



Service Level Benchmarking M A H A R A S H T R A

2009 - 16



AILSG



performance
assessment
system

CEPT
UNIVERSITY

Contents

- Overall SLB framework and its link to 13th FC and 14th FC
- PAS project's journey since 2009
- Various tools and dashboards for Performance Measurement, Assessment and Improvement
- Database assessment and key observations
- ISIP efforts and linking SLB with e-governance
- Impact of programs and investments on services

**Overall SLB framework
and its link to
13th FC and 14th FC**

Impetus with 13th FC Performance Grants

- ❑ The 13th FC endorsed operationalizing of SLB Process
- ❑ It introduced a performance based grant
- ❑ Performance grant can be accessed only if the state complies with nine specified conditions
- ❑ One of the conditions :
The State government must gradually put in place standards for delivery of four essential services – as per the MOUD's SLB Handbook

Condition 8 : Standards for service delivery

- ❑ State governments must put in place *standards for delivery of essential services* provided by the local bodies for four services viz., water supply, sewerage, solid waste management and storm water drains on lines of handbook for SLB by MoUD
- ❑ State Government *must notify or cause all ULBs to notify* by the end of a fiscal year the service standards and targets
- ❑ A notification should be *published in the state gazette* to ensure compliance
- ❑ Service Level Benchmarking as one of the nine conditionalities for allocation of performance based grants to ULBs, which amount to approx. **Rs.8000 crores over 2010-15.**

14th FC grant for Municipality

Details	13 th FC	14 th FC
Total Grant to municipality (<i>Rs in crore</i>)	23,111 (162 <i>Rs per capita</i>)	87,143 (488 <i>Rs per capita</i>)
Basic grant	15,111	69,715
Performance grant	8,000	17,428
No of Conditions for performance grant	9	3



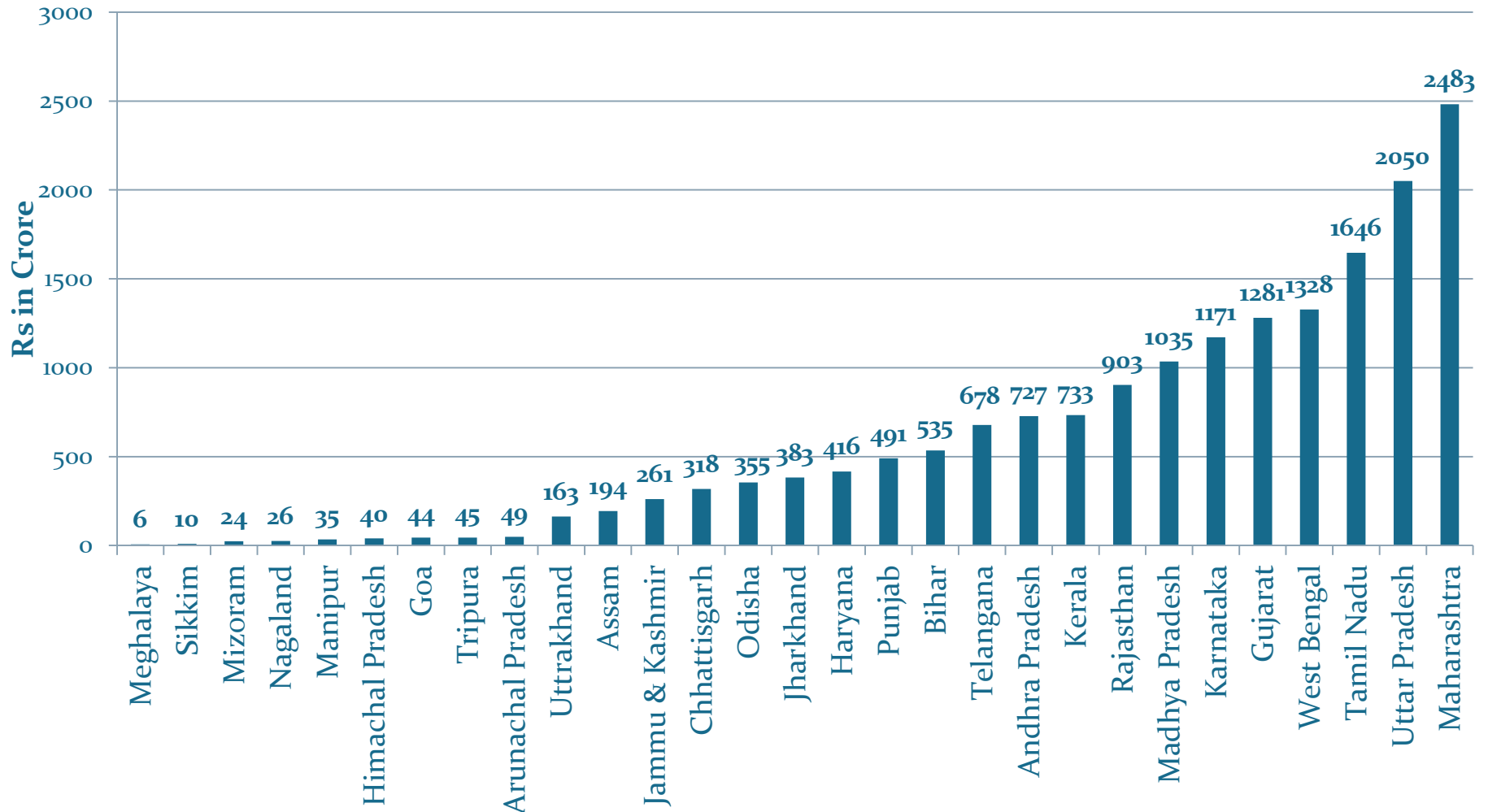
❑ 14th FC has listed conditions for award of performance grant. These are:

- **Compilation of accounts and their audit:** Common issue that emerged from SFC reports is the need **to have reliable data on the finances of local bodies** in order to make informed decisions.
- **Increase in own revenues:** **To encourage ULBs to generate own revenues** and to improve the quality of basic services they delivery
- **Measure and publish Service Level Benchmarks (SLB)** relating to basic urban services: **Improvements in the quality of basic services** are likely to lead to an increase in the willingness of citizens to pay for the services.

State-wise share of Performance grants

Performance grants allocated under the 14th FC is increased by 2.20 times

14th FC Performance Grant allocation in 2016-20



SLB – Start up Phase

Lack of reliable updated performance information



Lack of comparative performance assessment and benchmarks for use in fund allocations



No use of performance information in Local Plans



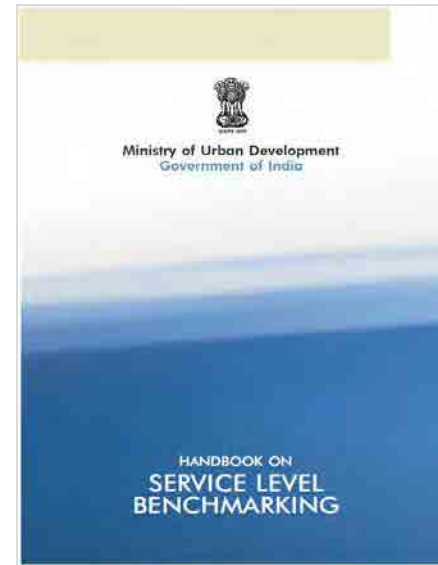
UWSS services
Poor quality, inefficient and financially unviable

- ❑ Started in 2006 with a MoUD constituted Core Group
- ❑ National level workshop in July 2008 to adopt benchmarks
- ❑ Finalization of a Handbook on Service Level Benchmarks
- ❑ MoUD supported pilot implementation in 28 cities over 2009-10



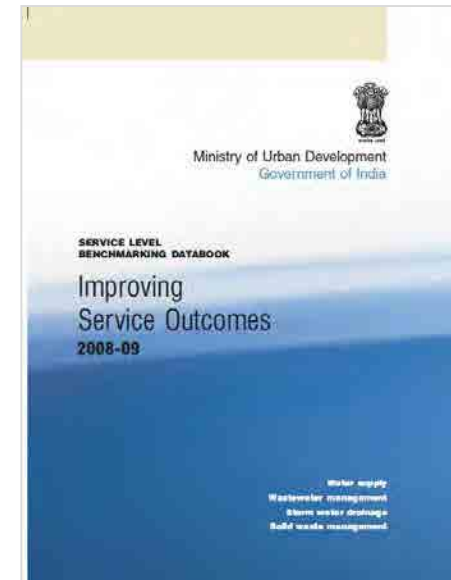
Service Level Benchmarking

- **Four services covered**
 1. Water supply
 2. Sewerage
 3. Storm water drainage
 4. Solid waste management
- **SLB Handbook** provides detailed guidelines on the definition, calculation methodology, monitoring guidelines, a service goal (to be achieved over a period of time) and data reliability grading scale.
 - This framework comprises of **28 SLB indicators**
 - Minimum set of **standard performance parameters** for the water and sanitation sector that are commonly understood and used by all stakeholders across the country
 - Define common minimum framework for **monitoring and reporting** on these indicators
 - Set out **guidelines** on how to operationalize this framework in a phased manner



Handbook on Service level benchmarking

Data book for 2008-09 Produced by 2010



Sector -wise SLB indicators

WATER SUPPLY

9

Indicators

Indicators for Water supply services

Benchmark

Coverage of water supply connections

100%

Per capita supply of water

135 lpcd

Extent of metering of water connections

100%

Extent of Non- Revenue Water (NRW)

20%

Continuity of water supply

24 hours

Quality of water supplied

100%

Efficiency in redressal of customer complains

80%

Cost recovery in water supply services

100%

Efficiency in collection of water supply related charges

90%



Sector -wise SLB indicators

WASTEWATER

9

Indicators



Indicators for Wastewater services	Benchmark
Coverage of toilets	100%
Coverage of sewage network services	100%
Collection efficiency of the sewage network	100%
Adequacy of sewage treatment capacity	100%
Quality of sewage treatment	100%
Extent of reuse and recycling of sewage	20%
Efficiency in redressal of customer complains	80%
Extent of cost recovery in sewage management	100%
Efficiency in collection of sewage charges	90%

Sector -wise SLB indicators

SOLID WASTE

8

Indicators



Indicators for Solid Waste Management services

Benchmark

Household level coverage of solid waste management services

100%

Efficiency of collection of municipal solid waste

100%

Extent of segregation of municipal solid waste

100%

Extent of municipal solid waste recovered

80%

Extent of scientific disposal of municipal solid waste

100%

Efficiency in redressal of customer complains

80%

Extent of cost recovery in SWM services

100%

Efficiency in collection of SWM charges

90%

Sector -wise SLB indicators

STORM WATER

2

Indicators

Indicators for Storm Water Drainage	Benchmark
Coverage of storm water drainage network	100%
Incidence of water logging / flooding	0

SLB+ Framework developed by PAS

WATER SUPPLY

9

SLB Indicators

36

Additional Indicators



WASTE WATER

9

SLB Indicators

29

Additional Indicators

STORM WATER

2

SLB Indicators

SOLID WASTE

8

SLB Indicators

12

Additional Indicators



EQUITY

4

Key Indicators

13

Additional Indicators



Are SLB indicators for Wastewater captures ground reality?

Water supply

Coverage of water supply connections	100%
Per capita supply of water	135 lpcd
Extent of metering of water connections	100%
Extent of Non- Revenue Water (NRW)	20%
Continuity of water supply	24 hours
Quality of water supplied	100%
Efficiency in redressal of customer complains	80%
Cost recovery in water supply services	100%
Efficiency in collection of water supply related charges	90%

Solid Waste Management

Household level coverage of solid waste management services	100%
Efficiency of collection of municipal solid waste	100%
Extent of segregation of municipal solid waste	100%
Extent of municipal solid waste recovered	80%
Extent of scientific disposal of municipal solid waste	100%
Efficiency in redressal of customer complains	80%
Extent of cost recovery in SWM services	100%
Efficiency in collection of SWM charges	90%

Wastewater

Coverage of toilets	100%
Coverage of sewage network services	100%
Collection efficiency of the sewage network	100%
Adequacy of sewage treatment capacity	100%
Quality of sewage treatment	100%
Extent of reuse and recycling of sewage	20%
Efficiency in redressal of customer complains	80%
Extent of cost recovery in sewage management	100%
Efficiency in collection of sewage charges	90%

SLB indicators only captures performance of underground sewer network

Storm Water Drainage

Coverage of storm water drainage network	100%
Incidence of water logging / flooding	0

PAS

Assess service delivery in water and sanitation

profile for **800+** Cities

Performance Assessment System

in **6** States

National database for 1800 cities
For 18 states for 3 years

www.pas.org.in

Water supply, Waste Water, Solid waste Management & Storm Water



State Profile based on SLB Indicators



Login
Password

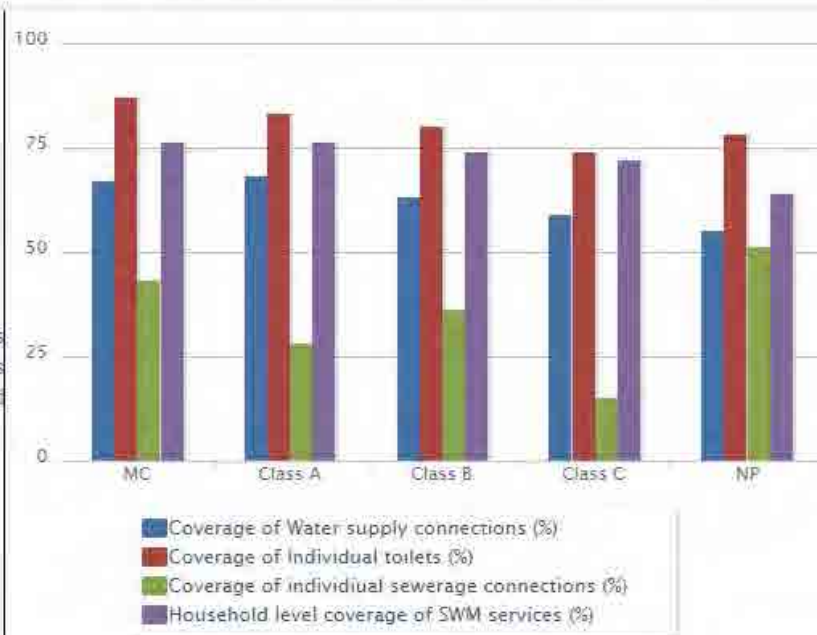
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Framework Toolkit **State Profile** Know Your City Interactive Dashboards

