VIBRANT GUJARAT – 2015
Sustainable Development
TABLE OF CONTENTS

Sustainable Development : Overview

1. Urban Development
2. Water Sector
Gujarat government is committed to make sure that the dividends of the rapid economic growth reaches the weakest sections of the society. This is reflected in the policies and programs directed towards sustainable human development.

To make Gujarat a globally preferred place to live in and to do business through accelerated, balanced, inclusive and sustainable growth driven by robust social, industrial and physical infrastructure:

“Vision of Big 2020”

AIMS TO:
- Attain the developed world’s infrastructure benchmarks
- Accelerate industrialization
- Improve healthcare infrastructure, create widespread network of educational institutions
- Create a network of post-harvest agriculture infrastructure to ensure better access to markets

During the Eleventh Plan, Gujarat has made conscious Plan allocations of 42% towards Social Sector for overall and sustainable development.

Focus areas

- Job creation
- Development of value chain
- Value addition
- Development of knowledge base
- Sustainable development

Social sector 42%

Other sectors 58%
# TABLE OF CONTENTS

**Urban Development Focus Sub sectors**

1.1 Urban Development • India Scenario

1.2 Urban Development • Gujarat Scenario

1.2.1 Urban Development: Gujarat Scenario • Initiatives & Opportunities for Collaboration

1.2.2 Urban Development: Gujarat Scenario • Transport Led Development

1.2.3 Urban Development: Gujarat Scenario • Awards & Accolades
SUSTAINABLE DEVELOPMENT

1.1 URBAN DEVELOPMENT: INDIA SCENARIO
India has the second highest urban population in the world. Population of Indian cities will increase from 340 million in 2008 to 590 million by 2030 – 40 percent of total population.

By 2030, India will have:
- 68 cities with population of more than 1 million,
- 13 cities with more than 4 million people, and
- 6 megacities with population of 10 million or more, at least 2 of which (Delhi and Mumbai) will be among the five largest cities in the world.

The investment required for building urban infrastructure in India, over the next 20 years, is estimated at approximately USD 1 trillion.

Government has offered tax and non-tax incentives to promote investments in urban infrastructure and housing sectors.

In 2008, cities contributed 58 percent to India’s GDP; expected to increase to 70 percent by 2030.

Sources: Global Issues, McKinsey Global Institute: India’s urban awakening: Building inclusive cities, sustaining economic growth, United Nations
Ministry of Urban Development has laid down Service Level Benchmarks for urban services like water supply, sanitation and urban transport.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Focus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jawaharlal Nehru National Urban Renewal Mission (JNNURM), 2005</td>
<td>• Focused attention on integrated development of urban infrastructure and services, • Emphasis on service delivery to the urban poor</td>
</tr>
<tr>
<td>National Urban Sanitation Policy, 2008</td>
<td>• Special focus on hygienic and affordable sanitation facilities for the urban poor and the women, • Capacity building in areas related to governance, financial management, and service delivery</td>
</tr>
<tr>
<td>National Urban Transport Policy, 2006</td>
<td>• Promote integrated land use and transport planning, greater use of public transport and non-motorized modes of travel, use of cleaner technologies, • Capacity building at institutional and individual level</td>
</tr>
<tr>
<td>National Urban Housing and Habitat Policy, 2007</td>
<td>• Affordable housing for all, with emphasis on urban poor through security of tenure, • Promotion of PPP, • Development of cost effective and quality materials to bring down the cost of EWS/ LIG houses, • Provision of spatial incentives and fiscal concessions</td>
</tr>
</tbody>
</table>

Sources: Ministry of Urban Development, Government of India
SUSTAINABLE DEVELOPMENT

1.2 URBAN DEVELOPMENT: GUJARAT SCENARIO
Nearly 42.6 percent of Gujarat’s population resides in urban areas as compared to the national figure of ~31 percent

- One of the fastest urbanizing states in India
- 3 cities of Gujarat (Ahmedabad, Surat and Vadodara) feature in the list of 20 largest cities in India
- There are 8 Municipal Corporations in the state and 159 Municipalities
- 24 Urban Development Authorities & 105 Area Development Authorities

**Increase in urbanization since last Census**

<table>
<thead>
<tr>
<th>State</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tamil Nadu</td>
<td>4.41%</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>2.80%</td>
</tr>
<tr>
<td>Punjab</td>
<td>1.15%</td>
</tr>
<tr>
<td>Gujarat</td>
<td>5.22%</td>
</tr>
<tr>
<td>India</td>
<td>3.35%</td>
</tr>
</tbody>
</table>

**BY 2030**

- Urban GDP = ~USD 267 billion
- % of urban GSDP to total GSDP = 77
- More than 65 percent population will be in urban areas

Sources: McKinsey Global Institute: India’s urban awakening: Building inclusive cities, sustaining economic growth, Census 2011
Note: Exchange rate : USD 1 = INR 61.70 as on 21st January, 2014
URBAN DEVELOPMENT: GUJARAT SCENARIO
FRAMEWORK FOR PLANNED URBAN GROWTH

SPATIAL PLANNING (1/2)

3 TIER PLANNING

Regional/Cluster Approach
Developmen t Plans
Micro Land Use plan

DP prepared for 24 UDAs and 105 ADAs:
• Provides Overall Development Framework
• Land use Zoning
• City Level Infrastructure (Utilities & Amenities)
• Reservations of Land for other Public Purposes
• Development Control Regulation/Rules

A total of 1126 Town Planning Schemes have been prepared and 500 have been proposed

Sources: Gujarat Urban Development Company Ltd
SPATIAL PLANNING (2/2)

TOWN PLANNING SCHEME (TPS) – 1126 PREPARED AND 500 PROPOSED

A LAND READJUSTMENT TOOL TO ADAPT LAND FOR URBAN USE

- Reconstitution of land holdings
- Appropriation of land for public use without acquisition
- Local level social and physical infrastructure
- Land Bank for Urban Poor
- Infrastructure Cost Recovery
- Land appropriation compensation adjusted against land value increments
- Land for Financing of infrastructure (15 percent)

Sources: Gujarat Urban Development Company Ltd
The state government declared the year 2005 as “Urban Year” to improve urban infrastructure and amenities. The vision of the Government is:

