

From *Swachh* Bharat to *Sundar* Bharat via *Swasth* Bharat : An Analysis of the *Swachh* Bharat Mission

08

CHAPTER

वसुधाकीटसर्पाखुमलसंदूषितोदकाः।

क्रिमिलं क्लिन्नं पर्णशैवालकदमै। विवर्णं विरसं सान्द्रं दुर्गन्धं न हितं जलम्॥ च.सू.

“The river having water polluted with soil and faeces, insects, snakes and rats and carrying rainwater will aggravate all doshas. Slimy, having insects, impure, full of leaves, moss and mud, having abnormal color and taste, viscous and foul smelling water is not wholesome.”

— Charaka Samhita

Aligning with the ideals of Mahatma Gandhi, the Swachh Bharat Mission (SBM) was initiated in 2014 to achieve universal sanitation coverage by 2 October 2019. This flagship programme is, perhaps, the largest cleanliness drive as well as an attempt to effect behavioural change in the world ever. Even 67 years after India's independence, in 2014, around 100 million rural and about 10 million urban households in India were without a sanitary toilet; over 564 million, i.e. close to half the population, still practiced open defecation. Through SBM, 99.2 per cent of rural India has been covered in the last four years. Since October 2014, over 9.5 crore toilets have been built all over the country and 564,658 villages have been declared Open Defecation Free (ODF). As on 14 June 2019, 30 States/UTs are 100 per cent covered with Individual Household Latrine (IHHL). SBM has significantly improved health outcomes. To highlight the impact of SBM on health, new evidence is provided that SBM has helped reduce diarrhoea and malaria among children below five years, still birth and low birth weight (new born with weight less than 2.5 kgs). This effect is particularly, pronounced in districts where IHHL coverage was lower in 2015. Financial savings from a household toilet exceed the financial costs to the household by 1.7 times, on average and 2.4 times for poorest households. As sanitation gained over the last four years contributes to Sustainable Development Goals (SDGs), especially the SDG 6.2, the momentum must be sustained to make cleanliness an integral part of India's consciousness.

INTRODUCTION

8.1 Mahatma Gandhi once said, “Sanitation is more important than independence.” Proper sanitation and hygiene are essential inputs not only for healthy and disease free living but also for a dignified life as a human being. The ancient Indus valley civilisation accorded prime importance to sanitation by meticulously integrating sanitation systems

into town planning. Although sanitation and hygiene are considered to be virtues in all cultures and religions of the world, prevalence of unsanitary conditions have been a problem faced by most of the countries at some point of time in the process of their economic development. Many have alluded to the unhygienic conditions that prevailed in the industrial towns of 19th century Europe.

8.2 Lack of access to basic sanitation services continues to be a major problem in many parts of the world. In 2015, 2.3 billion people, globally, lacked basic sanitation services (JMP, 2017). Lack of sanitation has been recognised as a major problem in India. Even after 67 years of India's independence, in 2014, around 10 crore rural and about one crore urban households in India were without a sanitary toilet and over 55 crore – about half the country's population – still practiced open defecation. In fact, an unflattering national fact was that open defecation in India represented 60 per cent of open defecation globally. Poor sanitation costs India around 5.2 per cent of its GDP (LIXIL, Water Aid and Oxford Economics, 2016).

8.3 The Government's emphasis on working towards a clean India in mission mode was reflected in the speech of the Prime Minister, Narendra Modi from Rajghat at the Swachh Bharat Mission launch on 2 October, 2014, when he declared: "If people of India can reach Mars with minimal expenditure, why can they not keep their streets and colonies clean." The Swachh Bharat Mission (SBM) was launched as a multi-pronged approach to enhance the level of sanitation in the country. The focus under this mission has not just been on construction of toilets but also on effecting a behavioural change in the communities. The result has been substantial gains in health parameters as shown by various studies. The gains from a cleaner India are important inputs, directly as well as indirectly, for achieving broader economic development objectives.

SWACHH BHARAT MISSION-GRAMIN (SBM)

8.4 Recognising the need for urgent action on the sanitation front, on 2 October, 2014, the birth anniversary of Mahatma Gandhi, Prime Minister, Narendra Modi announced India's Swachh Bharat (Clean India) Mission to enhance the

quality of life by promoting cleanliness, hygiene and eliminating open defecation. The targets of the mission are to be met by 2 October, 2019, coinciding with the 150th birth anniversary of the Father of the Nation.

8.5 SBM adopts a multi-faceted approach including:

- *Community participation*: Ensuring appropriate participation of the beneficiary/communities, financially or otherwise, in the setting up of the toilets to promote ownership and sustained use.
- *Flexibility in Choice*: SBM offers flexibility by building in a menu of options so that the poor/disadvantaged families can subsequently upgrade their toilets depending upon their requirements and their financial position. This is done to ensure that sanitary toilets are constructed, which ensures safe confinement and disposal of faeces. An illustrative list of technology options, with cost implications is provided to meet the user preferences and location-specific needs.
- *Capacity Building*: SBM augments the institutional capacity of districts to change behaviour at the grassroots level and strengthen the capacities of implementing agencies so that the programme could be rolled in a time-bound manner and collective outcomes could be measured.
- *Instil Behaviour change*: Incentivizing the performance of State-level institutions to implement activities for behavioural change among communities. Emphasising on awareness generation, triggering mind-set changes, leading to community behaviour change and demand generation for sanitary facilities in houses, schools, anganwadis, places of community congregation and for solid and liquid waste management activities.

- *Broad-based Engagement:* SBM set up the Swachh Bharat Kosh to encourage Corporate Social Responsibility and accept contributions from private organizations, individuals and philanthropists.
- *Use of Technology:* Information technology and social media is imperative to this program as it allows citizens to keep a check on the availability of toilets for every rural household in India. Nearly 90 per cent of all SBM toilets have already been geo-tagged. Many mobile applications have been launched by not only the government but also by few citizens, which direct the municipal corporations' attention towards unclean areas.

8.6 Under SBM, an incentive of ₹12,000 is provided for construction of Individual

Household Latrines (IHHL) to eligible beneficiaries in rural areas and covers for provision of water storage. The central share for the incentive provided for IHHLs is 60 per cent and the State share is 40 per cent. For North Eastern States, Jammu and Kashmir and Special Category States, the central share is 90 per cent and the State share is 10 per cent. Additional contributions from other sources are also permitted. A total of ₹51,314.3 crore has been allocated since 2014-15 for SBM, out of which, ₹48,909.2 crore has been released (95.3 per cent). Additionally, a provision was made for Extra Budgetary Resources of ₹15,000 crore of which ₹8,698.20 crore has already been drawn. Details of the funds allocated for SBM and the funds released to the States/UTs since 2014-15 are given in Table 1.

