Public data systems for measuring WASH service levels in cities in India (SLB-PAS)

March 24, 2023

pas performance assessment system

CWAS CENTER FOR WATER AND SANITATION

CRDF CEPT RESEARCH AND DEVELOPMENT FOUNDATION

CEPT UNIVERSITY

PAS - a self assessment digital system to measure and monitor service outcomes and sustainability

From infrastructure creation to service delivery

Journey from paper-based systems to "organized digital data"

NATIONALLY ALIGNED

With national SLB initiative

ANNUAL CITY LEVEL MONITORING

Online module – self reporting by city governments

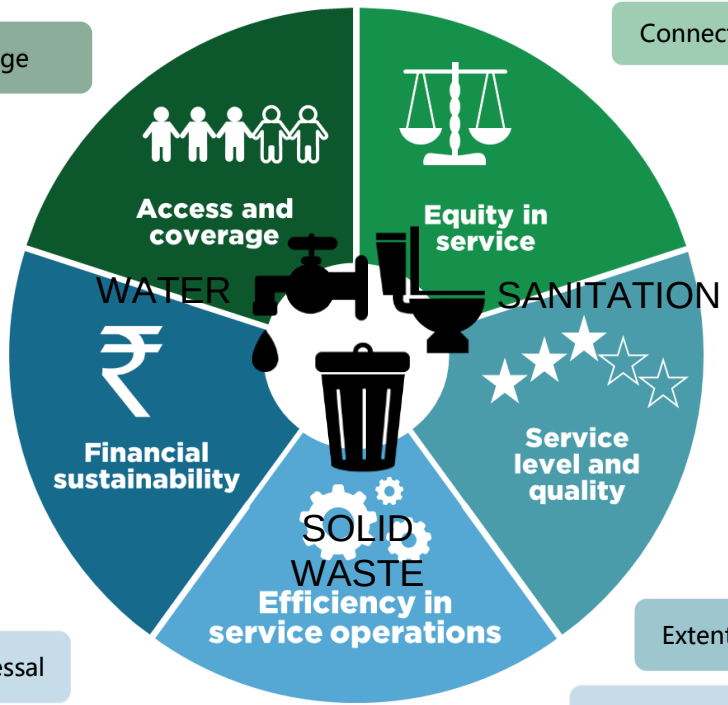
FRAMEWORK SUITED TO LOCAL CONTEXT

Added lens of equity, slums and on-site sanitation

Industry-academic partnership

TCS TATA CONSULTANCY SERVICES

PAS framework – key themes, indicators and data points for WASH



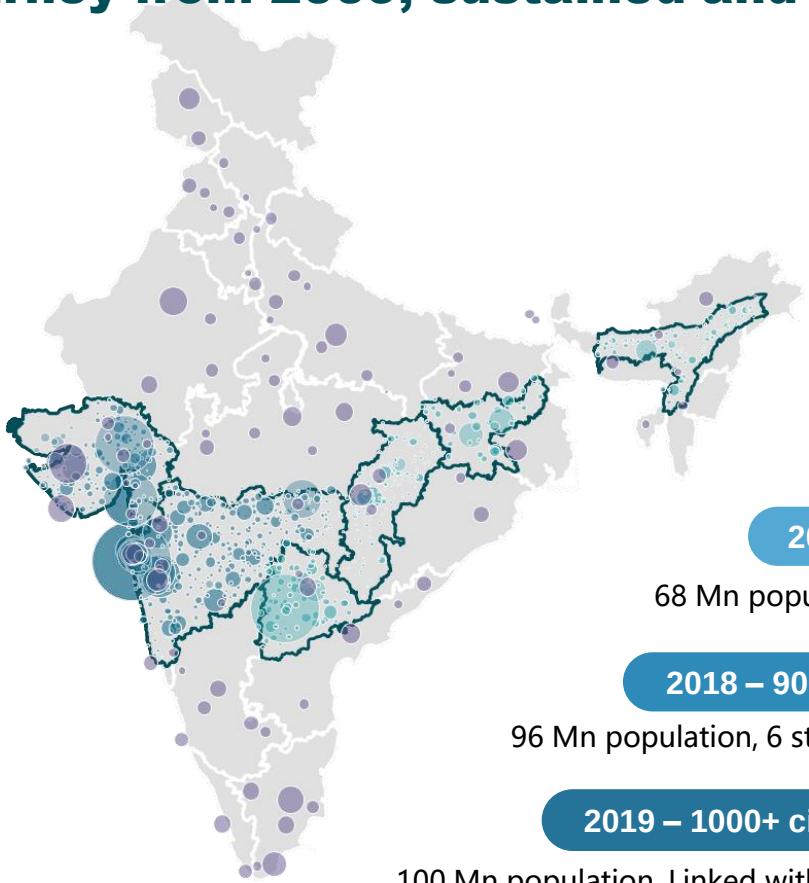
- Access to toilets
- Toilets, network/services in slums
- Network/service coverage
- Connection charges for slum
- % funds for pro-poor
- Door to door collection for solid waste
- Mandate for gender budgeting
- Cost recovery
- Treatment capacity
- User charge collection efficiency
- Collection efficiency of sanitation system
- Property tax
- Per capita supply of water
- Tariff structure
- Extent of segregation of solid waste
- Complaint redressal
- Extent of reuse
- Metering
- Treatment quality