- **Mukhya Mantri GRUH Yojana, 2013** (Affordable Housing through PPP)
- **Swarnim Jayanti Mukhya Mantri Shaheri Vikas Yojana, 2009, 2012** (Infrastructure Development)
- **Digital Gujarat under eNagar**
- **Proactive participation in JnNURM**
- **Mahatma Gandhi Swachchhta Mission, 2014** (Towards Zero Waste Cities)
- **Garib Samruddhi Yojana, 2007, 2012** (Empowerment of Urban Poor)

Sources: Department of Urban Development & Urban Housing, Gujarat Government
1.2.1 Urban Development: Gujarat Government Initiatives & Collaboration Opportunities
Gujarat has implemented 191 projects under JnNURM across various sectors. It encompasses 3 missions as listed below:

- PPP models for development of satellite towns
- Implementing reforms such as energy audit, water audit, etc
- 3 projects at a cost of ~USD 15 million have been approved

- Enhance PPP in infrastructural development and promote planned integrated development of towns and cities
- 10 more Projects sanctioned worth ~USD 80 million
- 71 Projects sanctioned in the five mission cities

Sources: Gujarat Urban Development Company Ltd
Provision for Physical as well as Social Infrastructure in towns and cities, providing capacity building, focus on the urban poor and thrust on Environment-friendliness

Various Infrastructure Development works in Corporations, Municipalities and Authorities

Water Supply & Underground Drainage Works

Private Society Works (Janbhagidari) (70 State:20 ULB:10 Private Society)

Ring Road Development in Vadodara, Rajkot, Bhavnagar & Jamnagar

A PROVISION OF ~USD 2.5 BILLION HAS BEEN MADE FOR 2012-17

Sources: Gujarat Municipal Finance Board, Gujarat Urban Development Company Ltd
WATER MANAGEMENT HAS BEEN AT THE NUCLEUS OF ALL URBAN DEVELOPMENT REFORMS.

THE EFFORTS OF THE STATE GOVERNMENT HAS REACHED THE BACKWARD AND TRIBAL AREAS TOO.


OPPORTUNITIES FOR COLLABORATION

Government has earmarked of ~USD 410 million for regular supply of 140 lpcd of drinking water, channeled from rivers Narmada, Mahi, Tapi and Damanganga.

Establishment of various filtration plants and service level benchmarking to increase operational efficiency.

Setting up projects for 24*7 supply of water

Sources: Department of Urban Development & Urban Housing, Gujarat Government
Mukhya Mantri GRUH Yojana has been implemented with the vision of “Slum Free Urban Gujarat and Affordable Housing for All”

- Based on PPP model
- Policy outlay of ~USD 710 million
- Under this Yojna, three policies have been carved out:
  1. Regulations for slum redevelopment and rehabilitation - 2010
  2. Gujarat Slum Rehabilitation Policy (PPP) – 2013
  3. Gujarat Affordable Housing Policy (PPP) – 2014

Government recently announced a policy: Gujarat Affordable Housing Policy (PPP) – 2014

To create stock of affordable housing on public and private land by private developers with assured quality and specification.

Scope and opportunity for collaboration:

- Gujarat Government envisions construction of over 2.8 million affordable homes in rural areas and 2.2 million homes in urban area, worth USD 30 billion over 5 years
- Collaboration opportunities also exist in financing of these affordable housing and in technology transfer

Sources: Department of Urban Development & Urban Housing, Gujarat Government; National Planning Commission Note: FSI: Floor Space Index
**OTHER POLICIES**

- Regulation for Hotels
- Regulation for Hospitals
- Regulation for Residential Townships

**ONGOING AND PROPOSED PROJECTS**

- Adani Township & Real Estate is in the process of completing its three-phased affordable housing project of 800 units.

- DBS Affordable Home strategy to provide 25,000 affordable houses in the next 5 years.

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Under BSUP and IHSDP, around **94,836 dwelling units and 8,000 units** have been constructed respectively.

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**Our Partners**

- Godrej Properties
- Arvind
- Tata Housing
- Parshwanath
### URBAN DEVELOPMENT: GUJARAT SCENARIO
#### MAHATMA GANDHI SWACHCHHTA MISSION:
#### AN EFFORT TOWARDS ZERO WASTE CITIES (TOTAL SANITATION PLAN)

This will mark the 150<sup>th</sup> birth anniversary of Mahatma Gandhi in 2019 with emphasis on Public Awareness & Public Participation

<table>
<thead>
<tr>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase-wise Implementation of components between 2014 - 15 to 2018- 19</td>
</tr>
<tr>
<td>Declaration of Zero Waste City Policy</td>
</tr>
<tr>
<td>Free Health Check-up : Twice in a Year for Sanitation &amp; Drainage Workers</td>
</tr>
<tr>
<td>Formation of Public Health bye-laws</td>
</tr>
<tr>
<td>City Sanitation Plan for 159 ULBs and 4 small Corporations and Access to toilet facility to all by Mar’2015</td>
</tr>
<tr>
<td>Focus on waste to energy initiatives</td>
</tr>
<tr>
<td>Eco-friendly Crematoriums in all the Municipalities</td>
</tr>
<tr>
<td>Rating of Cities/Inter-city Competitions &amp; Awards</td>
</tr>
<tr>
<td>75800 Equipments &amp; Technical Assistance, Training &amp; Capacity Building to all ULBs with focus on employment for Sakhi Mandals and Self Help Groups</td>
</tr>
<tr>
<td>Integrated Waste Management for 50 ULBs and Automated Waste Collection System for Gandhinagar</td>
</tr>
</tbody>
</table>

**Sources:** Department of Urban Development & Urban Housing, Gujarat Government; National Planning Commission, Times of India
Gujarat Government will run a pilot project in 50 cities to generate power, fertilizer and reusable water by setting up solid waste management plants.

