Process Assessment: Improving H.A.B.I.T. Intervention

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List of abbreviations

AM	Area Manager
BRLPS	Bihar Rural Livelihood Protection Society
CF	Community Facilitator
CLTS	Community Led Total Sanitation
HH	Household
IEC	Information Education and Communication
LSS	Lohia Sanitation Scheme
OPM	Oxford Policy Management
SBM-G	Swachch Bharat Mission – Gramin
ToC	Theory of Change

1 Introduction

In this report, we present findings from a process assessment of the Improving H.A.B.I.T intervention in Bihar, which is designed, implemented and evaluated by Ideas 42, World Vision India (WVI) and Oxford Policy Management (OPM). The Improving H.A.B.I.T intervention tests the impact of a behavioural intervention in changing attitudes and behaviours around toilet use in rural Bihar. The intervention involves a set of community meetings and follow-up household visits and utilises an inter-related and internally coherent set of activities and tools to create and activate intentions to use latrines. The timeline of the intervention is from April 2018 – November 2018. This primary outcome of interest of the study is toilet use. The intervention is taking place in six districts in the state of Bihar, in one block per district, these being areas where WVI has ongoing operations.

Figure 1: Overview of the Intervention Design

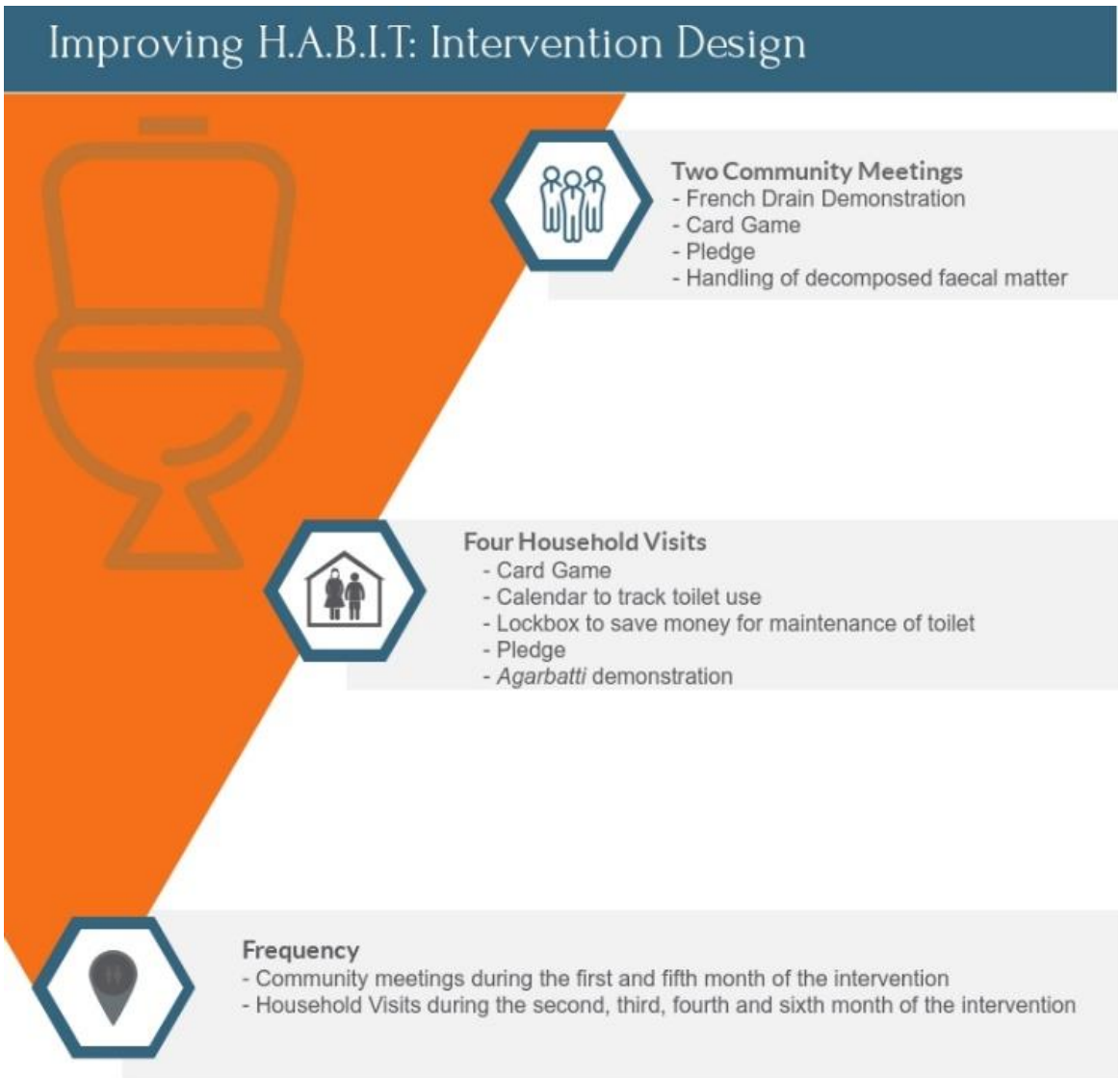
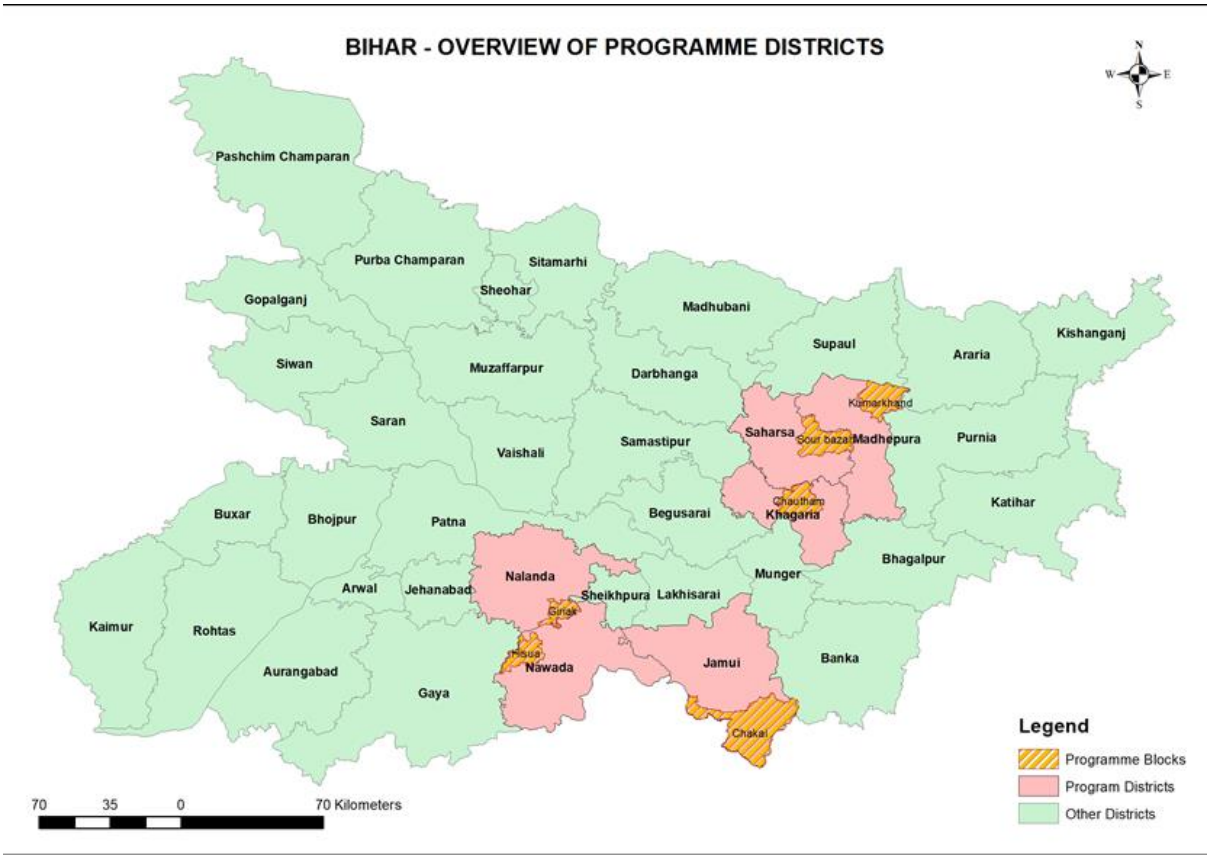