Achieving scale in India – journey from 2009, sustained and growing

No Pilots…operate at Scale

Mainstreamed by working with all three tiers of Governments

One of the largest time series databases for urban water and sanitation



2009 – 416 cities

68 Mn population, 2 states

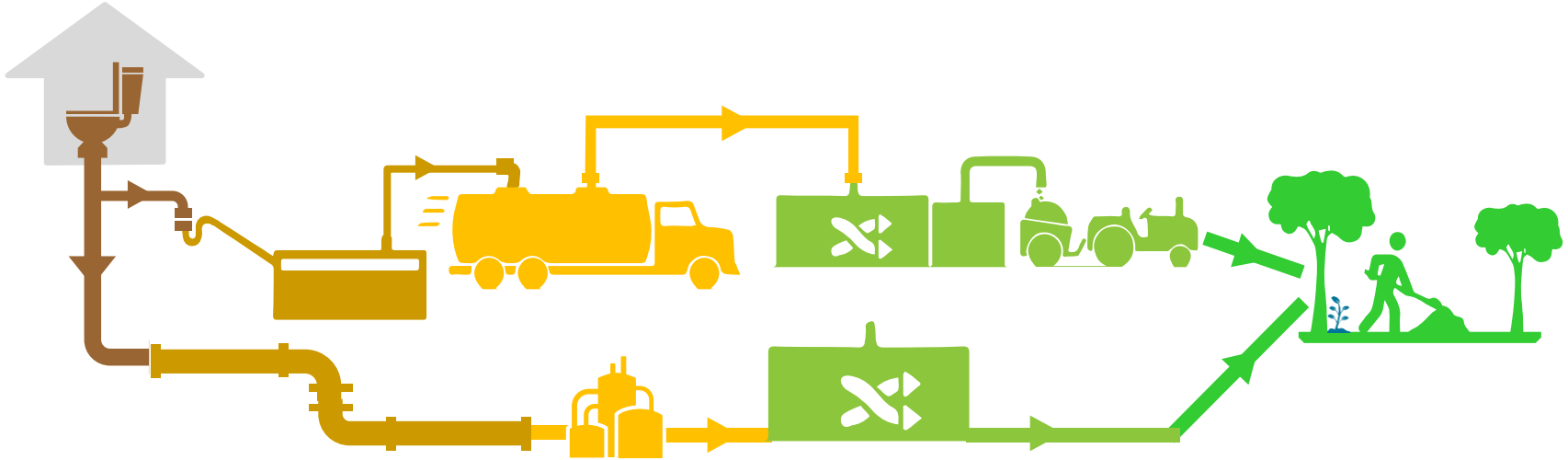
2018 – 900+ cities

96 Mn population, 6 states

2019 – 1000+ cities

100 Mn population, Linked with India's Smart city mission

Capturing FSSM outcomes with SanBenchmarks



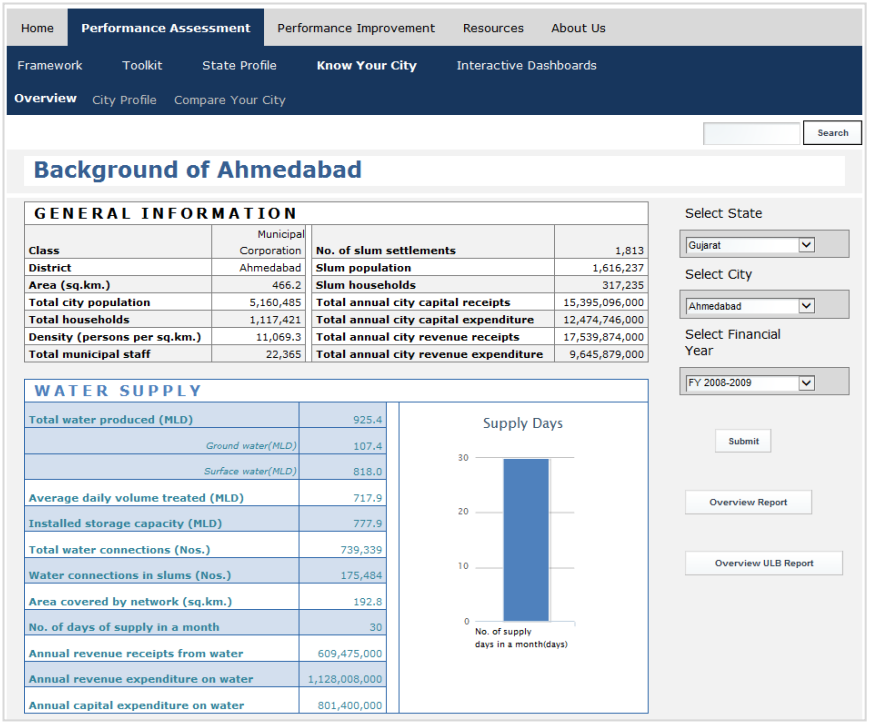
1. Coverage of toilets	2. Coverage of adequate sanitation systems (Septic tanks + sewer connections)	3. Collection efficiency of sanitation system (Desludging+ sewerage + grey water)	