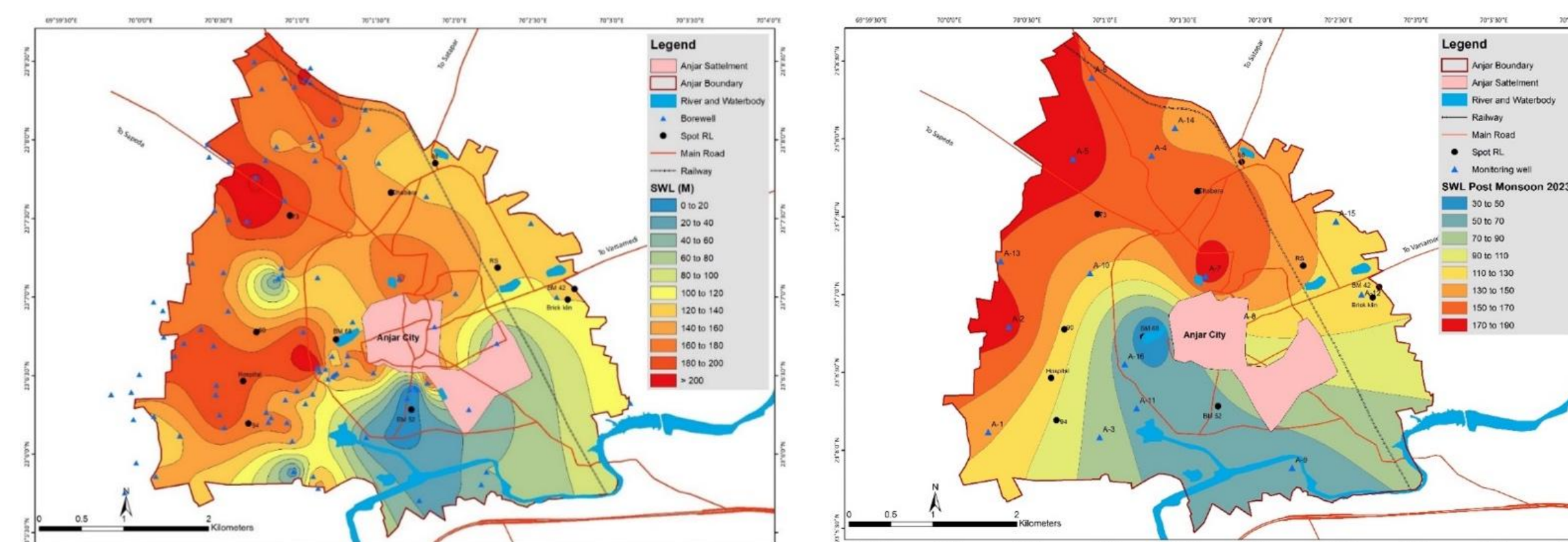


- **Anjar** - Historically an important regional centre for trade and administration, the city has experienced growth due to expanding industrial and commercial activities in the region
- **Gandhidham** - planned urban settlement, established after Independence for the rehabilitation of Sindhi refugees, the city has developed into a major commercial, industrial, and logistics hub due to its proximity to Kandla Port and regional transport networks.
- Both located in a **semi-arid region** characterized by **low and erratic rainfall**, **high evapotranspiration**, and **recurring drought conditions**
- **Water Source** - supported by **distant surface water** supplied through the Narmada Canal system and supplemented by **groundwater sources**, with Gandhidham facing salinity ingressions due to coastal proximity

