

Research Article

The Role of Urban Government and Smart Cities on Transformation India: Constraints and Way Forward

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Abstract

Present in this review paper analysis smart cities for Urban transformation through Swachh Bharath mission, and sustainable development in these areas objectives of the elements that present condition, ups and downs moreover decisions, procedures, decision making policies and develop beyond them undertake to move forward into the tracery Smart Cities for Urban Transformation: Smart Cities is an approach to urban development characterized by area-based development, efficient delivery of basic infrastructure and services in an equitable manner and citizens' participation. The Government of India has so far selected 99 cities with an outlay of Rupees 2.04 lakh crore. These cities have started implementing projects such as smart command and control centers, smart area- based development, smart roads, solar rooftops, intelligent transport systems and smart parks. These projects have the unique feature of integration between different infrastructural elements of the projects. The present review paper highlights urban transformation and smart cities on issues and challenges process of policy framework in Indian scenario.

Keywords: Development, Decisions, Infrastructure, Smart cities, Transport and Transformation.

1. Introduction

Smart Cities is an approach to urban development characterized by area-based development, efficient delivery of basic infrastructure and services in an equitable manner and citizens' participation. The Government of India has so far selected 99 cities with an outlay of INR 2.04 lakh crore. These cities have started implementing projects such as smart command and control centers, smart area- based development, smart roads, solar rooftops, intelligent transport systems and smart parks. These projects have the unique feature of integration between different infrastructural elements of the projects. As of 14 May 2018, projects worth INR 4,800 crores have been completed and works worth more than INR 20,000 crores are underway, as per the Ministry of Housing and Urban Affairs' Smart City MIS portal.

2.Objectives:

1. Leverage the 'Smart Cities' concept in select urban clusters to:
2. Drive job creation and economic growth.
3. Significantly improve efficiencies in service delivery.

4. Leverage technology for inclusive, sustainable and participatory development by 2022-23

The key operational challenge areas in the Smart City Mission include the non-availability of the following:

An institutional mechanism for inter-agency coordination, including special purpose vehicles (SPVs), for effective delivery

A robust spatial plan as an overall framework within which smart city planning and implementation can happen

Smart mechanisms to enhance the voices of the urban poor, slum dwellers, migrants and other underprivileged citizens

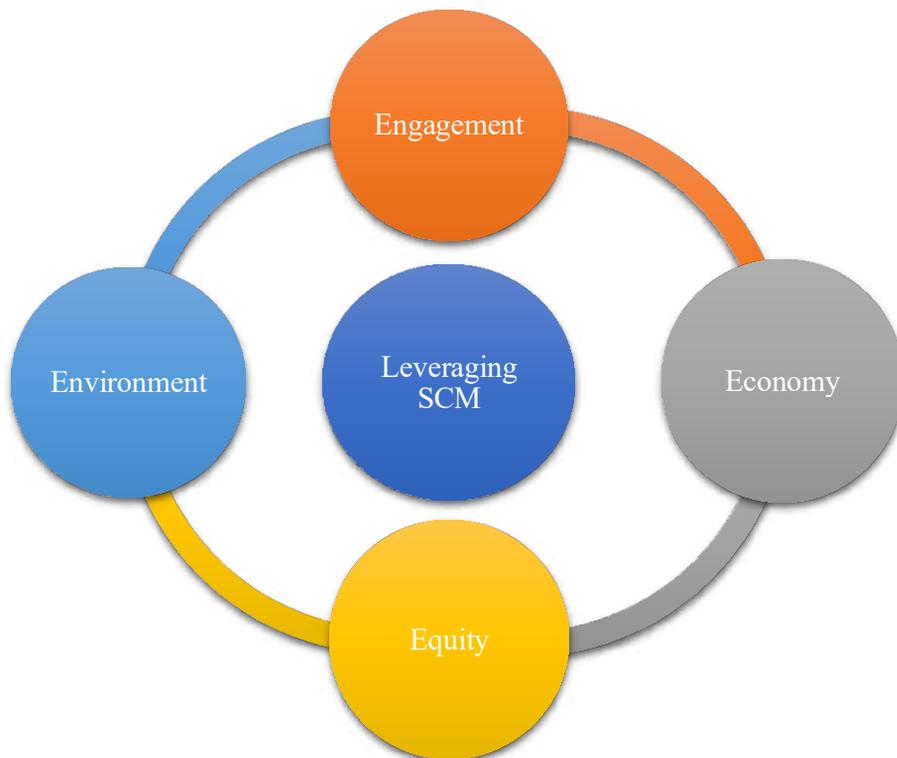
A digital master plan or a digital strategy and roadmap

