

# Community Led Sanitation

## Evaluation Report of Community Led Sanitation in Odisha



June, 2016

Submitted to:  
**DFID**

Submitted by:  
**Technical and Management Support Team, Odisha**

Managed by



## Contents

Acronyms.....	5
Executive Summary .....	6
1 Programme Description and Rationale .....	9
1.1 The contribution of poor water and sanitation to health and nutrition outcomes .....	9
1.2 Current sanitation situation in Odisha .....	9
1.3 Which factors maintain open defecation in Odisha? .....	10
1.4 Policies and interventions aimed at reducing OD in India .....	10
1.5 Community Led Total Sanitation and evidence of effectiveness .....	11
1.6 Community Led Sanitation in Odisha context .....	12
1.6.1 CLS Design.....	14
1.6.2 CLS Implementation Strategy .....	16
2 Evaluation Purpose, Scope and Objectives .....	18
3 Evaluation Design and Methodology .....	19
3.1 Process monitoring from state led Monitoring and Information System .....	19
ODF declaration through MIS.....	19
3.2 Independent ODF study .....	20
3.2.1 Purpose of the Study .....	21
3.2.2 Research Questions .....	21
3.2.3 ODF verification methodology .....	22
ODF Definition as per Gol guidelines.....	22
3.2.4 Indicators for ODF Verification .....	23
3.2.5 Sampling Approach for ODF Verification.....	23
3.2.6 Tools and Techniques used for Data Collection .....	27
3.2.7 Data Entry, Analysis and Reporting .....	27
3.3 Pre-post assessment using Concurrent Monitoring data.....	27
3.3.1 Survey design and sampling .....	27
3.4 Qualitative endline assessment of CLS intervention villages .....	32
3.4.1 Methodology for Qualitative End line Assessment of CLS .....	32
Sampling for Qualitative End line Assessment .....	32
Recruitment of Study Participants and Tools and Techniques used for Data Collection.....	33
Qualitative Data Coding, Analysis and Report Preparation.....	33
4 Findings from the Assessment of CLS.....	35

4.1	CLS coverage and monitoring using MIS .....	35
4.2	ODF endline verification in CLS villages – primary outcome .....	36
4.2.1	Background Profile of the ODF Verification Villages .....	36
4.2.2	Findings of the Assessment of Village Level Indicators .....	36
4.2.3	Findings of the Assessment of HH level Indicators.....	38
4.2.4	Proportion of Villages Verified as ODF Combining Village and HH Level Indicators 42	
4.3	Pre-post assessment using HH level survey – secondary outcomes .....	43
4.3.1	Profile of HH .....	43
4.3.2	HH Level Indicators.....	44
	Access to and use of sanitary facilities for the disposal of human excreta.....	44
4.3.3	Individual level indicators.....	49
4.3.4	Frontline Health Workers .....	51
4.4	Findings from endline qualitative research.....	54
4.4.1	Factors enabling achievement of ODF.....	54
4.4.2	Factors adversely affecting the attainment and sustainability of ODF .....	59
5	Value For Money (VfM) Of Community Led Sanitation Approaches .....	67
5.1	VfM: the ‘4’s’ framework .....	67
6	Discussion and Conclusion .....	70
	Annexes .....	76

## FIGURES

---

Figure 1: Percentage of HHs with improved sanitation facilities (shared and unshared) by social group and standard of living .....	3
Figure 2: HHs with improved sanitation facilities (shared and unshared) by education .....	3
Figure 3: % households with an improved, unshared facility that all household members usually use .....	4
Figure 4: The status of sanitation facilities in all HHs surveyed. ....	5
Figure 5: CLS process for creating Open Defecation Free villages .....	14
Figure 6: CLS implementation blocks in Odisha State .....	17
Figure 7: Sampling procedure for selection of villages and households for ODF verification .....	26
Figure 8: Percentage of households reported practice of open defecation (N=1,000) .....	39
Figure 9: Maintenance and use of toilets by the HHs (N=893) (%) .....	40
Figure 10: % households with an improved, unshared facility that all household members usually use .....	44
Figure 11: Percentage of HHs with improved sanitation facilities .....	46
Figure 12: HHs with improved sanitation facilities.....	47
Figure 13: The status of sanitation facilities in all HHs surveyed .....	48

## TABLES

---

Table 1: Findings from endline ODF verification study .....	6
Table 2: Original CLS implementation plan across 8 blocks of Odisha .....	16
Table 3: ODF verification sampling.....	24
Table 4: Selection of sites for qualitative endline assessment.....	32
Table 5: Number of FGDs and Interviews Conducted .....	33
Table 6: MIS data for CLS implemented blocks .....	35
Table 7: Ownership and location of toilets accessed by the HHs .....	38
Table 8: Distribution of the sampled number of villages by proportion of HHs having access to toilet facility (N=100).....	39
Table 9: Age groups reporting OD (N=350) .....	40
Table 10: Distribution of the sampled number of villages by proportion of HHs reported using toilet facility (N=100).....	41
Table 11: Distribution of the number of sampled villages by proportion of HHs had fly proofing of toilet facility (N=100).....	41
Table 12: Distribution of the number of sampled villages by proportion of HHs having safe-septage disposal facility in their toilets (N=100) .....	42
Table 13: Number of villages fulfilled different criteria for attainment of ODF .....	42
Table 14: Profile of sampled HHs at baseline (2014) and endline (2016) – Standard of Living, social group, and education level of HH head.....	43
Table 15: A. HH access to and use of sanitary facilities for the disposal of human excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur).....	45
Table 16: B. HH access to and use of sanitary facilities for the disposal of human excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur).....	45

Table 17: HHs with improved sanitation facilities (shared and unshared) excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group .....	46
Table 18: HHs with access to an improved, unshared sanitation facility, where all HH members usually use the available facility at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur).....	47
Table 19: Hand washing with soap at critical moments at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group .....	49
Table 20: Access to water supply and safe storage at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group.....	49
Table 21: Access to and use of sanitary facilities for the disposal of human excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group .....	50
Table 22: Hand washing with soap at critical moments at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group .....	50
Table 23: Access to and use of sanitary facilities for the disposal of human excreta by adolescent girls 10-19 at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demogra.....	51
Table 24: Hand washing with soap at critical moments by adolescent girls 10-19 at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group .....	51
Table 25: Type and number of FLW's interviewed in 4 CLS Blocks .....	52
Table 26: % of AWC and Sub-centres with an improved sanitation facility .....	52
Table 27: % of FLWs reporting safe disposal of own faeces .....	52
Table 28: % of FLWs who know the 5 critical moments for hand washing with soap .....	53
Table 29: % FLWs who report hand washing with an appropriate cleansing agent .....	53
Table 30: Fund utilisation for Sanitation (Source:-Swatch Bharat Mission website) .....	67

## ACRONYMS

---

ANM	Auxiliary Nurse Mid-wife
ASHA	Accredited Social Health Activist
AWW	Angan Wadi Worker
BCC	Behaviour Change Communication
CCM	Concurrent Monitoring
CLS	Community Led Sanitation
CLTS	Community Led Total Sanitation
CSO	Civil Society Organisations
DFID	UK Department for International Development
FLW	Front Line Worker
GoI	Government of India
GoO	Government of Odisha
HH	Household
MIS	Monitoring and Information System
NSSO	National Sample Survey Organization
OBC	Other Backward Class
OD	Open Defecation
ODF	Open Defecation Free
PLA	Participatory Learning and Action
SC	Scheduled Caste
SHG	Self-Help Groups
ST	Scheduled Tribe
TMST	Technical and Management Support Team
TSC	Total Sanitation Campaign

## **CITATION**

---

Odisha Technical and Management Support Team. (2016). Evaluation Report of Community Led Sanitation in Odisha. Options Consultancy Services Ltd, IPE Global, CARE India.

## **DISCLAIMER**

---

This material has been funded by UK aid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies.

## **ACKNOWLEDGEMENTS**

---

The study team is grateful to the Health and Family Welfare Department of the Government of Odisha for their support to the field work and Government of Odisha's Department of Women and Child Development, Rural Development Department, and the UK Department for International Development (DFID) for their contributions and guidance.

We would also like to acknowledge IMRB for their work on data collection and the many members and consultants of the Technical and Management Support Team (TMST) for their support to carry out this evaluation.

We also thank communities who participated in the study for their input which made this evaluation possible.

## EXECUTIVE SUMMARY

---

### Introduction

There is a direct relationship between water, sanitation and health. Inadequate water and sanitation infrastructure and unhygienic practices facilitate the transmission of pathogens that cause diarrhoea, which accounts for 2 million child deaths annually in the world, about half of them in India<sup>1,2,3</sup>. Globally 1.1 billion people, including an estimated 638 million in India alone, practice open defecation (OD)<sup>4</sup>. This is inextricably linked to the very low availability and use of toilets. In India, the 2011 census indicated that less than half (46.9%) of households (HH) have latrines within their premises.

Disappointing results from incentive driven government schemes for toilet construction and increased political commitment to sanitation led the Government of India (GoI) to elevate achievement of Open Defecation Free (ODF) status to a national mission in 2014<sup>5</sup>. India aims to achieve ODF status by 2019 through a mix of strategies that include financial incentives for HH toilet construction, recognition and rewards for villages that become ODF, and community led initiatives to mobilise behaviour change. Community Led Total Sanitation (CLTS) is one such community empowerment approach. CLTS seeks to raise awareness of the faecal-oral contamination route, by capitalising on human emotions of disgust and shame to bring about community-wide change in defecation practices, with the ultimate goal of triggering entire villages to become ODF.

In Odisha, one of the least developed states in the country with a population of 42 million, the 2011 census found only 22% of HHs have their own latrines. Following national policy shifts, the Government of Odisha (GoO) adopted Community-Led Sanitation (CLS) approaches to improve sanitation practices and achieve ODF status. The CLS approaches draw on CLTS methodologies of community empowerment but contrary to CLTS also facilitate community and HH access to affordable and high quality materials for toilet construction and related government subsidies. This report documents the outcomes of an evaluation of CLS implemented in five blocks of Odisha between October 2014 and February 2016. The UK government provided financial and technical support to CLS through a Technical and Management Support Team<sup>6</sup> (TMST).

### Methodology

The evaluation adopted a mixed methods approach, employing both quantitative and qualitative techniques. This included:

---

<sup>1</sup> Wang L. Determinants of child mortality in LDCs: empirical findings from demographic and health surveys. *Health Policy* 2003;65:277-99.

<sup>2</sup> Borooah VK. On the incidence of diarrhoea among young Indian children. *Econ Hum Biol* 2004;2:119-38.

<sup>3</sup> Fewtrell L, Kaufmann RB, Kay D, Enanoria W, Haller L, Colford JM. Water, sanitation and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis. *Lancet Infect Dis* 2005;5:42-52.

<sup>4</sup> World Health Organization and UNICEF (2012) Progress on Drinking Water and Sanitation: 2012 Update. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.

<sup>5</sup> Barnard, S., Routray, P., Majorin, F., Peletz, R., Boisson, S, Sinha, A & Clasen, T. (2013). Impact of Indian Total Sanitation Campaign on Latrine Coverage and Use: A Cross-Sectional Study in Orissa Three Years following Programme Implementation. *PLoS ONE* 8(8): e71438.

<sup>6</sup> TMST comprises of the joint lead agencies, Options Consultancy Services, UK and IPE Global, India with partner CARE India.

1. Process monitoring through the GoO's Monitoring and Information System (MIS) which collected data on basic sanitation information of individual villages at baseline, progress of villages towards ODF status, and improvements in access to and use of improved sanitation facilities.
2. Independent endline verification of the ODF status of villages declared ODF by the MIS
3. Baseline and endline cross-sectional household survey to assess secondary outcome indicators
4. Baseline and endline qualitative research to identify factors that enable and hinder achieving and sustaining ODF status.

The baseline and endline cross-sectional surveys were implemented between March 2014 and February 2015, and between December 2015 and March 2016, respectively. The surveys focused on rural areas (covering remote to peri-urban areas), excluding urban centres to ensure proportionate representation of remote and vulnerable households which might otherwise be missed. Both surveys used a stratified multi-staged cluster sampling methodology in which the selected blocks served as strata and the sampling frame consisted of all inhabited villages within these blocks. In 2014 and 2014, interviews were conducted in 13,222 and 13,387 households in respectively, in the five CLS intervention blocks.

### **Key findings**

Implementation of CLS overlapped in one block with a GoO health, nutrition, water and sanitation community mobilisation initiative called Shakti Varta which had been scaled up throughout the block<sup>7</sup>. In order not to contaminate results of this CLS evaluation, the quantitative survey findings from that block are excluded from the survey results presented<sup>8</sup>.

***After the CLS intervention, significantly more HHs have an improved sanitation facility<sup>9</sup>, and the greatest increase has been among the most vulnerable groups:***

The 2016 endline survey found 44.1% (95% CI 38.4-49.8) of HHs have improved sanitation facilities (shared and unshared) compared with only 13.9% (10.0-19.0) in the 2014 baseline survey. This is a significant increase in HHs with **access** to appropriate toilets.

Increased access to an improved facility has been progressive (Fig. 1-3). In 2014, just 3.7% (95% CI 2.9-4.8) of scheduled tribe HHs, the social group with the lowest health and nutrition outcomes in the state, had access to an improved facility, compared to 29.7% (95% CI 23.4-36.8) in 2016. Similarly, 1.3% (95% CI 1.0-1.7) of HHs in the low standard of living category had access to improved latrines in 2014, compared to 24.8% (95% CI 19.5-30.8) in 2016, and 4.8% (95% CI 3.5-6.5) of HHs where the HH head had no education had access to an improved facility in 2014 compared to 33.5% (95% CI 26.7-41.2) in 2016.

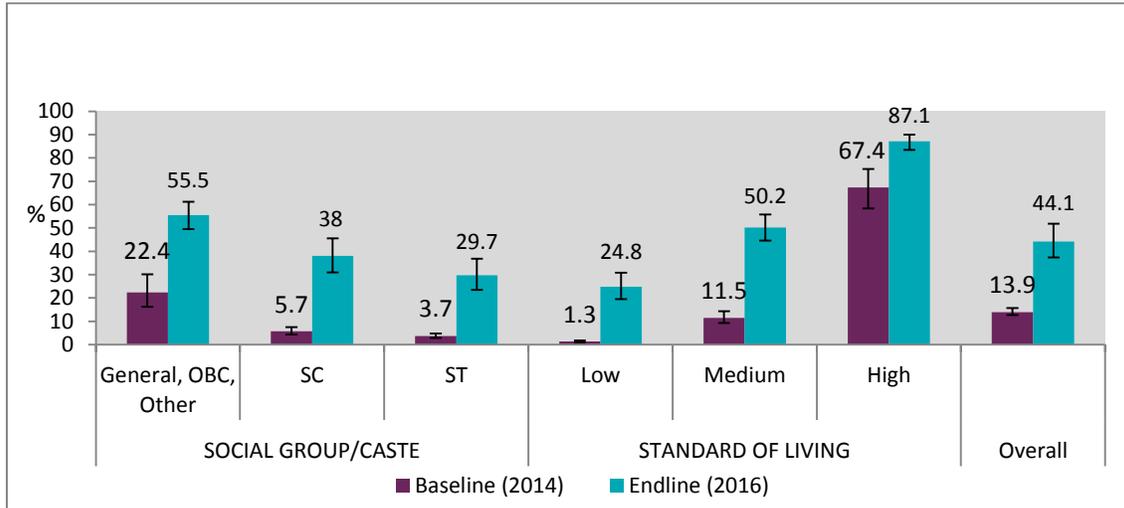
---

<sup>7</sup> Department of Women and Child Development, Government of Odisha. (2016). Shakti Varta Delivering Quality at Scale.

<sup>8</sup> Note that the overlapping block has been included in assessment of Shakti Varta intervention which includes analysis of WASH indicators.

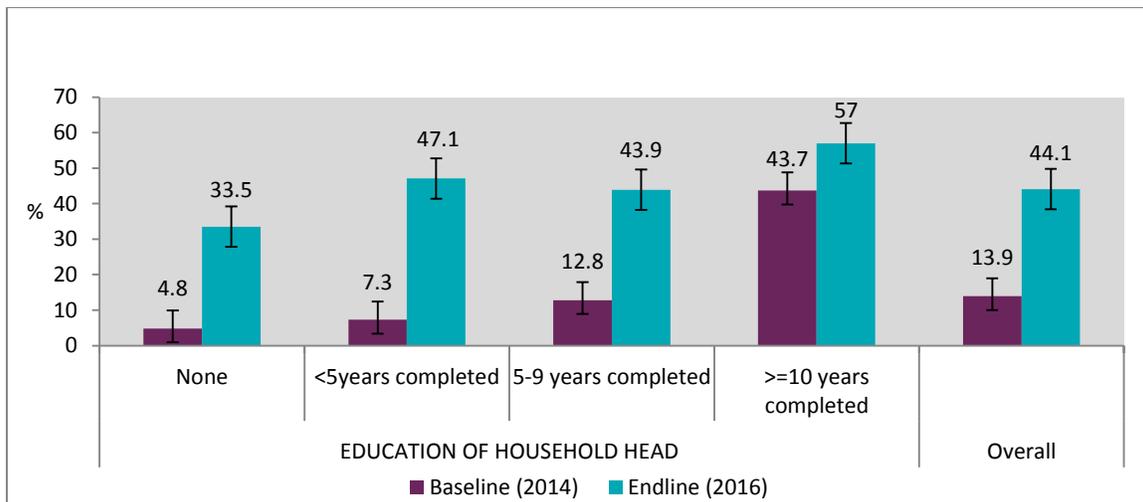
<sup>9</sup> Improved facility: Flush or pour/flush facilities connected to a: piped sewer system, septic system, pit latrine; pit latrines with a slab; composting toilets; Ventilated improved pit latrines.

**Figure 1: % HHs with improved sanitation facilities (shared and unshared) by social group and standard of living**



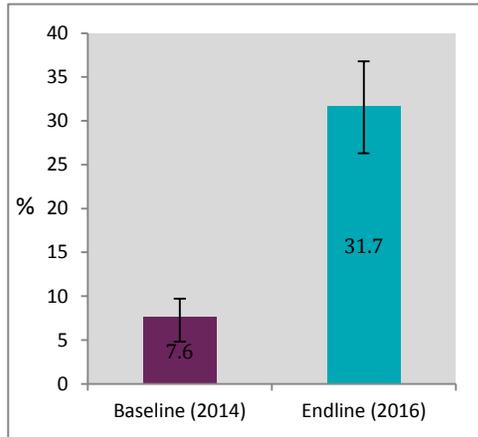
It is encouraging that of HHs with an improved facility, more have their own, unshared toilet after the intervention than before, rising from 58.3% (95% CI 53.7-62.7) in 2014 to 78.2% (95% CI 74.7-81.3). The increase in unshared improved facilities is also greater amongst the most vulnerable groups. Just 1.8% (95% CI 1.3-2.6) of scheduled tribe HHs had access to improved, unshared facilities in 2014 compared to 21.5% (95% CI 16.1-28.0) in 2016. Similar increases were seen in HHs in the low standard of living category, as well as in HHs where the head had no education.

**Figure 2: % HHs with improved sanitation facilities (shared and unshared) by education**



**The ‘gold standard’ measure for use of an improved sanitation facility by HH members has significantly increased after the CLS intervention, and the greatest increase has been among poor HHs :**

**Figure 3: % HHs with an improved, unshared facility that all household members usually use**



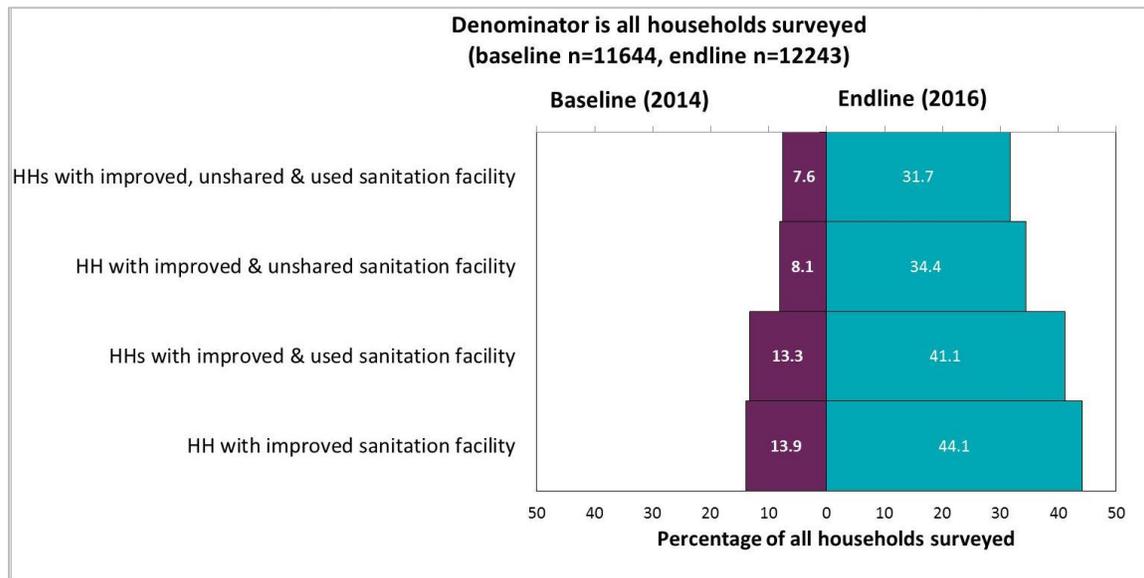
In terms of *use*, the ‘gold standard’ is that *all* HH members *usually use* an improved, *unshared* sanitation facility. The evaluation results show a significant increase in this indicator from 7.6% (95% CI 5.5-10.4) in 2014 to 31.7% (95% CI 26.6-37.1) in 2016 (Fig 3).

A less rigorous measure of use (majority of HH members using their improved facility) shows very high use, 93.3% (95% CI 88.0-96.4) in 2016. This was similarly high in 2014, but a much lower proportion of people had an improved sanitation facility at that time, suggesting CLS has been able to both increase coverage and mobilise use. The equity gradient for use is also progressive.

***Despite improvements at endline towards the goal of attaining the ‘gold standard’ of all HH members regularly using their own facility, there is a gap in access which still needs to be closed:***

Encouragingly, clear improvements can be seen at endline compared to baseline, when considering the progression from access to an improved latrine, to owning an unshared facility, to the ‘gold standard’ where all criteria are met (Fig. 4). However, more than half of HHs at endline did not yet own an improved sanitation facility. Further, around one quarter of these HHs had not yet reached the gold standard largely because of HHs sharing facilities. Qualitative findings (referenced below) suggest that barriers to toilet ownership, which may lead to sharing, include lack of land ownership and other poverty related barriers.

**Figure 4: The status of sanitation facilities in all HHs surveyed.**



***Safe disposal of the faeces of young children (under five years) has significantly improved after the CLS intervention. Previous surveys have shown this behaviour resistant to change:***

Mothers with a child under five reporting safe disposal of child faeces increased from 7.0% (95% CI 4.2-11.4) in 2014 to 20.4% (95% CI 16.4-25) in 2016. While this is encouraging, as the National Family Health Surveys have shown little change in this indicator over decades, only one fifth of mothers reported safe disposal post intervention. Increased attention to this aspect of safe sanitation through CLS and/or other community mobilisation approaches appears to be needed.

