

Sustainable Sanitation – A Challenge to India's Smart City Mission

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ABSTRACT: India's smart city plan is undergoing a revolutionary change. The current government at the centre has embarked upon an ambitious 'Smart Cities Mission' as its new initiative to modernize India. Consequently rejuvenation programmes focus on IT solutions and improved infrastructure as its main hub. But the real concern seems to be the poor state of "sanitation" and "hygiene" in both urban & rural counterparts. Routine open defecation & septage is found to be the primary cause of India's stunting epidemic, which makes Smart city projects face hygiene hurdle. Funding in the sanitation & hygiene sector needs to increasingly focus on the most excluded, with urban & rural poor at its heart, since they face the biggest burden and risks from lack of access. However such effort will feed to the new era of urban planning and can make general people contribute to the next frontier in transforming Indian urban-scapes into healthy and hygienic spaces.

In view of the above fact, article brings forth the diverse issues & challenges encountered in achieving sustainable sanitation & hygiene. And finally it speaks about proliferation of pilot projects with good initiatives that can be successfully rebooted across the nation.

Keywords: smart city, sanitation, hygiene, cleanliness, defecation, mission

I. INTRODUCTION

"Sanitation is more important than independence" ---Mahatma Gandhi ji

Today India's mission on building smart cities is prudent & hence it is at crossroads in its journey towards becoming a developed nation. Besides India's proven efforts to find smarter ways to improve the quality of life, yet sanitation & hygiene issues loom large making it imperative to rejuvenate the issue with smart governance on the way to sustainable sanitation eventually.

However, developing smart visions and solutions requires leveraging all available assets. The creativity of citizens. The proficiency of experts. The know-how of business. Emerging technologies.¹ It's all about taking advantage of new tools and partners to improve the quality of life for residents.

Consequently, gravity of the hygiene crisis calls for a realistic yet optimistic approach to effect broad – based change all over India.

The Smart City Mission is one of several major urban development programs focused on India's rapid growth & its challenges and opportunities. The aim is to promote economic growth, strengthen governance, and improve results for urban residents.

- ***India's Prime Minister, Shri Narendra Modi***

¹ Article "India Smart City Challenge" – supported by Bloomberg Philanthropies

II. OBJECTIVES OF THE STUDY

The current study focus on the following objectives:

1. To explore the role of sustainable sanitation & hygiene in 'Smart City Mission'.
2. To recommend suitable measures to improve the vulnerability of existing sanitation system in the current scenario.
3. To analyse the importance of sanitation & hygiene in 'Smart City Mission'.
4. To investigate the challenges to Smart City Mission.

III RESEARCH GAP

As India becomes more urbanized, the issue of sewage coupled with open defecation practices loom large with increased population making itself a hurdle to the India's dream of Smart City Mission.

Yet, India heading towards a vision of 'Swachh Bharat' can successfully manage the growing complexities only when it cautiously address the gap existing between various policies and programmes in the current sanitation system.

IV WHAT ARE "SMART CITIES" EXACTLY?

In view of the fact that an era of competition has been ushered in giving rise to the challenge for bettering the sanitation & hygiene conditions in respective cities and towns; **Smart Cities Mission** is an urban renewal and retrofitting program by the Modi's Government to inculcate a mission of making the whole country a citizen friendly and sustainable.

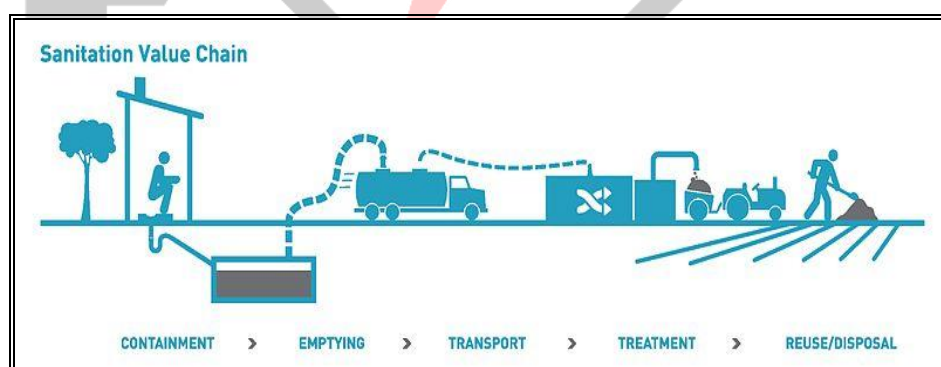
Elaborating on this, Swachh Bharat Mission was ranked the most popular flagship programme of government's initiatives since the idea of sanitation appealed to the people.

