

Sanitation Revolution: Cleansing Urban India

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A

multi-pronged approach comprising regulatory and policy level changes, sustainable infrastructure creation and focusing on attitudinal and behaviour change among people through large scale citizen engagement has been the hallmark of the Government's initiatives on the journey towards a "Swachh Bharat".

The Cost of Poor Sanitation

The Sustainable Development Goals (SDGs) place significant emphasis on sanitation, cleanliness and hygiene. There is significant evidence globally that better sanitation, hygiene and cleanliness helps in effective control of various vector borne diseases, parasite infections and nutritional deficiencies. There have been studies linking cleanliness and hygiene with reduction in respiratory disorders, gastrointestinal diseases (especially diarrhea), psychological issues and allergic conditions. As per a UNICEF report (2011)¹, almost 90 per cent of child deaths from diarrhoeal diseases are directly linked to contaminated water, lack of sanitation or inadequate hygiene. In addition to the impact on communicable diseases, better sanitation, hygiene and waste disposal lead to reduction in occurrences of low birth weight babies, spontaneous abortions and occurrences of birth defects. Various

studies have established that the problem of solid waste management has been compounded due to high population growth rates and population concentration in urban areas. Waste that is not properly managed, especially excreta and other liquid and solid waste from households and the community, are a serious health hazard and lead to the spread of infectious diseases. Unattended waste lying around attracts flies, rats, and other creatures that, in turn, spread disease.²

Studies have proved that improvement in sanitation and hygiene results in better health outcomes. As per the India Health Report for Nutrition Security in India (PHFI, 2015)³, the North Eastern state of Mizoram has reported a 13 percentage-point decline in stunting (below normal height for the age) and five percentage points decline in underweight children (underweight and short) between 2006 and 2014 due to improved access to sanitation. Improved sanitation has been shown to have significant impact not only on health, but also on social and economic development, particularly in developing countries. For example, an independent study conducted by UNICEF in India⁴ in August 2017 established that every Indian family will save about INR 50,000 annually if open defecation is eliminated.

The Launch of Swachh Bharat Mission

Decades ago, Mahatma Gandhi said that '*sanitation is more important than political freedom*'. The launch of Swachh Bharat Mission on 2nd October 2014 by the Prime Minister to address this burgeoning health crisis was a historic moment for India – not merely for placing the issue of sanitation at the centre of the Government's developmental agenda, but also for the resounding message that was sent out from the ramparts of the Red Fort: "*Na Gandagi Karenge, Na Karne Denge*" (*I shall not make my environment dirty, nor will I allow others to do so*), thereby making every citizen an equal partner in India's journey towards 'swachhata'. The Swachh Bharat Mission (Urban) (refer Figure 1), being implemented by the Ministry of

Housing and Urban Affairs (MoHUA) is aimed at transforming Urban India into a garbage-free and open defecation free country across all its towns and cities by 2nd October 2019, and will be a fitting tribute to Gandhiji's memory on his 150th birth anniversary.

The Journey So Far

The journey of four years since the launch of the Mission has been exciting and sometimes tumultuous, with many heartening successes tempered by some challenges. During the first two years of launch of the Swachh Bharat Mission, the major focus of the Government was on putting in place an enabling environment for achieving the Mission objectives – making all statutory towns Open Defecation Free (ODF), alongwith 100 per cent scientific management of municipal solid waste. This was done through suitable policy

changes to encourage infrastructure creation for conversion of waste into value added products on the one hand, while parallelly creating a conducive environment for large scale citizen engagement and participation. These efforts have been yielding promising results (refer Figure 2), with rapid and visible on-ground outcomes helping to accelerate the pace of progress of the Mission. As we begin the last year of our 'swachhata' journey, we are able to look back with a sense of satisfaction and pride in our achievements, which have brought India to the cross-roads of an exciting transformation to a New India.

