Evolution of Sanitation Policies and Programs in India: Getting Scale Right!

Shubhagato Dasgupta, Centre for Policy Research
Scale of challenges: India

### World Total OD (%)
- BRICS-India: 1%
- S. Asia-India: 14%
- SSA: 28%
- Rest of the World: 4%
- INDIA: 53%

### World Urban OD (%)
- BRICS-India: 1%
- S. Asia-India: 7%
- SSA: 35%
- Rest of the World: 5%
- INDIA: 52%

### Population India - T: 1210 m., R: 833 m., U: 377 m.

- **Total (1210 mn):**
  - **In-House Latrine:** 50%
  - **Public Latrine:** 3%
  - **Open Defecation:** 5%
- **S. Asia-India:** 35%
- **BRICS-India:** 1%
- **Rest of the World:** 4%
- **INDIA:** 53%

### Population (mns)
- **RURAL (833 mn):**
  - **In-House Latrine:** 47%
  - **Public Latrine:** 2%
  - **Open Defecation:** 7%
- **S. Asia-India:** 7%
- **BRICS-India:** 1%
- **Rest of the World:** 5%
- **INDIA:** 36%

- **URBAN (377 mn):**
  - **In-House Latrine:** 67%
  - **Public Latrine:** 2%
  - **Open Defecation:** 13%
- **S. Asia-India:** 5%
- **BRICS-India:** 1%
- **Rest of the World:** 5%
- **INDIA:** 25%

### MDG Goal/Target/Indicator

<table>
<thead>
<tr>
<th>MDG Goal/Target/Indicator</th>
<th>India’s Baseline - 1990</th>
<th>India’s Target for 2015</th>
<th>India’s achievement in 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe drinking water (T)</td>
<td>70</td>
<td>85</td>
<td>93</td>
</tr>
<tr>
<td>Improved Sanitation (T)</td>
<td>18</td>
<td>59</td>
<td>36</td>
</tr>
<tr>
<td>Improved Sanitation (U)</td>
<td>50</td>
<td>75</td>
<td>60</td>
</tr>
<tr>
<td>Improved Sanitation (R)</td>
<td>7</td>
<td>71</td>
<td>25</td>
</tr>
</tbody>
</table>

Recent Policy evolution: Rural Sanitation
From 1% Toilet coverage in 1981 to 40+% coverage in 2012

Central Rural Sanitation Programme (CRSP) was under the National Rural Drinking Water Mission under the Ministry of Rural Development. 8% improvement in rural sanitation between 1981 and 1991 was way below the target of 25%. Subsidy Rs 2000/HH to cover full costs

“Community led” and “people centered”, with increased awareness generation and demand generation. Nirmal Gram Puraskar 2001. Subsidy reduced to an incentive of Rs 600 – 3200, by 2007. Involvement of PRIs, NGOs. Expectations of 70+ coverage

“TSC was neither Total nor Sanitation and not even a Campaign”, greater focus on PRIs but with even larger subsidies for household toilets. States take funding and monitoring responsibility. Convergence with employment guarantee programs. Saturation of toilets.

Convergence with employment guarantee programs seen as a bottleneck – increase in subsidy. Recognized need to measure use. Greater flexibility to States. CLTS recommended.
Rural Sanitation: a wicked problem

Recent evidence from the SQUAT Survey (more than 20,000 HHs):

- **A preference for open defecation**: over 40% of households with a working latrine have at least one member who defecates in the open.
- Psychology of the “un-clean” – create distance, **build high capacity pits**…
- Cleaning toilets left to **particular socially marginalised sections of society**
- Many respondents say there are benefits to defecating in the open: 47% of those that defecate in the open say they do so because it is **pleasant, comfortable, or convenient**
- Rural households in India **do not build inexpensive latrines** like the ones in countries in the region or Southeast Asia, and sub-Saharan Africa
- However, **most rural households can afford to build inexpensive toilets** that can reduce open defecation and protect health
- Most people who own a **government-constructed latrine** continue to defecate in the open - this is mentioned as a choice
- **Community toilets are not preferred in rural areas** and deep caste, gender, religious, and economic inequalities make the cooperation needed to maintain community latrines incredibly complicated

Some Outstanding Issues:

- **Slippage** including lack of toilet use even after they are constructed or a re-lapse in behaviour can easily take place without a collective community resolve
- **Missing toilets** – 3.5 crs more like 1 crs but still not adequately explained
The Scale of India’s Urban sanitation crisis is now recognised as massive...