Data-driven decision making for service delivery and resource sustainability

Availability of skilled human resources to handle various functional domains

Financing smart cities and financial sustainability of ULBs.

Figure: 1 Four paradigms to leverage Smart Cities Mission



Way Forward:

The following strategies are proposed to leverage the Smart Cities Mission across the four paradigms of economy, equity, environment and engagement in India by 2022-23:

Economy:

Scaling area-based development: There is a need to measure the impact of current area-based development projects on the ease of living, economic growth, investments, job creation and citizens' participation. The central government can consider transferring the lessons learnt

from such area-based development projects to other cities. States should also be encouraged to launch their own state-level missions for other cities.

Mobility:

An integrated institutional architecture for planning and coordinating the regulation of mobility such as a Unified Metropolitan Transport Authority is needed. Spatial plans should provide for integrating land-use and transport planning to support more mixed-use development for enhancing economic activity, reducing commuting time and improving environmental quality. There is a need for focused attention to public transport, including existing intermediate and para-transit services, especially in smaller cities. A pooled green transport fund to support such investments is recommended. A high-level interministerial electric vehicle (EV) mission is necessary for proper coordination on the EV agenda.

Achieving desired service delivery levels: Funds for the provisioning of basic services and infrastructure are accessed from complementary missions, such as the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission (SBM), and Housing for All (HFA). There is a need for a framework that mandates measurable outputs and outcomes for all capital investments in infrastructure and services in cities. These outputs and outcomes should be predefined and measured at quarterly intervals. The present livability assessment underway will provide the baseline for measurement on 73 indicators.

Digital transformation roadmap: Conventionally, cities have been using information technology and communication (ICT) in three ways: (1) use a single application to address burning problems, say, waste collection, and then add more applications as per the needs and priorities of the city; (2) build infrastructure and add services, and (3) experiment with a number of applications without having a long-term or definitive vision in place.

The conventional ways ignore the value hidden in human interactions – among citizens, with the city’s infrastructure (e.g. roads, bridges, parks) and the environment. These interactions contain data and information, and digital technology has the potential to recognize and capture the hidden value in their interactions.

To harness internet connectivity and its various applications in governance and service delivery, cities need to put in place a digital transformation roadmap across both hard infrastructure and software applications. A digital transformation roadmap would recognize and capture these interactions and the whole becomes greater than the sum of its parts once the information that flows in the “systems of systems” is captured.

Additionally, the digital transformation roadmap would also build on the considerable work done in cities on geographic information systems (GIS) and apply these for geo-locating, mapping and publishing public assets in the city such as parks, playgrounds, public toilets, bus stops, streetlights, manholes, water and sewerage lines, storm water drains, power lines, etc., and linking these to grievance redressal, participatory budgeting, transparent works management, and contractor payments. Municipal acts need to provide for a digital transformation roadmap for ULBs as a mandatory policy document, like spatial plans. This will also help build data observatories for multiple uses, including citizen engagement.

