



Report of “Household survey for Assessment of
Toilet Coverage under Swachh Bharat Mission –
Gramin”

Submitted to

Ministry of Drinking Water and Sanitation

By

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Foreword



The launch of Swachh Bharat Mission on 2nd October, 2014 is a quantum leap for India on the cleanliness and sanitation front. The mission shifts its focus from Outputs (i.e. toilet construction), as in earlier initiatives, to Outcomes (i.e. Open Defecation Free India and behavioural change). Swachh Bharat Mission (SBM) has become a mass movement but we are working that it scales new heights.

The Ministry of Drinking Water and Sanitation is committed to make each and every village of India clean and open defecation free. Since its launch, more than four crore individual household toilets have been built and 2.13 lakh villages and 151 districts have become open defecation free (ODF).

A continuous monitoring and evaluation strategy is followed by the Ministry of Drinking Water and Sanitation to monitor the current status of the implementation of the mission. Such exercises provide a reality check and guide with the necessary course correction measures in order to achieve the goal. As the Swachh Bharat Mission completes 3 years, a household survey was carried out by Quality Council of India (QCI) in villages across India to assess sanitation coverage and cleanliness and I feel happy that the results have been encouraging.

It gives me extreme pleasure to present this report on completion of 3 years of Swachh Bharat Mission. The report aims to assess the current status of rural sanitation coverage and usage of toilets at a pan India level as well as at state level. It also provides an independent evaluation of the progress made so far under Swachh Bharat Mission (Gramin).

I place my sincere thanks to all the field staff and management of QCI. I also like to place my thanks to Shri Hiranya Borah, Deputy Director General and his team for guiding the QCI team all along for conducting the survey and preparing the report.

Parameswaran Iyer

Secretary- Drinking Water & Sanitation

1. Introduction

“An ideal village will be so constructed as to lend itself to perfect sanitation...The very first problem the village worker will solve is its sanitation.”

- Mahatma Gandhi wrote in ‘Harijan’
(1937)

Mahatma Gandhi gave great emphasis on cleanliness, personal hygiene and sanitation. They are the basic determinants of a healthy and quality life. Perfect sanitation formed the core of Mahatma Gandhi’s conception of an “Ideal Village”.

The term ‘Sanitation’ includes access to toilets for defecation, solid and liquid waste management, environmental cleanliness and personal hygiene. Lack of sanitation and personal hygiene has a direct impact on public health as it leads to prevalence of communicable and non-communicable diseases, high maternal and infant mortality rate, under-nutrition in children, thus impacting the economic productivity of the country. Lack of adequate sanitation violates the privacy of the people, especially women and girls, by forcing them into the indignity of open defecation. Inefficient solid & liquid waste management leads to disastrous impact on environment, especially pollution of rivers and other water bodies. Hence sanitation, personal hygiene and environmental cleanliness are pre-requisites for development of a country.

The first program with focus on cleanliness and hygiene, in India, was Central Rural Sanitation Program (CRSP) started in 1986. It aimed to construct individual sanitary latrines and to convert dry latrines to low cost sanitary latrines for Below Poverty Line (BPL) population. It was not able to achieve its motive of improving access to sanitation and was followed by the launch of Total Sanitation campaign (TSC) in 1999. This programme followed the principle of community led total sanitation and shifted its focus from toilet infrastructure creation as in CRSP to emphasis on behaviour change. In June 2003, Government of India started an innovative scheme called Nirmal Gram Puraskar (NGP) to give a boost to TSC. Nirmal Gram Puraskar incentivises those gram panchayats, blocks and districts which have attained 100% sanitation coverage in their respective geographical areas. The TSC was renamed as Nirmal Bharat Abhiyan (NBA) in 2012 with the objective to accelerate sanitation coverage and thus bring about an improvement in the general quality of life in rural areas of India.

Swachh Bharat Mission – Gramin|2017

Swachh Bharat Mission (SBM) was launched by Honourable Prime Minister of India on 2nd October, 2014, to expedite the efforts towards achieving universal cleanliness. The mission set out clear guidelines to fulfil the vision and mission of “Clean India” across the country by 2nd October, 2019 i.e. the 150th birth anniversary of Father of the Nation, Mahatma Gandhi. Under its umbrella, the Swachh Bharat Mission- Gramin (SBM-G) aspires to bring an improvement in the general quality of life in rural areas, by promoting cleanliness, hygiene and eliminating open defecation. It also aims to encourage cost effective and appropriate technologies for ecologically safe and sustainable sanitation. The main components and activities for implementation of SBM-G are as follows:

- Construction of Individual Household Latrines (IHHL)
- Solid and Liquid Waste Management
- Information, Education and Communication (IEC) activities
- Capacity building of the stakeholders
- Micro-financing of construction of toilets
- Community Sanitary Complex

The first 3 years of the SBM-G have shown good progress as reflected in the IMIS data of the Ministry of Drinking Water and Sanitation (MoDWS). Based on the inputs received by the states and the UTs, the rural sanitation coverage has increased from 38.70 % at the start of SBM in 2014 to 63.73 % as on 01/06/2017.

With the mission gaining momentum, the pace of toilet construction and ODF declaration across the country has increased tremendously. Hence, a rapid central verification of the progress made by the states has become vital to identify any gaps that may exist and make appropriate course corrections. Also, the Swachh Bharat Mission – Gramin guidelines elucidate that periodical evaluation studies need to be conducted at central and state level by reputed institutes and organisations.

For this purpose, the Ministry of Drinking Water and Sanitation (MoDWS) engaged Quality Council of India (QCI) to conduct a survey on progress of Swachh Bharat Mission- Gramin.

Consequently, a survey was conducted in 4626 villages from May to June, 2017, spread out across all states of India. In addition, 200 Namami Gange villages were also assessed to check the actual coverage of rural sanitation. The survey was aimed at providing a third-party evaluation for the implementation of the SBM-G and also validate or repudiate the data received by the Ministry from various other surveys and sources.

2. Methodology

The methodology of the survey was developed by Ministry of Drinking Water and Sanitation (MoDWS) in consultation with QCI.

2.1 Sampling Methodology

- **Allocation of villages within the State**

4626 villages (Primary Sample Unit) across the country were decided to be surveyed. Allocation of these 4626 villages among the States and Union Territories has been done following the Probability Proportional to Size (PPS) sampling technique, where Size is the rural population of the State.

In case of small States, if the number of allocation of villages came out to be less than 20, then allocation for that State is 20 villages.

- **Selection of villages within the State**

Simple Random Sampling Without Replacement (SRSWR) method has been applied for selection of villages within the State/UTs.

- **Selection of households within the village**

- Simple systematic random sampling procedure has been adopted for selection of household within the village if number of households within the village is more than 30.

30 households were selected in a village (at least 20 households in plain area and 15 households in hilly area) using systematic random sampling. First household was selected on the random basis and rest of the household were selected as (R+I) where R is random start and I was calculated as number of households divided by thirty excluding the decimal part.

- If the number of households in the village was less than 30 but more than 20 and the village was in the plain area, then the village was surveyed by surveying all the households in the village.

- If the number of households in the village was less than 20 and the village is in the plain area, then the nearest village with population more than 30 households was to be surveyed by following Systematic sampling method as explained above.
- If the number of households in the village was less than 30 but more than 15 and the village was in the hill area, the village was surveyed by surveying all the households in the village.
- If the number of households in the village was less than 15 and the village was in the hill area, then the nearest village with population more than 20 households was to be surveyed by following Systematic sampling method as explained above.

