

Session : URBAN WATER REGULATION AND PLANNING :
Strategic Asset Management

**STATUS IN INDIA: PI APPLICATION AND
THE ROAD TO STRATEGIC ASSET
MANAGEMENT**



Performance Assessment Systems (PAS)

Presentation Structure

Contents

Situation Assessment in India

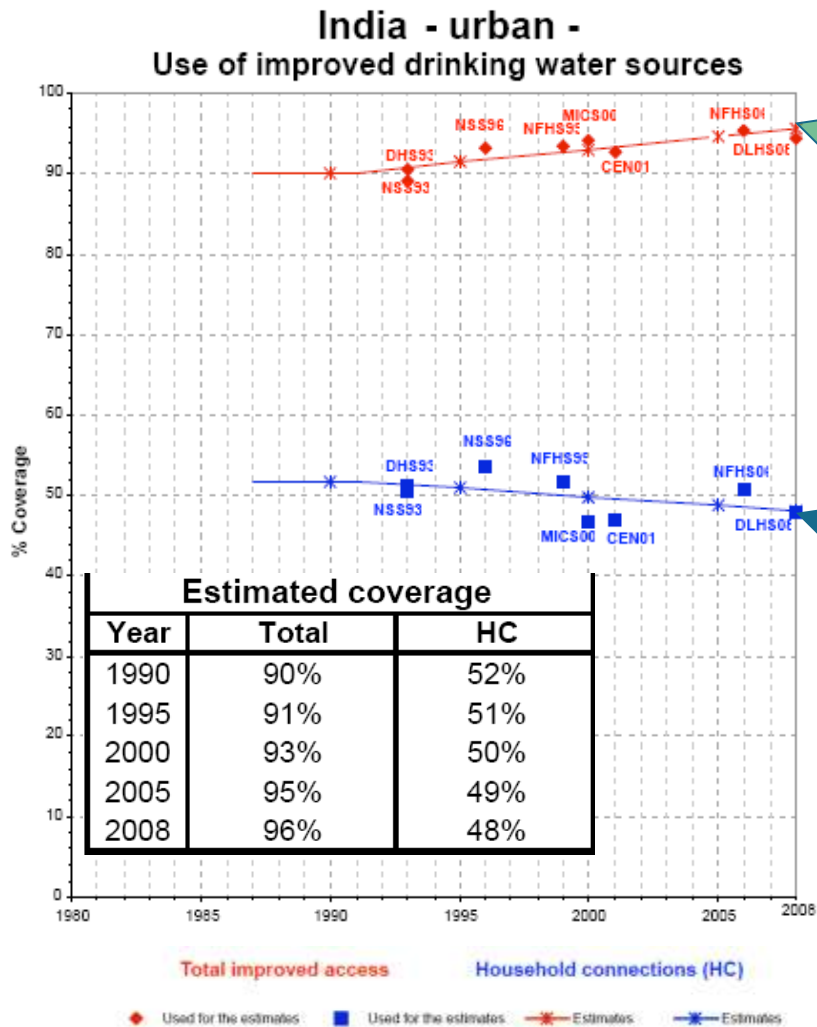
About PAS

Tools for Monitoring

Towards Strategic management of UWSS Assets in India

Situation Assessment in India

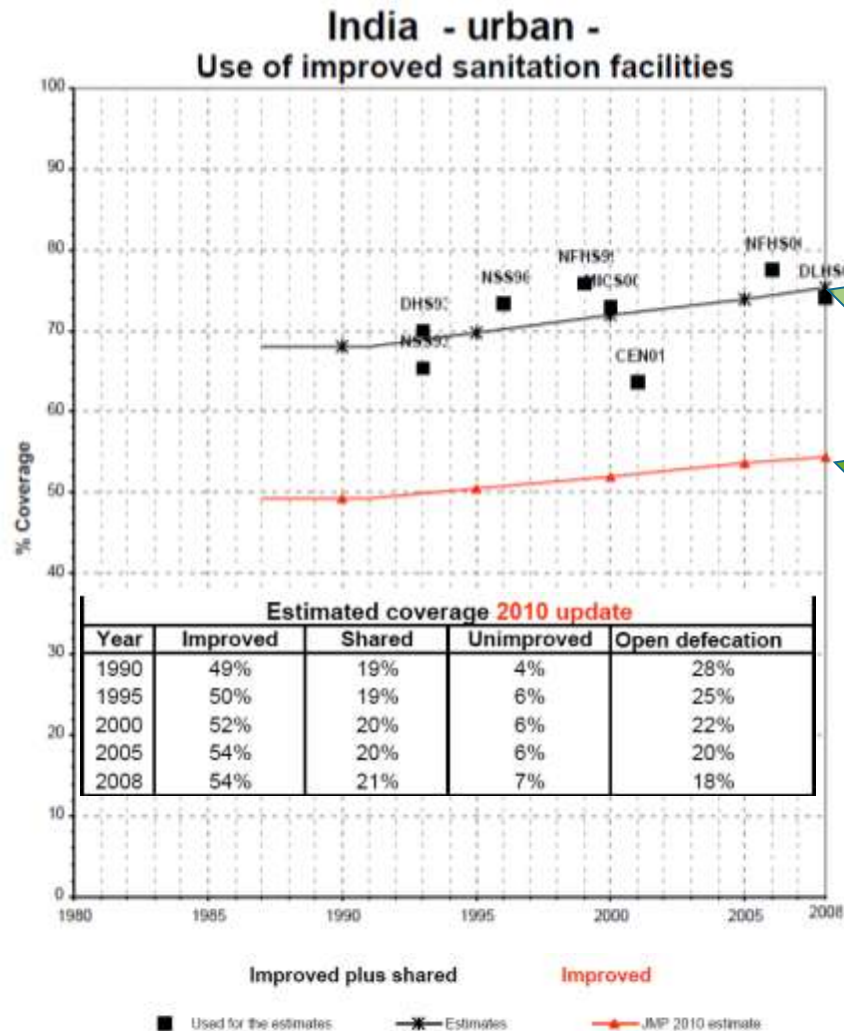
India WATER SUPPLY - improved basic access but decline in household level services



Basic access in urban India has reached nearly 95% by 2008.

% Household level connections in urban India has declined from 52% in 1990 to 48% by 2008.

India SANITATION- improved basic access but marginal increase in household level services



Basic access in urban India has reached only 75% in 2008.