Equity:

Inclusive development: Cities must ensure that the urban poor and slum dwellers including recent migrants can avail of city services and subsidies and are financially included through the Jan Dhan Yojana. A dedicated benchmark could be considered to measure if benefits reach the targeted poor. Cities should dedicate a single-window facility for the urban poor to access basic services such as water supply, drainage and sewerage, and affordable housing in the form of dormitory and rental housing. Urban poor communities and slums, benefitted by area-based development (ABD) or pan city proposal (PCP) solutions, should be mapped in conjunction with improvements in parameters such as access to public assets and reducing

service deficit including in the areas of education and health Environment Resilient cities: It is strongly recommended that India should mainstream the resilient cities approach and integrate it with service levels as indicated in the chapter on Approach to Sustainability in our National Building Code 2016. The resilient cities approach should also be in line with the 11th Sustainable Development Goal (SDG), which emphasizes the sustainable development of cities and communities. Environment sustainability should be recognized as a distinct goal and be measured as part of service levels. The Ministry of Housing and Urban Affairs (MoHUA) can issue model guidelines in this regard. Engagement Data observatories in partnership with civil society: More than 20 smart command and control centers are under implementation and an equal number are under tendering. About six of these centers have been completed in Vishakhapatnam, Kakinada, Surat, Nagpur, Vadodara and Ahmedabad, with nearly all of them using open-source codes. There is need to use the information available in these centers to develop urban data observatories with a flexible architecture and continue open-source accessibility. The purpose of such observatories is to serve as a decision support mechanism for policy makers and to engage citizens. The MoHUA guidelines should institutionalize the need for regulation around data observatories and make them open source in nature (by limiting private ownership of such data), while at the same time protecting the privacy of citizens. The data observatory incubated by the National Institute of Urban Affairs offers one such model. Institutionally, there is need to leverage information to achieve better inter- agency coordination within ULBs and with SPVs.

3. Swachh Bharat Mission:

The key objectives of the Swachh Bharat Mission:

1. Making India Open Defecation Free (ODF) by October 2, 2019
2. Carrying out extensive information, education and communication (IEC) and behavior change campaigns to change the attitude of people regarding healthy sanitation practices
3. Ensuring scientific solid and liquid waste management
4. Augmenting the capacity of local bodies
5. Creating an enabling environment for private sector participation
6. Eradicating manual scavenging

The Swachh Bharat Mission (SBM) was launched on October 2, 2014, to make India open defecation free by 2019. It has two sub missions:

1) Swachh Bharat Mission (Gramin) for rural areas under the Ministry of Drinking Water and Sanitation (MDWS) and 2) Swachh Bharat Mission (Urban) for urban areas under the Ministry of Housing and Urban Affairs. Given the cross-cutting impact of SBM, the Ministry of Drinking Water and Sanitation is the nodal ministry for SBM with several other ministries being actively involved in achieving its goals.

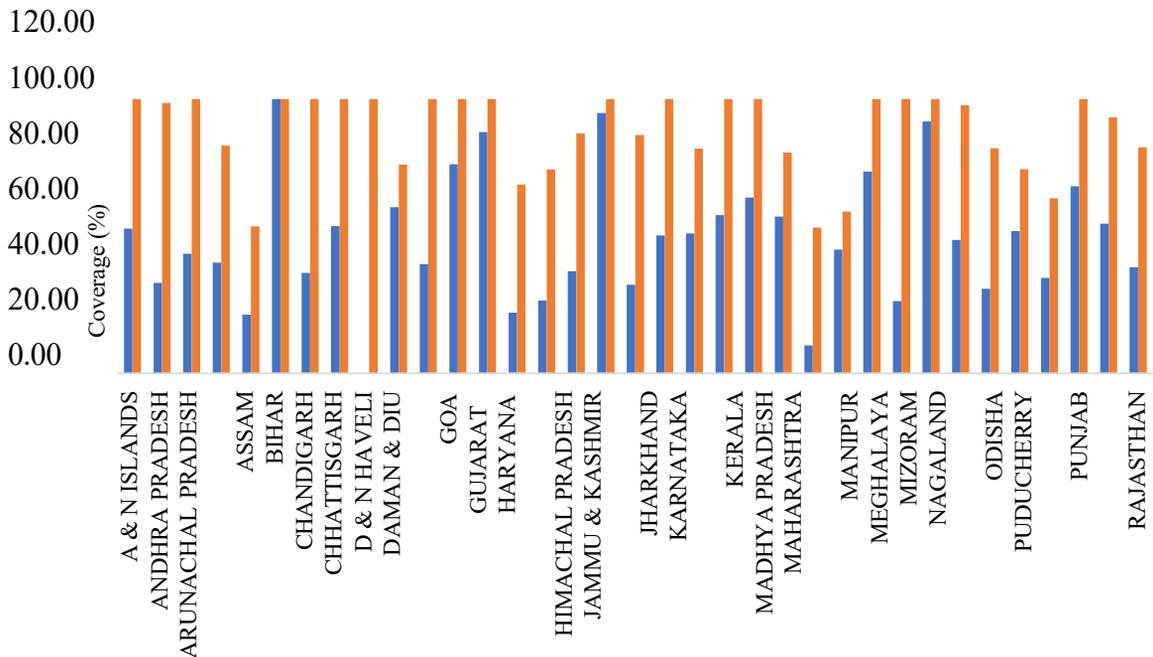
SBM has the potential to address wide-ranging issues. For instance, water and sanitation related diseases continue to remain among the major causes of death among children under five years of age. In India, the under-five mortality rate is 50 per thousand live births as compared to the global average of 41. The lack of sanitation facilities leads to groundwater contamination and pathogen contamination leads to diarrheal diseases, resulting in malnutrition, stunting and death. Women, who do not have access to toilets, mostly relieve themselves under the cover of darkness, i.e., before dawn or after sunset. Such practices are not only a threat to their physical security but are also a cause of various diseases.