Figure 2: Overview of Study Areas



Conducting a process assessment is important for several reasons: it provides an understanding of (a) the extent of implementation fidelity, (b) the mechanisms by which the intervention is successful, (c) potential challenges and solutions to aid in the implementation of similar interventions and (d) whether and a how the intervention should be scaled up or modified in other non-trial contexts (Liu 2016; Oakley 2006).

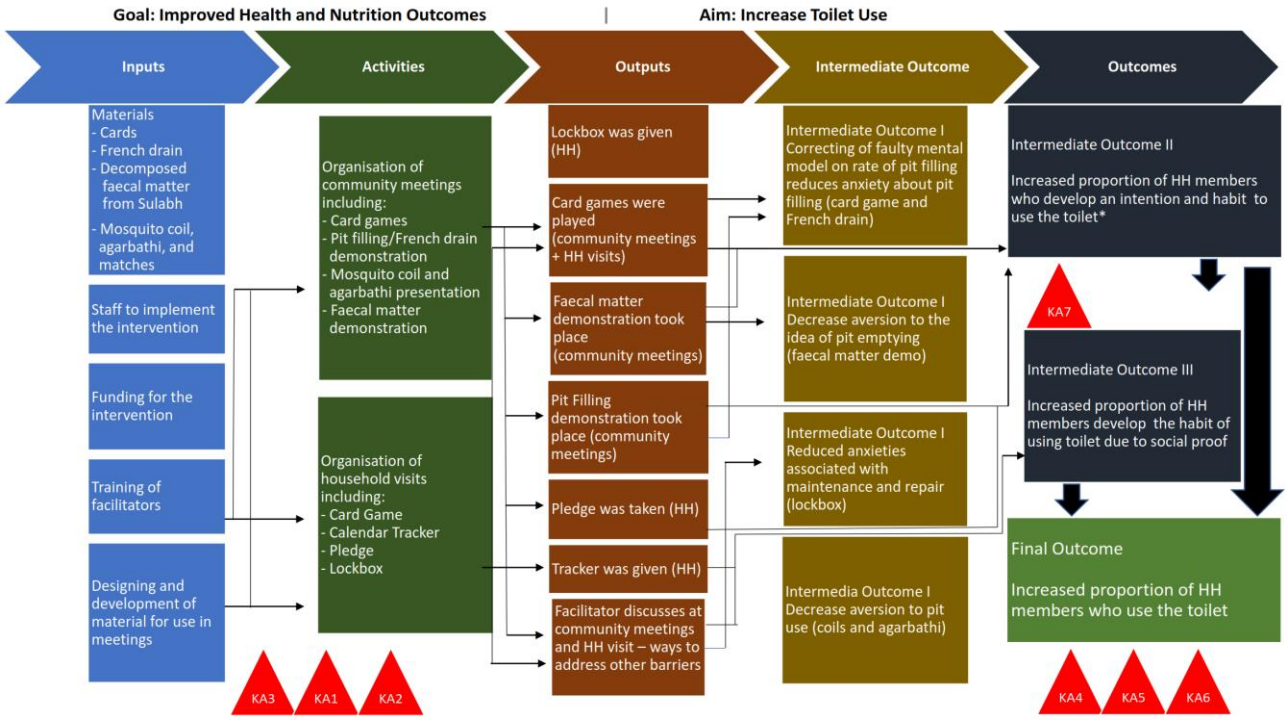
It also presents an opportunity to review the theory of change and modify the same as required. The review of the theory of change will also help interpret the endline findings of the evaluation. This figure below illustrates the theory of change for the programme.

The two broad objectives of this process assessment are:

i) *A review of the Improving H.A.B.I.T programme implementation*: To investigate the delivery of the intervention, its fidelity to the proposed design as well as document any adaptations.

ii) *Testing the theory of change*: To assess the validity of the assumptions that have been made linking the different Theory of Change (ToC) components of the intervention

Figure 3: Theory of Change for the programme[1]



Given the short time frame of the intervention, the findings from this assessment will not be adapted into the programme design. In Chapter 2, we discuss the research design and analytical framework for the study. Chapter 3 presents the findings of the process assessment. Chapter 4 presents conclusions and recommendations.

[1] KA refers to key assumptions. Key Assumptions have been detailed in Annex A.

2 Research design

In this section, we describe the approach and methodology employed for the process assessment.

Objectives

The two broad objectives of this process assessment are:

(1) Investigation of the implementation: To investigate the way the intervention is being implemented, its fidelity to the proposed design as well as its adaptations
(2) Testing the Theory of Change (ToC): To examine the validity of the intervention's theory of change by observing the mechanisms by which the intervention works and assessing the assumptions in the ToC.

The research questions under each of these objectives are listed in the table below.

Table 1: Research questions

Objective 1	Specific research questions
An investigation of the implementation	How do the programme documents describe the intervention? Are the programme guidelines and implementation documents comprehensive? To what extent was the content of the intervention delivered as designed? To what extent was the coverage of the intervention (frequency and composition of community meetings) delivered as designed? What are the key challenges in implementation? What adaptations were made to the intervention on the field? Why were they necessary? To what extent do facilitators and households understand the purpose of the intervention and its benefits? To what extent do participants understand what the intervention requires them to do and how it should work? In what ways do the participants engage with the intervention? To what extent is the intervention relevant for participants? Do they attend the household and community interventions? To what extent do facilitators and participants believe that there are other barriers to intention and use? To what extent are facilitators competent/ have the appropriate skills to deliver the program? (communication skills, technical capabilities, skills in engaging and responding to participants)
Testing the Theory of Change	Objective 2 relates to testing the assumptions in the ToC. The research questions under Objective 1 cover assumptions 1, 2, 3 in the ToC as shown in Annex A. We test the remaining assumptions (assumptions 4, 5, 6 and 7) by asking the following research questions: To what extent do households adopt practises prescribed by the interventions (such as lock box)? To what extent are there other barriers (apart from pit filling and pit emptying) to intention and use?