% Household level toilet coverage in urban India has only slightly increased from 49% in 1990 to 54% in 2008

Asset Creation/Maintenance ↔ Service delivery outcomes

Water supply



Leakage in transmission main



Scene in a town receiving intermittent supply



Issues of low pressure



WS distribution lines over storm drains



Wells as supply source



Consumer metering

Asset Creation/Maintenance ↔ Service delivery outcomes

Waste water



Non functional community toilet



Septic tanks constructed on roads



Collection, transportation and treatment systems



Open defecation



Sullage disposed in open drains



Cleaning overflowing and blocked drains



Asset Creation/Maintenance ↔ Service delivery outcomes

Solid Waste Management



Need to ASSESS PERFORMANCE... TRACK INVESTMENTS and OUTCOMES



No/ little information on quality, service levels and financial sustainability of WSS services

Limited information available on access of urban poor households to water and sanitation services

Assessment of impact from past investments difficult

Standardized information system for comparable and regular situational analysis

Support improved allocation of resources and decision making

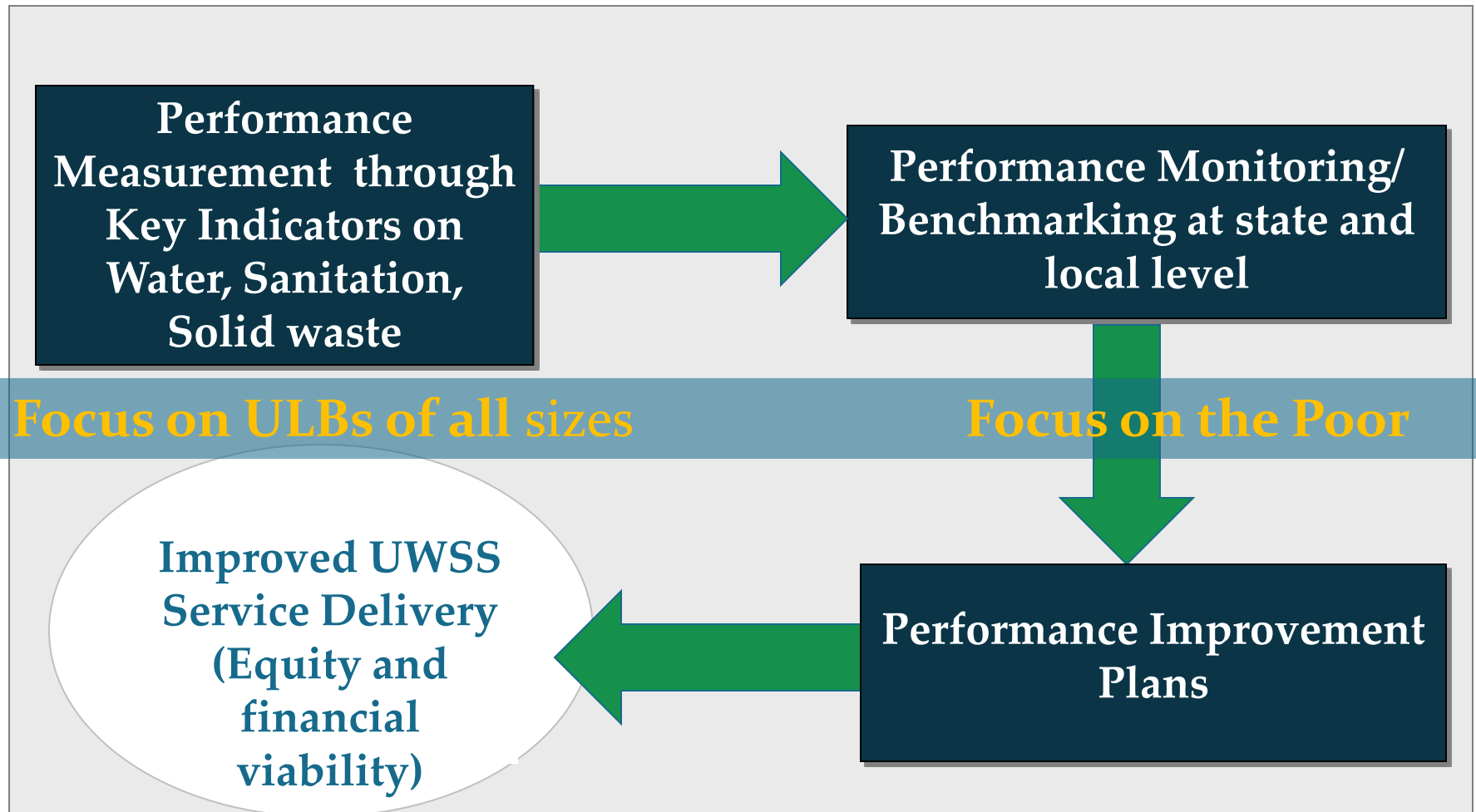
Grants from state and central governments can be linked to local performance



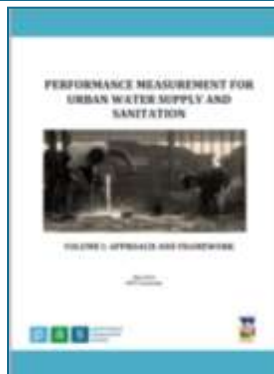
About PAS

WHAT IS PAS?

A sustainable statewide performance assessment system for improving access to the poor and un-served, and achieve financial sustainability



First statewide benchmarking effort in India



- ❑ Establish **Statewide** Urban WSS Performance Assessment System
- ❑ **Cover all 400 towns** in the two states – support development of performance measurement for different size-class of towns
- ❑ Not a one-off event but **implemented for 5 years** and linked to GOI's **Service Level Benchmark Initiative**
- ❑ Plan to **mainstream** in local and state government **data systems, planning, monitoring, review and fund allocation (budget) processes** over the Project period

Coverage of PAS Project

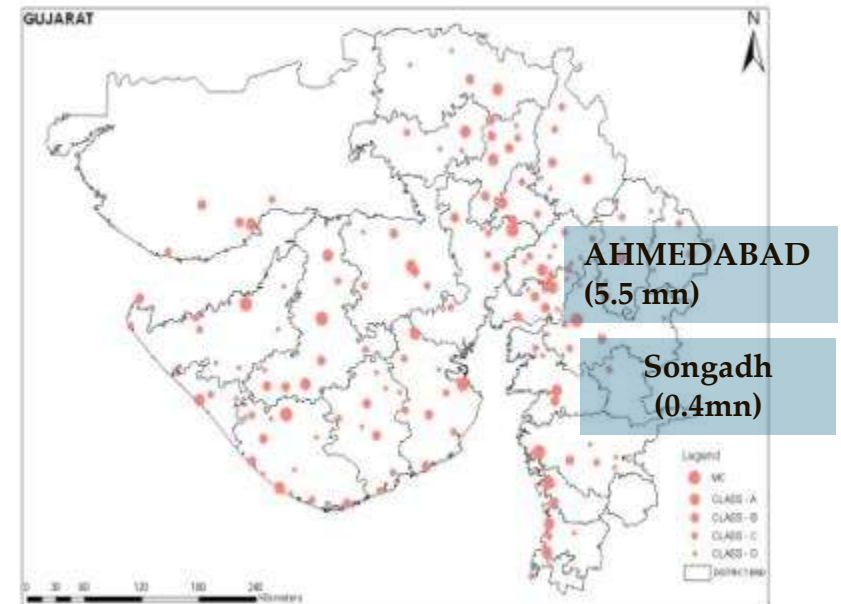
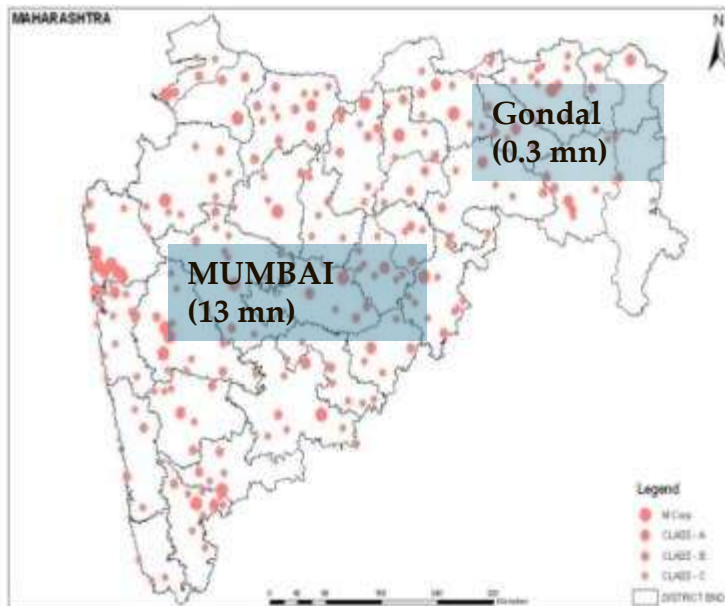


