EURASIAN WATER CONFERENCE
3rd ASEM Seminar on Urban water management
Urban solutions for global challenges
13-14 September 2018 Budapest

www.asemwaterbudapest2018.hu

www.asemwatertbudapest2018.hu
Indian Urbanization

1975

- India’s Total Population was 590 million
- And it lived in 100% of India’s area

2030

- India’s Urban Population will be 590 million
- And it will live in 2.5% of India’s area

Source: https://tradingeconomics.com/india/population
Benefits of Urbanization

To drive 70% of GDP growth

Investment requirement of USD 2.2 trillion in urban areas from 2010-2030

Benefits of “Densification”

Source: McKinsey, 2010
Benefits of "Densification"

68 Cities

13 Cities

Indian Cities in 2030

6 mega cities

Source: McKinsey, 2010
Service Penetration & Capital Expenditure

Service Penetration %

- Water Supply: 70%
- Sewerage: 30%
- Storm water drainage: 5%

Capital Expenditure (Estimate)

- Water Supply: 96 USD billion
- Sewerage: 53 USD billion
- Storm water drainage: 32 USD billion

Source: McKinsey, 2010
# How to make the most of the Opportunity?

<table>
<thead>
<tr>
<th></th>
<th>Attractiveness</th>
<th>Size of Opportunity</th>
<th>Associated Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contracting</td>
<td>✔️ ✔️ ✔️</td>
<td>✔️ → ✔️ ✔️ ✔️ ?</td>
<td>✔️</td>
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<tr>
<td>Public Private Partnerships</td>
<td>✔️ ✔️ ✔️</td>
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<td>Privatization</td>
<td>✗</td>
<td>?</td>
<td>✔️ ✔️ ✔️ ✔️ ✔️ ✔️</td>
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</table>
## Challenges

<table>
<thead>
<tr>
<th>Domain</th>
<th>Physical Domain</th>
<th>Operational Domain</th>
<th>Financial Domain</th>
<th>Institutional Domain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Water Balance and Raw Water Quantity, Water Quality</td>
<td>WTP, STP, Distribution Connections, Metering, NRW, Manpower etc.</td>
<td>Financial Sustainability, Tariff, Taxes and Transfers</td>
<td>Institutions arrangement of raw water abstraction, economic regulation etc.</td>
</tr>
<tr>
<td>Key Challenges</td>
<td>No water balance calculations, Water Quality issues</td>
<td>No metering, High NRW, slums, HR</td>
<td>Low Tariffs, Weak financials of Municipal Governments</td>
<td>No economic regulator, multiple agencies</td>
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</table>
Risk Mitigation Measures:

1. Robust Due Diligence: Quality Data and Analysis
2. Flexibility of the contracts in view of uncertain base line data
3. Land acquisition to be responsibility of the local government and the project work should start after the land acquisition
4. Invest in human resources and training
5. Communication budget for PPP – Good allocation
6. Upfront O&M budgeting
7. Importance of service connections
8. Focus on smaller cities in terms of area and population
Technology in Urban Water Services?

- Data
- Analysis
- Decision Making Matrix
- Action
- Impact
Way Forward

Baseline Data → Transparency → Economic Regulation
Thanks
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Case Study – I (PPP)

• The data in the Detailed Project Report was not correct.
• It led to public complaints etc including inquiry by the federal investigation agency called CBI.
• This delayed the project.
• Also, because of the investigation- no one officer of the government water utility wanted to work with PPP
• Also, DMA’s can be functioning properly unless they are backed by proper tariff plan. There were big homes which were storing water even after 24*7 as water was still cheap and thus 24*7 did not lead to fall in water requirement
• In the end DPR and tariff plans are very important.
Drivers of Urbanization

Source: HPEC, Centre for Policy Research

- Natural growth (new births)
- Expansion of existing urban boundary
- Reclassification of towns
- Rural to urban migration

Annexure-I
Consultations (example)
<table>
<thead>
<tr>
<th>नाम</th>
<th>मोड</th>
<th>उपकरण</th>
<th>दर (रू.)</th>
<th>कूल मूल्य</th>
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<tbody>
<tr>
<td>Dhanraj</td>
<td>1/2</td>
<td>GM</td>
<td>XX</td>
<td>20,000</td>
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<td>Sector C. Shastri Nagar</td>
<td></td>
<td></td>
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<td>25,34</td>
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EMITRA KEY: 290715062
Electricity Bill to Water Bill Ratio (Global)

Source: A study by Pawan, Atul and Anshika of LKY School of Public Policy
Decision-Making Matrix
(NRW versus Age of Pipeline network)
Electricity Bill to Water Bill Ratio (Indian Cities)
Thank you for your attention!