Analytical framework

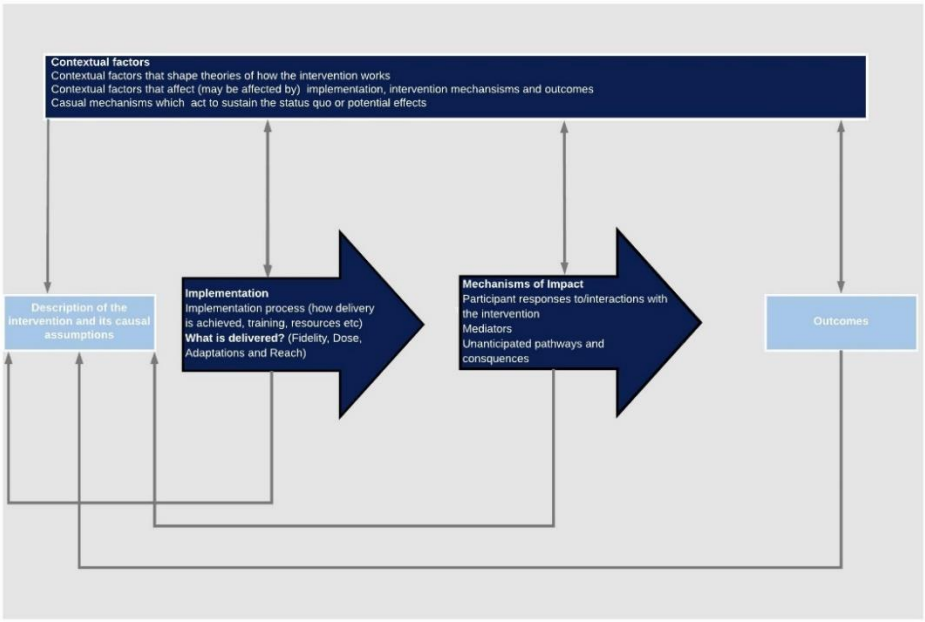
To answer these research questions, we adapt the UK Medical Research's framework (BMJ 2015) for process evaluations, which focusses on implementation, moderators/mechanisms of impact and context as conceptual categories. The three conceptual categories of the framework are described as follows:

- **Implementation** covers the "how" (the structures, resources and processes through which delivery is achieved) and the "what" (the quantity and quality of what is delivered). The what includes assessing coverage (who are the people the intervention is reaching), the dose (the number of times and duration of exposure to the intervention), fidelity (i.e adherence to design), and also adaptations.
- **Moderating factors or mechanisms of impact** covers how intervention activities and the participants' interaction with them trigger change. Even if an intervention is implemented as planned, several factors such as the quality of the intervention, intervention take up (relevance of the intervention to participants their engagement levels) and participant feedback could influence the intervention's impact.
- **Contextual factors** refer to the external factors that may influence the intervention

Detailed definitions of each of these aspects of implementation are in Annex B.

Figure 4 presents the UK MRC process evaluation framework. Figure 5 illustrates how we have applied the framework to our assessment.

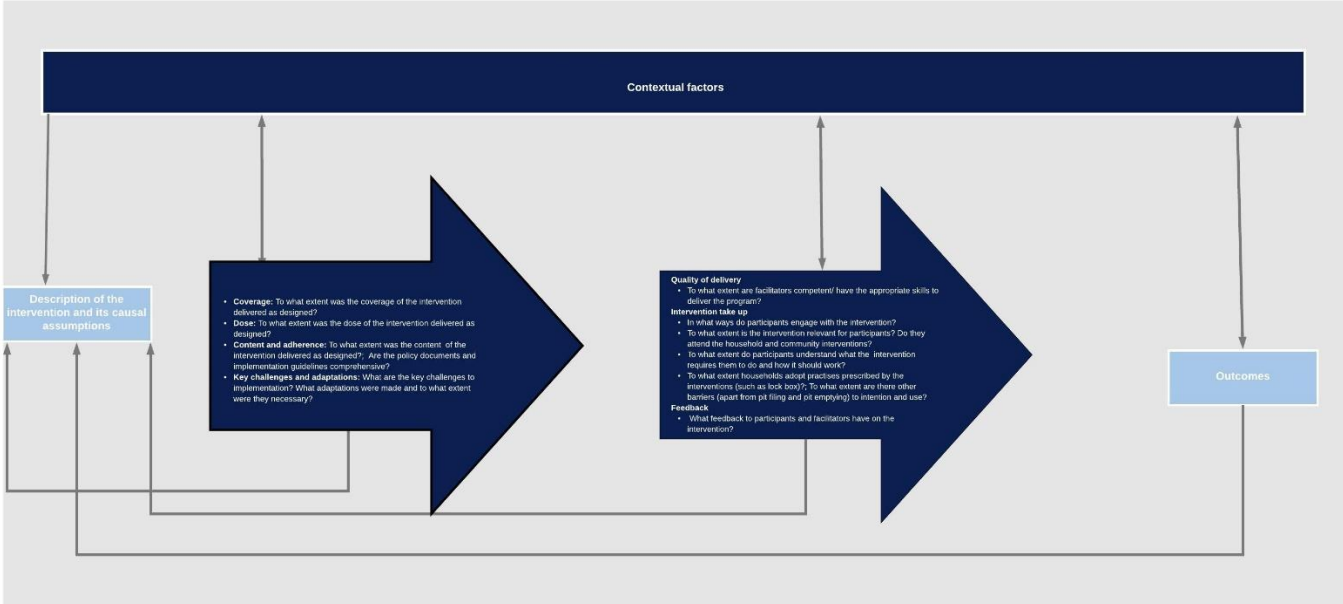
Figure 4: MRC process evaluation[2] framework



Source: BMJ 2015; The dark blue boxes are the key components of a process evaluation. Investigation of these components is shaped by a clear intervention description and informs interpretation of outcomes.

[2] We use the framework of a process evaluation, but this is a process assessment. The study was conducted during implementation, and so does not link implementation to intervention outcomes.

Figure 5: Framework for process assessment



Research tools and methods

We employ a qualitative methodology, to explore how the intervention is "produced, interpreted, understood and experienced" (Mason 2002) by community facilitators as well as by participants. Annex C. links specific research questions to data sources and methods. The two main tools employed for data collection were observation and the semi-structured interview. In addition, we used data from monitoring sheets provided to us by the implementers. Details of each of these sources of data are as follows:

Observation

As part of the assessment, we observed (a) household visits and (b) community meetings. We used a checklist and notes to capture the following information: adherence to the implementation guide, duration of the meetings, composition of meetings, competence of facilitator and participant interest and engagement levels. The observation checklist format is in Annex D.

Semi structured interviews

We interviewed members of treatment households as well as community facilitators and senior staff of the implementing agency.

For our interviews with households, we used an interview guide which was structured around the following themes: reasons for construction, main barriers to using toilets, recall and relevance of the intervention and intervention take-up. For facilitators and staff, we used a guide that covered an overview of implementation and challenges faced on the field. The semi structured interview guide for the household and facilitator is in Annex D and Annex E respectively.