Search

Access and Coverage for Maharashtra

Access & Coverage

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



Select State

Maharashtra

Select Financial Year

FY 2014-2015

Select Indicator Group

Access and Coverage

Submit

Populations ranges of classes:
Municipal Corporation > 3,00,000
Class A: 1,00,001 - 3,00,000
Class B: 40,001 - 1,00,000
Class C: < 40,000
Class NP: As Notified

Option to view **year wise** information

City Profile

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Framework Toolkit State Profile **Know Your City** Interactive Dashboards

Overview **City Profile** Compare Your City

City Profile of Achalpur

Access & Coverage Highlights the % of households having individual access to services of water supply, waste water and solid waste management.	Coverage of WS connections(%) 0 25 50 75 100
Service Levels & Quality Highlights the quantity of water supplied to city, continuity and quality of supply.	Per capita supply of water at consumer end(lpcd) 0 50 100 150 200 250 300 350
	Continuity of water supply(hours) 0 4 8 12 16 20 24
	Quality of water supplied(%) 0 25 50 75 100
Financial Sustainability Highlights the revenues accrued to expenses incurred in service operations	Cost recovery (O&M) in WS services(%) 0 50 100 150 200 250
Equity in Service Delivery Highlights the variations in city level coverage as well as between poor and	Coverage of WS connections in 'slum' settlements(%) 0 25 50 75 100

Select State

Select City

Select Financial Year

Select Sector

Indicator Report

Overview of the city provides general information across all the sectors

City Profile

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Know Your City

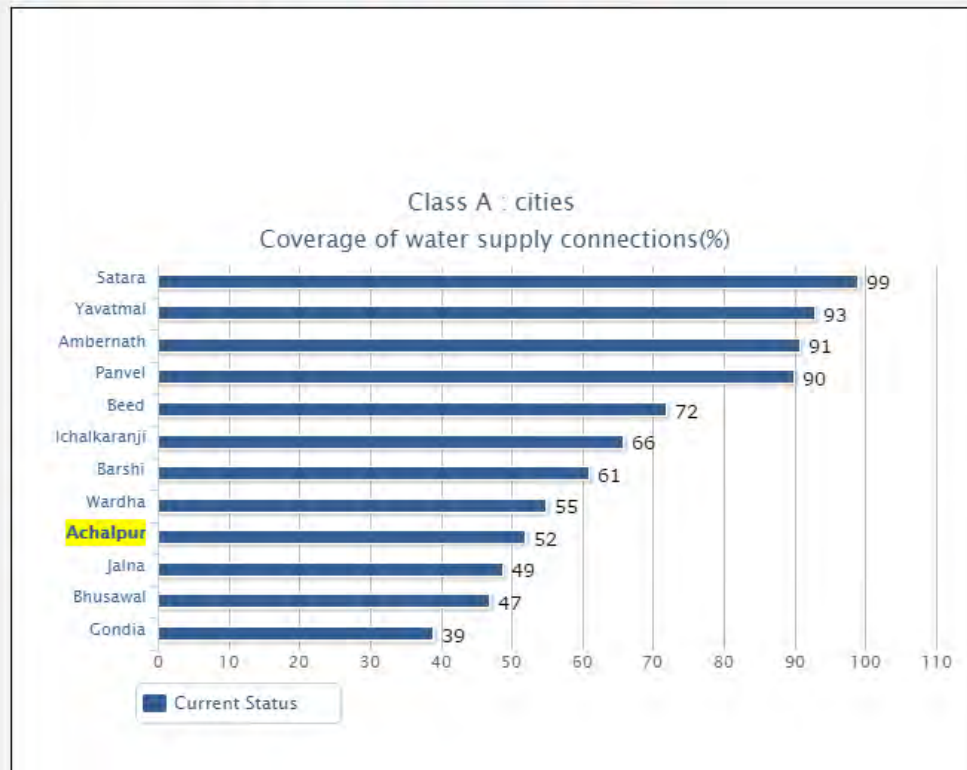
Interactive Dashboards

Overview

City Profile

Compare Your City

Achalpur: Compare your city



Select State

Select City

Select Financial Year

Select Sector

Select Indicator

Compare With

District Class

Type of Class

Compare Your City helps each city compare itself with another city based on its respective class or state.

Online data entry for SLB



Unique access for each city

You are signed in as Panvel ULB

Sign Out |

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Data Entry

Checklist

The SLB-PAS checklist has been developed to assess Service Level Benchmarks for the indicators as recommended by the **14th Finance Commission**.

This checklist is composed of 6 worksheets, with an additional sheet on list of documents/formats to be compiled. The 6 worksheets ask for information about the water supply, wastewater (sanitation and sewerage), solid waste management, and slum unit's performance data and operating environment. These are:

1. General Information
2. Water Supply
3. Sewerage and Drainage
4. Solid Waste Management
5. Additional Information
6. Reliability

Cells highlighted WHITE is for data entry inputs. Cells highlighted YELLOW is disabled as data is already filled. Please save (click 'Save') after entering data for each sub section. Upon completion of data entry for a particular sheet (e.g. General Information), click SUBMIT button given at the top of the page to ensure the data is stored in the database. Please note that once the data is submitted, the data can be edited only upon approval by Administrator.

Select Financial Year

FY 2015-2016

View FY 2015-2016 Checklist

View FY 2015-2016 Indicator Report

View Report of City Benchmarking

Approval Status

SMMUA Monitoring

Select Language to Download Checklist

---Select---

Download FY 2015-2016 Checklist

Online data entry for SLB

Home Performance Assessment Resources About Me **Data Entry**

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT (Patd)

General Information General Information Demographic and Training General Information General Information General Information

GENERAL INFORMATION (FY 2011-2012)

View Submit Go Back to Data Entry Data Entry

I. Demographics

Item	Unit	2011-2012	2012-2013
1.1 Population Census (2011/2012)	Persons	10000	
1.2 Number of Children (0-6 years)	%	1.8	
1.3 Population (2011/2012)	Persons	18000	
1.4 Number of Households (2011/2012)	Number	2885	
1.5 Number of Households (2012/2013)	Number	5500	
1.6 Family Size (2011/2012)	Persons	5.83	
1.7 Family Size (2012/2013)	Persons	3.27	
1.8 Number of Slaves (2011/2012)	Number	0	
1.9 Number of Slaves (2012/2013)	Number	12	
1.10 Number of Non-Residents (2011/2012)	Number	0	
1.11 Number of Non-Residents (2012/2013)	Number	1100	
1.12 Number of Immigrants (2011/2012)	Number	0	
1.13 Number of Immigrants (2012/2013)	Number	8100	
1.14 Number of Returnees (2011/2012)	Number	0	
1.15 Number of Returnees (2012/2013)	Number	7	
1.16 Total (by Sex) Census (2011/2012)	Person	3.21	
1.17 Present Town/Or Area	Person	3.21	
1.18 Population Density (Present Town)	Number	2455.0	
1.19 Number of Commercial and other establishments (shops, restaurants, markets, hotels and entertainers) (2011/2012)	Number	0	
1.20 Number of Commercial and other establishments (shops, restaurants, markets, hotels and entertainers) (2012/2013)	Number	1278	

Item	Unit	2011-2012	2012-2013
1.21 Number of Governmental (Present Town)	Number	1000	
1.22 Number of Governmental (2011/2012)	Number	0	
1.23 Number of Governmental (2012/2013)	Number	0	
1.24 Number of Governmental (2011/2012)	Number	0	
1.25 Number of Governmental (2012/2013)	Number	0	
1.26 Number of Governmental (2011/2012)	Number	0	
1.27 Number of Governmental (2012/2013)	Number	0	
1.28 Number of Governmental (2011/2012)	Number	0	
1.29 Number of Governmental (2012/2013)	Number	0	
1.30 Number of Governmental (2011/2012)	Number	0	
1.31 Number of Governmental (2012/2013)	Number	0	

- Previous year's data is displayed alongside current year of data entry
- Options to save each sub section within a sheet; useful in case of connectivity issues during data entry

Online Target Entry

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Data Entry

Checklist

Target Setting

Financial Patrak

Target Setting for Panvel for FY 2016-2017

The 14th Central Finance Commission (CFC) which submitted its report in 2015 has recommended specific performance based grants for urban local bodies.

One of the conditions to access these grants is the notification of current year 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 ULB through a consultative process. The targets have to be entered for each of the indicators listed in the table below.

- Previous and current year of status and previous year target for each indicator can be viewed while entering targets for the next year

Water supply: KPIs	2012-2013	2013-2014	2014-2015	2015-2016	Target for 2015-2016	Target for 2016-2017
Coverage of water supply connections(%)	51.4	52.2	90.1	92.7	93.0	96.0
Per capita supply of water at consumer end(lpcd)	173.0	170.9	168.6	168.3	160.0	169.0
Extent of metering of water connections(%)	5.2	9.0	10.1	17.9	19.0	21.0
Extent of non-revenue water(%)	20.2	21.5	21.5	21.5	20.0	20.0
Continuity of water supply(hrs per day)	1.5	1.5	1.5	1.5	1.5	1.5
Efficiency in redressal of customer complaints(%)	93.5	93.8	97.5	100.0	98.0	100.0
Quality of water supplied(%)	99.2	99.0	99.5	100.0	99.5	100.0
Cost recovery in water supply services(%)	38.9	40.5	28.8	32.4	70.0	36.0
Efficiency in collection of water supply related charges(%)	61.7	61.8	79.0	79.1	85.0	87.0
Coverage of water supply connections in slums(%)	0.0	ND	2.5	2.5	10.0	10.0
Wastewater: KPIs	2012-2013	2013-2014	2014-2015	2015-2016	Target for 2015-2016	Target for 2016-2017
Coverage of toilets(%)	94.5	91.2	94.4	97.1	95.0	98.0

Data validation process – Inbuilt in Online module

The page at www.pas.org.in says:

The Number of Properties with access to toilets is lower than previous year.

OK

You are signed in as Nandura ULB.
[Sign Out]

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Data Entry

PERFORMANCE ASSESSMENT SYSTEM (PAS) PROJECT Nandura

General Information Water Supply Sewerage and Drainage Solid Waste Management Equity Related Info Reliability Progressive SLB

Progressive SLB : FY 2014-2015

Reset Submit Go Back to Data Entry Save All

1. COVERAGE OF TOILETS

Sanitation Coverage				
Item	Unit	2013-2014	2014-2015	
1.1 Total Number of Properties in the City	Number	10600	10000.0	
1.2 Properties with toilets	Number	7794	7600	

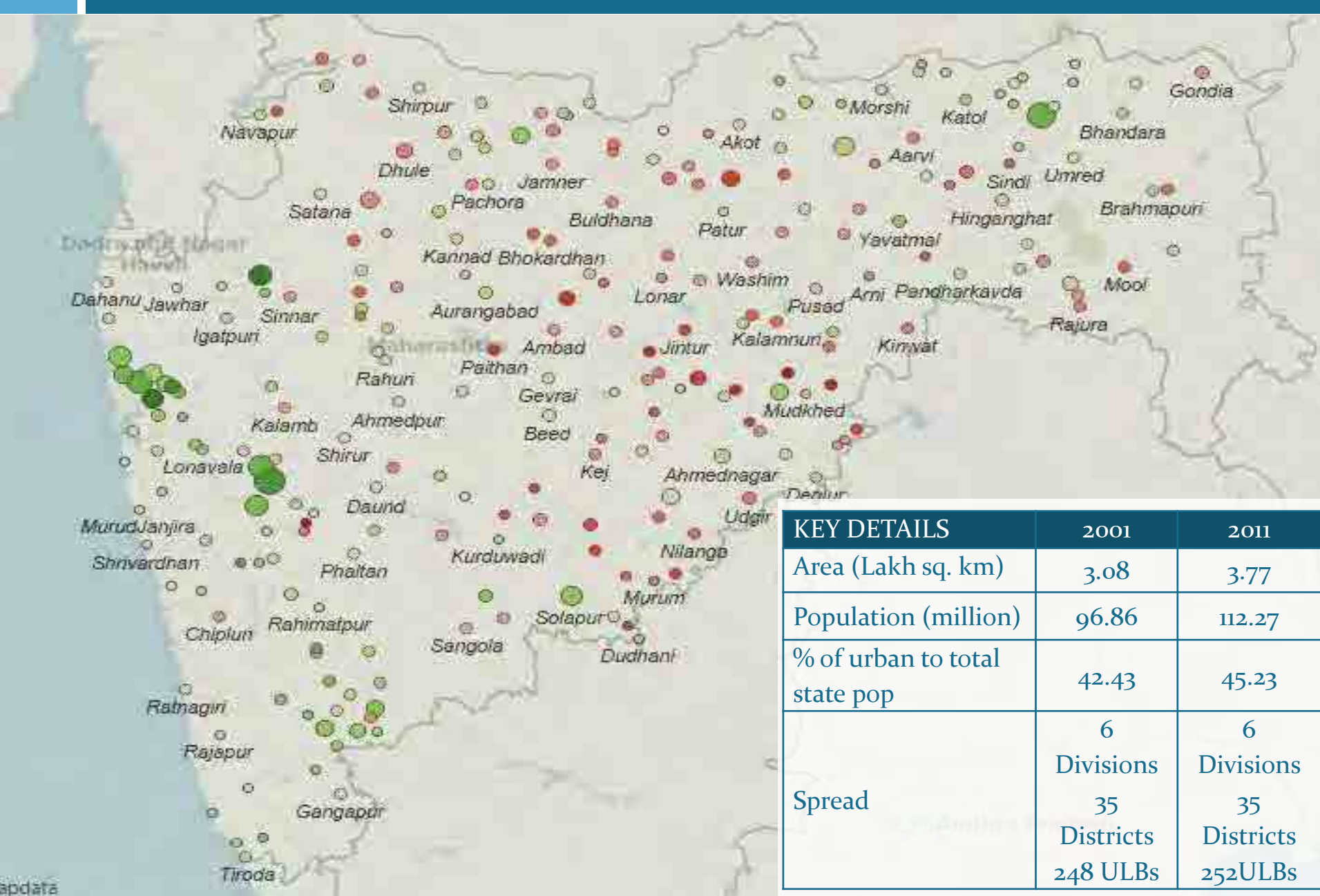
Validation through inbuilt checks in Online Module