Table 1: Details of funds allocated and the funds released for SBM (2015-19)

Years	₹ (in Crore)		
	Funds Allocated	Funds Released	Fund Utilization (per cent)
2014-15	2850.0	2730.3	95.8
2015-16	6525.0	6363.0	97.51
2016-17	10513.0	10272.0	97.70
2017-18	16948.27	16610.9	98.0
2018-19 (RE) *	14478.1	12932.96	89.3

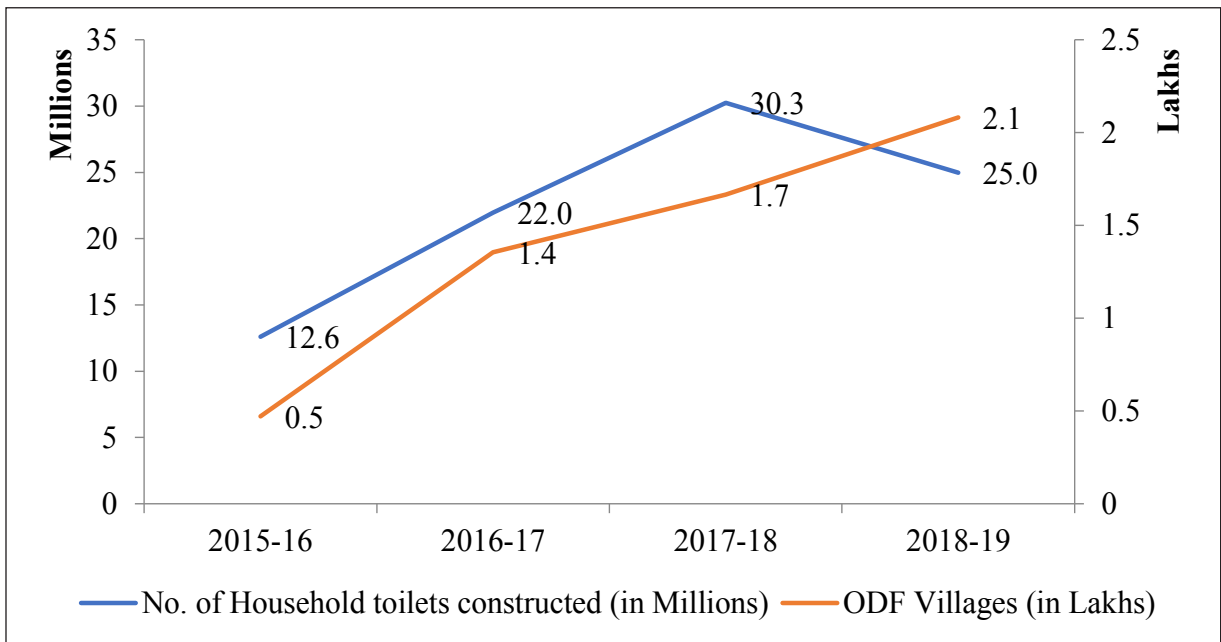
* (up to 31.03.2019)

Source: Ministry of Drinking Water and Sanitation

8.7 As a result of the efforts of the Government, as on date, 98.9 per cent of India has been covered under SBM. Since October 2014, over 9.5 crore toilets have been built all over the country (till 14.06.2019). The total number of household toilets constructed from 2014 till 2018 shows a rapid progress over the last few years starting from less than 50 lakh household toilets per year and reaching up to over 3 crore toilets per year. A major focus of SBM has been on making villages Open Defecation Free (ODF). ODF would mean

the termination of faecal-oral transmission, defined by a) no visible faeces found in the environment/village and b) every household as well as public/community institution(s) using safe technology option for disposal of faeces. The number of ODF villages have significantly increased since 2015 (Figure 1). As on 29.05.2019, 5,61,014 villages (93.41 per cent), 2,48,847 gram panchayats (96.20 per cent)- 6,091 blocks (88.60 per cent) and 618 districts (88.41 per cent) have been declared ODF.

Figure 1: Number of household toilets constructed and ODF villages (2015-19)



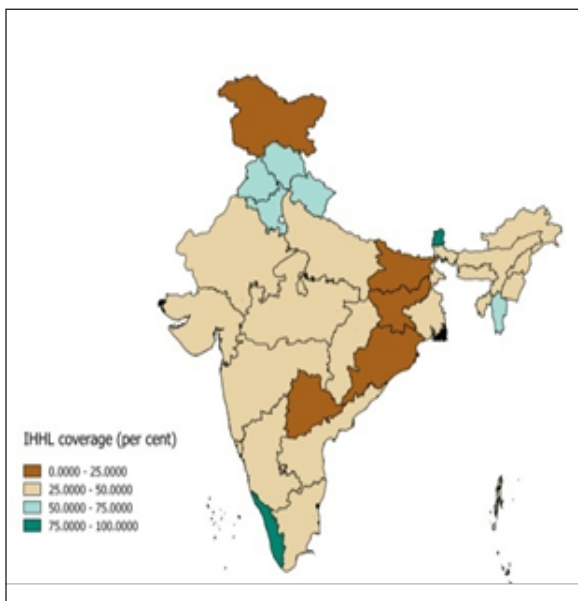
Source: Ministry of Drinking Water and Sanitation

8.8 Most of the states showed significantly greater access to IHHL in 2018-19 as compared to 2014-15 (Figure 2). Most of the states have achieved the status of 100 per cent IHHL coverage and only few states are yet to

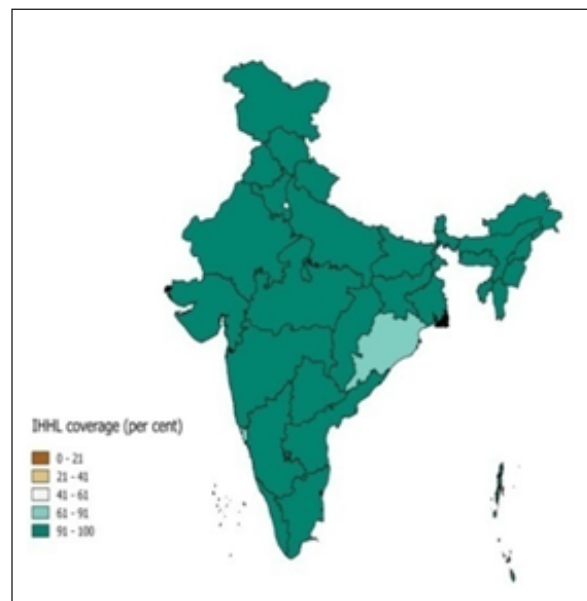
achieve their targets (Figure 2). Goa has the lowest IHHL coverage followed by Odisha and Telangana. Karnataka and Arunachal Pradesh are very close to achieving 100 per cent IHHL coverage.