***Hand washing practices have not improved and remain very low:***

In 2016, only 10.6% (95% CI 8.6-13.1) of mothers of children under five reported hand washing at five critical moments in a usual day, with little difference from the baseline finding. Whilst this indicator is quite rigorous, requiring women to recall, unprompted, all five moments, the findings suggest a need to give increased attention to hygiene practices during CLS and other community-based behaviour change approaches.

***Benefits of CLS for unmarried adolescent girls are lower:***

Unmarried adolescent girls 10-19 who reported use of the available improved sanitation facility remained similar at 32.4% (95% CI 29.1-35.9) and 38.5 (95% CI 32.8-44.6) before and after the intervention. Targeted behaviour change approaches may need to be developed for unmarried adolescent girls.

***ODF villages can quickly slip back to OD:***

Out of 309 ODF declared villages in five blocks, 100 villages and 1000 HHs within these villages were randomly selected for independent verification. Five community level indicators and four

HH level indicators<sup>10</sup> taken from the GoI guideline on ODF verification<sup>11</sup> were observed and assessed. Significant relapse to OD was found among villages previously declared ODF. However the recently released GoI criteria for declaring ODF (Table 1) were more stringent than those used to declare villages as ODF in the MIS, highlighting the need for clear mechanisms for declaring ODF from the start of any project aiming to achieve this. In order to sustain use of toilets by HHs and prevent relapse back to OD, continued monitoring of toilet use and exposure to relevant behaviour change materials is likely to be required post ODF declaration, for example through village level committees

**Table 1: Findings from endline ODF verification study**

Observation level	GOI ODF verification indicator	Independent verification of 100 ODF declared villages
Community level	Zero incidence of OD (i.e. no visible faeces found in the village environment)	14%: 14/100 villages
	Proper use of school toilet	71% of the 41 villages where there was a toilet facility in school
	Safe confinement of excreta in school toilet	98% of schools with a toilet
	Proper use of Anganwadi toilet	33%: 8/100 villages had an Anganwadi Centre with a toilet, 2 of which were using them properly
	Safe confinement of excreta in Anganwadi toilet	2 toilets were clean and water was available nearby 4 toilets poorly maintained with visible excreta 2 toilets abandoned and unused
HH level	100 % access to toilet facility	70%: all HHs had access to toilets in 70/100 villages
	100 % use of toilet	9%: all sampled HHs in the villages were using their toilets in 9/100 villages
	100 % fly-proofing of toilet	58%: all sampled HHs had fly proofing of toilets in 58/100 villages.
	100 % safe-septage disposal	69%: all sampled HHs had safe septage disposal in 69/100 villages.

The evaluation has shown the value of independent verification and suggests that a similar intermittent process (e.g. annual/bi-annual) could be contracted out by the state government to verify a sample of villages as an addition to its ODF MIS<sup>12</sup>. This will help in measuring relapse and identifying what measures need to be taken by communities and line departments to sustain ODF.

***The integration of demand and supply side approaches and the leveraging of community institutions enabled the effectiveness of CLS:***

The close linkage and sequencing of community mobilisation efforts with provision of government subsidies and materials to HHs to construct a toilet was found to be a key enabling factor. Responsive district administrations helped overcome bottlenecks in access to supplies of

<sup>10</sup> Community level indicators: zero incidence of OD (i.e. no visible faeces found in the village environment), proper use of school toilet, safe confinement of excreta in school toilet, proper use of Anganwadi toilet, safe confinement of excreta in anganwadi toilet; household level indicators: access to toilet facility, use of toilet, fly proofing of toilet, safe septage disposal.

<sup>11</sup> [http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/India\\_Guidelines\\_for\\_OD\\_F\\_Verification.pdf](http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/India_Guidelines_for_OD_F_Verification.pdf) accessed 28/06/2016

<sup>12</sup> In the state, 1842 villages had been declared ODF by June 2016 but none are recorded as independently verified and different criteria was used to assess ODF.

rural panchayats, ensured the smooth flow of funds from the district to the local government body (Panchayat) and undertook regular monitoring of toilet construction. Community institutions also played a major role in promoting and reinforcing messages, providing credit to village members that were left out of government subsidy beneficiary lists, and monitoring the flow of subsidies and construction.

***Lack of land and funds among the poorest HHs hinders achievement and sustainability of ODF:***

Lack of land on which to construct a toilet and lack of funds to cover the costs of construction prevented some of the poor from improving their sanitation. For some that received the subsidy of INR 12,000 this was insufficient to cover the full costs of a quality toilet. Others were not entitled to subsidies for toilet construction because they were landless or the norms were applied unevenly and they were left off the list of beneficiaries. In hilly and remote areas, poor road connectivity and the low number of production sites created a bottleneck to construction, requiring the development of sanitary marts and attention to logistics.

*“Some people do not have land to construct toilet, some people do not have sufficient water to use in toilet so these leads to OD”.*

- SHG, Women Group, Berhampur, Angul

*“There are some incidents where lack of space/land is preventing people from toilet construction, mainly poor people are unable to construct toilets”.*

- President, SHG Bhangamunda, Deogarh

*“Most of the villagers have no land of their own as they migrate from other village of this Panchayat, which restricts them from availing incentive for toilet construction”.*

- Sarpanch Mahasingh, Khandhamal

*“There are 36 HHs does not have the toilet facility in their home. Because those names were not there in the government list”.*

- Ward Member Kaliakhaman, Deogarh

***Lack of water is another key factor reported to hinder use of toilets and the sustainability of ODF***

Water scarcity was reported as an issue preventing regular use of toilets.

*“In this village supply of water is the main problem. All the people of this village are depending upon one well. People are fetching water from a long distance”.*

- Ward Member, Bhangamunda, Deogarh

***Value for money***

Value for Money of CLS was assessed against the 4E's framework of economy, efficiency, effectiveness, and equity. Human resource (HR) and travel costs were highly economical relative to market rates and average costs of HR and travel in the geographical areas. Implementers were able to mobilise communities to becoming ODF (by MIS standards, not Gol standards) relatively quickly, with some villages becoming ODF in a few months. It also contributed to mobilisation of larger state budget allocations and expenditures due to the increased demand. The cost of BCC and community mobilisation per HH was cheapest when the CLS approach was

linked to Government subsidies, and for implementation by local NGOs. CLS achieved larger gains among the most vulnerable households, in terms of access to and use of appropriate sanitation facilities, however lack of funds constrained some poorer households from constructing toilets, particularly those who were not eligible for the Government subsidy, suggesting that the criteria or other solutions need to be evaluated.

### **Conclusion**

The overall findings of the evaluation show that CLS is an effective, pro-poor intervention that considerably increased access to and use of improved sanitation facilities in a short period of time and progressed the ODF movement in the state. However, the effect of the intervention on hand washing practices is minimal and the effect on safe disposal of mother's own faeces and that of their child under five is lower than expected. Increased attention to these two sanitation and hygiene related behaviours within CLS and through other community mobilisation strategies is needed. Likewise, targeted behaviour change activities are required to increase unmarried adolescent girl's use of HH toilets.

Lack of land for construction of HH toilets and lack of water to sustain use of toilets are the two main factors that hinder achievement and sustainability of ODF status with poor people being most at risk. As the government escalates its mission to eliminate OD, attention to these structural bottlenecks will be required. The norms and administration of government subsidies for rural HH toilet construction that exclude the landless further compound the challenges faced by poor people and are in need of review.

Cost data suggests CLS approaches where community organisations mobilise and empower the community are cost-efficient and can be implemented within the Government's allocation for sanitation-related behaviour change communication.

The evaluation has shown the value of independent verification and suggests that a similar intermittent process (e.g. annual/bi-annual) could be contracted out by the state government to verify a sample of villages as an addition to its ODF MIS. This will help in measuring relapse from ODF status and identifying what measures need to be taken by communities and line departments to sustain ODF. Strengthening the capacity of government to contract, manage and monitor local district and block based Civil Society Organisations will enhance the sustainability of this approach.

# 1 Programme Description and Rationale

## 1.1 The contribution of poor water and sanitation to health and nutrition outcomes

There is a direct relationship between water, sanitation and health. Inadequate water and sanitation infrastructure and unhygienic practices facilitate the transmission of pathogens that cause diarrhoea, which accounts for 2 million child deaths annually in the world, about half of them in India<sup>131415</sup>.

Globally 1.1 billion people, including an estimated 638 million in India alone, practice open defecation<sup>16</sup>(OD). This is inextricably linked to the very low availability and use of toilets. According to the National Sample Survey Organization (NSSO) (2013) more than half of rural households (HHs) in India do not have latrine (59.3%) or bathroom facilities (62.3%), and only 88.5% HHs have access to improved sources of drinking water.

OD and poor water and sanitation are linked to a range of other diseases and contribute to the high burden of under nutrition. In the context of high levels of OD, meaningful reductions in faecal-oral transmission require community-wide change in defecation practices, and may be supported by increased access to sanitation facilities at HH level.

## 1.2 Current sanitation situation in Odisha

According to the Census 2011, less than half (46.9%) of HHs in India have a latrine facility within their premises. Odisha, which is one of the most under-developed states in the country, stands far below the national figure where just 22% of HHs have their own latrines. The Concurrent Monitoring (CCM) survey carried out across all the blocks in Odisha in 2011 revealed that fewer than 10% of HHs reported access to improved sanitation facilities, particularly in the 15 High Burden Districts of Odisha. The second round of CCM survey carried out across all the blocks in Odisha in 2014 similarly found that only 14% of HHs reported access to improved sanitation facilities, particularly in the 15 High Burden Districts of Odisha. Notably, the Census data covered both urban and rural areas, whereas CCM surveys covered only rural areas, where it is reasonable to assume reduced ownership of sanitation facilities.

A study examining latrine coverage and use among 447 HHs in 20 villages in Odisha indicated that average latrine coverage among villages exposed to the Total Sanitation Campaign (TSC) for three years previously was 72% compared to 10% in comparable villages without the TSC.

---

<sup>13</sup> Wang L. Determinants of child mortality in LDCs: empirical findings from demographic and health surveys. *Health Policy* 2003;65:277-99.

<sup>14</sup> Borooah VK. On the incidence of diarrhoea among young Indian children. *Econ Hum Biol* 2004;2:119-38.

<sup>15</sup> Fewtrell L, Kaufmann RB, Kay D, Enanoria W, Haller L, Colford JM. Water, sanitation and hygiene interventions to reduce diarrhoea in less developed countries: a systematic review and meta-analysis. *Lancet Infect Dis* 2005;5:42-52.

<sup>16</sup> World Health Organization and UNICEF (2012) Progress on Drinking Water and Sanitation: 2012 Update. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation.

However, among HHs with latrines, more than a third (39%) were not being used by any member of the household, over a third (37%) of the HH members reported never defecating in their latrines and less than half (47%) reported using their latrines at all times for defecation<sup>17</sup>.

### **1.3 Which factors maintain open defecation in Odisha?**

Findings from the qualitative baseline study conducted earlier reveals that the concept of 'sanitation' was largely linked to the cleanliness of the environment and personal hygiene rather than the safe disposal of human faeces through the use of toilets; and there was very low awareness of the linkages between OD, disease and health.

Key enabling factors to attain an Open Defecation Free (ODF) environment included: a strong dislike of human faeces; OD undermining the safety, dignity and privacy of the women; willingness towards construction of toilet; problems faced with OD during rainy season; cooperation among the villagers; cohesiveness of the people of similar caste/ethnicity; availability of land and free labour. These demand side enablers which can be converted into strategies for community mobilisation to attain ODF environment.

The initiatives undertaken in the past to stop OD were mostly restricted to the awareness generation and construction of toilets by the government, but these programmes did not cover all villages and all sections of people in the villages. Neither the government nor the people themselves made efforts to mobilise the community for attaining ODF and environment and language barriers were identified which excluded some tribal groups.

Although OD was considered a priority issue by many of the respondents (largely because it undermines the safety, dignity and privacy of women) OD remains a habitual and near universal practice.

### **1.4 Policies and interventions aimed at reducing OD in India**

In 1986, the Government of India (GoI) started the Central Rural Sanitation Programme with the objective of improving the quality of life of rural people and also to provide privacy and dignity to women. The concept of sanitation was expanded to include personal hygiene, home sanitation, safe drinking water, garbage disposal, excreta disposal and water disposal. With this broader concept of sanitation, the Central Rural Sanitation Programme adopted a "demand driven" approach under the name "TSC" with effect from 1999. The revised approach focused more on Information, Education and Communication, human resource development, and capacity development activities to increase awareness among rural people and generation of demand for sanitary facilities.

In order to boost the TSC, GoI also launched the Nirmal Gram Puraskar in 2003 that sought to recognize the achievements and efforts made in ensuring full sanitation coverage. The Nirmal Gram Puraskar offers a cash prize to motivate Gram Panchayats (GPs) to achieve total sanitation. Encouraged by the success of Nirmal Gram Puraskar, the TSC was renamed as

---

<sup>17</sup>Barnard, S., Routray, P., Majorin, F., Peletz, R., Boisson, S, Sinha, A &Clasen, T. (2013).Impact of Indian Total Sanitation Campaign on Latrine Coverage and Use: A Cross-Sectional Study in Orissa Three Years following Programme Implementation. PLoS ONE 8(8): e71438.

“Nirmal Bharat Abhiyan” with the objective to accelerate sanitation coverage in rural areas so as to comprehensively cover the rural community through renewed strategies and a saturation approach. Subsequently the Swachh Bharat Mission was launched by the new Prime Minister in 2014 and aims to achieve an ODF country by 2019.

Despite the evident impetus to increase access to improved sanitation, evidence suggests there are some limitations to the effectiveness of current interventions. For example, a randomized controlled trial of the TSC reported that sanitation coverage and levels of community awareness were far lower than expected post-intervention. In addition, there are concerns that subsidies alone (although useful to overcome budget constraints) are unlikely to solve India’s sanitation problem as long as village mobilization remains patchy, and the motivation and social norms facilitating OD remain unaddressed<sup>18</sup>.

In the context of high levels of OD, meaningful reductions in faecal-oral transmission require community-wide change in defecation practices, and may be supported by increased access to sanitation facilities at HH level. A recent intervention study from Odisha concluded that a combination of behavioural techniques (like shaming) and social marketing can be very effective in reducing OD and constructing toilets; the intervention exploited feelings of disgust and shame, as well as encouraging social pressures and peer monitoring to stop OD and construct improved sanitation facilities<sup>19</sup>. One intervention that uses similar techniques for achieving community wide change in defecation practices is Community Led Total Sanitation (CLTS).

## 1.5 Community Led Total Sanitation and evidence of effectiveness

“Community Led Total Sanitation” is an approach developed in South Asia and adopted worldwide that focuses on bringing changes in community sanitation behaviour to eradicate OD through community empowerment process, including addressing the sanitation needs of the marginalized and discriminated rural communities’ women and men<sup>20</sup>. CLTS seeks to raise awareness of the faecal-oral contamination route by capitalising on human emotions of disgust and shame to bring about community-wide change in defecation practices, the ultimate goal being for entire villages to become ‘open defecation free’ (ODF)<sup>21</sup>. As well as villages becoming ODF, it is also expected that the CLTS intervention would lead to increases in the construction and use of toilets at HH level, positive improvements in sanitation linked behaviours, and ultimately improved health and nutrition outcomes

The CLTS approach is different from conventional sanitation interventions in its systematic design as a ‘hands-off’ approach that guides women and men from various socio-economic backgrounds to collectively work towards an ODF environment. The tools used in this approach are designed to ‘ignite’ a change in behavioural patterns towards sanitation through a

---

<sup>18</sup>Boisson, S., Sosai, P., Ray, S., Routray, p., Torondel, B., Schmidt, W., Bhanja, B., &Clasen, T. (2014). Promoting latrine construction and use in rural villages practicing open defecation: process evaluation in connection with a randomized controlled trial in Orissa, India. *BMC Research Note*, 7, 486.

<sup>19</sup>Pattanayak, S., Yang, J., Dickinson, K., Poulos, C., Patil, s., Mallick, R., Blitstein, J., &Praharaj, P. (2009). Shame or subsidy revisited: social mobilization for sanitation in Orissa, India. *Bull World Health Organ*, 87, 580–587

<sup>20</sup>Kar, K&K Pasteur(2005) Subsidy or self-respect?: Community led total sanitation; an update on recent developments. Working paper series, 257. Brighton:IDS.

<sup>21</sup>Handbook on Community-Led Total Sanitation, Prepared with the support of Plan International (UK) March 2008, Kamal Kar with Robert Chambers

participatory approach rather than just concentrating on the supply and construction of toilets. This approach depends on whole community interactions and discussion to understand problems and find solutions in the field of sanitation. The emphasis is on fostering a collective decision towards stopping OD after realizing the health hazards for all, especially for children, the elderly, and the infirm.

The CLTS handbook<sup>22</sup> defines the approach as focusing on igniting a change in sanitation behaviour rather than constructing toilets. It does this through a process of social awakening that is stimulated by facilitators from within or outside the community. It concentrates on the whole community rather than on individual behaviours. The collective benefits from stopping OD can encourage a more cooperative approach. People decide together how they will create a clean and hygienic environment that benefits everyone. It is fundamental that CLTS involves no individual HH hardware subsidy and does not prescribe latrine models. Social solidarity, help and cooperation among the HHs in the community are common and vital elements in CLTS. CLTS encourages the community to take responsibility and to take its own action.

The handbook does not outline the monitoring and evaluation of CLTS. During the post-triggering phase, it entails verification or inspection to assess whether a community is ODF and certification of the confirmation of ODF status and its official recognition. The verification activities include: visits to former OD sites, checking up before dawn or after dusk, inspections of latrines, noting whether paths to latrines have been used, conversations with elderly people and children, asking how a community itself monitors hygiene behaviour change, distinct and visible marks indicating hygiene behaviour change, e.g. soap for washing hands, water containers near latrines etc., inquiring about infringements and what was done, following animals that eat faeces, checking if all the hanging and floating latrines have been demolished, and other innovative tricks people in the community use to check ODF status.

The evidence to support the use of CLTS to achieve ODF in Indian villages is based on very few studies; much of its reported effect is anecdotal rather than being tested rigorously through randomized controlled trials or quasi-experimental designs. Little is also known about whether ODF status and related practices (such as construction and use of latrines) are sustained beyond the end of the CLTS implementation period. Therefore it would be useful to establish: i) the proportion of villages that sustain ODF and related changes to sanitation practices beyond the immediate post-implementation period; and ii) whether attainment of ODF is more likely by certain models of methods of intervening than others. In addition, it would be extremely useful to also know 'why' and 'how' changes in OD practices at the individual, HH and community levels are achieved.

## **1.6 Community Led Sanitation in Odisha context**

The Government of Odisha (GoO) and Technical and Management Support Team (TMST)<sup>23</sup>, funded by the UK Department for International Development (DFID), agreed to adopt CLTS-type approaches in 8 selected blocks of 7 districts of the State, to improve the health, nutrition and

---

<sup>22</sup>Handbook on Community-Led Total Sanitation, Prepared with the support of Plan International (UK) March 2008, Kamal Kar with Robert Chambers

<sup>23</sup> TMST comprises of the joint lead agencies, Options Consultancy Services, UK and IPE Global, India with partner CARE India.

sanitation situation and facilitate the ODF movement in Odisha. Increasing the number of people using improved sanitation facilities through community based approaches such as CLTS is a key priority within the DFID log frame for Odisha: the aim is to enable people to access latrines. Other development partners such as UNICEF, Water Aid, and World Vision are also working with government to promote ODF villages in Odisha.

The model of CLS being used in Odisha includes facilitation of HH toilet construction, for example by linking villagers to high quality and affordable materials available in the local area as well as to Government subsidies. This is in contrast to 'purer' versions of CLTS that place less emphasis on toilet construction, or linkage with subsidy programmes and more focus on the use of triggering of human emotions such as disgust and shame, with a view to communities moving up the sanitation ladder and villages becoming ODF, usually without external funding if toilets are ultimately constructed. Given this slightly modified approach aimed to better suit the socio-economic and political context, the process was named as Community Led Sanitation (CLS).

Different CLS models were adopted to promote safe sanitation and clean environment. Within the first model (CLS-1), HHs construct toilets on their own without initial expectation of any incentives from the Government. Only after constructing toilets do Government officials inspect the villages and link HHs with a subsidy (value of Rs 12,000). Implementation is led by TMST through local NGOs. This model is the most similar to the CLTS approach.

In the second model (CLS-2), although HHs construct toilets on their own, they receive active support from the district administration, and are linked to Government subsidies soon after the triggering exercise (see below). The district administration supplied materials to HHs using part of the subsidy, and then provided the remainder of the subsidy after toilet construction. Implementation was led by an expert NGO (Feedback Foundation).

The third model (CLS-3) involves Women Self Help Group CLS motivators to generate demand at community level for construction and usage of toilets, including linkage to incentives from the district administration.

Government subsidies for the construction of toilets in CLS-1 and CLS-2 are given to the following five categories of HHs, and eligibility lists drawn up by the Panchayat accordingly:

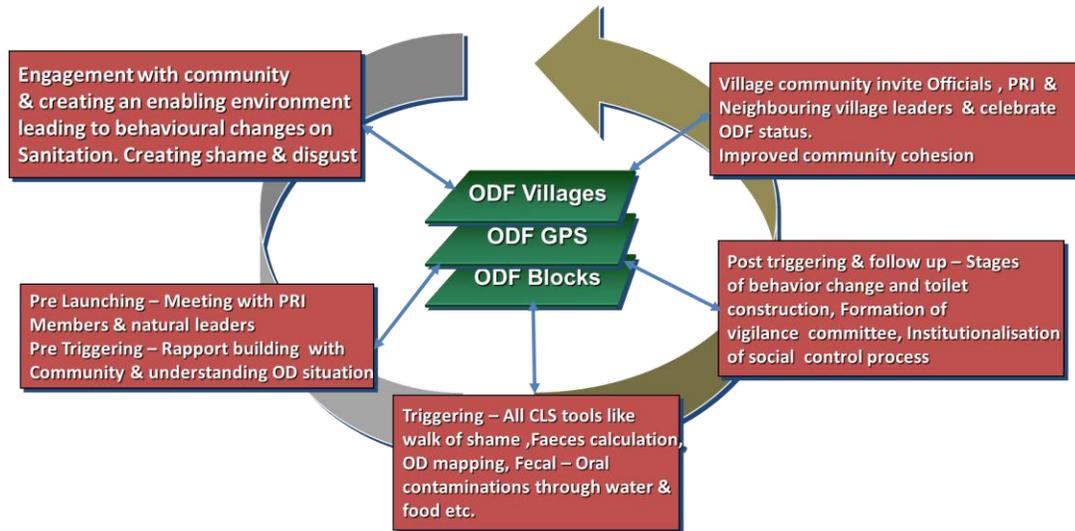
1. HHs below the poverty line
2. Physically Challenged
3. Scheduled Cast and Scheduled Tribe HHs
4. Marginal Farmers
5. Women Headed HHs.

HHs in need of subsidies, but not eligible, included those with multiple families residing under a single roof (who were only entitled to one toilet), and HHs migrating from elsewhere. In some villages, where the majority of HHs met the eligibility criteria, efforts were made to supply materials to all the HHs using the funds available for eligible HHs. Due to bulk procurement, the district administration was able to save funds and use these to construct toilets for some HHs not meeting the criteria.

### 1.6.1 CLS Design

The primary objective of CLS is for entire villages in the selected blocks to become ODF. Some of the key activities undertaken to turn villages into an ODF village, as advised by the CLTS handbook<sup>24</sup>, are described below and in Figure 5.