Two types of checks are inbuilt for information verification

- ❑ Pop up message to recheck entered values; for example, decrease in water supply connections
- ❑ User can not submit data if entered unacceptable values; for example, HHs with toilet value is more than total HHs in the ULBs

PAS project's journey in Maharashtra since 2009

Maharashtra State Overview



KEY DETAILS	2001	2011
Area (Lakh sq. km)	3.08	3.77
Population (million)	96.86	112.27
% of urban to total state pop	42.43	45.23
Spread	6	6
	Divisions	Divisions
	35	35
	Districts	Districts
	248 ULBs	252 ULBs

Maharashtra Overview

Maharashtra

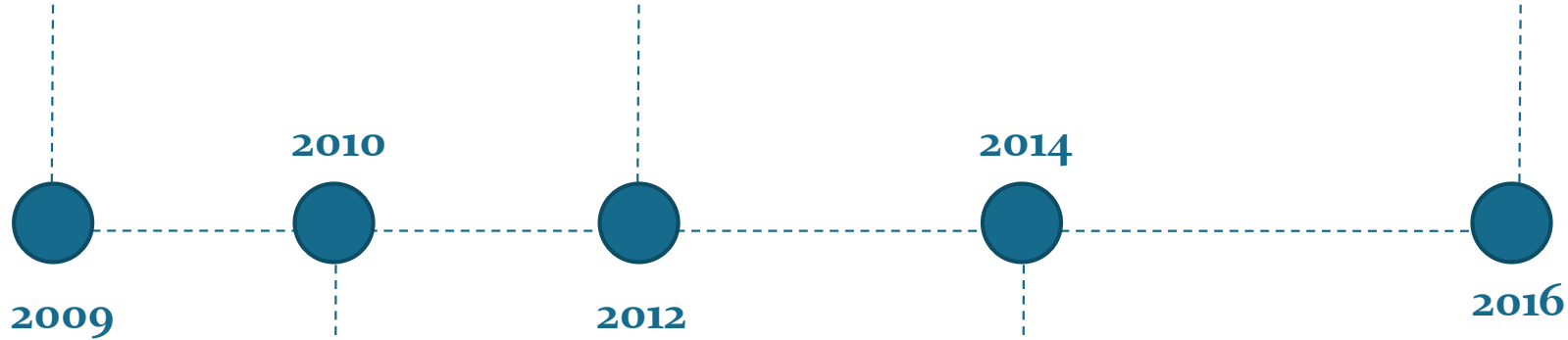
248 ULBs

Maharashtra

252 ULBs

Maharashtra

361 ULBs
(259 Existing & 102 New ULBs)



Maharashtra

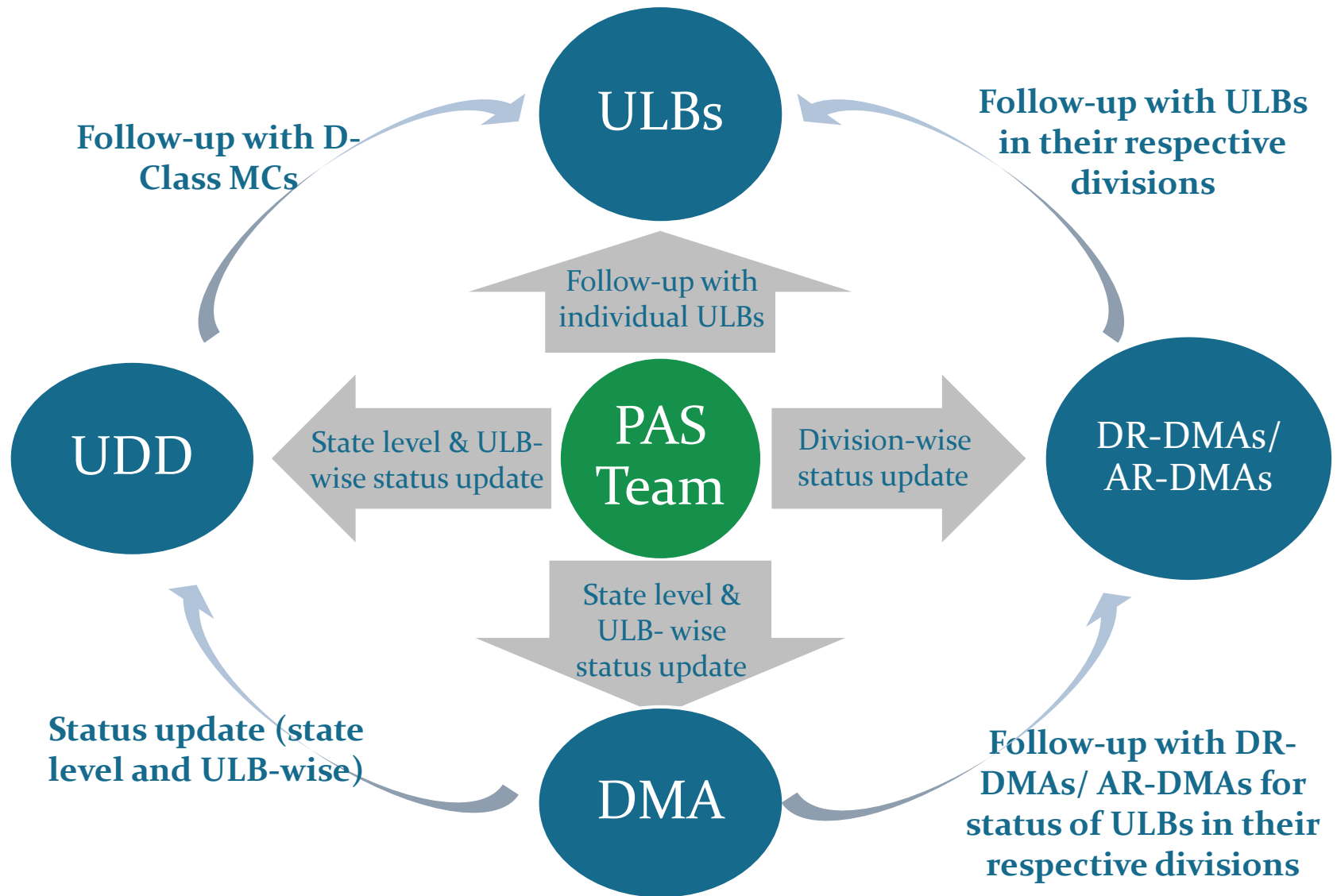
249 ULBs

Maharashtra

259 ULBs

Classification of ULBs	No. of ULBs (2015)	No. of ULBs (2016)	Range of Population
State	259	361	
M. Corporations	26	26	> 3,00,000
A Class M. Councils	12	12	>1,00,000; < 3,00,000
B Class M. Councils	59	60	>40,000; < 1,00,000
C Class M. Councils	147	157	< 40,000
Nagar Panchayats	15	106	As Notified

Coordination with stake-holders



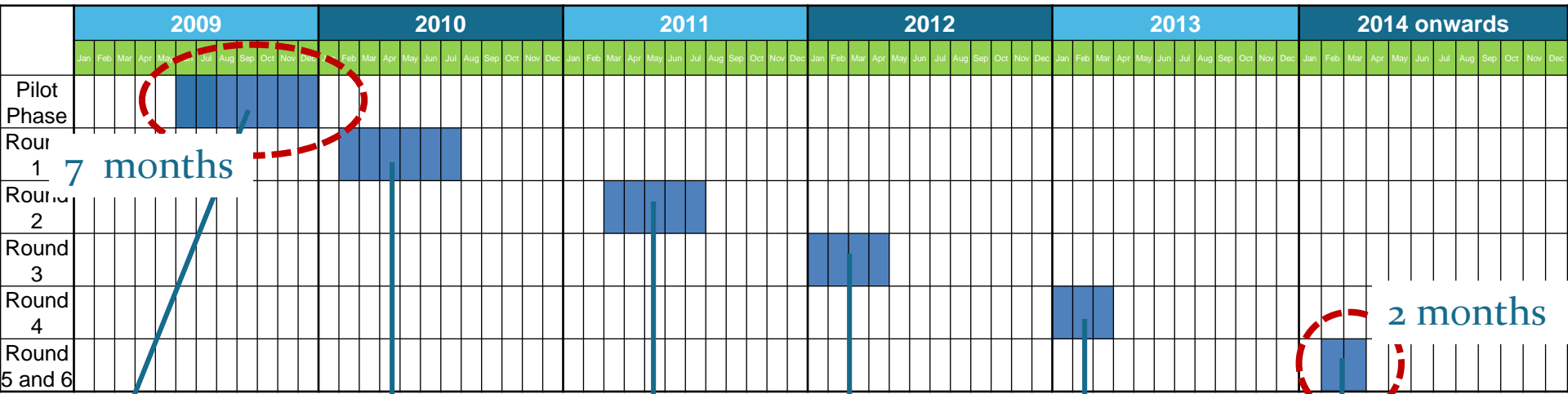
Maharashtra SLB Year-wise journey

PAS	Performance Measurement	Performance Monitoring	Performance Improvement
Year I	<ul style="list-style-type: none"> Roll out of PAS Capacity building of ULBs 1 Year Data on UWSS 		
Year II	<ul style="list-style-type: none"> DMA's support in data collection Improved support and understanding of ULBs 	<p>Mainstreaming of PAS at state level (UDD, WSSD, DMA)- Support from GoM</p>	<ul style="list-style-type: none"> PIPs in consultation with GoM Stepped into 'Performance Improvement' with involvement of stakeholders
Year III	<ul style="list-style-type: none"> Online Data Collection 4 years online data repository of 252 ULBs Improved Interest of ULBs 	<ul style="list-style-type: none"> SLB GR CMU/SLB CELL Institutionalization of PAS at State Level Dissemination of Results and GPs 	<ul style="list-style-type: none"> PIPs CSPs with GoM Making available options for ODF cities, 24 x 7 ws and waste water disposal in non sewerred cities

Maharashtra SLB Year-wise journey

PAS	Performance Measurement	Performance Monitoring	Performance Improvement
Year IV	<div>On Ground Data Validation</div> <div>Handholding of some ULBs for online data entry</div> <div>Application of PAS tools and models</div> <div>Independency of some ULBs</div>	<div>SLB Cells at ULB level</div> <div>Mayors to look at the PAS results</div> <div>ULB level SLB training support</div> <div>Institutionalization of PAS at ULB level</div>	<div>Towards making cities ODF</div> <div>Information System Improvement</div> <div>Implementation support to cities</div>
Year V	<div>ULBs fill data online from their offices</div> <div>ULBs to use of PAS tools and models</div> <div>Independency of All ULBs</div>	<div>Strengthening of SLB Cell</div> <div>Formation of SLB Cells at ULB Level</div> <div>City Benchmarking</div> <div>SLB Cell to conduct further rounds of data collection</div>	<div>City Level Sanitation Improvement Support</div> <div>Cities to implement actions as suggested</div>
Year VI	<div>ULBs fill data online from their offices</div>	<div>Progressive SLB with DMA</div> <div>Support to GoM in implementing SMA</div> <div>Initiatives and interests by DMA and UDD</div>	<div>Support to cities in making them ODF</div> <div>Cities preparing plans based on PAS framework</div>

PAS Performance Measurement over last 6 years



Data collection by visiting ULBs

Data collection through Centralized and Decentralized Workshops

Centralized data collection at DMA office Mumbai

Centralized data collection in online checklist

Few ULBs to fill data online on their own

All ULBs to fill data online on their own from their offices



Support to the Government of Maharashtra for SLB Gazette

Data validation process

Data entered by ULBs are checked at various levels:

1. **Through Desk review**

- ❑ Validation checks in online PAS-SLB module. eg. Water consumed can not be more than water produced/ supplied
- ❑ Validation model is prepared to check and review extreme values
- ❑ Trend analysis model is developed to review changes in indicators over a time frame
- ❑ Review dependent indicators and information

