



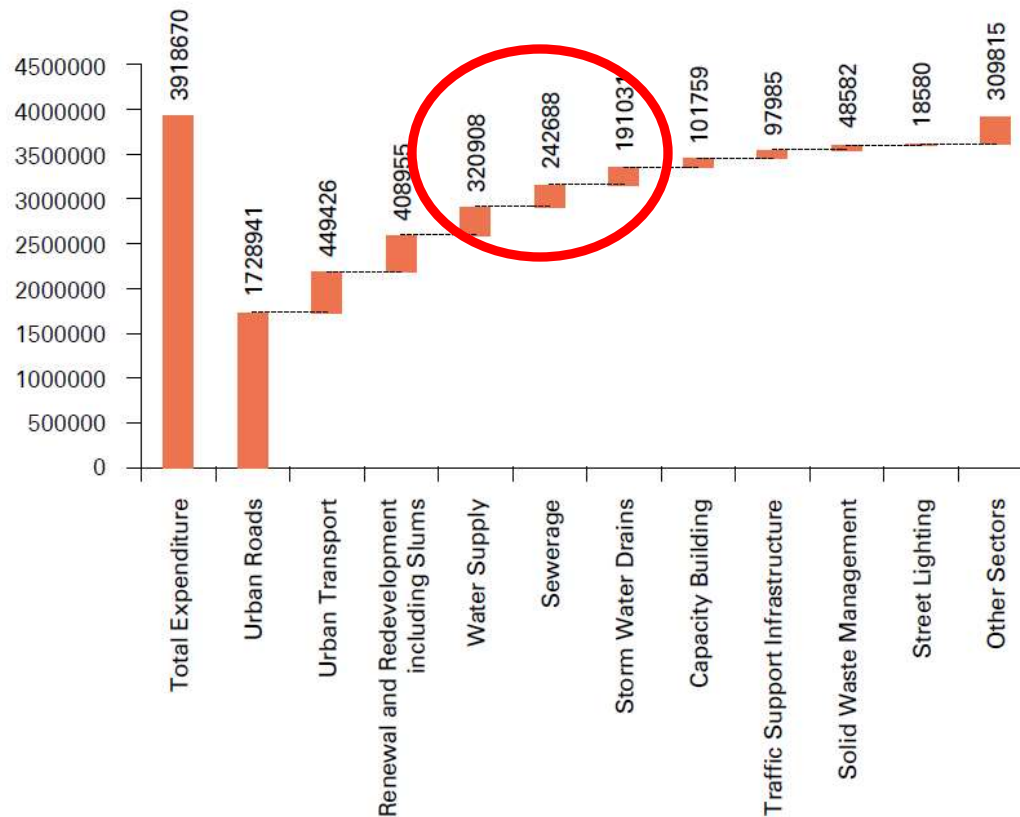
Financing Water and Sanitation

- **Meeting the financing gaps**
- Sustainability of investments
- Effectiveness of investments

Financing Requirements - HPEC

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Urban Infrastructure Investment Requirement: 2012-31
(Rs crore)



