

# Presentation from the 2011 World Water Week in Stockholm

**WORLD**  
in Stockholm,  
August 21–27, 2011 **WATER**  
**WEEK**

[www.worldwaterweek.org](http://www.worldwaterweek.org)



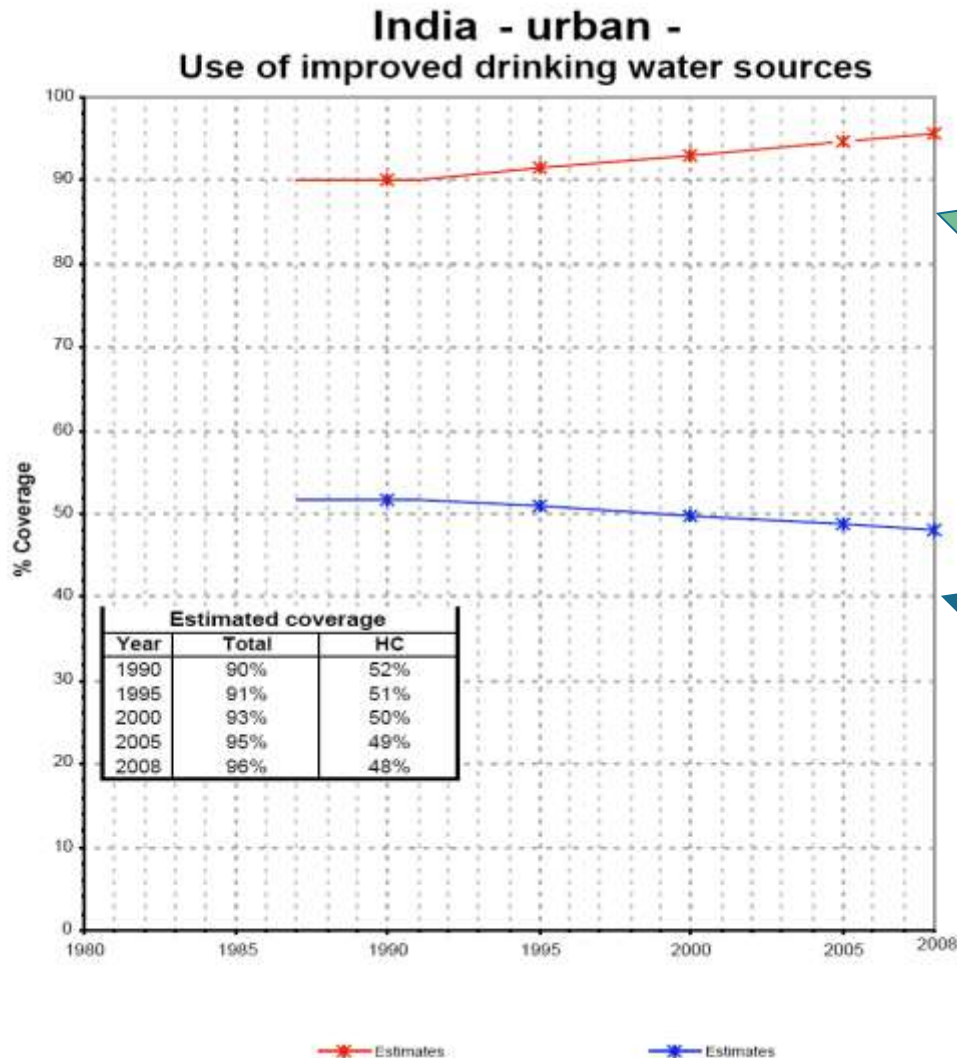
# Measuring and Improving UWSS for the Poor PAS Project, India

Pro-Poor UWSS Provision

Stockholm August 22 2011, CEPT University, India

# India Water Supply – increased investments, improved basic access, and decline in household level services

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Basic access in urban India has reached nearly 95%