2. **Field validation** for selected cities to cross check with physical data records and through site visits

Performance Monitoring

Direct monitoring through GoM (DMA/ UDD)

Associations, Consultations, Forums

Integration of PAS- MAINet (ULBs online info systems)



Meetings and Workshops with UDD



	Factors to measure	Before PAS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Performance Measurement	SLB Cell at state level							
	SLB Cells at ULB level							
	Use of SLB data and indicators in their day to day working/ planning at ULB level							
	Monitoring system for SLB at state level							
	Calls from UDD/ DMA							

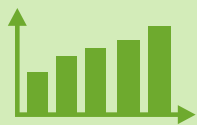
Changes Observed

	Factors to measure	Before PAS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Performance Measurement	Methods to calculate service levels/ Checklist		Light Blue	Light Blue	Medium Blue	Medium Blue	Dark Blue	Dark Blue
	In depth analysis of UWSS situation as per SLs			Light Blue	Light Blue	Medium Blue	Dark Blue	Dark Blue
	Organised data on UWSS at state level	Light Blue	Light Blue	Light Blue	Medium Blue	Dark Blue	Dark Blue	Dark Blue
	Data availability as per required formats and improved quality of data			Light Blue	Light Blue	Medium Blue	Medium Blue	Medium Blue
	Methods to set targets					Light Blue	Light Blue	Medium Blue
	Models to evaluate exact situation and possibilities to improve them				Light Blue	Medium Blue	Dark Blue	Dark Blue
	Involvement of city leaders					Light Blue	Light Blue	Medium Blue
	Calls from ULBs for queries		Light Blue	Light Blue	Medium Blue	Dark Blue	Dark Blue	Dark Blue
	Calls to ULBs for follow up		Dark Blue	Dark Blue	Light Blue	Light Blue	Dark Blue	Dark Blue
	Days to cover all ULBs		Dark Blue	Dark Blue	Light Blue	Light Blue	Light Blue	Light Blue
	Communication through emails			Light Blue	Light Blue	Medium Blue	Dark Blue	Dark Blue
Recognition to PAS		Light Blue	Light Blue	Light Blue	Medium Blue	Dark Blue	Dark Blue	

PAS Support State Level & City Level

Sanitation Activities under PAS Project

Worked at city levels – From planning to implementation support



PIP
Performance improvement plans



CSP
City Sanitation Plans

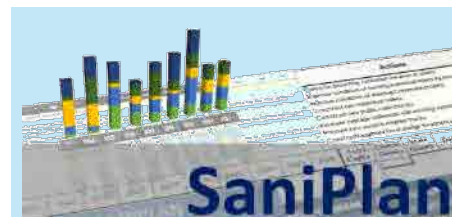


ODF
Open Defecation Free Plans



FSM
Fecal Sludge Management Plans

Sanitation Planning tools



Integrated Fecal Sludge Management
Tools for Citywide Assessment and Planning



PSP in IFSM

Supporting Statewide Program - Maharashtra



Monitoring SBM



ODF framework



State level guidelines for ODF, IFSM



Capacity building programmes



Documentation support

Onsite sanitation



FSM guidelines



SanBenchmarks



Capacity building of cities and local contractors

Sanitation Finance



Sanitation Credit



City Sanitation Fund



Demand assessment



Crowdfunding

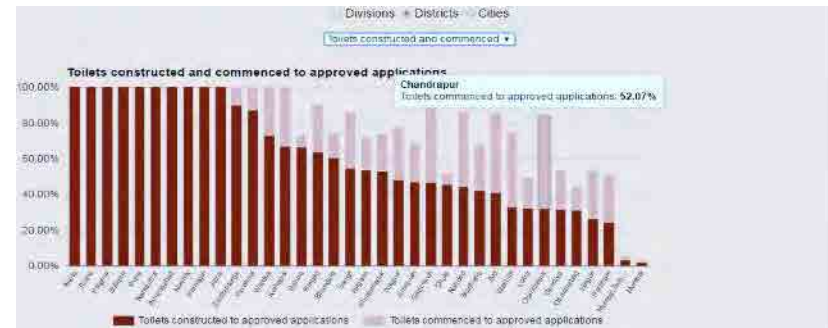
Support to GoM for Swachh Maharashtra Mission for Urban Areas

Key areas for CEPT support

CEPT University signed MoU with Government of Maharashtra for providing support through the PAS project for implementing Swachh Maharashtra Mission for Urban areas.



Development of various policy guidelines



Review and monitoring of progress of SMMUA



Building capacity of local governments and technical support to cities for becoming ODF+

Technical Support to Wai and Sinnar

Sinnar

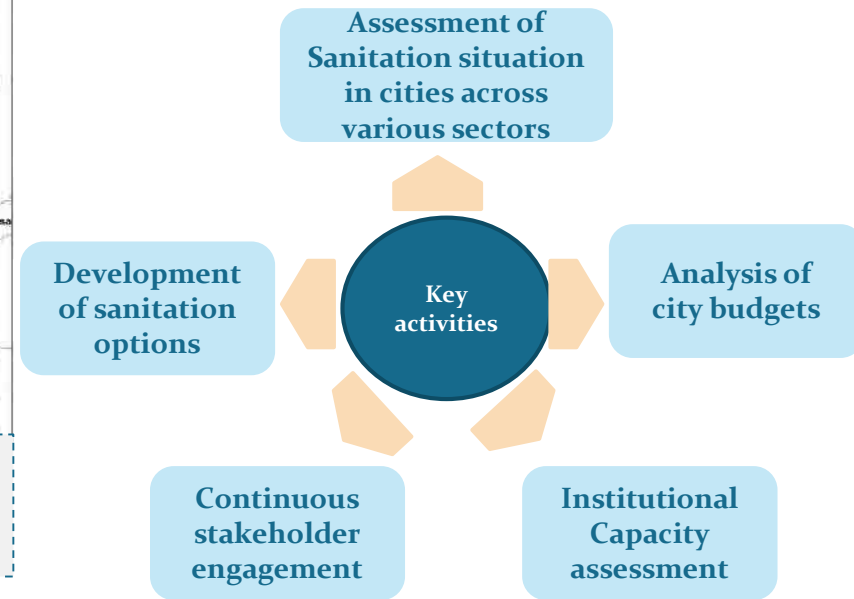
Located in the Nashik district, with a population of ~65,000 that has more than doubled in size since 2001 mainly due to expansion of city boundaries and an industrial and manufacturing boom in nearby Nashik.



Wai

Located in the Satara district, 90 km away from Pune, with a population of ~36,000

Preparation of CSP



Open Defecation Free cities support

Formation of Scheme Implementation Cell at ULB

PAS is providing support at all stages of the scheme.

Stage 1: Dissemination of scheme

Stage 1: The ground implementation

Movies and Jingles on scheme

Do's and don'ts for construction of toilet

School Activities

Target households / areas



Particular	Welfare groups (WFGs)	Administrative institutions (AIIIs)	ULB/MLCs/MLAs	Commercial banks	Financial Inclusion companies (FICs)
Reach towards target population	Green	Green	Red	Red	Yellow
Local presence	Green	Yellow	Green	Green	Yellow
Prior history or future interest in toilet loans	Yellow	Green	Yellow	Yellow	Yellow
Capacity to make toilet loans	Yellow	Yellow	Green	Green	Green
Favorability of loan terms	Green	Red	Yellow	Green	Green

Support in implementation of own toilet scheme

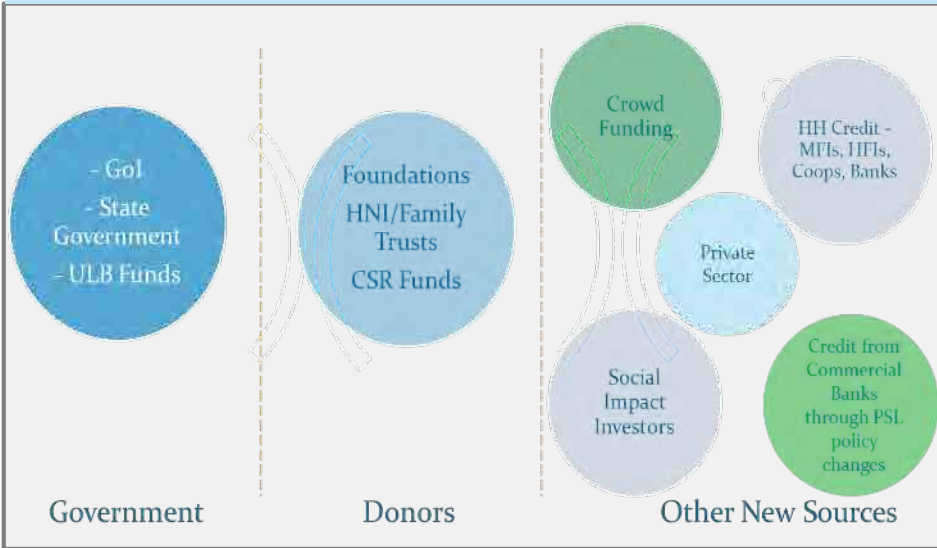
Awareness and IEC activities for dissemination of scheme

Conducted HHs survey to identify HHs without toilets

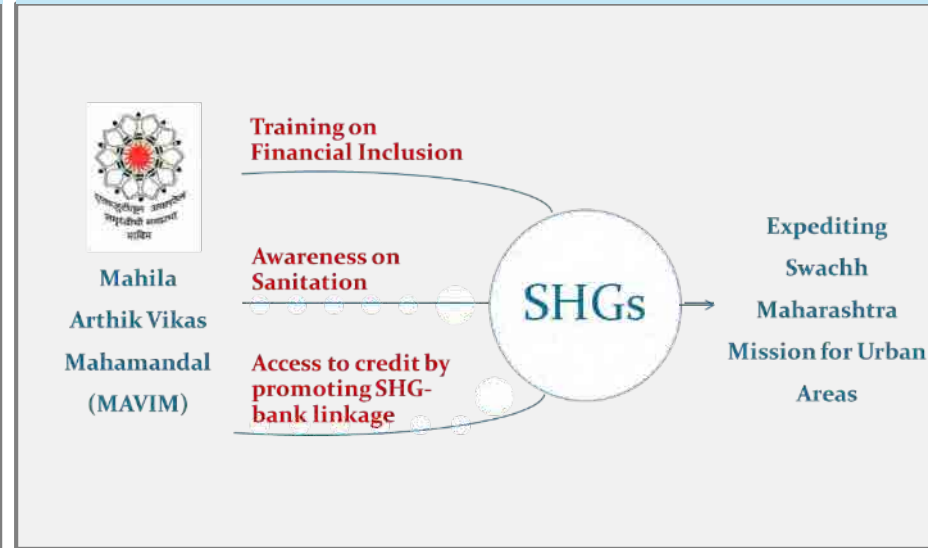
Exploring financing options for providing loans to HHs for toilets