4. Swachh Bharat Mission (Gramin):

According to Census 2011, only 32.7 per cent of rural households had access to toilet facilities. Only 39 per cent of households had access to toilets before the launch of the Mission. Under the Mission, from October 2, 2014, to March 2018, about 6.95 crore individual household toilets

have been constructed. The rapid pace of construction of toilets is due to mass mobilization of resources and extensive behavior change campaigns under the mission. It has helped the country achieve sanitation coverage of 81 per cent in rural India by March 2018. About 3.50 lakh villages, 371 districts and 13 states and 3 union territories have declared themselves ODF. Swachh Bharat Mission (Urban): As of March 2018, 47.04 lakh household toilets and 3.18 lakh seats of community/public toilet.

Figure: 2 Improvement in Swachh Bharat Mission (Gramin) Coverage



■ Coverage as on 02.10.2014 ■ Coverage as on 31.03.18

Source: <http://swachhbharatmission.gov.in/>

have been constructed against the mission targets of 66.42 lakh and 5.08 lakh respectively. Hundred per cent door-to-door collection of solid waste has been achieved in 62,436 out of 84,049 wards and 2,648 cities have declared themselves ODF. Waste-to-energy production has reached 88.4 megawatts and new plants that can produce 415 megawatts are under construction.

Constraints:

The constraints faced by the mission are largely related to implementation challenges in meeting the 2019 targets. Some of these are as follows:

Lack of availability of space for construction of household toilets in slum areas

Issues regarding the operation and maintenance of community toilets

Non-availability of water

Non-segregation of waste

Sustaining the change in behavior patterns among people

1. Continued unwillingness of urban local bodies (ULBs) to levy user charges
2. Inadequate infrastructure for collection, transportation and processing of segregated waste

3. The continuing practice of decentralized treatment of waste
4. Lack of on-site treatment of waste by bulk generators
5. Insufficient number of dustbins, particularly in urban and peri-urban areas
6. Lack of credit from financial institutions for solid and liquid waste management projects
7. Discharge of untreated effluent into rivers.
8. Tackling the problem of lagging states of the 1.56 crore household toilets yet to be constructed in rural areas, 0.90 crore are to be constructed in two states, namely Uttar Pradesh and Bihar.

Way Forward:

The strategies to tackle the challenges faced by SBM have been categorized under four broad heads – expanding the scope of SBM, inducing behavioral change, expediting construction and leveraging technology, and changing governance and practices. These are detailed below.