Monitoring sheets

The implanting agency has been regularly filling monitoring sheets after the completion of each community and household meeting. The data collected in these has also been used to allow us an

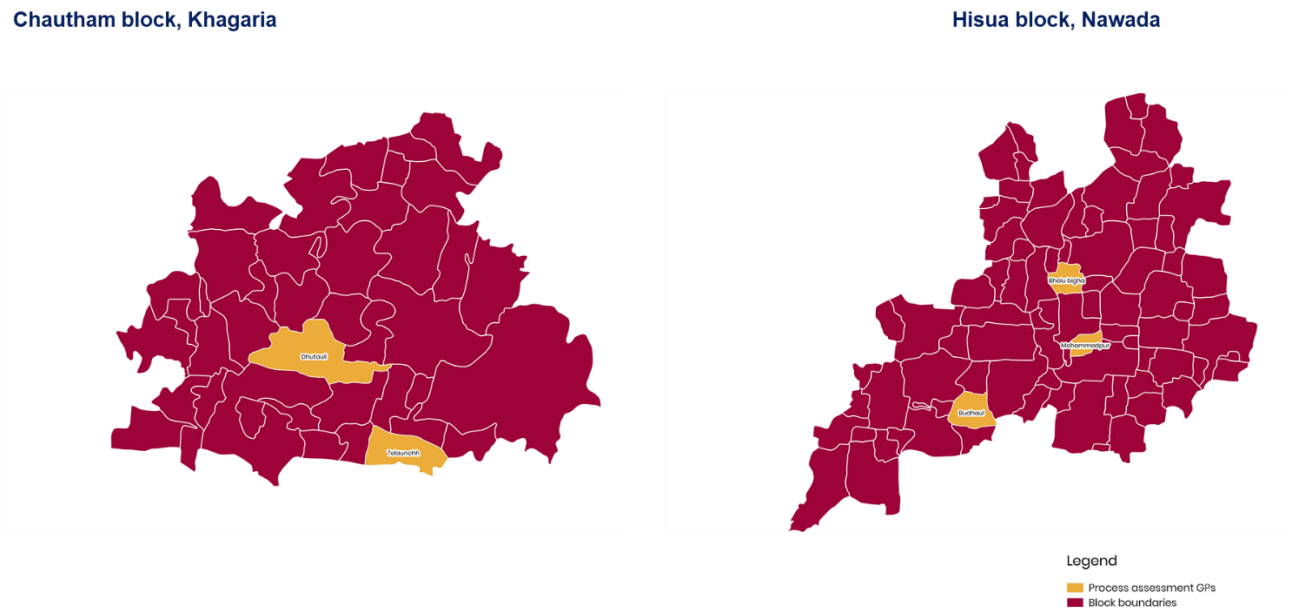
insight into the implementation. At the time of writing this report, we had monitoring sheets from one community meeting, and two household meetings.

Sampling strategy

For the assessment, we used a purposive sampling strategy to sample two districts and four villages in total. We selected districts where there is a large sample of treatment households with varying toilet use, and where the implementing agency reported challenges due to issues with caste and class dynamics, or the Swachcch Bharat Mission- Gramin (SBM-G). Within each district, we selected two villages that maximise the range of variation on existing toilet use, as measured during the baseline.

The two districts selected for the study are Khagaria and Nawada, and the Gram Panchayats selected in these are Dhutauli, Telaunchh, Bhola Bigha and Budhol and Katir. We were not able to visit Budhol during the second visit to observe the community meeting, due to prevailing caste tensions. Instead, we visited Mohammadpur, as suggested by the implementing agency. Figure 6 is a map of the sample for the assessment. Details of sample size and characteristics are presented in Annex G.

Figure 6: Map of process assessment GPs in Khagaria and Nawada[3]



Note: Map is representational and not to scale.

In the inception stage, we expected the process assessment to take place in six randomly assigned villages. Since the random assignment selected five out of the six villages from a single district, we re-selected four villages in two different districts with varying toilet use figures. To ensure that this does not impact the endline assessment, we will control for participation in the process assessment during the quantitative analysis.

In the following chapters, we have anonymized district, village and community facilitator names to protect the identities of our respondents.

Timeline

[3] We were not able to visit Budhol during the second visit to observe the community meeting, due to prevailing caste tensions. Instead, we visited Mohammadpur, as suggested by the implementing agency.

The field work for the process assessment took place between August and October 2018. Two field trips were undertaken, one in August to observe the household visit and one in October to observe the community meeting. We interviewed implementing agency staff on the first trip.

Analysis

The analysis of data was carried out in line with the steps of qualitative framework analysis (Srivastava, A. and Thomson, S. B. 2009). These are: (1) familiarisation of the data by reviewing notes to identify key recurrent themes; (2) applying the analytical framework to data in textual form by annotating transcripts and notes and (3) organizing themes under the heads of the analytical frameworks (4) interpreting the data and exploring connections between the themes.

Limitations

- While this assessment presents an operational snapshot of the programme implementation in some areas, it is not representative, given the small sample size and qualitative nature of the assessment
- Some of the data we have used such as the monitoring sheets have been provided by the implementing agency and have not been independently verified.
- We had to co-ordinate our fieldwork with the implementing agency who were thus aware of the dates of our arrival and the meetings (household and community) we would be observing. Though we interviewed households independently, the implementing agency accompanied us to the household and community meetings. The possibility of this having biased our findings to some extent cannot therefore be ruled out.
- While the local language was largely not a problem, in some villages, respondents spoke a dialect that we could not fully understand. This may have resulted in some losses in data and insight in our analysis

3 Findings

In the following sections we outline the key findings of the process assessment, in alignment with the analytical framework outlined in the previous section. Findings are presented in the following sequence: implementation details, mechanisms of impact and finally contextual factors. A discussion section presents analyses of findings against assumptions in the ToC, as well as proposes areas for further enquiry for the qualitative endline study.

3.1 Implementation

In this section, we discuss the implementation process, which includes a description of the intervention, implementation structure (or 'how' the intervention was delivered) and an analysis of 'what' was delivered.

3.1.1 A description of the intervention

The intervention consists of two main touch-points: (1) community meetings, for all study and non-study households in a hamlet and (2) household visits, for study households.

Community Meetings:

The community meetings involve the following activities:

- A demonstration of a "French drain" to demonstrate how matter in the toilet loses its volume during the decomposition process
- A card game to address misconceptions about pit-filling rates
- A demonstration of decomposed faecal matter
- A discussion on the use of *agarbatthi* sticks as a means of supressing smell and reducing mosquitos

Household Meetings:

The household meetings involve the following activities:

- Demonstration of a poster that indicates when the household constructed their pit, the date the household should switch to a second pit and the date a pit can be emptied. This poster contains a pledge about toilet use
- A chalkboard with an outline of a calendar, for households to mark the days that members use the toilet
- A lockbox, which a self-appointed 'Toilet Champion' uses; the champion inserts 5 INR into a lockbox each week to save money for repairs of the toilet
- A card game to address misconceptions about pit-filling rates

Figure 7

Chalkboard and calendar

The implementation timeline is given in Figure 8 below. Note that prior to the start of the implementation, facilitators were provided training in April 2018 in Nalanda, Bihar. During this training, facilitators were introduced to the study design and the purpose of the evaluation, in addition to being

trained on the delivery of the components of the intervention during the household visits and community meetings.