Maharashtra State

- 248 Urban Centers
- Population – 51 mn

Gujarat State

- 167 Urban Centers
- Urban Population –25.7 mn



Source: Provisional figures by the Office of the Registrar General, India, 2011

Online data collection tools

Select Year to View Data Entry Check List.

Select Financial Year :

Select Year to view the status of Approval.

Select Financial Year :

Approval Status

* Please Select above Credential to process your DataEntry request

Approval of data entry by the Commissioner/Chief Officer as well as state agencies

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT
Achalpur

General Information | Water Supply | Sewerage and Drainage | Solid Waste Management | Electricity Related Information | Reliability

GENERAL INFORMATION : FY 2009-2010

Year: Submit

1. Demographics		Unit	2008-2009	2009-2010
1.1 Population (Census 2001)/2011	Persons		102316	<input type="text"/>
1.2 Decadal Growth Rate of the City	%			<input type="text"/>
1.3 Population (Present Year)	Persons		127316	<input type="text"/>
1.4 Number of Households (Census 2001)/2011	Number		21465	<input type="text"/>
1.5 Number of Households (Present Year)	Number		26751	<input type="text"/>
1.6 Family Size (Census 2001)/2011	Persons		4.77	<input type="text"/>
1.7 Family Size (Present Year)	Persons		4.76	<input type="text"/>
1.8 Number of Slums (2001)/2011	Number			<input type="text"/>
1.9 Number of Slums (Present Year)	Number		11857	<input type="text"/>

performance assessment system

Home | Performance Assessment | Resources | About Us | **Data Entry**

Checklist: **Target Setting**

Target Setting for Barshi for FY 2011-2012

The 12th Central Finance Commission (CFC) which submitted its report in 2010 has recommended specific performance based grants for urban local bodies. One of the conditions to access these grants is the notification of service standards for the sectors of water supply, sewerage, storm water drainage and solid waste management by the state government. The notified service standards are targets to be set for each URB through a consultative process. The targets have to be entered for each of the indicators listed in the table below for the year 2012-13.

Water supply: KPIs	2008-2009	2009-2010	2010-2011	Target for 2011-2012
Coverage of water supply connections(%)	48	81.01	83.81	<input type="text"/>
Per capita supply of water at consumer end(lpd)	108	80.52	80.78	<input type="text"/>
Extent of remaining of water connections(%)	NA	0.00	0.00	<input type="text"/>
Extent of Non-revenue water(%)	32	20.09	20.09	<input type="text"/>
Continuity of water supply(hrs per day)	3.8	3.83	3.83	<input type="text"/>
Efficiency in redressal of customer complaints	100	100.00	100.00	<input type="text"/>
Quality of water supplied(%)	100	374.45	374.45	<input type="text"/>

performance assessment system

Home | Performance Assessment | Resources | Results | **Data Entry**

Checklist: **Target Setting**

Target Setting

The 12th Central Finance Commission (CFC) which submitted its report in 2010 has recommended specific performance based grants for urban local bodies. One of the conditions to access these grants is the notification of service standards for the sectors of water supply, sewerage, storm water drainage and solid waste management by the state government. The notified service standards are targets to be set for each URB through a consultative process. The targets have to be entered for each of the indicators listed in the table below for the year 2012-13.

Select Financial Year :

Online modules for performance assessment & target setting

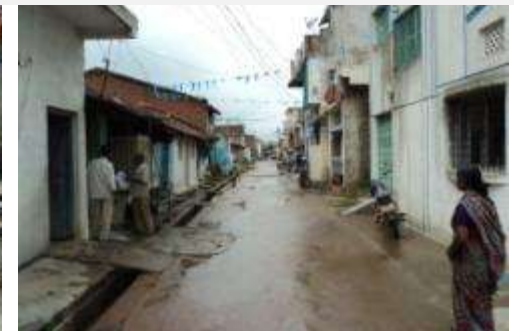
Slum Information systems: settlement level

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT			
SLUM SETTLEMENT LEVEL INFORMATION			
Name of LULU			
Name of Slum			
S.No	Description of data elements	Unit	2010-11
General Details			
1	Location	(1, 2, 3, 4, 5)	
2	Status of slum settlements	(1, 2, 3, 4, 5)	
3	Slum population	Number	
4	Number of households in the slum	Number	
5	Texture of the land on which the slum is located	(1, 2, 3)	
Services to slum households or settlement level			
Water supply			
6	Does the municipality supply water in your settlement?	Y/N	
7	#Toc: number of households having individual tap connections	Number	
8	Number of households dependent on public community standpost	Number	
9	Number of functional standposts	Number	
10	Number of days of water supplied to the households	Number	
11	Number of hours of supply to the households	Number	
Sanitation and sewerage			
12	Is your settlement connected to underground sewerage network?	Y/N	
13	#Toc: number of households having individual sewer connections	Number	
14	Number of toilets connected to sewerage network	Number	
15	Number of toilets connected to soak pits	Number	
16	Number of toilets connected to septic tanks	Number	
17	Number of toilets connected to open drains	Number	
18	Number of toilets connected to street latrines	Number	
19	Number of toilets which are not connected to any network or disposal system	Number	
20	Number of households that have individual toilets	Number	
21	Number of community toilets	Number	
22	Total number of seats in community toilets	Number	
23	Total number of functional seats in community toilets	Number	
24	Number of households that use community toilets	Number	
25	Number of pay or use toilets	Number	
26	Total number of seats in pay or use toilets	Number	
27	Total number of functional seats in pay or use toilets	Number	
28	Number of households that use pay or use toilets	Number	
29	Number of households that defecate in the open	Number	
30	Are there any complaints regarding sanitation services provided by the municipality?	Y/N	
31	Is there satisfaction of grievances redressed?	Y/N	
Solid Waste Management			
32	Service provided for door to door collection of solid waste in slum settlements	(1, 2, 3, 4)	
33	#Toc: number of households covered by primary collection of solid waste	Number	
34	#Toc: quantity of primary collection of solid waste	Number	
Street Water Drainage			
35	Is the slum settlement connected to open drain	Y/N	
36	Is the slum settlement prone to flooding accident	Y/N	
37	#Toc: number of days of water logging	Number	
38	Type of road construction to the slum settlement	(1, 2, 3)	
39	Are street lights present in the slum settlement?	Y/N	