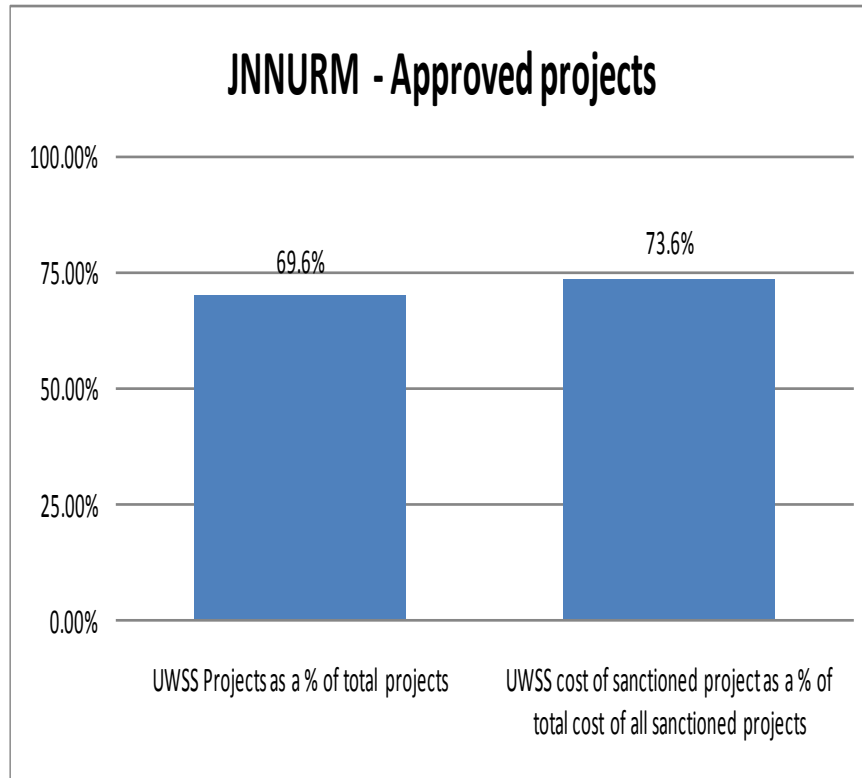
Financing for UWSS

➤ Magnitude is large at nearly **Rs 40,000 crore per annum**

➤ This is only **25% of total urban infrastructure investment requirements**

➤ It is also **nearly 10 times the earlier estimates of Rs. 3591 crore/annum** or Rs 126/capita by Rakesh Mohan Committee for 1996-2005 at 2009-10 prices

UWSS under JNNURM

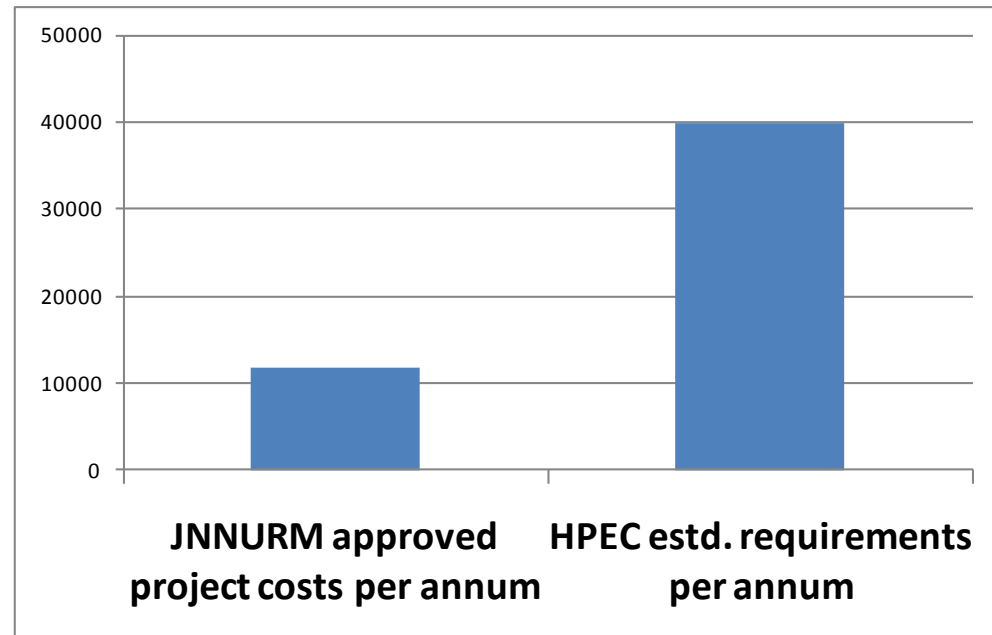


- **UWSS = water supply, sewerage, solid waste, storm water drainage**
- **367** projects worth **Rs. 44129 crore** sanctioned for UWSS
- Nearly **75% of total** approved costs under JNNURM is for UWSS

The GAP: Financing versus Requirements

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- Over the past 5 years, total project costs approved under **JNNURM for UWSS is Rs 11700 crore per annum**
- HPEC estimated UWSS **investment requirement is nearly 4 times the total planned investments under JNNURM over the past 5 years**



Mobilizing Additional Resources

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- **Leveraging commercial borrowing or PPPs??**
 - With JNNURM, commercial borrowing has been crowded out
 - PPPs in UWSS have not been common and the few projects have not led to private sector investment
- Through **improved ULB finances ??**
 - Will require considerable effort to spruce up local finances, will take at least 5 to 10 years to yield results
- Through **significant increase in GOI /state government allocation to urban sector**
 - Will require continued importance of UWSS within urban infrastructure ??

Crowding out Municipal Bonds?