Sanitation – the ODF journey

As far as sanitation is concerned, the Urban Mission is well on track to achieve its ODF targets. The most significant achievement in sanitation has been a paradigmatic shift in the way SBM (Urban) is being implemented - the focus is now on counting and sustaining Open Defecation Free (ODF) towns/cities, rather than only counting toilets. When the Mission was launched, no city or town in India was ODF. Today, urban areas of 19 States/UTs have become ODF. We have realised that merely becoming ODF is not enough to address all the sanitation challenges that a city faces. For example, how would households with space constraints, residents of slum colonies, a visitor to a city or any floating population respond to nature's call? Where would they get access to clean, functional and usable toilets? Hence, we have now introduced the SBM ODF+and ODF++protocols to address the issue of operation and maintenance of community and public toilets, and also the issue of holistic sanitation, including faecal sludge management, so that the ODF outcomes that we have achieved are sustained in the long run. Parallelly, MoHUA has partnered with Google to upload and make available on Google maps all the public and community toilets in the cities (refer figure 3) so that citizens and visitors are able to easily locate these facilities in their vicinity. So far this has been completed

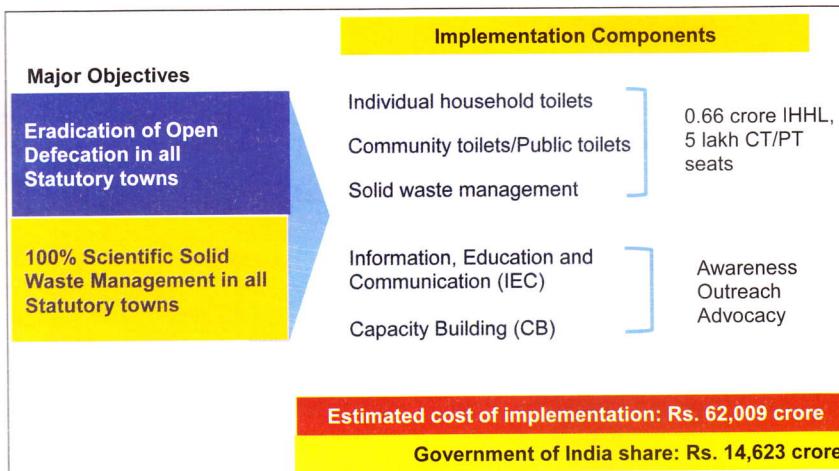