Capture of slum settlement info like ownership, legal status, water supply and sanitation services

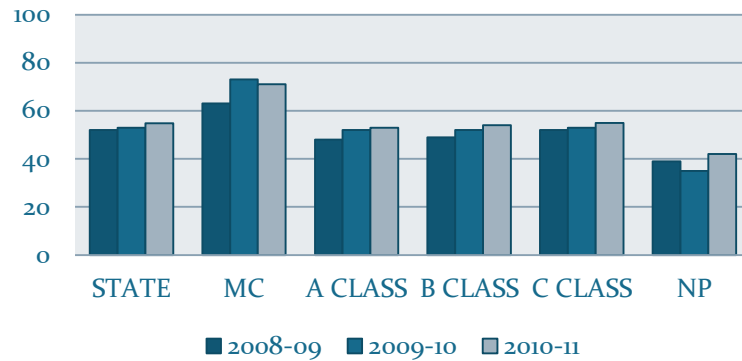


Mapping slum settlements with information on services

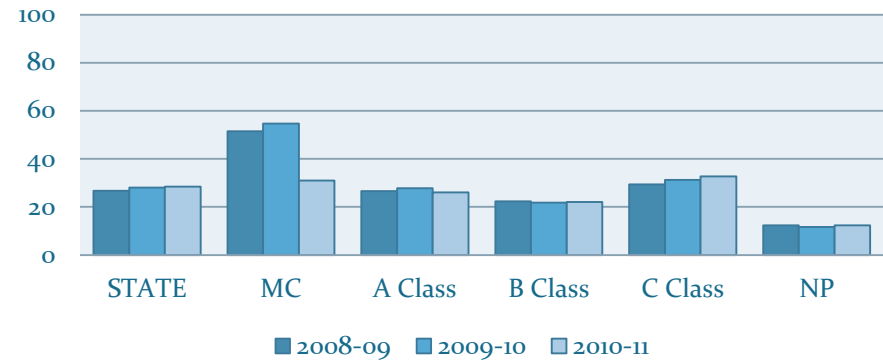


Trends over the three years

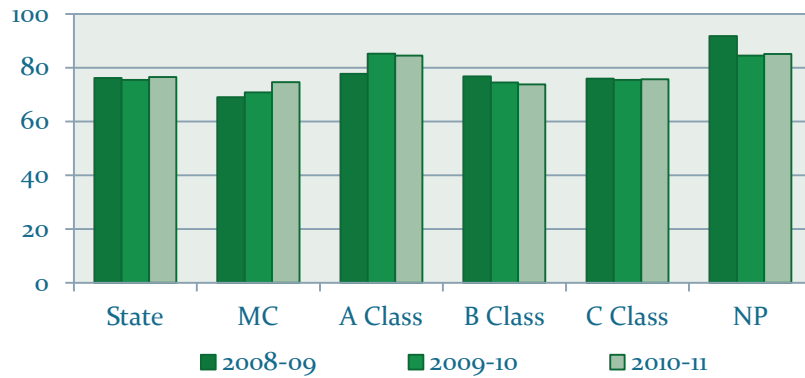
Coverage of water supply connections



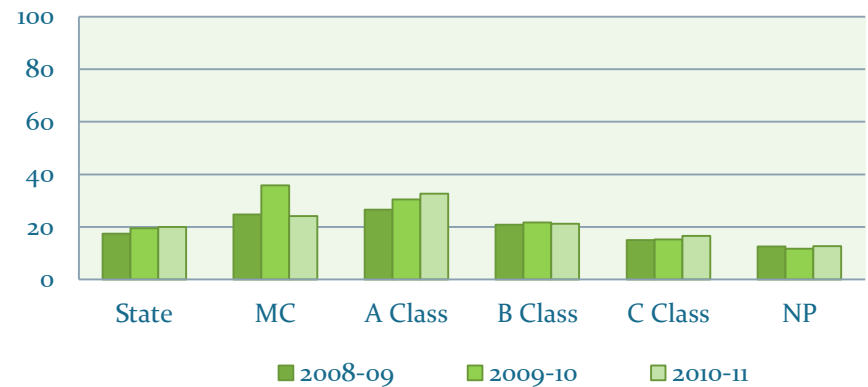
Coverage of water supply connections in slums