Figure 5: CLS process for creating Open Defecation Free villages



#### Triggering communities:

##### Pre-triggering

Pre-triggering is an approach designed to build rapport with a community for assessing the social, economic, health, livelihood and education status of the villagers. The process assesses the existence of other institutions like Panchayati Raj Institutions or public or private agencies operating in particular villages. Such assessment allows motivators/facilitators to adjust CLS tools to be best fit the particular target community. The assessment involves visits by the team to the villages to also identify natural leaders in the community. The identified leaders would later provide positive input / support during triggering on the date fixed by the villagers and potentially become volunteers and / or champions.

##### Triggering in the community

The idea of the triggering process is to stimulate disgust in the villagers by analyzing sanitation problems and their consequences. There are different triggering tools used during the community process enumerated in the CLS handbook. Facilitators are encouraged to modify and amend the tools depending on the local situation. Key activities and CLS tools used for triggering the community include:

- i) OD Mapping - community involvement in drawing the different streets, village roads, temples, and main spots in the village and then the mostly used sites for OD to be completed by the community.

<sup>24</sup>Handbook on Community-Led Total Sanitation, Prepared with the support of Plan International (UK) March 2008, Kamal Kar with Robert Chambers

- ii) Medical Expenses - Analysis of Community Health-incidents and expenses incurred by the community
- iii) Walk of Shame - walking with community to the sites of OD and analysing the hazards of OD on the spot
- iv) Faecal oral Transmission - put faeces on the floor in front of the community and discuss the ways flies move between faeces and food/ drinking fluids, etc. Next, put some faeces into a water bottle and ask the community if they would drink it
- v) Shock Therapy - community accepts that they have been till date 'eating' the faeces
- vi) Faecal Calculation - calculate how much faecal matter is produced each day and ask where it goes.
- vii) Safety of girls and women - young girls going for OD are exposed to risk and feel insecure in the society

### **Post triggering follow ups**

Ignition: the community either has a “Spark”, “Fire”, or “Blast” after the triggering which describes their motivation level towards attaining ODF. The triggering should ideally lead to a Blast, meaning that the community unanimously decides to stop OD from the next day. Ignition leads to the emergence of "natural leaders": natural leaders support the whole initiative and develop a plan of action. The leaders are involved in: (a) the formation of village based committees to advocate practicing covering their faeces (b) the construction of toilets in a community-based approach

As a result of the triggering and follow up on initiatives, the community should realize the detrimental effects of OD and decide to stop practicing it through collective analysis of its sanitation status.

### **Follow up guidelines**

The critical importance lies in timely and strategic follow up to convert the Spark created on the day of triggering into Fire and Blast. Some suggested activities explained below have been achieved to facilitate development of ODF settlements.

- i) All of the group members must follow their respective roles and responsibilities. Lack of coordination among group members can result in confusion.
- ii) Do not hesitate to use crude words like “shit”. Use it again and again at appropriate times to drive in the feeling of shame.
- iii) Do not be too engrossed in the use of trigger tools. Try to maintain eye contact with the people. Do not rush. Have patience and wait for the answers.
- iv) Time management is crucial while facilitating trigger tools.
- v) Facilitate processes beyond the commitment to stop OD and help the community to fix a date for village ODF.
- vi) It is important to have children included in some groups. This will help them plan sanitation-oriented activities that they would perform with the support of teachers and sanitation committee members.
- vii) Do not just focus on digging pits (the cat method), rather facilitate collective actions for the construction of individual toilets, such as the purchase of materials like pits, p- traps, pipes, etc.

## 1.6.2 CLS Implementation Strategy

CLS was implemented in five blocks of Odisha from high burden districts, identified by the State Government (see **Table 2, Figure 6**). Implementation was initially planned for eight blocks, but a number of constraints resulted in three blocks being excluded. Two blocks (Hinjilicut and Khariar) were allocated to an expert agency 'Feedback Foundation' to implement CLS intervention, but due to lack of support from district administration and other bottlenecks the agency implementation could not proceed. In Kuarmunda, the CLS-3 approach was initiated; however implementation did not proceed due to similar constraints.

It is also possible that HH and community level sanitation improvements could be reinforced by other community demand side interventions that include health, nutrition, water and sanitation (HNWASH) behaviour change components. One such example is a Participatory Learning and Action (PLA) cycle, called Shakti Varta, which has been scaled up in 15 high burden districts in Odisha. This evidence-based intervention<sup>25</sup> is using women's groups as a platform and local facilitators to take community members through 20 fortnightly meetings covering maternal and new-born health, maternal and child nutrition, and water, sanitation and hygiene. PLA has been implemented in two phases: phase one running from July 2014 – February 2016 in three high burden districts, and phase two which started in September 2015 and is still running in 12 high burden districts. One CLS and PLA block were originally combined to assess the added value of the latter in improving village or HH level sanitation practices.

**Table 2: Original CLS implementation plan across 8 blocks of Odisha**

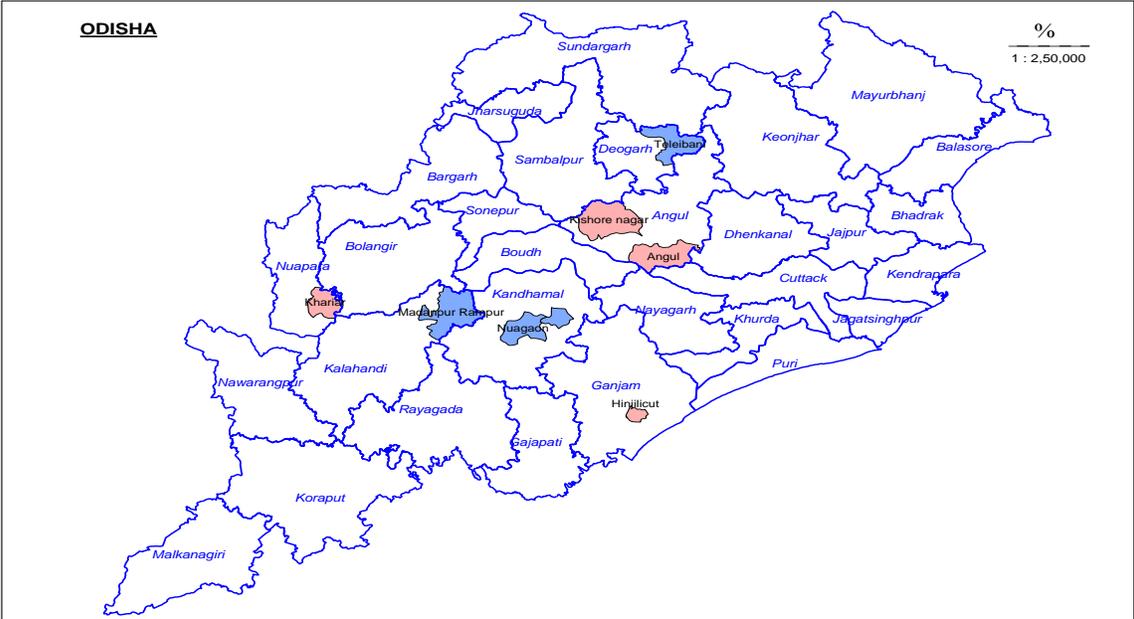
District	Block	CLS Type	Responsible organisation	CLS/PLA	CLS start date	CLS end date
Anugul	Anugul	CLS-II	Feedback Foundation	CLS with PLA phase 2	October 2014	December 2015
Anugul	Kishore Nagar	CLS-II	Feedback Foundation	CLS with PLA phase 2	January 2015	December 2015
Kalahandi	M.Rampur	CLS-I	TMST through local NGO	CLS with PLA phase 2	September 2015 <sup>a</sup>	February 2016
Debagarh	Tileibani	CLS-I	TMST through local NGO	CLS only	November 2015 <sup>a</sup>	February 2016
Kandhamal	K. Nuagaon	CLS-I	TMST through local NGO	CLS with PLA phase 1	August 2015 <sup>a</sup>	February 2016
Ganjam	Hinjilicut <sup>b</sup>	CLS-II	Feedback Foundation	CLS only	n/a	n/a
Nuapada	Khariar <sup>b</sup>	CLS-II	Feedback Foundation	CLS with PLA phase 2	n/a	n/a
Sundargarh	Kuarmunda <sup>b</sup>	CLS-III	TMST through NGO	CLS only	n/a	n/a

<sup>a</sup> An expert agency initially started CLS implementation in these blocks between December 2013 to December 2014, however making little progress during this time, TMST took over.

<sup>b</sup> Did not receive CLS due to a number of contracting challenges.

<sup>25</sup>Tripathy et al (2010): Effect of a participatory intervention with women's groups on birth outcomes and maternal depression in Jharkhand and Orissa, India: a cluster-randomised controlled trial

Figure 6: CLS implementation blocks in Odisha State



## 2 Evaluation Purpose, Scope and Objectives

The overall objective of this evaluation is to assess the effect of the CLS intervention in creating ODF villages and improvement in key HH level and behavioural indicators related to improved sanitation and hygiene practices. Primary objectives are as follows:

- Evaluate the effectiveness of CLS intervention in achieving village level ODF status
- Assess changes in individual and HH level secondary outcome indicators reflecting water, sanitation and hygiene behaviours and practices
- Identify factors which may contribute to success or failure of the CLS intervention
- Make recommendations for improving CLS effectiveness and potential for replication based on findings of the evaluation.

Socio-economic inequities in access to health, nutrition, water and sanitation services are well documented in India<sup>26</sup>. It is important that the CLS intervention engages the most underserved groups within a village as well as people with relatively greater privileges in terms of education and income for entire villages to become ODF.

This evaluation will examine differences in CLS relevant indicators according to different dimensions of equity including social group, education and literacy and standard of living index. We hypothesise that any baseline differences in access to and use of services would have narrowed by end line. We also designed qualitative work exploring whether the most underserved groups were able to participate in the CLS intervention, and whether any groups were excluded.

---

<sup>26</sup>Balarajana et al, 2011. Health care and equity in India. Lancet. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093249/>

### 3 Evaluation Design and Methodology

The evaluation adopted a mixed methods approach, employing both quantitative and qualitative techniques. Specifically this involved:

- i) Process monitoring through the state led Monitoring and Information System (MIS)
- ii) Independent ODF endline verification study
- iii) Pre-post assessment using HH survey data to assess key secondary outcome indicators
- iv) Baseline and endline qualitative research

#### 3.1 Process monitoring from state led Monitoring and Information System

A state led MIS was set up to monitor CLS implementation, HH toilet construction and progress of villages towards ODF attainment. Village-level motivators recorded village-wise data on the number of Anganwadi centres<sup>27</sup> (AWCs), schools and HHs with toilets (disaggregated by caste/tribal status) prior to the introduction of CLS, using a monitoring template (**Annex 1**). This template was also used to record data on the triggering process (e.g. date of triggering), date of ODF attainment, as well as monthly progress data on use of existing toilets, and construction of new toilets at schools, AWCs and HHs.

Cumulative village-level data was used to monitor results compared with ODF targets across the CLS intervention period. This data was compiled at GP level and monthly summary sheets were generated to facilitate progress reviews. Implementing partners and local community based organisations were responsible for collecting the baseline and monitoring data and for reviewing progress.

The primary objectives and benefits of the MIS were:

- Capture basic sanitation information of individual villages at baseline, prior to CLS implementation
- Record information on concurrent progress of individual villages towards ODF status, and assess overall progress and ODF attainment in CLS exposed areas
- Monitor the time lag between date of triggering and ODF attainment (a possible indicator of ODF sustainability)
- Recording of concurrent improvements in access to and use of improved sanitation facilities at HHs, schools and AWCs.

#### ODF declaration through MIS

The process used to declare villages as ODF for the MIS differed between blocks, depending on the implementing partner, and focused more on toilet ownership and use, than physical checks for OD.

---

<sup>27</sup> The centres are part of the Indian public health care system and provide basic healthcare in rural area

*Process of ODF declaration in M.Rampur, Tileibani, K.Nuagan blocks (CLS-1 approach by using local NGO)*

After construction of toilets by all HHs in a village, Village Water and Sanitation Committee members (set up by the GoO in all villages) checked HH toilet construction and use. Once verified (i.e. that all HHs had toilets, and they were being used), the committee would self-declare the village as ODF. This information was received by the Panchayat (village government), who then reported it to the District Water and Sanitation Mission (DWSM). District Programme Officers (DPO) were then responsible for collecting the information from the DWSM and entering it in to the MIS. There was no mechanism to independently verify HH toilet construction at this stage, before being declared as ODF.

After ODF declaration, Government personnel were invited for inspection, and to link the villagers with the subsidy. HHs constructing their toilets according to the Government standards received the subsidy.

*Process of ODF declaration in Angul, Kishore Nagar blocks (CLS-2 approach by using expert agency)*

ODF verification was completed jointly by Village Water and Sanitation Committees and Panchayat. The DWSM then certified the villages as ODF, and an agreement was signed by the District Collector, Project Director (District Rural Development Agency (DRDA), concerned Block Development Officer and Executive Engineer of DWSM. These individuals also verified a sample of villages to check toilet construction and use in HHs (they did not check AWCs and schools). In some villages, where not all HHs could be provided construction materials as they did not meet the eligibility criteria, the village committee took commitment from them that they would share toilets with those who own them. Based on this, they reported the village as ODF and accordingly completed certification.

### **3.2 Independent ODF study**

As the evidence to support the use of CLS to achieve ODF in Indian villages is limited, an ODF verification exercise was conducted to independently verify a sample of villages declaring as ODF following CLS intervention. It also investigated related changes to sanitation practices through CLS and other demand led interventions under the study. In addition, it was extremely useful to also know 'why' and 'how' changes in OD practices at the individual, HH and community levels are achieved and sustained, how CLS and other interventions may be contributing to those changes, how well the CLS intervention was implemented and received by intended beneficiaries, and the success and limiting factors that future CLS implementers should be aware of.

This study focused on the following two components of the overall monitoring and evaluation design of CLS.

- i) Independent verification of a sample of villages declared as ODF following CLS intervention

- ii) Qualitative end line assessments of intervention villages to document the perspectives of community members and implementers on CLS effectiveness, and to identify factors that enable or hinder achievement and sustainability of ODF

### **3.2.1 Purpose of the Study**

The end line assessments had four main purposes:

- i) To serve as a quality assurance exercise through independent verification of ODF in a sample of ODF-declared villages from the government’s MIS data
- ii) To document the perspectives of intended CLS beneficiaries and other stakeholders about the quality of CLS implementation, and the effectiveness of the approach
- iii) To identify elements of the CLS intervention that have contributed to or inhibited attainment of ODF, as well as the influence (positive or negative) of other interventions and contextual factors (such as village size and remoteness) on CLS success.
- iv) To develop recommendations and strategies for strengthening CLS implementation by the government and other stakeholders, keeping in mind the local context for attaining ODF.

### **3.2.2 Research Questions**

#### ***Key Research Questions for Verification of ODF declared villages***

- i) What proportion of sampled villages declared as ODF (as recorded in the CLS MIS) are independently confirmed as ODF? What are the likely causes of any discrepancies found between the MIS data and the independent verification data? Explore factors such as: the criteria used to define ODF by implementers, stakeholders, beneficiaries, and independent assessors; persons declaring ODF; time-lag between ODF declaration and verification visit, errors in the MIS.

#### ***Research / Evaluation Questions for Qualitative CLS End line***

- i) What are the views of intended CLS beneficiaries and other stakeholders about the quality of CLS implementation?
- ii) What are the views of intended CLS beneficiaries and other stakeholders about the effectiveness of CLS in achieving village-level ODF?
  - a. Probe: to what extent did the CLS intervention address barriers and enablers of ODF for particular groups – women, men, older, adolescents, young children, infants, different caste and other social groups?
- iii) What are the views of intended CLS beneficiaries and other stakeholders about the contributions of CLS interventions addressing water and hygiene issues alongside sanitation problems and how?
- iv) What are the views of intended CLS beneficiaries and other stakeholders about the sustainability of village level ODF? (only in villages where ODF was declared)
- v) What are the views of intended CLS beneficiaries and other stakeholders about the benefits and drawbacks of the CLS intervention? How could the CLS intervention be improved?
- vi) Were any initiatives taken-up at individual, group, community or institutional levels towards

- attaining ODF at village level? What are they and who initiated them?
- vii) Have other interventions influenced the process and outcomes of the CLS intervention? If so, which interventions, and how?
  - viii) Have other stakeholders and community institutions influenced the process and outcomes of the CLS intervention? If so, who and how?
  - ix) What role do contextual factors (such as village size and remoteness) play on ODF attainment where CLS has been implemented?
  - x) Has the CLS intervention influenced the views and practices of community members on OD? If so, how?
  - xi) What has been the experience of intended beneficiaries and facilitators in accessing subsidies for toilet construction?
  - xii) What has been the experience of community members who have attempted to construct and maintain toilets following the CLS intervention?
  - xiii) What key recommendations and strategies for strengthening the implementation of CLS can be recommended to the government and other stakeholders?

### 3.2.3 ODF verification methodology

The ODF verification was carried out based on the guideline issued by the GoI (September, 2015)<sup>28</sup>. The guideline defines ODF and provides a checklist for a GP/Village to be declared ODF.

#### ODF Definition as per GoI guidelines

The GoI definition of ODF is as follows: "ODF is the termination of faecal-oral transmission, defined by:

- a) No visible faeces found in the environment/village; and
- b) Every HH as well as public/community institutions using safe technology option for disposal of faeces.

*(Tip: Safe technology option means no contamination of surface soil, ground water or surface water; excreta inaccessible to flies or animals; no handling of fresh excreta; and freedom from odour and unsightly condition)"*

As per the GoI guideline, the study conducted ODF verification at two levels: i) community level and ii) HH level. The methods applied at each of these two levels are outlined below:

- i) **ODF Verification at the community Level:** This involved verification of the OD site and inspection of toilets at the AWC and school in the village. The process of verifying OD sites involved identification of OD sites by gender, observation of faeces in the OD site, observation of faeces in the other sites of the village e.g. road side; and following/observing animals like dogs and pigs eating faeces. The ODF verification was carried out early in the morning.

<sup>28</sup> Guidelines for ODF Verification, No.S-1101113/2015-SBM, 3rd September, 2015, Government of India, Ministry of Drinking Water and Sanitation, Swachh Bharat Mission (Gramin) Division

- ii) **Household Toilet Inspection:** Apart from verifying the availability and type of toilet in the sample HHs, the presence of water vessels in the toilet or near the toilet; availability of soap inside or near the toilet and paths to toilet were verified to gauge whether the HH members are using the toilet. Additionally, the information on the use of toilets reported by the HH respondent was taken into account to know whether all the family members are using the toilet.

### **3.2.4 Indicators for ODF Verification**

The CLTS manual defines ODF as ‘when no faeces are openly exposed to the environment’ therefore covering of faeces or use of/disposal via latrines would be sufficient for a village to be defined as ODF. However, according to the Gol guideline, a village has to fulfil all the following 9 indicators (5 community level and 4 HH level) to be declared as ODF. The same nine indicators were taken for the endline ODF verification of the CLS intervention.

#### **a) Community Level**

- i) Zero incidence of OD (no visible faeces found in the village environment)
- ii) Proper use of school toilet
- iii) Safe confinement of excreta in school toilet
- iv) Proper use of Anganwadi toilet
- v) Safe confinement of excreta in Anganwadi toilet

#### **b) Household Level**

- vi) Access to toilet facility
- vii) Use of toilet
- viii) Fly-proofing of toilet
- ix) Safe septage disposal<sup>29</sup>

### **3.2.5 Sampling Approach for ODF Verification**

#### **Districts and Blocks Included for ODF Verification**

The verification of the ODF declared villages was carried-out in 5 out of the 7 above-mentioned CLS intervention blocks (receiving CLS-1 or CLS-2). The remaining blocks namely Hinjilicut block in Ganjam district and Khariar block in Nuapada district were excluded from the verification as none of the villages was declared as ODF by the cut-off date i.e. December 27, 2015 taken for verifying the ODF status of villages. It is important to mention here that these two blocks were hardly exposed to CLS intervention by the cut-off date, hence excluded from undertaking the ODF verification.

---

<sup>29</sup> Septage refers to the liquid and solid material that is pumped from a septic tank, cesspool, or other treatment facility after it has accumulated over a period of time.

**Selection of Villages:** As on December 27, 2015 a total of 309 villages were declared as ODF in the five study blocks according to the MIS. Around one third ( 100 villages) were selected for the ODF verification applying proportionate random sampling method. The following steps were adopted for the sampling of villages.

- i) To start with, the block wise list of ODF declared villages for the five study blocks was prepared. The villages in each block were arranged in alphabetic order using the CLS-MIS data.
- ii) In the next step, the block wise percentage of the number of ODF declared villages from the total number of villages declared as ODF in the five blocks (i.e. 309) was calculated.
- iii) Since the total sample size required was to select 100 ODF declared villages for the verification, the block wise percentage of the ODF declared villages calculated in the previous step was divided with the required sample size, which gave the proportionate number of villages to be selected from each block (**Table 3**).
- iv) Then, systematic sampling was used to randomly select block wise, the required number of ODF declared villages for the verification. The first village in each block was selected using random number between one and total number of ODF declared villages listed in the respective block. Then, subsequent number of villages in each block was selected at required sample interval (sample interval for each block was calculated by dividing the required number villages in the block with the total number of villages in the block).

The block level number of ODF declared villages included in the sample and verified is presented in the table below.