Surat Municipal Corporation (SMC) is the First Corporation of India to install 0.5 MWe capacity power plant based on biogas generated from liquid sewage waste at Anjana Sewage Treatment Plant in Oct-2003

According to MNRE estimates, there exists a potential of about 112 MW of energy from MSW and sewage in Gujarat

**COMPLETED PROJECTS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0 MW capacity Bio-gas based Power Generation Project at M/S Kanoria Chemicals Industries Ltd.</td>
<td>Ankleshwar</td>
</tr>
<tr>
<td>Industrial Waste based 4800nm3/day capacity Biomethanation Project at M/s Anil Starch Products Ltd.</td>
<td>Ahmedabad</td>
</tr>
<tr>
<td>Industrial effluent based based 12000 nm3/day capacity Biomethanation Project at M/s Riddhi Siddhi Gluco Biols Ltd</td>
<td>Ahmedabad</td>
</tr>
<tr>
<td>Bio-gas based 0.975 MW capacity Power Plant at Ms. Sayaji Industries, Maize Products</td>
<td>Ahmedabad</td>
</tr>
</tbody>
</table>

Sources: Gujarat Energy Development Agency, Gujarat Urban Development Company Ltd
Municipal Energy Efficiency Project have been implemented across the state to promote energy saving measures in Street lighting systems, Water/Sewage Pumping systems etc.

Energy Efficiency Initiatives in Vadodara

Total energy saving potential estimated to be 2.3 lakh MWh per annum

- Pre Energy audits have been completed
- Third party consultation and verifications are in place for improved delivery and efficiency of the project
- ESCROW mechanism has been proposed to ensure transparency and accountability

Sources: Department of Urban Development & Urban Housing, Government of Gujarat
OBJECTIVES
• Better transparency & accountability
• 24*7 accessibility
• Time Saving

Sources: Gujarat Urban Development Company Ltd
Gujarat has a mobile subscriber base of ~53.49 million with 136% Urban Teledensity. Capitalizing on this, the state government is extensively focusing on m-governance for enhanced service delivery and better accountability.
### ITS/GPS/GIS
- Intelligent Transit Management System (IMTS) in Ahmedabad/ Surat/ Rajkot
- Intelligent Transport Solutions Pilot Project in partnership with Japan for Ahmedabad
- GPS based Vehicle Tracking System
- GIS Mapping & Spatial Database

### CCTV SURVEILLANCE
- City Police & AMC implementing CCTV surveillance project
- n Code is the total solution provider
- 554 cameras installed in AMC

### WIFI CITY
- Pilot WiFi Projects have been initiated in MCs on PPP-basis

<table>
<thead>
<tr>
<th>ULB</th>
<th>STATUS</th>
</tr>
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<tbody>
<tr>
<td>AMC</td>
<td>Kankaria Lake, Law Garden and few areas of Maninagar</td>
</tr>
<tr>
<td>RMC</td>
<td>Racecourse Garden and BRTS Route</td>
</tr>
<tr>
<td>VMC</td>
<td>Under progress</td>
</tr>
<tr>
<td>SMC</td>
<td>Under progress</td>
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</tbody>
</table>
Garib Samruddhi Yojana: The programme focusing on permanent employment, health, education, housing, roads, power and other services

- Providing all infrastructural facilities in the urban poor localities
- Providing sanitized and healthy environment
- Ensuring health and nutrition
- Providing affordable ownership & dwellings for all
- Sustainable & permanent employment opportunities for young men and women – youth
- Providing education & social justice
- Empowerment of urban poor

Sources: Department of Urban Development & Urban Housing, Gujarat Government; National Planning Commission, Times of India
1. UMEED (Motivation, Employment, Entrepreneurship, and Development for Urban Poor)

- UMEED is an innovative idea of skill development through training of urban poor youth keeping in mind the need of the market in a particular area, so that employment of youth can be ensured.
- The State Government has planned to establish UMEED centers in each Municipality.

2. MISSION MANGALAM

- Scheme specifically directed towards the empowerment of the economically underprivileged, women and children.
- Economically weaker citizens organized into Self Help Groups.
- They are then linked with banks, to facilitate capacity building.
- Project seeks to reach out to around one lakh beneficiaries.
- The project also provides for the construction of Aanganwadis and health centres in urban areas.

Sources: Department of Urban Development & Urban Housing, Government of Gujarat
Gujarat has intensified its focus on public health services by directing efforts towards upgradation of medical services, and particularly towards provision of affordable treatment for the urban poor.

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<tbody>
<tr>
<td><strong>1</strong></td>
<td>Strengthening, revamping and rationalizing existing urban primary health structure</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Creation of new facilities, Deployment of HR (Doctors, ANMs, ASHAs)</td>
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<tr>
<td><strong>3</strong></td>
<td>Ensuring quality healthcare services (Assured package of service)</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Capacity building of stakeholders (ULBs, ANMs, ASHAs, community, etc.)</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>Convergence, partnerships (ESI, Profit, not-for-profit)</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Use of technology for better service delivery, improved surveillance and monitoring</td>
</tr>
</tbody>
</table>
Gujarat Government has initiated riverfront development at several places with the vision of preserving rivers and preventing any discharge of waste in them, promoting tourism and city rejuvenation.

Pilot project in Ahmedabad - Sabarmati Riverfront Development Project
According to KPMG, it is one of the ‘100 Most Innovative Projects' towards urban regeneration that make cities livable as well as sustainable.

OPPORTUNITIES

• Beautification of Riverfront
• Higher FSI to be made available
• To be replicated in Surat & Vadodara
174 projects have been approved in 133 municipalities for the greening of roads and open plots.

Under the “Nagar Nandanvan” scheme, over 10 lakh trees have been planted across 8,000 hectares of land in the ULBs on PPP model

Natural Riverfront Forest
The Ahmedabad Municipal Corporation (AMC) has initiated plantation of about 7,000 trees to create an urban forest over 60,000 square metres of land near Vasna barrage on Sabarmati Riverfront.
GIFT City is a flagship Smart City project of the Government with world-class infrastructure and facilities

- Strategically located in Gandhinagar at a distance of around 12 km from Ahmedabad International Airport
- Integrated Townships to be developed in surrounding development zone that will house educational institutes, International Schools, specialized hospitals, hotels and clubs

- Integrated infrastructure for better diversity
- Technology ensuring energy conservation
- SMART Transportation
- District Cooling System
- Automated Waste & Water management system
- Multi level Parking Complex

- Power Control Centre with a reliability of 99.999% which means outage of 5.3 minutes/annum
- Leading-edge, secure & resilient and cost-effective ICT infrastructure
- City command and Control Centre for Immediate Emergency Response

1.2.2 Urban Development: Gujarat scenario Transport Led Development
There is an increased impetus to promote transport led development in the state, as mobility is at the core of both social and economic activities.