Coverage of Toilets

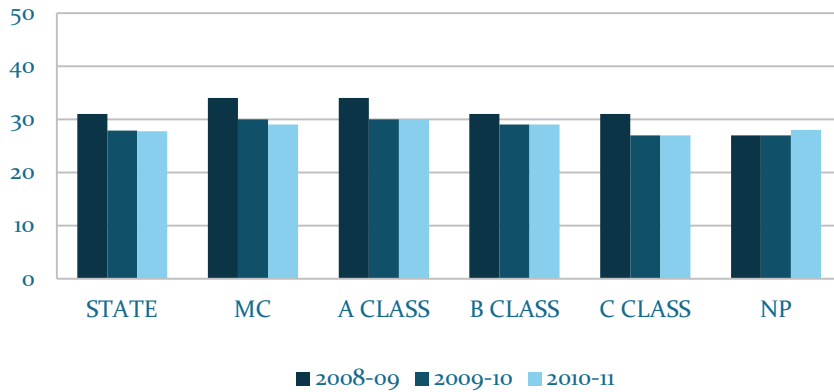


Coverage of Toilets in slums

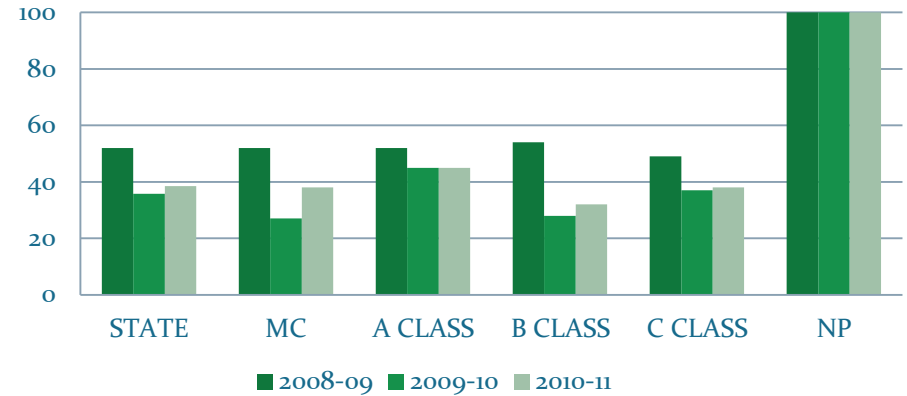


Trends over the three years

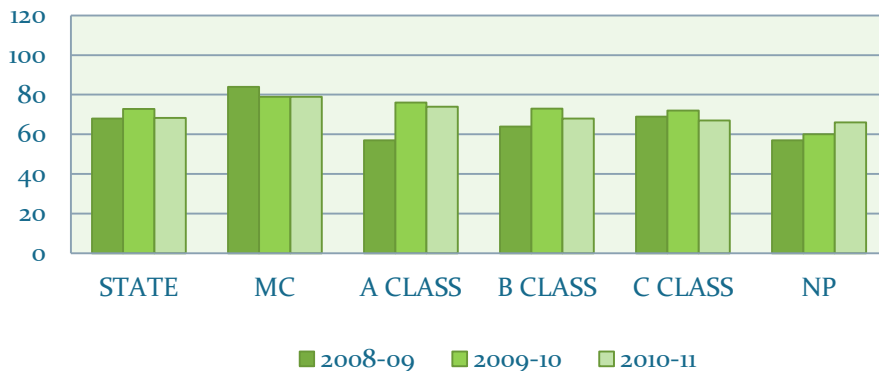
Extent of non-revenue water



Extent of functional metering of water connections



Cost recovery (O&M) in water supply services



Tools for monitoring

Performance Monitoring

Alignment of PAS information with state and central government programs to track progress on performance



- 13th Finance Commission: Standardized Service level benchmark
- JNNURM/ UIDSSMT
- MSNA/ Sant Gadge Baba
- Nirmal Gujarat
- Regular reporting to DMA/ DoM

Gujarat and Maharashtra state wide PAS web portal for performance monitoring

A screenshot of the Performance Assessment System (PAS) web portal. The page has a header with the 'pas' logo and 'performance assessment system' text. Below the header is a navigation menu with 'Home', 'Performance Assessment', 'Resources', and 'About Us'. The main content area is titled 'PAS Project' and contains a paragraph of text, a photo of two children, and a list of links for 'State Profile', 'Latest Update', 'PAS Brochure', and 'PAS Photo Gallery'. The 'State Profile' link shows a map of Gujarat and the number '33'. The 'Latest Update' link shows a green box with text about the '2007 Water Supply Scheme'. The 'PAS Brochure' link shows a photo of a group of people. The 'PAS Photo Gallery' link shows a photo of a room with a table and chairs.

Web Portal

Tracking UWSS performance of cities by state agencies

Cities can track their service levels against benchmarks

Cities can compare their performance with peers

performance assessment system

Home Performance Assessment Resources About Us


English | Gujarati | Marathi

PRINT SHARE Search

PAS Project

The Performance Assessment System (PAS) Project aims to develop appropriate methods and tools to measure, monitor and improve delivery of water and sanitation in urban India. The Project has three major components of performance, measurement, monitoring and improvement. It covers all urban local bodies (ULBs) in Gujarat and Maharashtra.

Funded by Bill and Melinda Gates Foundation, PAS is being implemented by Center For Environmental Planning and Technology (CEPT University) with support of Urban Management Centre (UMC) in Gujarat and All India Institute of Local Self-Government (AIILG) in Maharashtra.



State Profile


33 Cities in Maharashtra have more than 33% metered water supply connections at household level.

Latest Update


34X7 Water Supply Scheme Gets a Push

The Pune Municipal Corporation has embarked on an ambitious project to supply drinking water to all parts of the city. The PMC hopes that the scheme would address the water scarcity issue.

PAS Brochure



PAS Photo Gallery



Repository of the portal

Access and Coverage

Highlights the % of households having individual access to services of water supply, waste water and solid waste management.

Class	Water supply connections (%)	Individual toilets (%)	Individual coverage connections (%)	Household level coverage of SWM services (%)
HC	70	85	65	80
Class A	55	80	35	70
Class B	70	85	35	80
Class C	65	85	35	80
Class D	65	80	40	75

Select State: Gujarat

Select Year: 2008

Select Indicator Group: Access and Coverage

Submit

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Water Sanitation & Waste Water Management Solid Waste Management Cross-Cutting Theme

Resources > Good Practices

This section lists 'Good Practices' related to the urban water and sanitation services. The good practices are categorized into four main areas namely, **Water, Sanitation, Solid Waste Management and Cross-cutting Theme**. Various 'Self-Initiatives' reflect different actors, which help to improve performance facets under which credible work is being done and captured as good practices in the urban water and sanitation sector.

Documentation of good practices plays a critical role in the PAS Project, especially for the Performance Improvement component. The good practices featured here are based on the attempts of various Indian cities to improve services through appropriate reforms. These would be helpful for other similar cities in developing their own Performance Improvement Plans (PIPs) and in designing local actions.

Different aspects of good practices encompass improved coverage, efficiency and equity of service delivery, financial sustainability, implementation of reforms and adoption of innovative approaches. The examples of good practices include the ones developed under PAS Project by CEPT University and its partners along with numerous other good practices documented by various partner organizations.

Background of Achalpur

GENERAL INFORMATION

Year	2011	Pop. (Census)	20,122
State	Gujarat	Pop. (Census)	20,122
City (Urban)	20,122	Pop. (Census)	20,122
Pop. (Census)	20,122	Pop. (Census)	20,122
Pop. (Census)	20,122	Pop. (Census)	20,122
Pop. (Census)	20,122	Pop. (Census)	20,122
Pop. (Census)	20,122	Pop. (Census)	20,122
Pop. (Census)	20,122	Pop. (Census)	20,122
Pop. (Census)	20,122	Pop. (Census)	20,122

WATER SUPPLY

Water to Taps

Household level coverage of SWM services

Latur: Compare your city

Class A: cities

Coverage of water supply connections (%)

City	Coverage (%)
Latur	83
Hyderabad	62
Bangalore	52
Chennai	48
Madurai	48
Chennai	42
Hyderabad	42
Bangalore	38
Hyderabad	37
Chennai	34
Hyderabad	32
Chennai	31
Bangalore	28