Sanitation Financing

Explored Potential Sources of Funds



Convergence of Livelihood Mission & SBM

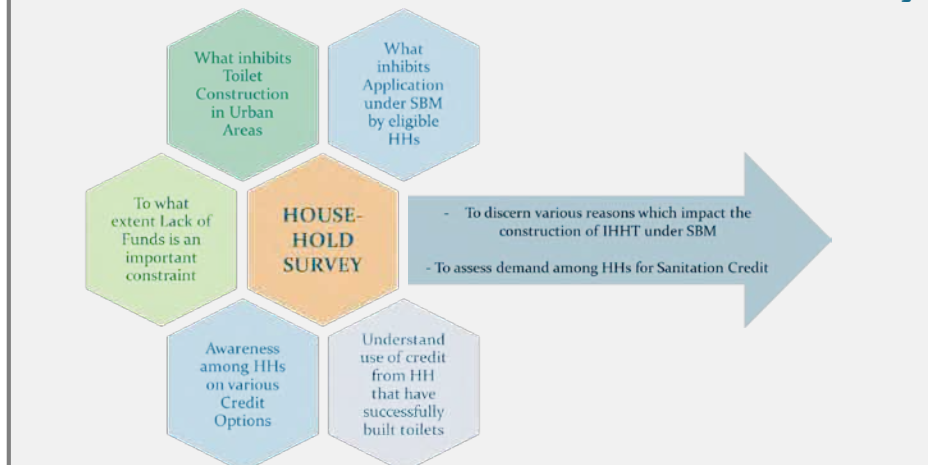


Landscape Study on Sanitation Financing

Financial Institution study



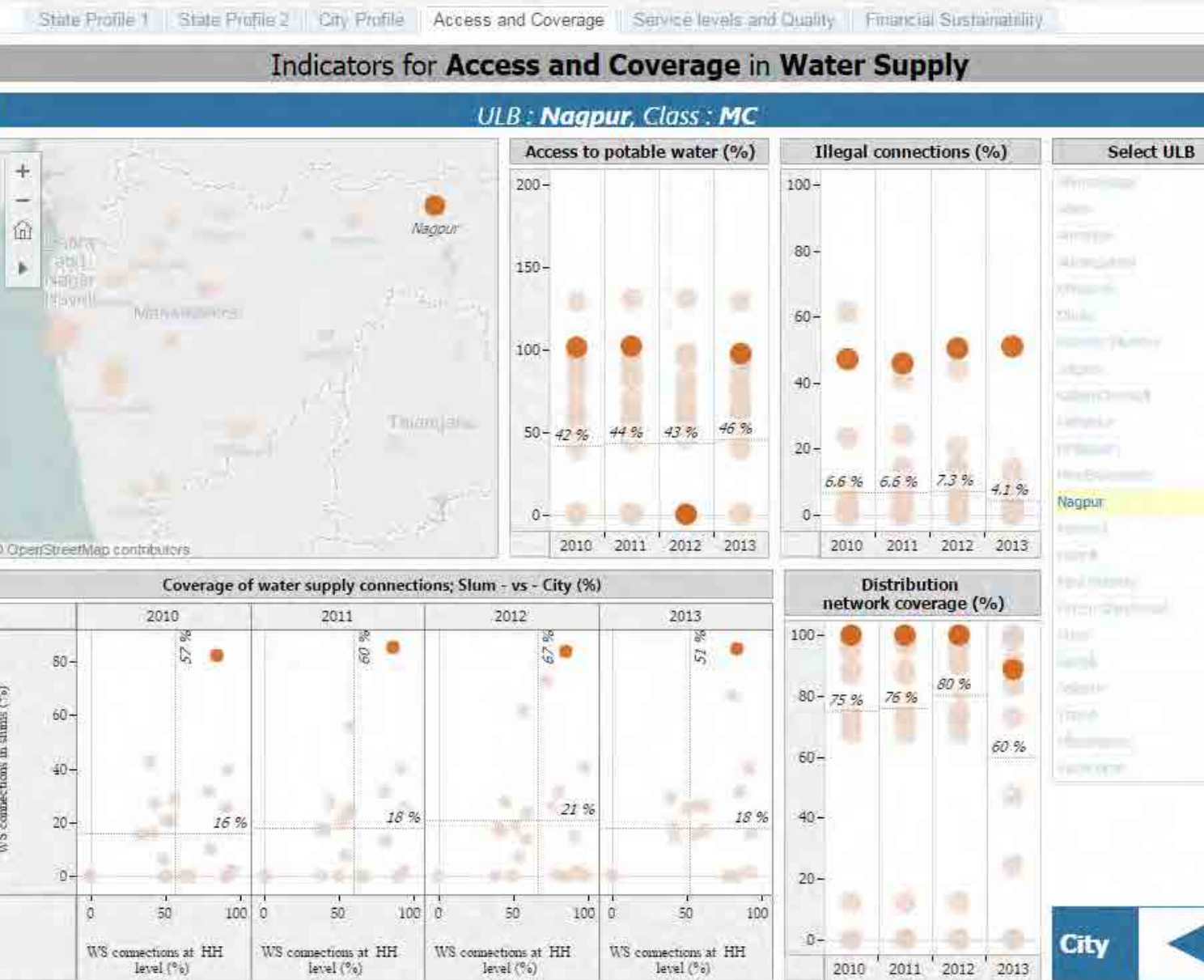
Demand Assessment Survey



Various tools and dashboards for

Performance Measurement, Assessment and Improvement

State and city level interactive dashboard



Interactive data visualization that provides valuable insight

Allows drilling down from indicators, charts and maps to read data better

Allows combination of multiple data sources to keep track of performance

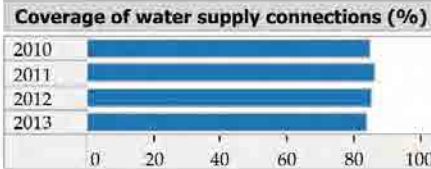
Indicates points of action or decision required

Inter active Dashboard of Maharashtra

Water supply Indicators for Nagpur (Class: MC)

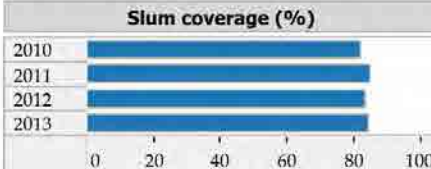
Access and Coverage

Highlights the % of households having individual access to services of water supply



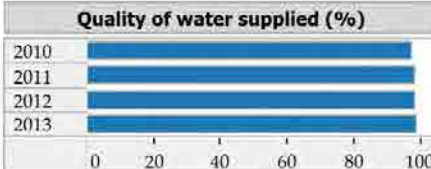
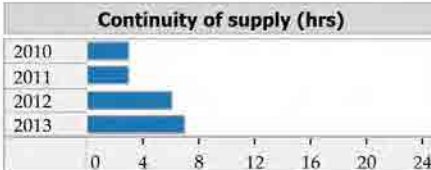
Equity in Service Delivery

Highlights the variations in city level coverage as well as between poor and non-poor HHs in the city



Service Levels and Quality

Highlights the quantity of water supplied to city, continuity and quality of supply

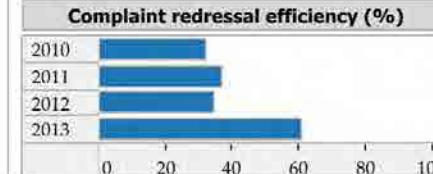
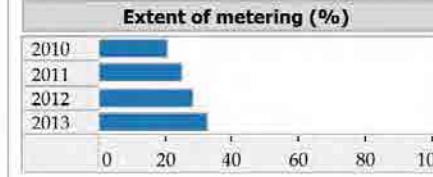
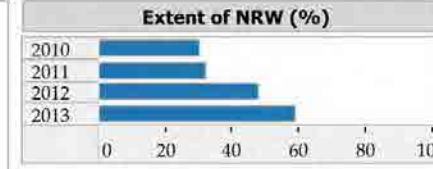


Water Supply Details

	2010	2011	2012	2013
Total water produced (MLD)	522.4	537.0	580.7	646.0
Surface sources (MLD)	522.4	537.0	580.5	640.0
Ground water (MLD)	0.0	0.0	0.0	6.0
Other sources (MLD)	0.0	0.0	0.2	0.0
Installed storage capacity (MLD)	514.0	514.0	645.0	645.0
Total water supply connections (1000's)	421.1	437.8	438.9	454.7
Water connections in slums (1000's)	140.8	145.9	145.9	147.9
Days of supply per month	30.0	30.0	30.0	30.0

Efficiency in Service Operations

Highlights extent of non-revenue water, functional metering of water connections, and collection efficiency of charges

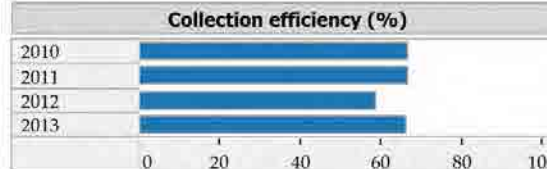
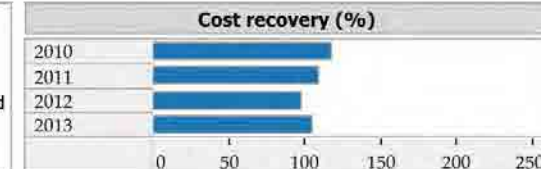


Select ULB

- Ahmednagar
- Akola
- Amravati
- Aurangabad
- Bhiwandi
- Chandrapur
- Dhule
- Greater Mumbai
- Jalgaon
- KalyanDombivli
- Kolhapur
- Latur
- Malegaon
- MiraBhayandar
- Nagpur
- Nanded
- Nashik
- Navi Mumbai
- Parbhani
- Pimpri Chinchwad
- Pune
- Sangli
- Solapur
- Thane
- Ulhasnagar
- Vasai Virar

Financial Sustainability

Highlights the revenues accrued to expenses incurred in service operations



State



Sanitation planning tools: SaniPlan

Conventional approach

- **'PROJECT'** based approach

- **SUPPLY DRIVEN**

- Starting point is an assessment of funding resources available

- Focus on developing **INDIVIDUAL PROJECTS** of various sectors

PAS approach

- **'SERVICE'** based approach

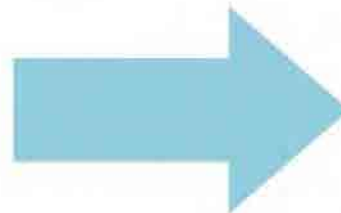
- **NEED DRIVEN**

- Starting point is measurement of current performance and local priorities

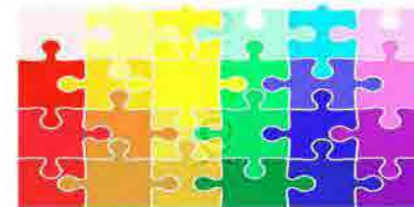
- Focus on developing integrated **SECTORAL SOLUTIONS**



Moving away from
Infrastructure Investment Plans

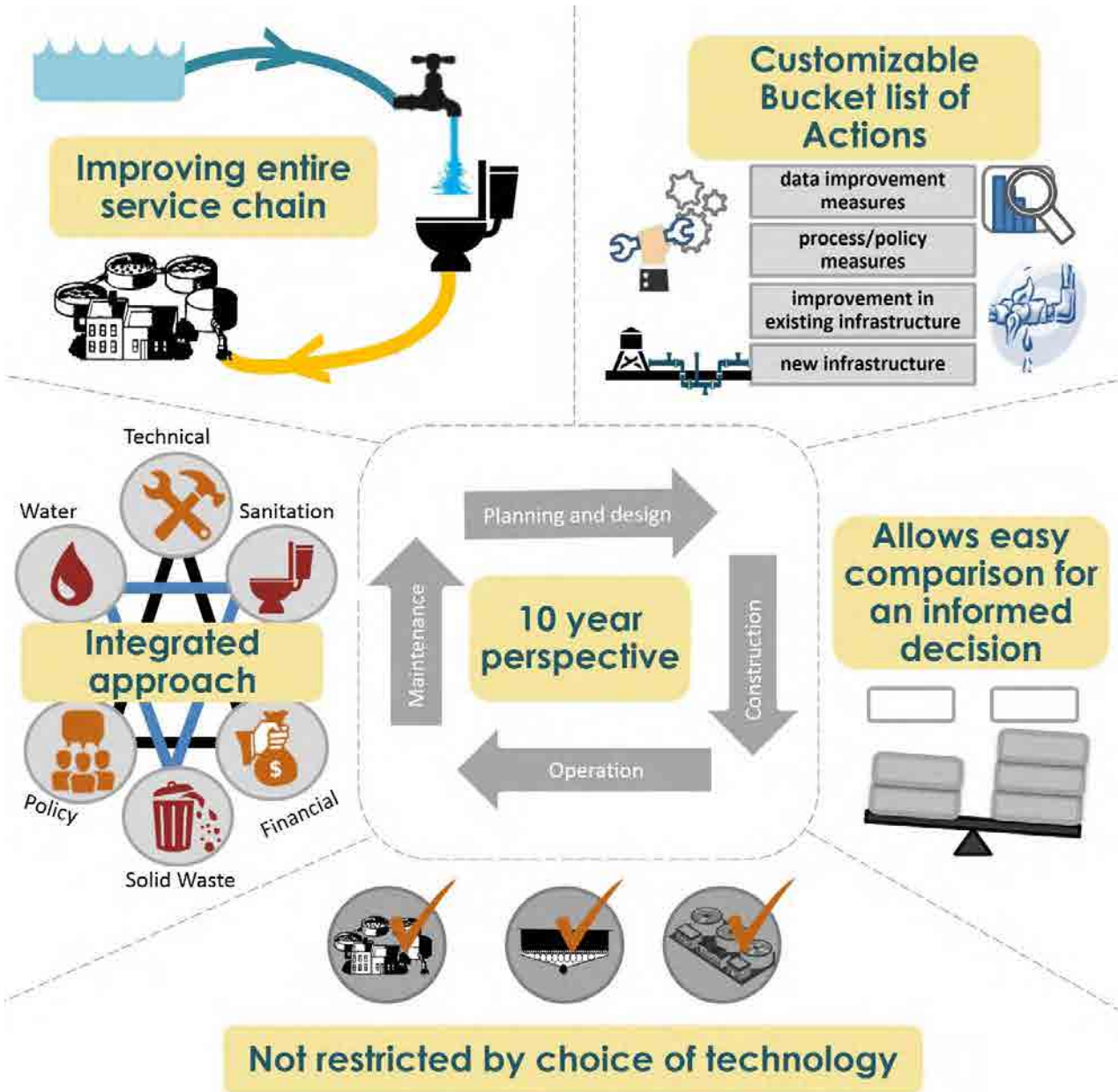


SaniPlan
'SERVICE'
based approach



Towards
Service Improvement Plans

Sanitation planning tools : SaniPlan



Key Features:

SLIP-SaniPlan

Sanitation Assessment tools: SaniTab



- CEPT has developed a generic Mobile Application - “**SaniTab**”
- To create database for Onsite sanitation system
- SaniTab can be used by any ULBs

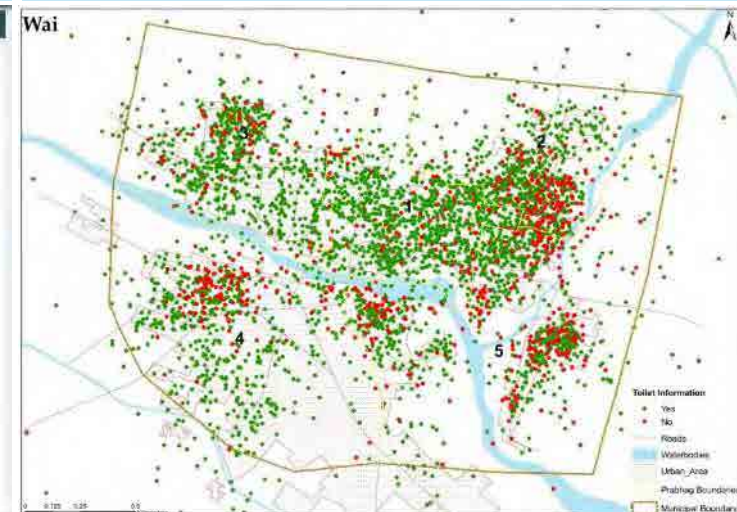
Citywide digital data collection tool



Real time” monitoring of survey activity, minimizing human error



Providing enabling environment for spatial analysis



Sanitation planning tools: IFSM toolkit

Five Modules of Assessment . . .