52 % of global urban OD  
11% of global urban popl  
60% additional urban popl (221 m) Indonesia/ Brazil

...there is an increased realization of the significance of this crisis:

Health Benefits; Miasma-water borne – sanitation related - stunting

Resource efficiencies

Climate Change resilience

Economic Benefits

Equity and dignity – Poor, women, children, work related

Sources: JMP 2014, IIHS 2011
Urban Sanitation: Environmental sanitation is emerging to be the predominant challenge

Wastewater and Septage flow

Source: Census 2011, CPHEEO Ministry of Urban Development Government of India (2012), Central Pollution Control Board Government of India (2009), CPR Analysis
Open Defecation in Urban Areas has been decreasing, there is a long way ahead …

(1990-2011, India and Analogous Countries)

Ethiopia and Vietnam have performed well in terms of reduction of urban open defecation. Indonesia’s GDP per capita has increased significantly but reported reduction of urban open defecation has been less significant. India, Nepal and Mozambique have had similar improvement in the reduction of urban open defecation, but India has seen higher growth in per capita GDP in this period.

Open Defecation in Urban Areas and Infant Mortality rates, a long way ahead …

(1990-2011, India and Analogous Countries)

Indonesia’s IMR has fallen sharply like India, but its urban OD has not fallen as sharply. Vietnam, Peru and Sri Lanka, have reduced OD significantly, with Vietnam being the weaker among the three in terms of IMR reduction. Ethiopia and Mozambique have had strong IMR reductions. Nigeria is an outlier and OD has gone up alongside decreasing IMR.

Urban Open defecation in India, as against per capita State GDP shows three clear clusters

1. Smaller, higher income states, have lower OD; 2. Large sized states have OD similar to India’s average; 3. Medium sized lower urbanized states have higher OD
Sanitation Situation across city size: 2011

- % Share of Urban Population
- % Share of toilets within premises
- % Share of Open Defecation

<table>
<thead>
<tr>
<th>City Size</th>
<th>HPEC: Class 1A: above 5 mn</th>
<th>HPEC: Class 1B: between 1 to 5 mn</th>
<th>HPEC: Class 1C: between 100,000 to 1 mn</th>
<th>HPEC: Class 2 to 4+: below 100,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larger Cities</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>Smaller Cities</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
</tr>
</tbody>
</table>
OD not restricted to slums alone, higher slum and non slum OD in lesser urbanized states

Census 2011
<table>
<thead>
<tr>
<th>SNo.</th>
<th>Five Year Plan</th>
<th>Year (s)</th>
<th>Name of the Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>II</td>
<td>1956-61</td>
<td>Urban Community Development (UCD)</td>
</tr>
<tr>
<td>2</td>
<td>III</td>
<td>1961-66</td>
<td>Sites and Services</td>
</tr>
<tr>
<td>3</td>
<td>IV</td>
<td>1969-74</td>
<td>Environmental Improvement of Urban Slums (EIUS), Accelerated Rural Water Supply Programme (ARWSP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>VI</td>
<td>1980-85</td>
<td>Urban Basic Services Programme, Integrated Low Cost Sanitation Scheme (ILCS)</td>
</tr>
<tr>
<td>6</td>
<td>VII</td>
<td>1985-90</td>
<td>Urban Basic Services for the Poor (UBSP), Central Rural Sanitation Program (CRSP),Nehru Rozgar Yojana (NRY). Ganga Action Plan</td>
</tr>
<tr>
<td>7</td>
<td>VIII</td>
<td>1992-97</td>
<td>Accelerated Urban Water Supply Programme (AUWSP), Mega-City Scheme, National Slum Development Programme. National River Conservation Program</td>
</tr>
<tr>
<td>8</td>
<td>X</td>
<td>1997-2002</td>
<td>Valmiki Ambedkar Awas Yojana (VAMBAY), Total Sanitation Campaign (TSC)</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>2002-2007</td>
<td>Nirmal Gram Puraskar (NGP) - 2003</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>2004-14</td>
<td>CCF, URIF, Jawaharlal Nehru National Urban Renewal Mission (JNNURM), National Urban Sanitation Policy (NUSP)</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>2009-14</td>
<td>Rajiv Awas Yojana (RAY), National Urban Livelihoods Mission (NULM),</td>
</tr>
</tbody>
</table>