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City Corporation/ Metro Water Authority (year of bond issues)	Total value of municipal bonds issued	Estimated total capital expenditure by ULG (2000-2005)	Total bond issuance as a %of total estimated capital expenditure
Ahmedabad (1998, 2002, 2004, 2005)	358	876	41
Bangalore (1997)	125	2202	6
Hyderabad (2003)	82	437	19
Nasik (1999,2002)	150	830	18
Nagpur (2001, 2007)	71	468	15
Vishakhapatnam (2004)	70	308	23
Chennai (2005)	46	719	6
Indore (2000)	10	299	3
Madurai (2001)	30	139	22
Ludhiana (1999)	10	419	2
Total	952	6,698	14

✓ Between 1997 and 2005 – nearly 14 issues of municipal bonds

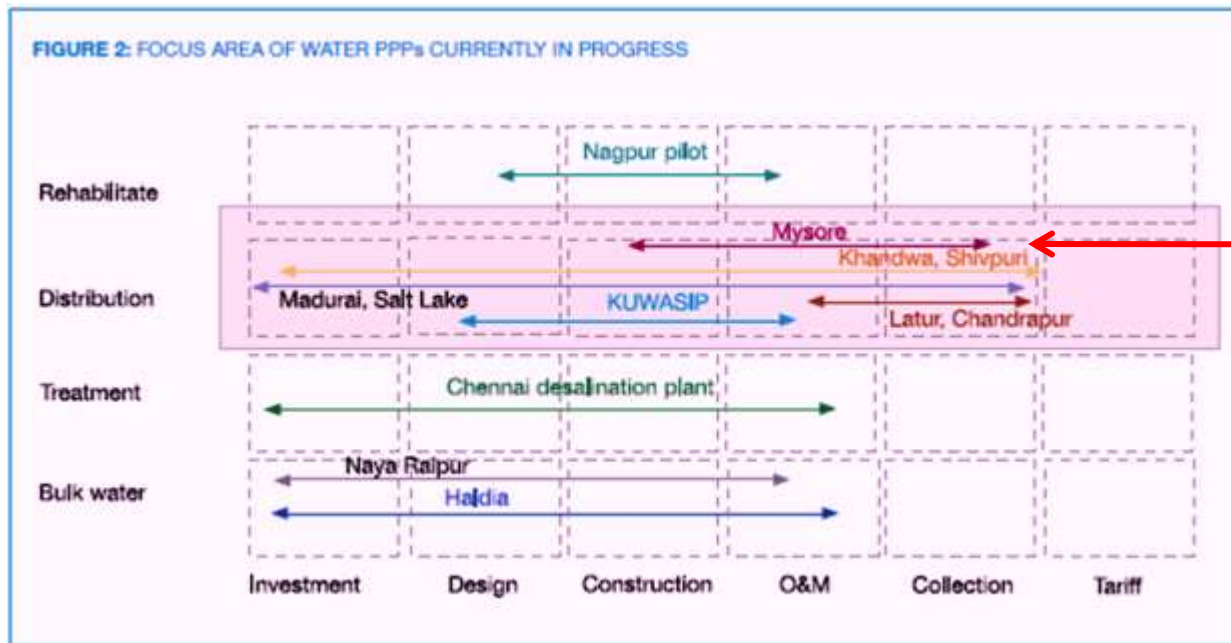
✓ **No new issues since 2006 after JNNURM**

✓ Also some **policy weaknesses on the debt market** – especially for long tenor funds

Trends in Water PPPs

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Emerging emphasis on distribution with little private sector investment