**Table 3: ODF verification sampling**

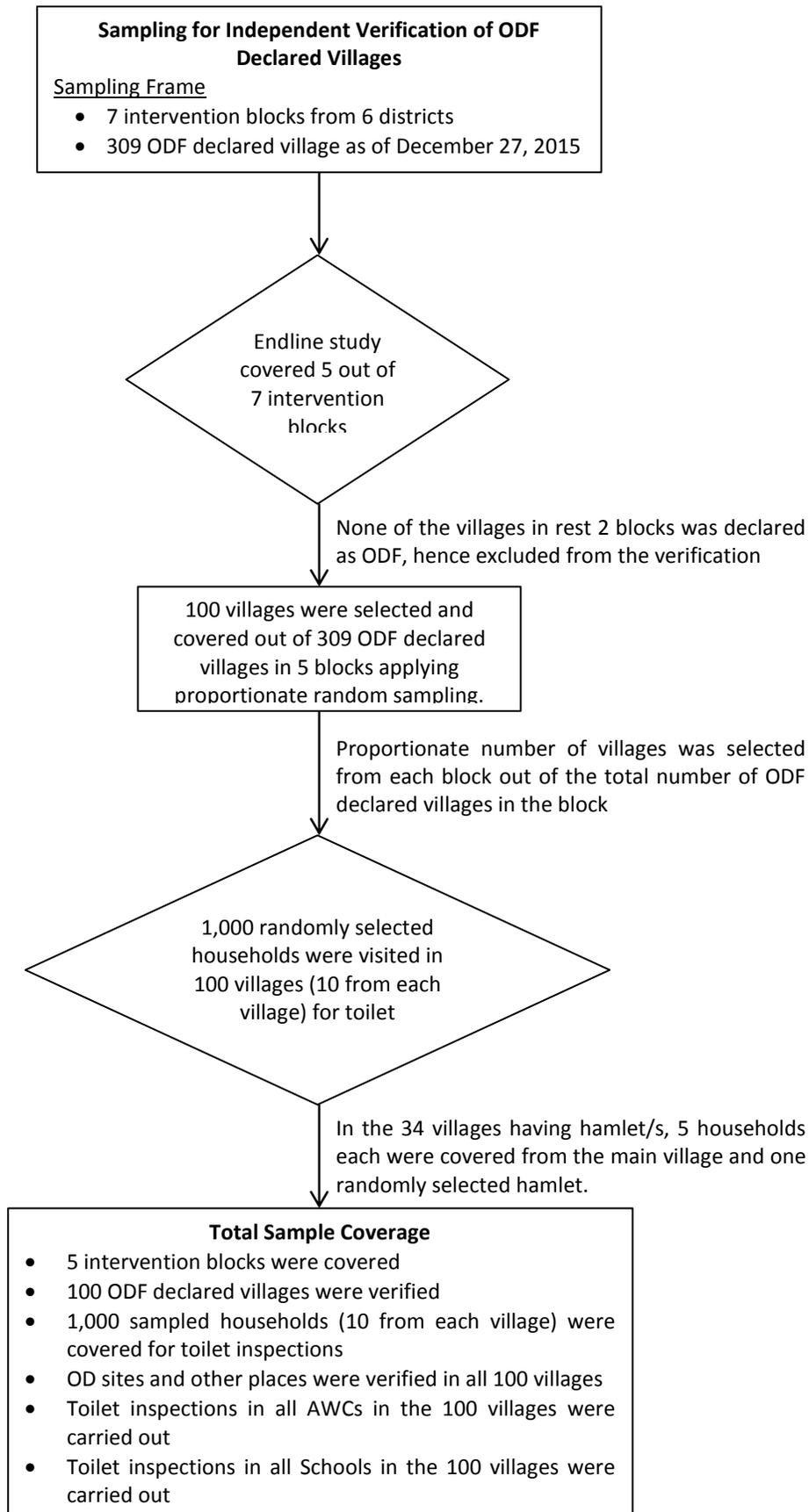
District name	Block name	Category of the Block	Total number of villages declared as ODF as on December 27, 2015	Number of villages proportionately included in the sample	Number of villages verified
Anugul	Anugul	CLS with PLA Phase-II implemented by National CLS Expert agency	158	52	52
	Kishorenagar		107	34	34
Kandhamal	K.Nuagoan	CLS with PLA Phase-I implemented by Local agency	24	8	8
Kalahandi	M.Rampur	CLS with PLA Phase-I implemented by Local agency	13	4	4
Deogarh	Tileibani	CLS only implemented by Local agency	7	2	2

**Selection of households for Inspection of Toilets:** As per the methodology set for the study, a total of 10 HHs per village were visited for the inspection of toilets. In total, 1,000 HHs were covered from the 100 sample villages using the following process:

- i) Similar to the selection of sample villages, systematic sampling was used to randomly select 10 HHs in each study village.
- ii) The first HH was identified using a random number between one and total number of HHs in the village. Accordingly, the study team reached the first HH by verbally counting houses taking a right hand route from the entry point of each village. Subsequent HHs were selected systematically at required sample interval (sample interval for the selection of HHs was calculated by dividing the required sample size to be selected from each village with the total number of HHs in the village).
- iii) In case of villages having hamlets, the ODF verification was done in the main village and one randomly selected hamlet. The 10 HHs covered per village included five each from the main village and one randomly identified hamlet.

**Figure 7** below presents the sampling procedures used.

**Figure 7: Sampling procedure for selection of villages and households for ODF verification**



### **3.2.6 Tools and Techniques used for Data Collection**

A structured village ODF verification tool was developed for the data collection. This tool included two key modules for the data collection: i) community module for verification of OD sites, roadsides, AWC and School toilet inspections, etc. and ii) HH module for the HH toilet inspections. Data collection techniques primarily involved observations of visible faeces during verification of OD sites, roadsides, etc. and inspections/observations of toilets. Apart from this, interview technique was applied for collecting data for community and HH level ODF verifications. Photographs of any visible faeces were taken during the ODF verifications.

### **3.2.7 Data Entry, Analysis and Reporting**

Data collected through the structured village ODF verification tool were entered in MS Excel. Data filtering and cleaning were done in Excel before exporting and analysing the data in SPSS. Frequency tables were generated using SPSS, which are presented and interpreted in the report.

## **3.3 Pre-post assessment using Concurrent Monitoring data**

Data from population representative cross-sectional household surveys were used to assess possible changes in key outcome indicators, following a pre-post design. A subset (CLS blocks only) of the Odisha Concurrent Monitoring Survey 2 (CCM2) implemented between March 2014 and February 2015 served as baseline, and data from a December 2015 to March 2016 CCM survey, covering only CLS blocks, served as endline. They will generally be referred to as baseline (2014) and endline (2016).

Both surveys followed the same design and methodology, full details of which are available in the CCM2 survey report<sup>30</sup>, however key information is provided below.

### **3.3.1 Survey design and sampling**

CCM surveys collect data on key health, nutrition and WASH indicators through two instruments, a HH survey and Frontline Health Worker (FLW) survey. The surveys focus on rural areas (covering remote to peri-urban areas), excluding urban centres. The method ensures proportionate representation of remote and vulnerable HHs which may be missed in other surveys. Both surveys for this evaluation were funded by DFID.

In 2014, CCM data was collected from all 314 administrative blocks of Odisha. It was implemented to provide quality data on service provision and utilisation, and key associated outcomes to feedback to the GoO about the impact of their programmes on health and nutritional status of communities. The focus of the 2016 survey however was largely to provide short-term endline data on CLS and PLA, and therefore only covered the 44 blocks in which these interventions were implemented.

---

<sup>30</sup> Odisha Technical and Management Support Team. (2015). *Concurrent Monitoring II: Odisha state survey 2014-15*. Options Consultancy Services LTD, IPE Global, CARE India.

The survey design and sampling approach were developed with support from an independent statistician. The statistician also guided the process of calculating the required sample size for the original quasi-experimental evaluation design for Shakti Varta and CLS, and to generate reliable block-level estimates in intervention and non-intervention areas<sup>31</sup>. For further information on sample size calculations for CCMII, please see the CCMII final report.

In order to ensure comparability between surveys, and increase the power with which to assess change, the 2014 and 2016 surveys were implemented using exactly the same methodology, including the same GPs, and villages. Due to the above, no additional sample size calculations were required for the 2016 survey, and sampling files were shared with the data collection agency listing all of the blocks, GPs, and villages that were covered in 2014, for the 44 intervention blocks. Key reasons for this were that visiting the same villages is a better option for assessing change (than for example, re-sampling), which is a key objective of the survey given the nested PLA and Community Led Sanitation interventions. Using the same villages allows detection of (real) change by avoiding the possibility of collecting follow-up data from villages that might have had worse or better baselines. Furthermore, there is a gain in power because data from baseline and follow-up is essentially 'matched' within villages. Additionally, visiting the same villages means that that we would be more likely to see consistent estimates between blocks and districts between the surveys.

### **Sampling approach**

Both surveys used a stratified multi-staged cluster sampling methodology in which the selected blocks served as strata and the sampling frame consisted of all inhabited villages within these blocks. A list of villages to be visited was sampled from the Odisha Primary Census Abstract 2011 (excluding uninhabited villages) independently by the statistician.

In all blocks, half of the GPs were sampled, and then half of the villages (in Shakti Varta and CLS evaluation blocks) or one fifth of the villages (remaining non-intervention blocks). As not all CLS blocks were included in the original quasi-experimental design, more than 50% of villages were sampled in Angul, Kishorenagar and Tileibani blocks, and around 25% of villages selected in M.Ramput and K.Nuagan.

At selected villages all HHs were invited to participate according to the eligibility of residents. In each selected village a detailed mapping exercise took place in which all HHs spread across all the hamlets were identified and listed. Frontline health workers and ward members (or village headmen or opinion leaders) were consulted to confirm the initial mapping produced. All listed HHs were then visited for an initial screening (a brief questionnaire taking approximately five minutes) to identify residents in the subgroups of interest (see list of respondent groups below). If any respondent groups were present, or it was a HH where there had been a death to a woman 15-49 or a child under-five in the reference period, then the HH was eligible for the survey, and the relevant interviews took place after appropriate consent procedures.

---

<sup>31</sup> Sample size calculations in Shakti Varta blocks was based on detecting a 17% reduction in neonatal mortality from 30 per 1000 to 25 per 1000 with 80% power and 5% significance level.

All people from all of the subgroups were invited to complete the relevant questionnaire, and where a woman was a member of more than one subgroup then she completed all relevant questionnaires. The only exception to this was in the case of adolescent girls where every third HH with an adolescent girl 10-19 was eligible for that component of the CCM survey.

If a woman from a subgroup of interest resided there, but was away from home at the time of visit, then the interview team returned at a time suggested by other HH other members to attempt to obtain the interview. If there was no answer at a HH, the interview team returned at least three times before recording the HH as a non-responder.

### **Expected numbers with the CCM2 sampling scheme**

It was anticipated that in each CLS intervention block around 500 women with recent birth in the reference period would be identified and interviewed. Some other target subgroups (e.g. pregnant women) were smaller, and others (e.g. women with child under five years) were much larger e.g. up to five times bigger. To ensure the sample size remained manageable, we restricted the number of adolescent girls (10-19 years) who were interviewed to every third HH with an adolescent girl.

### **Sampling for FLW survey**

The sampling for the FLW survey was linked to the sampling for the HH survey. In each sampled village the interview team aimed to interview one ASHA and one AWW. If there was more than one ASHA or ANM in a village then they were randomly selected. In some instances, the FLW was also an eligible HH level respondent – in which case she was prioritised for the HH interview and was not included in the FLW survey.

The interview team also aimed to interview all of the ANMs linked to each sampled village. As each ANM covers a larger catchment area than a single village there are fewer ANMs in the CCM sample compared to ASHAs or AWWs. Again, if an ANM was also eligible for the HH survey she was prioritised for the latter.

The separate FLW survey involved interviews with ASHAs, ANMs and AWWs.

### **Respondent groups**

The following overlapping groups constituted the key respondents:

- Currently pregnant women
- Women who gave birth in the reference period (1<sup>st</sup> January 2013-31<sup>st</sup> December 2013 for CCM2; 1<sup>st</sup> January 2014 – 31<sup>st</sup> December 2014 for CCM3) irrespective of the survival status of their child
- Mothers with living infant under 2 years
- Mother with living infants under 5 years
- Adolescent girls 10-19.

Households where a woman 15-49 years old or a child under-five years had died in the reference period (1<sup>st</sup> January 2013-31<sup>st</sup> December 2013) were also eligible, even if there were no

living respondent groups. The separate FLW survey involved interviews with Accredited Social Health Activist (ASHAs), Auxiliary Nurse Mid-wife (ANMs) and Angan Wadi Worker (AWWs).

### **Questionnaire**

The same questionnaire was used in both the 2014 and 2016 surveys. Questions were based on selected indicators from the DFID logframe, previous CCM survey in 2011 and other key surveys in India, recent policy changes, and outcomes expected to improve as a result of CLS and PLA.

### **Training of data collectors**

Due to the large-scale nature of the survey we outsourced the data collection and management to research agencies (different agencies for 2014 and 2016 surveys). Agency and TMST staff were involved in training of the data collectors using training manuals developed for the training of trainers (TOT), before the main training of investigators and supervisors. Master trainers (trained at the TOT) were responsible for training investigators. Each training session was delivered over 6 days by two master trainers, one IT trainer and one a quality assurance person. The first training session was also attended by 20 district coordinators and TMST staff.

### **Survey equipment**

Data was collected using mobile tablets. Each investigator was given a CAPI tablet programmed with a bilingual (English and Odiya) version of the questionnaire. The data collected through the CAPIs was directly uploaded to the server. TMST had access to the raw data via the server and were able to conduct data quality checks.

### **Data collection**

Blocks were visited in a priority order. For the 2014 survey, this was to ensure the baseline data for CLS and Shakti Varta interventions were collected before implementation began. For the 2016 survey, CLS blocks were first prioritised. Data collection teams comprised of two mappers and listers who also assisted with anthropometric measurement, 4-5 female investigators, and one supervisor. GPS location was recorded twice within each village during data collection to enable monitoring of the location of field teams.

Before the survey began, supervisors, mappers and listers sought the help of ward members to identify the boundaries of villages selected, including hidden hamlets, and to draw up village maps. All HHs were listed and assigned a unique HH ID number, written in white chalk on the house. The five minute screening tool was conducted to identify eligible HHs; the team returned to empty HHs at least three times to attempt the screening exercise before recording the HH as a non-responder.

Investigators were given lists of consenting HHs to visit each day and conducted the interviews. All respondents were given information about the survey and provided voluntary informed consent prior to interview. Girls 10-14 years of age were interviewed in the presence of a suitable adult from the HH. Data were uploaded to password protected servers by supervisors at the end of each day.

In the five intervention blocks, 13,322 households were interviewed in 2014, and 13,387 households interviewed in 2016.

### **Quality assurance consultants**

Whilst the data collection agency had internal data quality assurance protocols in place, 10 external quality assurance consultants and one Senior Quality Assurance Consultant were recruited by TMST, whose main purpose was to provide an independent appraisal of the quality of investigator data collection and to feedback their findings to TMST. QA consultants also attended the training of data collectors to gain a deeper understanding of the expectations of the different cadres of field staff.

### **Secondary outcome indicators**

The primary outcome of CLS is village-level ODF and was measured through a separate monitoring system in all CLS exposed villages and the endline ODF verification study. The evaluation also included a number secondary outcome indicators measured at the HH and individual level, using 2014 and 2016 surveys (Annex 2). These can be grouped around the following areas:

- HH level:
  - Access to and use of sanitary facilities for the disposal of human excreta
  - Hand washing with soap at critical moments
  - Access to water supply and safe storage
- Individual level:
  - Access to and use of sanitary facilities for the disposal of human excreta
  - Hand washing with soap at critical moments

### **Data preparation and analysis**

Data was cleaned by both TMST and the implementing agencies. TMST created the majority of indicators in SPSS (2014 data) and STATA version 11.2 (2016 data), and analysis was completed using STATA version 11.2

Block weights were calculated to account for the differential sampling of villages within GPs (e.g. 50% of villages' vs 20% of villages). The block weights ensured that blocks with fewer villages sampled were not under-represented in the overall estimates, and that blocks with a larger number of villages sampled were not over-represented. Weights were added at the block level rather than GP level in order to reduce the variability in the weights and therefore maintain good precision. Weights were calculated as the inverse of the probability of being selected in the sample.

During analysis, the block weights and clustering of outcomes within villages were accounted for using complex surveys analysis in STATA using the svyset command. All prevalence estimates presented are un-adjusted.

### 3.4 Qualitative endline assessment of CLS intervention villages

The qualitative component of the CLS evaluation provided essential insight into the context for sanitation and hygiene interventions in Odisha and possible explanation for measurable change observed. Qualitative research was conducted at the baseline and endline of CLS:

1. The baseline study helped us understand the social, environmental and structural factors that maintain ODF and low access to toilets, and barriers to improved sanitation (including toilet construction).
2. The endline study helped to gauge the quality of implementation, and explain the end line findings (e.g. why CLS resulted in ODF or not).

This report describes the methodology and findings from the Endline Assessment. The baseline research and findings have been documented previously<sup>32</sup>.

#### 3.4.1 Methodology for Qualitative End line Assessment of CLS

##### Sampling

The qualitative end line assessment was undertaken in a range of CLS intervention blocks to understand the factors influencing achievement of the primary outcome of CLS (villages becoming ODF), considering differing implementation strategies.

**Selection of Blocks:** The qualitative work was carried out in four out of the five CLS intervention blocks where endline ODF verification was completed. The selected blocks represented different CLS implementation types (expert agency vs local NGO), as well as inclusion or not of the Shakti Varta intervention, and achievement or not of ODF (**Table 4**).

**Selection of Villages:** Using lists developed for the endline ODF verification assessment, four villages were randomly selected in each block, one each from categories a and b, two from category c, shown below:

- a. Verified ODF
- b. Former ODF, slipped back to OD
- c. Not yet achieved ODF within the programme period

In total, 16 villages from the four blocks were included in the study.

**Table 4: Selection of sites for qualitative endline assessment**

District	Block	Implementing agency	Village verified as ODF (a)	Village slipped back to OD (b)	Village not yet achieved ODF within the programme period (c)	
Anugul	Anugul Sadar	National CLS Expert agency	Berhampur	Madhavpur	Nandapur	Madhupur
Kandhamal*	K.Nuagoan	Local NGO	Dadi	Adimaha	Mahasingh	Badaketa

<sup>32</sup> Odisha Technical Management and Support Team. Community-Led Total Sanitation. Baseline report from 9 blocks of Odisha. September 2014.

District	Block	Implementing agency	Village verified as ODF (a)	Village slipped back to OD (b)	Village not yet achieved ODF within the programme period (c)	
Kalahandi	M.Rampur	Local NGO	Ulimunda	Phapsi	Patiguda	Tujung
Deogarh	Tileibani	Local NGO	Bhangamunda	Kaliakhaman	Kansar	Dholpada

\*Note that Shakti Varta intervention was also implemented in this district

## Recruitment of Study Participants and Tools and Techniques used for Data Collection

Respondents were purposively selected to represent key stakeholders both in the community and from local institutions and stakeholders delivering the sanitation services. The different types and numbers of respondents and respective methods of qualitative data collection are shown in the table below.

**Table 5: Number of FGDs and Interviews Conducted**

Respondent	Tools for data collection	Techniques of data collection	Total Number
Men	Focus Group Discussion Guideline	Focus Group Discussion	16
Women	Focus Group Discussion Guideline	Focus Group Discussion	16
Ward member	Structured schedule	In-depth Interview	15
Self Employed Mechanics	Structured schedule	In-depth Interview	09
ASHA	Structured schedule	In-depth Interview	12
AWW	Structured schedule	In-depth Interview	14
Mason	Structured schedule	In-depth Interview	14
SHG (President / Secretary)	Structured schedule	In-depth Interview	17
Sarpanch	Structured schedule	In-depth Interview	07
RWSS (SDO, JE)	Structured schedule	In-depth Interview	04
Panchayat Samiti Chairman	Structured schedule	In-depth Interview	04
Block Level Federation (President / Secretary)	Structured schedule	In-depth Interview	04
DWSM Functionary	Structured schedule	In-depth Interview	04
TMST DPOs	Structured schedule	In-depth Interview	04

## Qualitative Data Coding, Analysis and Report Preparation

The data collected through Focus Group Discussions (FGDs) and In-depth Interviews (IDIs) were complied with ethical standards of confidentiality and were stored securely in accordance with proper data protection practices. The following steps were taken to ensure this:

- i) The study teams were equipped with digital audio recorders and cameras for recording the FGDs and IDIs and taking pictures of community Participatory Rural Appraisal<sup>33</sup>

<sup>33</sup> Participatory methods that emphasizes local knowledge and enable local people to make their own appraisal, analysis, and plans.

- exercises integral to CLS. All interviews and discussions were undertaken with the study participants after taking informed consent and were digitally recorded on a portable recorder.
- ii) Recordings were downloaded to laptops on a daily basis after returning from the field.
  - iii) Recorded files were renamed using an anonymized coding system developed in an encrypted excel sheet.
  - iv) Field notes were used in preparing the report. For each of the FGDs and IDIs a separate flip chart was prepared with all questions written in sequence, including adequate space for writing all the interviews and discussion of the specific stakeholder of all sample villages of the same block.
  - v) A transcription and translation team was set-up to transcribe the original Odia IDS/FGD into English.
  - vi) All the transcriptions were given new names and codes to ensure data and informant confidentiality.
  - vii) The data was coded and analysed manually. A descriptive coding scheme linked to an overall analytical framework was developed with specific reference to themes of interest and research questions.

## 4 Findings from the Assessment of CLS

This section reports assessment findings from the following sources, described in the preceding sections:

- *CLS MIS coverage and monitoring data*: monitoring information collected through the MIS at village level, but aggregated for presentation at block level.
- *ODF endline verification in CLS villages – primary outcome*: data collected at village and HH level in order to provide overall village level ODF status.
- *Pre-post assessment using cross-sectional survey data*: Household level survey, presenting key household and individual secondary outcome indicators.
- *ODF endline verification study qualitative findings*: findings from the qualitative component of the ODF verification study, using purposively sampled respondents from CLS blocks.

### 4.1 CLS coverage and monitoring using MIS

There were some constraints to implementation as the original expert agency (Knowledge Links) withdrew and were replaced by a second agency (Feedback Foundation). Most of the villages selected by Feedback Foundation were smaller villages with fewer households and in some of the blocks where they intended to work the district administration was not supportive and so the intervention was not delivered. The expert agency submitted MIS data to TMST quarterly whereas in other blocks TMST collected the data continuously. These factors contribute towards variance in CLS coverage and MIS completeness between villages.

It is also important to note that the CLS MIS is a Government project tracking tool and the standard used for declaring a village ODF is different from the ‘gold standard’ ODF verification used in the third party assessment of ODF (see section 4.2). MIS data is included in this report for completeness and to provide process indicators, but is not equivalent to the independent verification, presented in the next section.

**Table 6: MIS data for CLS implemented blocks**

Block	No. of villages in block	Number of HHs in block	Target number of villages to receive CLS	Number of villages exposed to CLS	No. of ODF Villages	% of CLS villages that became ODF	Average time (days) taken from triggering to reaching ODF status	Number of IHHL Constructed & Used in ODF Villages
Tileibani	221	17774	235	235	145	61.7	64	8282
M.Rampur	229	21108	162	162	42	25.9	107	995
K. Nuagaon	177	13171	135	135	91	67.4	75	948
Anugul Sadar	226	38317	Not Available	Not Available	182	Not available	134	28041

Kishore Nagar	230	25081	Not Available	Not Available	108	Not available	76	5609
---------------	-----	-------	---------------	---------------	-----	---------------	----	------

## 4.2 ODF endline verification in CLS villages – primary outcome

The primary outcome expected from the CLS intervention was villages attaining ODF. Hence the primary outcome indicator set for CLS intervention was to measure the number and proportion of villages that attained ODF.

This section of the report presents the findings of the ODF verifications conducted in the 100 sample villages declared as ODF in the CLS implementation blocks. The findings presented here are structured as follows:

- Background profile of the ODF Verification villages and participants
- Findings of the assessment of village level indicators
- Findings of the assessment of HH level indicators
- Proportion of villages verified as ODF combining village and HH level indicators

### 4.2.1 Background Profile of the ODF Verification Villages

The 100 sampled villages had an average of 121 HHs per village (range 10-727 indicating a wide variation, median 64). Disaggregation of the number of HHs into the following five ranges viz. below 25, 26 to 50, 51 to 100, 101 to 200 and more than 200 HHs, indicated that an equal proportion i.e. one fifth of the HHs, fall in each category.

Nearly three quarters of sampled villages (64/100) had no hamlets indicating that the majority of HHs resided in the sampled villages. The remaining 34 villages had a total of 74 hamlets, an average of 2 hamlets per village.

The majority (69/100) of sampled villages were inhabited by the Other Backward Class HHs. Of the remaining 31 sampled villages, 21, 5 and 5 were majorly inhabited by the Scheduled Tribe (ST), Scheduled Caste (SC) and General Caste HHs respectively.

### 4.2.2 Findings of the Assessment of Village Level Indicators

According to the GoI guideline, the following five village level indicators were observed and assessed as part of the verification of the villages declared as ODF:

- i) Zero incidence of OD (i.e. no visible faeces found in the village environment)
- ii) Proper use of School toilet
- iii) Safe confinement of excreta in school toilet
- iv) Proper use of Anganwadi toilet
- v) Safe confinement of excreta in Anganwadi toilet

The findings of the assessment of each of the above five indicators are presented below.