4. Adequacy of treatment capacity of sanitation system (FSTP + STP) 5. Quality of treatment of sanitation system (FSTP + STP)	6. Extent of reuse and recycling in sanitation system (FSTP + STP)

Use of PAS information – various dashboards available

- ✓ Thematic performance - state profile
- ✓ Timeseries information
- ✓ Compare with peers
- ✓ City profile - know your ULB
- ✓ Identify areas for improvement- interactive dashboards

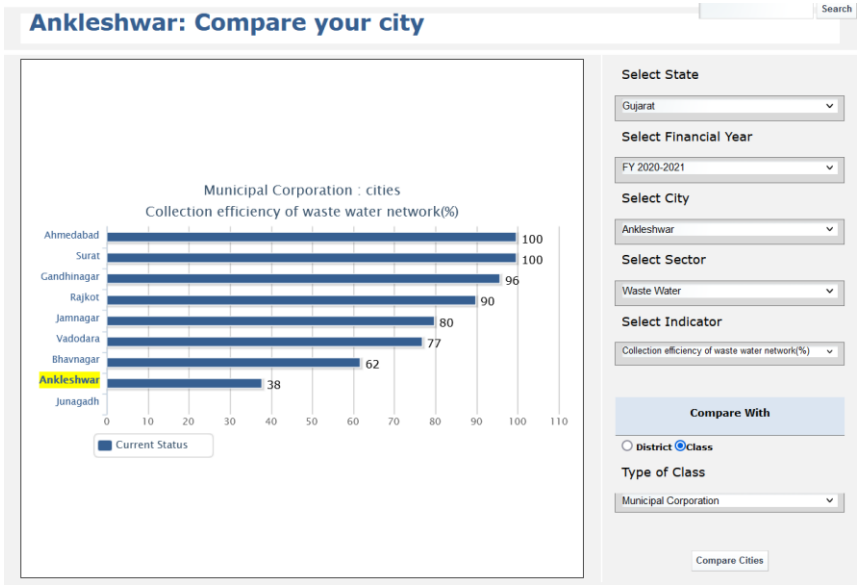
Use of PAS information – various dashboards available

City profile



Know your city and compare your city helps understand basic details and SLB indicators

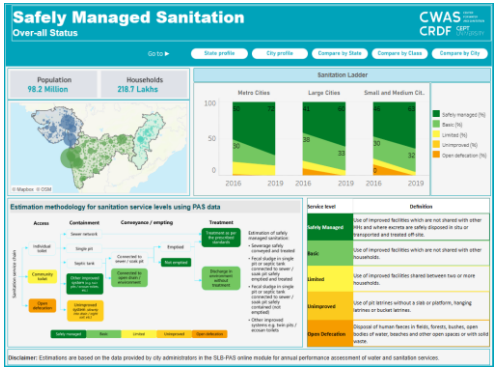
Allows comparison with peers, based on class or state