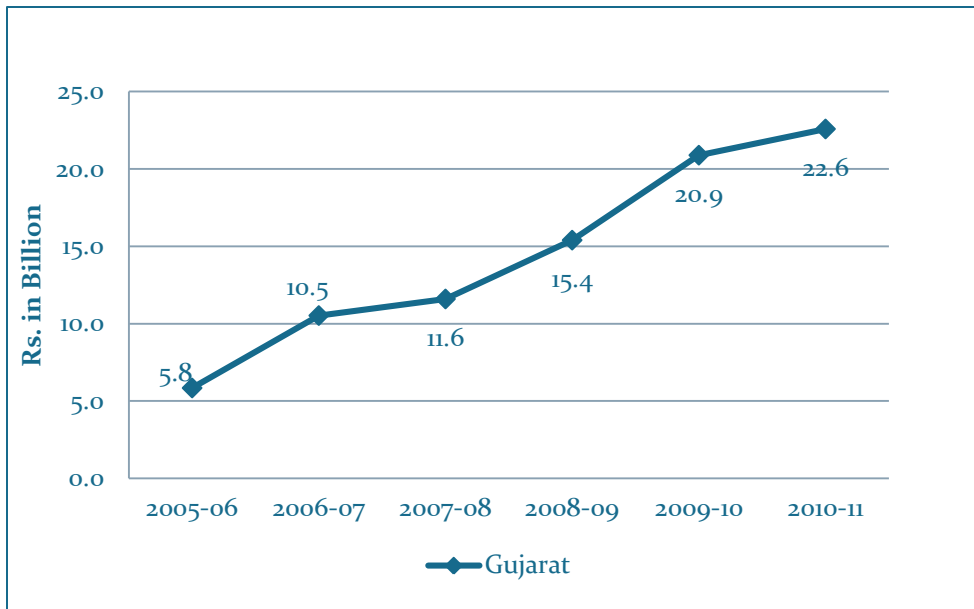


Khandwa and Shivpuri in MP with <10% private investments

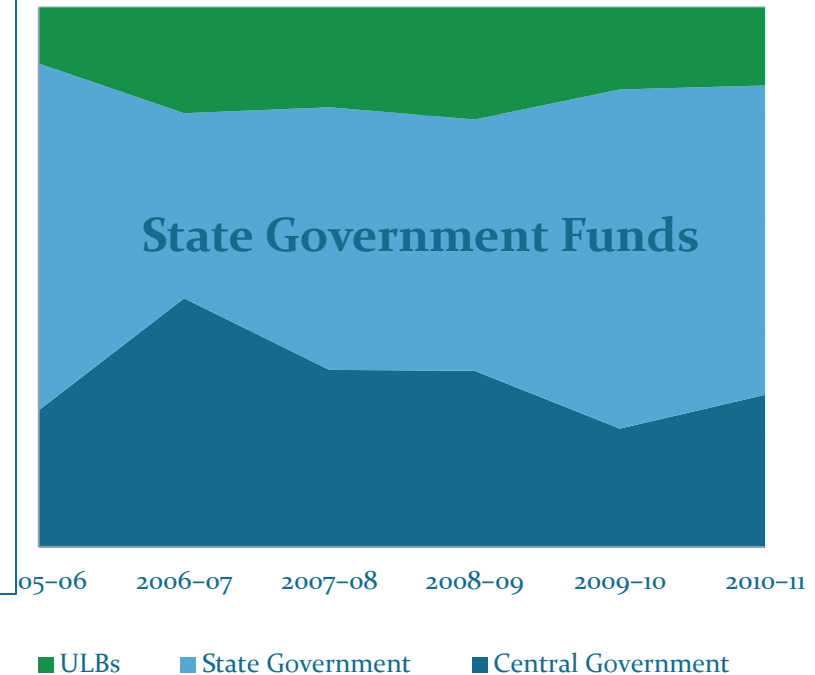
Gujarat Story – Using the state resources

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Trends in UWSS Capital Investments



Sources of Funds for UWSS



Based on past trends, Gujarat can meet its capital investment needs over the next 10 years from its own state resources

Strengthening Municipal Finances

- A number of measures being suggested:
 - Improved inter governmental fiscal transfers
 - Support for locally raised own sources – realizing the full potential of property tax system
 - Local tax linked to buoyancy of local economy to replace octroi?
- Will require considerable effort to spruce up local finances, will take at least 5 to 10 years to yield results

- Meeting the financing gaps
- **Sustainability of investments**
- Effectiveness of investments

Capacity to implement?

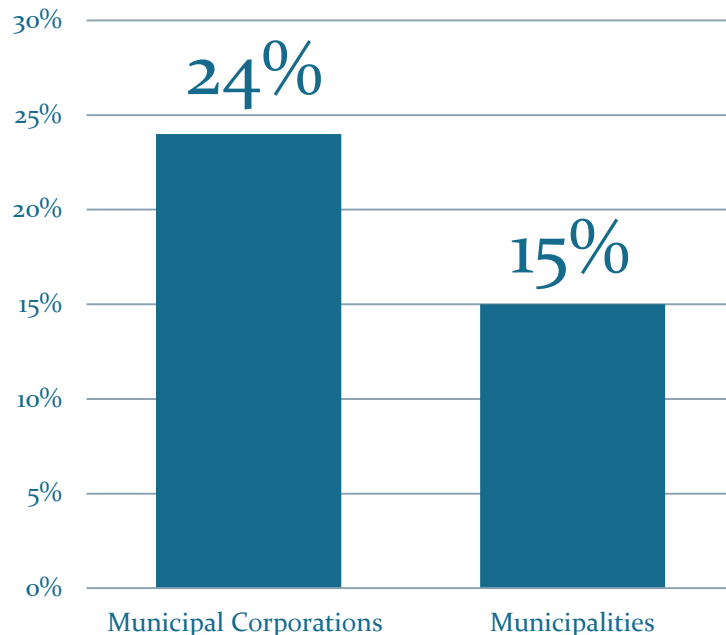
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- A review of JNNURM releases suggests that average **releases are only 55% of ACA**
 - while some large states (Maharashtra, Gujarat, AP, UP and Karnataka) have achieved reasonable utilization levels, others have lagged behind
- **Actual expenditure in water only 45% of total costs, and only 25% and 21% for sewerage and SWM** - delays and possible cost overruns

Gujarat – Capacity for sustained operations?