Figure 1: Components and targets of SBM Urban

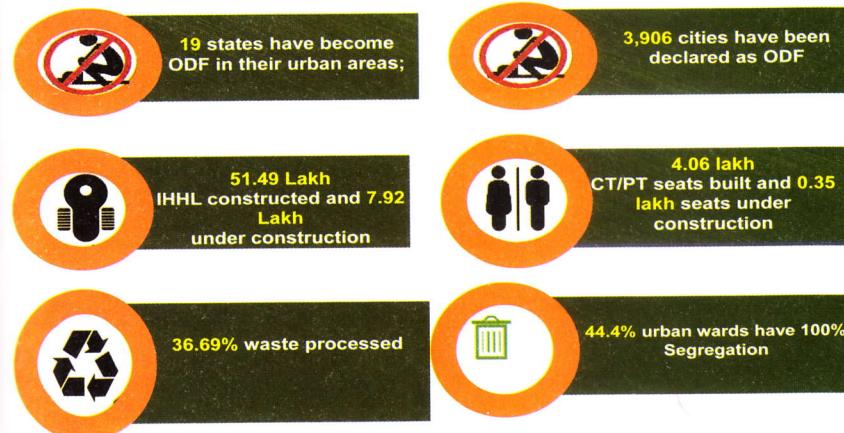


Figure 2: Summary of Achievements under SBM Urban

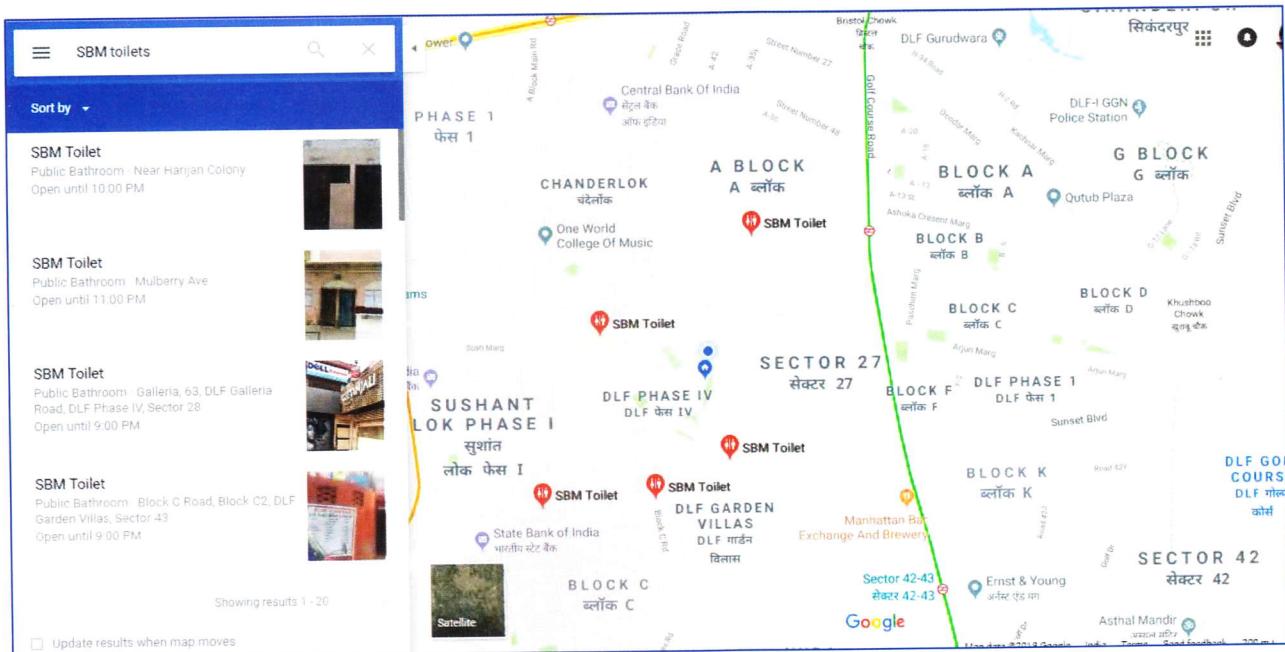


Figure 3: Public Toilets (SBM Toilets) on Google maps

for 550 cities/towns across the country; out of which 179 are with population over 1,00,000.

Solid Waste Management – a Multi-pronged approach

It has to be acknowledged that while the ODF objective in India is on the brink of success, addressing the issue of Solid Waste Management poses a far greater challenge. In India, an estimated 65 million tonnes of Municipal Solid Waste is generated annually by around 400 million citizens residing in urban areas (refer

Figure 4). It is estimated that 165 million tonnes of waste will be generated by 2030 and 450 million tonnes by 2050, along with resultant public health and environmental challenges. We are also losing 1,250 hectares of additional precious land every year to accommodate dumping of un-processed municipal solid waste.

Therefore, MoHUA has adopted a multi-pronged approach to address the complex issue of scientific waste management in urban areas of India. This includes policy and regulatory

changes to encourage processing of waste to value added products on the one hand, along with Mission initiatives such as Swachh Survekshan to inculcate a spirit of healthy competition, and Star Rating for Garbage Free cities to ensure long term sustainability.