Geohydrological study



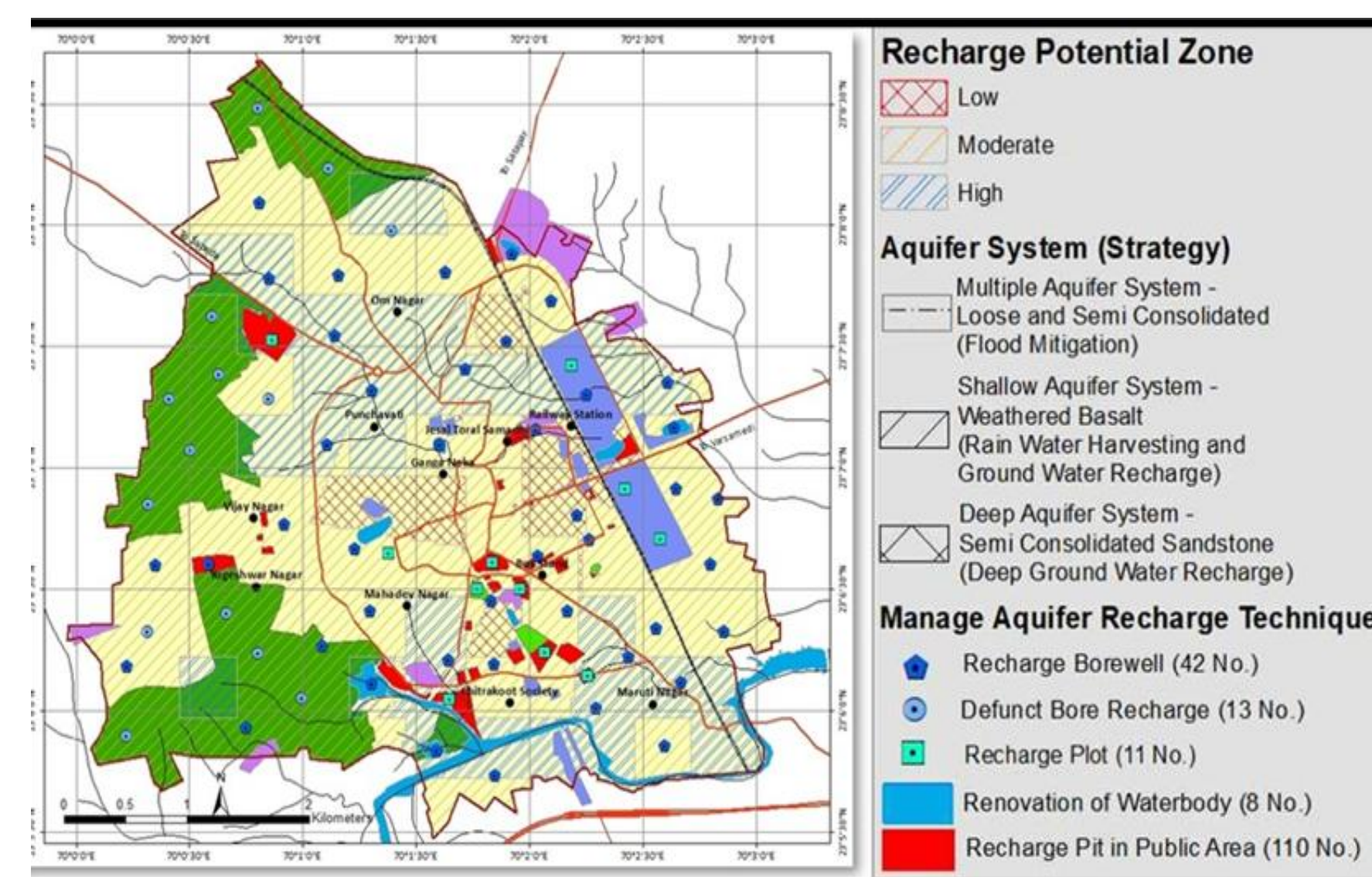
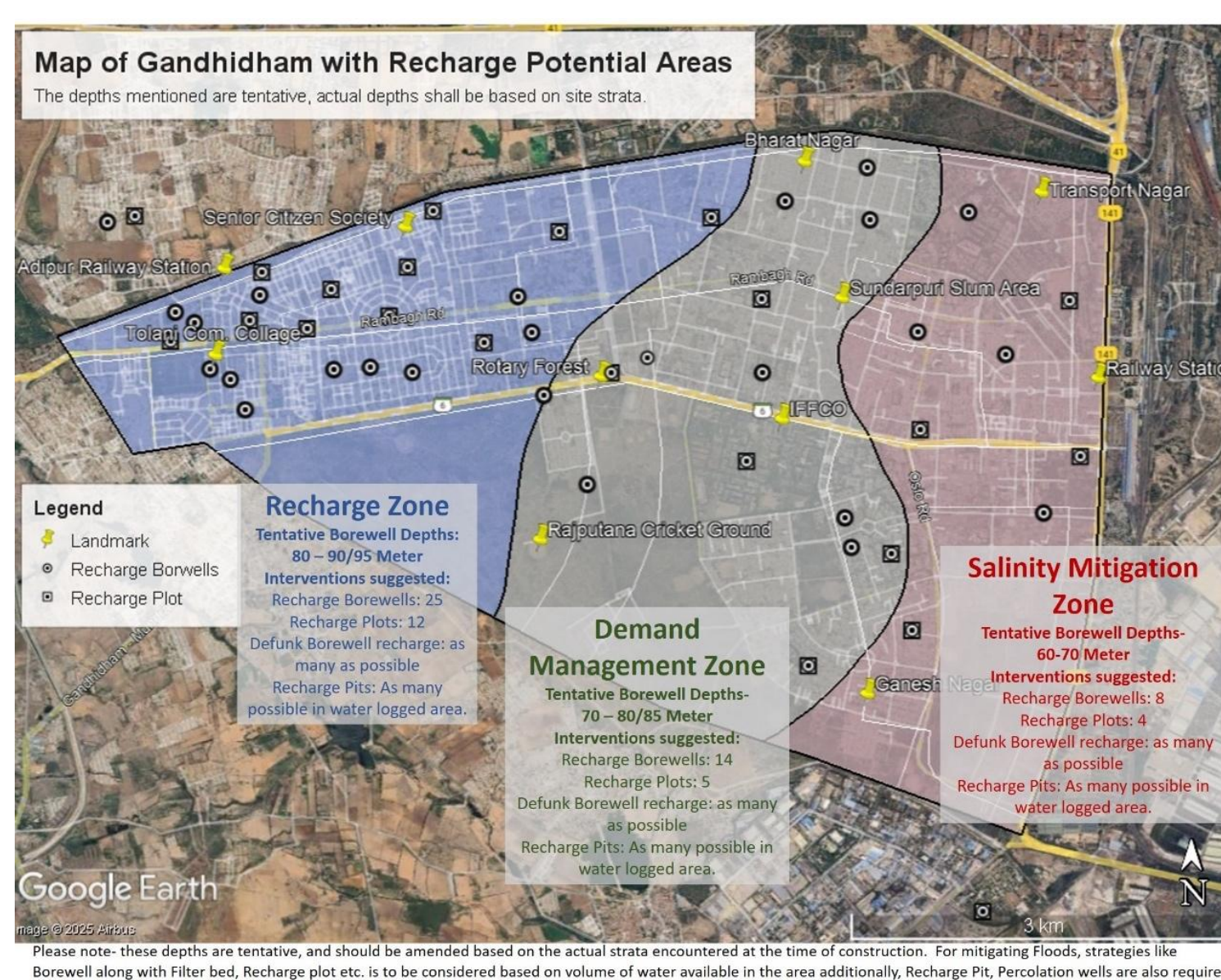
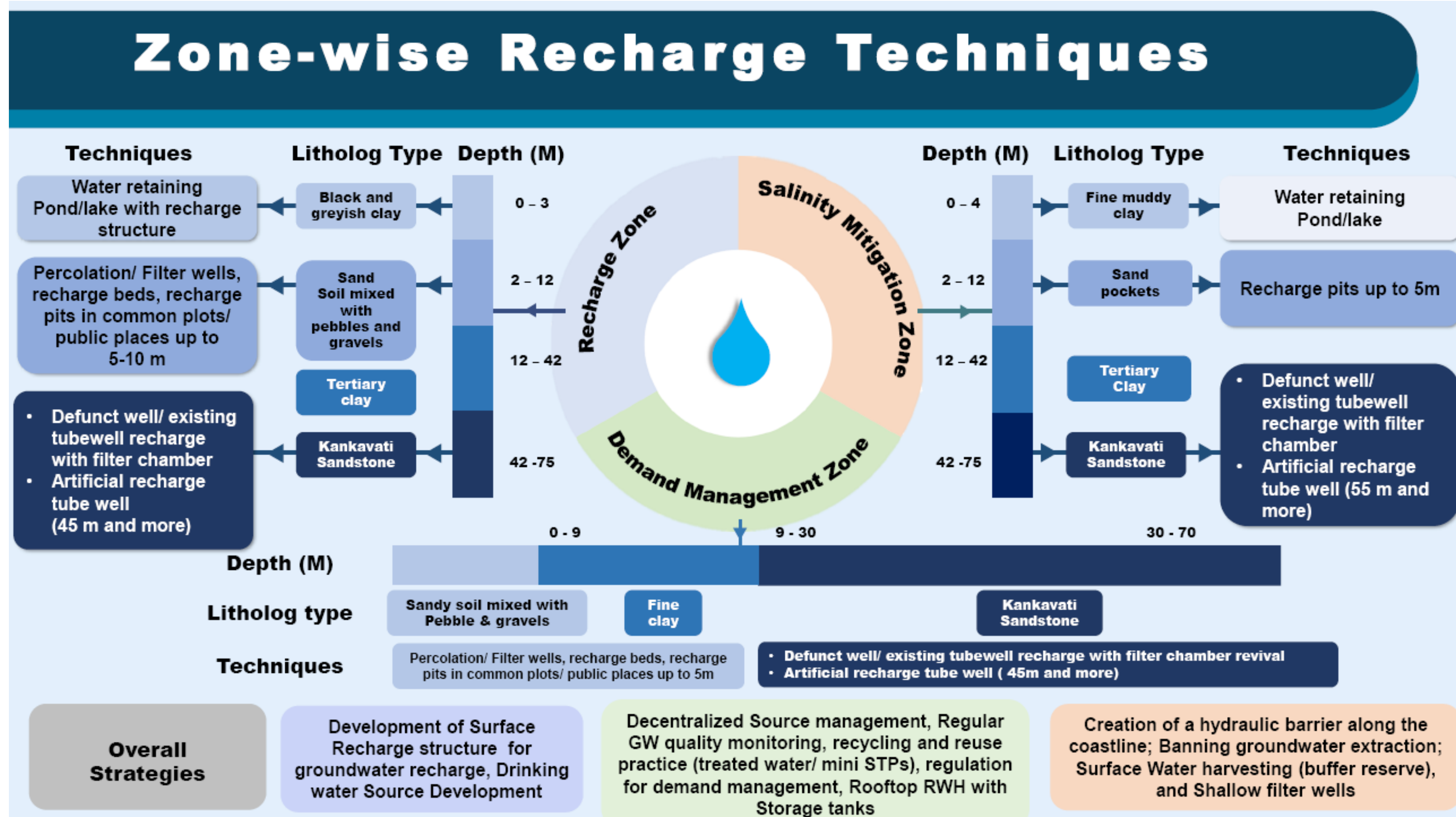
- Gandhidham - Groundwater levels vary considerably across the city, with localized **post-monsoon improvement** followed by an **overall decline** during the subsequent pre-monsoon period



