International Initiative for Impact Evaluation

Improving HABIT:
Households' Attitudes and Behaviours to Increase Toilet Use

Formative Study Report

New Delhi
202–203, Rectangle One
D-4, Saket District Centre
New Delhi – 110017, India
3ie@3ieimpact.org
Tel: +91 11 4989 4444

London
c/o LIDC, 36 Gordon Square,
London WC1H 0PD
United Kingdom
3ieuk@3ieimpact.org
Tel: +44 207 958 8351/8350

Washington, DC
1625 Massachusetts Ave., NW,
Suite 450, Washington, DC 20036
United States of America
3ieus@3ieimpact.org
Tel: +1 202 629 3939

1. Executive Summary

Formative research and design work was structured around ideas42's "define, diagnose, and design" methodology. During the problem definition phase, we reviewed literature and carried out structured conversations with WVI to narrow the problem of focus to the following:

- increasing the intention to use the latrine among male household members;
- increasing habit formation among male household members.

During the diagnosis phase, ideas42 conducted behavioural mapping to generate hypotheses around barriers driving both problems. OPM carried out in-depth interviews, focus groups, and latrine observations in five villages in Nalanda. This process surfaced the following behavioural barriers to **intention formation**: ambiguity around pit emptying options, a strong aversion to self-emptying, and overestimation of pit filling rates. In combination, these created a strong belief that the latrine is a limited resource. The key barriers to **habit formation** were deeply embedded cultural rituals surrounding open defecation and lack of immediate rewards for latrine use. ideas42 carried out two structured design sessions to design intervention concepts that would target the behavioural barriers identified. OPM, ideas42, and WVI then worked collaboratively to revise and prioritize design concepts based on several team-wide discussions.

After OPM conducted user testing to assess feasibility and effectiveness, we prioritized solutions to overcome barriers to intention formation, given that barriers to intention formation seem to be most relevant for households with latrines constructed through SBM. We continue to refine and explore two designs: a hypothetical technology (i.e. plastic pit liner) that would facilitate easier pit emptying and a card game to correct mental models around how quickly latrine pits fill. Initial user testing highlights opportunities and challenges in taking these to scale.

2. Context

All fieldwork for the formative study was conducted in Nalanda district of Bihar. The district has a population of over 2.8 million persons with nearly 89% of the population residing in rural areas. Qualitative fieldwork was conducted in 5 villages: Sikandra, Rusaspur, Adampur, Tarokhar, Garedia Bigha. We purposefully selected these villages based on toilet coverage, caste distribution, and exposure to the CLTS programme using maximum variation sampling.

Most government-constructed toilets in the villages were double-pit latrines. Those constructed by a contractor adhered to the standard pit-design under the SBM. Most persons interviewed were unable to identify the SBM programme or its key objectives. Households had an inflated sense of the costs incurred to build a toilet and remained sceptical of receiving a subsidy from the government. In most villages, a contractor built toilets for the households and applied for the subsidy. These toilets did not have individual features that the household may have wanted to include in the toilet design.

Most persons interviewed express interest in owning and using a toilet, but were dissatisfied with the current design of the toilet. Toilets were used mostly by younger women in the household, with others referring to it as an "Emergency Toilet" to be used at night time and in cases of ill health only. We found that the main reasons for toilet non-use were socialisation during open defecation, dissatisfaction with the toilet design, and fear of pit filling.

The key objectives of phase 1 fieldwork were to:

1. verify findings from previous research on trends related to latrine use amongst households owning SBM-constructed toilets;
2. gain an understanding of barriers related to pit filling and emptying;
3. gain an understanding of current decisions and actions related to the processes of latrine use and open defecation.

3. Methodology for identifying the intervention

Intervention identification was carried out through behavioural diagnosis and design.

a) Diagnosis:

ideas42 team members carried out behavioural mapping, which consisted of charting the decisions and actions points around toilet use and hypothesizing behavioural/psychological barriers to use. This mapping informed ideas42's creation of qualitative research tools that were used by OPM in user testing.

Qualitative research activities, including in-depth interviews (IDIs), focus group discussions (FGDs), and structured latrine observations, were conducted by OPM and are described in Table 1. The objective of this research was to understand behavioural bottlenecks to latrine use.

Table 1: Description of round 1 qualitative research activities

	Number per village	Total number completed
IDIs	4; 2 male and 2 female	20
FGD	2; 1 male and 1 female (~ 6 persons in each)	10
Latrine Observation	4	20

In preparation for individual interviews, OPM mapped each village to understand the communities that lived in various sections of the village. In an effort to interview people across age and caste, they used maximum diversity sampling. OPM used snowball sampling to identify respondents for the FGDs. OPM also had discussions with the WVI block and village-level staff to better understand programming and SBM implementation in the area.

FGDs and IDIs were primarily conducted by contracted researchers with prior qualitative experience. Two consultants from OPM conducted training and were present for monitoring. Researchers were trained for two days on sanitation research, the qualitative research guides, and the key objectives of the fieldwork. All IDIs and FGDs were recorded, transcribed, and translated to English.

b) Design:

ideas42 carried out two creative brainstorming sessions to identify solutions to overcome barriers to intention formation and habit formation. Where possible, ideas42 reviewed studies on the effectiveness of similar interventions (those with analogous behavioural mechanisms) from other sectors to prioritize designs based on proven effectiveness. Interventions proposed included household-based and community-based activities to shift mental models of pit filling rates, community-level competitions and rewards for latrine use, rituals and scheduling around latrine use, visual reminders of disgust around open defecation sites, and modifications to make latrine use more rewarding.