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Actual O&M Expenditure
as % of Required
Expenditure, 2008-09



In 2007, GoG created three common state cadres for: **i) Municipal Accounts Officer, ii) Municipal Health Officer and iii) Municipal Engineer**, in addition to Municipal Chief Officer.

Note: Actual O&M expenditures compared with HPEC norms

Low Cost Recovery – even for O&M costs?

- JNNURM had 100% recovery of O&M costs as one of the mandatory local level reforms.
- Only **7 out of the 65 mission cities** have so far achieved this.
 - The new investments are likely to further place **considerable additional burden on O&M expenditure**
 - Almost complete **Lack of tariff indexation** to meet the possible cost increases
 - ULBs in Gujarat and Maharashtra (2008-09) billed for only **64% and 68% of their operating costs** of water services and **collected only 50% and 67% of billed water charges**, respectively

Low Cost Actions for a Small Municipality

Must
Haves

Quick Wins

High Impact

Money
Pits

LOW

Plugging of leakages at joints (24.92 lakhs)

Improvement in water storage (20.12 lakhs)

Improvement in collection efficiency (13.08 lakhs)

Replacement of service line connections (16.09 lakhs)

Providing internal infrastructure in slums (0.27 lakhs)

Improvement in trunk mains (28.14 lakhs)

Reducing treated water losses (33.53 lakhs)

Optimization of power costs (8.00 lakhs)

Slum connections (12.46 lakhs)

Total cost: 157 lakhs
For low cost actions

- Easy to Implement
- Short Implementation Period (in 5 yrs)
- High Strategic Gains
- At lower Annual Capital Investment
- Can be funded from internal surplus

LOW

Ease of Implementation

HIGH

Improved Performance with Low Cost Actions

	<i>Base Indicator Values</i>	<i>Only Low Cost Actions Improved Indicator values</i>	<i>With all Actions Improved Indicators values</i>
<i>Key Performance Indicators</i>	<i>2012</i>	<i>2018</i>	<i>2018</i>
<i>Coverage of connections at household level</i>	52%	59%	72%
<i>Coverage of water supply connections in slum households</i>	33%	44%	54%
<i>Per Capita supply of water</i>	87	123	114
<i>Continuity of water supply</i>			
<i>Extent of non revenue water</i>	32%	16%	9%
<i>Extent of functional metering of water connections</i>	0%		53%
<i>Quality of water supply</i>	90%	90%	100%
<i>Efficiency in redressal of complaints</i>	100%	100%	100%
<i>Unit electricity cost of production of water supply</i>			
<i>Efficiency in collection of water charges</i>	81%	95%	95%
<i>Extent of cost recovery in water supply services</i>	88%	141%	476%

Annual Capital expenditure requirements for low cost actions

S. No.	Particulars	Unit	Total	2014	2015	2016	2017	2018
1	Capital expenditure in augmentation of source	Rs. Lakh	12.46	6.08	6.38			
2	Capital expenditure in reduction of raw water transmission losses	Rs. Lakh	28.14				28.14	
3	Capital expenditure in reduction of treated water transmission network	Rs. Lakh	33.53		10.64	11.17	11.73	

can be internally funded through own revenue surpluses

8	Capital expenditure for providing internal infrastructure in slums	Rs. Lakh	0.27	0.05	0.05	0.05	0.06	0.06
9	Capital expenditure for optimisation of power costs	Rs. Lakh	8.00		2.00	2.00	2.00	2.00
	Total Annual Capital Expenditure	Rs.Lakh		18.28	49.70	31.98	54.59	2.06
	TOTAL CAPEX FOR LOW COST ACTIONS					156.61		

Financing Low cost Interventions

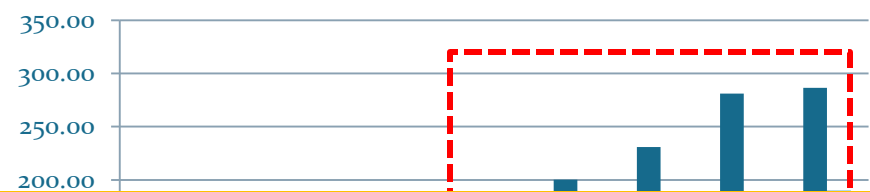
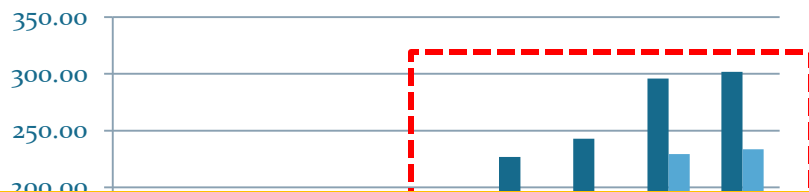
Repair and maintenance cost for Water Supply Components- Additional due to Performance Improvement Actions		2014	2015	2016	2017	2018
S. No.	Particulars					
1	Distribution network				0.79	0.83
2	Raw water transmission network					