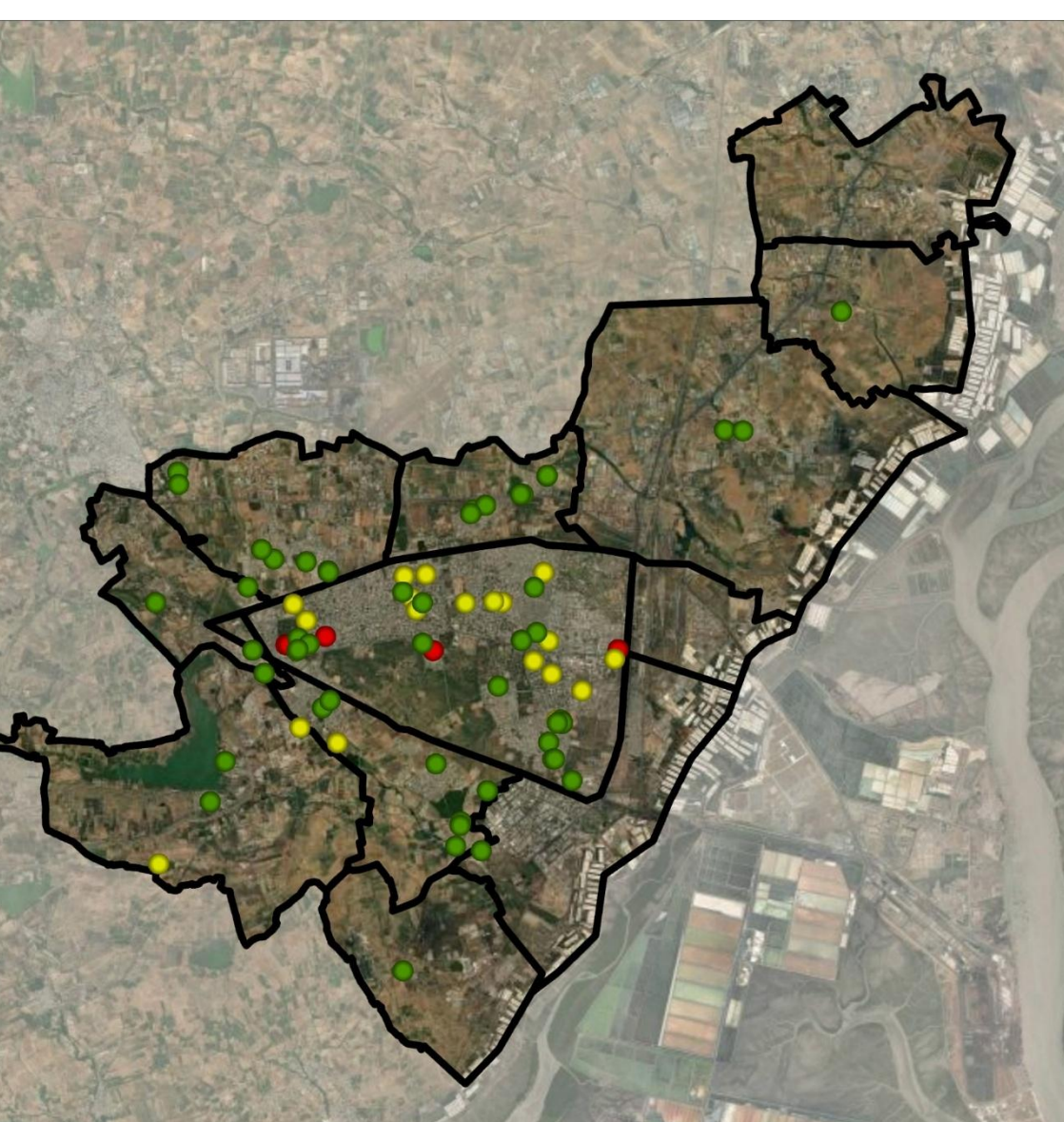
- Anjar - Pre-monsoon groundwater levels range from approximately **20 m to over 200 m below ground level**, with relatively shallow groundwater occurring in the southern and western parts of the city due to **recharge from the Sang River**
- The assessment highlights progressive groundwater depletion and increasing dependence on deep aquifers