- Integrated Urban Land Use and Transport Planning including construction of ring roads
- Priority to Public Transport Infrastructure, Non-motorized Transport (NMT) and Pedestrians
- 15 cities have their own bus service in PPP mode
- MATA- Multi-modal Affordable Transit Authority for integration of various modes of Public Transportation
- Exploring cleaner fuel
- Traffic Management / Road Safety

**RECENT DEVELOPMENT: ELECTRIC BUSES**

- 15-20 E-buses will be included in the initial phase
- Between Ahmedabad and Gandhinagar
- Also includes setting up of solar-power based electric charging stations at regular distances
- To be replicated across the state gradually

BRTS Initiatives for major cities across the State:

**Ahmedabad’s BRTS chosen as “Lighthouse Project” as part of UN’s Momentum for change initiative**

Janmarg the only project in India among the 9 Lighthouse Projects chosen by the UN from all over the world

**AHMEDABAD**
Status: Operational (No of Buses – 160, total Daily ridership: 140,000) Total bus fleet to reach 280
Total Corridor Length: Operational – 88 km
Total Number of Bus Terminals – 120 Operational + 13 Under construction

**SURAT**
Status: Project under execution
Total Route Length: 30 Km (Phase 1) + 70 Km (Phase II)
Total Number of Bus Terminals: 200

**RAJKOT**
Status: Project under execution
Total Route Length: 29 Km under Phase 1 - 11 KM completed
Total Number of Bus Terminals- ~35 under Phase 1

Sources: Department of Urban Development & Urban Housing, Government of Gujarat, Amdavad Municipal Corporation
**BRTS System Components**

- **High-quality**
- **Customer orientated**
- **Fast**
- **Comfortable**
- **Low-cost**

**RUNNING WAYS**
- Segregated bus ways
- Complete street development (PT, NMT)

**BUS STATIONS**
- Accessible, Comfortable stations – Level boarding alighting, Off board Ticketing, ITS enabled

**VEHICLES**
- Clean buses & modern technologies
- Euro III/ IV A.C buses
- Trained Drivers and staff

*Sources: Department of Urban Development & Urban Housing, Government of Gujarat, Amdavad Municipal Corporation*
ITS in BRTS

- Automatic Vehicle Location System
- State of Art control room
- At level boarding-alighting
- ITS for effective service delivery
- Automatic fare collection system
- Automatic Sliding Doors
- Passenger Information System

Sources: Department of Urban Development & Urban Housing, Government of Gujarat, Amdavad Municipal Corporation
Metro Rail System between Gandhinagar & Ahmedabad is under construction

**SALIENT FEATURES**

- **Terrestrial Trunked Radio (TETRA) Communication System and SCADA** for support systems control with Gigabit Ethernet network backbone.
- **Automatic Fare Collection System** facilities using Smart Card technology.
- **Rolling Stock**: Metro (Driverless) – Both Motorised Car
- **Communication Based Train Control**

Excepted daily ridership: 2 million by 2020 and 4.5 million by 2041

Sources: Department of Urban Development & Urban Housing, Government of Gujarat
Rail systems have been meticulously designed to improve connectivity throughout the state and make the remote areas accessible.

**PROPOSED MAP FOR REGIONAL RAIL SYSTEMS & TWIN CITY DEVELOPMENT**

- Phase 1 Corridors –
  - Corridor 1: Kalol-Ahmedabad-Barejadi - 43.49 Km
  - Corridor 2: Ahmedabad – Naroda – 9.47 Km
  - Corridor 3: Ahmedabad – Viramgam – 65 Km
- Other extended corridors include -
  - Kalol – kadi – 20Kms
  - Kadi – Katosan Road – 18 Kms
  - Katosan – Viramgam - 38 Kms
  - Ahmedabad – Sanand – 29 Kms
  - Sanand – Viramgam – 36 Kms

**LIGHT RAIL SYSTEMS**

- Surat Light Rail System Proposed
- Integrated Public Transport Studies done for cities like Ahmedabad, Vadodara and Surat
- Status: Under planning

Sources: Department of Urban Development & Urban Housing, Government of Gujarat
1.2.3 Urban Development: Gujarat scenario Awards & Accolades
• **SURAT & AHMEDABAD**: Best Cities to Live in: ET-Janaagraha Annual Survey of India's City Systems (ASICS) Award (2013)

**AHMEDABAD**
- 2012: Special Mention category in the Lee Kuan Yew World City Prize 2012
- 2012: HUDCO Award for ‘Best Practices to Improve the Living Environment’
- 2011: Best City in the Implementation of Basic Services to Urban Poor
- 2011: Best City to live in - Times of India - IMRB Quality of Life Survey
- 2011: Nagar Ratna Awards - Best run Municipal Corporation
- 2011: Urban Poor National Award - Innovations in servicing needs of urban poor
- 2010: Transport Sustainable Transport Award

**SURAT**
- 2011: Nagar Ratna Awards - Best Run Municipal Corporation
- 2010: Best City Award in Implementation of BSUP
- 2009: Best Energy Conservation Practice in Water Supply
- 2009: Best Performing City under Urban Governance

**VADODARA**
- 2010: Improvement in Water Supply & Sewerage Sector
- 2010: Implementation of Sewerage Treatment Plant (43 MLD)
- 2010: Implementation of 3 Pro-Poor Reforms Together

**RAJKOT**
- 2011: 14th National e-Governance Conference for Innovative Use of Technology in e-Governance
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMC</td>
<td>Ahmedabad Municipal Corporation</td>
</tr>
<tr>
<td>ADA</td>
<td>Area Development Authority</td>
</tr>
<tr>
<td>ANM</td>
<td>Auxiliary Nurse Midwife</td>
</tr>
<tr>
<td>ASHA</td>
<td>Accredited Social Health Activist</td>
</tr>
<tr>
<td>BUA</td>
<td>Built up Area</td>
</tr>
<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
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<tr>
<td>ESCAP</td>
<td>The Economic and Social Commission for Asia and the Pacific</td>
</tr>
<tr>
<td>ESI</td>
<td>Employee State Insurance</td>
</tr>
<tr>
<td>EWS</td>
<td>Economically Weaker Section</td>
</tr>
<tr>
<td>FSI</td>
<td>Floor Space Index</td>
</tr>
<tr>
<td>LIG</td>
<td>Lower Income Groups</td>
</tr>
<tr>
<td>MLD</td>
<td>Million litres per day</td>
</tr>
<tr>
<td>MSW</td>
<td>Municipal Solid Waste</td>
</tr>
<tr>
<td>O &amp; M</td>
<td>Operations &amp; Maintenance</td>
</tr>
<tr>
<td>RMC</td>
<td>Rajkot Municipal Corporation</td>
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<tr>
<td>SHGs</td>
<td>Self Help Groups</td>
</tr>
<tr>
<td>SMC</td>
<td>Surat Municipal Corporation</td>
</tr>
<tr>
<td>STPs</td>
<td>Sewage Treatment Plants</td>
</tr>
<tr>
<td>UDA</td>
<td>Urban Development Authority</td>
</tr>
<tr>
<td>ULBs</td>
<td>Urban Local Bodies</td>
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<tr>
<td>UNHSP</td>
<td>United Nations Human Settlements Programme</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
</tr>
<tr>
<td>UN - ESA</td>
<td>United Nations Department of Economic and Social Affairs</td>
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<tr>
<td>VMC</td>
<td>Vadodara Municipal Corporation</td>
</tr>
</tbody>
</table>
URBAN DEVELOPMENT: GUJARAT SCENARIO