1 SaniPlan:
Information
collection



2 Physical, spatial
analysis of city

3 Field assessment of
toilets and onsite systems

4 Field assessment of
emptying services
and treatment

12 Assessing
willingness to
pay/charge



11 SaniPlan: Financing plan,
tariff review

10 Review of potential
PSP structure

9 Landscape study
of private sector

5 Assessing policies
and regulation for
FSM

6 Assessing capacity
at local level



7 Assessing options
for conveyance of
septage

8 Assessing options for
treatment and reuse



- Toolkit was developed for citywide assessment of various key areas that need to be studied for developing IFSM plan.

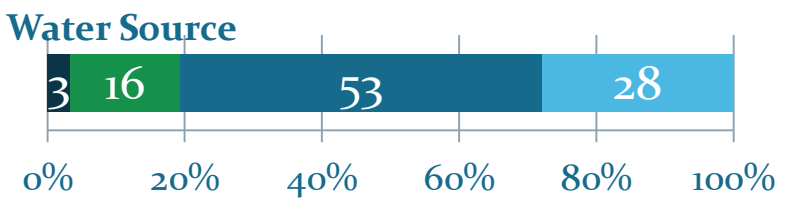
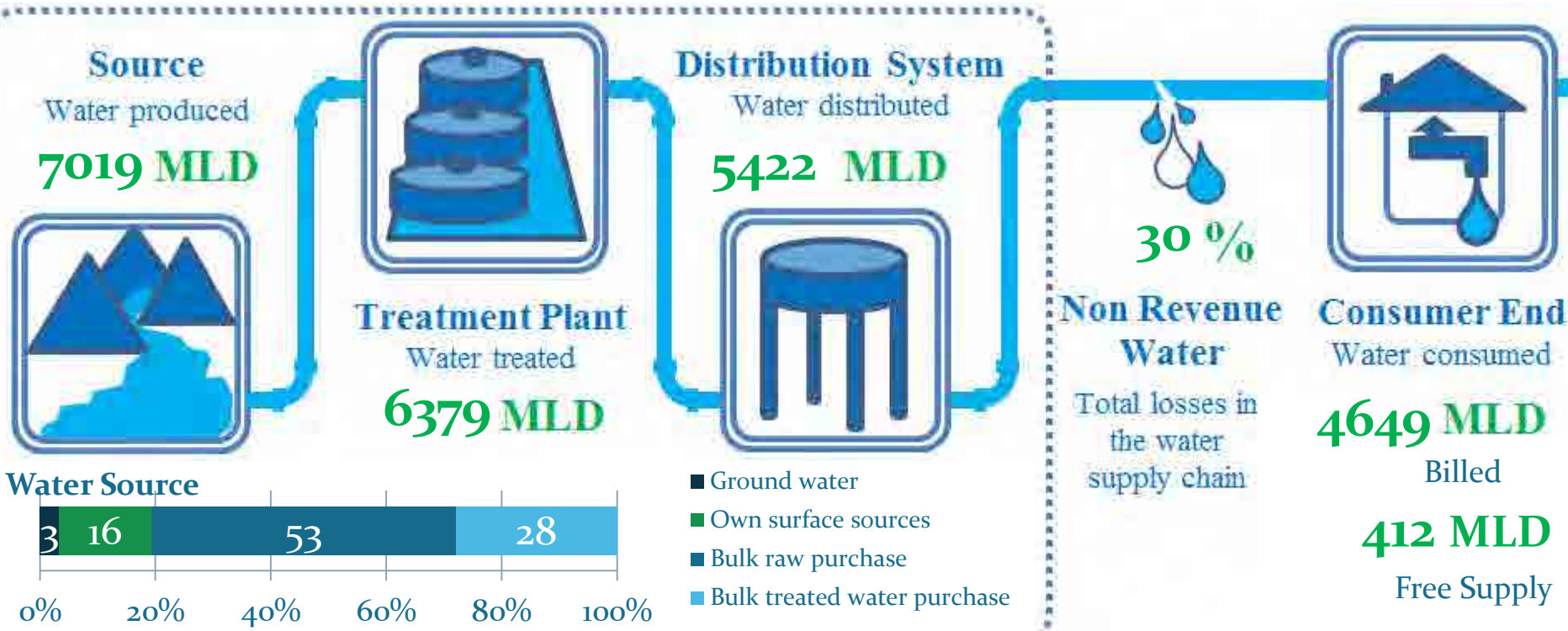
- CEPT also collaborated with Asian Institute of Technology (AIT), Bangkok for development of their FSM toolbox

- Some of CEPT sanitation tools namely SaniPlan, IFSM toolkit, SaniTab and Private Sector Participation (PSP) tools are included in this FSM toolbox.

Key observations

UWSS Maharashtra Data Assessment

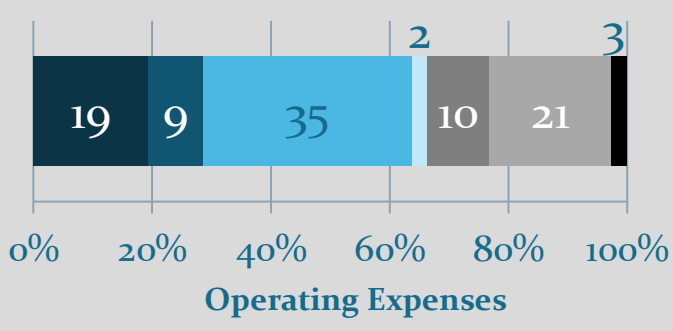
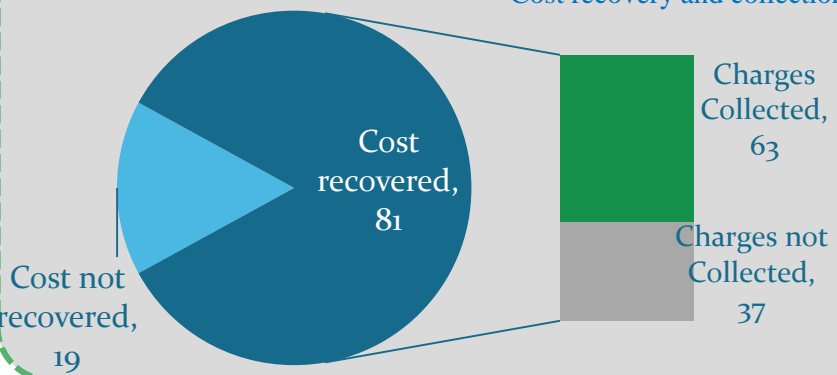
Water Supply in Maharashtra (2015-16)



- Ground water
- Own surface sources
- Bulk raw purchase
- Bulk treated water purchase

Financial Sustainability

Cost recovery and collection of charges



- Regular Staff and administration
- Outsourced/Contract Staff Costs
- Electricity Charges/Fuel Costs
- Chemical Costs
- Repairs/Maintenance Costs
- Bulk (Raw/Treated) Water Charges

*excluding Greater Mumbai

Water Supply in Maharashtra (2015-16)

At Consumer End



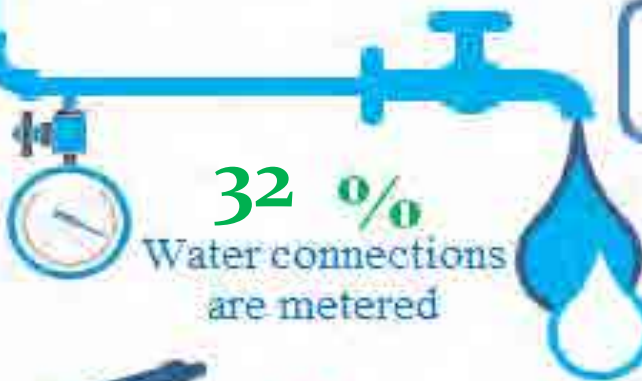
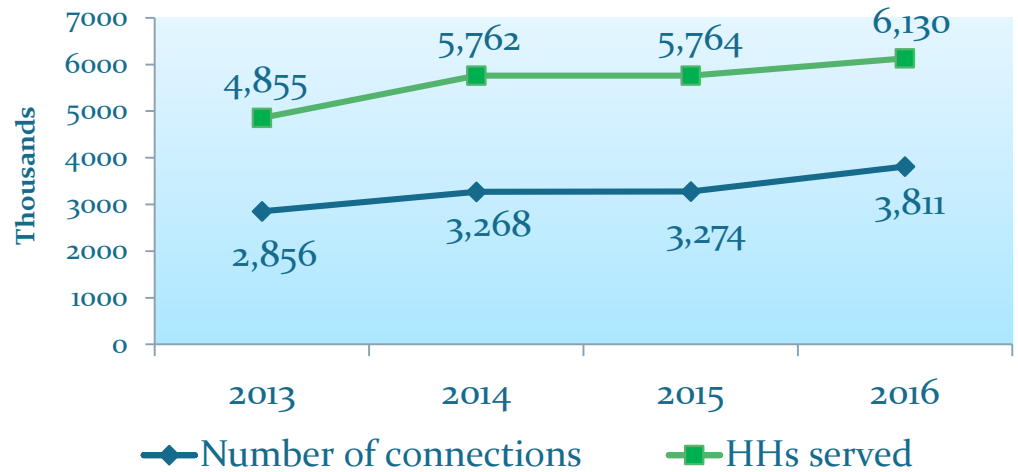
Consumer End

Daryapur & Mandangad reported 100% water supply coverage



Water is supplied

Malakapur-NP – 24 x 7 water supply



32% Water connections are metered

Service Level at consumer end

111 LPCD Per capita availability of water at consumer end

- 24 ULBs - >135 lpcd
- Maximum - 286 lpcd - Lonavala
- Minimum - 8 lpcd - Jat

Waste Water Management (2015-16)

WW	Generated	Collected & Treated	Reused
MLD	4442	2967	589

Households with Access to toilets

89 %



Individual toilets

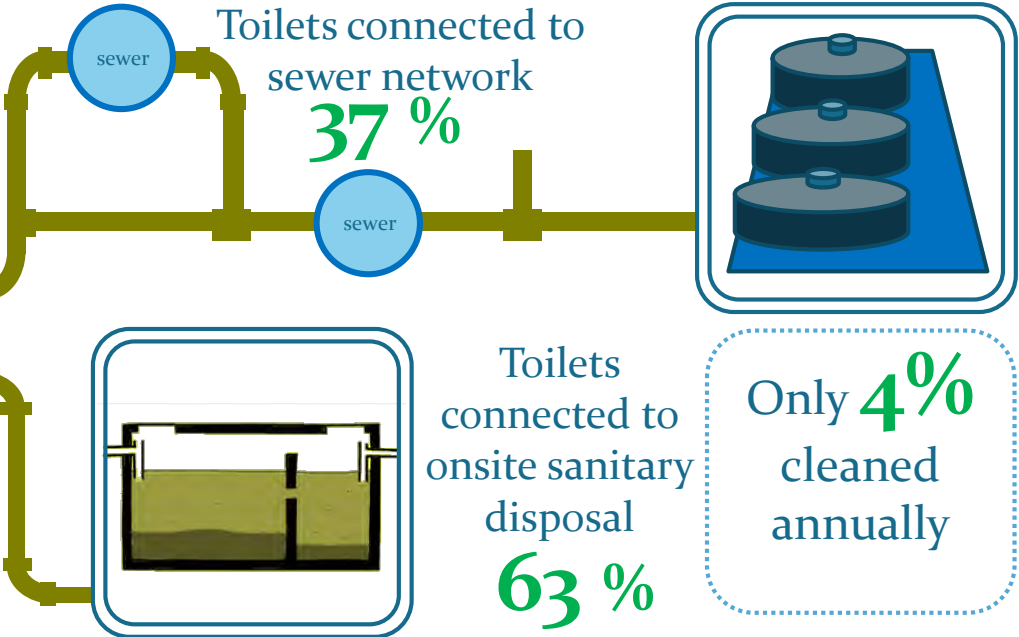
89 %

Dependent on Community toilets

11 %

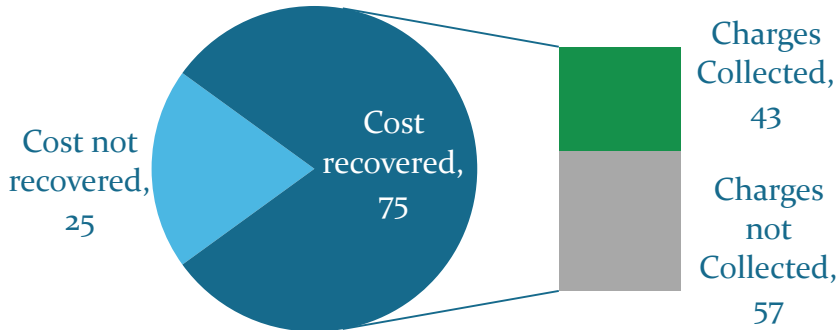
Ave. **8**

HHs/CT seat



Financial Sustainability

Cost recovery and collection of charges



14 ULBs reported reuse and recycling of WW

22 ULBs have WW secondary STP

27 ULBs reported WW collection efficiency

35 ULBs have sewerage network

*excluding Greater Mumbai

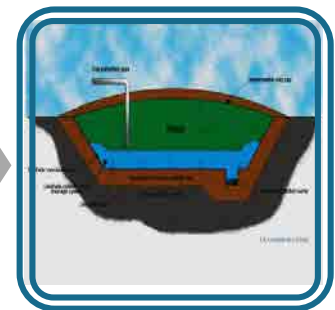
Solid Waste Management (2015-16)