Figure 8: Implementation timeline[4]

3.1.2 Implementation structure

The implementing agency works in six districts in Bihar on several development issues such as health, nutrition, water and sanitation, education, child protection, climate change, gender and disability. In each district, the agency has a district office headed by an Area Manager (AM) and staffed by community facilitators who work at the village level. In some areas, the agency works through Village Development Committees (VDCs) at the village level, comprising of local elected and non-elected leaders. The VDCs help the agency target beneficiary households and organize awareness camps.

Community facilitators are responsible for implementing the Improving H.A.B.I.T intervention. Each facilitator has a pre-defined area called a 'cluster' comprising of approximately 2-3 Panchayats. The facilitators are responsible for conducting the Improving H.A.B.I.T related household and community meetings in these jurisdictions. Each facilitator has been given a list of eligible households in their clusters, as well as the chalkboard, posters and other intervention material. While broad timelines for each of the four household visits and two community meetings are given by the implementing agency, facilitators have considerable flexibility to schedule individual meetings at their convenience within the prescribed window. Facilitators are assisted by local volunteers, who are part of the community and operate at the village level.

Through their work on other projects, the facilitators are known and trusted amongst residents and ward representatives. They visit intervention households at least four times a week in the context of other projects. For the Improving H.A.B.I.T intervention, community facilitators report to a manager at the agency's Ranchi office.

[4] This diagram is indicative of the timeline, and some of the meetings may have spilled over to the next month. For eg: some community meetings happened in October.
Images for this graphic have been downloaded from Noun project under a Creative Commons License. The images used are as follows: Household by Gregor Cresnar for the Noun Project and Community by Wawan Hermawan from the Noun Project

3.1.3 Implementation delivery

Implementation delivery includes an assessment of the coverage, dose and adherence and content of the intervention. Some of the factors that affect the coverage, dose and adherence and content of the intervention are varying levels of adherence to the 'intervention script', non-uniform training of facilitators/volunteers and differences in soft skills of the facilitators and volunteers. These findings are relevant to how treatment is defined and measured at the end-line.

Coverage[5]

According to the intervention design, eligible households are defined as those households within the treatment wards who have a functional twin-pit latrine. Despite a robust listing methodology, data from the implementing agency's monitoring sheets suggest that some[6] of the households in our sample did not have twin pit latrines but possessed septic tanks or single pit latrines. Additionally, as per the monitoring sheets, there are two households that do not have toilets in Nawada. Some of the content of the intervention such as the information on filling rates (the card game) as well as information on pit-emptying are not relevant for such households which may have septic tanks or single pits or for households that do not have toilets. These activities can even have negative externalities.

Given the short timeframe of the intervention it was not possible to undertake spot checks to independently verify potential ineligibility as identified in the monitoring sheets. As a result we couldn't verify and drop ineligible households. Thus, the intervention also took place in households that may not be eligible, affecting coverage. According to one community facilitator[7], "We get some households with septic tanks and single pits as well. The intervention is not relevant for them, but we still must do it".

While we visited three ineligible households in Khagaria district, the extent of this inconsistency is other districts is unclear; the end line survey will have to reconfirm that the sample in treatment areas has a representative number of eligible households. During the endline survey, we will conduct spot checks in a sub-sample of households to verify eligibility. Additionally, we will cross check the data with data collected by the measurement team.

Dose[8]

The prescribed number of meetings include two community meetings and four household meetings. At the time of writing this report, the implementing agency had conducted three household visits and two community meetings. Monitoring sheets received at the time of the process assessment indicate that all the 530 and 345 households in Khagaria and Nawada have been visited twice for household visits. We have received monitoring sheets for the first community meeting in all districts. At the time of writing the report, last two household visits and the second community meetings had not been conducted, as a result of which we did not have access to those monitoring sheets.

It is important to note that the guidelines do not prescribe any time duration for each household visit or community meeting, leaving the duration up to the facilitator's discretion and style. We observed interventions ranging from 10-30 minutes. The differences in intervention duration or dose could influence its impact. Additionally, different levels of volunteer engagement also influence the intervention dose. Volunteers are immensely helpful at mobilizing the community and organizing community meetings. However, without an articulated strategy for volunteer engagement, such an

[5] Coverage refers to whether or not the intended audience comes into contact with the intervention
[6] As per the monitoring sheets, the problem of households having septic tanks or single pits is particularly pronounced in our sample districts, Khagaria and Nawada.
[7] Interview with CF3
[8] Dose refers to the number of household visits and community meetings undertaken during the intervention.

arrangement substantially increases households' exposure to the intervention in areas with active volunteers.

Adherence and content

Adherence to the intervention script is one way to assess whether the implementation was delivered as designed (Moore et al nd). We found, that in some cases, the facilitators do not adhere to the script blurring the distinction between household and community intervention activities and affecting intervention content.

One example of non-adherence is that as per the guidelines, the demonstration of decomposed faecal matter is supposed to happen at community meetings, but some facilitators conduct this demonstration at household meetings as well. Similarly, a facilitator spoke about marking the chalkboard at a community meeting, even in a context where all participants did not have/were not necessarily aware of the chalkboard.

One reason for non-adherence to the script is that there is only one set of guidelines for household visits and community meetings respectively. The guidelines do not account for differences in content between each of the three household visits and two community meetings. On the one hand, this grants the facilitator a degree of flexibility in adapting the guidelines to local contexts. On the other hand, the guidelines do not describe the protocol for follow up visits to households, leaving room for facilitator interpretations. For instance, as part of the 'pledge' activity, the community facilitator reads a pledge that all family members repeat with one arm outstretched, promising to use their toilet. However, despite a decision to administer the pledge only at the first household visit, some facilitators continued to administer this during the third household visit, since separate guidelines have not been provided for subsequent household visits.

Figure 9: Pledge at a community meeting

3.1.4 Key challenges and adaptations

Key challenges in implementation at the household, community and activity level are as follows:

Household level

At the household level, facilitators found it difficult to engage with some sections of the intervention audience. These residents were from 'high' castes and classes and felt the intervention was not relevant to them (see section 3.3.2 for a discussion on caste and class factors).

Community level

At the community level, the main challenge for facilitators was managing a group of both intervention and non-intervention households. Non-intervention households asked questions about why they had not received the chalk box, poster and lockbox. Facilitators had to deviate from the intervention script, and spend considerable time explaining the research project to these households.

Activity level

At the activity level, there are challenges conducting the chalkboard and agarbatti activity and with the demonstration of decomposed faecal matter.

Many households did not want the chalkboard in their house. They report feeling embarrassed of the chalkboard, especially when guests came to visit. One household member said "…when guests come they ask what is this, and oh, you did not use the toilet before? We do not like it…" and community facilitators reported that households objected to pinning the chalkboard up.[9] Participants also object to the use of the *agarbatti* as an air fresher in toilets as it is used in worship; after feedback from the agency, the *agarbatti* was replaced with a mosquito coil.