Also, a rapid assessment of the villages under Namami Gange programme was to be done to assess their sanitation coverage. For this purpose, 200 villages were purposively selected to assess the implementation of the scheme in these villages and thus identify the course correction measures.

2.2 Survey Design

The survey at village level is composed of two components:

- Household Survey: The objective of the household survey is to collect information regarding Access to toilet, Usage of the toilet and Solid and Liquid Waste Management at the household level. Additional information like demographic details, type of toilet pan, support from the government would also be obtained through the questionnaire.
- Direct Observation: The objective of Direct Observation is to collect information regarding access to toilet and the presence or absence of litter, to assess cleanliness at the following places:
 - School
 - Anganwadi
 - Public Health Centre

In addition, to identify the practice of dumping of litter on the outskirts of the village by the inhabitants, **Entry point** in each village is also to be surveyed.

The questionnaire for the survey is developed by the Ministry of Drinking Water and Sanitation in consultation with QCI.

2.3 Survey Design – Namami Gange

The survey of Namami Gange villages is composed of three components:

- **Household Survey:** The objective of the household survey is to collect information regarding Access to toilet, Usage of the toilet, Solid and Liquid Waste Management at the household level and Information regarding the awareness of people with respect to sanitation and hygiene. Additional information like demographic details, type of toilet pan, support from the government is also to be obtained through the questionnaire.
- **Village Head Interview:** The objective of the Village Head Interview is to seek information about the access and usage of toilet by the households of the village from the village head. The information so provided is to be audited by direct observation of the assessor and feedback of the households using mobile application.
- **Direct Observation:** The objective of the Direct Observation is to collect information regarding access to functional and gender friendly toilets at the following places

- School
- Anganwadi

In addition, Direct Observation also seeks information regarding presence or absence of open defecation at the following places

- Village Entry.
- Village Exit
- Open Fields

2.4 Data Source and Collection

The primary source of data for the State level survey and Namami Gange survey is the feedback from the respondents of the households in each village. Independent observation of the School, Anganwadi, PHC and Village entry, was also carried out by the assessors. For Namami Gange villages, the additional data sources include the feedback from the village head and independent observation of the open defecation sites (Village Entry & Exit, Open Fields) in each of the village.

A special mobile based application was developed for collection of data. The authenticity of data was ensured through pictures and geo-tagging of each survey form.

2.5 Data monitoring and control

A team of 300 assessors was deployed on the field to ensure quality and consistency of the survey across the country. The assessors were main the point of contact with the households and the village institutions. Therefore, first and foremost task done for the survey was familiarising the assessors with the concepts and intricacies of the work of data collection. A detailed training on concepts related to rural sanitation and questionnaire of the survey was conducted at 6 locations viz. Delhi, Mumbai, Chennai, Hyderabad, Kolkata and Guwahati.

A 24X7 control room was setup at QCI to monitor daily progress and ensure quality & consistency of the survey. The control room coordinated with district coordinators and block authorities for smooth conduct of the survey. Survey results were monitored on a real-time basis and the queries of the assessors were resolved promptly by the team.

2.6 Quality Check framework

A multi-layer Quality Check framework was followed to ensure the quality and consistency of the survey data. The quality of data received was thoroughly checked on a real-time basis. A Quick Response Team (QRT) was formed by QCI to conduct surprise checks. After all these quality checks, a final set of clean data was extracted to do the analysis.

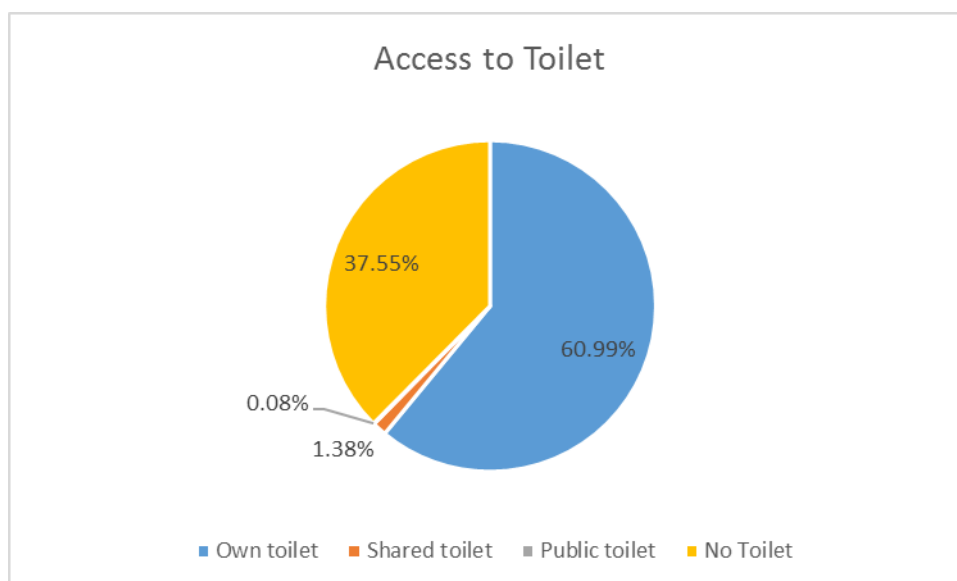
Key Findings

3.1 Household

3.1.1 Access and Usage

Access of households to toilet is one of the most important parameter to judge the success of Swachh Bharat Mission (Gramin) as it is necessary to eliminate open defecation and promote cleanliness. Access to toilet includes access to Own toilet, Shared toilet or Public toilet. Of the 4626 villages surveyed, it was observed that overall toilet coverage is **62.45%**.

FIGURE 1: ACCESS TO TOILET



Access to toilet is necessary but not sufficient in ensuring increased sanitation coverage. It is necessary to ensure that access to toilet is followed by usage of those toilets, in order to prevent open defecation and thus ensuring environmental cleanliness. Such behavioural change towards usage of toilets and not going in open to defecate is one of the major parameter to measure success of Swachh Bharat Mission- Gramin. It was observed from the survey results that, of the households having access to a toilet, **91.29%** households use it.

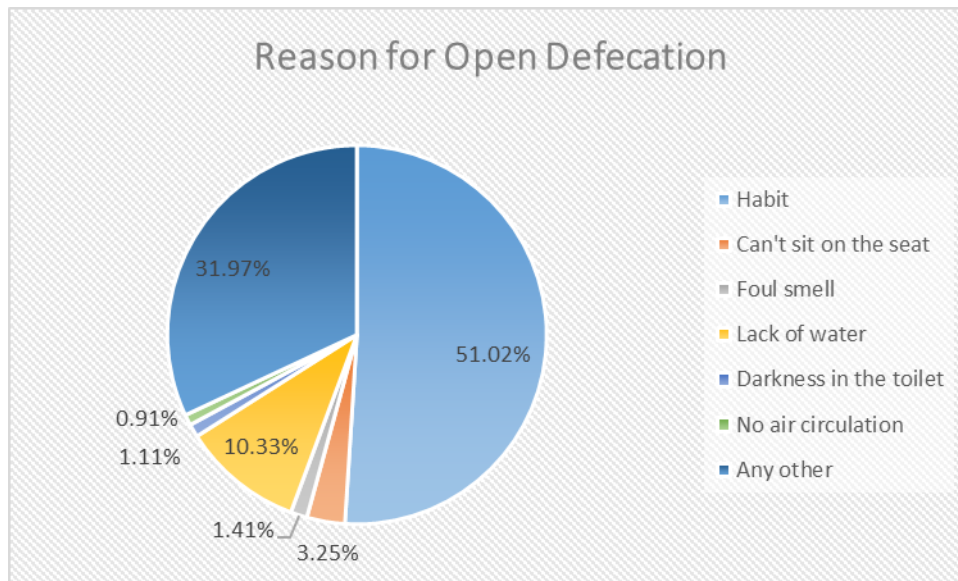
The table below details state level findings of the survey regarding percentage of the households having Access to a toilet (Own toilet, Shared toilet and Public toilet) and percentage of households actually using the toilets.