MSW
Generated
4.94
Lakh MT

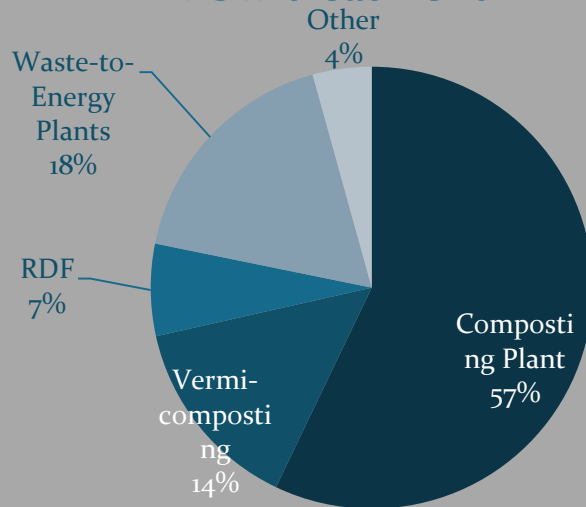
MSW
Collected
4.55
Lakh MT

MSW
Treated
1.21
Lakh MT

MSW in Scientific
Disposal
0.46
Lakh MT



Percentage-wise type of
MSW treatment

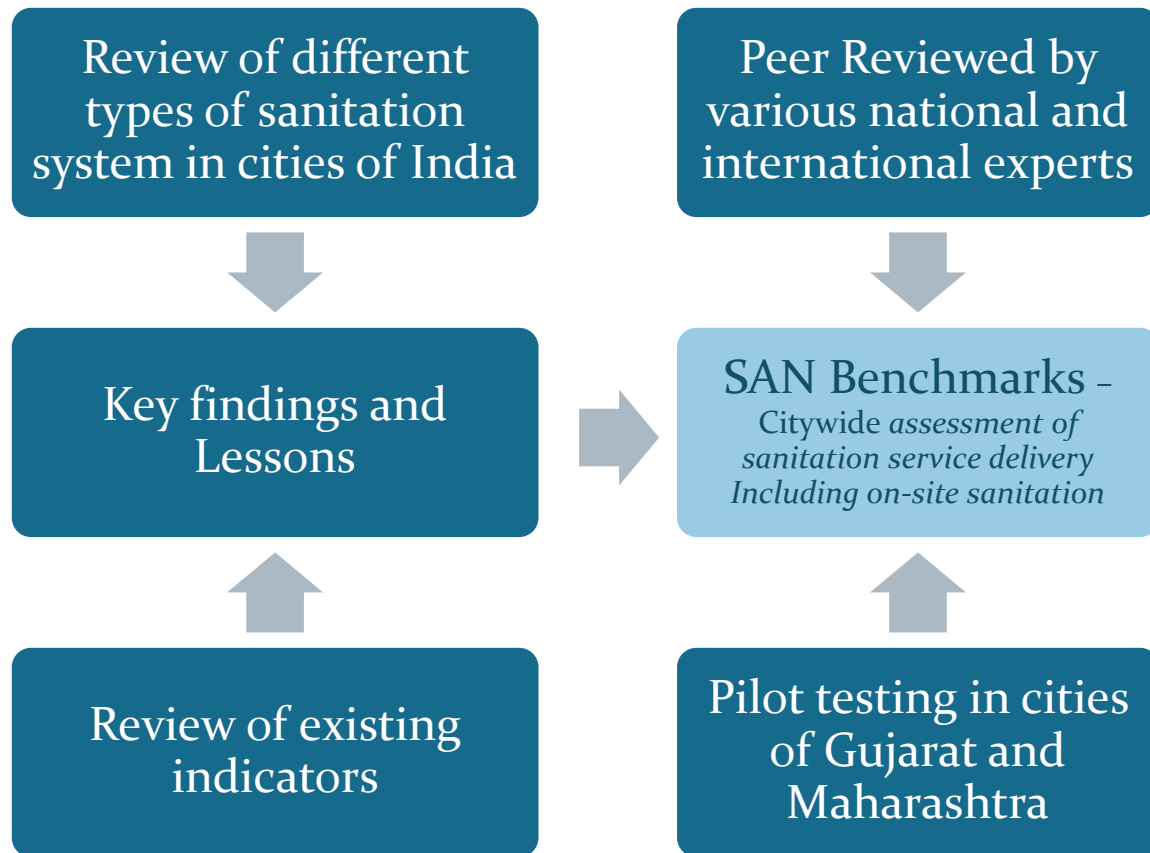


- 130 ULBs have reported to have segregated waste
- There are 116 plants across 83 cities in Maharashtra
- Only 6 ULBs (Nagpur, Navi Mumbai, Nashik, Pune, Pimpri Chinchwad and Panvel) in the state have reported to have scientific disposal landfill sites in their cities

Process of developing SAN Benchmarks: Citywide

assessment of sanitation service delivery Including on-site sanitation

Process of SAN Benchmarks development



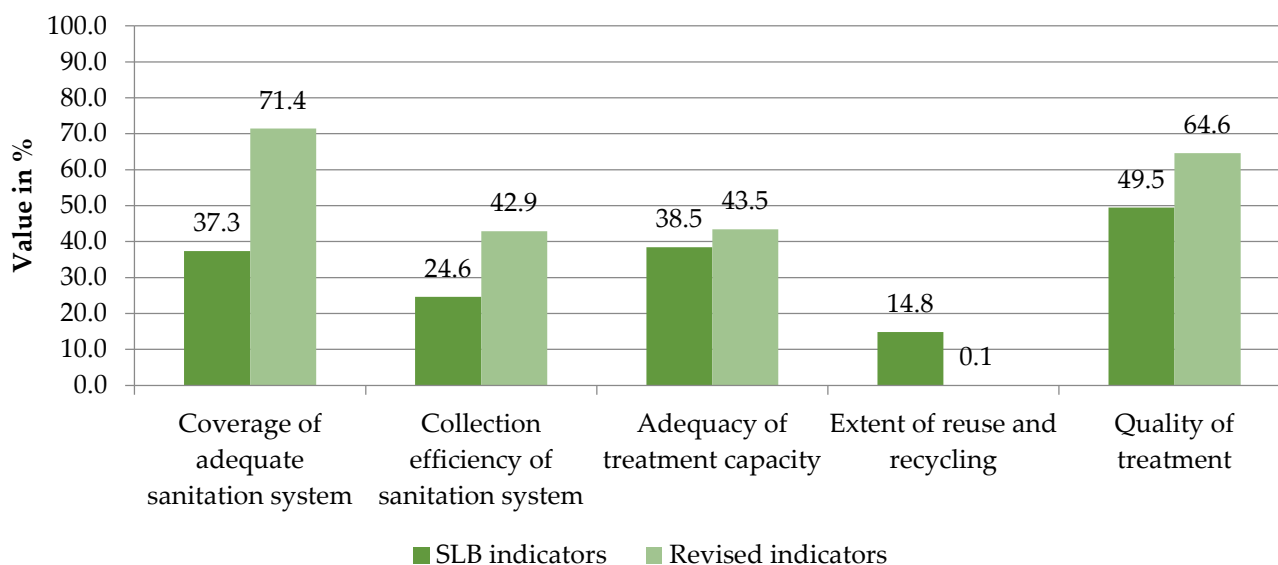
Application of SAN Benchmarks

- ❑ Data required to calculate SAN Benchmarks indicators were added in online performance assessment system. More than **600 cities** have entered information in online module and SAN Benchmarks are calculated.
- ❑ SAN Benchmarks were included in **IFSM toolkit and SANI PLAN tool**.
- ❑ This can also be used for preparation of **Shit Flow Diagram (SFD)**

Dissemination of SAN Benchmarks: NIUA capacity building platform can be used to add SAN Benchmarks in current service level benchmarks indicators of Government of India.

SAN Benchmarks: State Level Sanitation Assessment

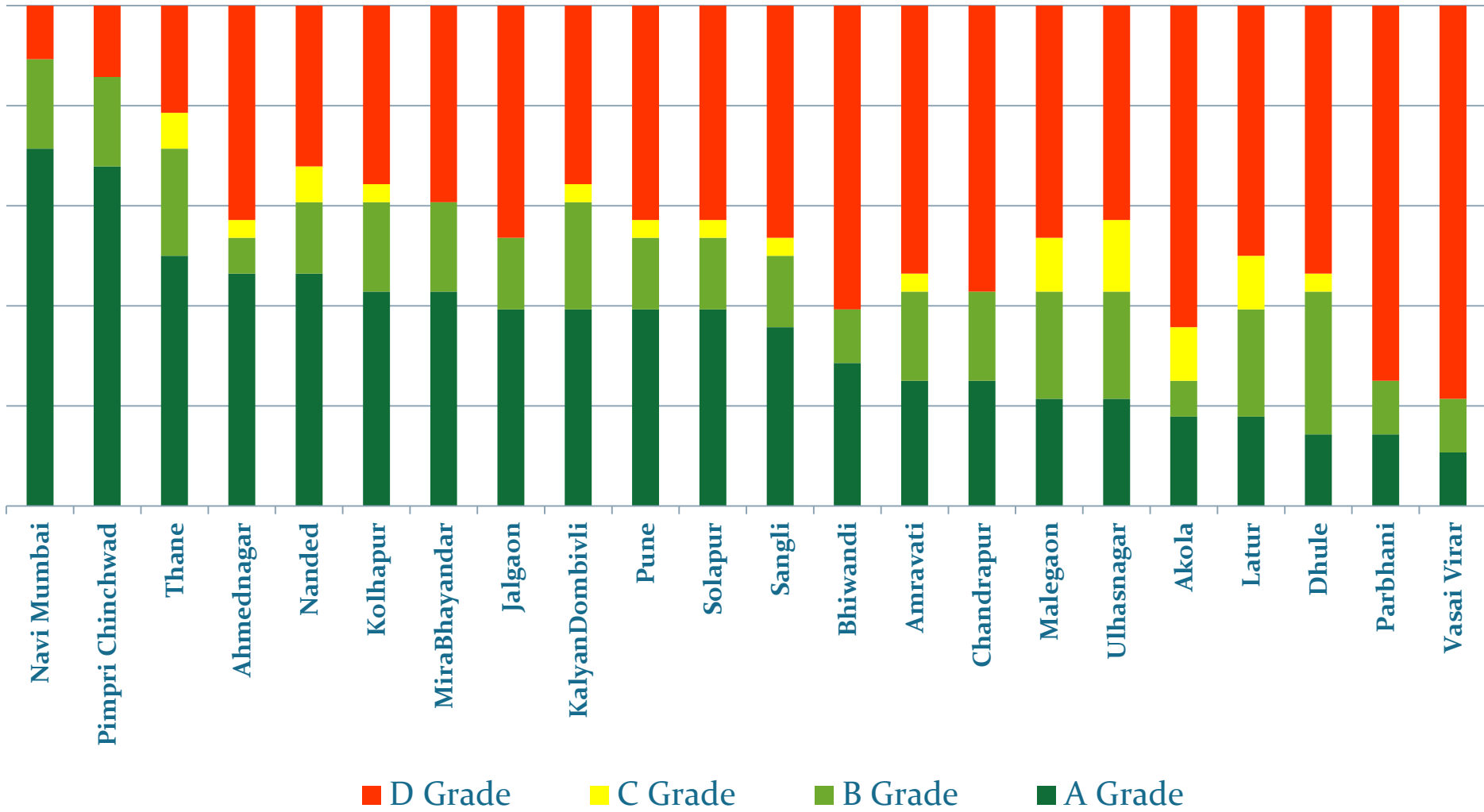
Sanitation assessment using existing and revised indicators - urban Maharashtra (2015-16)



- ❑ Maharashtra has 259 urban local bodies (ULBs) of various sizes ranging from 3000 to 3.5 million population (excluding greater Mumbai)
- ❑ Only 35 ULBs has partial underground sewer network and 23 ULBs has sewerage treatment plant

- ❑ Revised indicators show **better performance for coverage of adequate sanitation system, collection efficiency, adequacy of treatment capacity and quality of treatment**
- ❑ None of the city reuses treated septage