### **Zero incidence of Open Defecation (no visible faeces found in the village environment)**

Observations were made during early morning in following places of the village where there was a possibility of finding human faeces:

- OD sites
- Refuse dumps
- Nearby bushes
- Places in proximity to water sources
- In between houses/alleys etc.

Wherever possible, animals eating faeces like dogs and pigs were followed and observed to find human faeces in the sampled villages.

The above observations found 'zero incidence' or 'no sign of OD' in only 14% of the ODF declared villages (14 out of 100 villages). The incidence of human faeces was observed in the remaining 86 sampled villages. It was observed that the higher the number of active OD sites the lower the chance of achieving ODF.

### **Proper use of school toilet**

Physical verification of the use of the school toilets was completed as part of the village level ODF verification. In the 41 villages where there was a toilet facility in the schools<sup>34</sup>, 71% (n=29) of villages fulfilled the GoI guideline of proper use of toilet (see earlier section of report for GoI definition of the proper use of toilet) and the toilet appeared to be well kept, in regular use, with water inside or nearby. In 17% (n=7) of villages, the school toilets were poorly maintained, excreta was visible and toilets were seldom in use. In the remainder of villages (12%, n=5) school toilets appeared to be abandoned and unused.

### **Safe confinement of excreta in school toilet**

Safe confinement of excreta was observed in the school toilets of almost all villages (98%, n=40) where the toilets were connected to an enclosed twin pit. In only one village school, the toilet was found with discharge waste leading directly into an open water source.

### **Proper use of Anganwadi toilet**

The use of the toilet in the AWC was verified similarly to the use of school toilets. The study found only eight villages in which the AWC had a toilet facility, though there has been effort by the Government to construct toilets in each and every AWC in the State (note that the total number of villages with AWCs was not collected). In these eight villages, the toilet appeared to be well kept, in regular use, with water inside or nearby in two (25%) villages only. The toilets of the AWCs in four (50%) villages were poorly maintained and excreta was visible and seldom in use. In the remaining two (25%) villages, the toilets appeared to be abandoned and unused.

---

<sup>34</sup> Note that data on the total number of villages with schools was not collected.

### Safe confinement of excreta in Anganwadi toilet

The toilets of the AWCs in all eight villages were connected to an enclosed twin pit and were therefore considered as safe for disposal of excreta.

### 4.2.3 Findings of the Assessment of household level Indicators

Verification of the ODF status of villages also involved inspection of toilets at the HH level. A total of 1,000 sampled HHs were visited in the 100 villages (i.e. 10 HHs per village) for the inspection of toilets. The following four indicators were assessed during the toilet inspections to assess the access and use of toilets; safe disposal of human excreta by the HHs; etc.

- i) Access to toilet facility
- ii) Use of toilet
- iii) Fly-proofing of toilet
- iv) Safe-septage disposal

#### Access to toilet facility

The toilet inspections revealed 89.3% (n=893) of the 1000 visited HHs had access to a toilet facility, and 10.7% (n=107) did not have access.

More than half of the HHs (55%, n=556) had their own toilet located inside their premises, which means the toilet is constructed on their homestead land. One third (34%, n=336) had their own toilets located outside their premises i.e. outside their homestead land.

**Table 7: Ownership and location of toilets accessed by the HHs**

Ownership and location	Number of HHs	%
Own toilet, in premises	556	55.6
Own toilet, outside premises	336	33.6
Share toilet, in premises	1	0.1
Shared toilet, outside premises	0	0
No toilet	107	10.7
<b>Total</b>	<b>1,000</b>	<b>100</b>

Encouragingly, 88.1% (n=881) of HHs constructed their toilets in 2015, which could be directly attributable to the CLS intervention.

In the majority of villages (70%, n=70), all of the sampled HHs observed in the village had access to a toilet facility. In the remaining villages, <100% of HHs had access to toilet facilities in 27 (27%) villages, and in 3 (3%) villages, no HHs had access to a toilet facility.

**Table 8: Distribution of the sampled number of villages by proportion of households with access to toilet facility (N=100)**

% households with access to toilet facility	Number of Villages
0%	3
1-60%	8
61-99%	19
100%	70
<b>Total</b>	<b>100</b>

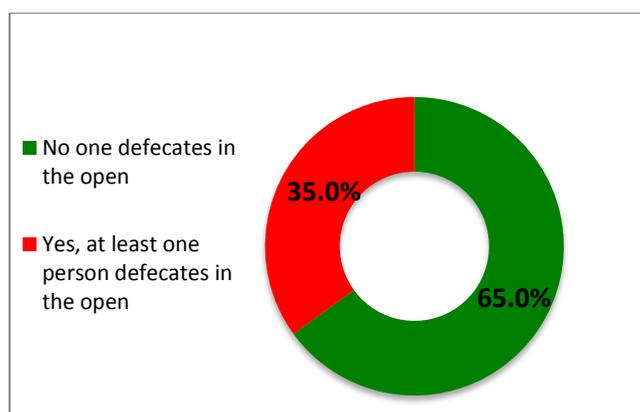
### Use of toilet

Instead of directly asking the respondents about the use of toilet by their HH members, toilet use was gauged by assessing the following proxy indicators:

- i) Any member of the family defecates in the open sometime
- ii) Place where infant faeces disposed
- iii) Pathway to the toilet used
- iv) Availability & use of soap inside/near the toilet
- v) Availability & use of water or water container inside/near the toilet

Of the 1,000 HHs interviewed, nearly two third of HHs (65%, n=650) reported no OD by family members. The remaining one third (35%, n=350) of the HHs reported OD by at least one of their family members. Further, out of the 350 HHs practicing OD, the majority (70.9% n=248) mentioned that their entire family members were defecating in the open.

**Figure 8: Percentage of households reported practice of open defecation (N=1,000)**



Gender wise break-up of this revealed that in the majority of HHs (79.7%, n=279), family members of both the genders practice OD. In 13.1% of HHs only the male members defecate in the open, in 7.1% of HHs exclusively the female members practice OD.

When disaggregated by age, out of the 350 HHs practicing OD, 84.3% of HHs reported that adult members 20 to 59 years of age were practicing OD. Further disaggregation are presented below

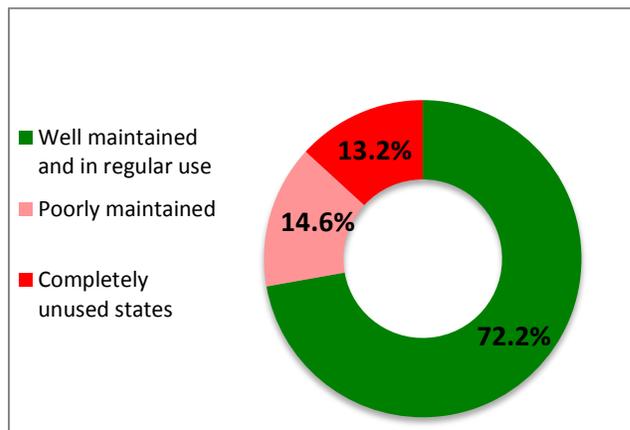
**Table 9: Age groups reporting Open Defecation (N=350)**

Age group	% (n) of HHs reporting OD age group
Infants	11.1 (39)
Children 1-9 years of age	39.4 (138)
Adolescents 10-19 years of age	54 (189)
Adults 20-59 years of age	84.3 (295)
>=60 years of age	25.4 (89)

HHs were also asked where they dispose of infant faeces. Of the 350 HHs reported practicing OD, 17.7% (n=62) had infants below one year of age. Out of them, the majority (82.3%, n=51) reported throwing the infant faeces in the open. Only the remaining 17.7% (n=11) dispose it in their toilets.

Apart from interviewing the HHs, toilets were physically inspected to better verify functionality and use of toilets by the HHs. Out of the 893 HHs with functional toilets, most (72.2%, n=645) were well maintained and were in regular use. The toilets were poorly maintained in 14.6% (n=130) of HHs, and were in unused states in 13.2% (n=118) of the HHs. In Kalahandi district, all HH toilets inspected were found to be well maintained and in regular use. Angul district had the highest number of HHs with unusable toilets (n=109). In contrast, only eight HHs in Kandhamal district did not have toilets in usable condition.

**Figure 9: Maintenance and use of toilets by the HHs (N=893) (%)**



During the inspection of toilets, the pathway to the toilet was visible in 89.8% of HHs (802 out of 893). The toilets of 27.1% (n=242) HHs had used soaps inside the toilets. Water container was observed inside or near the toilets in 50.1% (n=453) of HHs.

In summary, verification of all of the above proxy indicators revealed that in only 9 out of 100 villages, all of the sampled HHs in villages were using toilets. In 14 villages 61-99% of HHs were using the toilet facility. In the majority of villages (59 villages), the proportion of HHs using

toilets ranged from 1-60%. More importantly, there were 18 villages where none of the HH was using the toilet.

**Table 10: Distribution of the sampled number of villages by proportion of HHs reporting using toilet facility (N=100)**

Proportion of HHs reporting to be using toilet facility	Number of Villages
0%	18
1-60%	59
61-99%	14
100%	9
<b>Total</b>	<b>100</b>

### Fly-proofing of toilets

Sanitary or fly proofing of toilets is one of the criteria required for confirming a village as ODF. The toilet inspection of the 893 HHs revealed that in the majority of households (95.4%, n=852) the toilets had water seals to protect from flies. 1.1% of HHs had a toilet with some kind of cover, and 3.5% had toilets with no fly protection.

Out of the 100 sampled villages, there were 58 villages in which 100% of sampled HHs had fly proofing of toilets. Further breakdown is provided below.

**Table 11: Distribution of the number of sampled villages by proportion of HHs that had fly proofing of toilet facility (N=100)**

Proportion of HHs with fly proofing of toilet facility	Number of Villages
0%	3
1-60%	10
61-99%	29
100%	58
<b>Total</b>	<b>100</b>

### Safe-septage disposal

The Swachh Bharat Mission (SBM) guidelines recommend the construction of twin-leach pit toilets. It is a well-tested option recommended as early as in 1986 as the ideal option for Indian conditions – both in rural and in urban areas – by the UNDP and the World Bank when the rural sanitation program was introduced for the first time in India (the Central Rural Sanitation Programme). If the two-leach pit toilet is built as per the specifications and with the specified safeguards with regard to location to groundwater sources, it is a robust and environmentally friendly design. Since, most of the toilets in the sampled villages have been built since various national sanitation programs introduced, it is expected that the two-leach pit design is the most common design adopted in toilet construction in the rural areas.

From toilet inspection in the 893 HHs carried-out in the 100 sample villages, all of the HH toilets (99.4%, n=888) were found to be connected to the enclosed twin pits for safe septage disposal of human excreta.

In 69 out of 100 sampled villages, 100% of HH toilets inspected in the village were found to have safe-septage disposal facility. Further breakdown is provided below.

**Table 12: Distribution of the number of sampled villages by proportion of HHs with safe-septage disposal facility in their toilets (N=100)**

Proportion of HHs with safe septage disposal facility in their toilets	Number of Villages
0%	3
1-60%	7
61-99%	21
100%	69
<b>Total</b>	<b>100</b>

#### 4.2.4 Proportion of Villages Verified as ODF Combining Village and household Level Indicators

Table 13 presents the proportion of villages verified as ODF combining the nine village and HH level indicators. Of the 100 ODF declared villages verified, only nine villages could be confirmed as ODF. The remaining 91 villages did not qualify the stringent ODF criteria set by the GoI, which indicates a large proportion of villages slipped back from ODF (as reported by the MIS) to OD. As noted previously, the criteria used to define ODF in the MIS were less stringent than GoI criteria.

**Table 13: Number of villages fulfilled different criteria for attainment of ODF**

Sl. No.	Indicators/Criteria	Results of ODF Verification (N=100)	
		Number of villages fulfilled the criteria	Number of villages did not fulfil the criteria
1	Zero incidence of OD (No visible faeces found in the village environment)	14	86
2	Proper use of school toilets	29	12
3	100% safe confinement of excreta in school toilets	40	1
4	Proper use of Anganwadi toilets	2	6
5	100% safe confinement of excreta in Anganwadi toilets	8	0
6	100 % access to toilet facility	70	30
7	100 % use of toilet	9	91
8	100 % fly-Proofing of toilet	58	42
9	100 % safe-septage disposal	69	31
<b>Number of villages fulfilling all nine criteria set by the GoI and verified as ODF</b>		<b>9</b>	<b>91</b>

Of the 91 villages that slipped back to OD, 10 villages (11%) were declared as ODF (by MIS standards) just 1-3 months prior to the verification, 31 villages (34%) were declared before 4-6 months, 17 (19%) were declared before 7-9 months, 30 (33%) were declared 10-12 months before, and the remaining 3 (3%) were declared as ODF more than 12 months before. The study did not find any association between the time span since a village was declared as ODF and the proportion of villages that slipped back.

### 4.3 Pre-post assessment using cross-sectional household level survey – secondary outcomes

Baseline (2014) and endline (2016) secondary outcome indicator estimates are presented. Prevalence estimates are presented for the combined weighted results for Angul and Kishorenagar blocks (CLS2), and Teilibani and Mandanpur Rampur blocks (CLS1) i.e. K.Nuagan block which received full implementation of Shakti Varta intervention (Phase 1) has been excluded so as not to contaminate the sample. The numbers presented are the actual number of cases upon which the indicator is based, percentage point estimates are weighted.

Indicator definitions are presented in Annex 2, and included below as footnotes for some indicators.

#### 4.3.1 Profile of households

The numbers and weighted proportions of HHs belonging to different standard of living categories, social group/caste groups and according to education level of the HH head, at baseline and endline, are shown in Table 14. The data show that overall, HHs with similar background characteristics were sampled between baseline and endline. The majority of HHs sampled were from general, OBC, other social group, and belonged to medium to low standard of living categories. In both baseline and endline, the highest proportion of HH heads had completed 5-9 years of education, followed by no education.

**Table 14: Profile of sampled HHs at baseline (2014) and endline (2016) – Standard of Living, social group, and education level of HH head**

Disaggregation	Sub-group	Baseline (2014)		Endline (2016)	
		% (95% CI)	n	% (95% CI)	n
Social group/caste	General, OBC, Other	52.1 (47.6-56.6)	11644	48.6 (44.4-52.9)	12,243
	SC	23.7 (21.8-25.8)		22.3 (20.0-24.8)	
	ST	24.2 (20.1-28.8)		29.1 (24.8-33.8)	
Standard of living index	High	13.18 (9.7-17.7)	11,644	13.7 (10.5-17.5)	12,243
	Medium	38.2 (36.1-40.4)		42.3 (40.3-44.4)	

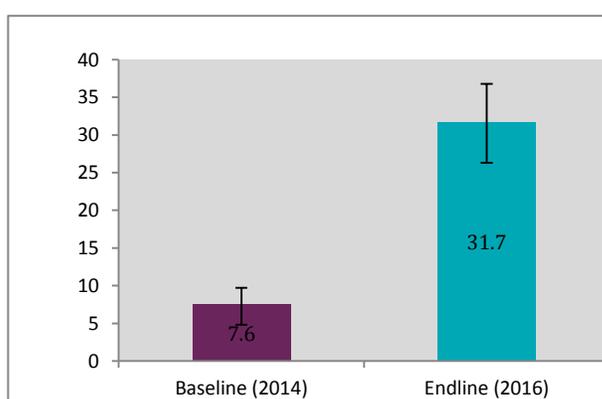
Disaggregation	Sub-group	Baseline (2014)		Endline (2016)	
		% (95% CI)	n	% (95% CI)	n
	Low	48.6 (44.1-53.1)		44.0 (39.9-48.3)	
Education level of HH head	10 or more years completed	14.2 (11.7-17.2)	11,567	18.4 (15.8-21.4)	12,067
	5-9 years completed	38.3 (36.7-40.0)		39.7 (37.5-41.7)	
	Less than 5 years completed	19.3 (17.9-20.8)		14.33 (13.3-15.4)	
	No education	28.1 (25.9-30.5)		27.7 (24.4-31.3)	

### 4.3.2 Household Level Indicators

#### Access to and use of sanitary facilities for the disposal of human excreta

In 2014, access to and use of sanitary facilities for the disposal of human excreta was poor (Figure 10). Only 13.9% (95% CI 10.0-19.0) of HHs interviewed reported to have an improved sanitation facility<sup>35</sup>, and of those with an improved facility, around half (58.3%, 95% CI 53.7-62.7) were unshared. Following CLS implementation, the prevalence of HHs with improved sanitation facilities more than doubled with 44.1% (95% CI 38.4-49.8) of HHs reporting this, and over two thirds of HHs (78.2%, 95% CI 74.7-81.3) reporting that they were unshared. Use of improved facilities (regardless of whether shared or unshared) by the majority of HH members was high both before and after the CLS intervention at >90%.

**Figure 10: % Households with an improved, unshared facility that all household members usually use**



<sup>35</sup> Improved facility: Flush or pour/flush facilities connected to a: piped sewer system, septic system, pit latrine; pit latrines with a slab; composting toilets; Ventilated improved pit latrines.

HH level attainment of the ‘gold standard’ of having access to an improved, unshared sanitation facility, where the majority of HH members usually use the available facility, more than quadrupled between 2014 and 2016 post CLS implementation, from 7.6% (95% CI 5.5-10.4) to 31.7% (95% CI 26.6-37.1) respectively (Table 15).

**Table 15: Household access to and use of sanitary facilities for the disposal of human excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur)**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
HHs with improved sanitation facilities (shared and unshared)	13.9 (10.0-19.0)	11,644	44.1 (38.4-49.8)	12,243
HHs with access to an improved, unshared sanitation facility, where the majority of HH members usually use the available facility	7.6 (5.5-10.4)	11,644	31.7 (26.6-37.1)	12,243

**Table 16: Household access to and use of sanitary facilities for the disposal of human excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur)**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
HHs with an improved sanitation facility that is not shared with other HHs	58.3 (53.7-62.7)	1,682	78.2 (74.7-81.3)	6,106
HHs members reporting that the majority of HH members usually use their improved sanitation facilities	95.5 (93.3-97.0)	1,682	93.3 (88.0-96.4)	6,106

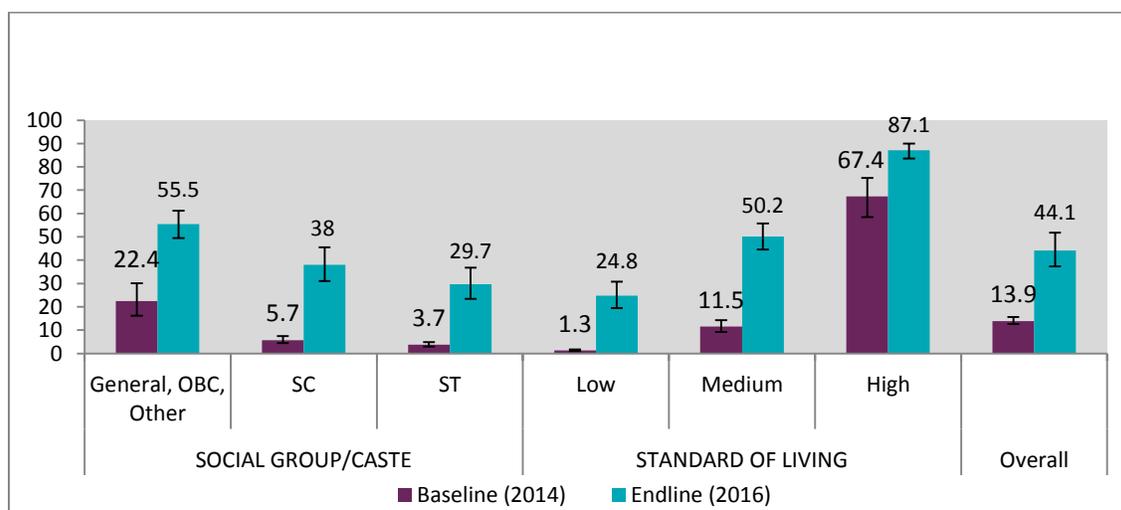
When disaggregated by socio-demographic group, considerable improvements were seen before and after the intervention, with the biggest gains seen in the worst off HHs (Table 17, Figures 11 and 12). Prior to CLS implementation in 2014, just 3.7% (95% CI 2.9-4.8) of Scheduled Tribe HHs reported access to an improved sanitation facility, compared to a third post CLS implementation in 2016 (29.7%, 95% CI 23.3-36.8). Similarly, in 2014 just 5.7% (95% CI 4.4-7.5) of Scheduled Caste HHs reported access to an improved sanitation facility, increasing to 38.0% (95% CI 31.0-45.5) in 2016.

Prior to CLS implementation few HHs in the low standard of living category had access to improved sanitation facilities at just 1.3% (1.0-1.7) compared to a quarter of HHs in this category post CLS implementation (24.8%, 95% CI 19.5-30.8). In the medium standard of living of category, HH access to improved latrines more than quadrupled between 2014 and 2016 from 11.5% (95% CI 9.2-14.3) to 50.2% (95% CI 44.6-55.8) respectively. Similar increases were seen in HHs where the HH head had no or minimal education.

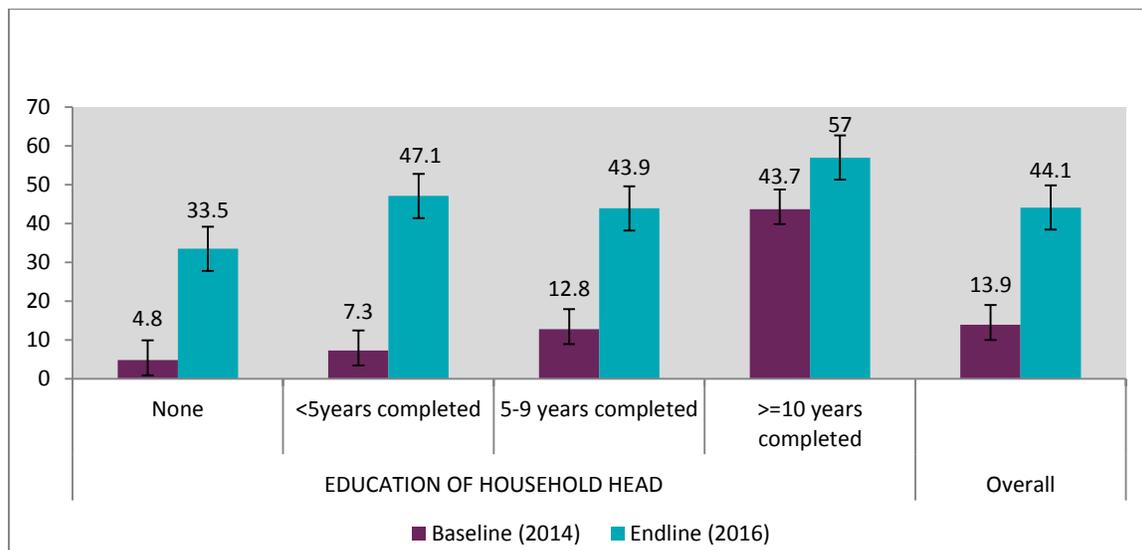
**Table 17: Households with improved sanitation facilities (shared and unshared) excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group**

Disaggregation	Sub-group	Baseline (2014)		Endline (2016)	
		% (95% CI)	n	% (95% CI)	n
Social group/caste	General, OBC, Other	22.4 (16.2-30.1)	11,644	55.5 (49.5-61.2)	12,243
	SC	5.7 (4.4-7.5)		38.0 (31.0-45.5)	
	ST	3.7 (2.9-4.8)		29.7 (23.4-36.8)	
Standard of living index	High	67.4 (58.4-75.2)	11,644	87.1 (83.5-90.0)	12,243
	Medium	11.5 (9.2-14.3)		50.2 (44.6-55.8)	
	Low	1.3 (1.0-1.7)		24.8 (19.5-30.8)	
Education level of HH head	10 or more years completed	43.7 (32.5-55.7)	11,567	57.0 (50.5-63.3)	12,067
	5-9 years completed	12.8 (9.6-17.0)		43.9 (38.4-49.5)	
	Less than 5 years completed	7.3 (5.6-9.4)		47.1 (40.7-53.5)	
	No education	4.8 (3.5-6.5)		33.5 (26.7-41.2)	
<b>Total</b>	<b>4-CLS blocks combined</b>	<b>13.9 (10.0-19.0)</b>	<b>11,644</b>	<b>44.1 (38.4-49.8)</b>	<b>12,243</b>

**Figure 11: Percentage of households with improved sanitation facilities**



**Figure 12: Households with improved sanitation facilities**



The proportion of HHs reaching the ‘gold standard’ for improved sanitation facility access and use showed similar socio-demographic improvements and progress to more equitable coverage (Table 18). Prior to CLS implementation just 1.8% (95% CI 1.3-2.6) of scheduled tribe HHs had access to an improved, unshared sanitation facility, where all HH members usually use the available facility, increasing to nearly one quarter of scheduled tribe HHs by 2016 (21.5%, 95% CI 16.1-28.0). Changes in this indicator according to standard of living index, and education of HH head are presented in Table 18.