Figure 2: Individual Household Latrines in 2014-15 and 2018-19 (in per cent)

Individual Household Latrines (IHHL) 2014-15 (in per cent)



Individual Household Latrines (IHHL) 2018-19 (in per cent)



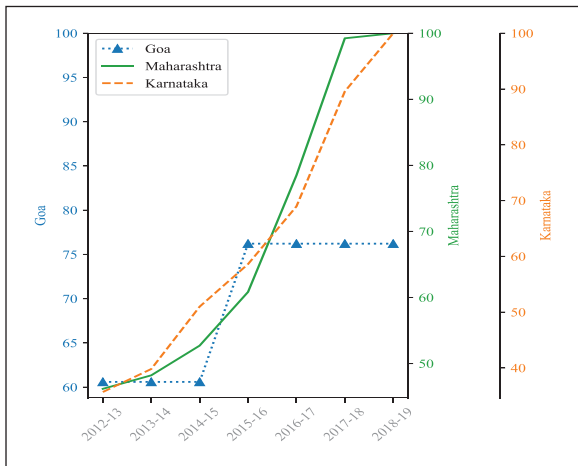
Source: Ministry of Drinking Water and Sanitation

8.9 A comparison of some of the states in IHHL coverage and their neighbouring states has been depicted in Figure 3. Goa, in spite of starting from a very high baseline has shown a saturation of IHHL coverage to around 70 per cent only, whereas the neighbouring states of Maharashtra and Karnataka have shown significant improvements. In Odisha,

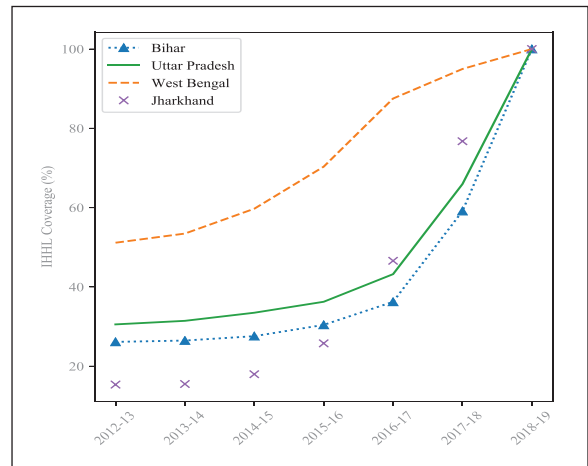
coverage is yet to achieve 90 per cent level, whereas the neighbouring states of Andhra Pradesh, Jharkhand and Chhattisgarh have shown significant improvements. West Bengal continues to increase the coverage from its high base in 2012-13, whereas the neighbouring States of Bihar and UP have also shown momentum since 2015-16.

Figure 3: IHHL Coverage of some States in comparison to its neighbouring States

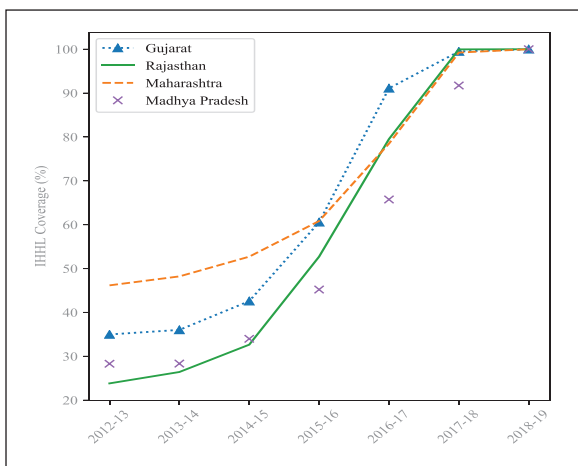
IHHL Coverage (%) in Goa & nearby States



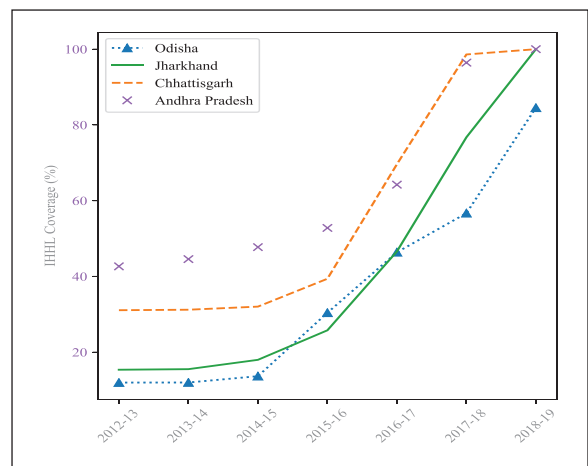
IHHL Coverage (%) in Bihar & nearby States