Not only do participants object to aspects of the intervention, but community facilitators also find it difficult to conduct some activities, perhaps because of beliefs related to purity and pollution. For instance, instead of promoting the decomposed faecal matter as harmless and pathogenic, the facilitator perhaps unknowingly, reinforced the belief that it was unclean. During a community meeting where a box of this was passed around, many women covered their face with their sari pallu. After the demonstration but during the meeting, community facilitators were seen washing their hands. On the one hand, handwashing and hygiene are important components of the implementing agency's other projects work in Bihar, and community facilitators washing their hands after the demonstration is one way in which the agency emphasises the importance of handwashing. On the other, it could also be interpreted by some participants as reinforcing the belief that the matter was indeed dirty.

3.2 Mechanisms of impact

Whether an intervention works or not will depend on the skills of the facilitators as well as how its intended audience responds to it. In this sub-section, we review how participants and facilitators engage with the intervention, especially in terms of intervention take up and feedback.

[9] According to community facilitators, households did not want anyone to hammer a nail into their wall.

3.2.1 Quality of delivery

> "It all depends on the way we explain it. I explain it to them saying your pit has holes, see this bucket has holes as well. Then I say imagine this is your faeces. After going to the toilet, you pour water. Then I show it again and explain that see there is no water here. It does not matter if you put water, since it will be absorbed by the sand. The earth pulls it in"

Different levels of facilitator skill influence the quality of delivery, weakening the ToC assumption (KA1) that facilitators are well trained and deliver the intervention with fidelity.

One reason for different skill levels is turnover rate amongst facilitators and their training. Not all facilitators and volunteers attended the training conducted in April 2018, leading to variations in intervention content. During the implementation period, there have been 4-5 changes in facilitators[10]. We visited a cluster, where the facilitator had recently resigned, and the replacement facilitator was not wholly familiar with the intervention.[11] Local volunteers who occasionally[12] conduct the intervention are also not formally trained. The agency conducted refresher trainings to reinforce the content of the intervention.

Differences in facilitation styles can also be explained by differences in soft skills amongst the facilitators. For instance, some facilitators were very engaging and interacted with the audience during the intervention. One facilitator said of the French drain demo**,** "It all depends on the way we explain it. I explain it to them saying your pit has holes, see this bucket has holes as well. Then I say imagine this is your faeces. After going to the toilet, you pour water. Then I show it again and explain that see there is no water here. It does not matter if you put water, since it will be absorbed by the sand. The earth pulls it in".

However, others were less skilled and treated the intervention more as an opportunity to impart information to participants rather than a discussion. For instance, one facilitator, just asked participants how long they thought it would take for a pit to fill for different family size configurations but did not give them the answer. Only towards the end of the activity did he give them the answers. Participants were not very engaged, as it must have been understandably difficult to comprehend all the correct answers, when given in one go.

Typically, experimental evaluations (Karlan and Zinman 2012, Herberich et al 2011) control for surveyor effects, as surveys itself are likely to change the behaviour of those surveyed (Zwane et al 2010). Few however control for facilitator effects, as facilitators, unlike surveyors, are supposed to promote behaviour change amongst the households; behaviour change is not an unintended consequence of their work. For instance, in an intervention that Banerjee et al (2010) evaluated, activists facilitated group discussions on village level service delivery, to test the hypothesis that awareness of entitlements can foster involvement. However, it did not control for the facilitation skill or quality in delivering the intervention. Neither does Field el al's (2016) evaluation of an intervention, one component of which involved facilitated meetings to encouraging women to deposit savings in their own accounts in Madhya Pradesh. Even Ekjut's recent trial (Rath et al 2010), which was heavily dependent on facilitated group meetings, did not control for facilitator effects.

While our sample size does not allow us to isolate these effects, the variation in facilitation quality is likely to influence findings on impact. Any interpretation of the endline findings must take this variation into account.

[10] Interview with WVI staff
[11] Ibid
[12] Interview with CF4

3.2.2 Intervention take up

Intervention take up amongst participants was mixed. While participants appeared to have adopted intervention practises at the household level, they had low recall of the community intervention.

> "If I just shared this information, I think people would have forgotten it. Since its pictoral, people remember."

The participants appear to understand the purpose of the intervention and have adopted the intervention practises. These findings confirm the validity of the ToC assumptions on intervention adoption (KA5 and KA6). All households we visited had a poster, a filled in chalkboard and a lockbox with money at home. A respondent said that they "…tick the chalkboard every day, we have a ten-year old girl who does it, as she is the champion. After the month is over, I clean it with a rag and then she ticks it again".[13] The lockbox is also used, though many participants save the money more generally for medical and other emergency expenses. The experience of this household is emblematic of the households in the process assessment sample, who not only comprehend the intervention, but put it into practise.

Participants are also familiar with the time it takes for their twin-pits to fill. One facilitator discussed how the card game was well designed. He said, "If I just shared this information, I think people would have forgotten it. Since its pictorial, people remember. We have a different set of cards for the Muslim community – so people see the family and relate to it. Their attachment grows, they understand and then their behaviour changes… I get questions – How can you say it will take 12 years to fill? Then we must explain that this is from research. They want to know, how do I know this? I say it is from research, and then they believe it."

Figure 10: Chalkboard and poster

However, not all participants were able to distinguish the community meeting from other meetings at the village level, with implications for how treatment is measured during the end-line survey. We asked participants generically about whether they had attended the community meeting, and many responded asking us which meeting we were referring to, as there are frequent meetings on health and handwashing and hygiene and other issues. Similarly, when one community meeting started, one

[13] Interview with HH8

woman exclaimed “Oh! This is the toilet meeting”, suggesting that she did not know which meeting she was attending until it had started.

While asking questions about intervention take-up and attendance during the endline, the enumerators should be instructed to probe participants to confirm that they are referring to meetings, specific to this intervention.

3.2.3 Feedback

Intervention participants

Intervention participants did not have any feedback for the intervention, and even found it difficult to understand why we were asking for feedback. They saw themselves as passive recipients of information and said they would be happy to receive more information on any development related topics. Perhaps because of this, they did not actively participate in the meetings, and had few questions on the intervention.

Community facilitators

Community facilitators had positive feedback for the intervention and felt that the French drain demo and the card game were very effective at changing behaviours and are keen to include these activities in their CLTS work after the intervention.

Additionally, they provided feedback on barriers (apart from pit emptying and pit filling) to intention and use (KA 4 and 7). One barrier, although it is an infrastructural not a behavioural one, is faulty toilet infrastructure such as broken doors, and defunct twin-pits. According to some facilitators and participants, rats had eaten the sub structure of the toilet, causing it to fill much faster than it is supposed to. In some households, the pipe is connected to both pits, so both pits fill simultaneously, instead of one filling first. Another barrier is the lack of water, especially in the summer months. In one village we visited, there was only one handpump for forty households, and it often ran dry. In this context, many residents defecate outside as they do not have water to throw down the toilet.

Finally, existing gender norms also serve as a barrier, as men prefer not to use toilets that their daughters in law and other women in the household use, as they believe these toilets are for women. This finding has already been highlighted in our formative research report.

3.3 Contextual factors

In this section, we describe contextual factors that influence the implementation process as well as the outcomes.