Household level water connections in urban India has declined

# Need for Performance Information in urban water and sanitation

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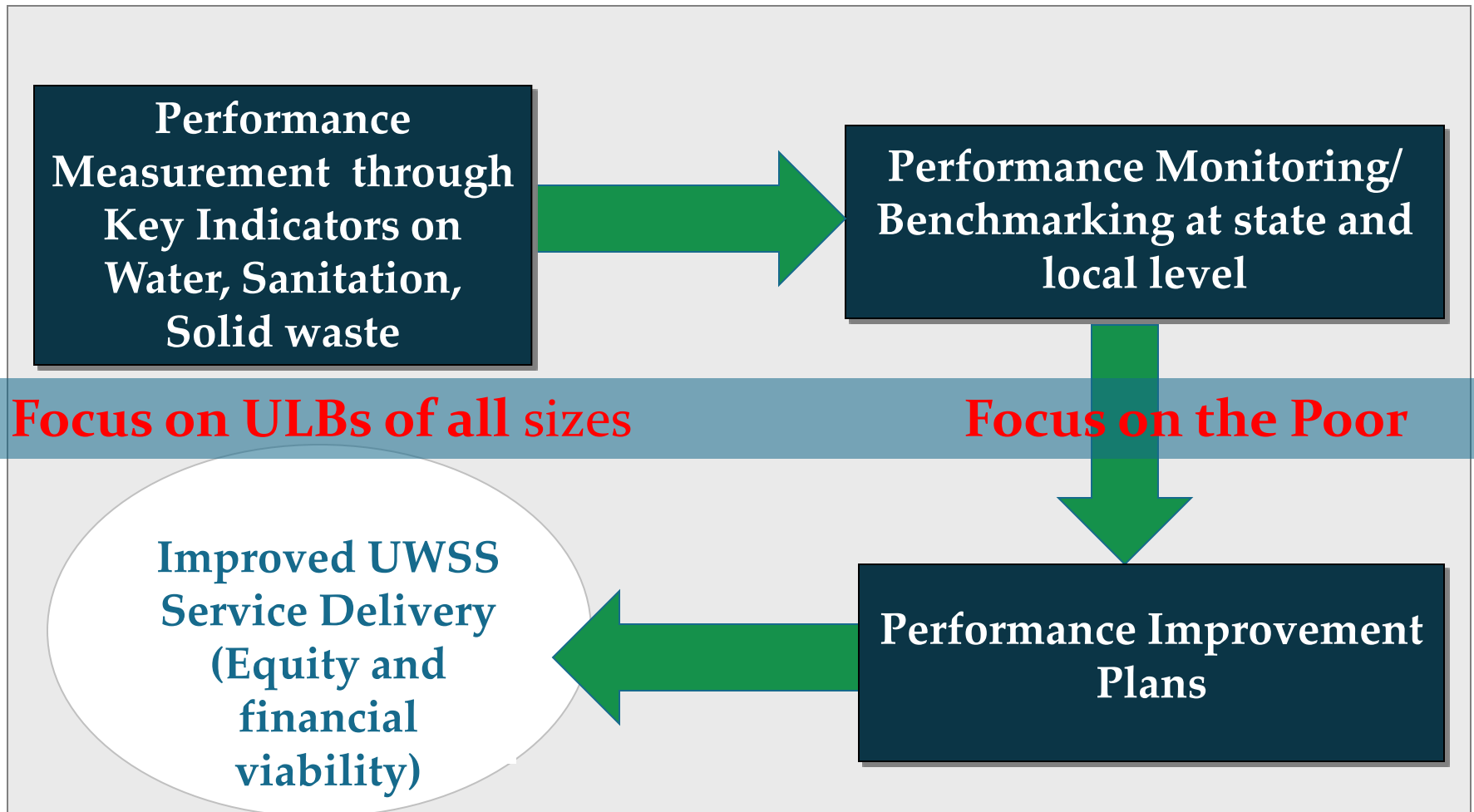
- Aggregate statistics suggest **good coverage** of water and sanitation in urban areas in India
- BUT little is known about the **quality, level and financial sustainability of service**
- Only limited information on **access of urban poor** households to water and sanitation is available
- Lack of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

*Resources for WSS is not a major constraint – around USD 10 billion invested in urban WSS over 7 years –Gujarat has allocated over One Billion USD for Sanitation*