INSTITUTIONAL STRUCTURE

**Nodal Agencies**
- Gujarat Urban Development Company Ltd (GUDC)
- Gujarat Urban Development Mission (GUDM)
- Gujarat Municipal Finance Board (GMFB)
- Gujarat Housing Board (GHB)

**Local Self Government Bodies**
- 8 Municipal Corporations
- 159 Municipalities
- 24 Constituted UDAs/ ADAs
- 105 Designated ADAs

**Other Departments and Agencies**
- Directorate of Municipalities
- Town Planning & Valuation Department (TPVD)
- 24 Urban / Area development Authorities
- 105 Designated Area development Authorities
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Development &amp; Urban Housing Department, Government of Gujarat</td>
<td><a href="http://udd.gujarat.gov.in">http://udd.gujarat.gov.in</a></td>
</tr>
<tr>
<td>Gujarat Urban Development Company</td>
<td><a href="http://www.gudcltd.com">http://www.gudcltd.com</a></td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

**Water Sector Focus Sub sectors**

- 2.1 Sustainable Development in Gujarat - Water Recycling & Desalination
- 2.2 Focus sub sectors : Water
  - 2.2.1 Global Scenario
  - 2.2.2 India Scenario
  - 2.2.3 Gujarat Scenario
    - 2.2.3.1 Initiatives & Interventions
    - 2.2.3.2 Opportunities
2.1 Sustainable Development in Gujarat
Water Recycling & Desalination
WATER RECYCLING: TECHNIQUE & APPLICATIONS

Wastewater generated has been seen as an emerging non-conventional water resource and has been developed in the last decades. Various techniques are being explored to effectively reuse the wastewater.

Water pollution is adding to India's water woes with almost 70 percent of surface water and an increasing percentage of groundwater being contaminated by biological as well as chemical, organic, inorganic and toxic pollutants.

WASTE WATER TREATMENT PROCESSES

- Waste Water Stabilization (WSP)
- Sequencing Batch Reactor (SBR)
- Up flow Anaerobic Sludge Blanket + Final Polishing Unit (UASB + FPU)
- Moving Bed Biofilm Reactor (MBBR) and Membrane Bioreactor (MBR)
- Up flow Anaerobic Sludge Blanket + Extended Aeration System (UASB + EAS)
- Activated Sludge Process: Conventional (ASP)

APPLICATIONS OF RECYCLE WATER

- Urban
- Agriculture
- Groundwater recharge
- Industrial
- Environment & Recreation
- Augmentation of potable supplies
As freshwater reserves constitute only 3% of the total water reserve of earth in contrast to 97% saline water, coastal regions are looking at seawater as the alternative.

The growth in desalination industry in the global market will be driven by factors like:
- Growing domestic and industrial water needs
- Newer technologies resulting in cheaper costs of desalination and increased energy efficiency
- Rising costs of supplying water from traditional sources
- Growth in population and reduced availability of safe drinking water

Opportunities in Gujarat
- Due to the high cost of desalination process, it is best suitable for industrial uses.
- Desalination process also offers opportunity for sea water purification to cater ever increasing water demand.
- Gifted with 1600 km of coastline, Gujarat promises best opportunities in this field.

Desalination Technologies

**Thermal Technology**
- Multi-stage flash
- Multiple effect distillation
- Vapor compression distillation

**Membrane**
- Electro dialysis
- Electro dialysis reversal process
- Reverse Osmosis

Desalination Process

1. **Evaporator**
   - Sea water

2. **Condenser**
   - Vapor

3. **Membrane**
   - Water

4. **Waste Tank**
   - Brine

5. **Clean Water**
   - Drinking Water/Water for Industrial Use

With the projected future demand for water exceeding the availability of freshwater resources, the need to tap alternative sources has increased manifolds.
2.2 Focus sub sectors: Water
Focus sub sectors : Water

2.2.1 Global Scenario
“One in 6 people worldwide - 783 million - don't have access to improved drinking water sources”- UN Water report

**FRESHWATER RESOURCES**

- 30.0% Ice & Snow cover in mountain regions
- 69.7% Groundwater
- 0.3% Freshwater lakes & rivers

**GLOBAL WATER USE**

- 70% Irrigation
- 20% Industrial
- 10% Domestic

• The total usable freshwater supply for ecosystems and humans is about 200,000 km³ - less than 1 percent of all freshwater resources
• In developing country 70% of industrial wastes are dumped untreated into waters where they pollute the usable water supply
• Water withdrawals are predicted to increase by 50 percent by 2025 in developing countries, and 18 percent in developed countries

Source: UN Water, UNEP, WWAP
Water is not distributed evenly across the globe. Fewer than 10 countries possess 60% of the world’s available fresh water supply: Brazil, Russia, China, Canada, Indonesia, U.S., India, Columbia and the Democratic Republic of Congo.

- International Water Management Institute projected that total global urban water consumption will increase by 62% between 1995 to 2025.
- Nearly one-fifth people live in regions with absolute water scarcity today. It is estimated that by the year 2025, two-third of the world’s population will be living under water stressed conditions.

The global desalination industry has grown from an installed capacity of 32,000 MLD in 2005 to nearly 50,000 MLD in 2009. This installed capacity is further expected to grow to 97,500 MLD by 2015 at a CAGR of 12%.