Hence, Smart cities are those equipped with vital infrastructure to set an example which replicates the smart solutions for a better outcome eventually.

V WHAT "SUSTAINABLE SANITATION" IS ALL ABOUT?

Sustainable Sanitation is a system yet comprehensive approach designed to ensure equitable access to improved sanitation and hygiene for all.

Nonetheless Sustainability considers the entire "sanitation value chain" in order to breakthrough the intergenerational cycle of serious public health issues.



Sustainable Sanitation demands 5 criteria's: i.e.,

- (i) Economically viable,
- (ii) Socially acceptable,
- (iii) Technically and

- (iv) Institutionally appropriate,
- (v) Protect the environment and the natural resources.²

VI FACTS ABOUT INDIA'S CURRENT SANITATION SYSTEM

- India has the highest number of people practising open defecation in the world at 597 million.³
- According to a recent Report released by World Health Organization (WHO), India continues to be a country with the highest number of people in the world practicing open defecation (OD) - about half of its population. And still worst, according to WHO, India is not making significant strides in reducing OD.
- India's performance is worse than that of other emerging market economies and least developed countries (LDCs). In India 65 per cent population in rural areas (30 per cent in LDCs) and 12 per cent in urban area (6 per cent) resort to OD.
- The RTE Act 2009 provides a legally enforceable rights framework with certain time targets that Governments must adhere to. The Schedule to the RTE Act lays down the norms and standards (including drinking water and sanitation) for a school building. A school building has to be an all-weather building comprising at least one classroom for every teacher, barrier free access, separate toilets for boys and girls, safe and adequate drinking water facility for all children.
- The new amendment made by the Modi Government in the Companies Act, 2013 is expected to facilitate faster channelization of Rs 20,000 crore CSR budget, a major chunk of which will go into clean water and sanitation sector.⁴

VII CONVERGENCE OF ON-GOING GOVERNMENT INITIATIVES WITH SMART CITY MISSION

Government of India has undertaken comprehensive development measures to integrate the physical, institutional, social and economic infrastructure. The backdrops of such diverse sectoral schemes converge in their goal, although their path is different.

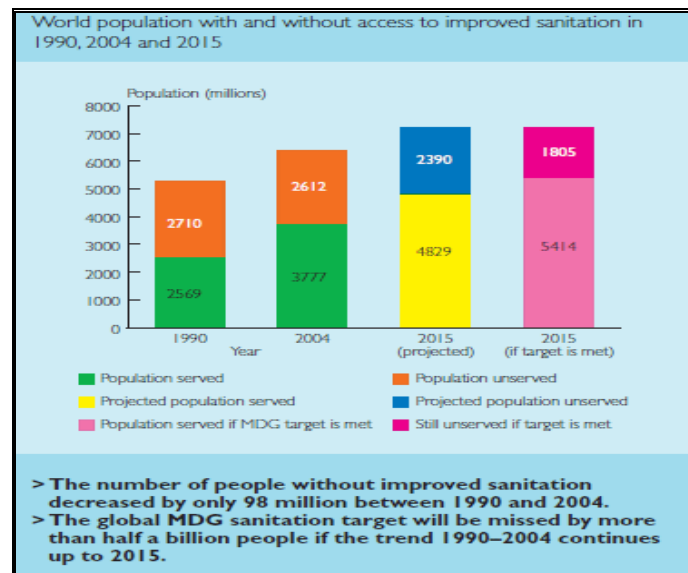
Hence ongoing pilot projects of Government of India in this regard are - AMRUT, Swachh Bharat Mission (SBM), Digital India, Skill development, Housing for All, construction of Museums funded by the Culture Department and other programs connected to social infrastructure which are well replicated setting in motion a virtuous cycle of growth and sanitation sector.⁵

² When improving an existing and/or designing a new sanitation system, 'Five' sustainability criteria need to be considered, according to the Sustainable Sanitation Alliance.