3.3.1 The implementing agency’s rural development work

The implementation agency has a long history of undertaking development programmes in the study area. This may influence reception of, and participation in, the programme. Therefore, it would be important to keep in mind implementer effects while interpreting the effects of the behavioural programme.

In one village we visited, the agency had constructed toilets for several Dalit and Mahadalit households. They also distribute cows and small livestock, sponsor children’s education, and construct infrastructure in villages in which they work (which includes treatment villages). The villages we visited have inadequate access to basic services, many residents have previously received services from the agency. The agency’s past work in the village ensures that the intervention is well received and is likely to predispose them in favor of the intervention.

3.3.2 Caste and class issues

Bihar has a complicated history of caste and class related discrimination, and participant and facilitator attitudes towards caste and class influence the coverage of the intervention. These issues lead to several challenges during the implementation of the intervention.

Facilitators found it difficult to engage with some sections of the target audience, those that lived in what they called "problem areas." These are areas in which intervention participants[14] from 'high' castes reside, and according to facilitators, they were not interested in the intervention.

One reason for this is that they are 'educated', knowledgeable about pit filling and emptying, and did not see any value in the intervention. For instance, they did not see the value of saving INR 5 in the lockbox since they had sufficient disposable income to repair or empty their toilets. According to one community facilitator, "we can't even say anything to them. We don't even know what to say with them. They are more educated than us. Those people know more than I do. They have a good living standard. They do not listen to whatever I am saying…They say you tell the others… do not come and tell us".[15]

Another reason for their lack of interest is that they consider the *agarbatti* demonstration, and demonstration of decomposed faecal matter, as offensive, and even impure. In one household we visited, participant said that the intervention was not relevant, and as a result she had asked the facilitator not to visit. Similarly, in one village[16], the implementing agency has stopped conducting community meetings during the time of process assessment fieldwork, affecting coverage, as these residents were not participating in the intervention. However, based on a recent update from the agency, the intervention has resumed in this village.

3.3.3 Migration

> "We are not like you. We do not get up and get ready…We defecate wherever possible and come back very late. How can we use the toilet?"

The intervention is cognisant of the importance of increasing toilet use among male members in households as various studies (Coffey 2015; Spears et al 2017; Patil et al 2014), including our baseline report have found that for all ages, men are more likely to defecate in the open compared to women. However, due to high rates of out-migration in rural areas, men are usually not at home during the household or community visits, affecting intervention attendance as well as their opportunity to use household toilets. This bias may result in incorrect estimates of the impact, even inflating them due to the larger proportion of female participants (Barett and Carter, 2010).

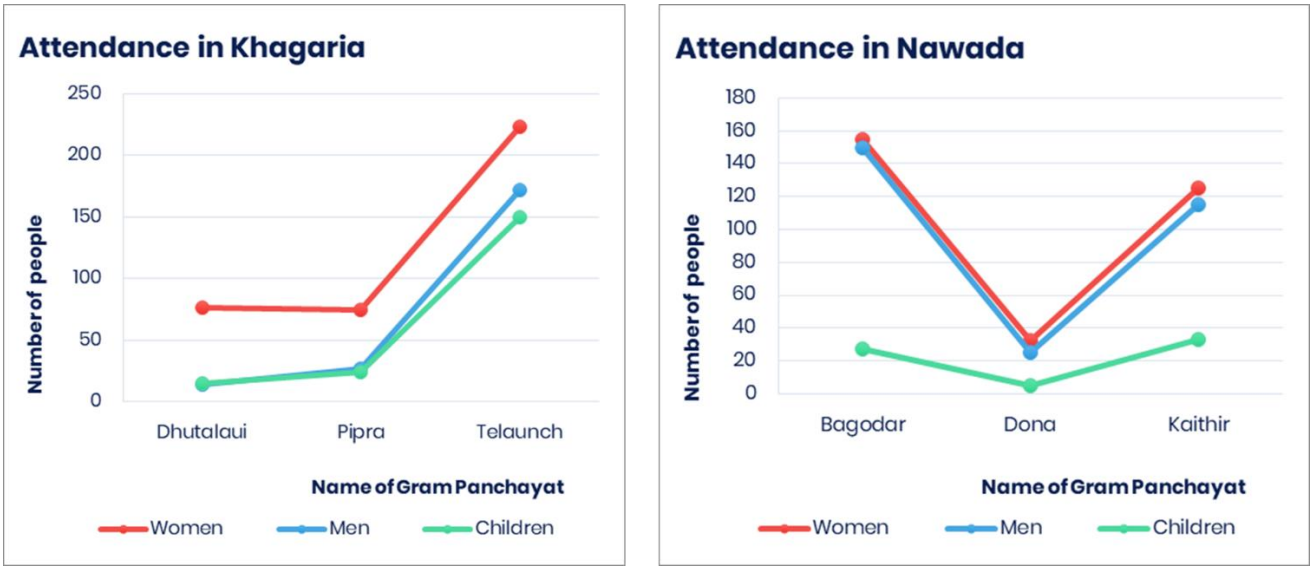
Bihar has consistently high rates of rural male out-migration for jobs related to construction, brick kilns and agriculture, as documented by several studies including Oberoi, S et al (1989), De Haan, A. (2002) and Deshingkar, P. et al (2006). This was borne out during our fieldwork, as we were able to interview only three male household members; others had migrated out of the villages for agricultural

[14] The respondents of the process assessment are also 'intervention participants', and we refer to them as participants while referring to the intervention, and respondents while referring to the process assessment.
[15] Interview with CF4
[16] See extract from field diary: We were supposed to do the meeting in xxx, but did not, since community meetings are on hold there. The implementation agency said that the facilitator had been beaten up, and they were not comfortable doing these meetings in the area.

work to Karnataka and Punjab.[17] In fact, some household meetings have not taken place due to migration, a fact recorded in the monitoring sheets shared by the implementing agency. Others who commute, often cannot use the toilet at home because of their work timings. According to one participant, "we are not like you. We do not get up and get ready. We leave at 3 am in the morning, and travel for a long distance for work. We defecate wherever possible and come back very late. How can we use the toilet?".[18]

Attendance of adult males was low not only at the household visits but also at community meetings. Monitoring sheets show that men made up only 37% of total attendance at community meetings in Khagaria. However, the corresponding statistic in Nawada is higher at 76%, suggesting that there may be inter-district variation in the levels of out-migration. Figure 11 illustrates the attendance breakdown in each district.

Figure 11: Attendance at community meeting 1 in Khagaria and Nawada



To better target adult males, the implementing agency is planning to conduct additional meetings exclusively with them in November 2018 at timings when they are more likely to be available. However, it is unclear whether these additional meetings will have the intended effects, as the original intervention was designed to address norms through the repeated reinforcement of messages over a four-month period.

The endline could include a question to assess participation of adult males in the intervention meetings.[19] Depending on the fraction of men that attended, the findings on impact may be extrapolated to other men.

At present, the ToC assumes attendance at household and community meetings (KA 2 and KA3). The ToC needs to incorporate an additional assumption that women will communicate the main messages of the intervention to their husbands/men of the household.

[17] Interview with HH4 and CF3
[18] HH9
[19] Household monitoring sheets do not include sex-segregated information.