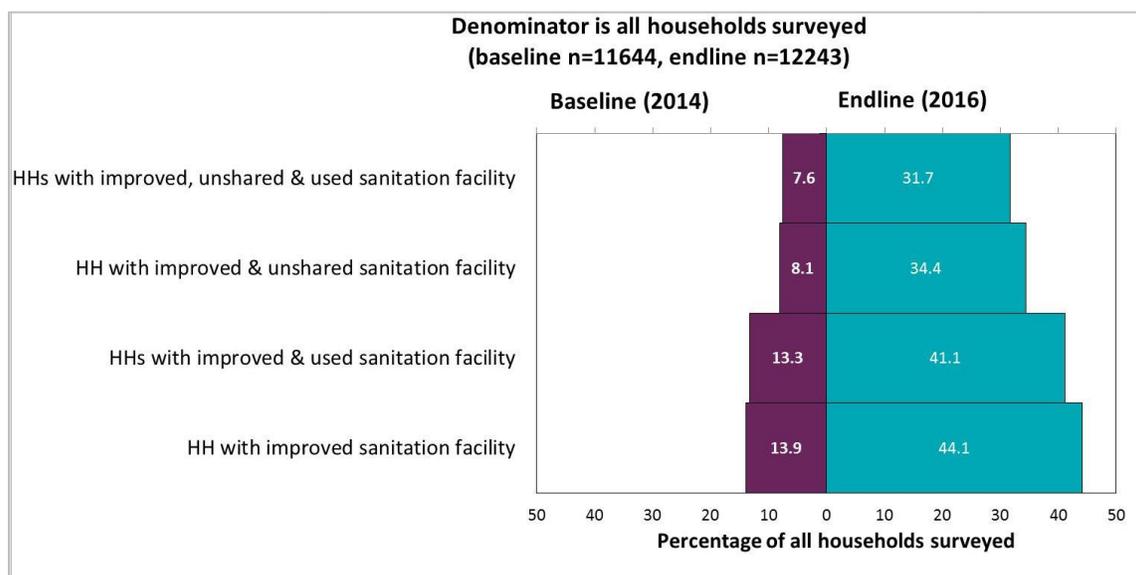
**Table 18: Households with access to an improved, unshared sanitation facility, where all HH members usually use the available facility at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur)**

Disaggregation	Sub-group	Baseline (2014)		Endline (2016)	
		% (95% CI)	n	% (95% CI)	n
Social group/caste	General, OBC, Other	12.6 (9.3-16.8)	11,644	40.2 (34.6-46.1)	12,243
	SC	2.7 (2.0-3.7)		26.2 (20.5-32.8)	
	ST	1.8 (1.3-2.6)		21.5 (16.1-28.0)	
Standard of living index	High	39.7 (35.2-44.5)	11,644	64.4 (59.3-69.3)	12,243
	Medium	5.5 (4.4-6.9)		35.8 (30.5-41.5)	
	Low	0.6 (0.4-0.9)		17.5 (13.2-22.8)	
Education level of HH head	10 or more years completed	23.1 (17.6-29.8)	11,567	37.8 (31.6-44.4)	12,067
	5-9 years completed	6.9		32	

Disaggregation	Sub-group	Baseline (2014)		Endline (2016)	
		% (95% CI)	n	% (95% CI)	n
		(5.1-9.3)		(37-37.4)	
	Less than 5 years completed	4.2 (3.1-5.6)		36.7 (30.7-43.2)	
	No education	3 (2.2-4.0)		24.1 (18.6-30.5)	
<b>Total</b>	<b>4-CLS blocks combined</b>	<b>7.6 (5.5-10.4)</b>	<b>11,644</b>	<b>31.7 (26.6-37.1)</b>	<b>12,243</b>

Encouragingly, clear improvements can be seen at endline compared to baseline, when considering the progression from access to an improved latrine, to owning an unshared facility, to the 'gold standard' where all criteria are met (Figure 13). However, more than half of HHs at endline do not yet own an improved sanitation facility. Further, around one quarter of these HHs have not yet reached the gold standard largely because of HHs sharing facilities. Qualitative findings (referenced below) suggest that barriers to toilet ownership, which may lead to sharing, include lack of land ownership and other poverty related barriers.

**Figure 13: The status of sanitation facilities in all households surveyed**



### Hand washing with soap at critical moments

Out of all HHs who reported access to a sanitation facility (latrine), according to observations, similar proportions had an appropriate cleansing agent at a hand washing station within 10 paces of the latrine between 2014 and 2016 (Table 19). Use of the available handwashing place was reported as nearly 100% in both years.

**Table 19: Hand washing with soap at critical moments at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
HHs with soap, detergent or ash and water at a hand washing station inside or within 10 paces of latrines	66.7 (56.9-75.3)	1,684	71.2 (65.3-76.5)	6,170
HH-level respondents reporting use of available hand washing place the last time they defecated	98.4 (97.2-99.1)	1,123	98.6 (98.1-99.0)	4,046

### Access to water supply and safe storage

HH level access to and use of improved drinking water sources has remained similar between 2014 and 2016 (Table 20), and was already >70% at baseline. Safe storage of drinking water has remained low.

**Table 20: Access to water supply and safe storage at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
HHs using improved drinking water sources	78.9 (76.1-81.5)	11,644	80.6 (76.8-83.9)	12,243
HHs with reliable access to an improved source of drinking water	75.5 (72.1-78.7)	9,131	70.4 (66.4-74.1)	9,739
HHs safely storing their drinking water	5.1 (3.8-7.0)	10,747	6.6 (4.6-9.3)	11,502

### 4.3.3 Individual level indicators

#### Women 15-49 with a child under five

#### Access to and use of sanitary facilities for the disposal of human excreta

Overall, safe disposal of human excreta has improved since CLS implementation (Table 21). In the 2014 baseline, <20% women with a child under five reported safe disposal of their own faeces, compared to nearly half in 2016. Disposal of child faeces by women with a child under five also nearly tripled. Encouragingly, fewer women with a child under five reported to be unsatisfied with the place that they defecate in 2016 compared to 2014.

**Table 21: Access to and use of sanitary facilities for the disposal of human excreta at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
Mothers with a child <5 reporting safe disposal of own faeces	14.7 (10.2-20.6)	7,245	42.2 (35.5-49.2)	7,172
Mothers with a child <5 reporting safe disposal of child faeces	7.0 (4.2-11.4)	7248	20.4 (16.4-25)	7,172
Mothers with a child <5 who are unsatisfied or very unsatisfied with the place that they defecate	32.0 (28.0-36.2)	7,245	20.7 (17.6-24.3)	7,172

### Hand washing with soap at critical moments

Handwashing practices appeared to have remained similar between 2014 and 2016 and <15% of women with a child under five reported to wash their hands at the five critical moments in the day (after defecation, after cleaning a child, before preparing food, before feeding a child, and before eating) (Table 22). Handwashing with an appropriate cleansing agent by mothers of children under five was fairly high at both baseline and endline at >80%.

**Table 22: Hand washing with soap at critical moments at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
Mothers of children <5 who report hand washing at 5 critical moments in a usual day.	14.3 (12.0-17.0)	7,245	10.6 (8.6-13.1)	7,172
Mothers of children <5 who report hand washing with an appropriate cleansing agent (soap, detergent, ash)	84.4 (81.6-86.8)	7,245	91.4 (88.7-93.6)	7,172

### Adolescents 10-19 (all adolescent girls)

#### Access to and use of sanitary facilities for the disposal of human excreta

Only a third of unmarried adolescent girls 10-19 reported use of the available sanitation facility in both baseline and endline, although safe disposal of own faeces appears to have increased in 2016 compared to 2014 (Table 23).

**Table 23: Access to and use of sanitary facilities for the disposal of human excreta by adolescent girls 10-19 at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demogra**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
Unmarried adolescent girls 10-19 who report use of the available sanitation facility	32.4 (29.1-35.9)	3,600	38.5 (32.8-44.6)	3,063
Unmarried adolescent girls 10-19 reporting safe disposal of own faeces	17.5 (14.2-21.4)	1,785	39.7 (33.4-46.4)	3,063
Married and unmarried adolescent girls 15-19 who are unsatisfied or very unsatisfied with the place that they defecate	34.8 (30.6-39.3)	2,145	21.5 (18.0-25.4)	1,787

#### Hand washing with soap at critical moments

Handwashing with soap at three critical moments in a day (after defecation, before food preparation, before eating) by adolescent girls was low, and appeared slightly lower at endline compared to baseline (Table 24). Handwashing with an appropriate cleansing agent was however higher with 75-90% of adolescent girls reporting this at both baseline and endline.

**Table 24: Hand washing with soap at critical moments by adolescent girls 10-19 at baseline (2014) and endline (2016) in CLS implementation blocks (Angul, Kishorenagar, Teilibani and Mandanpur Rampur) disaggregated by socio-demographic group**

Indicator	Baseline (2014)		Endline (2016)	
	% (95% CI)	n	% (95% CI)	n
Unmarried adolescent girls 10-19 who report hand washing at 3 critical moments in a usual day	36.7 (34.0-39.5)	3,598	21.9 (18.6-25.7)	3,062
Unmarried adolescent girls 10-19 who report hand washing with an appropriate cleansing agent (soap, detergent, ash)	89.1 (87.4-90.7)	3,598	75.8 (71.9-79.4)	3,062

#### 4.3.4 Frontline Health Workers

A FLW survey was carried out as part of the pre and post intervention surveys in 2014 and 2016. The FLWs include ASHA, AWW and ANM. Table 25 below shows the breakdown of FLWs interviewed in the four CLS blocks.

**Table 25: Type and number of FLW's interviewed in 4 CLS Blocks**

Block	Baseline (2014)				Endline (2016)			
	ASHA	AWW	ANM	Total	ASHA	AWW	ANM	Total
Anugul	31	31	5	67	42	44	8	94
Kishorenagar	15	15	1	31	25	27	4	56
Tileibani	16	23	2	41	26	35	8	69
M.Rampur	13	24	1	38	11	13	6	30
<b>Total (4 blocks)</b>	<b>75</b>	<b>93</b>	<b>9</b>	<b>177</b>	<b>104</b>	<b>119</b>	<b>26</b>	<b>249</b>

A total of 249 FLW were interviewed in 2016 against 177 in 2014 in the 4 CLS blocks mentioned in the above table.

### **Access to and use of sanitary facilities for the disposal of human excreta in Aganwadi Centres**

Table 26 shows there is an overall improvement in AWC and Sub-centres with an improved sanitation facility in 2016 compared to 2014. Only M. Rampur in Kalahandi district did not show an improvement. Substantial improvement (15.3%) in relation to the indicator was observed in case of Tileibani block in Debagarh district.

**Table 26: % of AWC and Sub-centres with an improved sanitation facility**

Block	Baseline (2014)		Endline (2016)	
	% (number) of AWCs and Sub-centres with an improved sanitation facility	n	% (number) of AWCs and Sub-centres with an improved sanitation facility	n
Tileibani	8 (2)	25	23.3 (10)	43
Anugul Sadar	22.2 (8)	36	30.8 (16)	52
Kishore Nagar	13.3 (2)	15	19.4 (6)	31
M.Rampur	41.7 (10)	24	21.1 (4)	19
<b>Total</b>	<b>22 (22)</b>	<b>100</b>	<b>24.8 (36)</b>	<b>145</b>

As a part of healthy hygienic practices, FLWs were asked about safe disposal of their own faeces the last time they defecated. Overall more FLWs reporting safe disposal of own faeces in 2016 (73.1%) compared to 2014 (55.4%). The largest relative improvement was seen in Kishore Nagar block in Anugul district (Table 27).

**Table 27: % of FLWs reporting safe disposal of own faeces**

Block	Baseline (2014)		Endline (2016)	
	% (number) of FLWs reporting safe disposal of own faeces	n	% (number) of FLWs reporting safe disposal of own faeces	n
Tileibani	19.5 (8)	41	43.5 (30)	69
Anugul Sadar	80.6 (54)	67	95.7 (90)	94
Kishore Nagar	50 (15)	30	80.4 (45)	56

M.Rampur	54.1 (20)	37	56.7 (17)	30
<b>Total(4 blocks)</b>	<b>55.4 (97)</b>	<b>175</b>	<b>73.1 (182)</b>	<b>249</b>

### Content Area: Hand washing with Soap at Critical Moments

FLW's were asked about awareness regarding hand washing at five critical moments (after defecation, after cleaning a child, before preparing food, before feeding a child, and before eating) (Table 28). The knowledge of FLWs who know all five critical moments was low in both the pre and post intervention surveys.

**Table 28: % of FLWs who know the 5 critical moments for hand washing with soap**

Block	Baseline (2014)		Endline (2016)	
	% (number) of FLW's who know the 5 critical moments for hand washing	n	% (number) of FLW's who know the 5 critical moments for hand washing	n
Anugul	4.5 (3)	67	10.6 (10)	94
Kishore Nagar	10 (3)	30	7.1 (4)	56
Tileibani	2.4 (1)	41	4.3 (3)	69
M.Rampur	18.9 (7)	37	13.3 (4)	30
<b>Total (4 blocks)</b>	<b>8 (14)</b>	<b>175</b>	<b>8.4 (21)</b>	<b>249</b>

FLWs were also asked whether they are practicing hand washing with an appropriate cleansing agent (soap, ash or detergent). Appropriate hand washing practices were fairly high at both baseline and endline, although there does appear to be some improvement in 2016 (Table 29).

**Table 29: % FLWs who report hand washing with an appropriate cleansing agent**

Block	Baseline (2014)		Endline (2016)	
	% (number) of FLWs who report hand washing with an appropriate cleansing agent	n	% (number) of FLWs who report hand washing with an appropriate cleansing agent	n
Anugul	76.1 (51)	67	100 (94)	94
Kishore Nagar	93.3 (28)	30	100 (56)	56
Tileibani	87.8 (36)	41	97.1 (67)	69
M.Rampur	81.1 (30)	37	100 (30)	30
<b>Total (4 blocks)</b>	<b>82.9 (145)</b>	<b>175</b>	<b>99.2 (247)</b>	<b>249</b>

## 4.4 Findings from endline qualitative research

The qualitative research undertaken as a component of the endline ODF verification study explored:

- Community perceptions and involvement in CLS
- Barriers and enablers to achievement and sustainability of ODF
- Implementation challenges and gaps

### 4.4.1 Factors enabling achievement of ODF

The key enabling factors for achieving ODF include the intervention design, and a mix of HH, community, institutional and contextual factors and are categorised into the following broad areas:

- a) Demonstrations
- b) Integrating supply and demand model
- c) Government priority and responsiveness
- d) Community involvement
- e) Other enabling factors

#### A. Demonstrations

- i) CLS approach: The CLS approach itself worked well in sensitizing the community and creating mass demand for the construction of toilets. The various exercises implemented during the pre-triggering and triggering stages of the intervention had a significant impact on people, which enabled the construction and use of toilets. In the villages where CLS-1 approach was adopted (i.e. HHs not linked with Government subsidy until after toilet construction), people even constructed toilets using their own funds without expecting a subsidy.

*"There was a trainer named Joshi sir. He used to train the villagers practically. He used to take them to a place where a person has defecated and rub a hair to it, pour water in a glass and add that hair to it and ask to drink it. But nobody drank the water rather thrown that. This was very effective to make people understand the drawbacks of OD practice".*

*"It changes the mindset of the people and increases the demand for toilet construction. There are 50 to 52 tools in CLTS. In one of the exercises human shit was brought to the meeting place to demonstrate odour and make it's presence in the meeting place, which has a greater impact on community members. Another exercise where the OD sites of the community is shown through the social map, which makes them feel shame that they themselves are polluting their environment".*

- DPC, DWSM, Angul

*"I will give 9 marks out of 10 for the CLS implementation. Because it is people's programme so most successful, generated demand due to which 50% people are approaching us for construction of toilets. We need some more time to achieve 100% result".*

- JE Angul

*“CLTS is the best innovative method where people are sensitized, people understand that OD is bad and leads to sickness. The money not spend on toilet construction is spend on medical expenses. Fecal oral transmission is the best tool to demonstrate human faeces visible to community members”.*

- DPO, Angul

*“There is a village called Dodabadi where villagers decided to build toilets on their own without waiting for any incentive or program from Government after triggering phase, how OD is responsible for spreading infection through oral faecal contamination, drinking contaminated water”.*

- DPO WASH, Khandhamal

*“Good part of CLS approach is that the villagers share the labour, building materials and get sanitary items at cost effective rates by buying these jointly”.*

- DPC Executive Engineer, DWSM, Khandhamal

## **B. Integrating supply and demand model**

- i) Integration of CLS approach with subsidy system of the government: The demand created after the triggering exercise was often matched with the subsidy or supply of materials from the government, which enabled more and more people to construct and use toilets.

*“Government supported in providing subsidy of Rs.12,000/- to the beneficiaries who have constructed toilets on their own. “Deogarh Vikash Manch” constructed toilets of those who are unable to construct on their own and have received subsidies”.*

- Men Participants, FGD Kaliakhaman, Deogarh

*“Material and labour price for making toilets was provided to us. We get Rs. 500/- per toilet as labour charge. We get 650 pieces of bricks, 4 bag cement sometimes 3 bags cement, and asbestos 6 feet to 8 feet”.*

- Self Employed Mechanic Nandapur & Berhampur, Angul

*“We get Rs.2000/- for one toilet along with labour cost. We give Rs.250/-to the labour per day for two days work. We paid Rs.500/- per toilet towards labour cost”.*

- Mason Nandapur, Angul

*“Whatever govt. gives we should respect. The amount provided by our govt. of Rs.12,000/- to each family and would request to them they should use it regularly”.*

- Sarpanch, Nandapur, Angul

## **C. Government Priority & Responsiveness**

- i) GoI and GoO priority: The introduction of Swachh Bharat Abhiyan in late 2014 has greatly facilitated CLS implementation and momentum of ODF. Greater priority to achieving ODF villages by GoI followed by GoO helped to expedite the CLS implementation in the State. Blocks such as Anugul Sadar, Kishorenagar, Teleibani were selected by the Rural Development department to ensure complete ODF. To keep the momentum, the GoO needs

sustain its commitment and ensure sufficient human resources and awareness programmes are in place.

*“Development is our main motto. Previously, toilet was not considered as the thrust area or main indicator of development by the Government but the Swachh Bharat Mission gave momentum to it. A lot need to be done at government level and we should manage the gaps first as it is not wise to fill water in a bucket with a hole”.*

- DPC, EE, DWSM, Khandhamal

*“The Swachh Bharat Abhiyan implemented by the department has increased the demand. We went directly to the villages and gave importance individually to each person. We went to village named Jamla Guali in GP Gochadegen resided by 27 families. We sensitized them, their response was very positive, they cooperated with us properly. They agreed for construction of toilets and receipt of payment after toilet is ready”.*

- JE RWSS, Kalahandi

*“SBM is an important program and there is an increase in demand. If you want the country to be total ODF by 2019, more things need to be done. For example, there are only 40 people in the whole district to take this further. The message is not spreading as it should be. The department is grossly understaffed and they are focusing to achieve specific targets. The software, awareness, participation and demand generation aspects of the program are getting neglected. It is becoming difficult for 40 people to manage construction of 1,50,000 toilets in the district in a year.*

*Keeping in mind the importance of SBM, more community participation and awareness programs need to be incorporated. Otherwise, it may be difficult to achieve the ambitious targets of the program”.*

- DPO WASH, Khandhamal

*“Previously, the villagers had no such interest. The massive campaign by the officials involved in SBM made it all possible. It just started in December 2015.*

- Mason Mahasingh, Khandhamal

- ii) Responsive district administrations: The district administrations, the DWSMs and district Rural Water Supply, Sanitation in the CLS implementation districts played a vital role in achieving ODF. Among all the districts, the district administration of Angul took special interest for the implementation of CLS by combining the CLS approach with the subsidy provided by the government for the construction of toilets immediately after the triggering exercise (CLS-2 model) (as opposed to waiting until the toilet had already been constructed to provide the subsidy, as with CLS-1). This helped to achieve a large proportion of villages declared as ODF in the Anugul district. The district administration in Anugul took a lead role in preparation of the list of beneficiaries, setting-up of procurement committee in each village, supplying toilet construction materials (using a part of the subsidy amount) immediately after the triggering exercise, monitoring of the construction of toilets, etc. Apart from all these, water supply has been ensured to some of the villages in Anugul and other CLS districts to see people using the toilets.

Instead of transferring subsidy amount to the accounts of the beneficiaries, the district administration of Anugul decided to supply materials to the beneficiaries for the

construction of toilets. Using a part of the subsidy amount, the DWSM of the district directly procured rural pans and supplied to the beneficiaries through respective Panchayats, a benefit of which was reduced costs due to bulk procurement. The rest of the subsidy amount was transferred to Panchayat account directly from the DWSM for the procurement of materials under the supervision of Procurement Committee created under each Panchayat.

*“Our collector started the CLTS programme; meetings were conducted at the village level. Some persons were identified from the village and committees were formed to carry forward the work under the scheme. Purchased Committee in the villages were formed for purchasing all the required materials for construction of HH toilets. We thought if people will do things then it will be better. From block only technical guidance was provided. The technical guidance team was comprised of J.E, B.D.O, Assistant Engineer, DWS staffs and RWS Engineers”.*

- JE Angul

#### **D. Community Involvement**

- i) Community based institutions and natural leaders: Existing community based institutions like SHGs, AWWs, ASHAs and natural leaders (both women and men) played a vital role in the implementation of CLS. Activities like mobilization of community for the pre-triggering and triggering exercises, preparation of list of beneficiaries, setting up of Nigrani Committee and Procurement Committee, monitoring the construction and use of toilets, etc. were carried-out by the existing community based institutions and natural leaders.