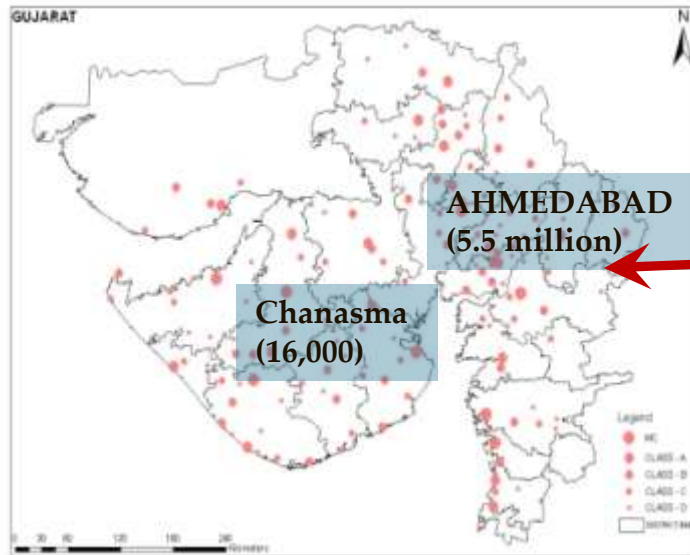


# WHAT IS PAS?

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



# States and Urban Coverage - PAS Project



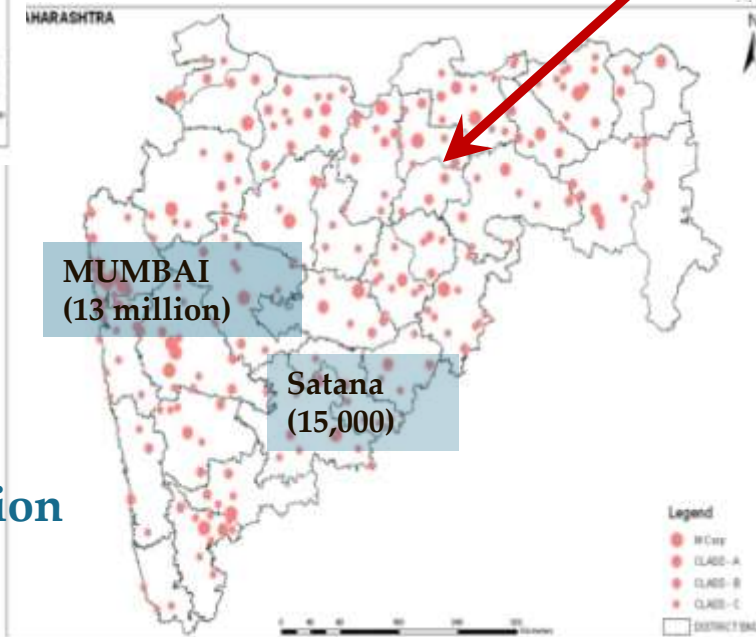
## Gujarat State

166 Urban Centers  
Population – 26 million



## Maharashtra State

248 Urban Centers  
Population – 51 million



# Population, Poverty and Slums

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	Gujarat	Maharashtra
Total Urban Population (million) in 2011	<b>25.7</b>	<b>50.8</b>
% urban (2011)	42.5	45.2
Rate of growth of urban population % ( 2001-2011)	35.8%	23.8%
% of urban population below poverty line (2000)	15.6%	25.8%
Total Slum Population (million) in 2001	3.4	10.7
% of urban population in 'slum settlements' (2001)	<b>18.1%</b>	<b>26.0%</b>

Source: Population: Census of India 2001, 2011; Poverty: Planning Commission, GOI, 2007; Slums: NBO 2010.

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# Performance Measurement



# Adding Equity Indicators in Benchmarking

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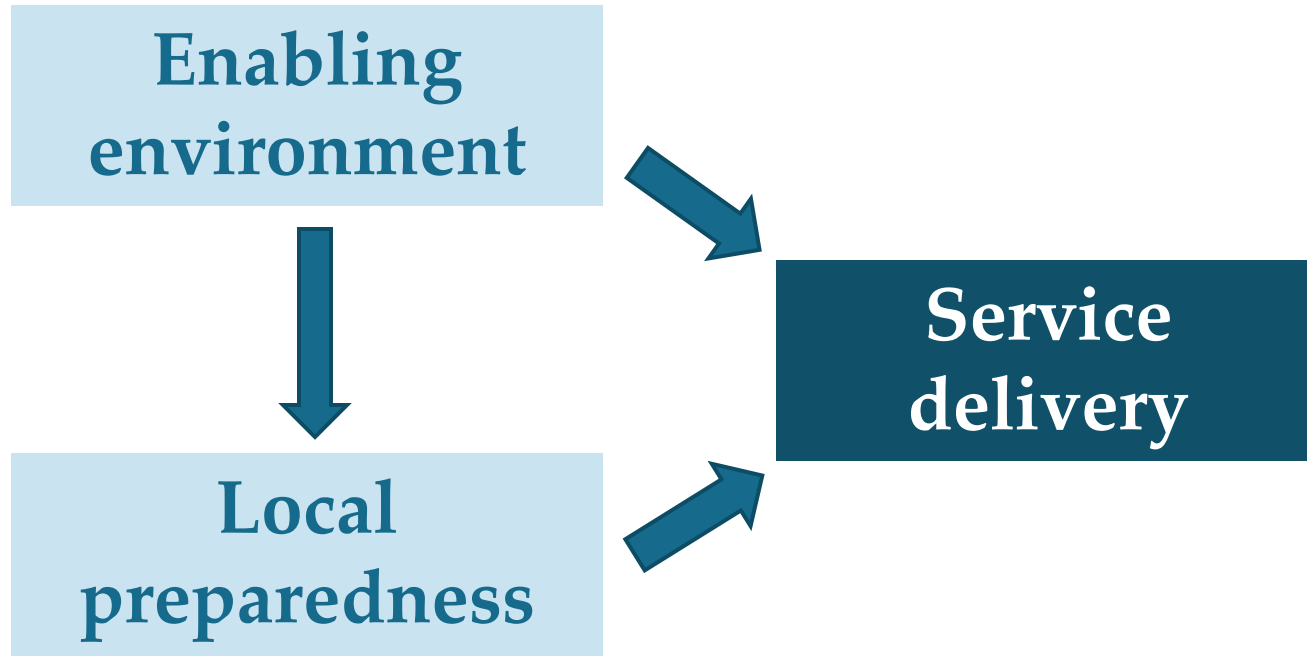
<b>Water: Typical Key Performance Indicators</b>	
<b>Access and Coverage</b>	
Coverage of individual water supply connections (%)	
<b>Service level and Quality</b>	
Per capita supply of water (lpcd)	
Continuity of water supply (hrs per day)	
Quality of water supplied (%)	
<b>Financial Sustainability</b>	
Cost recovery (O&M) in water supply service	
<b>Efficiency in Service Operations</b>	
Extent of NRW (%)	
Efficiency in redressal of customer complaints	
Functional metering of water connections (%)	
<b>Equity in Service Delivery</b>	
?????	