IHHL Coverage (%) in Gujarat & nearby States



IHHL Coverage (%) in Odisha & nearby States



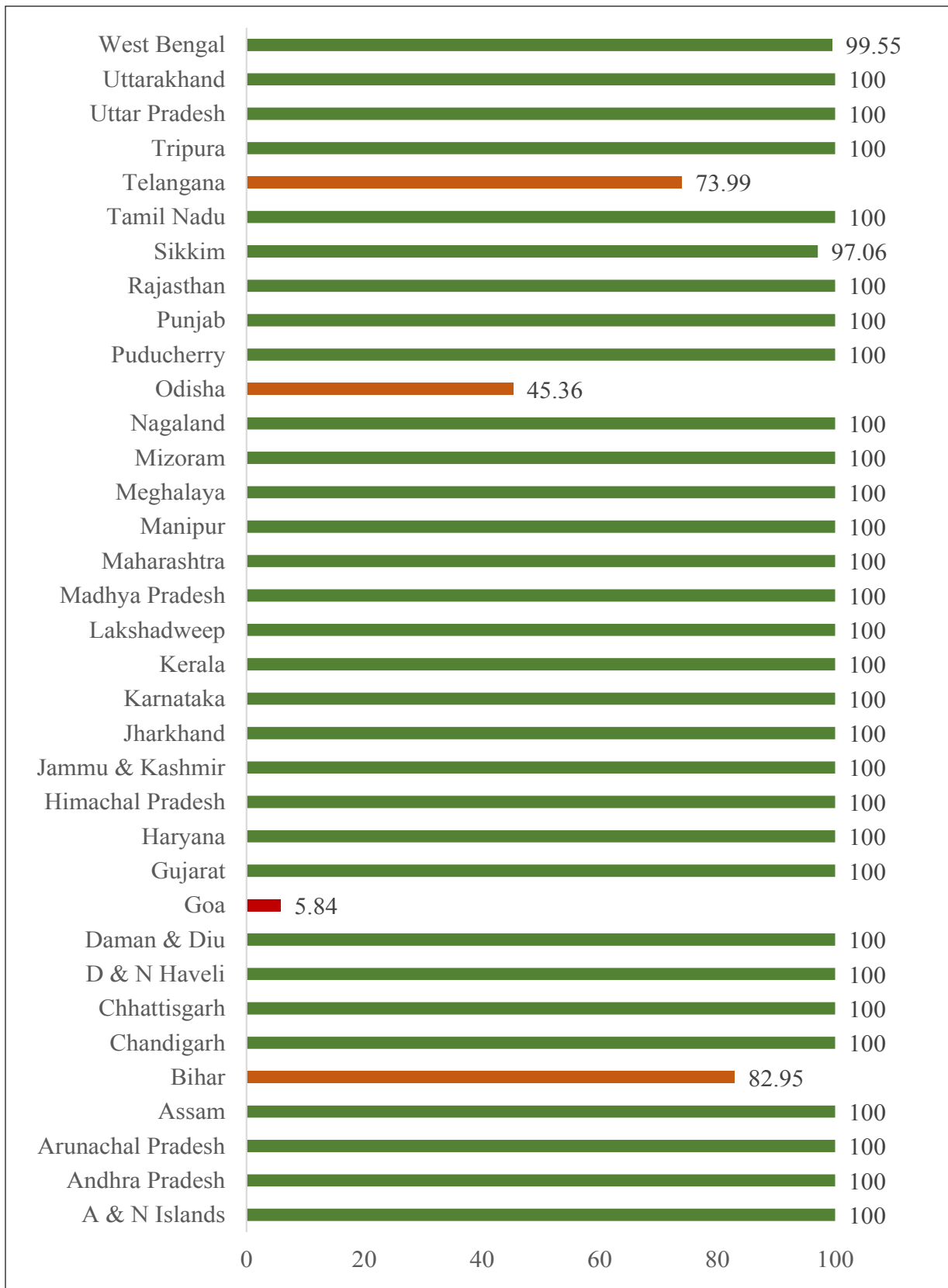
Source: Ministry of Drinking Water and Sanitation

COMPARISON ACROSS STATES FOR ODF STATUS (IN PER CENT)

8.10 Most of the states have achieved the status of 100 per cent ODF coverage and only few states are yet to achieve their

targets (Figure 4). Goa has the lowest ODF coverage declared followed by Odisha, Telangana and Bihar. West Bengal and Sikkim are very close to achieving 100 per cent ODF coverage.

Figure 4: ODF status across States (in per cent)



Source: SBM Dashboard as on 14th June 2019

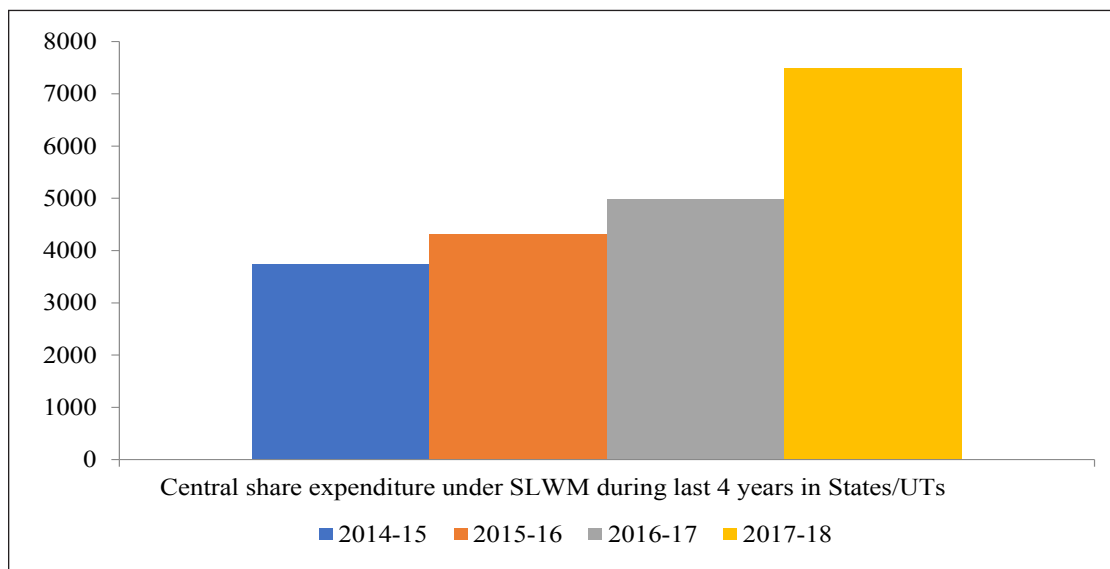
8.11 The success of a scheme like the SBM depends not only on the infrastructure created but also on the resultant behavioural change and the associated changes in the patterns of toilet usage by individuals. The National Annual Rural Sanitation Survey (NARSS) 2018-19, conducted by an Independent Verification Agency (IVA) has found that 93.1 per cent of households had access to toilets during the survey period. Further, 96.5 per cent of the households in rural India that had access to a toilet, used them. The NARSS also re-confirmed the ODF status of 90.7 per cent of villages, which were previously declared and verified as ODF by various districts/States. It is also interesting to note that 95.4 per cent of the villages surveyed were found to have minimal litter and minimal stagnant water.

SOLID AND LIQUID WASTE MANAGEMENT

8.12 Solid and Liquid Waste Management

(SLWM) is another major component of SBM Mission. As scientific disposal of waste has a noticeable impact on social development, there is an urgent need for setting up the system for the efficient disposal of waste in various states, especially rural villages. In light of this, many states have undertaken various activities such as construction of waste collection centres, menstrual hygiene management activities, installation of bio-gas plants, construction of compost pits, installation of dustbins, system for collection, segregation and disposal of garbage, construction of drainage facility and leach pits and construction of soak pits and stabilization ponds. These activities require huge disbursement of funds from Central and State governments. Figure 5 highlights the Central share expenditure under SLWM during last four years in States/UTs.