Select State: Karnataka

Select City: Latur

Select Year: 2008

Select Sector: Water

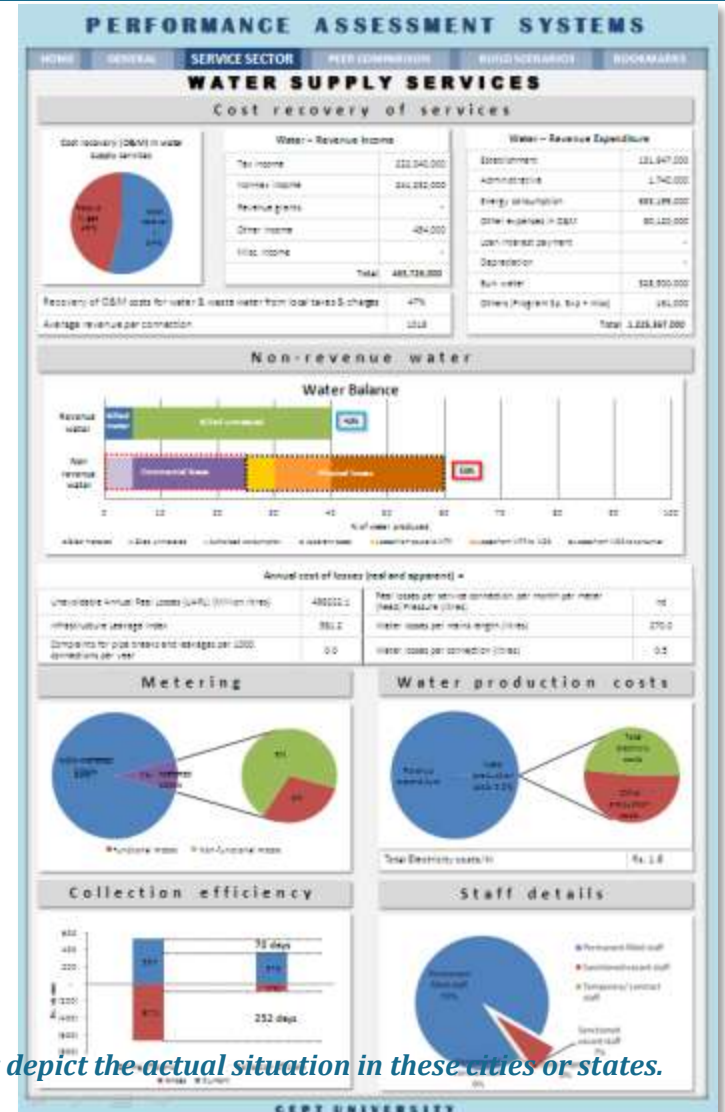
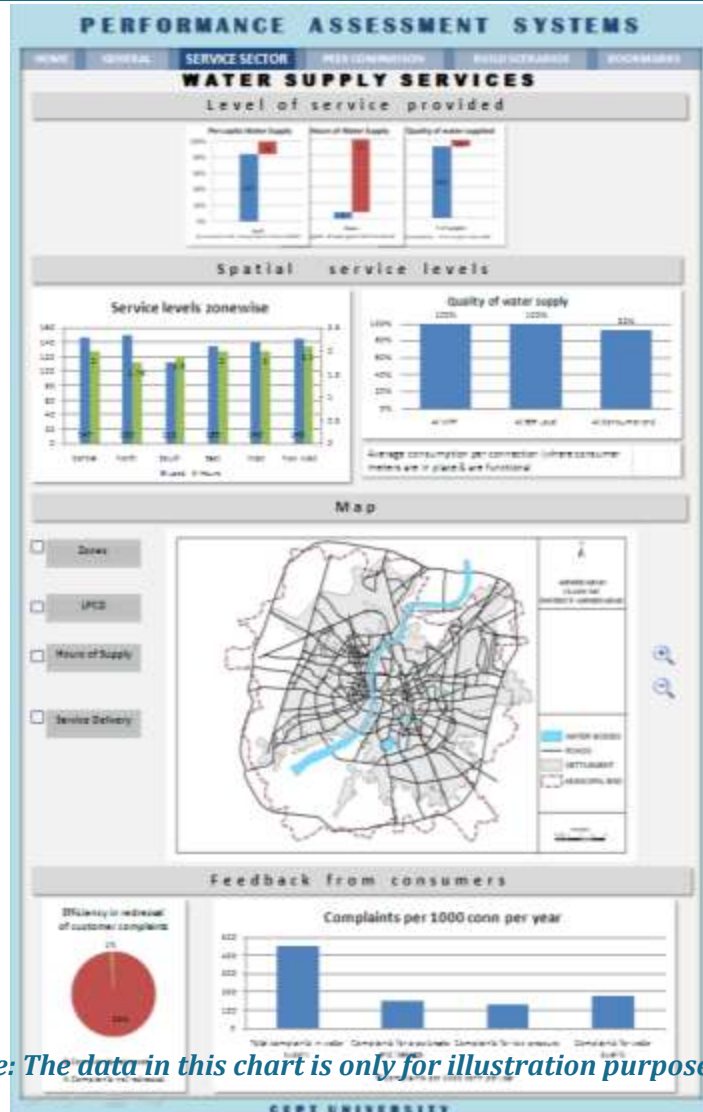
Select Indicator: Coverage of water supply connections (%)

Compare With

Type of Class: Class A

Compare Cities

Dashboard



Note: The data in this chart is only for illustration purposes. It does not depict the actual situation in these cities or states.

Towards Strategic management of UWSS Assets in India

Indian Context : Increasing O & M costs as compared to Capital Investments

- Recently HPEC report in India estimates the investment in water supply in the cities and towns of India for the 20-year period, 2012-2031, as well as the associated operations and maintenance (O&M) expenditure for existing and new assets
- The high O&M cost for water supply (relative to the capital investment requirement) is on account of the large base of existing assets. (total capex requirement is Rs 3.2 lakh crore and O&M requirement is Rs 5.5 lakh crore)
- Also specifies per capita norms for O&M for UWSS services

Source: Report on Indian Urban Infrastructure and Services, March 2011. (The High Powered Expert Committee (HPEC) for Estimating the Investment Requirements for Urban Infrastructure Services)



Recommendation from HPEC:
Increase investment in urban infrastructure from 0.7 per cent of GDP in 2011-12 to 1.1 per cent by 2031-32

In association, increase spending on maintaining assets - old and new

Asset Information Systems : Where are the ULBs ?

Asset Information framework

→ What is the current state of my assets?					What LOS is req'd?	Which assets are critical?	What are the best investments?			What is the best funding strategy?																										
→ Asset Registry					Performance	Remaining Life	Lifecycle Costs		Demand & LOS	Risk Exposure	Opt'l O&M	Opt'l Capital	Expenditures	Funding																						
↓	Identify assets	Ownership	Location	Description	Components	Capacity	Physical condition	Service levels	Financial efficiency	Date Acquired	Betterment Dates	Expected Useful Life	Remaining Service Life	Original Historical Cost	Historical Betterment Costs	Future Refurbish Costs	Future Replacement Cost	Current & Future Demand	Business Objectives	Current & Future LOS	Probability of Failure	Consequence of Failure	Redundancy Factor	Risk or Criticality	Operation & Mtce Strategies	Operation & Mtce Strategy Costs	Capital Investment Strategies	Capital Strategy Costs	Capital Strategy Dates	10 yr Investment Priorities	25+ yr Expenditure Profile	Ave O&M & Renewal Annuities	Estimated Tax Based Funding	Est'd Rate / Fee Based Funding	Estimated Other Funding	Asset Management Plan

Source: Saskatchewan MAIS Feasibility Study

- Being declared by 14 States as per 13th Central Finance Commission requirements since 2010
- Partially attempted by ULBs and under Municipal Accounting reforms

Asset inventory and assessment will help ULBs in India to develop comprehensive view of future financial needs of assets and review their performance

Paradigm Shift Required

From Asset Creation to Asset Maintenance / Management

INVESTMENTS

- Focus on the targets of water and sanitation has been on increasing service coverage
- New Investments at Centre & States paying less attention to O&M, increasing the risk to performance outcomes

ASSET CREATION

- Less attention on improving the operation and maintenance (O&M) of existing assets
- Lesser expenditure on rehabilitation of exstg. infrastructure
- Corresponding reduction in quality of service delivery

PERFORMANCE

Inappropriate design

+

Lack of O & M

=

Performance failure

Jawaharlal Nehru
National Urban Renewal Mission

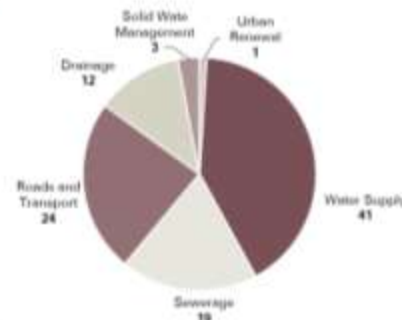
JnNURM



स्वर्णिम गुजरात
1960 - 2010



JNURM: Spending by Sector for UIG and UIDSSMT
(as on 1 December, 2010)
(per cent)



Source: M&EO, Government of India.