While the US and Middle Eastern countries have very high desalination capacities, developing regions like South Asia are lagging far behind.

Source: UN Water, UNEP, WWAP
Focus sub sectors: Water

2.2.2 India Scenario
India is the largest consumer of groundwater in the world with an estimated usage of 230 cubic km per year, with agriculture and domestic meeting their 60% and 80% demand through groundwater.

- Nearly 90 per cent of the rural water supply is from groundwater sources.
- Per capita water availability decrease from 2,309 cu.mt. in 1991 to 1545 cu.mt. in 2011.
- About 96% population of the urban area and 90% rural population has access to improved water resources.
- Water demand by the Industrial sector will quadruple to 196 BCM by 2050.

Drinking water coverage in India (in Million):
- Piped in premises: 25%
- Other improved: 66%
- Other: 8% (1%)

Source: UN, TSMG
According to the Center for International Trade Development, India’s total water market is estimated to be worth more than USD 4 billion, and growing by 10 - 12 percent annually.

### Sewage generation & Treatment capacity in Class-1 cities

- **Treatment Capacity** 11,553 MLD
- **Sewage Generation** 35,558 MLD
  - 32% of the sewage generation is treated.

### Installed capacity of STP (Sewage Treatment Plant)

- Uttar Pradesh: 16.90%
- Andhra Pradesh: 16.40%
- Punjab: 15%
- West Bengal: 14%
- Haryana: 10%
- Maharashtra: 7%
- Gujarat: 6%
- Madhya Pradesh: 5%
- Bihar: 3.40%
- Uttarakhand: 3.60%

### Installed capacity of Desalination Plants in India (Million Liters per Day)

- CAGR: 12%
- Installed capacity of Desalination Plants in India (Million Litres per Day)
  - 2008: 290
  - 2015E: 1450

- Out of 11,553.68 MLD sewage treatment capacity in Class I Cities, 8040 MLD exists in 35 Metropolitan cities i.e. 69%. The capacity of sewage treatment in remaining 463 Class-I cities is only 31%.

- **Percentage capacity utilization is maximum in the states of Gujarat, Punjab, Haryana and Goa.**

- There are around 1000 desalination plants in India with a capacity of 291,820 m³ per day.

- The installed capacity of desalination plants in India in 2009 was ~360 Million liters per day; expected growth in capacity additions of desalination by year 2015 is 25% each year.

Source: CPCB
Focus sub sectors: Water

2.2.3 Gujarat Scenario
The state has significant agricultural output, although it has a meagre 2.28% of India’s water resources

- Gujarat, one of India’s most industrialized state, has around 56 BCM of utilizable water
- The net annual ground water availability is about 17.5 BCM
- **Surface water** accounts for 68.5% of total water resources of Gujarat. These resources are unevenly distributed in the state with 80% of them concentrated in central and southern regions which covers only a quarter of total area.
- In an effort to solve the long standing problems of utilizable water supply in most parts of Gujarat, an "inter-basin transfer scheme" i.e. inter linking of rivers has been envisaged where surplus water would be transferred to areas suffering with water scarcity
- For improved distribution of water, 2,680 km bulk pipelines and about 120,769 km of distribution pipelines have been laid across the state as of June 2013
- The schemes for better water conservation schemes include - 160,000 check dams, 122,035 bori bandhs (dams made of sand bags), 260,000 Khet Talawadis, 25,000 deepened ponds
- Government of Gujarat has also introduced to overcome these challenge and for better distribution water; major being Sardar Sarovar Project, Interlinking of rivers, Sujalam Safalam Yojana, Sauni Yojana, Kalpasar Yojana and Watershed Development Programs.
- As a result of all these initiatives, Gujarat has managed to achieve higher agricultural output and above national average GDP.

**Spatial distribution of water in Gujarat**

**Fresh-Water Availability in Gujarat**

<table>
<thead>
<tr>
<th>Type</th>
<th>Availability (mcm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water</td>
<td>38,100</td>
</tr>
<tr>
<td>Ground Water</td>
<td>17,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>55,600</td>
</tr>
</tbody>
</table>

Source: Socio-Economic Review 2012-13
The state government has envisioned executing a state wide water supply GRID as a long term strategy for drought proofing

- State Wide Water Supply Grid aims to supply drinking water to 75% population of the State by creating Bulk Water Transmission Pipelines, Water Treatment Plants, Service reservoirs, Distribution pipeline network and allied structures.
- It is a mission to ensure sustainable Water supply and Sanitation services in the rural and urban areas of Gujarat State for accomplishing the basic health, hygiene levels leading to Socio-economic development, peace and happiness in the society.

- 2684 Km Bulk Water Transmission main
- 120769 Km Distribution pipeline
- 181 Water Treatment Plant of 3000 MLD Capacity.. 23005 Water Storage Reservoir
- 11571 Villages and 131 Towns are connected through Water Grid.
- Approx. 70% of State’s population i.e. 4.0 Crore People are supplied about 2950 MLD water.

Source: GWSSB
Government of Gujarat has formulated, sanctioned and implemented a Master Plan amounting to ~USD 20 billion for Sardar Sarovar Canal based drinking water supply project covering 9633 villages and 131 urban centers.

GRID aimed at inter-basin water transfer from sustainable surface water resources to water scarce and quality affected areas to supply drinking water to almost 75 percent population of the State through surface/sub-surface sources.

Total 182 projects including 59 bulk pipeline projects were planned to cover 9633 villages and 131 towns of the State.

<table>
<thead>
<tr>
<th>Water Grid</th>
<th>Villages</th>
<th>Towns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned</td>
<td>9,633</td>
<td>131</td>
</tr>
<tr>
<td>Completed</td>
<td>7,700</td>
<td>118</td>
</tr>
<tr>
<td>In progress</td>
<td>1,525</td>
<td>7</td>
</tr>
</tbody>
</table>

Population served by Narmada Project (in Lakhs)
Several Waste Water Recycling projects are in various stages of implementation.
State looking to invest more in water treatment technologies.
The total number of effluent treatment plants installed and commissioned up to 31.3.2012 is 6813.
The State has signed MoU’s for setting up of waste water recycling plants in five major cities – Gandhinagar, Ahmedabad, Vadodara, Bharuch and Surat.