Figure 5: Central share expenditure under SLWM during last 4 years in States/UTs (₹ Lakh)



Source: Ministry of Drinking Water and Sanitation

ANALYSIS OF SBM ON HEALTH ISSUES

8.13 The success of SBM can be assessed from the gains that the actions under the

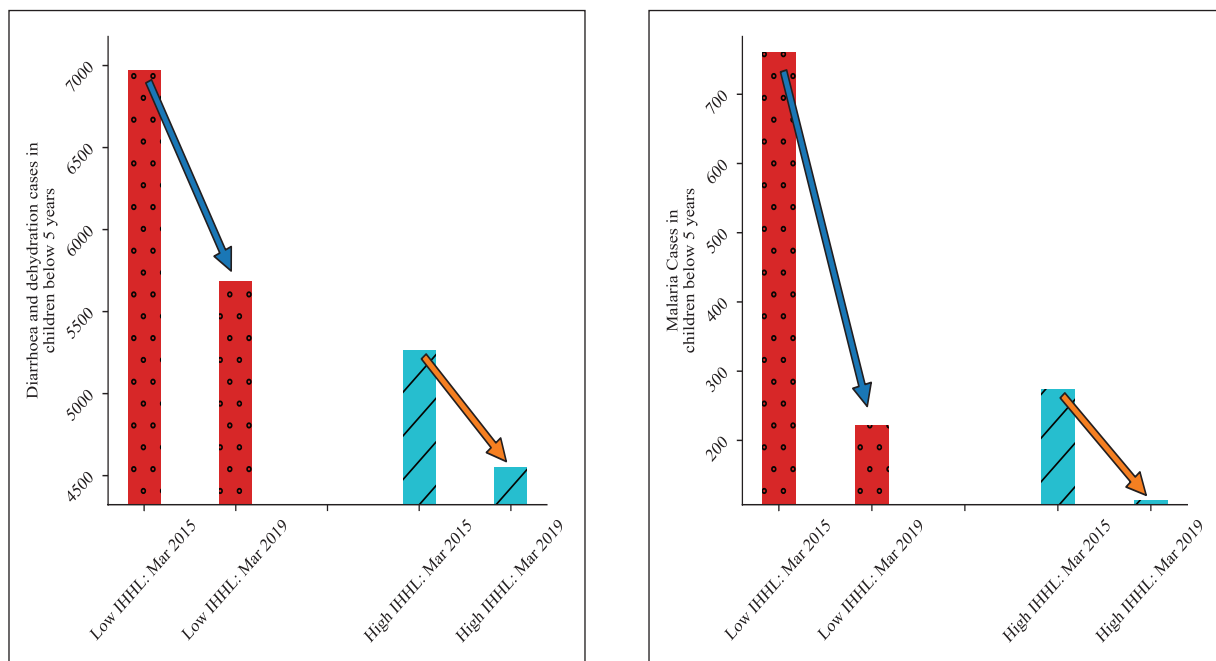
scheme had on the various socio-economic outcomes of the rural populace. A direct impact of improved sanitation should manifest on the health indicators. Diarrhoea,

a leading cause of death among the under-five children in India, accounted for around 11 per cent of deaths in 2013. Diarrhoea cases among children below 5 years in India have reduced significantly over the past 4 years.

8.14 As of March 2014, 50 per cent of the districts in India had IHHL Coverage less than 33.5 per cent (median value). In order to gauge the impact of SBM on health indicators, we estimated a Difference-in-Difference. For this purpose, we separate districts into two groups- the first group where IHHL coverage was low (below medium) and the second group where IHHL coverage was high (above medium) as of 2015. Because IHHL coverage become almost universal as of 2019 (Figure 2), the increase in IHHL coverage was significantly more in the first group of districts than in second group. Therefore, it is expected the impact on health to be larger for the first group than for the second group. To examine this thesis, we tracked the number

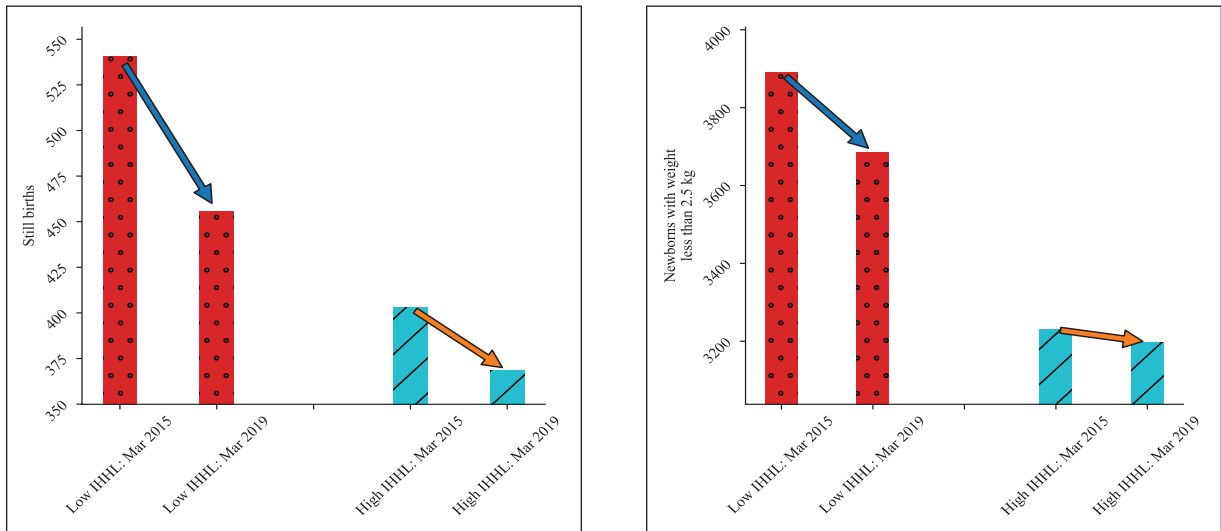
of diarrhoea and malaria cases in children below 5 years, still birth and low birth weight cases in these two groups between March 2015, when SBM begin its implementation and March 2019, when most districts in India had IHHL coverage of 100 per cent. The first group i.e. districts with low IHHL coverage suffered more from diarrhoea, malaria, still births and low birth weight than the second group i.e. districts with high IHHL coverage—indicating that sanitation and hygiene is the primary reason for these health problems in the country. This finding points to the fact that adequate sanitation plays a key role in reducing diarrhoea, malaria, still births and low birth weight cases (Figures 6 & 7). The major finding of this analysis was that all these health indicators including diarrhoea and malaria cases improved significantly in both groups after the implementation of SBM.