Lower O & M implications for low cost actions

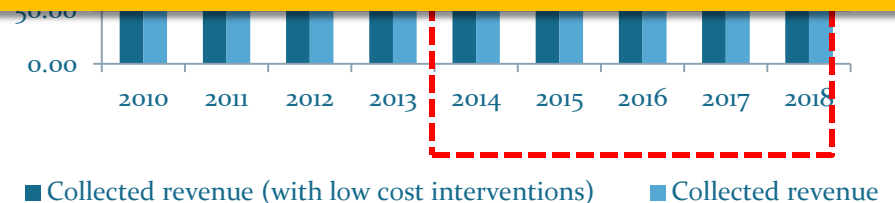
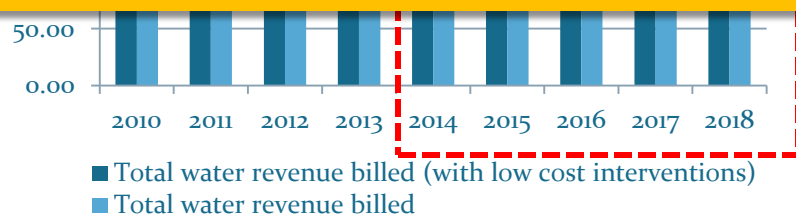
7	Meters					
8	Pumping equipment					
9	Cost of maintenance of computerised records					
10	Cost of maintenance of bulk flow meters					
	Total				6.09	

NB: O&M costs have been calculated for items 1 to 8 based on %of capex costs and on block cost basis for items 9 &10)

Increased revenues (billed and collected) through implementation of low cost actions



Additional revenues can easily payback the cost of low cost interventions



Low Cost / Process and Policy Actions

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LOW COST ACTIONS

Regularizing
Unauthorized
Connections

Periodic checking
for water losses

Household
Survey

Additional
connections for
slum HHs

Plugging of leakages
at joints

POLICY / PROCESS ACTIONS

Improving billing
and collection
processes

Policy for
providing connections
in slums

Policy to introduce
metering

Simplification of
new connection
procedure

Need to create capacity for prioritizing and implementing policy and process changes

- Meeting the financing gaps
- Sustainability of investments
- **Effectiveness of investments**

Improving Financing Effectiveness

The JNNURM story

Lack of focus on effective service delivery

- “The Mission focused on intermediate targets of urban infrastructure development and the **expected outcomes were not specified as service delivery improvements**” (HPEC Report, pp. 30).
- Interestingly, after Rs 40,000 crore of JNNURM UWSS projects, it is **not possible to assess improvements in service delivery** – coverage, lpcd, hours, collection efficiency ... ???