At the time of launch of the Swachh Bharat Mission, 95 lakh tonnes per annum of waste was the treatment capacity across processes such as composting, bio-methanation, RDF and waste to energy plants⁵. This has been enhanced substantially in the last 4 years, and approximately 37 per cent of the total waste generated is being processed today. States such as Chhattisgarh, Kerala and Goa have been doing exemplary work on Solid Waste Management. Similarly, cities such as Indore, Navi Mumbai, Aligarh, Sasvad, and Bengaluru are showing the way forward in innovative and sustainable approaches (refer Box 1) for managing their solid waste.

Swachh Survekshan– a Tool for Mission Monitoring and Governance

Under the SBM Urban, MoHUA has been conducting the *Swachh Survekshan* (refer Figure 5)-an annual

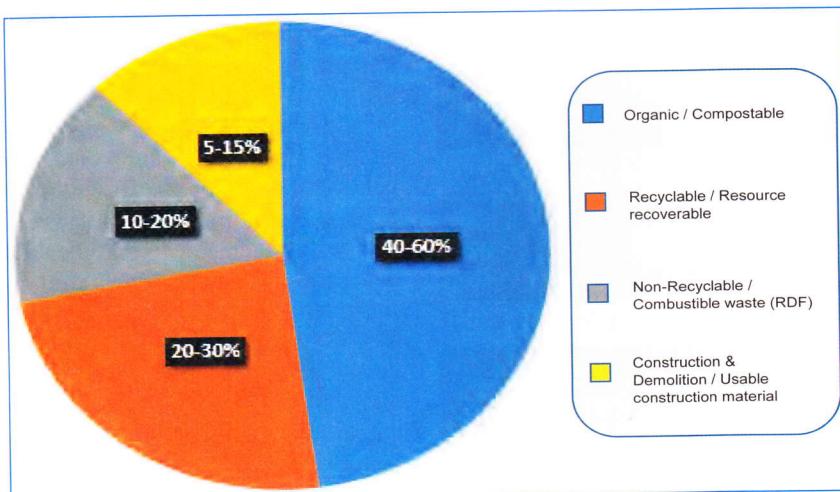


Figure 4: Waste profile in Urban India

BOX 1: Success Stories from States and Cities

- Chhattisgarh is on its way to becoming a Zero Landfill state through the Zero Waste Model being replicated in its cities. Ambikapur in Chhattisgarh has no open dumping yards, segregating over 90 per cent of its waste and generating ₹13 lakh every month through their innovative Solid Liquid Waste Management (SLRM) approach.
- Kerala has been leading the way in decentralized waste management with most of its cities having installed pipe compost and bio gas plants at the household level. In fact, Alappuzha in Kerala is among the top five cities in the world recognised by the United Nations Environment Programme (UNEP) in its efforts to tackle the problem of solid waste.
- Goa has proven how waste can be an asset through its source segregation into 5 fractions. The city claims 100 per cent door to door collection. Most residential societies have composting units and kitchen gardens in place for utilizing the compost produced.
- 100 per cent of waste in Gangtok is being segregated at sources and being processed.
- Indore, Bhopal and Jabalpur in MP are practicing 100 per cent source segregation.
- Navi Mumbai is already segregating 88 per cent of its MSW at source.
- Bengaluru has an innovative online portal to support all Bulk Waste generators to comply with SWM rules.
- Nagpur has introduced an innovative watch which helps the ULB to monitor attendance of sanitary workers through geo-tagging of their locations during their working hours
- Aligarh has introduced ‘magic bricks’ made out of dry waste which can be used in construction activities
- Sasvad in Maharashtra uses an innovative colour coding of households (red, yellow, green) to denote households that do not segregate their waste, segregate occasionally, and regularly segregate respectively.
- Jharkhand uses a similar approach of colour coding for households that are practicing / not practicing open defecation (e.g. green colour for households that are ODF, yellow for households that have toilets but resort to OD sometimes, red for households that practice OD regularly)

survey to rank cities on various sanitation and cleanliness parameters. The survey has been successful in enthusing cities with a spirit of healthy competition towards the concept of ‘swachhata’, while also emerging as an effective Mission monitoring and governance tool. In its first round in 2016, the ‘Swachh Survekshan’ was conducted among 73 million plus cities and State / UT capitals of India. In 2017, the survey was conducted among 434 cities with population over 1,00,000. Swachh Survekshan 2018, which covered 4,203 ULBs, was the first ever Pan India Sanitation Survey impacting around 40 crore people, and probably the largest such survey in the World.