Figure 6: Impact of IHHL Coverage on Diarrhoea and Malaria cases in children below 5 years



Source: Health Management Information System, Ministry of Health & Family Welfare; IHHL data from SBM Dashboard-Swachh Bharat Mission – Gramin, Ministry of Drinking Water and Sanitation
 Note: Total of 500 districts of India are divided into two parts: first that had IHHL coverage below 33.5 per cent in March 2014 and second that had IHHL coverage above 33.5 per cent in March 2014.

Figure 7: Impact of IHHL Coverage on Still Births and New-borns with weight less than 2.5 kg



Source: Health Management Information System, Ministry of Health & Family Welfare; IHHL data from SBM Dashboard-Swachh Bharat Mission – Gramin, Ministry of Drinking Water and Sanitation

8.15 Diarrhoea cases reduced from around 6,968 and 5,262 in 2015 to 5,683 and 4,550 in 2019 in the first and second group respectively. Malaria cases also dropped from around 761 and 273 in 2015 to 222 and 113 in 2019 in the first and second group respectively. Still births came down from 540 and 403 in 2015 to 456 and 368 in 2019 in the first and second group respectively. Low birth-weight

cases declined from 3,890 and 3,230 in 2015 to 3,686 and 3,198 in 2019 in the first and second group respectively. While this study shows that sanitation has an important role to play in reducing diarrhoea and malaria, there may be other factors like distribution of mosquito nets, fogging machines and construction of Gambusia fish hatcheries under the National Vector Borne Disease

Figure 8: Diarrhoea in Indian States

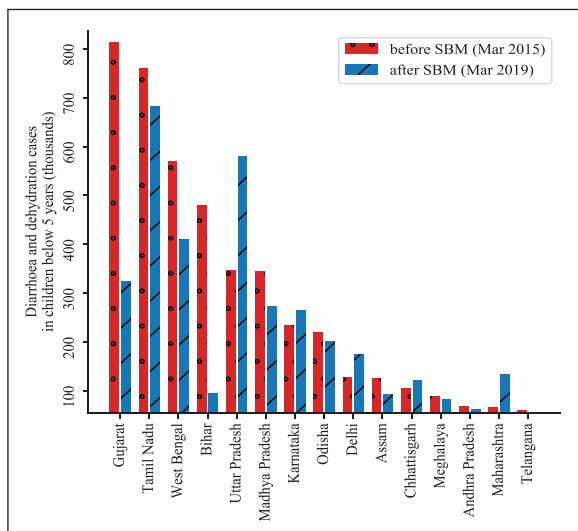
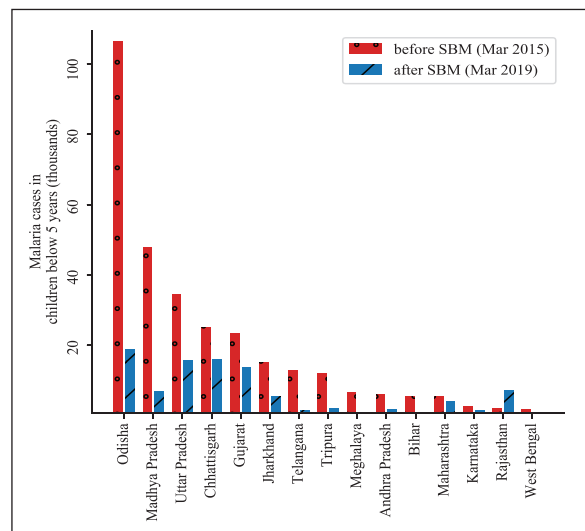


Figure 9: Malaria in Indian States



Source: Health Management Information System, Ministry of Health & Family Welfare

Figure 10: Still Births in Indian States

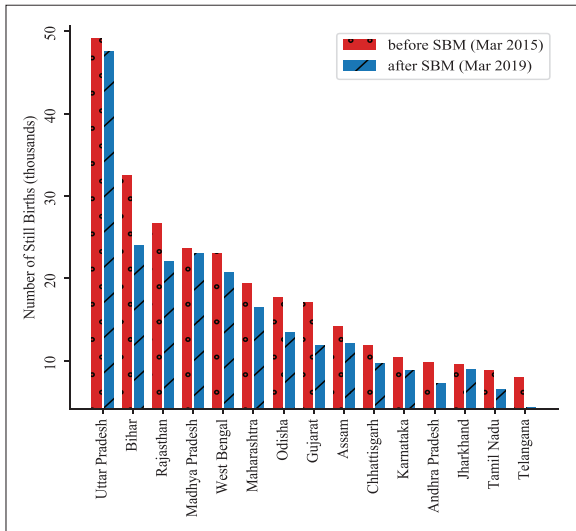
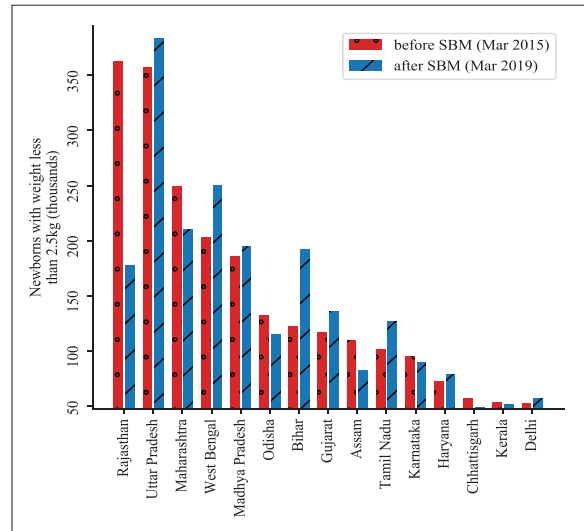


Figure 11: Low Birth Weight Cases in Indian States



Source: Health Management Information System, Ministry of Health & Family Welfare

Note: Low birth weight cases indicate new borns with weight less than 2.5 kgs.

Control Programme and provision of safe drinking water, Oral rehydration solutions (ORS) and zinc, hand washing and personal hygiene under Integrated Action Plan for Prevention and Control of Pneumonia and Diarrhoea that have also played an important role in reduction of malaria and diarrhoea, but are not in the scope of this study.