**1st Period 1950 to the 74 CAA**

**2nd Period 1992 to the JNNURM**

**3rd Period JNNURM onwards**
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>~Size USD Mil</td>
<td>150</td>
<td>75</td>
<td>140</td>
<td>30</td>
<td>250</td>
<td>775</td>
<td>1000</td>
<td>200</td>
<td>13,333</td>
<td>1100</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>(470)</td>
<td></td>
<td></td>
<td></td>
<td>(1000)</td>
<td>(4500)</td>
<td></td>
<td></td>
<td>(5350)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelter</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Urban Basic Services</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Community Infra</td>
<td>✔️</td>
<td></td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Livelihood</td>
<td></td>
<td>✔️</td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Land &amp; Tenure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Policy Changes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Access to credit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Individual Toilet</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
<td>✔️</td>
</tr>
<tr>
<td>Funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>PPP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>Scale of the programme</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In JNNURM a program for urban infrastructure improvement 40% of the resources have been allocated for slum upgrading and housing.
### Basic services - Institutional evolution over the years

<table>
<thead>
<tr>
<th>1950s till 74th Amendment</th>
<th>74th CAA till JnNURM</th>
<th>JnNURM onwards</th>
</tr>
</thead>
</table>

#### Fund allotment

- **Central Government**
  - WS and Sewerage
  - SWM + Com Toilets

- **State Government**
  - BS
d

- **Local Government**
  - JnNURM

#### Functions

<table>
<thead>
<tr>
<th>1950s till 74th Amendment</th>
<th>74th CAA till JnNURM</th>
<th>JnNURM onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Government</td>
<td>WS and Sewerage</td>
<td>WS and Sewerage</td>
</tr>
<tr>
<td></td>
<td>SWM + Com Toilets</td>
<td>SWM + Com Toilets</td>
</tr>
</tbody>
</table>

#### Functionaries

<table>
<thead>
<tr>
<th>1950s till 74th Amendment</th>
<th>74th CAA till JnNURM</th>
<th>JnNURM onwards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Government</td>
<td>WS and Sewerage</td>
<td>WS and Sewerage</td>
</tr>
<tr>
<td></td>
<td>SWM + Com Toilets</td>
<td>SWM + Com Toilets</td>
</tr>
</tbody>
</table>

**Note:** The diagram visualizes the evolution of basic services and the allocation of funds, functions, and functionaries over different time periods.
Stylised facts for the three periods

1950-1992 (74th CAA)
- Low scale funding from GoI – Limited fiscal strength
- Employee/Public Housing
- Donor driven pilots
- Move from Provider to facilitator
- Urban Community Development – Self help pilots
- HUDCO / Housing Boards
- World Bank Sites and Services projects (1970-80s)
- UBSP/ Slum Upgrading / World Bank Slum Sanitation Program

1992-2005 (JNNURM)
- Large funding deficits in Urban Infrastructure and Basic services
- Increased central funding not viable
- GoI recovering from financial crisis
- Facilitator working with NGOs, Bi-Multilaterals on making markets work including for the poor
- First rounds of PPPs
- Focus on encouraging debt markets
- Credit rating of ULBs
- Pooled funding/Credit enhancement for infrastructure finance

2005 – 2014 (SBM)
- Move to reform based grant funding for core urban infrastructure
- As urban seen key to economic growth
- Fiscal robustness
- Key challenge shifts from quantity to quality of funding
- Funding at scale
- More than 200 sewerage and WWT projects ~ Rs 18000 crs.
- Sewerage projects only after Water supply, ahead of bridges/flyovers/roads, urban transport, Storm water SWM etc.
Lessons in program design – SBM, NUDM, Smart Cities