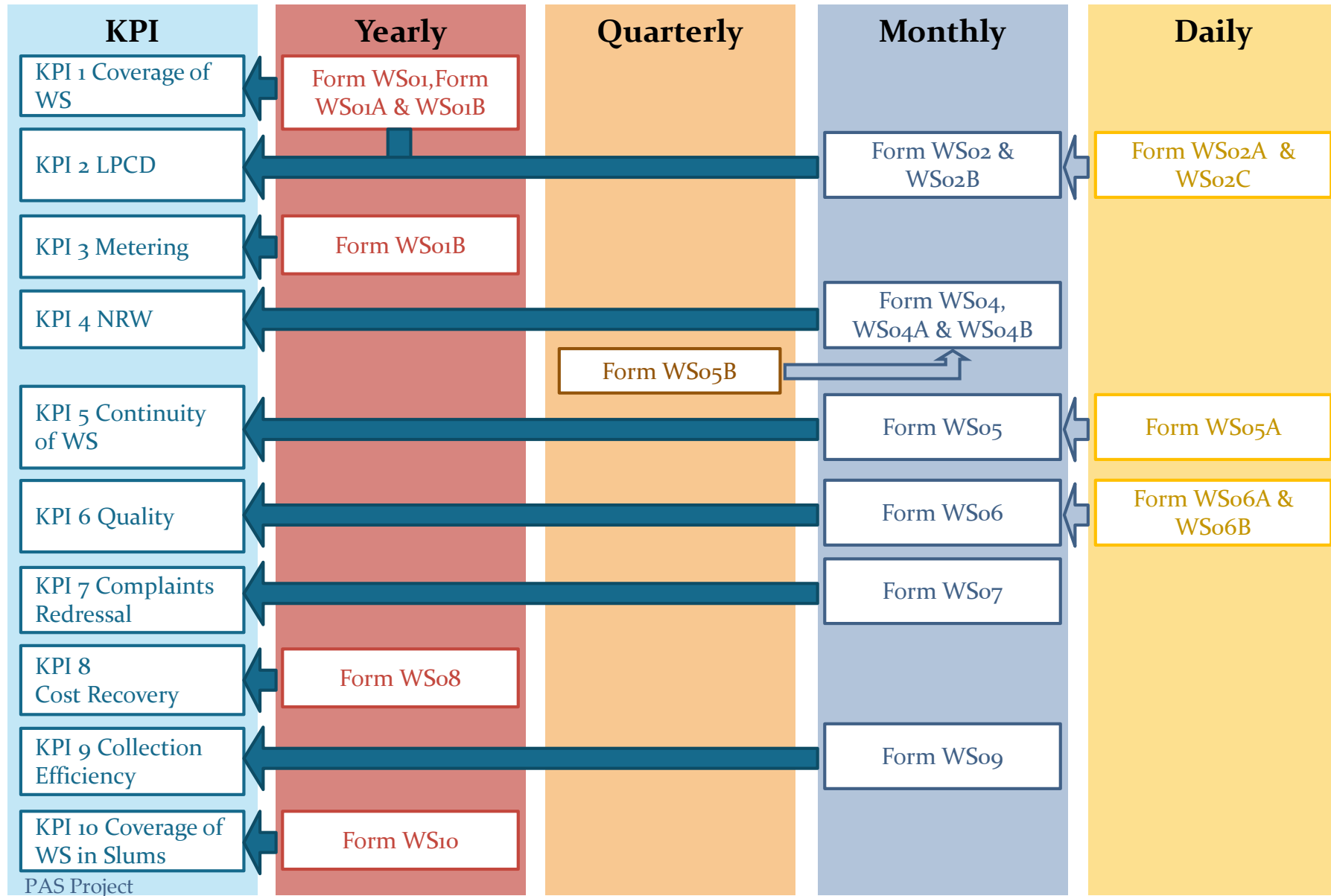
Maharashtra Data Reliability Analysis



ISIP efforts and linking SLB with e-governance

Data Formats – Water Supply

SLB Water Supply Information



Example - Per Capita Water Supply

Monthly format

A

Monthly Format
Form WSo2A, Quantum of treated water supply (with meter)

About: This form is an indicator form to generate per capita water supply indicator. Source of this information will be Form WSo2A and Form WSo2A.

Name of Urban Local Body: **ASL, Minnabhai Colony** Date: **10/04/18**

Location: Municipal Head Office
Calculated by: Municipal Engineer / City Engineer
Frequency of recording: Daily Monthly Quarterly Yearly
Reported to: Chief officer
Frequency of reporting: Daily Monthly Quarterly Yearly

Month	Daily Water supplied during the month		Total Population	Per capita water supplied
Column	A	B	C	D
Unit	MLD	Number	Form WSo2A (B / C)	LPCD
Source	Form WSo2A	Form WSo2B		
1 April	3.90	56570	66.9	
2 May	3.90	56570	66.9	
3 June	3.90	56570	66.9	
4 July	3.90	56570	66.9	
5 August	3.90	56570	66.9	
6 September	3.90	56570	66.9	
7 October	3.90	56570	66.9	
8 November	3.90	56570	66.9	
9 December	3.90	56570	66.9	
10 January	3.90	56570	66.9	
11 February	3.90	56570	66.9	
12 March	3.90	56570	66.9	
Average			66.9	

Daily format

B

Form WSo2A, Quantum of treated water supply (with meter)

About: Quantum of treated water supplied is entered to calculate per capita water supply and one litre per litre water. Source of the information would be readings taken from the meter installed at the outlet of water treatment plant/oxidation plant.

Name of Urban Local Body: **ASL, Minnabhai Colony** Date: **10/04/18**

Water source: **WT, Tank**

Daily average quantity of water supplied in ML: **3.90** (24) For Month: **April**

Location: Purified treated water Outlet of ground water Outlet of ground water chlorination

Recorded by: **Staff at treatment plant / Oxidation plant**

Frequency of recording: Daily Monthly Quarterly Yearly

Reported to: Municipal engineer
Frequency of reporting: Daily Monthly Quarterly Yearly

Sl. No.	Date	Reading at Meter	Difference	Quantity of water	Remarks
Units		litres	Kilolitres	Ml	
A	B	C	D	E	F
1	01-Apr-18	2084.00	0.00	2084.00	
2	02-Apr-18	2092.00	8.00	8.00	
3	03-Apr-18	2100.00	8.00	8.00	
4	04-Apr-18	2108.00	8.00	8.00	
5	05-Apr-18	2116.00	8.00	8.00	
6	06-Apr-18	2124.00	8.00	8.00	
7	07-Apr-18	2132.00	8.00	8.00	
8	08-Apr-18	2140.00	8.00	8.00	
9	09-Apr-18	2148.00	8.00	8.00	
10	10-Apr-18	2156.00	8.00	8.00	
11	11-Apr-18	2164.00	8.00	8.00	
12	12-Apr-18	2172.00	8.00	8.00	
13	13-Apr-18	2180.00	8.00	8.00	
14	14-Apr-18	2188.00	8.00	8.00	
15	15-Apr-18	2196.00	8.00	8.00	
16	16-Apr-18	2204.00	8.00	8.00	
17	17-Apr-18	2212.00	8.00	8.00	
18	18-Apr-18	2220.00	8.00	8.00	
19	19-Apr-18	2228.00	8.00	8.00	
20	20-Apr-18	2236.00	8.00	8.00	
21	21-Apr-18	2244.00	8.00	8.00	
22	22-Apr-18	2252.00	8.00	8.00	
23	23-Apr-18	2260.00	8.00	8.00	
24	24-Apr-18	2268.00	8.00	8.00	
25	25-Apr-18	2276.00	8.00	8.00	
26	26-Apr-18	2284.00	8.00	8.00	
27	27-Apr-18	2292.00	8.00	8.00	
28	28-Apr-18	2300.00	8.00	8.00	
29	29-Apr-18	2308.00	8.00	8.00	
30	30-Apr-18	2316.00	8.00	8.00	
Total		Average Daily		3.90	

Monthly format

C

Monthly Format
Form WSo2B, Quantum of treated water supply (without meter)

About: Quantum of treated water supplied is needed to calculate per capita water supply and one litre per litre water. If there are no meters installed at the outlet of water treatment plant/oxidation plant, then the source of the information would be based on the pump operation details at the water treatment plant/oxidation plant. This form is to be filled from Form WSo2C respectively prepared for each pump used.

Name of Urban Local Body: **ASL, Minnabhai Colony** Date: **10/04/18**

Location: Municipal Head Office
Calculated by: Municipal Engineer / City Engineer
Frequency of recording: Daily Monthly Quarterly Yearly
Reported to: Chief officer
Frequency of reporting: Daily Monthly Quarterly Yearly

Month	Daily Water supplied during the month								Total
	A	B	C	D	E	F	G	H	
Unit	MLD	MLD	MLD	MLD	MLD	MLD	MLD	MLD	MLD
Source	Form WSo2C								
1 April	3.90	3.90	3.90						3.96
2 May	3.90	3.90	3.90						3.96
3 June	3.90	3.90	3.90						3.96
4 July	3.90	3.90	3.90						3.96
5 August	3.90	3.90	3.90						3.96
6 September	3.90	3.90	3.90						3.96
7 October	3.90	3.90	3.90						3.96
8 November	3.90	3.90	3.90						3.96
9 December	3.90	3.90	3.90						3.96
10 January	3.90	3.90	3.90						3.96
11 February	3.90	3.90	3.90						3.96
12 March	3.90	3.90	3.90						3.96
Average									3.96

Daily format

D

Form WSo2C, Pumping details

About: Quantum of water water supplied is needed to calculate per capita water supply and one litre per litre water. Source of the information would be based on the pump operation details at the water treatment plant/oxidation plant. This form is to be filled from Form WSo2C respectively prepared for each pump used.

Name of Urban Local Body: **ASL, Minnabhai Colony** Date: **10/04/18**

Water source: **WT, Tank**

Daily average quantity of water supplied in ML: **3.90** For Month: **April**

Location: Purified treated water Outlet of ground water Outlet of ground water chlorination

Recorded by: **Staff at treatment plant / Oxidation plant**

Frequency of recording: Daily Monthly Quarterly Yearly

Reported to: Municipal engineer
Frequency of reporting: Daily Monthly Quarterly Yearly

Sl. No.	Date	Daily Water supplied during the month								Total
		A	B	C	D	E	F	G	H	
Unit		MLD	MLD	MLD	MLD	MLD	MLD	MLD	MLD	MLD
Source		Form WSo2C								
1 April	01-Apr-18	3.90	3.90	3.90						3.96
2 May	02-May-18	3.90	3.90	3.90						3.96
3 June	03-Jun-18	3.90	3.90	3.90						3.96
4 July	04-Jul-18	3.90	3.90	3.90						3.96
5 August	05-Aug-18	3.90	3.90	3.90						3.96
6 September	06-Sep-18	3.90	3.90	3.90						3.96
7 October	07-Oct-18	3.90	3.90	3.90						3.96
8 November	08-Nov-18	3.90	3.90	3.90						3.96
9 December	09-Dec-18	3.90	3.90	3.90						3.96
10 January	10-Jan-19	3.90	3.90	3.90						3.96
11 February	11-Feb-19	3.90	3.90	3.90						3.96
12 March	12-Mar-19	3.90	3.90	3.90						3.96
Average										3.96

Yearly format

E

Yearly Format
Form WSo1A, Population Forecast

About: Source of information will be census of India which is published once in 10 years. Population forecast is to be forecasted using appropriate method of projection. Forecast will be calculated by the municipal engineer. Forecasted population figure for the city would be an important figure and will be used in finding out the coverage of municipal services.

Name of Urban Local Body: **ASL, Minnabhai Colony** Date: **10/04/18**

Location: Municipal Head Office
Calculated by: Municipal Engineer
Frequency of recording: Daily Monthly Quarterly Yearly
Reported to: Chief officer
Frequency of reporting: Daily Monthly Quarterly Yearly

Year	Population	LPCD
2001	50000	66.00
2011	52500	66.00
2021	55000	66.00
2031	57500	66.00
2041	60000	66.00
2051	62500	66.00
2061	65000	66.00
2071	67500	66.00
2081	70000	66.00
2091	72500	66.00
2101	75000	66.00

Form WSo2

Monthly format to calculate LPCD

Form WSo2A

Quantum of treated water supply (with Meter)

Form WSo2B

Quantum of treated water supply (without Meter)

Form WSo2C

Pumping details

Form WSo1A

Population Forecast

$$LPCD = \text{Quantum of treated water supply} / \text{Population}$$

Impact of programs and investments on services

Linking PAS to ongoing programmes

Urban Infrastructure Development Scheme for Small & Medium Towns (UIDSSMT)

- Aims at improvement in urban infrastructure in towns and cities in a planned manner.

Maharashtra Suvarna Jayanti Nagarotthan Maha-Abhiyan (MSNM)

- Aims to provide various urban infrastructure in the urban areas of the State as per the standards prescribed by the Government, develop infrastructure facilities related to education and health as per the class of the city and enhance the social infrastructure along with aesthetic features of the cities.

Maharashtra Sujal Nirmal Abhiyan (MSNA)

- The MSNA is a reforms-led programme. It places thrust on a series of reform measures spread over 3 phases, and has the ultimate objective of achieving 24x7 water supply alongside a sustainable institutional arrangement that will optimize water management.

Jawaharlal Nehru National Urban Renewal Mission (JNNURM)

- JnNURM aims at creating 'economically productive, efficient, equitable and responsive Cities' by a strategy of upgrading the social and economic infrastructure in cities, provision of Basic Services to Urban Poor (BSUP) and wide-ranging urban sector reforms to strengthen municipal governance in accordance with the 74th Constitutional Amendment Act, 1992.



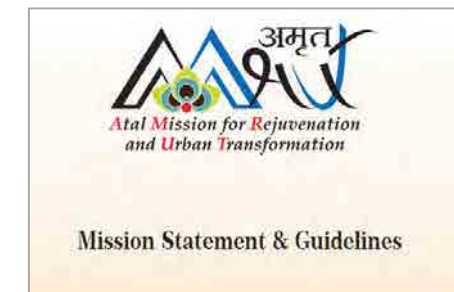
Linking PAS to new programmes

Government of India (GoI) has launched various programs for water supply and sanitation service improvements:

- ❑ Swachh Bharat Mission – Thrust on elimination of open defecation and cleanliness
- ❑ AMRUT – To achieve benchmark of universal coverage of water supply and sanitation
- ❑ Smart cities – Promote cities that provide core infrastructure and give a decent quality of life to its citizens

Monitoring outcome of these programs require assessment of service levels.

Funding is linked to service level improvement
Online performance assessment tool
developed by PAS helps in monitoring
service level improvement



Thank You