*“We collaborated with NGOs called the Mahangir and Seva Jagat for sensitizing communities on bad effects of OD. At village level the SHG groups did a lot for the village. They went from door to door to discuss on sanitation with people.”*

- JE RWSS, Kalahandi

*“ASHA, Ward Members, AWW involved to sustain ODF environment. We went from home to home to convince people to utilise their toilets and to wash their hands before taking food”*

- ASHA Berhampur, Angul

*“SHG women, village president, Anganwadi worker, worked jointly for ODF attainment”.*

- Female Participant, FGD Madhabpur

*“SHGs have been pro-active to work on sanitation and ODF. Other than SHGs monitoring committee and CRPs have been very effective and pro-active towards attaining ODF. Gaon Kalyan Committe (GSK) has also been a pioneer organization towards this”.*

- Men Partciapnts, FGD Kansar, Deogarh

*“Gaon kalyan Samiti has been pro-active to work on sanitation and ODF. It conducts monthly meetings with the community members every month and plans the village sanitation activities. CRPs, AWWs and ASHA were also been pro-active and they are taking lead role in monitoring”.*

- Men Participants, Kaliakhaman, Deogarh

*“In Kandhamal, school sanitation programs have been taken up and students are actively involved. The WASH academy has come up at Tikabali in Kandhamal. The linkage with OLM and participation*

*of SHGs in the SBM are the major happenings. 135 SHGs motivators have been trained on CLS and they are driving the program in all the 12 blocks of Kandhamal. SHGs have started producing quality sanitary materials such as bricks, skylights, etc that are used to make the village ODF. Also, at Sarangagada in K.Nuagoan, the SHGs decided to construct toilets on behalf of the villagers and have taken up the work orders. This makes them financially independent as well as aware about good and bad sanitation practices”.*

- DPO WASH, Khandhamal

ii) Procurement Committee: A Procurement Committee consisting of 10 members – 5 men and 5 women – was constituted in each Panchayat of Anugul and Kishorenagar blocks of Anugul district through consensus in the “Pallisabha”. The following activities were completed by the Procurement Committee:

- Visited available vendors in the area and examined their credit capacity, volume of business and previous record of working with villagers besides quality and price, which were the prime considerations.
- Obtained quotations and discussed them at community meetings convened before selecting a vendor.
- Negotiated the terms of credit with the vendor.
- Identified masons, through a similar process as vendor identification, who were contracted to build a certain number of toilets within a specified period.
- The standard twin leach pit pour flush design was adopted as the standard design as per the SBM Guideline. People were strongly discouraged by the committee from adopting the Septic Tank design as it is not environment friendly.

*“Our collector started the CLS programme, meetings were conducted at the village level. Some persons were identified from the village and committees were formed to carry forward the work under the scheme. Purchased Committee in the villages were formed for purchasing all the required materials for construction of HH toilets. We thought if people will do things then it will be better. From block only technical guidance was provided. The technical guidance team was comprised of J.E, B.D.O, Assistant Engineer, DWS staffs and RWS Engineers”*

- JE Angul

iii) Vigilance or Nigrani Committee: In each village, separate Nigrani Committees for male and females were set-up to monitor use of toilets. As a unit, the committee members acted to stop people practicing OD. Innovative techniques like social sanctions, monetary penalties, etc. were imposed by the Nigrani Committee on people practicing OD. The practice of imposing social sanctions, monetary penalties, etc. for any good cause is culturally acceptable and evident across the country.

*“If someone goes outside will have to pay Rs 51 as penalty. The person who identifies the culprit will get Rs 25 from this as reward and the rest Rs 26 will be deposited in SHG account”.*

- Women Participants, FGD Adimaha, Khandhamal

*“There should be penalty of Rs100 to Rs500 respectively for people going for OD in spite of having toilet”.*

- Men Participants, FGD Madhupur & Madhabpur, Angul

*"After completion of toilets it was decided by a village committee that if anybody who will found going for OD they will have to pay fine for it. It was Rs. 50 to Rs. 1000. Some people gave fine also. It worked people used toilet regularly after that".*

- Panchayat Samiti Chairman, Angul

*"There is a supervisory committee in every village that checks the defecation activity of the villagers. If anybody is found not following the rule, he/she is imposed fine and opposed. We also make surprise visit".*

- JE, RWSS, Khandhamal

*"Gayatree SHG convinced people to construct toilet"*

- Mason Berhampur, Angul

*"A women committee was formed called Nigrani committee who were looking after construction of toilet work. Meetings were also held by "shakti Barta" workers. Women members of the committee were told to watch the roads sides to stop OD. Wherever they found shit they that with sand or ash. But the initiative is not continuing now".*

- Female Participants, FGD Berhampur

- iv) Availability of credit facility from the SHGs: The SHGs functioning in the villages extended credit support to some of their members for the construction of toilets.

*"The beneficiaries who can afford the construction of toilets are being provided support from the department and those who cannot afford the construction received support from the SHGs in construction as a whole in collaboration with a local NGO Deogarh Vikas Manch. Some beneficiaries didn't receive anything as their name was not there in the list. Quality of materials is good. Quality of bricks and sand is also good. The quality of construction is also good".*

- Mason Dholpada, Deogarh

## **E. Other Enabling Factors**

- ii) Availability of vendors in the plain areas: Unlike the hilly areas of Kandhamal and Deogarh districts, people located in the plain areas of Anugul district did not face much problem in getting materials from the vendors for the construction of toilets.
- iii) Supply of materials by the vendors on credit: There were also instances in Anugul district where the procurement committee could avail materials on loan for the construction of toilets.

### **4.4.2 Factors adversely affecting the attainment and sustainability of ODF**

The endline qualitative assessment identified various individual, HH, community, contextual and system level factors which acted against attaining and sustaining the villages as ODF and adversely affected the access and use of toilets.

A. Lack of access to toilet: The HH toilet inspections done in the study clearly brought out that majority i.e. 89 % or 893 out of 1,000 sampled HHs had access to toilets. More importantly, the HHs not having access to toilets were spread over in 30 out of 100 sampled villages. So, lack of access to toilets came out as one of the barriers for the villages to become ODF. The individual and HH level factors to constructing toilets are as follows:

- i) Lack of land came out as one of the constraining factors for HHs that did not construct toilets. Some HHs did not have adequate space in their homestead land or house for construction of toilets, though there were few cases where the neighbours gave space for the construction of toilets.

*“Some people do not have land to construct toilet, some people do not have sufficient water to use in toilet so these leads to OD”.*

- SHG, Women Group, Berhampur, Angul

*“Scarcity of land, water and poverty are the barriers restricting construction and usage of toilet”.*

- AWW, Berhampur, Angul

*“There are some incidents where lack of space/land is preventing people from toilet construction, mainly poor people are unable to construct toilets”.*

- President, SHG Bhangamunda, Deogarh

*“Lack of space is a major barrier in constructing toilet. Some incidents are there in the village where some beneficiaries couldn't construct toilet for this reason”.*

- Mason, Dholpada, Deogarh

- ii) Some of the HHs could not be linked to the subsidy<sup>36</sup> provided by the Government for the construction of toilets, hence could not construct toilets. The following are some of the reasons for not receiving subsidy from the government.

- a. Multiple families residing under a single roof was entitled for one toilet.
- b. HHs migrating to the village were not entitled to the subsidy.
- c. Government guideline was not adhered to uniformly for providing subsidy to the beneficiaries.

*“People have already approached the department to revise the list of beneficiaries and involve those who are deprived of subsidy”.*

- Men Participants, FGD Kansar, Deogarh

*“Most of the villagers have no land of their own as they migrate from other village of this Panchayat, which restricts them from availing incentive for toilet construction”.*

- Sarpanch Mahasingh, Khandamal

<sup>36</sup> Eligible households were: households below the poverty line, physically challenged, scheduled caste and scheduled tribe households, marginal farmers and women headed households.

- iii) After the triggering exercise was completed, it was expected that households would invest the funds required for the construction of toilets. But some of the economically poor HHs who were not entitled to the subsidy could not construct the toilets due to lack of own funds.

*“Economical barrier is a major barrier in preventing construction of toilet in the village, which demotivate community members to construct toilets”.*

- Men Participants, FGD Bhangamunda, Deogarh

*“There are some sections generally poor who cannot afford. They avails loan from SHGs and other local financial institutions for toilet construction”.*

- Mason Bhangamunda, Deogarh

*“Economic barrier is preventing construction of toilets”.*

- SEM, Dholpada, Deogarh

- iv) The subsidy amount of Rs.12,000 provided by the government was considered as insufficient for the construction of a quality toilet.

*“Government subsidized latrines were mostly found unfinished, these latrines lacked a roof, door, adequate walls and provision of water supply”.*

- ASHA Madhabpur, Angul

*“Beneficiaries whose name are not there in the list are not receiving subsidy”.*

- Mason Kansar, Deogarh

*“People who are not present in Palli Sabha, their names were not in the list. So they couldn’t get toilet. But later on they were told to come to our office for submitting application to get toilet”.*

- Panchayat Samiti Chairman, Angul

*“There are 36 HHs does not have the toilet facility in their home. Because those names were not there in the government list”.*

- Ward Member Kaliakhaman, Deogarh

*“As per the survey some HHs were not covered and the names were not in the list. So many toilets are still pending for the construction”.*

- Sarpanch, Dholpada, Deogarh

- v) In some villages, the time taken to process the application for receiving the subsidy took longer than required.

*“First village committee will inform Sarpanch then Sarpanch and Panchayat secretary will inform about the necessity of fund to BDO. This was the process followed for getting assistance at village level”.*

- Panchayat Samiti Chairman, Angul

*“First there is identification of beneficiary with the help of baseline survey followed by issue of work order and completion of the work within 15-20 days. Then the beneficiary has to submit the photo of the completed toilet in form number 3 at the block office after certification by the BEO or Sarpanch. After the verification, the application is forwarded to district office for payment”.*

*- JE, RWSS Khandhamal*

*“Who have their name in online for the construction of the toilet only those toilets are going to construct and rest toilets will be construct after the completion of the current list. Almost it takes 15 days for all paper work including the construction and some cases it may take a very longer period”.*

*- Block Panchayat Samiti Chairman, Deogarh*

*“People have to submit so many documents and have to take work order and some people have financial problem. The procedure to get the payment is also too late because of which many people are not willing to construct their own toilet”.*

*- Sarpanch Kansar, Deogarh*

- vi) Availability or supply of construction materials was reported to be a big hurdle in the hilly terrains of Kandhamal and Deogarh district, which was one of the constraining factors for the construction of toilets. Poor road connectivity restricted supply of construction materials in the hilly and remote areas. Lack of production points in the hilly areas made it difficult to meet the demand created for the construction of toilets through CLS.

*“People were facing the problem for material. Due to hilly area they were facing difficulty in transporting material from down to top of the hill”.*

*- Women Participants, FGD Bhangamunda, Deogarh*

*“Shortage of materials is another major problem in the district. As 54% of the total areas of the district are situated on hilly terrain materials are not available very easily”.*

*- Executive Engineer, DWSSM, Deogarh*

*“There are some hilly villages in the district where supply of materials are quite impossible. In that case the villagers are encouraged to construct toilets by bamboo and stones. They are also being imparted training on this. The motivators are also hesitant to go to those areas frequently for sensitization. Attention given to these areas is less as compared to other plain areas, which is affecting attainment of ODF.*

*- DPO, Deogarh*

*“It may be difficult to meet the demands in terms of quality in the ‘No Chimney’ district as Kandhamal is referred by some people for not having a single industry. You can’t find twin pit toilets here as installed in other places. So, there are two issues in supply side like quality and quantity of materials. To manage the thing better, WASH Academy is set up at district level and there is a plan to extend it to block level”.*

*- DPO WASH, Khandhamal*

*“We are given the target of building around 531 toilets in a block per month. But, we don’t have*

*sufficient building materials like bricks, pan or pipes to build the toilets. Sometimes, it becomes difficult to transport materials to inaccessible areas where a person can't walk properly".*

- DPC, EE, DWSM, Khandhamal

- vii) Scarcity of masons was reported as one of the barriers to construction of toilets by the HHs.

*"Major problems are shortage of mason in this area for the construction of the toilets, supply of materials and lack of space which prevents construction of toilets. Only 7 toilets have been constructed in the village so far, rest of the toilets are under construction".*

- Sarpanch Kansar, Deogarg

*"Scarcity of mason is one of the key issues, to address the issue meeting was conducted at village level and people engaged in construction were identified and trained for the purpose".*

- JE RWSS, Angul

- viii) The study did find much initiative taken by the PRI members, SHGs, natural leaders, etc. to allocate land to the landless families for the construction of toilets.

- ix) Except for a few villages, the construction of community toilets was not evident in most of the villages.

B. Lack of use of toilet: During the toilet inspections carried-out in the study, one third of households (35 % or 350 out of 1,000) reported the practice of OD by at least one or more of their family members. Households reporting OD were present in 91 out of 100 ODF declared villages verified in the study. In 86 out of these 91 villages, human faeces were found during the early morning verification of the OD sites. Hence, only 9 villages could be confirmed as ODF. It is important to mention here that these 9 villages were from the 70 villages where all the sampled HHs verified having access to toilets. So lack of use or access to toilets came out as one of the reasons for villages not qualifying as ODF. The following are some of the reasons why toilets were not used by one third of HHs.

- i) Scarcity of water was reported to be the topmost problem hindering toilet use. People found it difficult to fetch water for using toilets from far distances.

*"Because they think if they use toilet they have to carry a bucket of water from a distance and also if they use toilet they need to spend on soap and phenyl which is wastage of money".*

- AWW, Madhabpur, Angul

*"Scarcity of the water is the only problem confronted by the people preventing them from toilet usage"*

- AWW & ASHA, Berhampur, Angul

*"Supply of water or some other alternative water sources is a possible solution towards attaining and sustaining ODF".*

- President, SHG Bhangamunda, Deogarh

*"Scarcity of water has been a major problem which is hampering use of toilets".*

- President, SHG Bhangamunda, Deogarh

*"In this village supply of water is the main problem. All the people of this village are depending upon one well. People are fetching water from a long distance".*

- Ward Member, Bhangamunda, Deogarh

*"If the water supply will be sufficient and more awareness is spread the whole district will be ODF".*

- Panchayat Samiti, Chairman, Deogarh

*"In this district major barrier is water; if this problem is resolved than ODF can be attained and sustained. Secondly the people should be sensitized on regular basis to use toilets and the Sawachhata Committees should be responsible for monitoring to ensure toilet usage".*

- DPO, Deogarh

*"The only problem is water and nothing else stopping toilet use".*

- SHG Adimaha & Dadi, Khandhamal

*"Shortage of water and lack of drainage system are the prime obstacles preventing people from using toilet".*

- SHG Mahasingh, Khndhamal

ii) Age and occupations of people were some of the key factors linked with the practice of OD.

- a. Young children were prone to defecate on roadsides and backwards of the house in the absence of adult members of the house.
- b. Specific occupation groups like daily wage labourers, farmers, etc. were prone to defecate at their work sites that do not have toilets.
- c. Aged or elderly people preferred to defecate in the open due to age-old practice.
- d. Economically poor families preferred to use toilets for storing goods instead of using the same for defecation, particularly those made from concrete materials.

*"The old aged people and the small children never made use of it because they were scared of using it".*

- AWW, Berhampur, Angul

*"Elderly people along with other persons are continuing OD practice; however the percent has been reduced".*

- Sarpanch Bandaguda, Khandhamal

*"The farmers and the labour class people are going outside for defecation".*

- Ward Member Kaliakhaman, Deogarh

*"The old age people are still now going for OD because they are not going to understand the bad impact of the OD practices"*

- Ward Member Bhangamunda, Deogarh

*The adolescent boys and old aged people make the least use of it".*

- ASHA, Madhabpur, Angul

*"Behavioural change across old people and children is difficult as these two sections not get easily motivated. Secondly people going to distance of 3-4 km for occupation, such as to agriculture field will not come back home to use toilet. These are the barriers which are difficult to handle".*

- DPO, Angul

*"It is difficult to change the behaviour of the people. Poor people are not using toilets as they are living in thatched house and providing them a concrete structure like toilet encourages them to use it for other purposes like store rooms etc. Combining this with water scarcity discourage people to use toilets".*

- EE, DWSM, Deogarh,

- iii) Some people found the size of toilet is too small, hence did not feel comfortable to use it. Technological flaws made them uncomfortable for some beneficiaries - inadequate sitting space was the main reason reported.

*"The contractor made the toilet of small size so people feel uncomfortable for to use".*

- President, Block Federation, Deogarh

*"Not many people are satisfied with the toilet as is small. Therefore people use the toilet only in emergency".*

- Women Participants, FGD Kansar, Deogarh

*"Yes some persons are dissatisfied with the toilet due to small size. They want this should be big enough to sit comfortably".*

- Panchayat Samiti Chairman, Deogarh

- iv) In some sites post construction damage of the toilets could not be addressed and led to non-use and practice of OD.

*"Many People are going for OD in our village as constructions of toilets have not been completed".*

- President, SHG Dholpada, Degarh

*"25% of the people are practicing OD as according to them going to toilets with carrying a bucket filled with water is a burden and wastage of time"*

- ASHA Madhupur, Angul

- v) While Nigrani Committees and natural leaders were instrumental in pressurising people to stop open defecation and start constructing and using toilets, the rigor to monitor this on a sustained basis was lacking. In many villages, the activities conducted by the

Nigrani Committees and natural leaders such as mobilizing people for triggering process; monitoring & stopping people defecating in the open; penalizing people defecating in the open; conducting rallies & street plays; audio visual aid & discussion around sanitation; targeted meeting with stakeholders; etc. remained as one off events. These activities were not conducted on a regular basis to push the construction and use of toilets.

*“The Nigrani Committee organised a meeting to make people aware about the improper sanitation practices followed in the community. They showed two glasses one filled with pure water and the other filled with water and shit of human to warn people that in future pure water will no more be available and people will be forced to drink this dirty water”.*

- AWW Madhabpur, Angul

*“A women committee was formed called Nigrani committee who were looking after construction of toilet work. Meetings were also held by “shakti Barta” workers. Women members of the committee were told to watch the roads sides to stop OD. Wherever they found shit they that with sand or ash. But the initiative is not continuing now”.*

- Female Participants, FGD Berhampur

*“At GP level meeting was conducted with Sarpanch, SHG Women, Ward Members and Village Leader and in each revenue village a committee was formed to ensure ODF”.*

- JE Angul

- vi) Local SHG members, village contractors, PRI members and natural leaders who were initially involved during the triggering phase could not sustain their efforts afterwards to restrict the gradual slippages of villages from ODF to OD.

*“We told them at village meeting that if you will not use the toilet you may be punished”.*

- Sarpanch, Nandapur, Angul

## **F. Technical Assistance**

- i) DFID technical assistance through TMST: The technical assistance support provided through DFID assisted TMST helped to introduce the benefits of a demand led approach like CLS to the RD department of the GoO. The department, which was earlier encouraging the construction of toilets only for achieving its target, has understood the merits of a demand side approach like CLS for the construction of toilets and promoting behaviour change. CLS in combination with a subsidy is now being promoted by the department at the State, District and Block levels.
- ii) Expert agency: The effectiveness of the CLS approach requires highly skilled facilitators to make the pre-triggering and triggering exercises successful. The engagement of expert agencies worked well and helped to not only achieve ODF villages but also helped to transfer the knowledge and skill of facilitating CLS to the government, local agencies, etc.

## 5 Value For Money Of Community Led Sanitation Approaches

### 5.1 Value for Money: the '4Es' framework

CLS was one component of a larger DFID funded WASH project in Odisha. The Value for Money (VfM) performance of CLS as a part of the WASH project was assessed against the '4 E's' framework of economy (procurement of right quality inputs at a right price), efficiency (quality, quantity and timeliness of outputs produced by inputs), effectiveness (outcome/impact) and equity.

#### Economy

Procurement of NGO implementing partners for CLS was through a competitive process which kept prices low while following standard good procurement practice. The unit cost of person days for the expert agency and local NGOs (all the eight NGOs taken together), were INR 1217 (£13) and INR 512 (£6) respectively. Similarly the average cost of travel per staff per month were INR 2483 (£27) and INR 1133 (£12) respectively. The human resource and travel costs are highly economical in view of market rates and average costs of travel in the geographical areas.

#### Efficiency

Efficiency is defined as how well inputs are converted to outputs and how resources are optimally used to get the best results. The major outputs for CLS were HHs constructing and using toilets. In a short period of time the CLS approach mobilised HHs and villages to build toilets. Immediately post-intervention, local NGOs had mobilised over half of villages where they were operational to become ODF (by MIS, not GoI standards) and construct toilets for all HHs, and the expert agency had mobilised the majority of the villages where they were operational to do likewise.

Improving allocative efficiency (use of resources for effective interventions) is a further VfM measure. CLS and the broader WASH project of which it was a part is reported by government to have contributed to mobilising larger state budgets allocations and expenditures, through increasing demand for toilets and coverage (Table 30). In Odisha, until 2012/13, utilisation against the fund availability was 18%. In 2014/15, utilisation increased to 48%, and reached 145% during the year 2015/16.

**Table 30: Fund utilisation for Sanitation (Source: Swatch Bharat Mission website)**

Year	Fund available (INR in Crore)	Fund spent (INR in Crore)	% of fund spent over fund available
2011-12	313.9	72.43	23
2012-13	260.27	46.18	18
2013-14	235.5	24.57	10
2014-15	299.82	143.83	48
2015-16	1104.06	1596.2	145

Cost-efficiency: The cost of BCC and community mobilisation per HH varied for the three implementing agencies, namely the original implementing agency (working in Teleibani, M.Rampur and K.Nuagan), the expert agency that later took over, and local NGOs and was found to be INR 8388 (£91), INR 671 (£7) and INR 338 (£4) respectively. The high unit cost of CLS implemented through the original implementing agency is attributable to its more time-consuming approach where people are motivated to construct a toilet using their own financial resources without government subsidy, whereas in the case of the expert agency which took over, and local NGOs, the government subsidy was an integral part of the implementation approach. The unit cost of the export agency is higher than local NGOs due to differences in input costs and the corresponding larger size of the organization.

According to GoI guidelines for Swachh Bharat Mission, each state government can spend up to 4.5% of the toilet construction cost (INR 12000) for BCC and mobilisation activities at district/block/GP level, namely INR 540 (4.5% of INR 12000). Based on the above costs per implementing agency, the approach using local NGOs which spent INR 338 per HH was the most cost efficient model of CLS. Moreover, the costs are for six months of implementation, and would likely fall if the model is scaled up using standard operating procedures<sup>37</sup>.

**Table 31 Cost of BCC per toilet created**

<i>Type</i>	<i>Implementer</i>	<i>Period and area of implementation</i>	<i>Financial incentives from government</i>	<i>Average cost of BCC per toilet</i>
1	National 'expert' NGO:	Oct 14 – Mar 16, 2 blocks	Financial incentive used (Govt gave INR 12,000 per HH as incentive directly to individual HH)	INR 671 (£7)
2	Local NGOs	Aug 15 – Feb 16, 4 blocks	Financial incentive used (Govt gave INR 12,000 per HH as incentive directly to individual HH)	INR 338 (£4)

### **Effectiveness**

Sanitation and hygiene promotion are considered to be two of the most effective interventions for controlling endemic diarrhoea and are the most cost-effective public health interventions (approximately US\$3 per DALY averted for hygiene promotion and US\$11 for sanitation promotion) ranking higher on this basis than any other form of health intervention (e.g. combating malaria, tuberculosis and HIV AIDS). As the quantitative baseline and post intervention endline study has shown, CLS can significantly increase access to an improved sanitation facility and that gains are progressive. Moreover, results also show an increase in the 'gold standard' definition of *use*, which is that *all* HH members *usually use* an improved, *unshared* sanitation facility and that this is progressive too. Higher order outcome indicators to capture the health impact of CLS such as a reduction in the incidence of diarrhoea will require a later round of evaluation.