### Total No. of STP

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total No. of STP</strong></td>
<td><strong>76</strong></td>
</tr>
<tr>
<td>STP: In Operation</td>
<td><strong>72</strong></td>
</tr>
<tr>
<td>STP: Under Installation</td>
<td><strong>4</strong></td>
</tr>
<tr>
<td>Total No. of Oxidation Ponds</td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

### Common Effluent Treatment Plants

<table>
<thead>
<tr>
<th>City</th>
<th>No. of CETPs</th>
<th>Capacity (in MLD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmedabad</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td>Vadodara</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Ankleshwar</td>
<td>2</td>
<td>62</td>
</tr>
<tr>
<td>Bharuch</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Surat</td>
<td>5</td>
<td>312</td>
</tr>
<tr>
<td>Valsad</td>
<td>1</td>
<td>70</td>
</tr>
<tr>
<td>Junagadh</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Rajkot</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Gandhinagar</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>500</strong></td>
</tr>
</tbody>
</table>
Desalination is gaining acceptance owing to the rapid growth in water demands, particularly urban coastal settlements, increasing restrictions on groundwater usage and lack of regular rainfall in many areas.

- Gujarat has been one of the front runner states in adopting desalination technology for water sourcing
- The coastal regions of India adjoining the Arabian Sea and Bay of Bengal are expected to see major investments in addition to the existing/upcoming desalination plants
- State government considering increasing installed capacity to 300 MLD over next five years further estimated to reach ~ 1500 MLD by 2030

### Geographical Distribution of Desalination Plants

<table>
<thead>
<tr>
<th>Promoter</th>
<th>Capacity (mld)</th>
<th>Private Player involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliance Industries</td>
<td>160</td>
<td>IDE Technologies</td>
</tr>
<tr>
<td>Nirma Ltd.</td>
<td>10</td>
<td>Thermax</td>
</tr>
<tr>
<td>Sanghi cement industries</td>
<td>8.5</td>
<td>IDE Technologies</td>
</tr>
<tr>
<td>Tata chemicals Ltd.</td>
<td>6</td>
<td>GE Water</td>
</tr>
<tr>
<td>Essar Oil Ltd</td>
<td>6</td>
<td>IDE Technologies</td>
</tr>
</tbody>
</table>

Source: GPCB
Focus sub sectors: Water - Gujarat scenario

2.2.3.1 Initiatives & Interventions
Sardar Sarovar Project aims to provide long term water supply and energy security

Sardar Sarovar Project
• The Sardar Sarovar Project is one of the largest water resources project of India covering four major states - Maharashtra, Madhya Pradesh, Gujarat and Rajasthan.
• About 99.50 percent excavation and 96.50 percent concrete work of main dam have been completed
• It comprises concrete gravity dam across Narmada River, with reservoir capacity of 5860 MCM
• It has two power houses with installed capacity of 1450 MW. Total energy generated so far sums up to 33,000 million units
• It consists of 460 Km long canal with discharge capacity of 40,000 cusecs at start, total canal network 75,000 Km
• Main dam is 1210 m long and 163 meters high from the deepest foundation level
• Out of total 38 branches, 37 are already flowing with water
• Quantity of water conveyed so far 67,617 cubic metre
• Project will provide annual irrigation benefits in an area of about 18.45 lakh hectares benefitting 1 million farmers
• The dam will provide drinking water to 9633 villages and 131 towns for ~ 29 million people
• 232 work contracts worth INR 9091 crore are in progress as a part of Sardar Sarovar Project
• The estimated cost of the project is INR 392.4 billion (USD 8 billion)
To address needs of drought prone areas, the state government has implemented Sujalam Safalam Yojana, Sauni Yojana and Watershed Development Programme

**Sujalam Safalam Yojana**: Providing water to dry land and dry underground areas
- Launched in 2004 to cater to drought prone areas of North and Central Gujarat, Saurashtra and Kutch at an estimated investment of ~**USD 10 billion (INR 6200 Crore)**
- Sujalam Safalam canal links 27 rivers of the state, spread over a length of 332 km covering 7 districts (Panchamahal, Kheda, Sabarkantha, Gandhinagar, Mehsana, Patan and Banaskantha) of the state
- Presently 8 schemes covering 600 villages and 7 towns are completed. In addition to this 2 schemes are nearing completion

**Sauni Yojana (Saurashtra Narmada Avtaran Irrigation Yojana)**
- Launched in September, 2012, Sauni Yojana aims to divert 1 MAFt excess over flowing flood water of Narmada to Saurashtra Region.
- These water will be distributed to 115 reservoirs of Eleven districts of Saurashtra.
- Total 1115 km long four link pipelines are planned to divert these waters.
- Total land benefitted through this scheme is 1.022 million acre
- The estimated cost of the project is INR 10,800 crore

Source: Gujarat Socio Economic Review 2012-13
To address needs of drought prone areas, the state government has implemented Sujalam Safalam Yojana, Sauni Yojana and Watershed Development Programme.

**Watershed Development Programme**
- Implemented with the objective of drought proofing, agriculture growth, environment protection and employment generation.
- Drought Prone Area Programme (DDP) and Integrated Wasteland Development Programme (IWDP) are the major schemes implemented.
- **5590 projects are under execution** for treatment of **28 lakh hectares** in the State.
- An amount of **~USD 20 million** was spent during 2011-12 under various schemes of the watershed programme. In 2012-13 (Up to October – 2012) the expenditure was **~USD 11 million**.