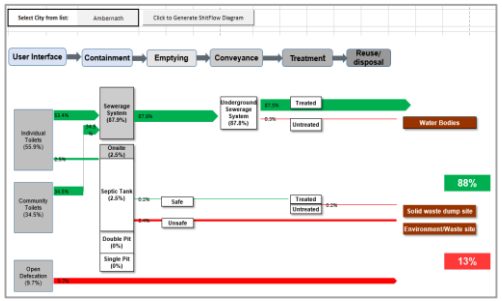
Use of PAS information – a range of applications

SLB-PAS data for support in policy-guidance, programme strategy and accessing inter-governmental grants

Localising SDG - [Using PAS for monitoring SDG 6.2 at local level]



Shit Flow Diagram can be generated from PAS – tool developed



ESG assessments and creditworthiness assessment for Indian cities – combining PAS with other data sources

PAS framework capturing key CWIS elements

Citywide access and coverage

Equity in access to services in slums

San-benchmarks

Mandate for equitable access to services and achieving quality service delivery for all

Financial sustainability
Cost recovery for services

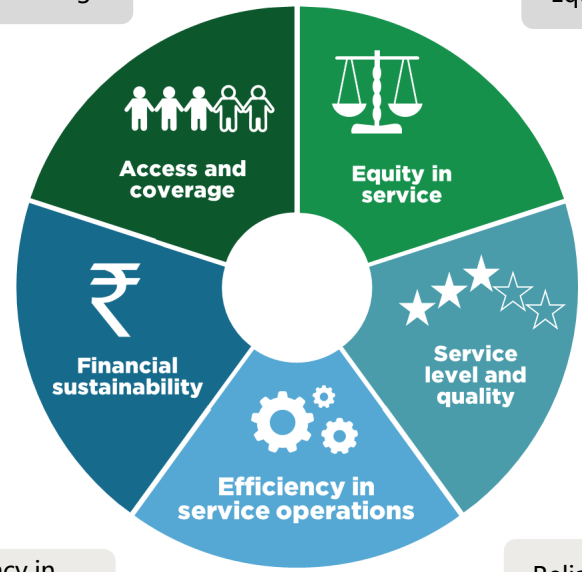
Safely managed sanitation services across service chain

Use of PAS information for city level plans (CSAP, CWBP, SaniPlan)

Sustaining service levels and meeting quality norms

Efficiency in service operations

Reliable and quality service delivery

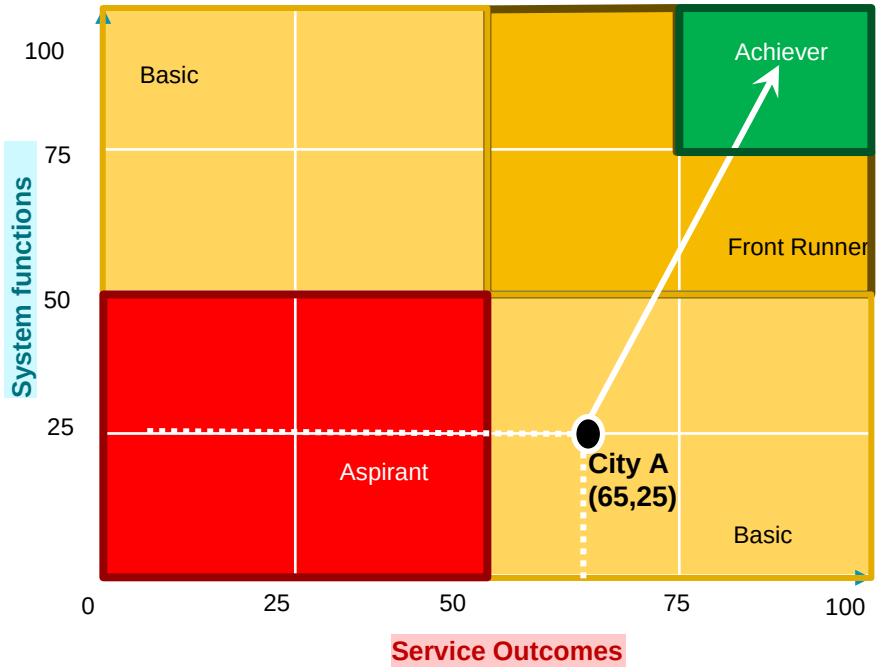


PAS framework capturing key CWIS elements

Monitoring CWIS at scale

Tracking performance on service outcomes v/s system functions using PAS information

