Performance assessment system (PAS)

PAS Project, CEPT University, Ahmedabad
A major action research project funded by a grant from Bill and Melinda Gates Foundation for developing a statewide Performance Assessment System (PAS) in Maharashtra and Gujarat, and sanitation assessment and improvement

Now extended to state of Chhattisgarh, Telangana, Assam, Jharkhand….and may be Rajasthan

PAS Project has three main components:

- **Performance Measurement** using commonly agreed relevant Key indicators (SLB) and Drilled down indicators
- **Performance Monitoring** at State and Local level, civil society
- **Performance Improvement** through various tools and innovative financing
PAS Journey from 2009

2009 – 416 Cities
68 Million population
167 Cities of Gujarat
249 Cities of Maharashtra
......continued for 6 years

2015 – 463 Cities
72.8 Million population
168 Cities of Gujarat
259 Cities of Maharashtra
43 Cities of Chhattisgarh

2016 – 769 Cities
88 Million population
168 Cities of Gujarat
364 Cities of Maharashtra
168 Cities of Chhattisgarh
69 Cities of Telangana

Forth coming – 323 Cities,
23 Million population
96 Cities of Assam
43 Cities of Jharkhand
184 Cities of Rajasthan
PAS
Performance Assessment System

Annual service delivery profile for 870+ cities in 5 States
Time-series data for 7 years for 400 cities

National database for 1800 cities
For 18 states for 3 years

www.pas.org.in

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

Supporting Statewide Program - Maharashtra

- Monitoring SBM
- ODF framework
- State level guidelines for ODF, IFSM
- Capacity building programmes
- Documentation support

PSP in IFSM

Onsite sanitation

- FSM guidelines
- SanBenchmarks
- Capacity building of cities and local contractors

Sanitation Finance

- Sanitation Credit
- City Sanitation Fund
- Demand assessment
- Crowdfunding
SAN Benchmarks: *Citywide assessment of sanitation service delivery Including on-site sanitation*

SAN Benchmarks provides a framework for performance assessment of city wide sanitation by capturing onsite sanitation systems along with the conventional sewerage systems.

**Mixed Sanitation System**

1. Coverage of toilets
2. Coverage of adequate sanitation systems
3. Collection efficiency of sanitation system (weighted average)
4. Adequacy of treatment capacity of sanitation system (weighted average)
5. Quality of treatment of sanitation system (weighted average)
6. Extent of reuse and recycling in sanitation system (weighted average)
Support to States
Support to GoM for Swachh Maharashtra Mission for Urban Areas

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

Key areas for CEPT support

- 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+
- Key areas for CEPT support

PAS Project
Support to SMMUA, Maharashtra

- Developed SBM monitoring dashboard and monthly online data collection tool
- Policy support and best practice documents
  - a) ODF Sustainability guidelines,
  - b) Good practices,
  - c) 50 pioneer ODF cities, and
  - d) Guidebook for city FSM
- Providing support to GoM in 15 Challenging cities to move towards ODF
- Developing CSR strategy for Maharashtra and follow up with corporates for sanitation CSR in Maharashtra
Support to cities
Open Defecation Free
Cities have passed resolutions to implement the “own toilet scheme”

Unlocking the latent demand through ULB subsidy scheme...
Aligned the Own toilet scheme with National and State Schemes

Swachh Bharat Mission
Subsidy: INR 4,000

Swachh Maharashtra Abhiyan
Subsidy: INR 8,000

Urban Local Body
Subsidy: INR 10,000

Total Subsidy
INR 22,000
Support to city for various awareness activities for dissemination of scheme.

**Announcements**

- Day and Night Announcements
  - carried out across the city to make people know about the Own toilet scheme

**Banners displayed**

- 20 Banners and more than 100 posters on benefits of sanitation placed at CTs, near temple, residential areas, at crossing, market places, OD spots, etc.

**Forms distributed at meetings**

**Videos played at large gatherings**

- Elected representatives to lead the meetings and encourage households
- Informative audio visuals were showcased during these meetings
- Large Gathering Events
  - like Ganpati for conducting Area meetings and presentations
Training of local contractors in cities . . .

For PROPER construction of TOILET(s) and SEPTIC TANK(s)
Support to ULB for **OD Spot Monitoring & ODF Sustainability plan**

Visits conducted across the city at early mornings and late nights to identify people resorting to OD and imposing Fine. This led to reduction in number of people resorting to OD.

To discourage the HH practicing OD and encourage behavioral change, WMC declared a **fine of Rs. 500 per person.**
Support to ULB for OD Spot Monitoring & ODF Sustainability plan

Visits conducted across the city at early mornings and late nights to identify people resorting to OD and imposing Fine. This led to reduction in number of people resorting to OD.

To discourage the HH practicing OD and encourage behavioral change, WMC declared a fine of Rs. 500 per person.