Swachh Survekshan 2019, which focuses on innovation, sustainability, citizen engagement, garbage-free status etc., will be conducted across all towns and cities in January 2019.

Star Rating for Garbage Cities

The Ministry has introduced a new innovative initiative for evaluating the Garbage Free status of Cities and awarding the “**Garbage Free City Stars**” to the city. The Star Rating initiative, which is a rating protocol based on twelve (12) parameters, follows a SMART framework – Single metric, Measurable, Achievable, Rigorous verification mechanism and Targeted towards outcomes – and has been devised in a holistic manner covering all aspects of Solid Waste Management viz. Public Cleanliness, Door to Door collection, source segregation, processing, cleanliness of drains and water bodies, plastic waste management, managing construction and demolition waste, etc. which are critical drivers for achieving garbage free cities. In fact, the Star Rating protocol, properly implemented, can prove to be a game changer and revolutionise the way Solid Waste is managed in India. In fact, as more and more cities get certified as ‘stars’ and ‘citizens’ aspirations grow around cleanliness and higher standards of liveability, it may well emerge as a key differentiator in the administrative/

- City ranking survey on mission-related parameters, to foster competition among cities as well as monitor progress under the mission,
- First ever Pan India Sanitation Survey impacting around 40 crore citizens
- Largest ever swachh survey in the world
- Increased focus on innovation, outcomes and sustainability

Survey Methodology	Swachh Survekshan - 2016	Swachh Survekshan - 2017	Swachh Survekshan - 2018	Swachh Survekshan - 2019
ULB documentation	73 Cities With Million+ population and State Capitals	434 Cities With 1 lakh+ population and State Capitals	4,203 Cities	All Cities & Towns
Citizens' Feedback	Cleanest City- Mysuru	Cleanest City- Indore	Cleanest City- Indore	To be conducted in Jan 2019

Figure 5: Swachh Survekshan – a Mission Monitoring and Governance Tool

political fabric of the country, where ‘number of stars’ for their city can be one of the parameters for evaluating effectiveness of administration and elected representatives in achieving Swachhata.

Moving towards a ‘Janandolan’

The most exciting achievement under the Mission has been the way the Mission has caught the imagination of citizens -children, youth and senior citizens alike. In the last four years, alongwith infrastructural and regulatory changes, a parallel social movement has been steadily gathering momentum among citizens. On 2nd October 2017, Prime Minister said that “.....*Agar ek hazaar Mahatma Gandhi aajaayen, Ek lakh Narendra Modi aajaayen...Toh bhi Swachhata ka sapna kabhi poora nahi ho sakta. Lekin agar savasau crore desh vasia ajaayen toh, Dekhte hi dekhte sapna poora ho jayega*”. (Even if one thousand Mahatama Gandhi or one lakh Narendra Modi try to do, vision of cleanliness cannot be achieved. But if the 125 crore citizens of the country try, this vision will be achieved in no time). This shows the role of citizens in achieving the ultimate goal of Swachhata by 2nd October, 2019.