Need for Performance Information in urban water and sanitation

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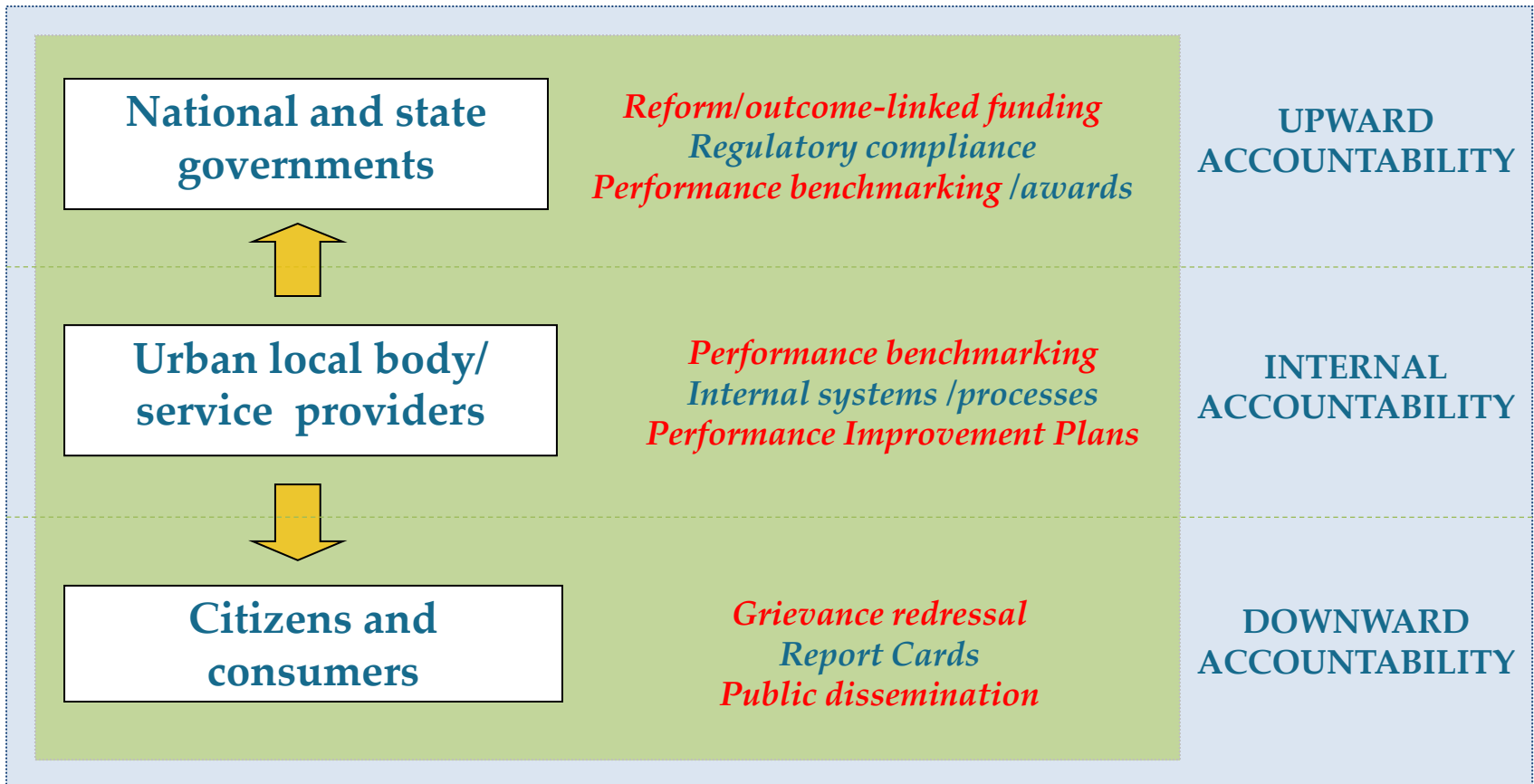
- Aggregate statistics suggest good coverage of water and sanitation in urban areas in India
- BUT little is known about the **quality, level and financial sustainability of service**
- Only limited information on **access of urban poor** households to water and sanitation is available
- Lack of WSS information leads to misallocation of resources
- Difficult to assess **impact of past investments**

Need to move from reform linked to outcome liked funding in JNNURM-2 and state programs