PAS- CWIS Performance quadrants



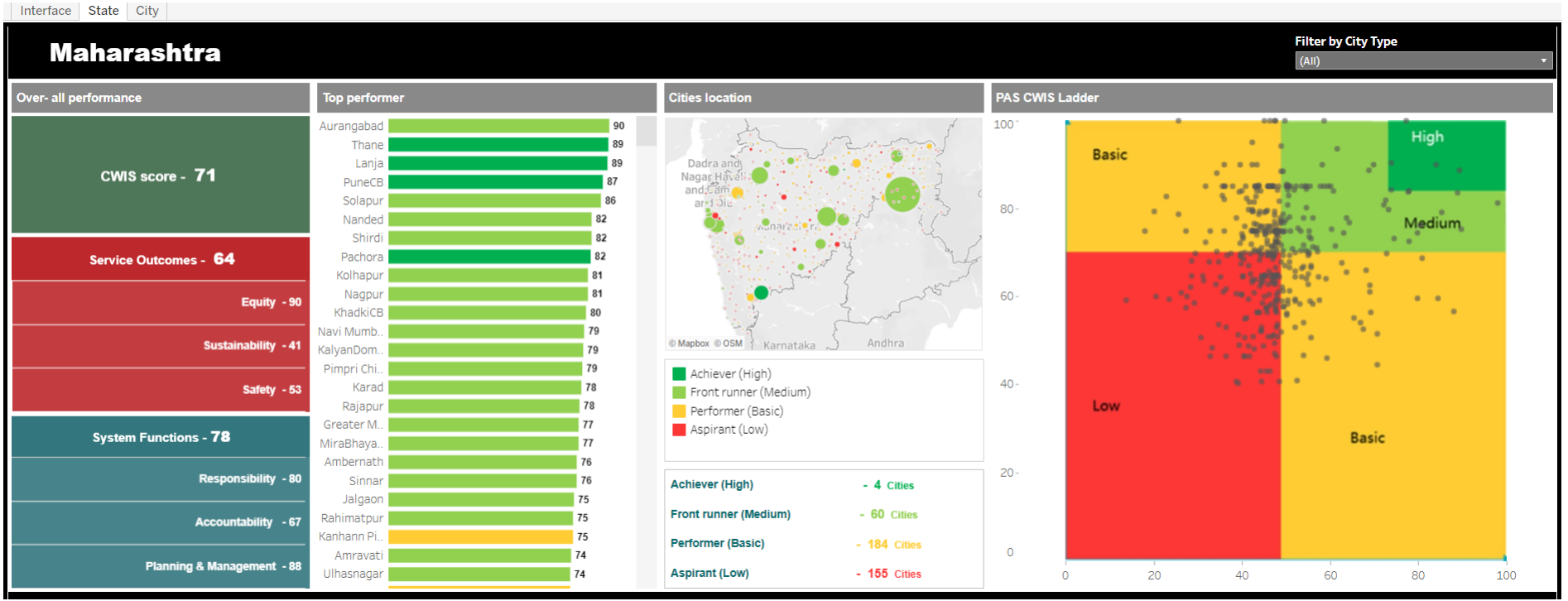
Performance quadrant assessment as an advocacy tool to support decision making for achieving CWIS goals

- Developing city/state level sector reform plans
- Developing sectoral investment plan – resource planning and mobilization
- Thematic service level improvement plan based on the quadrant scores

	Performance	System Function	Service Outcome
Q1	Achiever	>75%	>75%
Q2	Front Runner	< or =75% and >50%	<or =75% and >50%
Q3	Basic	<Or = 50%	<Or = 50%
Q4	Aspirant	<50%	<50%

Monitoring CWIS at scale

Tracking performance on service outcomes v/s system functions using PAS information



Thank you

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About us

The Center for Water and Sanitation (CWAS) is a part of CEPT Research and Development Foundation (CRDF) at CEPT University. CWAS undertakes action-research, implementation support, capacity building and advocacy in the field of urban water and sanitation. Acting as a thought catalyst and facilitator, CWAS works closely with all levels of governments - national, state and local to support them in delivering water and sanitation services in an efficient, effective and equitable manner.

