Mumbai Water Supply

- Area: 437.71 Sq. Km
- Population: 12.431 Million (53 % Slum)
- Present demand: 4200 Mld
- Present Supply: 3500 Mld
- Connections: 366000 Nos.
- Revenue: Rs. 784 Cr
Challenges

- Underground utility mapping
- AMR Metering –
  - Prohibitive Cost
  - Protection against damage
  - Monopoly on Global of AMR Technology (Suggestion – universally acceptable interchangeable unit)
- Managing water supply in slum colonies
  - Narrow passages – no place to lay pipeline
  - Bunch of connections in passages
  - Govt. policy – Slum post 1.1.1995 not eligible for facility
- Distribution Constrains
- Inequitable Distribution
- Planners Constrains
- Network Analysis
- Gravity Supply
- Bigger Supply Zones
- Mixed Localities
- Drawal at Various Levels
- Continuous Infrastructure Development
- Delay in Implementation of DP plan (Especially Roads)
- Short Supply & Contamination
Action Plan

Comprehensive Water Distribution Improvement Programme (WDIP)

- Network Survey & GIS Mapping.
- Hydraulic simulation of water supply zones / DMAs
- Leakage Detection & Repairs
- Setup Permanent Leak Detection & NRW Assessment System.
- Equitable Distribution
- Customer Relationship Management
- Capacity Building
- Asset Management
- Quality Assurance & Reporting
- Develop 24 x 7 Water Supply System
- New Source Development – 2891 MLD With Gargai, Pinajal & Damanganga
MUMBAI SEWERAGE SETUP

1. Sewerage Project wing: Laying of New Sewer Network


4. Mechanical and Electrical Wing: Planning, Implementation, Operation and Maintenance of Mechanical/Electrical equipment
Sewage Generation & Disposal

- Total Water Supply – 3500 mld
- Domestic sewage generated -2700 mld
- Sewage collected -1700 mld
- Treatment facility available -1998 mld
- Untreated sewage going to Sea through Nalla - 1000 mld
- Sewered Area - 62%
- Population served with sewerage facility- 48.5%
- Diversion of dry weather flow - 13 sites planned
Challenges in implementation OF Major Projects and Operations

1) Paucity of land.
2) Construction of New Facility by retaining the Existing one till new Facility is commissioned.
3) Laying Sewer underneath Railway tracks by ‘No Dig Technology.
4) Rehabilitation of Old Sewer Network.
5) Slum connectivity with Sewerage network.
6) Desludging, operations and disposal
Master Plan Recommendations: Upto 2031

- New Sewers: 60 km
- Sewer Upsizing: 100 km
- Sewer Rehabilitation: 360 km
- Area Sewerage: 3600 Ha
- Ocean Outfalls (Erangal): 1
- New Pumping Stations: 18
- Pumping Station Expansion: 43
- New WWTP: 2
- Upgrading WWTP: 7
Mumbai Sewage Disposal Project

Current Inventory:
- Sewers: 1500 km
- Ocean Outfalls: 3
- Wastewater Pumping Stations: 50
- Wastewater Treatment Plants: 7
SANITATION NEED ASSESSMENT

- Total population of Mumbai 1,24,32,830
- Total slum population of Mumbai 65,29,448 (52.51%)
- Non slum population 59,03,382 (47.49%)

DISTRIBUTION OF HOUSEHOLDS BY TYPE OF LATRINE FACILITY IN MUMBAI

<table>
<thead>
<tr>
<th>Latrine Type</th>
<th>Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flush latrine</td>
<td>1456829</td>
</tr>
<tr>
<td>Pit latrine</td>
<td>31021</td>
</tr>
<tr>
<td>Other</td>
<td>47981</td>
</tr>
<tr>
<td>Public Latrine</td>
<td>1071412</td>
</tr>
<tr>
<td>Open</td>
<td>58238</td>
</tr>
</tbody>
</table>

(Source - Census-2011)
<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slum Occupancy</td>
<td>8.3% of Area</td>
</tr>
<tr>
<td>Slum Population</td>
<td>53</td>
</tr>
<tr>
<td>Seats Available</td>
<td>10899 seats</td>
</tr>
<tr>
<td>Seats under construction</td>
<td>4200 seats</td>
</tr>
<tr>
<td>Seats required</td>
<td>35000 seats</td>
</tr>
</tbody>
</table>

Operation and Maintenance by Community based Organisation.

Monthly family pass issued to slum users.
LONG TERM STRATEGY FOR OPEN DEFECATION FREE
MUMBAI

. All toilet construction activities should be under one head.
. Liaison with all land owners such as 1) Railway Authorities.
   2) Salt Commissioner.
   3) Mumbai Port Trust.
   4) Forest Dept.

Above bodies are not allowing construction or Demolition/reconstruction of community Toilet Blocks on their Land.

. Regular monitoring of O & M of toilet blocks -
   As per Circular U/N DMC (ENV.&W.M.)/476/Gen/dtd. 26.06.2007 – After Handing over the Toilet blocks to CBO, the concern A.E. (Env.) of local ward office shall check periodically & report to D.M.C. (ENV.&W.M.) / Ch. Eng. (M.S.D.P.)
PLAN FOR UPDATING SANITATION DATA

As a part of monitoring mechanism regarding service level benchmark of sanitation coverage under *JnNURM* is very essential.

City Sanitation Plan (CSP) is being prepared in consultation with CRISIL.

To compile all sanitation related data a Tender for inventory of all existing Toilet blocks in Mumbai is under progress.
THANK YOU.....