At the time of launching the Mission, the Prime Minister had nominated nine celebrity icons as ‘Swachh Bharat Brand Ambassadors’ to act as role models for citizens to contribute their efforts towards ‘swachhata’. Today, we have more than

BOX 2: Some Inspiring Stories of Citizen Participation

- A doctor couple from Chalapalli district have been undertaking cleanliness drives in their surroundings every day of the year.
- Monks of Ramakrishna Mission in Karnataka hold regular cleaning drives alongwith citizen volunteers to keep roads and localities clean.
- Wing Commander Paramvir Singh, alongwith three swimmers and six raft-men, undertook a ‘Ganga Avahan’, swimming a length of 2,800 km along River Ganga, from Devprayag (Uttarakhand) to Ganga Sagar (West Bengal), to spread awareness about the Swachh Bharat Mission.
- Three enterprising ladies from Maharashtra - Suvarna Lokhande from Sinnar -Nasik district, Sangeeta Awhale from Saikheda- Washim district, and Chaitali Rathod from Mozar - district Yavatmal - had taken the initiative of building toilets for their families, for their personal and their families’ self-esteem.
- While Suvarna took a loan from “Bachat Gat” (Self-help Group) for building the toilet, Sangeeta sold her mangalsutra to fund the toilet, and Chaitali asked for a toilet at her in-laws’ place instead of any other items from her parents during her marriage.
- KOSHISH, a Durg-based group of individuals of all ages cleans the parks near their community every morning for the use of senior citizens.
- The Sant Nirankari Mandal regularly conducts several cleanliness drives around roads, streets, parks, heritage sites, water bodies and railway stations.
- Agra-based organization India Rising carries out weekly cleaning drives with citizen volunteers across multiple locations in the city.

150 such brand ambassadors who are inspiring citizens to become partners with the Government in our collective journey towards swachhata.

Through other initiatives such as thematic drives with citizen participation, engaging students and self-help groups to be the agents for social behaviour change (refer Figure

6), engaging *swachhagrahis* across the country to drive behaviour change, running multi-media communication campaigns with messages of ‘swachhata’, ‘swachhata selfie’ series (refer Figure 7) on radio that captures best practices in sanitation and solid waste management from across the country and use of various ICT tools and apps for greater citizen