Equity indicators are not included

Sanitation – non-sewered cities which are a majority in developing countries are excluded

# Framework for Equity Assessment

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# Framework for Equity Assessment

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Theme	Key Parameters
Enabling Environment	Presence of a <b>positive policy</b> to provide services to the poor
	<b>Affordable Tariffs</b> for access to services, options to pay in installments
	Efforts to <b>include 'non-notified' slums</b>
	Inclusion of slums houses <b>under property tax</b>
	<b>Special national/ state schemes</b> for services in slums
Local Preparedness	Extent of <b>funding (%) in local budgets</b> for the poor and in slum areas
	Efforts made to improve/ <b>simplify connections</b> in slum settlements
	<b>Presence of internal network</b> (water supply, drainage) in slum settlements to facilitate ease and affordability in access
Service Delivery	<b>Access to basic services</b> for water and sanitation in slum areas (JMP definition), extent of open defecation
	<b>Access to on-premise facilities</b> for water (municipal connection) and sanitation (toilet, sewerage connection, door-to-door SWM)
	<b>Quality of service delivery</b> (quantity of water, pressure, timing, etc.)
	<b>Complaint redressal</b> for the poor

# Data Collection Tools – excel/ online

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Performance Assessment System for UWSS  
**nod Nagarpalika**

**II. Water Production, Storage and Distribution - a**

Sources	Average Daily volume (in MLD)			If B or C, specify method of estimation	Are estimated systems used at source?
	Functional (A)	Non-Functional (B)	Met Metered (C)		
Groundwater				2.4	4
Surface water (On-source)					
Bulk purchase - Raw water				0.75	3
Bulk purchase - Treated water					
Other source <sup>1</sup>					
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>3.15</b>		<b>N</b>

Source of Information: *Water Supply Dept.*

<sup>1</sup> Level measurement backed by periodic assessment through portable flow meters, <sup>2</sup> Level measurement, with no calibration, <sup>3</sup> efficiency and daily record of number of hours; record of maintenance, <sup>4</sup> No record of any maintenance

<sup>5</sup> Other source include water pressure through tankers from private bore wells, bore well, rainwater harvesting, etc

**1. Augmentation of water sources from projects to be commissioned in the next three years (2009-2012)**

Does the ULB have any projects schemes that will be commissioned over the next 3 years to augment present water supply? (Y/N)<sup>1</sup>

1.  Y  N *e.g. from sources such as...*

2. If Yes, capacity additional augmentation to present supply (MLD)

2.  2

Source of Information: *Water Supply Dept.*

**Ground Water Source (Insert additional number/s, as required)**

1. Does the ULB use any ground water source? (Y/N)

1.  Y  N *If No go to QR 3*

2. Number of wells used for ground water supply

2.  2

3. Name of well <sup>1</sup>	Type of well (Tubewell/Open well)	Depth of well (m)	Avg depth of ground water (m)	Average daily quantity of water drawn	Method of measurement of quantity of water drawn (1/2/3/4/5/6) <sup>2</sup>
Metowater (una WW)	Bore	39.65	15.25	1.5	5
Navawater work (WW), Taluka panchayatrasno	Bore	39.65	15.25	0.9	5
<b>Total</b>		<b>39.65</b>	<b>15.25</b>	<b>2.4</b>	