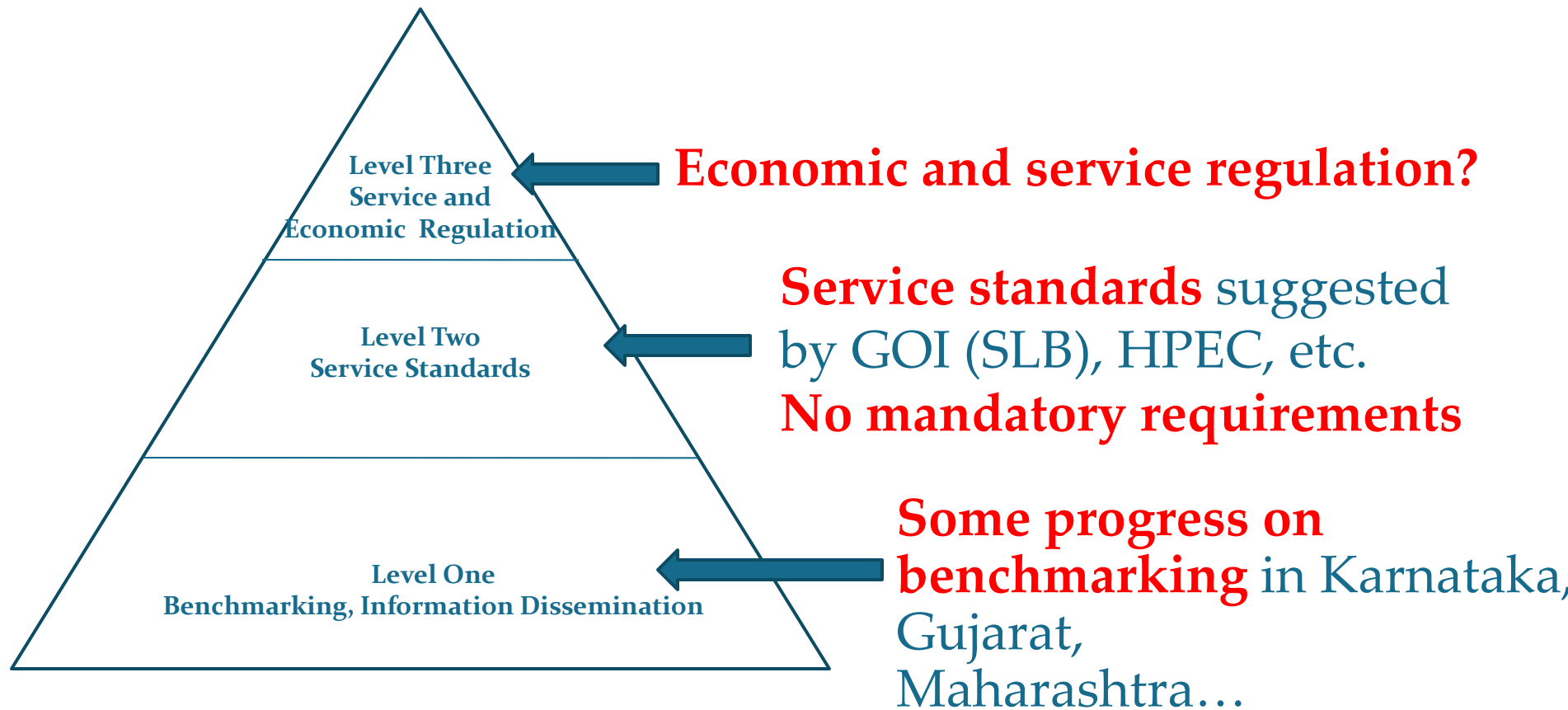
Improving Accountability

Need for robust information on service delivery performance



The Ladder – Benchmarking to Regulation

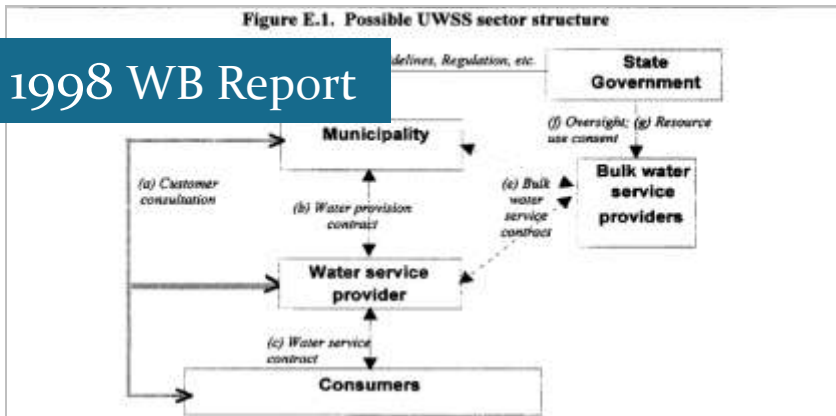
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Time to Focus on Institutional Reforms

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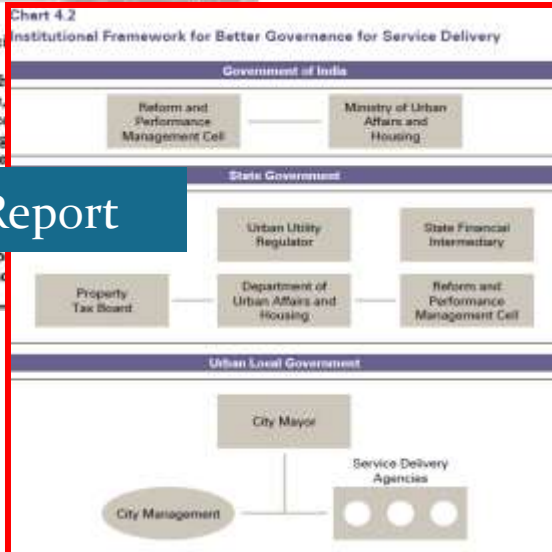
1998 WB Report



Notes:
a. *Customer consultation*: The municipality consults with consumers before finalizing the water service provision contract.
b. *Water provision contract*: Where the municipality contracts with a water service provider for the provision of water service.
c. *Water service contract*: Specifies the terms and conditions of the water service provision contract.
d. *Guidelines, Regulation, etc.*: State government issues high-level guidelines for contents of contracts.

2011 HPEC Report

g. *Resource use consent*: There will be a requirement for resource use consent (details forthcoming in the India Urban Water Sector Review Report).



Global experience suggests **need for autonomy in operations**

Many **successful cases of public utilities** - Phnom Penh (Cambodia), PUB (Singapore), Onema (Burkina Faso), NWSC (Uganda). All focus on **autonomy in staffing and procurement**

Successful cases of **municipal providers with performance linked systems** - Durban (South Africa), Canada (?)



Thank You

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