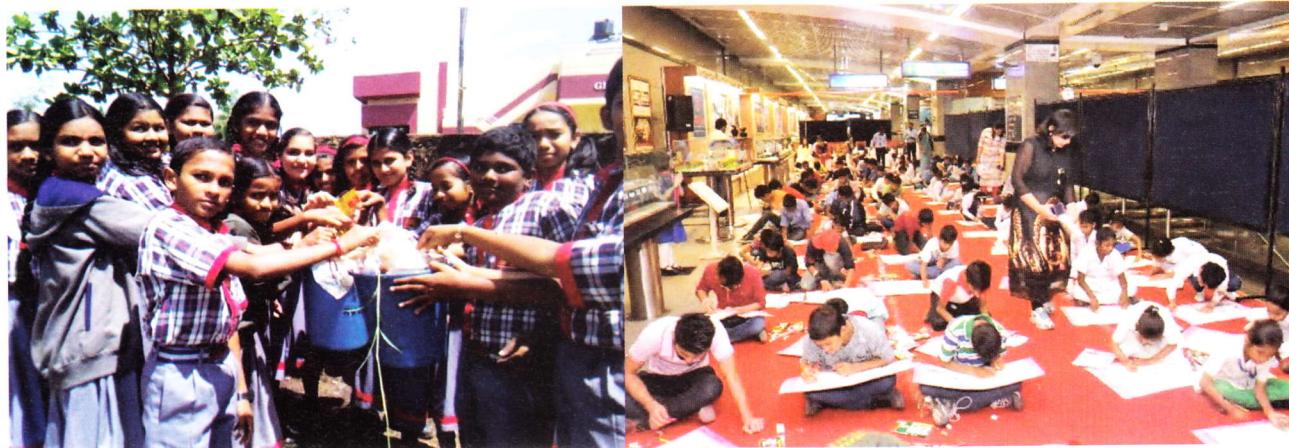


Figure 6: Children as Change agents

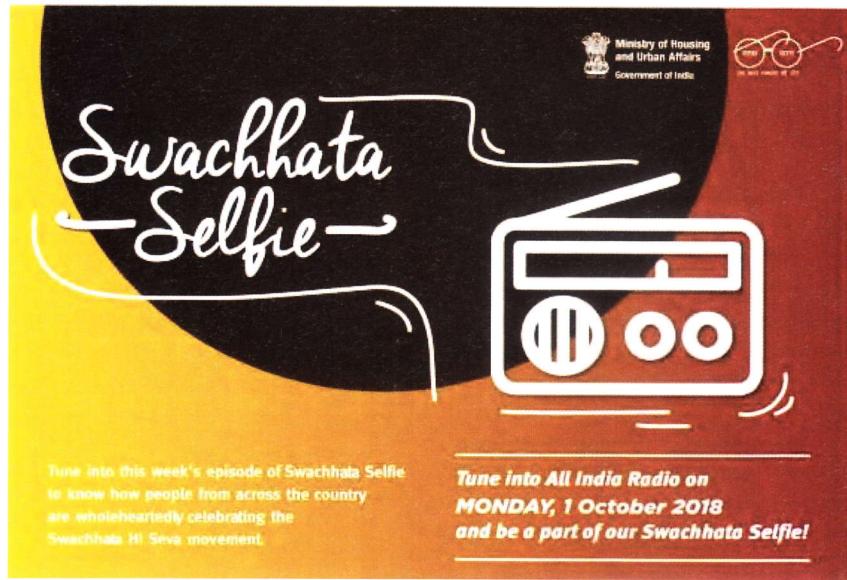


Figure 7: Swachhata Selfie on radio

participation and engagement - there is now a growing appreciation among people that sanitation and cleanliness is not the sole responsibility of the Government, and that each of us is equally responsible for maintaining cleanliness of our surroundings (refer Box 2). Nowhere has this feeling of 'janandolan' been demonstrated more than in the overwhelming participation by nearly 40 lakh citizens, comprising school children, students, home makers, RWAs, religious leaders, corporate houses and local business people, and celebrities in nearly 25,000 events in Urban India across thousands of towns and cities, as witnessed during the 'swachhata hi seva' fortnight (refer Figure 8) run across the country as a run-up to the 2nd October celebrations this year.



Figure 8: Snapshots of Swachhata hi Seva

Success Story

Plastic Free Sitamarhi

Sitamarhi, the first district in Bihar to become open defecation free (ODF), on 17th July 2018 is now heading towards a much-talked about plastic ban that will be carried out in a phased manner. This initiative comes under Swachh Bharat Mission-Gramin/ Lohiya Swachh Yojana, the vision being Swachh Sitamarhi (Clean Sitamarhi), Sunder Sitamarhi (Beautiful Sitamarhi).

Under this, all kinds of plastic bags (both with and without a handle), all plastic or thermocol cutlery such as spoons and plates, non-woven polypropene bags, food containers, plastic packaging, and PET and PETE bottles are included.

Until now as many as 10 lakh cotton bags which have been made by rural woman entrepreneurs from various Self Help Groups (SHG) of project JEEVIKA have been procured by the district for distribution. Plastic free Sitamarhi campaign will not only reduce the micro-plastic contents in the food cycle but will also give a boost to the rural woman entrepreneurs in Sitamarhi District. This is in line with the newly launched Start-up Village Entrepreneurship Program of JEEVIKA and will act as a catalyst for woman empowerment towards a social cause.

There have been wide ranging benefits accruing from the Swachh Bharat Mission. For example, more than 74,000 informal workers have

been mainstreamed into the waste management chain across cities, thereby providing them with steady livelihoods. The Ambikapur model of Solid Liquid Resource Management that is being replicated across multiple cities in the country has provided jobs to thousands of Self Help Groups (SHGs) women members, with monthly earnings of between Rs. 10,000–Rs 15,000 per head, leading

to improving their quality of life. Social entrepreneurship and innovations are on the rise with citizens and start-ups getting into this sector for converting waste into value added products (e.g. converting flower and temple waste into agarbattis, discarded tyres into household furniture, recycling solid waste into handicraft items, decoration products/sculptures, attractive cloth/jute bags to replace polythene products etc.), producing innovative and cost effective equipment for Solid Waste Management, or creating business models in waste collection, recycling and recovery.