Source of Information: *Water supply Dept.*

<sup>1</sup> Mark location of tube well on map

<sup>2</sup> 1. Computerized system with flow meters, 2. Manual record with flow meters, 3. Level measurement backed by periodic assessment through portable flow meters, 4. Level measurement, with no calibration, 5. Using pump efficiency and daily record of number of hours; record



Annual Cycle over 5 years  
 Collection, verification, analysis,  
 two-way flow of information

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# Performance Monitoring

# Performance Monitoring

Gujarat and Maharashtra state wide PAS web portal for performance monitoring

- ❑ Web portal set up
- ❑ Differential access by user category
- ❑ Includes:
  - ✓ Tools for measurement
  - ✓ Monitoring results at state and local level
  - ✓ Tools for improvement
  - ✓ Good practices for improvement

**pas** performance assessment system

Username   
Password  **Login**

Home Performance Assessment Resources About Us  Search Eng UnitZFTL **मुमु**

**The Project**

The project is to develop a Performance Assessment System (PAS) for Urban Water supply and Sanitation using appropriate methods and tools to measure, monitor and improve delivery of the services in cities and towns in India.

**State Profile**  
36% of the cities in DSC are solely dependent on groundwater as their source of water supply  
Learn More in State Profiles

**City Profile**  
45% of the slum settlements in ASC do not have water supply connections at household level.  
Learn More in City Profiles

**Features**  
2.5 billion people do not have access to adequate sanitation, roughly two fifths of the world's population.  
Read More in Features

Best viewed in 1024 x 768 Resolution  
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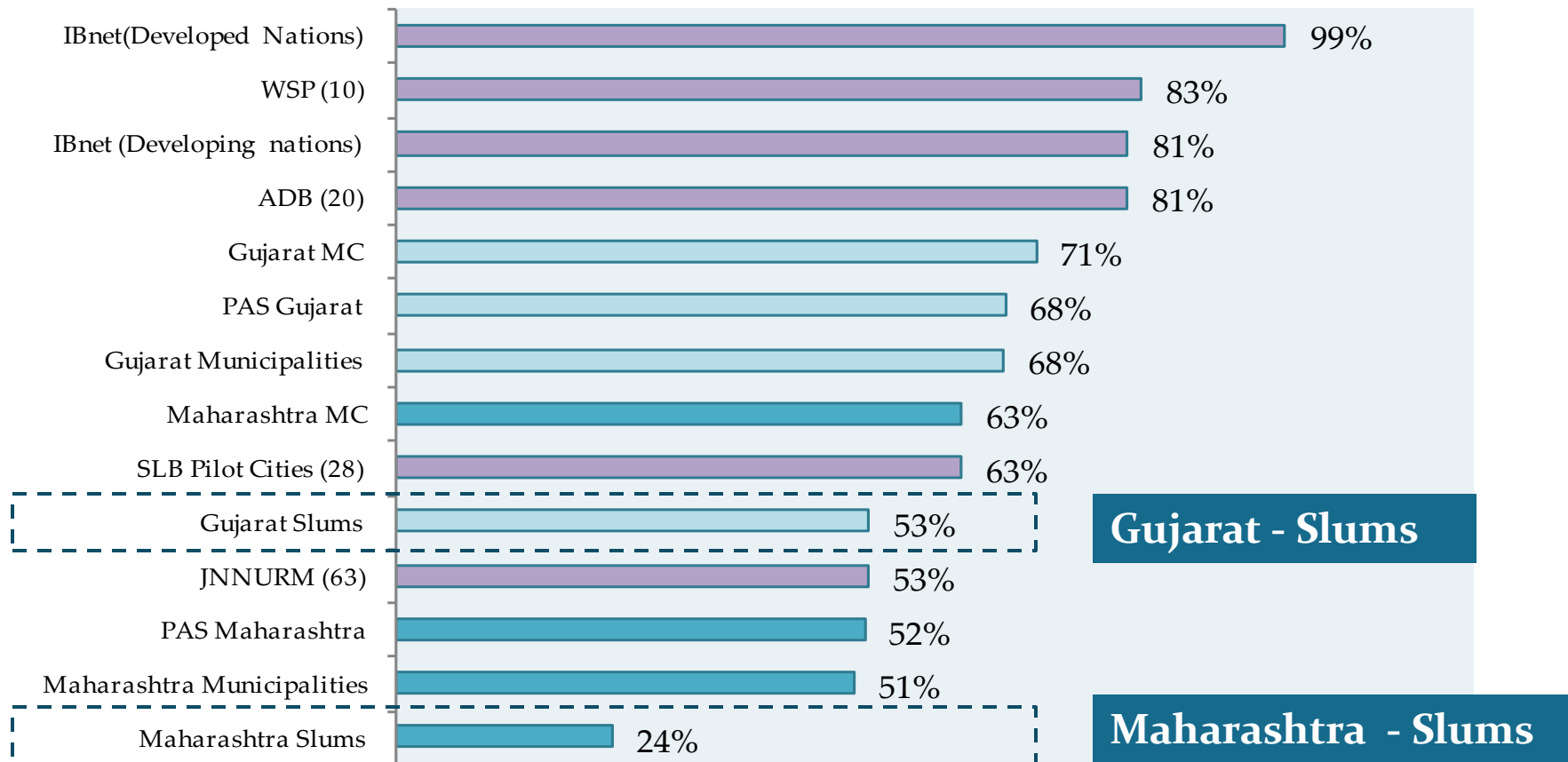
[pas.org.in](http://pas.org.in)