PAS Efforts : From Performance assessment to Strategic Asset Management

Performance Measurement

Assessment on Asset Condition (Risks & Costs)

Towards Integrated Asset Management

Largely ULBs in India are at Performance measurement Stage



INFORMATION

ENGINEERING

MANAGEMENT



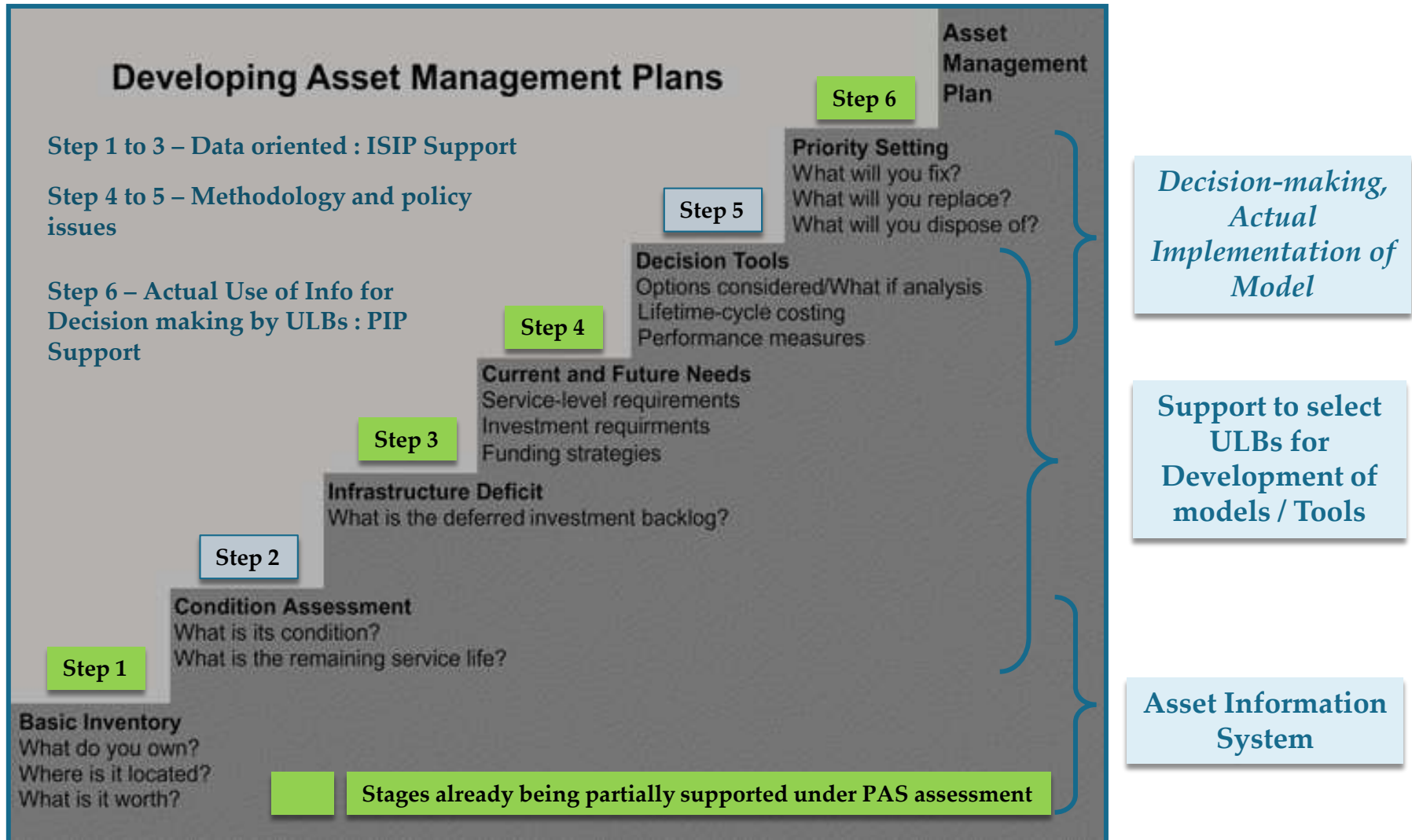
PERFORMANCE

RISK

COSTS

Stepping Stone to ASSET MANAGEMENT

Support to ULBs through various Stages of Asset Management Plan



City level Asset Information from PAS Checklist (R I)

<u>Water</u>	<u>SWD network</u>
Groundwater sources	Under-ground
Surface water (Own source) sources	Surface: Covered
Other water sources	Surface: Uncovered
New water projects / schemes to be commissioned over the next 3 years	
Water Treatment Plants	<u>Solid waste management</u>
Water Distribution Stations	Collection bins for segregation
Automated systems (e.g. SCADA)	SW treatment plants
Total length of network: trunk, transmission, and distribution (km)	Weigh bridges
Total length of road network in city (in km)	Land for open dumping and scientific landfills
Total area under water distribution network (sq.km)	Computerised systems used for monitoring operations related to SWM
Connections Data (residential / non residential)	Type & details of vehicles for SWM (nos, capacity , etc)
Computerised systems used for data related to water connections	
	<u>Slums</u>
<u>Sewerage & Sanitation</u>	Individual water connections
Individual toilets	Group connections
Areas with / without piped sewerage network	Stand posts
Sewage Pumping stations	Individual toilets
Sewage Treatment Plants	seats in pay-n-use toilets (functional toilets)
Automated systems adopted for monitoring waste water treatment plant operations	seats in community toilets (functional toilets)
Computerised systems used for data related to wastewater	Individual sewerage connections

Example of State UWSS Profile: Gujarat



166 ULBs serving
50 lakh HHs



4214 (sq kms)
of Urban Area



30 lakh
connections;
less than 1%
metered



2292 (sq.kms) of
area under water
distribution
network



1153 (sq.kms)
of area with
access to piped
sewerage
network



73 water treatment
plants in 166 cities



131 new
projects in
next 3 years
(2009 - 2012)



Will augment
1252 MLD of
additional
water supply
for ULBs

CITY level : Current & Future Needs for UWSS



**CITY level Tools to arrive at:
Total Infrastructure Investment to cover deficit & Build Scenarios for Improvement Actions**

