Online assessment system for water and sanitation services in India

World Water Week 2015

PAS Project, CEPT University, India
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**
PAS
Performance Assessment System
Assess service delivery in water and sanitation profile for 400+ Cities in 2 States for 6 years

National database for 1800 cities For 18 states for 3 years

www.pas.org.in

Water supply, Waste Water, Solid waste Management & Storm Water
misallocated investments??

And YET

$2.54 Bn
Approved Cost for Sewerage Projects
JnNURM
Funds Allocated for Sewerage Projects
UIDSSMT

18.6%
Households lack on-premises latrine facility

$2.66 Mn
Open defecation

$3.58 Bn
Approved Cost for Water Supply Projects
JnNURM
Funds Allocated for Water Supply Projects
UIDSSMT

8.6%
Households using untreated tap water

12.6%
Households resorting to open defecation

8.1%
Households lacking on-premises water supply facility
PAS Approach – moving to a virtuous cycle

Performance Measurement
With agreed key indicators against goals

Use of technology for sustainability and scale

Performance Monitoring
at scale and at all levels: centre, state and local

Improved urban water and sanitation service delivery

Performance Improvement
plans, tools and innovative financing

Set goals and priorities

Influence policy and financing

Measure and monitor performance to reward and learn from success and demonstrate results
We have come a long way from this
Absence of data recording system at ground level

If recorded, then it was not collated to be analyzed / reported to higher level

Most of the records are paper based and fragmented.

Maintained in isolation and were not usually shared with each other
Time taken for annual assessment

### Annual Assessment in GUJARAT over five year assessment period

<table>
<thead>
<tr>
<th>Year Period</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Annual Assessment in MAHARASHTRA over five year assessment period

<table>
<thead>
<tr>
<th>Year Period</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Round 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Support by State Government for Annual Assessment**

- Training in use of tools
- Support for resolving data issues
- Constant hand holding by PAS team
- Tools translated in local language

**Data collection through city visits in Year I (2008-09), supported by Partners**

**Data collection through online modules in Year V (2012-13). Self assessment by select ULBs**
Online analysis reports

State profile of all SLBs

Overview of all cities

City profile of all SLBs

Trend Analysis

Compare with peers
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
City level assessment reports

Schematic diagram of water supply system

1. System input volume: 24 MLD
2. Revenue water: 18.6 MLD

Access and coverage

Service level and quality

Equity in access to service

Efficiency in service operations

Theme wise analysis reports

Wastewater diagram

1. User Interface
2. Containment
3. Emptying
4. Conveyance
5. Treatment
6. Reuse/disposal

1. Bathroom/Kitchen (80%)
2. Individual Toilets (16.8%)
3. Community Toilets (2.0%)
4. Open Defecation (1.2%)

1. Sewage System (29.1%)
2. Onion System (29.1%)
3. Septic Tank (29.1%)
4. Double Pit (0.0%)
5. Simple Pit (0.0%)

1. Conveyed through drains (12.8%)
2. Effectively treated (11.0%)
3. No treatment (0%

1. Effluent (43.9%)
2. Safety treated by soak pit (43.9%)
3. Illegally dumped (79.9%)

1. Water Bodies
2. Domestic Environment
3. Solid waste dumped site

Income - Expenditure

Financial sustainability
Replication in Other states

Chhattisgarh State (6 million urban population) has used online PAS – SLB module for data collection and analysis for the year 2014-15

Roll out in Other states: CEPT in partnership with National Institute of Urban Affairs (NIUA) will provide technical support to interested states

Online system can be used for monitoring various government programmes: Smart cities, AMRUT, Swatchh Bharat Abhiyan

NATIONAL DATABASE for 1800 CITIES for 18 STATES for 3 YEARS
Now available online on www.pas.org.in
Approach to performance improvement planning

Conventional Approach

- ‘PROJECT’ based approach
- Oriented towards OUTPUTS
- SUPPLY DRIVEN
- Focus on INDIVIDUAL PROJECTS

PAS Approach

- ‘SERVICE’ based approach
- Oriented towards OUTCOMES
- Starting point is current performance – NEED DRIVEN
- Focus on SECTORAL SOLUTIONS

Performance Assessment Systems (PAS) project, CEPT University, Ahmedabad

'PROJECT' based approach

'SERVICE' based approach

Oriented towards OUTPUTS

Oriented towards OUTCOMES

SUPPLY DRIVEN

Starting point is current performance – NEED DRIVEN

Focus on INDIVIDUAL PROJECTS

Focus on SECTORAL SOLUTIONS
Performance Assessment to Improvement

State Level

UWSS information is used in preparation of policies for improvement of urban sanitation
Gujarat - Mahatma Gandhi Swachhata Mission
Maharashtra - Swachh Maharashtra Abhiyan

Monitor service level improvements through various UWSS programme / projects

Recommendations to introduce performance base grant system in Gujarat and Maharashtra
What value additions did we intend to bring?

- **No Pilots**.....operate at Scale to make an impact
- **Work with all levels of Governments** – National, State and Local and influence policies and implementation
- **Capacity building** of city and state level officials on Benchmarking
- Develop a system that can be **mainstreamed and sustained in the government** with its own resources
- Focus on the ‘**real**’ context for benchmarking water and sanitation in developing country context – equity, on-site sanitation
Key lessons

- **Scale is critical** to demonstrate importance of performance assessment systems
- **Working with governments is essential**, but so is patience.....adequate time required to mainstream in government system – 5 to 7 years
- **Government ownership and regular reviews** are essential
- Once fully set up, PAS can be used for both **outcome monitoring and rational investment decisions**
- Benchmarking exercise needs to be linked to **performance based funding**
Thank You

Website: pas.org.in

Email: pas@cept.ac.in

Phone no: 079-26302470, ext - 467