# Comparisons – 2008-09

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## Comparison of household level water services –



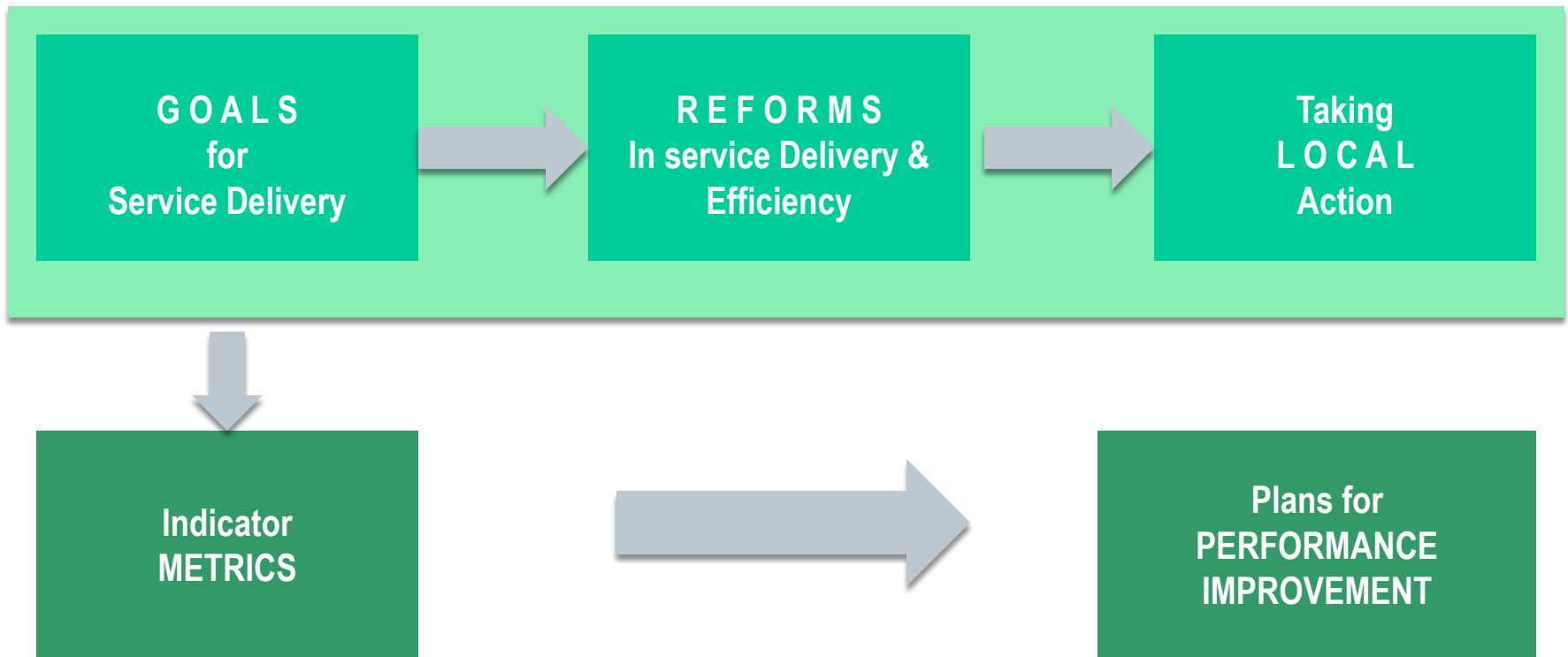


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# Performance Improvement

# Benchmarking for What ?

Transition to Performance Improvements



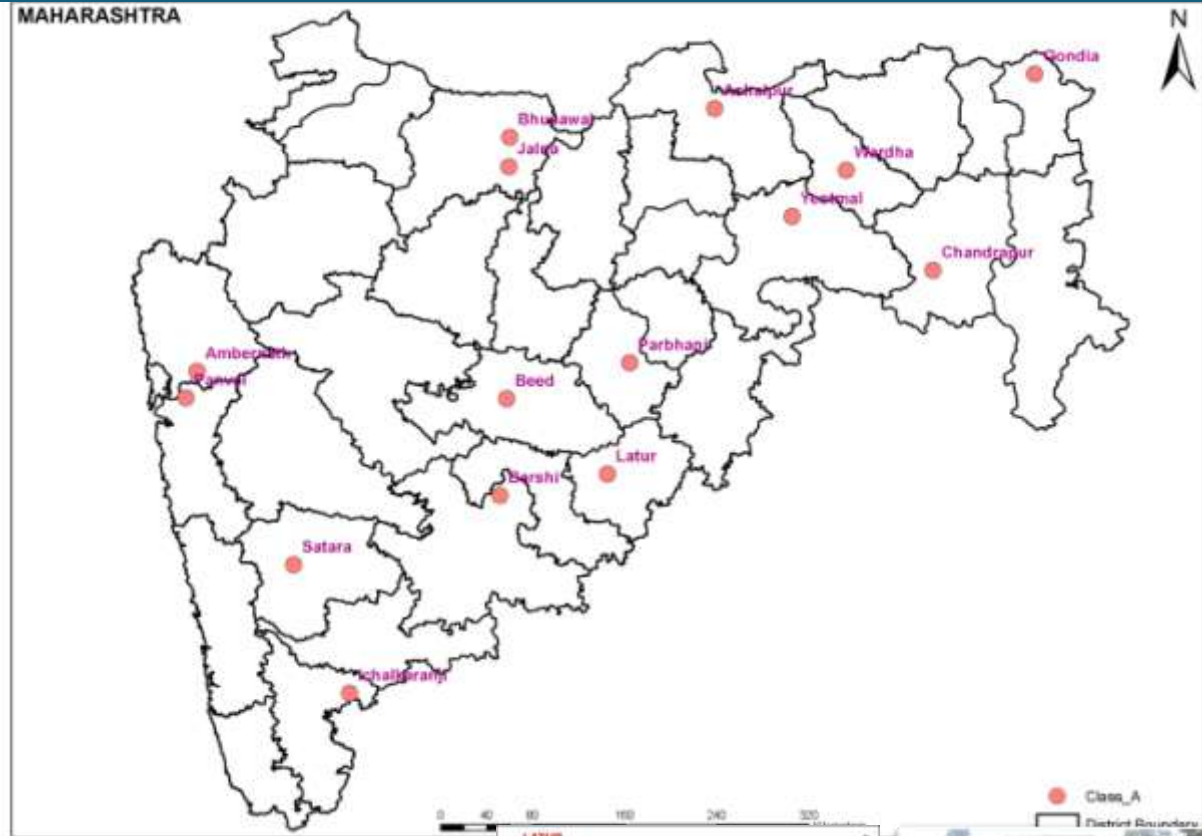
**RESULTS ARE NOT USED**

**UNLESS THEY TRANSLATE IN TO SOME IMPROVEMENTS**

# Municipal Councils in Maharashtra

15 cities - total population of about 3.5 million

City	Population (2011)
Ambernath	2,67,834
Beed	1,86,444
Barshi	1,18,475
Chandrapur	3,56,000
Latur	4,90,261
Panvel	1,80,000
Parbhani	3,07,000
Jalna	2,85,349
Wardha	1,06,439
Achalpur	1,12,293
Satara	1,20,079
Ichalkarnaji	3,30,474
Gondia	1,32,889
Bhusawal	1,87,750
Yavatmal	1,16,714



# Consultations and Diagnostic Studies

With President/ Elected members



With Chief Officers



With ULB Officials



With communities in slums



With Private Contractors

# Detailed Studies in Slum Settlements



No of Community Toilets	21
Working condition	9
Total no of seats	303
Total no of functional seats	125