TABLE 1: STATE WISE ACCESS AND USAGE OF TOILET

State Name	Access to toilet	Usage of toilet
A & N Islands	58%	97%
Andhra Pradesh	57%	93%
Arunachal Pradesh	72%	98%
Assam	67%	92%
Bihar	30%	87%
Chhattisgarh	87%	87%
D & N Haveli	49%	69%
Goa	82%	96%
Gujarat	85%	91%
Haryana	99%	100%
Himachal Pradesh	90%	100%

Jammu & Kashmir	41%	94%
Jharkhand	37%	65%
Karnataka	72%	95%
Kerala	99%	99%
Madhya Pradesh	69%	87%
Maharashtra	75%	96%
Manipur	96%	100%
Meghalaya	86%	98%
Mizoram	74%	90%
Nagaland	95%	100%
Odisha	40%	80%
Puducherry	43%	91%
Punjab	85%	98%
Rajasthan	75%	89%
Sikkim	97%	99%
Tamil Nadu	79%	92%
Telangana	61%	96%
Tripura	91%	100%
Uttarakhand	93%	99%
Uttar Pradesh	37%	87%
West Bengal	76%	94%

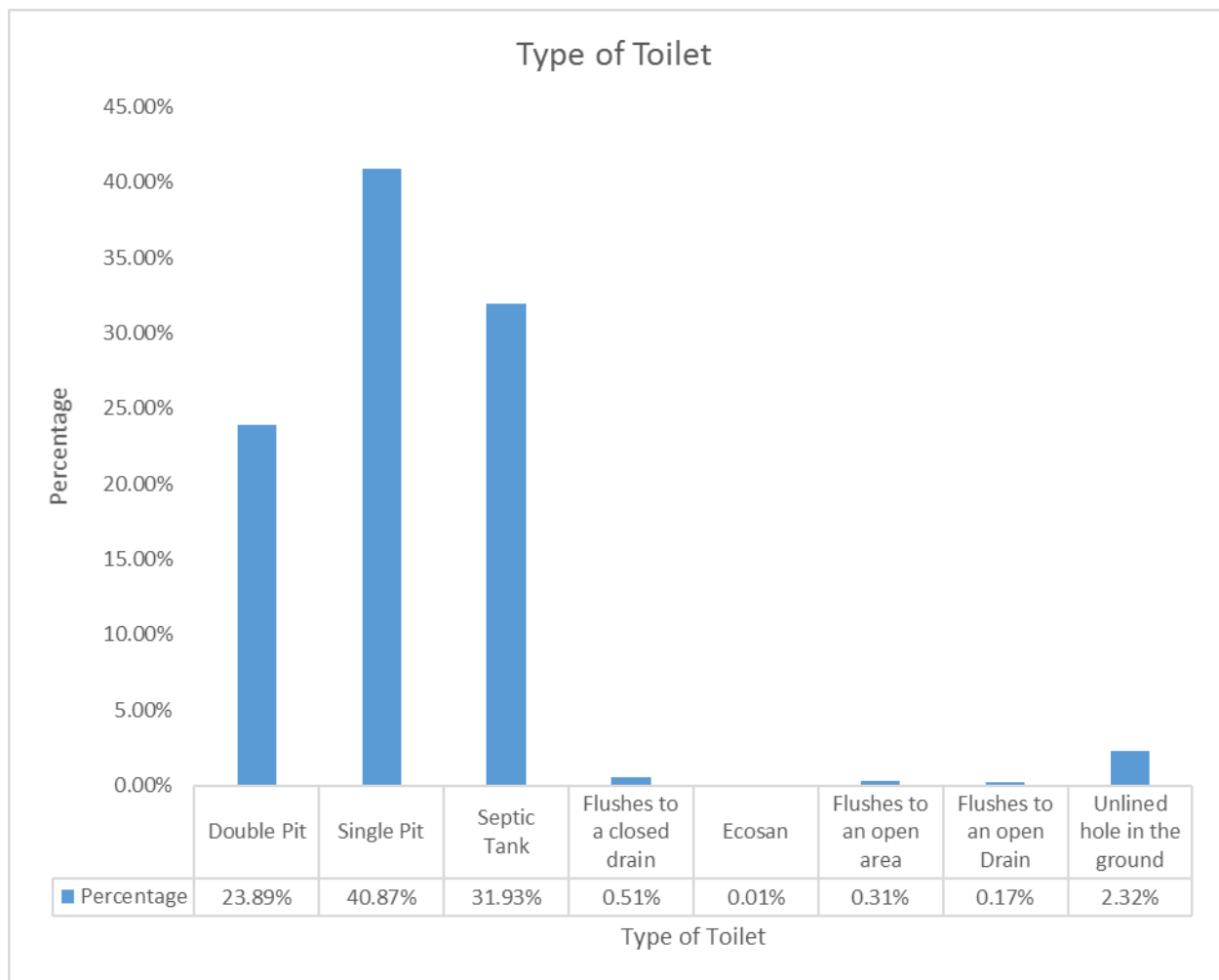
There are several reasons for the households having access to a toilet and yet they still defecate in open. The most prevalent reason for open defecation despite having access to a toilet is **Habit of the households** (51.02%). The second most prominent response for reason of open defecation is **Any Other** (31.97%) which include reasons like **Under-Construction toilets, Broken toilet seat, Overflowing pits** etc. The following charts details the prominent reasons, as given by the households, for practising open defecation despite having access to toilet.



3.1.2 Type of Toilet

Construction of the toilet and its usage is just the beginning towards healthy sanitation. The next important consideration is the type of toilet drainage to ensure sustainable sanitation. It is important that the toilet waste disposal is ecologically safe to prevent the problems like contamination of drinking water and soil and thereby prevent diseases.

FIGURE 2: TYPE OF TOILET



The following table details the type of toilet for all the states. The toilet waste disposal arrangements include **Single pit, Double pit, Septic tank, Ecosan, Flushes to closed drain, Flushes to an open area, Flushes to an open drain and Unlined hole in the ground.**