**Kalpasar Project in Gulf of Khambhat** is another ambitious project envisaged by the state government.

**Gulf of Khambhat Development (Kalpasar) Project:** World’s largest man made freshwater reservoir
- To meet the demands for irrigation, domestic purpose and industries.
- Creation of reservoir by construction of Gulf closure dam at the Gulf of Khambhat with storage of 10,000 million cubic meter water inflows of major rivers.
- Project expected to cater to 10.54 lakh hectares in 39 talukas of 6 districts, essentially Saurashtra and Central Gujarat water scarce regions.
- Value based utilization, generation of wind and solar energy at premises for lifting freshwater from reservoir to canal.
<table>
<thead>
<tr>
<th>Year</th>
<th>Award Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>Markemony Award 2013 to SSNNL for World’s Second Largest Concrete Gravity Dam (by Volume) and World’s Third Largest Spillway Discharging Capacity</td>
</tr>
<tr>
<td>2012</td>
<td>India Power Awards 2012 for Largest Concrete Dam to Sardar Sarovar Narmada Nigam Ltd.</td>
</tr>
<tr>
<td>2012</td>
<td>Prime Minister Award for watershed development programme.</td>
</tr>
<tr>
<td>2011</td>
<td>Innovative use of technology in E-Governance for watershed development programme.</td>
</tr>
<tr>
<td>2011</td>
<td>Enertia Award-2011 to SSNNL under the category power generation award 'hydro power' for its contribution in the field of 'sustainable energy &amp; power' in the country.</td>
</tr>
<tr>
<td>2010</td>
<td>Common wealth Association for Public Administration and Management (CAPAM) international innovation award at Malta</td>
</tr>
<tr>
<td>2009</td>
<td>United Nations Public Service Award for fostering community participation</td>
</tr>
<tr>
<td>2008</td>
<td>The national urban water awards 2008 for reforms in water supply scheme</td>
</tr>
<tr>
<td>2008</td>
<td>Prime Minister’s award for excellence in public administration</td>
</tr>
<tr>
<td>2007</td>
<td>Prime Ministers Award For Excellence In Public Administration For The Year 2006-2007 for Innovative participatory drinking water delivery approach in rural areas</td>
</tr>
<tr>
<td>2007</td>
<td>Teri Award 2007 for Water conservation work through natural water resources in pigeon feed area at Girnar Forest.</td>
</tr>
<tr>
<td>2006</td>
<td>Capam International Innovations Award 2006 for &quot;Citizen Engagement and Service Delivery&quot; for Khet Talavadis (farm ponds) Constructed in rural areas</td>
</tr>
<tr>
<td>2005</td>
<td>India Tech Excellence Awards for Innovative changes in energy conservation philosophy &amp; creation of check dams</td>
</tr>
<tr>
<td>2005</td>
<td>Indira Gandhi Vrukshamitra Award 2003 for Outstanding work of reforestation and water flowing work at Girnar forest</td>
</tr>
</tbody>
</table>

Source: Gujarat State Portal
Focus sub sectors: Water-Gujarat scenario 2.2.3.2 Opportunities
Plethora of opportunities exists in the water sector ranging from rain water harvesting to waste water management to distribution to storage et al

| Rain Water Harvesting                      | • Government mandate for all large constructions to have rainwater harvesting  
|                                           | • Opportunity for Local Contractor |
| Water and Waste Water Treatment Plants for Municipal and Industrial Water | • Manufacturing/fabrication, erection and commissioning municipal and industrial water and waste water treatment plants  
|                                           | • Components: Equipment, chemicals/ resins, membranes, enzymes  
|                                           | • Operation, maintenance and services |
| Treated Waste Water (Reuse)              | • Increasing awareness about latest technologies and easy finance options  
|                                           | • Equipment manufacturing for micro irrigation/drip irrigation: area for investment potential |
| Inter basin transfer                     | • Inter basins are need based projects  
<p>|                                           | • Opportunities for EPC and Civil Contracts |</p>
<table>
<thead>
<tr>
<th>Project</th>
<th>Capacity (in Million Liters per Day)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desalination plant for Industrial Water Supply</td>
<td>150</td>
<td>Kutchch</td>
</tr>
<tr>
<td>Desalination plant for Industrial Water Supply</td>
<td>100</td>
<td>Jamnagar</td>
</tr>
<tr>
<td>Desalination plant for Industrial Water Supply</td>
<td>100</td>
<td>Pipavav</td>
</tr>
</tbody>
</table>

**Opportunities in water supply:**
- Water supply management of SIR’s, SEZ’s and other industrial parks
- Development of Water Supply Projects starting from intake to service delivery in villages, towns and industries
- Water Supply to Dahej PCPIR region with industries as well as townships and villages as the beneficiaries
- Efficient management of water supply systems through long term management contracts for service delivery management
<table>
<thead>
<tr>
<th>Planned projects and Opportunities</th>
<th>Investment (~USD million)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 MLD Proposed Sewage treatment Plant on BOOT Basis</td>
<td>13</td>
<td>Rajkot</td>
</tr>
<tr>
<td>50 MLD Water Treatment Plant on DBOOT basis through unsolicited proposal</td>
<td></td>
<td>Ranakpur</td>
</tr>
<tr>
<td>Planned Augmentation of Jaspur and Raska Waste Treatment Plant</td>
<td>9</td>
<td>Ahmedabad</td>
</tr>
<tr>
<td>Requirement for Tertiary Treatment of Secondary Treated Sewage</td>
<td>81</td>
<td>Ahmedabad</td>
</tr>
<tr>
<td>Improvement of Water Supply &amp; Sewerage System for Amreli &amp; Bharuch Towns</td>
<td>14</td>
<td>Amreli &amp; Bharuch</td>
</tr>
<tr>
<td>Improvement of Water Supply &amp; Sewerage System for Anand &amp; Mehsana Towns</td>
<td>10</td>
<td>Anand &amp; Mehsana</td>
</tr>
<tr>
<td>Diverting the excess over flowing flood water of Narmada to Saurashtra Region through Sauni Yojana</td>
<td>667</td>
<td>Saurashtra</td>
</tr>
</tbody>
</table>

Source: GIDB
<table>
<thead>
<tr>
<th>Organization</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Development Department</td>
<td><a href="https://www.udd.gujarat.gov.in">https://www.udd.gujarat.gov.in</a></td>
</tr>
<tr>
<td>Gujarat Industrial Development Corporation</td>
<td><a href="http://www.gidc.gov.in">http://www.gidc.gov.in</a></td>
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<tr>
<td>Gujarat Industrial Development Corporation</td>
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</tr>
<tr>
<td>Sardar Sarovar Narmada Nigam Limited</td>
<td><a href="http://www.sardarsarovardam.org">http://www.sardarsarovardam.org</a></td>
</tr>
<tr>
<td>Gujarat Water Infrastructure Limited</td>
<td><a href="http://www.gwssb.org">http://www.gwssb.org</a></td>
</tr>
<tr>
<td>Gujarat Water Supply and Sewerage Board (GWSSB)</td>
<td><a href="http://www.gwssb.org">http://www.gwssb.org</a></td>
</tr>
<tr>
<td>Municipal Corporations, Municipalities and Panchayats</td>
<td></td>
</tr>
</tbody>
</table>