Expanding the scope of SBM

1. The concept of Swachhata needs to be integrated into hospitals, government offices and other public establishments.
2. Where space is a constraint, construct community toilets with participation and ownership of stakeholders.
3. The responsibility for operation and maintenance of community toilets should vest with the community.
4. To ensure continued usage of toilets and limit water used for flushing, rural toilets with steep slope should be widely promoted in rural areas.
5. Bulk generators of waste should ensure on-site treatment of waste.
6. All drains/tributaries flowing to rivers should be covered with sewage treatment plants by 2022- 23.
7. Give higher monetary compensation and social security to rag pickers and small sanitation workers for segregating waste. This will help waste-to-energy plants as well as projects related to dry waste management and help reduce the burden on landfills.
8. The scope of SBM may be expanded to cover initiatives for landfills and plastic waste.
9. Increase the number of community toilets along the highways.
10. Inducing behavioral change

Plan intensive behavior changes communication (BCC) and inter-personal communication (IPC) campaigns beyond the SBM target year of 2019.

Draw up a clear and concerted behavior change communication campaign specifically aimed at panchayats and cities that have shown slow progress towards ODF status.

Teach them young – Children should be made aware of sustainable waste management practices through suitable changes in the school syllabus; engage college campuses and teachers to spread awareness of these practices.

BCC should lay greater emphasis on encouraging people to segregate waste into wet, dry and hazardous waste right at the point of waste generation.

Promote disposal of kitchen and home waste at the local level through resident welfare associations. A decentralized system of disposal of waste needs to be in place, especially in urban areas.

Expediting construction and leveraging technology

To reduce the cost and time incurred on laying sewage pipelines and constructing sewage treatment plants, SBM should encourage the use of bio-digester technology.

A special strategy should be adopted to expedite the construction of household toilets in the states of Uttar Pradesh and Bihar.

Adopt the wider use of twin-pit toilets. It is a low-cost technology that decomposes waste into bio-fertilizer.

Promote the use of modular wet waste disposal machines or other such devices for the disposal of bio-waste at the household level itself.

The cement and construction sectors should be encouraged to consume material made of recycled construction and demolition (C&D) waste. Similarly, the fertilizer sector should procure compost produced out of organic waste.

Ensure the availability of adequate numbers of dustbins in public spaces in urban and peri-urban areas.

Changing governance and practices

Expenditure on bio-toilets/bio-digesters may be considered for concession from the goods and services tax (GST) to encourage large-scale adoption.

Draft and implement a 5-year action plan to integrate SBM and faecal sludge management (FSM) at the ward level in cities. Waste-to-energy projects are not bankable in the absence of tariff orders by the appropriate authority. Companies that want to establish waste-to-energy plants should have tripartite agreements in which one party is the producer of energy from waste; the other two should be the concerned municipal body and electricity distributing company.

ULBs should be nudged to charge adequate user charges for collection and disposal of waste and maintenance of toilets. The user charges for these activities are as important as user charges for electricity and water.

Solid and liquid waste management projects should be covered under priority sector lending.

To maintain the ODF status of villages and cities, the government should continue to monitor and undertake corrective measures for areas that might be slipping back from ODF status

5. Conclusion

Strongly believe that India has a lot of latent entrepreneurial energy, which needs to be harnessed so that we become a nation of job givers, more than job seekers. Narendra Modi. The NDA Government is focused on giving a boost to entrepreneurship. The 'Make in India' initiative is based on four pillars to boost entrepreneurship in India, not only in manufacturing but also in other sectors. New Processes: 'Make in India' recognizes 'ease of doing business' as the single most important factor to promote entrepreneurship. New Infrastructure: Availability of modern and facilitating infrastructure is a very important requirement for the growth of industry. Government intends to develop industrial corridors and smart cities to provide infrastructure based on state-of-the-art technology with modern high-speed communication and integrated logistic arrangements.

New Sectors: 'Make in India' has identified 25 sectors in manufacturing, infrastructure and service activities and detailed information is being shared on them with all stakeholders. New Mindset: Industry is accustomed to see Government as a regulator. 'Make in India' intends to change this by bringing a paradigm shift in how government interacts with industry. The Government's approach will be that of a facilitator and not that of a regulator. The Government is adopting a three-pronged strategy to boost entrepreneurship. This is a '3 C' Model being worked upon: Compliances, Capital and Contract Enforcement.

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