A back-of-the-envelope calculation reveals that potential value added from solid waste today can be to the tune of more than Rs 20,000 crores (assuming 1 MT of waste generates a value of Rs 3,000), and if properly harnessed and leveraged, can evolve into a trillion-rupee industry and will be a huge contributor to the economy.

Way Forward

Given the impetus and momentum around swachhata that has been garnered both among State/UT and city administrators and the citizens, we have our task cut out for the days ahead. At MoHUA, other Missions such as Atal Mission for Rejuvenation and Urban Transformation (AMRUT) which addresses the issue of waste

water and faecal sludge management, the Smart Cities Mission (SCM) which has Solid Waste Management as one of its development parameters - are complementing the SBM (Urban)'s efforts in taking forward the mandate of sanitation and waste management. The focus will now be not only on sustaining the momentum but on accelerating the pace further through innovative, game changing approaches, along with a strong regulatory and legal framework and strict enforcement. I am hopeful that the recent initiatives by MoHUA and the Central/State/Local Governments, and interventions by the National Green Tribunal (NGT) will combine to further consolidate and accelerate our progress.

Conclusion

Today, the concepts of cleanliness and swachhata have come to embody the spirit of empowerment and quality of life. Investments in sanitation and garbage free cities can significantly impact our lives and the larger environment -by providing a better quality of life for all, especially the economically weaker sections, ensuring dignity and safety of women and children, positively impacting health outcomes through reduction in vector-borne diseases, providing enhanced livelihood opportunities and greater earning potential for rag pickers and other informal sectors, opening

up entrepreneurial opportunities in the waste management sector, and improving tourism potential and resultant foreign exchange inflow, thus positively impacting the GDP of the country and contributing to a cleaner environment. A Swachh environment will lead to a 'Swasth, Swastha, Samarth, and Samriddh' Bharat and pave the way for New India – 2022.

Endnotes

- 1 UNICEF. (n.d.). *UNICEF*. Accessed from https://www.unicef.org/media/media_68359.html
- 2 <http://edugreen.teri.res.in/explore/solwaste/health.htm>
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- 4 https://mdws.gov.in/sites/default/files/UNICEF_Economic_impact_study.pdf
- 5 The Kasturirangan report.
- 6 Jagran. (2017, September). *Jagran*. Retrieved from Jagran National: <http://www.jagran.com/news/national-swachh-bharat-abhiyan-effects-illnesses-70-percent-decreased-in-indore-16744224.html> □

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Locate Public Toilets on Google Maps

The Ministry of Housing and Urban Affairs, under the aegis of Swachh Bharat Mission – Urban (SBM – U), has partnered with Google to launch the Loo Review campaign to encourage all local guides in India to rate and review public toilets on Google Maps. This campaign is part of a feature which allows all citizens to locate public toilets in their cities on Google Maps, Search and the Assistant and also provide feedback on the same. 500+ cities in India with more than 30,000 toilets with the name of "SBM Toilet" are currently live on Google Maps.

The joint campaign to be run throughout October and November 2018 is an effort to increase the awareness and ease of locating public toilets across India. The campaign will involve and engage Local Guides in India to rate and review public toilets on Google Maps, and use the hashtag #LooReview for the chance to be featured on Google Local Guides' social channels. Local Guides are people who share reviews, photos, and knowledge on Google Maps to help people explore the world.

Anyone can join the Local Guides community and review places on Google Maps. To find a place to visit and review, search "Public toilet near me" on Google Maps.

Join the Local Guide community online:

Facebook - Google Local Guides • Twitter - @googlelocalguides • Youtube - Google Local Guides