TABLE 2: STATE WISE TOILET WASTE DISPOSAL

State	Double Pit	Single Pit	Septic Tank	Flushes to a closed drain	Ecosan	Flushes to an open area	Flushes to an open Drain	Unlined hole in the ground
A & N Islands	0.62%	19.44%	77.47%	0.00%	0.00%	0.93%	0.62%	0.93%
Andhra Pradesh	16.07%	35.54%	48.29%	0.00%	0.00%	0.02%	0.05%	0.02%
Arunachal Pradesh	5.51%	52.07%	14.60%	0.28%	0.00%	1.38%	4.13%	22.04%
Assam	27.72%	42.64%	8.05%	3.77%	0.00%	2.26%	1.52%	14.05%
Bihar	13.44%	32.56%	52.90%	0.05%	0.00%	0.47%	0.16%	0.42%
Chhattisgarh	53.67%	19.53%	26.74%	0.00%	0.00%	0.00%	0.00%	0.06%
D & N Haveli	65.46%	6.58%	27.63%	0.00%	0.00%	0.00%	0.33%	0.00%
Goa	14.97%	30.77%	48.86%	0.00%	0.00%	4.16%	1.25%	0.00%
Gujarat	41.29%	32.05%	26.13%	0.47%	0.00%	0.06%	0.00%	0.00%
Haryana	7.63%	55.69%	35.48%	0.00%	0.00%	0.08%	0.00%	1.12%
Himachal Pradesh	3.22%	59.80%	35.58%	0.00%	0.00%	0.10%	0.00%	1.31%
Jammu & Kashmir	11.28%	80.54%	0.00%	0.00%	0.00%	1.95%	0.19%	6.03%
JHARKHAND	73.75%	9.24%	14.89%	0.00%	0.00%	0.78%	0.28%	1.06%
Karnataka	0.61%	92.02%	6.77%	0.34%	0.00%	0.11%	0.13%	0.02%
Kerala	7.36%	43.03%	49.52%	0.03%	0.00%	0.06%	0.00%	0.00%
Madhya Pradesh	19.50%	53.17%	27.00%	0.03%	0.00%	0.02%	0.00%	0.28%
Maharashtra	25.25%	33.37%	41.05%	0.04%	0.00%	0.09%	0.05%	0.16%
Manipur	17.95%	26.92%	19.78%	0.18%	0.00%	5.68%	1.65%	27.84%
Meghalaya	7.39%	72.18%	14.98%	0.00%	0.00%	0.58%	0.19%	4.67%
Mizoram	0.72%	56.97%	9.62%	0.24%	0.00%	0.24%	0.00%	32.21%
Nagaland	0.18%	52.54%	5.60%	24.34%	0.00%	1.05%	2.10%	14.19%

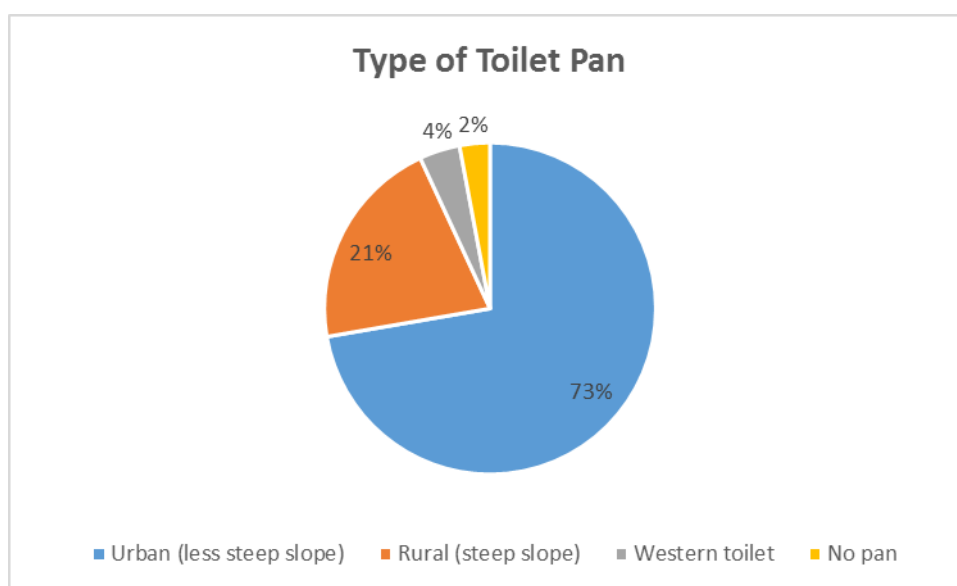
Swachh Bharat Mission – Gramin | 2017

Odisha	1.50%	77.04%	14.21%	5.07%	0.00%	0.56%	0.23%	1.39%
Puducherry	1.18%	73.23%	25.20%	0.00%	0.00%	0.39%	0.00%	0.00%
Punjab	11.90%	20.00%	62.83%	0.00%	0.00%	0.00%	0.12%	5.14%
RAJASTHAN	2.31%	53.71%	37.20%	0.10%	0.00%	0.05%	0.05%	6.57%
Sikkim	0.17%	0.33%	98.66%	0.00%	0.00%	0.00%	0.00%	0.83%
Tamil Nadu	21.36%	21.47%	56.72%	0.15%	0.00%	0.11%	0.00%	0.19%
Telangana	47.21%	42.00%	10.71%	0.00%	0.00%	0.04%	0.04%	0.00%
Tripura	20.65%	55.48%	7.96%	0.00%	0.00%	0.00%	0.00%	15.91%
UTTAR PRADESH	29.33%	32.75%	37.02%	0.00%	0.00%	0.37%	0.24%	0.28%
Uttarakhand	36.62%	30.90%	32.47%	0.00%	0.00%	0.00%	0.00%	0.00%
West Bengal	52.67%	33.42%	9.11%	0.01%	0.07%	0.23%	0.08%	4.41%

3.1.3 Toilet Pan

The type of toilet pan is also a consideration to ensure sustainability and affordability of the toilet. The rural pan has a steep slope and hence uses less amount of water to flush the excreta. It is advisable to use rural toilet pan in the areas which face problems of water scarcity. Urban pan on the other hand has less steep slope and hence consumes relatively more water while flushing the excreta. In rural India, it is observed that 21% of all surveyed toilets have rural pan while 73% of the surveyed toilets have urban pan.

FIGURE 3: TYPE OF TOILET PAN



The table below details the state wise distribution of type of pan installed in the toilets.

TABLE 3: STATE WISE TOILET PAN

State	Rural (Steep slope)	Urban (Less steep slope)	Western toilet	No pan
A & N Islands	34%	60%	3%	3%
Andhra Pradesh	5%	83%	12%	0%
Arunachal Pradesh	33%	46%	0%	21%
Assam	54%	23%	0%	23%
Bihar	17%	82%	0%	1%
Chhattisgarh	49%	50%	0%	1%
D & N Haveli	2%	90%	3%	5%
Goa	23%	40%	34%	3%
Gujarat	5%	90%	4%	1%
Haryana	5%	84%	10%	1%

Himachal Pradesh	6%	78%	15%	1%
Jammu & Kashmir	2%	91%	1%	6%
Jharkhand	74%	26%	0%	0%
Karnataka	7%	91%	2%	0%
Kerala	23%	60%	17%	0%
Madhya Pradesh	19%	80%	0%	1%
Maharashtra	14%	85%	1%	0%
Manipur	45%	51%	0%	4%
Meghalaya	59%	19%	0%	22%
Mizoram	35%	38%	0%	26%
Nagaland	49%	23%	0%	27%
Odisha	26%	72%	1%	2%
Puducherry	2%	88%	10%	0%
Punjab	4%	77%	15%	5%
Rajasthan	5%	88%	3%	4%
Sikkim	17%	78%	2%	3%
Tamil Nadu	10%	83%	6%	1%
Telangana	8%	89%	3%	0%
Tripura	29%	46%	1%	24%
Uttar Pradesh	28%	71%	1%	0%
Uttarakhand	12%	86%	2%	0%
West Bengal	48%	50%	1%	1%

3.1.4 Government Support

It is very well known that Access and Usage of toilet is critical in ensuring sustainable sanitation. But one of the major constraint in achieving this objective is the poor economic condition of the rural households. Hence the support of the government for construction of toilets plays a major role in making Swachh Bharat Mission (Gramin) a success. During the survey, it was found that **52%** of the households with access to toilet received some form of support from the government which includes **Money, Material or Labour**.

The following table represents the state wise information on any form of support received by the households from the government.