Wai is declared as an ODF City by GoM and GoI.
Integrated Fecal Sludge Management (IFSM)

Emerging focus and attention to FSM
Support to cities for developing an end-to-end IFSM solution - From RED to GREEN

### Current Situation

- **Access**
  - Pour flush toilets
  - Lack of universal access to improved toilets
  - Lack of adequate data base on toilets for properties

- **Collection**
  - Septic tanks
  - Septic tanks lack manhole covers
  - Septic tanks are not of standard size
  - No database on septic tanks for properties

- **Conveyance**
  - Suction emptier truck
  - Only 2-4% of septic tanks cleaned annually

- **Treatment**
  - No treatment facility
  - No facility for fecal sludge treatment

- **Disposal / Reuse**
  - Disposed off on dumping site
  - Septage disposed off on dumping site without treatment

### Proposed Approach

- **Access**
  - Pour flush toilets
  - Convert ing unimproved toilets to improved toilets
  - Ensuring 100% access to improved toilets
  - Data base on toilets for all properties

- **Collection**
  - Septic tanks
  - Providing access manhole covers to allow regular cleaning
  - Enforcing regulations on septic tanks design
  - Data base of properties with septic tanks

- **Conveyance**
  - Suction emptier trucks
  - Preparing a schedule for period cleaning of septic tanks, to ensure that all septic tank are cleaned at least once in 3 years

- **Treatment**
  - Treatment facility
  - Installing treatment facility for the treatment of septage

- **Disposal / Reuse**
  - Revenue from compost
  - Safe dumping of treated fecal matter and/or the sale of septage at a fixed rate to nearby farms or agro-businesses

- **Proposed Approach**
  - Payment using local taxes using escrow mechanisms
Wai Council has signed resolution to implement IFSM plan

The resolution covers aspects like:

- Citywide IFSM
- Involving Private sector
- Scheduled cleaning
- Land for treatment facility
- Taxes to be levied
Key activities being supported for IFSM in cities

Scheduled Emptying Plan

- Wai requires 1 more additional suction emptier truck
- 1760 septic tanks need to be cleaned annually on scheduled basis

Treatment options for Septage

<table>
<thead>
<tr>
<th>Technology Option</th>
<th>Input</th>
<th>Output</th>
<th>Energy requirement</th>
<th>Land required</th>
<th>Capital cost</th>
<th>O &amp; M cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unplanted Sludge-drying bed (SSB)</td>
<td>Fecal sludge</td>
<td>Treated sludge</td>
<td>Non-mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planned Sludge drying bed</td>
<td>Fecal sludge</td>
<td>Treated sludge</td>
<td>Non-mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Rate Sludge digester</td>
<td>Fecal sludge</td>
<td>Treated sludge</td>
<td>Mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Deassembling of sludge</td>
<td>Fecal sludge</td>
<td>Treated sludge</td>
<td>Mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co-Composting</td>
<td>Fecal Sludge, Organic waste</td>
<td>Compost</td>
<td>Non-mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaerobic biogas reactor</td>
<td>Fecal sludge, Black waters, Organic waste</td>
<td>Treated sludge, Biogas</td>
<td>Mechanical</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Developed Regulations for IFSM

<table>
<thead>
<tr>
<th>St.No</th>
<th>Description of regulations required</th>
<th>Action to be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Design of septic tanks, pits etc. (adapted to local conditions) and methods of approval of building plans, or retro-fitting existing installations to comply with rules</td>
<td>Council resolution, Additional monitoring for newly constructed septic tanks</td>
</tr>
<tr>
<td>2</td>
<td>Periodicity of desludging</td>
<td>Council Resolution</td>
</tr>
<tr>
<td>3</td>
<td>Operating procedures for desludging and treatment facilities including safety procedures</td>
<td>Contract inclusive of monitoring</td>
</tr>
<tr>
<td>4</td>
<td>Licensing and reporting</td>
<td>Contract inclusive of monitoring</td>
</tr>
<tr>
<td>5</td>
<td>Methods and locations of transport, treatment and disposal</td>
<td>Contract</td>
</tr>
<tr>
<td>6</td>
<td>Tariffs or cess/tax etc. for septage management in the city</td>
<td>Council resolution</td>
</tr>
<tr>
<td>7</td>
<td>Penalty clauses for untreated discharge for households as well as desludging agents</td>
<td>Council Resolution</td>
</tr>
</tbody>
</table>

PSP Contract & Monitoring framework

Unplanted sludge-drying beds are an efficient method for the treatment of fecal sludge and require low investment in capital & O&M.
Tools
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

Towards service improvement plans
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 . . .

- 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.
Automatic SFD generation tool will generate **SFD diagrams and WW Flow diagram** for around 400 cities using **PAS data** of 4 Indian states (Maharashtra, Gujarat, Chhattisgarh and Telangana states).
Sanitation Financing
Learning from Wai and Sinnar and discussions with local financial institutions have been disseminated through a paper

Available online at:
http://pas.org.in/web/ceptpas/253
Sanitation finance

- Demand assessment study for sanitation credit in Maharashtra
- Operationalizing the revised Priority Sector Lending (PSL) guidelines through discussions with the Bank of Maharashtra
- Pilots to demonstrate household sanitation credit being explored with a few Financial Institutions in Mumbai, Nagpur and Sinnar
- Exploring with key stakeholders in sanitation financing space: India Sanitation Coalition, Water.org
- Exploring SHG- Bank linkage and exploring possible convergence of NULM and SBM to expedite toilet construction process
Performance Measurement Framework for developing countries

Online Module for performance assessment

Capacity Building of Govt. Officials

Annual Data for UWSS of 600+ cities

SLB cell formation at city/state level

City Ranking

Performance Improvement Plans

Target Setting tool

Performance Improvement Planning (PIP) tool: SaniPlan

Innovative Sanitation Financing

Integration with e-governance system

City Sanitation Plans for small and medium town

Tariff setting tool

Integrated fecal sludge management plan for cities

Support to Maharashtra State Government in implementing Swachh Maharashtra Mission

SAN Benchmarks citywide sanitation assessment framework

IFSM toolkit

SANI Tab App for Sanitation Survey

SAN Benchmarks repository of 1800 city benchmarks over 3 years

Repository of 1800 citywide sanitation benchmarks over 3 years

Information system improvement plan

National Roll-Out

Demand Based Scheme for making cities ODF

City Sanitation Plans for small and medium town

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