- Selection of actions & simulation of the impact of possible actions on the Performance Indicators for SLBs
- Select, individual actions and measure the benefits as well as the cost implications

- Allows Inputs in the costing assumptions as well as customised cost assumptions for actions
- involves multiple iterations between Performance Indicators, Possible Actions and Financial Resources of the ULB

BHUSAWAL MUNICIPAL COUNCIL		2010-2020			
Class A Municipal Council					
PERFORMANCE IMPROVEMENT PLAN	PRESENT SCENARIO	SCENARIO I	SCENARIO II	SCENARIO III	
SECTOR PERFORMANCE SCORES					
Water Supply					
Waste Water					
Solid Waste					
FINANCIAL PERFORMANCE					
Total capital expenditure (Rs lakhs)					
Capex from own source (Rs lakhs)					
Capex from grants (Rs lakhs)					
Total debt requirement (Rs lakhs)					
Minimum DSCR					
Total UWSS O&M expenditure (Rs lakhs)					
UWSS cost recovery (%)					
Water supply actual & proposed tariff (Rs/ annum)					
KEY PERFORMANCE INDICATORS					
WATER SUPPLY					
Coverage of connections at household level	38.00%	38.00%			
Coverage of water supply connections in slum households	19.00%	19.00%			
Per Capita supply of water	70.76	65.79			
Continuity of water supply					
Extent of non revenue water	48.00%	48.00%			
Extent of functional metering of water connections	0.00%	0.00%			
Quality of water supply	99.61%	99.61%			
Efficiency in redressal of complaints	27.00%	27.00%			
Unit electricity cost of production of water supply		0.00%			
Efficiency in collection of water charges	28.66%	28.66%			
Extent of cost recovery in water supply services	38.32%	35.18%			

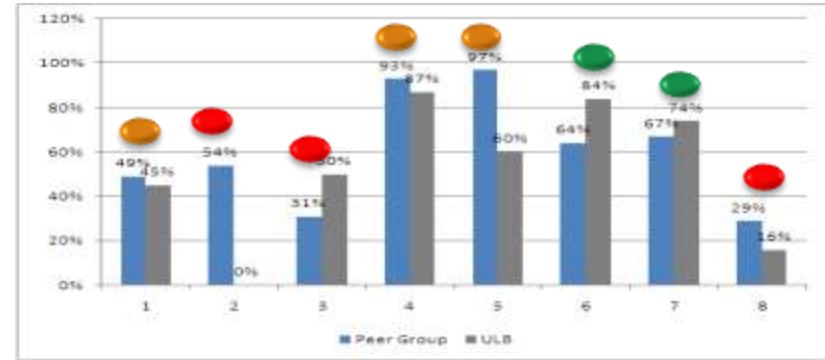
Helps arrive at Investment requirements and possible lending based on Municipal finance assessment

Priority Setting for Improvement Actions

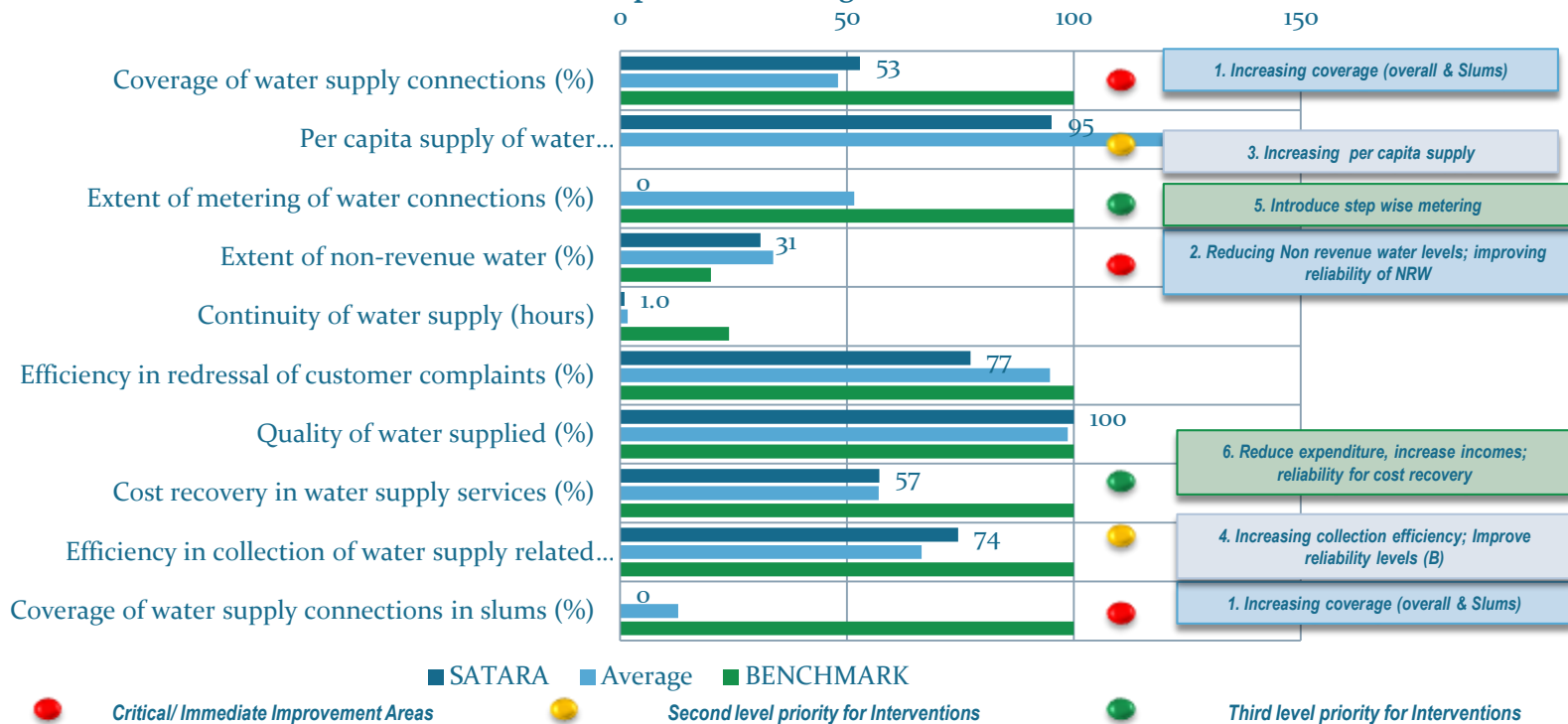
Use Scorecard to arrive at improvement in indicators by choice of Actions



Comparative assessment and traffic light analysis: Through Peer Comparison



Comparative :Through on site Assessment



UWSS Assets : Expectations from varied Stakeholders



- Service Delivery Outcomes

Elected Representatives /
Central & State Government/
Consumers



- Financial Sustainability

City Managers / State Agencies



- Network Design & Analysis

Water Engineers



- System Operations & Maintenance

Maintenance Staff (fitter, valve men, sanitary inspectors etc.)



Thank You

www.pas.org.in