TABLE 4: STATE WISE INFORMATION ON SUPPORT

State	Support	No Support
A & N Islands	31%	69%
Andhra Pradesh	55%	45%
Arunachal Pradesh	45%	55%

Assam	39%	61%
Bihar	13%	87%
Chhattisgarh	79%	21%
D & N Haveli	84%	16%
Goa	27%	73%
Gujarat	52%	48%
Haryana	5%	95%
Himachal Pradesh	10%	90%
Jammu & Kashmir	30%	70%
Jharkhand	84%	16%
Karnataka	82%	18%
Kerala	39%	61%
Madhya Pradesh	82%	18%
Maharashtra	54%	46%
Manipur	28%	72%
Meghalaya	47%	53%
Mizoram	50%	50%
Nagaland	23%	77%
Odisha	78%	22%
Puducherry	19%	81%
Punjab	16%	84%
Rajasthan	46%	54%
Sikkim	25%	75%
Tamil Nadu	61%	39%
Telangana	59%	41%
Tripura	26%	74%
Uttar Pradesh	53%	47%
Uttarakhand	45%	55%
West Bengal	50%	50%

3.1.5 Period of Construction of Toilets

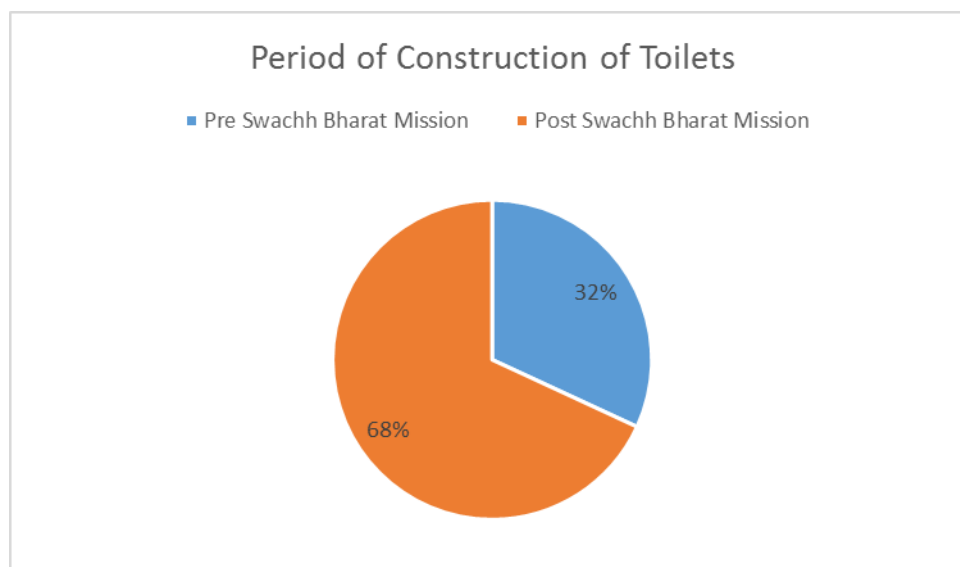
One of the main components of Swachh Bharat Mission Gramin is construction of Individual Household Latrines (IHHL). Swachh Bharat Mission is approaching completion of 3 years since its launch in 2014. The survey also enquired about the period of construction of the toilets found in the households. It was observed that 68% of the toilets found are constructed in the past 3 years and 32% of the toilets are 3 or more than 3 years old.

The findings of the survey regarding period of construction of the toilets are detailed in the table below:

TABLE 5: INFORMATION ON PERIOD OF CONSTRUCTION OF TOILETS

Period of Construction	Percentage
More than 3 year ago	37%
2 year to 3 year ago	12%

1 year to 2 year ago	20%
6 months to 1 year ago	27%
Less than 6 months	22%



The following table represents the state wise findings of the survey regarding the period of construction of the toilets found.

TABLE 6: STATE WISE INFORMATION ON PERIOD OF CONSTRUCTION OF TOILETS

States	Pre Swachh Bharat- %	Post Swachh Bharat- %
A & N Islands	47%	53%
Andhra Pradesh	23%	77%
Arunachal Pradesh	26%	74%
Assam	32%	68%
Bihar	22%	78%
Chhattisgarh	8%	92%
D & N Haveli	15%	85%
Goa	71%	29%
Gujarat	30%	70%
Haryana	65%	35%
Himachal Pradesh	58%	42%
Jammu & Kashmir	28%	72%
Jharkhand	14%	86%
Karnataka	29%	71%
Kerala	69%	31%
Madhya Pradesh	10%	90%
Maharashtra	39%	61%
Manipur	42%	58%
Meghalaya	41%	59%

Mizoram	48%	52%
Nagaland	72%	28%
Odisha	8%	92%
Puducherry	61%	39%
Punjab	72%	28%
Rajasthan	16%	84%
Sikkim	74%	26%
Tamil Nadu	25%	75%
Telangana	25%	75%
Tripura	42%	58%
Uttar Pradesh	40%	60%
Uttarakhand	41%	59%
West Bengal	33%	67%

3.1.6 Presence of Litter and Stagnant Waste Water

The Solid and Liquid Waste Management is another very important component of Swachh Bharat Mission-Gramin. The presence of Litter and Stagnant waste water around the household premises is an indicator towards a deficient solid and liquid waste management practices. During the study, it was observed that 89% of the households had no litter around their premises and 93% of the households had no stagnant waste water around their premises.

The table below represents the state wise findings of the study regarding the presence of litter and stagnant waste water around the household premises.

States	No Litter	No Stagnant Waste Water
A & N Islands	86%	94%
Andhra Pradesh	85%	93%
Arunachal Pradesh	87%	85%
Assam	91%	93%
Bihar	79%	79%
Chhattisgarh	96%	97%
D & N Haveli	80%	99%
Goa	90%	98%
Gujarat	91%	96%
Haryana	97%	92%
Himachal Pradesh	90%	98%
Jammu & Kashmir	90%	96%
Jharkhand	89%	98%
Karnataka	92%	93%
Kerala	89%	98%
Madhya Pradesh	92%	95%
Maharashtra	90%	94%
Manipur	74%	79%
Meghalaya	84%	93%

Mizoram	76%	94%
Nagaland	97%	99%
Odisha	78%	86%
Puducherry	82%	95%
Punjab	93%	81%
Rajasthan	98%	99%
Sikkim	90%	98%
Tamil Nadu	84%	97%
Telangana	94%	96%
Tripura	75%	96%
Uttar Pradesh	91%	93%
Uttarakhand	98%	99%
West Bengal	89%	96%

3.2 Direct Observation

Direct observation component of the survey involves assessing the sanitation coverage in the following places:

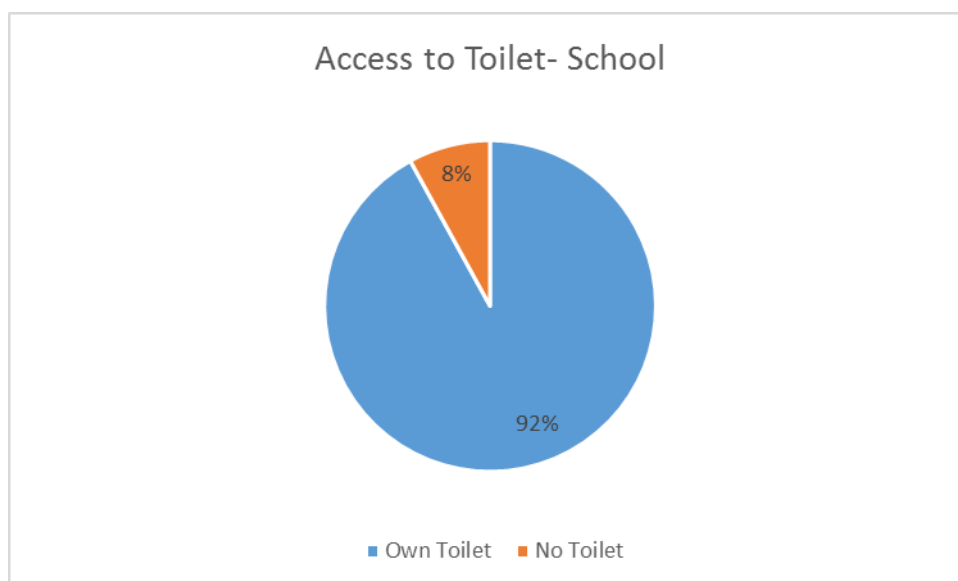
- School
- Anganwadi
- Public Health Centre

3.2.1 School

Sanitation and hygiene in schools is of paramount importance as they create an enabling environment for imparting quality education. It secures children's dignity, safety, health and attendance in classes.

During the survey, 4370 schools were visited and it was found 4012 that is 92% of schools had access to toilet. Also 81% of the Schools had litter free surrounding.

FIGURE 4: ACCESS TO TOILET -SCHOOL



The following table represents the number of schools visited in each state during the survey and percentage of those schools with access to toilet. The table also represents the percentage of Schools with litter free surrounding.

TABLE 7: STATE WISE NUMBER OF SCHOOLS VISITED AND ACCESS TO TOILET

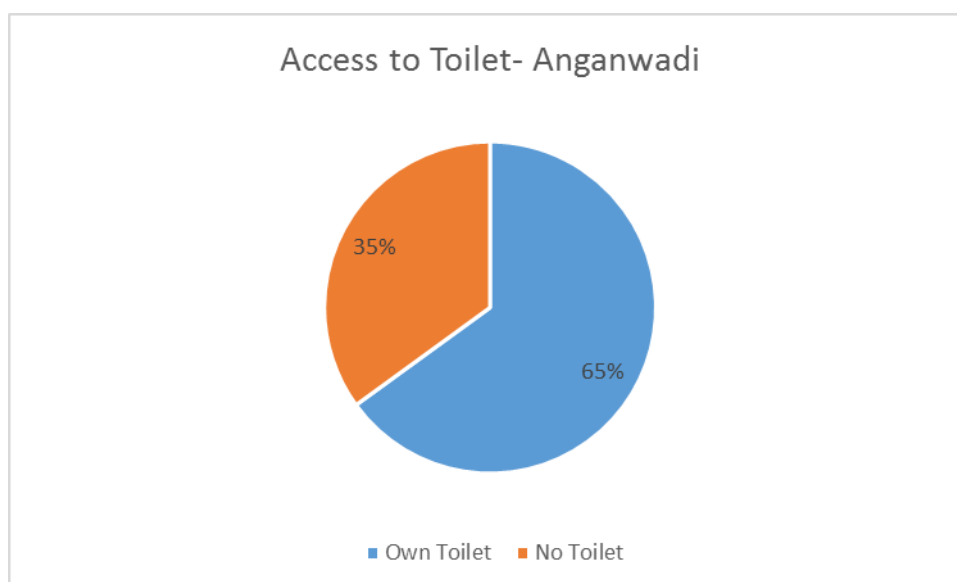
State	Number of Schools visited during the survey	Percentage of schools with access to toilet	Percentage of Schools with Litter free surroundings
A & N Islands	20	95%	100%
Andhra Pradesh	241	75%	66%
Arunachal Pradesh	19	68%	71%
Assam	140	71%	88%
Bihar	426	87%	65%
Chhattisgarh	113	96%	94%
D & N Haveli	20	85%	85%
Goa	16	81%	81%
Gujarat	181	97%	84%
Haryana	79	96%	92%
Himachal Pradesh	25	96%	72%
Jammu & Kashmir	37	86%	76%
Jharkhand	113	94%	85%
Karnataka	203	90%	87%
Kerala	104	93%	86%
Madhya Pradesh	292	82%	87%
Maharashtra	352	91%	73%
Manipur	13	85%	54%
Meghalaya	17	94%	71%
Mizoram	20	75%	55%
Nagaland	20	95%	100%

Odisha	197	82%	80%
Puducherry	14	100%	64%
Punjab	85	98%	88%
Rajasthan	251	97%	94%
Sikkim	19	95%	94%
Tamil Nadu	247	89%	71%
Telangana	140	92%	89%
Tripura	20	95%	70%
Uttar Pradesh	601	97%	80%
Uttarakhand	35	86%	84%
West Bengal	324	99%	83%

3.2.2 Anganwadi

During the survey, 4286 Anganwadis were visited and it was found 2765 i.e. 65% of Anganwadis had access to toilet. Also 86% of the Anganwadis had litter free surrounding.

FIGURE 5: ACCESS TO TOILET-ANGANWADI



The following table represents the Number of Anganwadis visited during the survey, in each state and Percentage of those Anganwadis with access to toilet. The table also represents the percentage of Anganwadis with litter free surrounding.

TABLE 8: STATE WISE NUMBER OF ANGANWADIS VISITED AND ACCESS TO TOILET

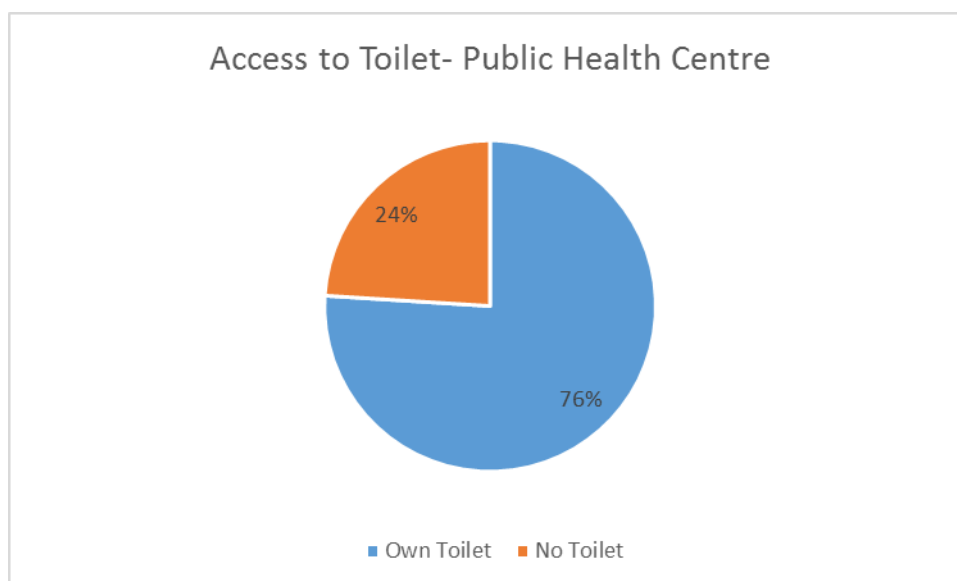
State	Number of Anganwadis visited during the survey	Percentage of Anganwadis with access to toilet	Percentage of Anganwadis with Litter free surroundings
A & N Islands	20	50%	80%
Andhra Pradesh	226	54%	71%