- Scale of funding important
- However, larger amount of top down central funds intrinsically provides biases which need to be corrected through program design which include
  - Reducing incentives to leverage debt
  - Incentivising larger projects/costlier infrastructure
  - Stronger requirements to Micro manage project design and implementation
  - Reduces incentives to innovate at the local/state level
- Predetermined Project funding structure is a big negative form the project finance and risk structuring perspective
  - Smoother processing of Tranche based funding mechanism is required to reduce project implementation delays
  - Smarter resolution of cost escalations and cost sharing required
  - Unfinished / delayed projects lead to challenges at all levels
  - Capacities at all levels and stakeholders need enhancement – local, state, national, private sector, consultants, NGOs
- Reform diagnosis totally absent at the city and state level
- Assumption that same 23 reforms are as impactful in all cities/states is flawed
- No requirement / chance / mechanism to renegotiate tripartite MoU due to changing understanding or context
- Result is that Reforms strengthened in stronger states
- Measures of outcomes/impacts not clear
- Same treatment for better and weaker performers (capping)

Scale of funding important
However, larger amount of top down central funds intrinsically provides biases which need to be corrected through program design which include
  - Reducing incentives to leverage debt
  - Incentivising larger projects/costlier infrastructure
  - Stronger requirements to Micro manage project design and implementation
  - Reduces incentives to innovate at the local/state level
- Predetermined Project funding structure is a big negative form the project finance and risk structuring perspective
  - Smoother processing of Tranche based funding mechanism is required to reduce project implementation delays
  - Smarter resolution of cost escalations and cost sharing required
  - Unfinished / delayed projects lead to challenges at all levels
  - Capacities at all levels and stakeholders need enhancement – local, state, national, private sector, consultants, NGOs
- Reform diagnosis totally absent at the city and state level
- Assumption that same 23 reforms are as impactful in all cities/states is flawed
- No requirement / chance / mechanism to renegotiate tripartite MoU due to changing understanding or context
- Result is that Reforms strengthened in stronger states
- Measures of outcomes/impacts not clear
- Same treatment for better and weaker performers (capping)
History of Sanitation Policy and Programme Development, close link with sector developments internationally


Increased national-level interest in (urban) sanitation

International Water & Sanitation Decade

Millennium Summit & MDG focus on WATSAN

International Year of Sanitation. Part of Water for Life Decade

GAP subsumed into NRCP

Manual Scavenging Act 1993;

JNNURM, GOI financing for urban sanitation sector started to increase

Pune Decl.

TSC

NRCP

NUSP Released SSLBs

NUDM

SBM

Smart Cities

RITF India

SDGs?
# Recent Policy evolution : Urban Sanitation

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pune Declaration 2004</td>
<td>Innovations in Tamil Nadu and Maharashtra. MoUD Workshop lead to a declaration on Open Defecation Cities, which was followed with a Task Force to study and recommend a draft Policy</td>
</tr>
<tr>
<td>JnNURM 2005 - 15</td>
<td>First National Flagship Urban Scheme. Reform based project funding grants with state shares. WatSan ~ 70% funding and sanitation, only underground sewerage and WWTPs, no toilets, no innovations</td>
</tr>
<tr>
<td>Swatch Bharat Mission (Urban) 2014</td>
<td>SBM (Urban) is one of a set of urban schemes. Not reform linked. First UD scheme targeting HHs as beneficiaries. IHL GoI subsidy of Rs 4000/-; Community toilets 40% as Viability Gap; Public toilets – no central grant funding (private/CSR support), Swachh Bharat Kosh (Private contributions)</td>
</tr>
</tbody>
</table>
“...We are launching Swachh Bharat Mission, a massive mass movement that seeks to create a Clean India. Cleanliness was very close to Mahatma Gandhi's heart. A clean India is the best tribute we can pay to Bapu when we celebrate his 150th birth anniversary in 2019...”

“If we collectively make it a people’s movement then I don’t see any reason why we will not be counted among the clean cities and nations of the world”

“... the work of cleaning India cannot be done by one person, or by Government functionaries alone – it has to be done by 125 crore people....”

“I urge every one of you to devote at least hundred hours every year, that is two hours every week towards cleanliness”
### Significant Change in Strategy

**74 CAA – JNNURM (1992-2005)**

- Entitlement based, city size and sector based programs

**JNNURM (2005-2015)**

- 23 Reforms, Large city focus, large grant funding

**Current Urban Strategy**

- **Smart Cities**: 100
- **UDM Cities**: 500
- **SBM Cities**: 4041

**Reforms**

- Basic Sanitation is delinked from reforms; Individual responsibility stressed on, FSM funded in larger cities (60% of urban population)
India potentially has more than a billion people or 40% of the OSS users who potentially need FSM services.

THANK YOU