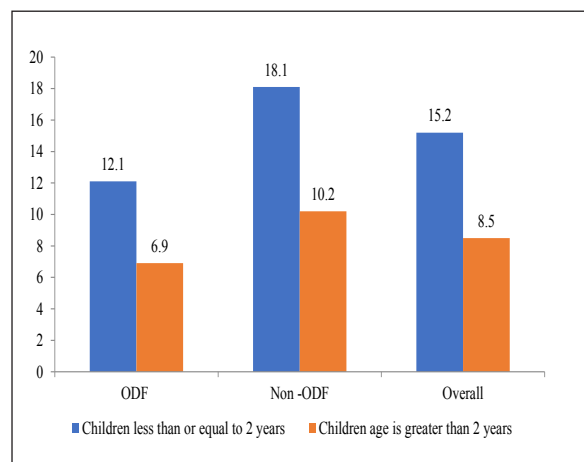
8.16 With improved sanitation and 100 per cent ODF, diarrhoea cases reduced significantly in many states like Gujarat, Tamil Nadu, West Bengal & Bihar (Figure 8). Similarly, improvements are evident in malaria, still births and low birth weight cases (Figures 9, 10 & 11).

IMPACT OF SBM: FEW INDEPENDENT STUDIES

8.17 The Sanitation Health Impact Assessment study was conducted by Ministry of Drinking Water and Sanitation (MoDWS), to understand the impact of ODF status on the key child health and nutritional indicators in five states- Karnataka, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal.

Non-ODF districts were selected to ensure socio-cultural and regional similarity across geographies within the state. Becoming ODF had a positive impact on the child health and nutrition, evident from the fact that the health and nutritional indicators of the children and mothers belonging to the ODF areas were comparatively better than their non-ODF counterparts (Figure 12).

Figure 12: Prevalence of diarrhoea in ODF and Non –ODF areas in 2017 (in per cent)



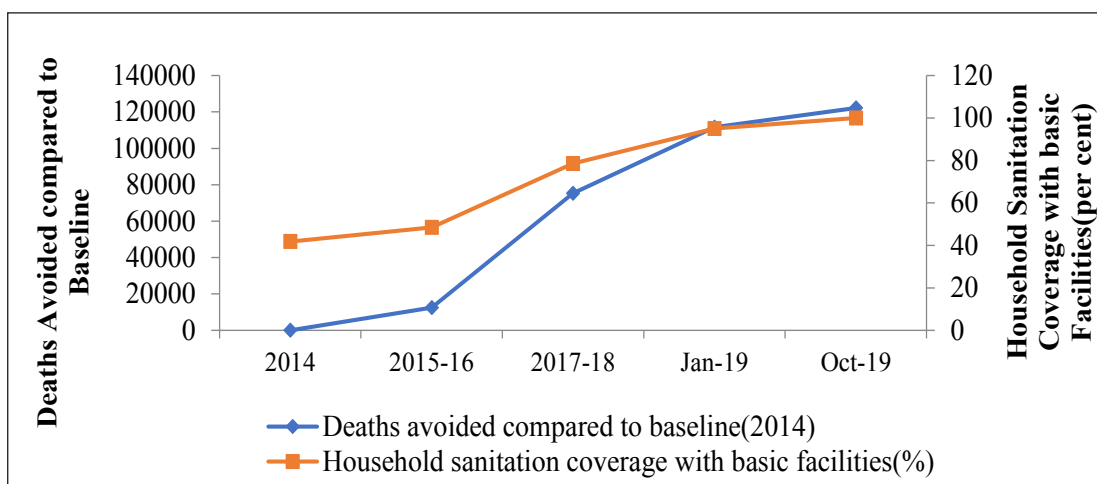
Base (All children): 4985

Source: Ministry of Drinking Water and Sanitation

8.18 Another study, “Swachh Bharat Mission – Preliminary estimations of potential health impacts from increased sanitation coverage” conducted by World Health Organization (WHO) to estimate health gains based on the latest available evidence linking sanitation and mortality from diarrhoeal disease, showcased initial estimates of expected health gains from reduced diarrhoeal disease due to increased sanitation coverage with the SBM initiative. The study results show

that in 2014, i.e. before the start of the SBM, there were an estimated 140,000 deaths from diarrhoeal disease attributable to unsafe sanitation; about 39,000 of those attributable deaths occurred in children younger than five years. Since the start of the SBM, mortality from unsafe sanitation is estimated to have declined to about 50,000 deaths in 2017-2018. The study shows that there is a clear relation between progress on sanitation coverage and health gains (Figure 13).

Figure 13: The Assessed and Projected Progress on Sanitation Coverage and Health Gains



Source: World Health Organization (WHO)

8.19 Prior studies have shown how important sanitation and hygiene are in economic terms in India, as well as what it would cost India to implement. For example, the World Bank estimated the economic impacts of inadequate sanitation in India in the year 2006 – showing an annual economic impact of ₹2.4 trillion (US\$ 53 billion), implying a per capita annual loss of ₹2,180 (US\$ 48) or 6.4 per cent of the GDP in the same year (World Bank 2011). Hence, the costs of inadequate sanitation and the expected gains from improved sanitation, are considerable. The majority of SBM interventions and their associated costs occur at community and household level. Approximately 8 per cent of the national government’s overall contribution is allocated to social and

behaviour change communication costs associated with programme delivery, while the remaining 92 per cent is required to be spent on incentivising household toilets and hand washing stations.

8.20 A recent study conducted by UNICEF on behalf of MoDWS assessed the economic impacts (benefits) of SBM. The study focused on the household and community financial and economic benefits as well as costs of improved sanitation and hygiene. The study found that on an average, every household in an open defecation free village saved about ₹50,000 per year on account of financial savings due to lower likelihood of disease from using a toilet and practicing hand washing and the value of time saved due to a closer toilet. Cost-

benefit ratios were presented under different perspectives, thus allowing conclusions to be drawn about the impact of the intervention on households, each with different policy conclusions. On the other hand, costs included investment and operational costs for toilet and hand washing station, including subsidies or resources provided by government or non-state actors, as well as financial and non-financial costs to households.

8.21 The findings of the study suggest that when costs and benefits are compared over a 10-year time period and when 100 per cent of

households in a community use a toilet, the financial savings exceed the financial costs to the household by 1.7 times, on average. For the poorest households, the value is higher at 2.4 times. When household time savings (from closer toilet access and less sickness) and the time for cleaning and maintaining the toilet are valued, the benefits exceed costs by 3.0 times. When benefits of lives saved are included, the benefits exceed costs by 4.7 times. If the government contribution to the toilet cost is included, reflecting a broader societal perspective, the benefits exceed costs by 4.3 times (Table 2).