Arunachal Pradesh	18	33%	72%
Assam	136	60%	93%
Bihar	416	33%	75%
Chhattisgarh	116	87%	96%
D & N Haveli	20	55%	95%
Goa	17	59%	76%
Gujarat	176	83%	86%
Haryana	81	95%	100%
Himachal Pradesh	34	71%	82%
Jammu & Kashmir	41	34%	88%
Jharkhand	94	51%	82%
Karnataka	205	69%	85%
Kerala	111	100%	87%
Madhya Pradesh	286	61%	90%
Maharashtra	350	79%	97%
Manipur	17	41%	82%
Meghalaya	19	79%	79%
Mizoram	19	58%	74%
Nagaland	20	40%	100%
Odisha	194	43%	93%
Puducherry	18	56%	61%
Punjab	89	58%	82%
Rajasthan	234	68%	96%
Sikkim	20	70%	95%
Tamil Nadu	252	77%	67%
Telangana	139	50%	84%
Tripura	20	75%	75%
Uttar Pradesh	532	73%	97%
Uttarakhand	35	60%	87%
West Bengal	334	69%	93%

3.2.3 Public Health Centre

During the survey, 1670 Public Health Centres were visited and it was found 1273 i.e. 76% of Public Health Centres had access to toilet. Also 83% of the Public Health Centres had litter free surrounding.

FIGURE 6: ACCESS TO TOILET-PUBLIC HEALTH CENTRE



The following table represents the Number of Public Health Centres visited during the survey, in each state and percentage of those Public Health Centres with access to toilet. The table also represents the percentage of Public Health Centres with litter free surrounding.

TABLE 9: STATE WISE NUMBER OF PUBLIC HEALTH CENTRES VISITED AND ACCESS TO TOILET

State	Number of Public Health Centres visited during the survey	Percentage of Public Health Centre with access to toilet	Percentage of Public Health Centres with Litter free surroundings
A & N Islands	12	83%	92%
Andhra Pradesh	51	57%	78%
Arunachal Pradesh	3	33%	33%
Assam	29	76%	93%
Bihar	68	38%	72%
Chhattisgarh	29	83%	90%
D & N Haveli	17	76%	94%
Goa	15	67%	87%
Gujarat	49	84%	69%
Haryana	81	95%	96%
Himachal Pradesh	6	83%	100%
Jammu & Kashmir	18	39%	89%
Jharkhand	18	72%	89%
Karnataka	45	93%	87%
Kerala	103	95%	84%
Madhya Pradesh	59	71%	81%
Maharashtra	342	79%	71%
Manipur	2	0%	50%

Meghalaya	2	100%	100%
Mizoram	9	67%	89%
Nagaland	11	45%	100%
Odisha	34	65%	74%
Puducherry	4	75%	75%
Punjab	28	75%	89%
Rajasthan	101	80%	94%
Sikkim	8	100%	100%
Tamil Nadu	223	83%	65%
Telangana	40	35%	73%
Tripura	18	100%	78%
Uttar Pradesh	132	67%	90%
Uttarakhand	29	55%	75%
West Bengal	84	89%	86%

3.3 Namami Gange

A survey was conducted in 200 purposively selected Namami Gange villages which included 74 villages in Bihar and 126 villages in Uttar Pradesh.

The survey at village level has following major elements:

- Household Survey
- Direct Observation: School and Anganwadi
- Village Head Interview

3.3.1 Household Survey

3.3.1.1 Access and Usage

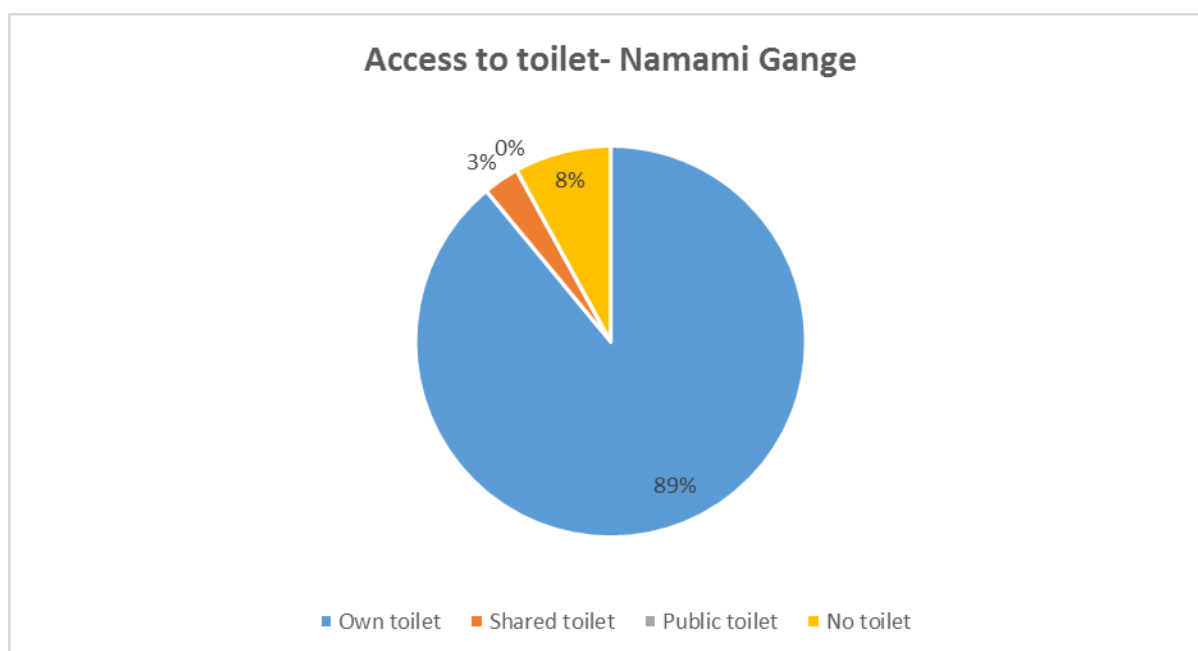
From the 200 Namami Gange villages surveyed, it was observed that overall access to toilet is 92% and usage of toilet is 93%.

The following table represents the state wise findings of the Namami Gange villages regarding Access to toilet and their Usage.

TABLE 10: NAMAMI GANGE-ACCESS TO TOILET AND USAGE OF TOILET

State	Access to toilet	Usage of toilet
Bihar	86%	96%
Uttar Pradesh	96%	92%

FIGURE 7: ACCESS TO TOILET- NAMAMI GANGE



3.3.1.2 Type of Toilet Waste Disposal

The table below details the percentage of type of toilet in the 200 Namami Gange villages. The table represents the state wise findings regarding the type of toilet installed.

TABLE 11: TYPE OF TOILET WASTE DISPOSAL

Toilet Waste Disposal	Overall	Bihar	Uttar Pradesh
Single pit	42%	24%	51%
Double pit	31%	19%	38%
Septic tank	27%	57%	11%
Ecosan	0%	0%	0%
Flushes to a closed drain	0%	0%	0%
Flushes to an open area	0%	0%	0%
Flushes to open drain	0%	0%	0%
Unlined hole in the ground	0%	0%	0%

3.3.1.3 Toilet Pan

In the 200 Namami Gange villages, it was observed that 74.9% of all surveyed toilets have urban pan while 24.4% of the surveyed toilets have rural pan. The table also details the state

wise findings of the survey regarding the type of pan installed in the toilets in Namami Gange villages.

TABLE 12: TYPE OF TOILET PAN

Type of Toilet Pan	Overall	Bihar	Utt ar Pradesh
Urban (less steep slope)	74.90%	83%	71%
Rural (steep slope)	24.40%	16%	29%
Western toilet	0.40%	1%	0%
No pan	0.30%	0%	0%

3.3.1.4 Government Support

Government support for construction of toilets can be in the form of Money, Material or Labour. The following table represents the overall and state wise information on any form of support received by the households from the government.