# PIP Toolkit for Decision Making

- ✓ enables the utility **to benchmark itself with its peer group** and universal norms
- ✓ comprehensive list of **actions and improvement measures**
- ✓ distinction between **'low-cost no-cost' and capital intensive** interventions
- ✓ **impact of actions** on service delivery, revenues, costs, and financing
- ✓ enables an **assessment of financial sustainability**

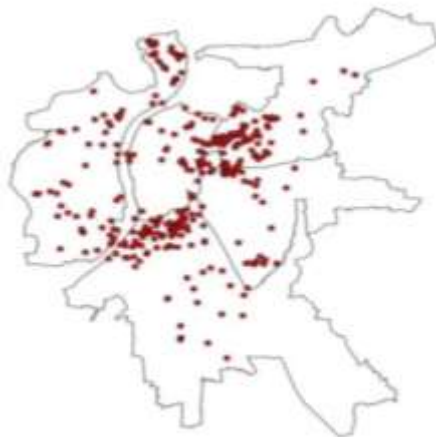


# GIS based Slum Information System

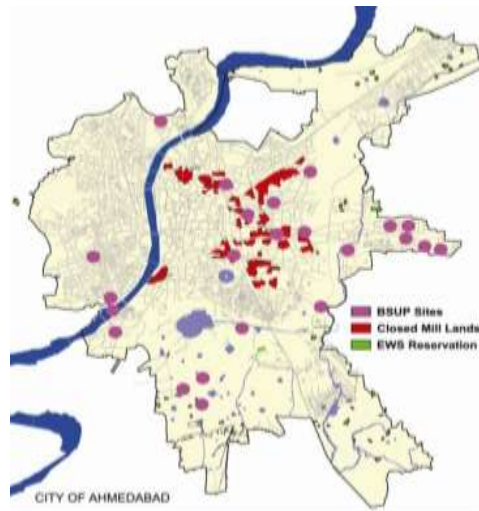
## Tools for Decision Making

- Helps in policy decisions and effective planning; ranging from a single slum settlement to the entire city.

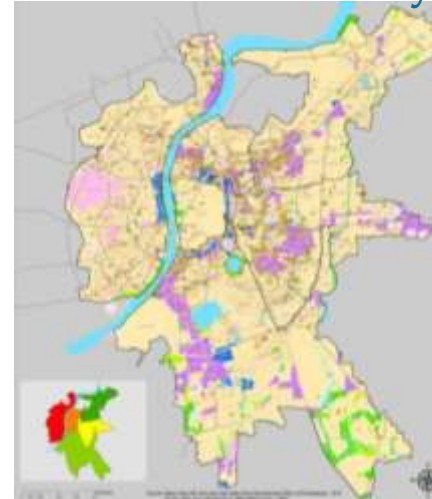
Identification of slums that need to be relocated



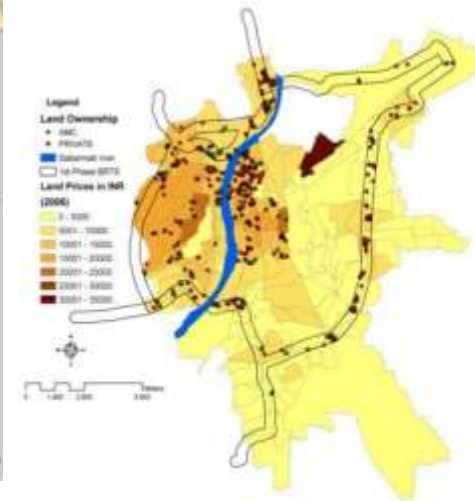
Land bank Identification



Location of slums w.r.t. land use of city



Slum pockets located on High land price



- Identify the slums under different various slum redevelopment model
- Decision making in Infrastructure Planning and implementation
- Allows the inter-departmental linkages and regular updating of slum database

# National /Global Links

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- **Including equity /dev country context in Benchmarking**
  - Working with IWA to set up a special group for developing country PIs
  - Sharing approach /methods for equity with JMP Urban Task Force
  - Partnership with UNESCO-IHE PROBE Project
  - Contribution to and alignment with the **Government of India's Service level Benchmarking (SLB) Initiative**



# Summing Up

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- Benchmarking at scale and coverage – **all cities** (400+) ranging from very **small (25,000)** to very **large (15 million+)**
- Benchmarking not as a one-off report but as a **mainstreamed continuous annual cycle**
- **Explicit inclusion of equity, sanitation (rather than only sewerage)**
- **Linking measurement to improvement** with simple **support tools** and consultative processes
- **Ensuring local ownership**



**Thank You**

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