Table 2: Benefit-cost ratios from different perspectives at rate of toilet use of 100 per cent

	Household Financial Perspective	Household financial perspective + time impacts	Household financial perspective + time impacts + lives saved	Social perspective (includes government subsidy)
All	1.7	3	4.7	4.3
Poorest	2.4	4	7	5.8
Q2	1.4	3.3	5.4	4.7
Q3	1.6	2.9	4.5	4
Q4	1.7	2.9	4.3	3.9
Richest	2.1	2.8	4	3.7

Source: Financial and Economic Impacts of Swachh Bharat Mission in India- UNICEF

8.22 In terms of the impact of SBM on the physical environment, a very recent study by UNICEF, in association with MoDWS indicates considerable impact on combating contamination of water, soil and food. The study was conducted on the basis of a list of ten ODF and ten non-ODF villages each in the states of Odisha, Bihar and West Bengal (total of 20*3=60 villages). Four villages of each classification (ODF versus non-ODF) were randomly selected from the shortlisted villages in each of these states (total of 8*3=24 villages). Overall, in terms of faecal contamination, ODF villages were, on average:

- 11.25 times less likely to have their groundwater sources contaminated (12.7 times less from contaminants traceable to humans alone).
- 1.13 times less likely to have their soil contaminated, 1.48 times less likely to have food contaminated and 2.68 times less likely to have household drinking water contaminated.

8.23 The findings from the study indicate that these substantial reductions may potentially be attributed to the improvement in sanitation and hygiene practices, as well as supportive systems such as regular monitoring.

WAY FORWARD

8.24 SBM has brought in a remarkable transformation and traceable benefits to the society as a whole. It is one of the largest cleanliness drives in the world. Many States have achieved the status of 100 per cent ODF and IHHL coverage, thereby has led to a sea change in the dignity of people, especially women. This mission acts as a driver for eliminating the gender disparity through the construction of gender-specific latrines in public areas such as schools, roads and parks. This public movement will have indirect positive impact on society by increasing the enrolment ratio of girls in schools and improving health standards.

8.25 Through SBM, 99.2 per cent of the rural India has been covered. Since October 2, 2014 over 9.5 crore toilets have been built all over the country and 564,658 villages have been declared ODF. India's phenomenal journey towards sanitation for all has ensured the social, environmental and economic gains by ensuring that the behavioural change gets rooted in people's consciousness. The Mission has brought one of the largest behavioural changes in its citizenry. The mission mirrors the National Developmental priorities by focusing on the gender equality and women empowerment. Importantly, it is also aligned with the 2030 global sustainable development agenda and SDGs especially the SDG 6.2 – "By 2030, achieve access to adequate and equitable sanitation and hygiene for all, and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations".

8.26 Yet, India's challenge is an enormous one. Construction of toilets is one part of the solution for a clean India. There are various facets for a clean India. The dream of clean India can only be realized by addressing these multiple facets – maintaining a culture of *swachhata* at public places beyond

individual houses, cleaning water bodies, scientific waste management, dealing with plastic menace, controlling air pollution, etc.

8.27 To sustain the momentum created and behavioural change, a number of actions would have to be taken on a continuous basis such as motivation of "agents of change" at the ground level, impart training to field agents, appointment of sanitation Ambassadors to campaign and create awareness especially on health benefits, obtain systematic feedback from users. Attention must also be accorded to the sewer construction and water availability.

8.28 Going forward, SBM should focus on achieving 100 per cent disposal of solid and liquid waste. Currently, many states are not concentrating enough on this aspect which could pull us back to where we were a few years back. Scientific techniques for the safe and effective disposal of waste should be the next on the agenda for this mission. As Indian economy grows, people are also on the move for various activities- for better education, for accessing better health, transport, hospitals, and tourism purposes- imparting strongly the culture of *swachhata* at public places and maintaining it should be an important part of clean India.

8.29 The cleaning of rivers should be an integral part of clean India, along with coordinated activities between Centre and States such as treatment of industrial effluence, drain bio-remediation, river surface cleaning, rural sanitation, river front development, afforestation and biodiversity conservation etc.

8.30 To continue the momentum created by SBM, the availability of financial resources intermixed with changing mind-sets have to be ensured. Annual monitoring of the various rural villages of different states has to be guaranteed for the effective formulation of different policies and their implementation. As the resource requirements are large, there

is a need to facilitate and sustain innovative financing mechanisms by exploring the suitability of various financial instruments in specific contexts and interventions. For example, micro-financing, concessional loans, corporate social responsibility and crowd funding align with local government financing. Private Partnership and Corporate Social Responsibility can ensure, in specific contexts, a smooth flow of funds for the procurement of various scientific technologies for waste disposal and awakening masses. However, Governments must assign significant weight to the allocation of adequate resources as improvement in sanitation is one of the key determinants for the wider economic development of the economy.

8.31 A clean India should also lead to environment friendly green India. Keeping the

surroundings clean and maintaining hygiene would have tremendous environmental benefits. SBM needs to incorporate environmental and water management issues for long term sustainability and improvements. The issues relating to water availability are expected to be exacerbated by the effects of climate change and incidence of extreme weather events. Investment in the toilet and sanitation infrastructure in future, therefore, demands incorporation of principles of sustainability, circular economy, and adoption of eco-friendly sanitation technologies. Finally, all these efforts together endeavour into culminating a *Swachh* (Clean), *Swasth* (Healthy) and *Sundar* (Beautiful) Bharat that we dreamt for us and future generations to inherit which will be a real tribute to the 'Father of the Nation'.

CHAPTER AT A GLANCE

- SBM, one of the largest cleanliness drives in the world, has brought in a remarkable transformation and traceable health benefits.
- Even 67 years after India's independence, in 2014, around 10 crore rural and about 1 crore urban households in India were without a sanitary toilet; over 56.4 crore, i.e. close to half the population, still practiced open defecation. Through SBM, 99.2 per cent of the rural India has been covered. Since October 2, 2014 over 9.5 crore toilets have been built all over the country and 564,658 villages have been declared ODF.
- Becoming ODF has reduced deaths due to diarrhoea, malaria especially in under-five children, still births and new-borns with weight less than 2.5 kg and thereby improved child health and nutrition. This effect is particularly pronounced in districts where IHHL coverage was lower.
- Financial savings from a household toilet exceed the financial costs to the household by 1.7 times, on average and 2.4 times for poorest households.
- Going forward, SBM needs to incorporate environmental and water management issues for sustainable improvements in the long-term.

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