TABLE 13: INFORMATION ON SUPPORT

Type of support	Overall	Bihar	Uttar Pradesh
Support	74%	33%	96%
No support	26%	67%	4%

3.3.1.5 Period of construction

The findings of the survey regarding period of construction of the toilets in the 200 Namami Gange villages are detailed in the table below:

TABLE 14: INFORMATION ON PERIOD OF CONSTRUCTION OF TOILETS

Period of Construction	Overall	Bihar	Uttar Pradesh
Less than 6 months	39%	36%	41%
One year ago	45%	37%	50%
Two years ago	8%	15%	5%
Three or more years ago	8%	12%	4%

3.3.2 Direct Observation

3.3.2.1 School

It is observed that 76% schools have functional toilets out of which 84% have separate toilets for boys and girls.

3.3.2.2 Anganwadi

Out of the total 200 Namami Gange villages surveyed, only 46% Anganwadis have functional toilets.

3.3.3 Village Head Interview

Village head interview was conducted in all the 200 villages surveyed under Namami Gange.

Below are the findings for overall 200 villages and also the state wise findings of total 74 villages surveyed in Bihar and 126 villages surveyed in Uttar Pradesh.

3.3.3.1 Collection of solid waste

The table below represents percentage of villages in which solid waste is collected in certain proportion of households. In 11% of the 200 Namami Gange villages surveyed, solid waste was collected from 100% of the households. The figure is 11% for villages in Bihar and 10% for villages in Uttar Pradesh. Similarly, in 38% of the total villages solid waste is collected from none of the households.

TABLE 15: COLLECTION OF SOLID WASTE FROM HOUSEHOLDS

Percentage of households	Overall	Bihar	Uttar Pradesh
100% households	11%	11%	10%
80% to 100% household	20%	15%	22%
50% to 80% household	20%	27%	16%
Less than 50% household	12%	12%	12%
None	38%	35%	40%

3.3.3.2 Status of solid waste management

The table below represents the satisfaction level of the status of solid waste management in the village. 30% of the village heads were satisfied with the management of solid waste in their village. 33% of the villages surveyed in Bihar of Namami Gange were satisfied with the solid waste management while 28% were satisfied in Uttar Pradesh.

TABLE 16: STATUS ON SOLID WASTE MANAGEMENT

Status of Solid Waste Management	Overall	Bihar	Uttar Pradesh
Satisfactory	30%	33%	28%
Moderately Satisfactory	59%	56%	61%
Unsatisfactory	11%	10%	12%

3.3.3.3 Treatment of solid waste

The table below depicts the treatment of solid waste in the villages. 40% of the solid waste in these 200 villages is dumped in open areas whereas only 7% of the villages have a waste treatment plant inside the village itself.

TABLE 17: TREATMENT OF SOLID WASTE

Treatment of solid waste	Overall	Bihar	Uttar Pradesh
Dumped in closed pits	12%	13%	11%
Dumped in Open areas	41%	28%	49%
Collected and Burnt in open	16%	21%	13%
Given to animals	20%	30%	13%
Waste Treatment Plant inside the village	7%	6%	7%
Transferred to landfills	4%	1%	7%

3.3.3.4 Status of liquid waste management

The table below represents the satisfaction level of the status of liquid waste management in the village. Out of the 200 Namani Gange villages surveyed 25% of the village heads were satisfied with the management of liquid waste in their village, 63% were moderately satisfied while 12% were not satisfied.

TABLE 18: STATUS OF LIQUID WASTE MANAGEMENT

Status of Liquid Waste disposal	Overall	Bihar	Uttar Pradesh
Satisfactory	25%	30%	22%
Moderately Satisfactory	63%	51%	70%
Unsatisfactory	12%	19%	8%

3.3.3.5 Type of drains

The table below represents the type of drains present for the disposal of waste water in the village. 8% of the total villages had closed drains for waste water disposal whereas in 20% of the villages drains were not present and waste water was being disposed in open areas.

TABLE 19: DATA ON TYPE OF DRAINS

Type of drains	Overall	Bihar	Uttar Pradesh
Closed drains	8%	7%	9%
Some closed some open drains	20%	9%	25%
Open drains	52%	43%	59%
No drains. Disposed in Open areas	20%	41%	7%

3.3.3.6 Connection of drains to river or its tributary

The table below represents the percentage of villages where the drains flow into river or its tributary. Out of the villages in which drains were present whether open or closed, in 12% of the villages these drains were connected to either to the river or its tributary.

TABLE 20: CONNECTION OF DRAINS TO RIVER OR ITS TRIBUTARY

Connection of drains to river or its tributary	Overall	Bihar	Uttar Pradesh
No	88%	84%	89%
Yes	12%	16%	11%

3.3.3.7 Treatment of waste water

The table below depicts treatment of waste before it flows from the drain to the river or its tributary. Out of the villages where waste water from the drains flows into the river or its tributary in 85% of the villages, it is transferred into the river/tributary untreated.

TABLE 21: TREATMENT OF WASTE WATER

Treatment of waste water	Overall	Bihar	Uttar Pradesh
Transferred to the river untreated	85%	100%	77%
Transferred to the river after treatment	15%	0%	23%

3.3.3.8 Disposal of waste water

The table below depicts disposal of waste water. In 83% of the total villages the waste water is disposed in open areas whereas in only 9% of the villages it is treated in a sewage treatment plant either present in their own village or transferred to the nearest sewage treatment facility.

TABLE 22: DISPOSAL OF WASTE WATER

Disposal of waste water	Overall	Bihar	Uttar Pradesh
Dumped in Open areas	83%	78%	86%
Drains into river or its tributary	8%	14%	5%
Sewage treatment plant at village level	6%	3%	8%
Transferred to the nearest sewage facility	3%	5%	2%

3.3.3.9 Disposal of toilet water or excreta in Ganga or its tributary

The table below depicts that in 85% of the surveyed villages toilet water or excreta doesn't go into the Ganga or its tributary.

TABLE 23: DISPOSAL OF TOILET WATER OR EXCRETA IN GANGA OR ITS TRIBUTARY

Toilet water or excreta directly go to the nearest river (Ganga or its tributary)	Overall	Bihar	Uttar Pradesh
No	85%	80%	88%
Yes	15%	20%	12%

4. Conclusion

The launch of Swachh Bharat Mission on 2nd October, 2014 has set an ambitious target of making India Clean and Open Defecation Free. The Swachh Bharat Mission (Gramin) has a special focus on construction of toilets and behaviour change to achieve the goal of making rural India Open Defecation Free (ODF). As the mission completes three years in October 2017, it is essential to evaluate the progress it has made so far and hence adjust the mission's trajectory for better outcomes.

The household survey conducted by QCI provides a reality check for the states and India as a whole with respect to progress made on Swachh Bharat Mission front. There has been a tremendous increase in percentage of households having Access to toilets. The high usage percentage of toilet indicates a paradigm shift in attitude of rural households towards open defecation. Despite the good progress so far, there is a long road ahead to achieve the goals of Swachh Bharat Mission. Still, more than one third of the rural households are yet to have access to safe and sanitary toilet. Given the population of India, it is a humungous task.

It is hoped that this assessment instils a sense of accomplishment in states as well as other stakeholders and motivates them to accelerate their efforts for timely fruition of Swachh Bharat Mission Gramin.