- **Recharge Zone**: Prioritise high-infiltration areas
- **Demand Management Zone**: Focus on areas with high groundwater extraction
- **Salinity Mitigation Zone**: Prioritise coastal and low-lying areas

Zone-wise Aquifer Recharge Techniques



City Level Scale up – Rainwater Harvesting (RWH) and Groundwater Recharge (GWR)



- **3,600+ RWH/GWR projects**
- **Catch the Rain**
- **Evidence-based recharge: Resistivity surveys**
- **₹3.05 crore grant through SJMMSVY and MLA funds**



Catch the Rain – Various Initiatives

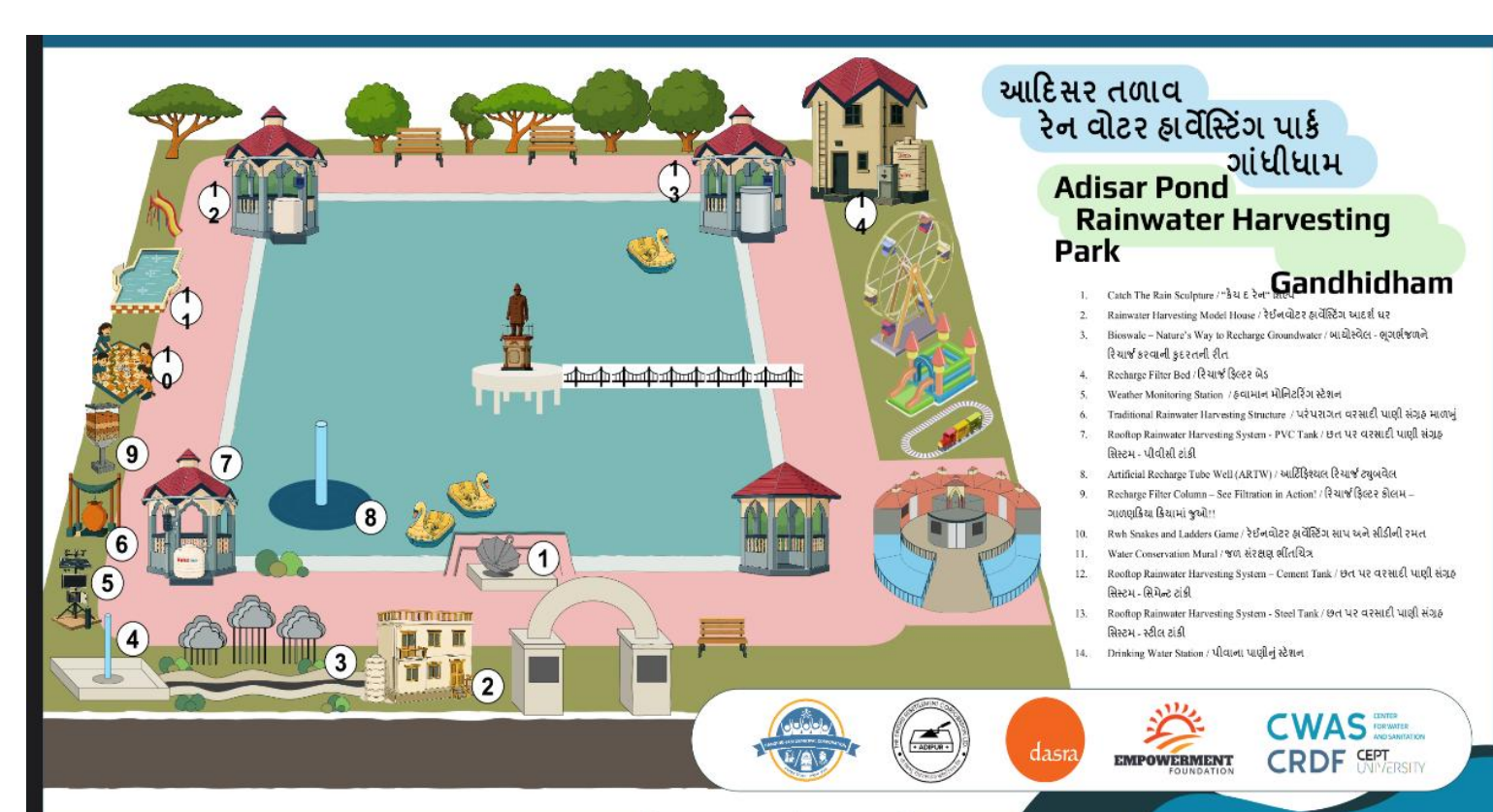


CSR Funded Initiatives



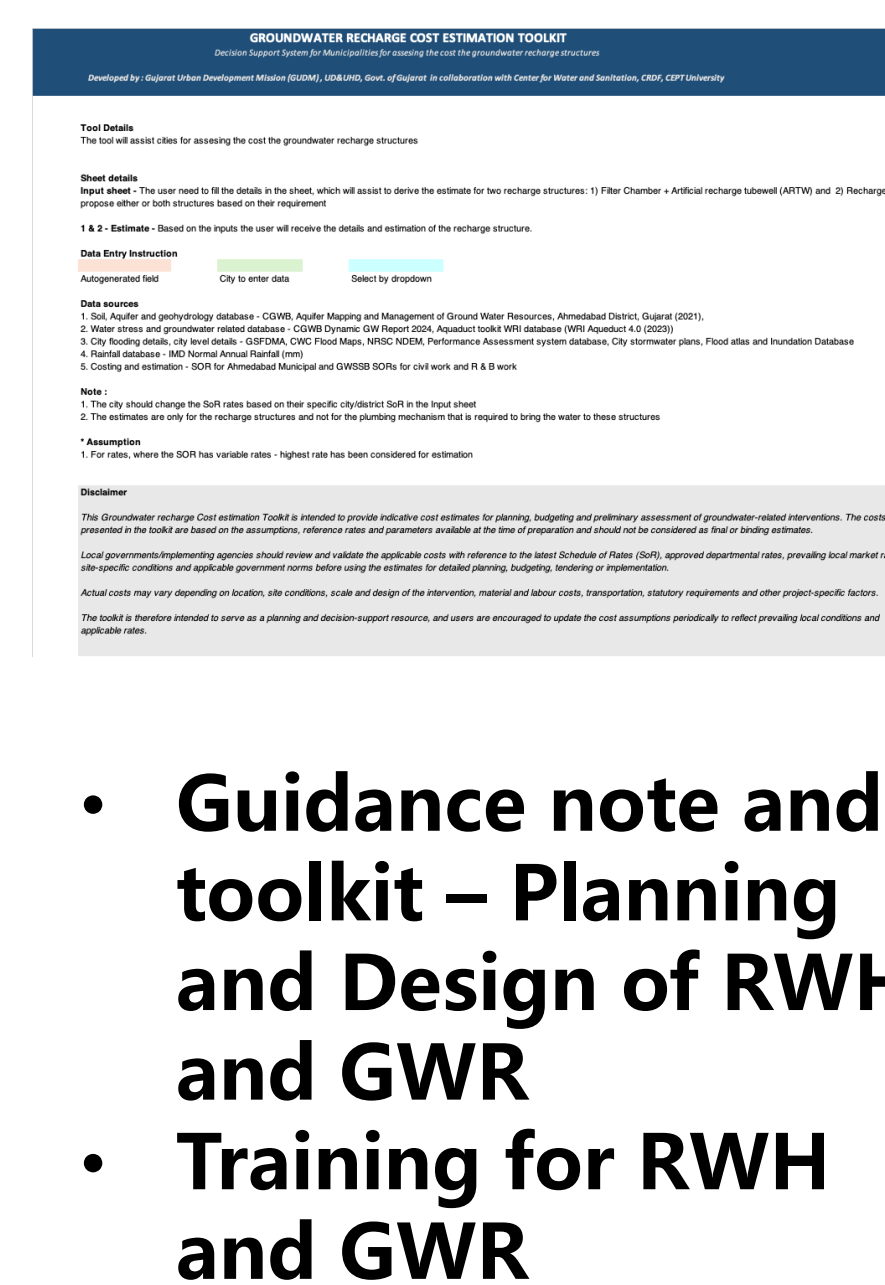
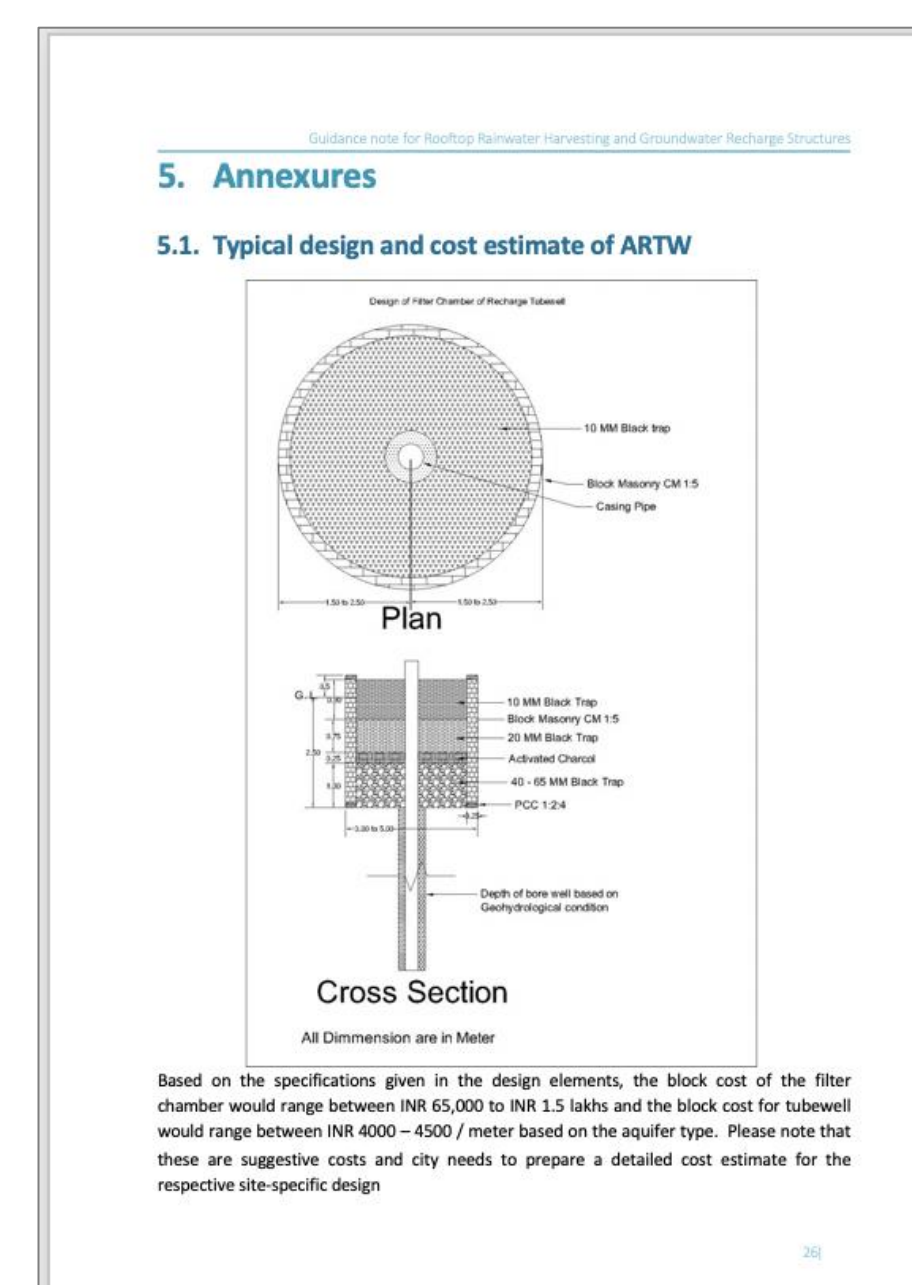
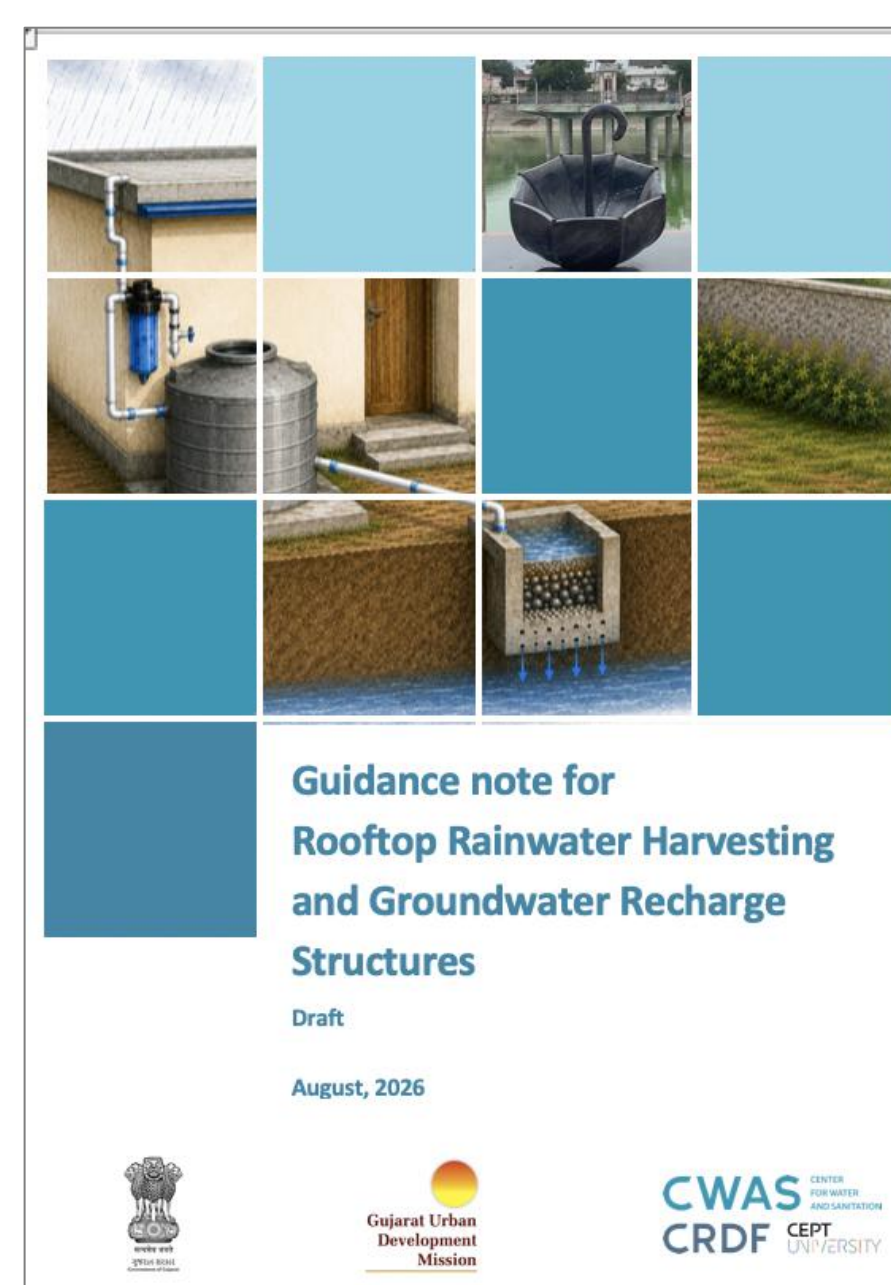
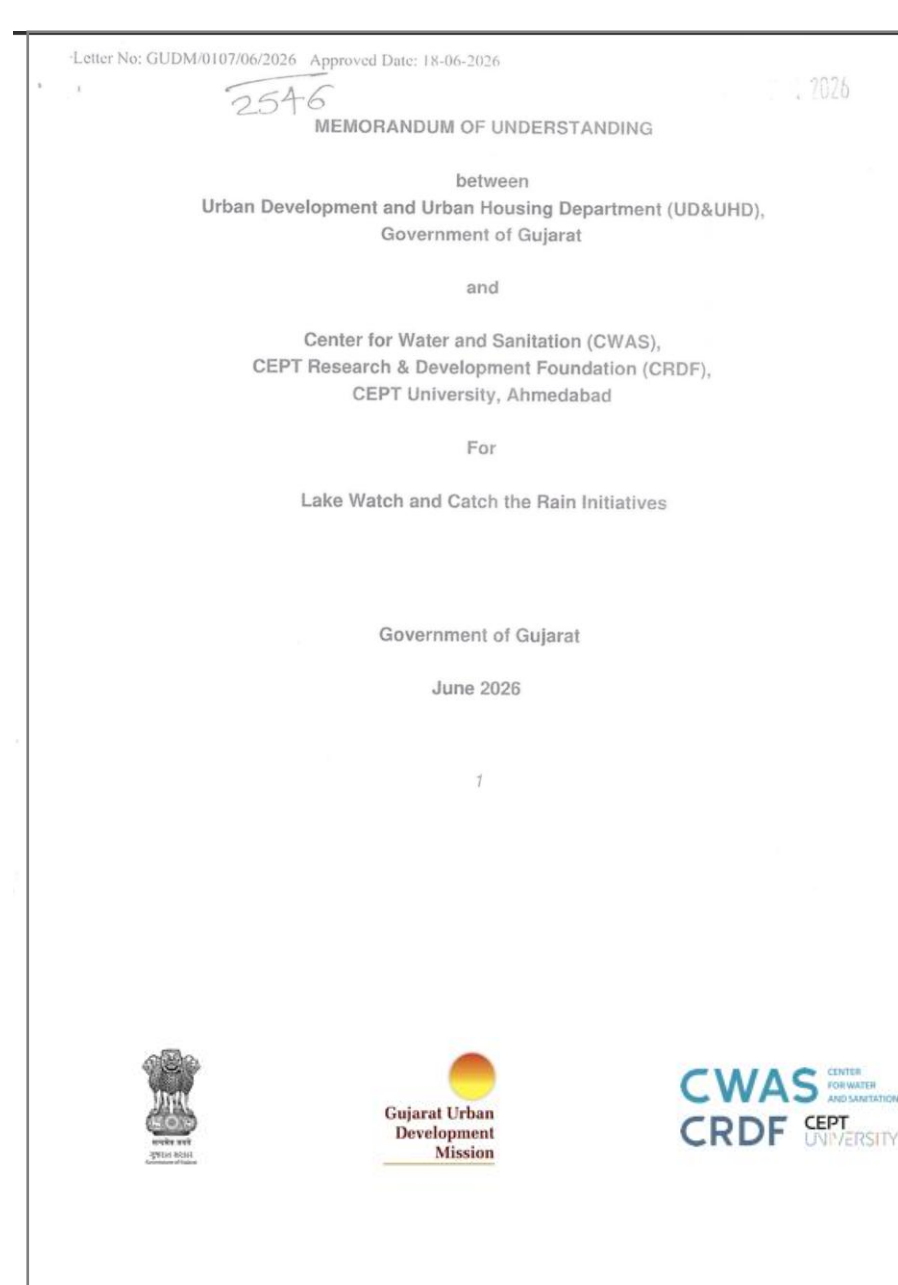
Jal Sanchay Jan Bhagidari – Various Initiatives

RWH Theme Park

Gujarat's 1st Rainwater Harvesting Theme Park

State Level – Scale up

Technical Support to GoG - Catch the Rain



- **Guidance note and toolkit – Planning and Design of RWH and GWR**
- **Training for RWH and GWR**