³ Article on "50 percent of India's population defecates in the open: UNICEF" - June 03, 2014, India Sanitation Portal

⁴ "New CSR policy to boost water & sanitation sector: Expert" - Jan 27, 2015, The Economic Times

⁵ "New CSR policy to boost water & sanitation sector: Expert" - Jan 27, 2015, The Economic Times



VIII CHALLENGES TO SMART CITY MISSION

1. Sustainability: The crisis is not about sanitation its all about ensuring sustainability criteria within its value chain model.
2. Behaviour Building & Modification: However the biggest stumbling block is not the lack of enough toilets, but the difficulty in convincing people to start using them.
3. Retrofitting: retrofitting the existing sanitation systems demands for a holistic approach with an effort to develop technologies which can promote recycling & reuse of waste and other disposal.
4. Public Participation: Sustainable sanitation & hygiene is a challenge designed to inculcate greater creativity, more involvement & inspiration from citizens, as they are the one who end up with concrete benefits of having decent quality of life.
5. Funding: Proper allocation of funds available with the government of India is another serious issue demanding effective planning & supervision in this regard.
6. Lack of standardized criteria.
7. Economical: Catalysing the creation of Smart Cities in various regions and parts of the country is yet another challenge to be cost efficient as developing Swachh Bharat is a costly affair.

IX. FINDINGS

1. Smart cities explore only out of realistic & optimistic outlook. Ignorance of which are the conventional efforts being hampered by short-term planning & lack of sufficient funding, and therefore struggle a lot to reach the scale needed to effect broad-based change.
2. Lack of promotion of proper sanitation, education & training coupled with conservative mindset of Indians has made the crisis to spring back with negative impact.
3. A spontaneous habit making most of the rural people indulge themselves in open defecation practices for years together.

X. SUGGESTIONS

Poor sanitation being the leading cause of child mortality & growing complexities in India, demands new initiatives by the Government to drive economic growth; among which knowledge is vital to tackle this challenge.

⁶ Survey by "The India Sanitation Portal" by WASH Institute (Water, Sanitation and Hygiene Institute)

1. India is a country known for rich heritage of its resources. All the same, efficient utilization of such resources with smart governance towards promoting sustainability in sanitation can administer the current problem in the best possible way.
2. Irrespective of the government's role to embark upon the global crisis of sanitation and hygiene, corporations with technical expertise & capability needs to step up to collaborate and, where possible, drive solutions to redouble the efforts of our public sector advocates.
3. Developing smart solutions is all about leveraging the available assets & thereby taking the advantage of new tools to make the life of Indians worthwhile.

Incidentally new tools which can be harnessed to mitigate the sanitation & hygiene crisis are -

- sanitation systems with 'urine-diverting dry toilet' (UDDT)
- recycling the excreta resources & converting the same as nutrients
- On-site sanitation methods

4. Provision for sustainability needs to increasingly focus on the criteria most excluded, i.e., rural and peri-urban counterparts, since it's the one which is often ignored.

In the view of the above fact, provision for -

- increasing awareness on importance of Open defecation free
- improving access to private and safe toilets at school
- work together to ensure equal access to clean water & sanitary facilities all year around; prove itself to be an investment which safeguards people's health & promote their well-being.

5. Concreted efforts ought to change social norms at community level as it is a key to achieve sustainable sanitation.
6. Improving the respective state governments' capacity for steering improved sanitation by assisting them with efficient sanitation plans besides proper funding.
7. Children's & schools are effective role model. As they prove a well established entry point to inculcate sanitation & hygiene education through knowledge dissemination as they provide an opportunity to engage parents & community in general towards sustainability.

XI. CONCLUSION

Nevertheless the truth, Sustainable Sanitation is an orientation towards behavioural change as it is a progressive step towards smart social development of a city along with 'hygiene promotion'. In the country like India, improved sanitation & hygiene practices are an investment rather than expenditure in the health of future generations.

Consequently the smart-city is all about efficiency, optimisation, inevitability, convenience and security. However the most important aspect here is public participation in governance of the aforesaid measures rather than just a ceremonial participation. Only then, our national mission of 'total sanitation for all' would be possible in the light of smart city projects.

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