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Performance level indicators

Themes	Water supply services	Wastewater and storm water drainage	Solid waste management
Access and coverage	▪ Coverage of water supply connections (100%)	▪ Coverage of toilets (100%) ▪ Coverage of sewage network services (100%) ▪ Coverage of adequate sanitation* ▪ Coverage of storm water drainage network (100%)	▪ Household level coverage of solid waste management services (100%)
Equity	▪ Coverage of WS connections in slums	▪ Coverage of individual toilets in slums ▪ Coverage of sewerage connections in slums	▪ Coverage of D to D collection in slums
Service levels and quality	▪ Per capita supply of water (135) ▪ Continuity of water supply (24 hrs) ▪ Quality of water supplied (100%)	▪ Collection efficiency of the sewage network (100%) ▪ Adequacy of sewage treatment capacity (100%) ▪ Collection efficiency of sanitation system* ▪ Adequacy of sanitation treatment capacity* ▪ Incidence of water logging/ flooding (zero)	▪ Efficiency of collection of municipal solid waste (100%) ▪ Extent of segregation (100%) ▪ Extent of municipal solid waste recovered (80%)
Efficiency in service operation	▪ Extent of Non- Revenue Water (NRW) (20%) ▪ Extent of metering (100%) ▪ Efficiency in redressal of customer complains (80%)	▪ Quality of sewage treatment (100%) ▪ Extent of reuse and recycling of sewage (20%) ▪ Quality of treatment of sanitation system* ▪ Extent of reuse and recycling in sanitation* ▪ Efficiency in redressal of customer complains (80%)	▪ Extent of scientific disposal of municipal solid waste (100%) ▪ Efficiency in redressal of customer complains (80%)
Financial sustainability	▪ Cost recovery in water supply (100%) ▪ Efficiency in collection of water supply related charges (90%)	▪ Extent of cost recovery in sewage management (100%) ▪ Efficiency in collection of sewage charges (90%)	▪ Extent of cost recovery in SWM (100%) ▪ Efficiency in collection of SWM charges (90%)

*SAN Benchmarks - Revised SLB indicators that captures performance of onsite sanitation along with conventional sewerage system

PAS - Sector wise Indicators

In addition to SLBs, PAS captures performance of onsite sanitation along with conventional sewerage system and equity related indicators

WATER SUPPLY

9
SLB Indicators

35
Drill down Indicators

WASTE WATER

9
SLB Indicators

6
SAN Benchmarks

32
Drill down Indicators

SOLID WASTE

8
SLB Indicators

12
Drill down Indicators

EQUITY

4
Key Indicators

15
Drill down Indicators

STORM WATER

2
SLB Indicators

UWSS services

32
Key Indicators

100
Drill down Indicators

A wide range of users – Towards Data Driven Governance

GOVERNMENT AGENCIES

City/State governments, SFCs for policy making, assessments for improvement plans, reporting

FINANCIAL INSTITUTIONS

ADB, World Bank - information for project identification, selection and formulation

REGULATORS

CAG, State Technical Boards - To assess regulatory compliance

RESEARCHERS

Academicians, students of planning or technology colleges

CONSULTANTS

For consulting assignments in preparation of Vision documents, City Development Plans, City Sanitation Plans

What sets PAS apart....

Inclusive

- Indicators include onsite systems
- Indicators on equity in service
- Available in local languages (Hindi, Marathi, Gujarati and English)

Data reliability

- Standardized system to report on quality and reliability of indicators based on source of data
- Inbuilt validation checks

Assessing safe and sustainable services across the full service chain

- Monitor service provision rather than just infrastructure - Efficiency in service operations , service level and quality

Government ownership and responsibility

- Work at scale annually – not a one off pilot!
- Self assessment portal – information reported by officers from city governments
- Indicators on human resources, complaint redressal and resource planning and management

Financial sustainability

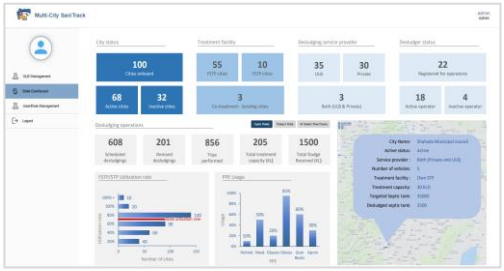
- Indicators on Financial sustainability for cost recovery, collection efficiency etc.

Scalable, impactful and sustainable

- Used by 1000+ cities over 10 years
- Reliable, easily accessible and consistent state level data base
- Used for different purposes at city and state levels
- ease for states and cities to meet compliance requirements

Data system strengthening efforts at local level...

Maha Sanitrack



Maharashtra FSTP Dashboard

SaniTab

Whatsapp Chatbot and IVR for tracking daily operations