### **Equity**

<sup>37</sup> The costs include all recurring expenditure (i.e. proportionate fees and travel expenses of TMST, implementing agency salaries, training, travel and administrative and implementation costs).

CLS achieved larger gains among vulnerable HHs and the poor in both improvements in access to a safe, functional toilet and increased use of improved sanitation facilities (*all* HH members *usually use* an improved, *unshared* sanitation facility). However, lack of land and funds are constraints to poor people constructing toilets and there are gaps in the coverage of subsidies to poor people. This suggests the need for government to review the norms related to subsidy entitlement and for further investigation into toilet solutions for poor people that don't have land for toilet construction. Limited increase in the use of HH toilets by unmarried girls is also an area of concern and suggests the need for focused behaviour change interventions to this target group.

### *Sustainability*

The sustainability of ODF also impacts on the VfM of CLS. Although undertaken soon after the CLS intervention, the independent verification study found a high slippage of villages from their ODF status. This is partly due to the fact that more stringent criteria was used to assess ODF in the verification study (GoI ODF criteria) compared to the MIS. Nevertheless, more regular independent assessments of ODF status will be important to track sustainability and identify the support needed to villages to maintain ODF status, as well as mechanisms to ensure standardised criteria for assessing ODF status. A later impact evaluation that can more accurately assess effectiveness and sustainability will be important for policy makers.

## 6 Discussion and Conclusion

The evaluation survey results indicated considerable improvements in HHs which have access to appropriate toilets. In 2016, in 4 blocks where CLS has been implemented fully, 44.1% (95% CI 38.4-49.8) of HH have improved sanitation facilities (shared and unshared) compared with only 13.9% (95% CI 10.0-19.0) in the same blocks measured in the 2014 baseline survey. The equity gradient for access to an improved facility demonstrates CLS in Odisha has been progressive with greatest gains amongst the most vulnerable groups. In 2014, just 3.7% (95% CI 2.9-4.8) of scheduled tribe HHs had access to an improved facility, compared to 29.7% (95% CI 23.4-36.8) in 2016. Similarly, 1.3% (95% CI 1.0-1.7) of HHs in the low standard of living category had access to improved latrines in 2014, compared to 24.8% (95% CI 19.5-30.8) in 2016, and 4.8% (95% CI 3.5-6.5) of HHs where the HH head had no education had access to an improved facility in 2014 compared to 33.5% (95% CI 26.7-41.2) in 2016. It is also encouraging that of HHs with an improved facility, more have their own, unshared, toilet after the intervention than before, rising from 58.3% (95% CI 53.7-62.7) in 2014 to 78.2% (95% CI 74.7-81.3). The increase in unshared improved facilities is also greater amongst the most vulnerable groups. Just 1.8% (95% CI 1.3-2.6) of scheduled tribe HHs had access to improved, unshared facilities in 2014 compared to 21.5% (95% CI 16.1-28.0) in 2016. Similar increases were seen in HHs in the low standard of living category, as well as in HHs where the head had no education.

The 'gold standard' is that all HH members usually use an improved, unshared sanitation facility. The evaluation results show an increase in this indicator from 7.6% (95% CI 5.5-10.4) in 2014 to 31.7% (95% CI 26.6-37.1) in 2016 (denominator is all HHs surveyed). A less rigorous measure of use (majority of HH members using their improved facility) shows much higher use. Of HHs with an improved sanitation facility, in 2016, 93.3% (95% CI 88.0-96.4) of HH heads reported that HH members usually used their improved facility, and usage appeared largely equitable. This was similarly high in 2014, but a much lower proportion of people had an improved sanitation facility, suggesting CLS has been able to increase coverage and mobilise use. The high reported use is not surprising, as this usage indicator includes only HHs with an improved facility who therefore might be more inclined to use their facilities. It is however based on verbal report, not observation and therefore may be subject to social desirability. Nevertheless, these findings are largely supported by the ODF verification findings which found 65% of HHs reported to be ODF and therefore used sanitation facilities (regardless of whether improved or unimproved) and of HHs with functioning toilets, visual inspection indicated that most were well maintained and appeared to be in regular use.

Encouragingly, clear improvements can be seen at endline compared to baseline, when considering the progression from access to an improved latrine, to owning an unshared facility, to the 'gold standard' where all criteria are met. However, more than half of HHs at endline do not yet own an improved sanitation facility. Further, around one quarter of these HHs have not yet reached the gold standard largely because of HHs sharing facilities. Qualitative findings suggest that barriers to toilet ownership, which may lead to sharing, include lack of land ownership and other poverty related barriers.

Mothers with a child under five reporting safe disposal of child faeces increased from 7.0% (95% CI 4.2-11.4) to 20.4% in 2016 (95% CI 16.4-25). Increases were also seen in the prevalence of mothers with a child under five reporting safe disposal of their own faeces, from 14.7% (95% CI

10.2-20.6) in 2014 to 42.2% (95% CI 35.5-49.2) in 2016. Overall however, safe disposal of faeces remained low, highlighting the overall gap between access to and use of facilities, and possible need for targeted behaviour change messaging within communities, and as part of the CLS implementation strategy.

In 2016, only 10.6% (95% CI 8.6-13.1) of mothers of children <5 reported hand washing at five critical moments in a usual day (after defecation, after cleaning a child, before preparing food, before feeding a child, and before eating), with similar findings in 2014. The high prevalence of women reporting hand washing with an appropriate cleansing agent (84.4% (95% CI 81.6-86) in 2014 and 91.4% (95% CI 88.7-93.6) in 2015) suggests that although women cannot recall critical moments for handwashing, they are aware of and implementing positive practices. Whilst the indicator for handwashing is quite rigorous, requiring women to recall, unprompted all five moments, the findings suggest a need to give increased attention to hygiene practices during CLS and other community-based behaviour change approaches.

Unmarried adolescent girls 10-19 who reported use of the available improved sanitation facility increased marginally from 32.4% (95% CI 29.1-35.9) to 38.5 (95% CI 32.8-44.6) before and after the intervention. Targeted behaviour change approaches may need to be developed for unmarried adolescent girls.

Out of 309 ODF declared villages in 5 blocks, 100 villages were randomly selected for independent verification. Five village level indicators and four HH level indicators taken from the GoI guideline on ODF verification<sup>38</sup> were observed and assessed. Significant slippage out of ODF was found, however the recently released GoI criteria for declaring ODF were more stringent than those used to declare villages as ODF in the MIS highlighting the need for clear mechanisms for declaring ODF from the start of any project aiming to achieve this. In order to sustain use of toilets by HHs and prevent slippage back to OD, continued monitoring of toilet use and exposure to relevant behaviour change materials is likely to be required post ODF declaration, for example through village level committees

The evaluation has shown the value of independent verification and suggests that a similar intermittent process (eg annual/bi-annual) could be contracted out by the state government to verify a sample of villages as an addition to its ODF MIS<sup>39</sup>. This will help in measuring slippage and identifying what measures need to be taken by communities and line departments to sustain ODF.

The close linkage and sequencing of community mobilisation efforts with provision of government subsidies and materials to HHs to construct a toilet was found to be a key enabling factor. Responsive district administrations helped overcome bottlenecks in access to supplies of rural pans, ensured the smooth flow of funds from the district to the local government body (Panchayat) and undertook regular monitoring of toilet construction. Community institutions also played a major role in promoting and reinforcing messages, providing credit to village members that were left out of government subsidy beneficiary lists, and monitoring the flow of subsidies and construction.

---

<sup>38</sup>[http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/India\\_Guidelines\\_for\\_ODF\\_Verification.pdf](http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/India_Guidelines_for_ODF_Verification.pdf) accessed 28/06/2016

<sup>39</sup> In the state, 1842 villages had been declared ODF by June 2016 but none are recorded as independently verified.

Qualitative findings show lack of land on which to construct a toilet and lack of funds to cover the costs of construction prevented some of the poor from improving their sanitation. For some that received the subsidy of INR 12,000 this was insufficient to cover the full costs of a quality toilet. Others were not entitled to subsidies for toilet construction because they were landless or the norms were applied unevenly and they were left off the list of beneficiaries. In hilly and remote areas, poor road connectivity and the low number of production sites created a bottleneck to construction, requiring the development of sanitary marts and attention to logistics. Further, lack of water was reported as the leading factor which hinders use of toilets and the sustainability of ODF.

In summary, evaluation findings show that CLS is an effective, pro-poor intervention that increased access to and use of improved sanitation facilities in a short period of time and progressed the ODF movement in the state. However, the effect of the intervention on hand washing practices is minimal and the effect on safe disposal of own, and child faeces, lower than expected. Increased attention to these two sanitation and hygiene related behaviours within CLS and through other community mobilisation strategies is needed. Likewise, targeted behaviour change activities are required to increase unmarried girl's use of HH toilets.

Lack of land for construction of HH toilets and lack of water to sustain use of toilets are two of the main factors that hinder achievement and sustainability of ODF status with poor people being most at risk. As the government escalates its mission to eliminate OD, attention to these structural bottlenecks will be required. The norms and administration of government subsidies for rural HH toilet construction that exclude the landless further compound the challenges faced by poor people and are in need of review.

Cost data suggests CLS approaches where community organisations mobilise and empower the community are cost-efficient and can be implemented within the Government's allocation for sanitation-related BCC. Strengthening the capacity of government to contract, manage and monitor local district and block based CSOs will enhance the sustainability of this approach.

ANNEXES

Annex 1. CLS progress monitoring template

CLTS PROGRESS MONITORING																														
Dist. Name				NGO NAME				Specific innovations in this GP																						
Block Name				Submitted By																										
GP Name				Reviewed By																										
Report Date				Facilitator Name																										
Sl. No	Revenue Village Name	Total No. of Hamlets	Total No. of inhabited households	Total No. of BPL Households	Household Latrines status		No. of AWCS		No. of Schools	Triggering process completed (T)		Village committee passed any resolution and agreed on ODF date		Name of the Sarapanch		Progress tracking	Total number of HHs (all Members) practising ODF using toilet	AWCs in own building		AWCs in other building		Schools		ODF Achieved Month						
					Functional	Broken/ Not Usable	own building	others		Yes/No	DD/MM/YYYY	Yes/No	DD/MM/YYYY	Existing & Used	New & used			Existing & Used	New & used	Existing & Used	New & used	Existing & Used	New & used							
1			SC-													Months	Existing & Used	New & used	Existing & Used	New & used	Existing & Used	New & used	Existing & Used	New & used						
			ST-													T+M1														
			OBC-													T+M2														
			Others-													T+M3														
																T+M4														
																T+M5														
																T+M6														
																T+M7														
																TOTAL														

## Annex 2. CLS Secondary outcome indicator descriptions

No	Outcome indicator	Definition	Source	Numerator	Denominator	Calculation	Notes
<b>HH LEVEL</b>							
<b>CONTENT AREA: ACCESS TO AND USE OF SANITARY FACILITIES FOR THE DISPOSAL OF HUMAN EXCRETA</b>							
1	% HHs with access to improved unshared sanitation facility, where all members usually use the available facility	See combination of definitions below for indicators 2-4.	JMP (adapted)	Number of HHs with an improved unshared sanitation facility and where the usual practice of HH members is to use the available facility	All HHs surveyed	Numerator/denominator*100	<ul style="list-style-type: none"> <li>Indicator 1 represents best sanitation scenario (if 100% and all members <b>always</b> use the facility)</li> </ul>
2	% of HHs with an improved sanitation facility (shared and unshared)	<p><b>According to the JMP, improved sanitation is defined as:</b></p> <p>1 Flush or pour/flush facilities connected to a:</p> <ul style="list-style-type: none"> <li>o piped sewer system</li> <li>o septic system</li> <li>o pit latrine</li> </ul> <p>2 Pit latrines with a slab</p> <p>3 Composting toilets</p> <p>4 Ventilated improved pit latrines</p> <p><b>Unimproved sanitation includes:</b></p> <p>5 Flush or pour/flush toilets without a sewer connection</p> <p>6 Pit latrines without slab/open pit</p> <p>7 Bucket latrines</p> <p>8 Hanging toilets/latrines</p> <p>9 No facilities, OD</p>	JMP	Number of HHs with an improved sanitation facility	All HHs surveyed	Numerator/denominator*100	<ul style="list-style-type: none"> <li>Component indicator of Indicator 1 above</li> <li>This indicator is derived from observations, which minimises social desirability</li> </ul>
3	% of HHs with an improved sanitation facility that is not shared with other HHs	As above, except excludes HHs who share their facilities with other HHs	JMP	Number of HHs with an improved sanitation facility (unshared only)	All HHs with an improved sanitation facility (shared and unshared)	Numerator/denominator*100	Component indicator of Indicator 1
4	% of HH respondents reporting that majority of HH members usually use the improved sanitation facility	<p>No facility/bush/field.....0</p> <p>Flush or pour/flush toilet flushed to:</p> <ul style="list-style-type: none"> <li>Piped sewer system..... 1</li> <li>Septic tank ..... 2</li> <li>Pit latrines ..... 3</li> <li>Somewhere else..... 4</li> <li>Ventilated improved pit latrine..... 5</li> </ul>	JMP (adapted)	Number of HHs with an improved sanitation facility and where the usual practice of HH members is to use the facility	All HHs with an improved sanitation facility (shared and unshared)	Numerator/denominator*100	Component indicator of Indicator 1

		Pit latrine with slab ..... 6 Pit latrine with no slab/open pit. 7 Composting toilet .....8 Bucket toilet .....9 Hanging toilet/latrine .....10 Other (specify)..... 11 <b>CODE AS NUMERATOR IF=1-3,5 ,6,8</b>					
<b>CONTENT AREA: HAND WASHING WITH SOAP AT CRITICAL MOMENTS</b>							
5	% of HHs with soap and water at a hand washing station inside or within 10 paces of latrines	Those scoring positively for all three elements constitute the numerator.	JMP	Number of HHs with soap and water at a hand washing station inside or within 10 paces of latrines	Number of HHs with a latrine	Numerator/denominator*100	<ul style="list-style-type: none"> <li>This indicator is derived from observations, which minimises social desirability</li> <li>Denominator doesn't need to be restricted to improved latrines</li> <li>Acceptable hand washing agents include: soap, detergent, or ash</li> </ul>
6	% of HH-level respondents reporting use of available hand washing place the last time they defecated	Did you use this hand washing place the last time you defecated? (yes/no)	No source	Number of HH-level respondents reporting use of available hand washing place the last time they defecated	Number of HHs with soap and water at a hand washing station inside or within 10 paces of their latrine	Numerator/denominator*100	
<b>CONTENT AREA: ACCESS TO WATER SUPPLY AND SAFE STORAGE</b>							
7	% of HHs using improved drinking water sources	<b>Improved drinking water sources:</b> 1 Piped water into dwelling, plot, or yard 2 Public tap/standpipe 3 Tube well/borehole 4 Protected dug well 5 Protected spring 6 Rainwater collection <b>Unimproved drinking water sources:</b> 7 Unprotected dug well 8 Unprotected spring 9 Cart with small tank/drum 10 Tanker truck 11 Surface water (river, dam, lake, pond, stream, canal, irrigation channel) 12 Bottled water	JMP	Number of HHs using improved drinking water sources	All HHs	Numerator/denominator*100	
8	% of HHs with <b>reliable</b>	Indicator 7+ HHs saying <b>YES</b> to: 'Is	JMP	Number of HHs with	All HHs using	Numerator/	

	access to an improved source of drinking water	water normally available from this source?' and <b>NO</b> to: In the last two weeks, was water unavailable from this source for a day or longer?		reliable access to an improved source of drinking water	improved drinking water sources	denominator*100	
9	% of HHs safely storing their drinking water	<b>Indicator Components (1=y, 2=n)</b> 1. Is this container used only for storing drinking water? Based on observations determine if container: 2. Has wide or narrow mouth (wide >10cm=1, narrow≤10cm=2) 3. Has spigot 4. Has lid or fitted cover 5. Is covered filtration reservoir with tap 6. Is off the ground? Compliance if: q1=1 & q2=2 & q3=1 & q4=1 & q5=1 OR q6=1	JMP adapted	Number of HHs safely storing their drinking water	All HHs who store their drinking water and allowed the interviewer to check the container	Numerator/denominator*100	<ul style="list-style-type: none"> <li>This indicator is derived from observations, which minimises social desirability</li> <li>This indicator does not require that the HH uses an improved source of drinking water</li> </ul>
<b>WOMEN 15-49 YEARS WITH A CHILD &lt;5 &amp; pregnant women</b>							
<b>CONTENT AREA: ACCESS TO AND USE OF SANITARY FACILITIES FOR THE DISPOSAL OF HUMAN EXCRETA</b>							
10	% of mothers with a child <5/pregnant women reporting safe disposal of own faeces	The last time you passed stool, where were your faeces disposed? Safe disposal=thrown into toilet or thrown into public latrine or buried.	JMP adapted	Number of mothers with a child <5/ pregnant women reporting safe disposal of own faeces	All mothers with a child <5 and pregnant women	Numerator/denominator*100	<ul style="list-style-type: none"> <li>Can show pregnant women and mothers separately</li> </ul>
11	% of mothers with a child <5 reporting safe disposal of child faeces	The last time (name) defecated when you were present, where were his/her faeces disposed?	JMP	Number of mothers with a child <5 reporting safe disposal of child faeces	All mothers with a child <5	Numerator/denominator*100	
12	% of mothers with a child <5/pregnant women who are unsatisfied or very unsatisfied with the place that they defecate	How satisfied are you with the place where you defecate? (Likert scale from options 1-5, 1=very satisfied, 5=very satisfied.	JMP	Number of mothers with a child <5/ pregnant women who are unsatisfied or very unsatisfied with the place that they defecate	All mothers with a child <5 and pregnant women	Numerator/denominator*100	<ul style="list-style-type: none"> <li>Can show pregnant women and mothers separately</li> </ul>
<b>CONTENT AREA: HAND WASHING WITH SOAP AT CRITICAL MOMENTS</b>							
13	% of mothers of children <5 /pregnant women who report hand washing at 5 critical moments in a usual day.	1 Before eating 2 After eating 3 Before praying 4 Before breastfeeding or feeding a child 5 Before cooking or preparing food	JMP adapted	Number of mothers of children <5/pregnant women who report hand washing at 5 critical moments in a usual day.	All mothers of children <5 and pregnant women	Numerator/denominator*100	<ul style="list-style-type: none"> <li>We adapted this from JMP to be focused on practice, rather than knowledge (i.e. knowing all the critical moments for hand washing)</li> <li>Question was unprompted to</li> </ul>

		6 After defecation/urination 7 After cleaning a child that has defecated/changing a child's nappy 8 When my hands are dirty 9 After cleaning the toilet or potty 10 Other 11 Does not know <b>Critical moments are:</b> 1) after defecation, 2) after cleaning a child, 3) before preparing food, 4) before feeding a child, and 5) before eating.					minimise social desirability of response • Can show pregnant women and mothers separately
14	% of mothers of children <5 /pregnant women who report hand washing with an appropriate cleansing agent	What do you normally use to wash your hands? Numerator=women reporting soap OR ash OR detergent	NFHS-3	Number of mothers of children <5 / pregnant women who report hand washing with an appropriate cleansing agent	All mothers of children <5 and pregnant women	Numerator/denominator*100	• Can show pregnant women and mothers separately
<b>ADOLESCENT GIRLS 10-19 YEARS (15-19 group includes not pregnant, no pregnancy outcome in ref period and no child &lt;5)</b>							
<b>CONTENT AREA: ACCESS TO AND USE OF SANITARY FACILITIES FOR THE DISPOSAL OF HUMAN EXCRETA</b>							
15	% of adolescent girls 10-19 who report use of the available improved sanitation facility	Do you use the latrine available to members of this HH? If yes=numerator.	No source	Number of adolescent girls 10-19 who report use of the available improved sanitation facility	All adolescent girls 10-19 reporting access to an improved sanitation facility	Numerator/denominator*100	• Latrine does not have to comply with 'improved' criteria
16	% of adolescent girls 10-19 reporting safe disposal of own faeces	The last time you passed stool, where were your faeces disposed? Safe disposal=thrown into toilet or thrown into public latrine or buried.	JMP adapted	Number of adolescent girls 10-19 reporting safe disposal of own faeces	All adolescent girls 10-19	denominator*100	
17	% of adolescent girls 15-19 who are unsatisfied or very unsatisfied with the place that they defecate	How satisfied are you with the place where you defecate? (Likert scale from options 1-5, 1=very satisfied, 5=very satisfied.	JMP	Number of adolescent girls 15-19 who are unsatisfied or very unsatisfied with the place that they defecate	All adolescent girls 15-19	Numerator/denominator*100	
<b>CONTENT AREA: HAND WASHING WITH SOAP AT CRITICAL MOMENTS</b>							
18	% of adolescent girls who report hand washing at 3 critical moments in a usual day.	1 Before eating 2 After eating 3 Before praying 4 Before breastfeeding or feeding a child 5 Before cooking or preparing food 6 After defecation/urination 7 After cleaning a child that has defecated/changing a child's nappy	JMP adapted	Number of adolescent girls who report hand washing at 3 critical moments in a usual day.	All adolescent girls 10-19	Numerator/denominator*100	• We adapted this from JMP to be focused on practice, rather than knowledge (i.e. knowing all the critical moments for hand washing) • Question was unprompted to minimise social desirability of response

		8 When my hands are dirty 9 After cleaning the toilet or potty 10 Other 11 Does not know <b>Critical moments for adolescent girls are:</b> 1) after defecation, 2) before preparing food, 3) before eating.					
19	% of adolescent girls who report hand washing with an appropriate cleansing agent	What do you normally use to wash your hands? Numerator= adolescent girls reporting soap OR ash OR detergent	NFHS-3	Number of adolescent girls who report hand washing with an appropriate cleansing agent		Numerator/denominator*100	
<b>FRONTLINE HEALTH WORKERS</b>							
<b>CONTENT AREA: ACCESS TO AND USE OF SANITARY FACILITIES FOR THE DISPOSAL OF HUMAN EXCRETA</b>							
20	% of AWCs and Sub-centres with an improved sanitation facility	See indicator 2	JMP	Number of AWCs and Sub-centres with an improved sanitation facility	All AWCs and Sub-centres surveyed	Numerator/denominator*100	
21	% of FLWs reporting safe disposal of own faeces	The last time you passed stool, where were your faeces disposed? The last time you passed stool, where were your faeces disposed? Safe disposal=thrown into toilet or thrown into public latrine or buried.	JMP			Numerator/denominator*100	
<b>CONTENT AREA: HAND WASHING WITH SOAP AT CRITICAL MOMENTS</b>							
23	% of FLWs who know the 5 critical moments for hand washing with soap	Please mention all of the occasions when is it important to wash your hands. <b>Critical moments are:</b> 1) after defecation, 2) after cleaning a child, 3) before preparing food, 4) before feeding a child, and 5) before eating.	JMP	Number of FLWs who know the 5 critical moments for hand washing with soap	All FLWs surveyed	Numerator/denominator*100	<ul style="list-style-type: none"> <li>We used original JMP question (knowledge focused) for FLWs re hand washing</li> <li>Question was unprompted to minimise social desirability of response</li> </ul>
24	% of FLWs who report hand washing with an appropriate cleansing agent	What do you <b>normally</b> use to wash your hands? Numerator= FLWs reporting soap OR ash OR detergent	NFHS-3	Number of FLWs who report hand washing with an appropriate cleansing agent	All FLWs surveyed	Numerator/denominator*100	