3.3.4 Swachch Bharat Mission- Gramin (SBM-G)

Given the pervasive presence of the SBM-G we find that this has certain implications for the implementation as well as impact of the intervention.

First, it is likely that the intervention will have impact only in those households where the toilet was constructed with an intention to use it, an assumption not explicitly stated in the ToC. We found that some participants constructed toilets with the intention to earn a subsidy from the national government's SBM-G. As per the SBM-G guidelines, households who have constructed twin-pit toilets are eligible to receive INR 12,000. Participants reported taking loans to construct toilets with the belief that they could construct it in less than INR 12,000, thereby earning some money from the subsidy. In fact, so important is the subsidy for some participants, that in one village we visited, participants had attempted to receive the government subsidy even for toilets that had been constructed by a charity at no cost to them.

> They act like police," she said, "and what are their guns and bullets? A fine!"

Second, participants are likely to overreport the use of toilets at the end line due to a saturation of sanitation messaging based on shame and fear. Presently, sanitation messaging under the SBM-G is conducted by JEEViKA. JEEViKA is an initiative of the Bihar Rural Livelihoods Project (BRLP), that works through self-help groups (SHGs) and is actively involved in implementing SBM-G and the state government's Lohia Sanitation Scheme (LSS). One of the ways in which JEEViKA promotes toilet use is by using the government supported methodology of Community Led Total Sanitation (CLTS), predicated on using shame, fear and disgust to trigger behaviour change (Priyadarshini 2018). On the one hand, JEEViKA representatives are working as *Swachchagrahis*, or cleanliness ambassadors, promoting toilet construction and generating awareness on sanitation. On the other hand, their messaging has also encouraged an over-reporting of use. Households are wary of admitting that members practice open defecation, fearing repercussions such as fines, public shaming and humiliation. During interviews, at first, most participants reported using toilets and considerable probing was required to make them admit that there were some members (usually male) who did not use them. According to one participant, there was no "chance/opportunity (*mauka*)" of defecating in the open as JEEViKA representatives have cordoned off a portion of the fields where people go to defecate and fine anyone caught defecating. "They act like police," she said, "and what are their guns and bullets? A fine!" Another said that they publicly "make fun" of participants who have been caught defecating. Senior staff of the implementing agency reported how residents go to great lengths to make their toilet appear used, for instance, they throw water in their toilets, when they see non-profits/JEEViKA representatives approaching them for sanitation related work.

Given this context, it is likely the end-line survey will overreport toilet use. The impact of sanitation messaging form JEEViKA and SBM-G must be accounted for while interpreting the evaluation results. However, since JEEViKA works across treatment and control areas, we can expect overreporting to take place across all areas, mitigating the impact on the study results. Additionally, the quantitative findings must be read along with qualitative research to understand the extent of over-reporting.

4 Discussion and Conclusion

In this section, the broad conclusions from this process assessment are presented together with some implications of the findings for the endline impact assessment.

On Implementation

There appears to be broad implementation fidelity, however, differences in implementation arise from the approach of the facilitator. While a common training was undertaken at the start, there are likely to be individual styles and differences which it is not possible to completely control. Further, given the turnover in facilitators, new staff had not had the benefit of the common training.

The Improving H.A.B.I.T. intervention has detailed design documents and intervention scripts. These do not however change between the first and subsequent household visit and may be adapted and implemented differently by each facilitator. This gives the facilitator independence to adapt his/her script depending on the context, but also brings greater variation in the implementation of the intervention. Greater involvement of field level implementers in authoring the design documents could help strike the balance between flexibility and standardisation.

On the validity of the ToC

Our findings from the assessment suggest a mixed picture with regard to the validity of the ToC's key assumptions. Some assumptions hold true, while findings from the process assessment suggest caveats for the others. The findings also suggest two additional assumptions that need to be added to the ToC.

Our findings lend support to assumptions KA5 and KA6, which are about the commitment and use of the intervention activities to develop a habit of toilet use. We found high levels of intervention take up amongst households; all the households we visited had and were using lockboxes, calendars and chalkboards. In fact, some households reported that the intervention had encouraged household members to use the toilet.

While KA5 and KA6 are valid assumptions in the ToC, process assessment findings suggest caveats for others. The assumption about facilitator skill and fidelity (KA1) is valid for the facilitators formally trained in early 2018. However, we found that facilitator turnover as well as the use of volunteers may affect fidelity and skill-levels. The endline results on impact will have to be interpreted keeping in mind varying levels of facilitator skill and training.

Similarly, assumptions about attendance (KA2 and KA3) need to be caveated by the finding that many men were absent and had migrated for livelihood opportunities. Should the intervention be successful, this would indicate that women had communicated the content of the intervention to men. The ToC thus needs to incorporate an additional assumption that women will communicate the main messages of the intervention to the men of the household.

We found that there are additional barriers to intention and use (KA4 and KA7). One barrier is related to gender norms, where men do not use the same toilet as women, a finding highlighted in the formative research report. Other barriers such as dilapidated toilets and the lack of water are infrastructural ones and cannot be addressed by a behavioral intervention.

Finally, the ToC assumes that the toilet was constructed with an intention to use it, but we found that many households had constructed toilets with the motivation to earn money under the SBM-G. Further research on the reasons for toilet construction at the endline can determine whether the scope of this problem is large enough to justify a new assumption in the ToC.

Implications for the Endline Evaluation

The process assessment has provided a snapshot of intervention delivery, including a deep understanding of the context in which this behavioural intervention is operating. This has important implications for the design, and for interpreting the impact of the endline evaluation. Some of these implications are discussed below:

- There appears to be a mismatch in targeting of some households, i.e. households who have single pit rather than twin pit latrines. It would be important to cross-verify this at the time of the endline with spot checks and observations.

- This study highlights the impact of the implementing agency in delivering the intervention. The long history of the implementing agency in study areas is likely to influence the intervention impact. This must be highlighted in the endline analysis. Additionally, varying facilitator skill and engagement have been noted in the process assessment. While it would be difficult to control for facilitator skill, disaggregating any unusual variations based on facilitator would help capture extreme variation. Any intervention with a human delivery component cannot be completely standardised, and implementer skill and motivation are important variables. In the event that the quantitative endline study finds any unusual variation amongst study areas, it might be useful to disaggregate data by the facilitators.

- The pervasive presence of the SBM-G, the messaging from JEEViKA and the atmosphere of fear and shame associated with open defecation are likely to result in higher positive responses to questions on toilet use. This could lead to an overestimation of toilet use rates. We can however expect over-reporting to take place across all areas (control and treatment), mitigating the impact on the study results. The quantitative findings must be read along with qualitative research to understand the extent of over-reporting.

Areas of Further Enquiry for the Qualitative Study

The findings of the process assessment point to areas of further enquiry during the endline qualitative study. This study could consider sampling from different districts to capture any inter-district variation in implementation. The assessment could consider interviewing volunteers and JEEViKA representatives to understand their role in awareness generation. Undertaking interviews with adult males would help capture their understanding of the intervention and its impact on them (if any).

In addition, the following themes could be explored in depth: household reasons for toilet construction and participant views about the ODF status of their villages. This will help better interpret the impact of this intervention.

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