Members of ideas42, OPM, and WVI joined for a design workshop to discuss and iterate on the solutions. Over several days, each of these designs were discussed, prioritized, and refined to identify feasible and impactful interventions. Each solution was tested for alignment with existing implementation models, compatibility with a rural Indian context, and adherence to behavioural science principles.

Design ideas that were prioritized for user testing included:

- A plastic pit-liner for self-emptying of pits
- A pit filling counting mechanism to address misperception of pit filling rates
- A card game to correct mental models of pit filling rates
- A game in the toilet for entertainment

4. Intervention description and Theory of Change

Barriers to intention formation centered around perceptions that latrines are a limited resource that should be conserved by restricting use to certain times of day, circumstances, and subsets of the household. A perceived hierarchy of needs for privacy, safety, etc. within the household led to particular limits on use. In IDIs and FGDs, individuals referred to government-constructed toilets as “emergency toilets” only to be used during emergencies rather than for daily use. They also stated that they constructed the latrine for young women or the elderly, limiting use by males. We also found that aversion to emptying pits oneself, hassles to emptying, and ambiguity about external means of pit emptying combined with misperceptions of pit filling rates generated a belief that latrines are a limited resource. Currently, at the time of construction, options for pit emptying are not discussed and households are instructed to empty their own pits. However, as documented by r.i.c.e. research and our qualitative fieldwork, there are strong cultural and religious barriers to self-emptying.

Design 1: A plastic pit liner to facilitate self-emptying. The pit liner would be porous to allow for decomposition and could be removed, covered, and transported to the site of disposal. With this solution, physically handling feces could be avoided. If designed properly, this design has the potential to significantly reduces hassles, cost, and ambiguity related to pit emptying and is expected to be more culturally-acceptable than other methods of self-emptying.

Theory of change:

- Inputs: Pit liner. Note that this technology does not currently exist; would have to be engineered, manufactured and distributed in study communities.
- Assumptions: Appropriate technology can be developed and is compatible with the environment in the design areas; the idea can be implemented by WVI
- Activities: WVI or Bihar Rural Livelihoods Association installs pit liner at time of construction; WVI explains pit liner and how it can be used for self-emptying

- Outputs: Households have pit liners in latrines; households understand how to use pit liners for self-emptying
- Intermediate outcomes: Households believe they can empty their own pits; households view latrine as renewable resource; latrine use is not restricted
- Impact: All household members use latrine regularly; households use pit liner for self-emptying; other households see pit liner emptying process and also use liner to empty pits

Design 2: A card game to correct mental models of pit filling rates. The front of each card would portray a family size and a pit size and latrine type (single, double, etc.). The back of each card would have an estimate of how long it would take for the pit to fill. Individuals would predict how long it would take for the pit to fill and flip the card over to see the actual estimated time. This intervention draws on research that suggests that we learn best on our own and through repetition. The gamified aspect of the intervention increases the likelihood of participation.

Theory of change:

- Inputs: Card game
- Activities: WVI team member plays game with households
- Assumptions: The idea can be implemented by WVI; this game is able to impact intent formation at a rate that is detectable by an impact evaluation in the current time frame
- Outputs: Household members have played game
- Intermediate outcomes: Households have correct understanding of filling rates; pit perceived as less scarce than previously thought
- Impact: All households members use latrine regularly; community-level shift in perceptions of pit filling rates

The pit liner intervention could immediately lead to behaviour change amongst households receiving the liner if they immediately perceive self-emptying as a viable option. The pit filling exercise could also quickly lead to a change in behaviour but would need to be accompanied by an intervention to overcome barriers to self-emptying.

5. Pilot of the intervention

The following designs were tested through user testing fieldwork:

1. A plastic pit-liner for self-emptying of pits [intention]
2. A wire and ring pit filling counter to address misperception of pit filling rates [intention]
3. A card game to correct mental models of pit filling rates [intention]
4. A game in the toilet for entertainment [habit formation]

The key objectives of the user testing were to:

- Test if design assumptions were correct;
- Collect feedback from users on the intervention to refine the designs;
- Observe how people interacted with the designs (when possible) to assess whether the design was achieving its purpose;
- Identify feasibility of design implementation

User testing entailed bringing low-cost, simple prototypes of the interventions to the field and carrying out activities with the prototypes and community members. After these activities and demonstrations, the OPM researchers conducted brief interviews to collect participants' feedback on the activities and prototypes. The plastic pit liner was tested with a plastic bag during the first day, but this prototype caused confusion about the final days and in subsequent user testing was explained without a physical prototype. The wire and ring pit filling counter was tested with a wire

and a small number of metal rings. The card game was tested with quickly designed cards printed on paper. The game in the toilet was tested with a prototype of the loop and hook game. User testing guides are in the appendix for reference.

Rapid user testing was done in a total of five villages over three days. All designs were tested during the first two days. Due to lack of acceptability and appropriateness, designs two and four were de-prioritized and not tested on day three. We had initially planned to return to the villages in Giriak block where we conducted our initial interviews, but after the first 2 days of user testing we learned that a Block Development Officer had recently been promoting latrine use in the block. On the last day we visited two villages in Rajgir block to gather views from villages that had not been exposed to recent latrine promotion.

We used maximum variation sampling. We focused on villages with higher toilet coverage and only visited homes with a toilet. We attempted to visit household with varying caste and wealth status. We visited a total of 25 households, 3-4 in each village. We interviewed an equal number of men and women during the testing. In addition, we interviewed the Block Development Officer to understand the implementation of SBM, and specifically what, if any, promotional activities were being conducted.

A team of three consultants from OPM, two male and one female, carried out the user testing. All of them have experience conducting qualitative and process assessments and were well-versed with the project design. At the end of each day, they held an hour-long call with ideas42 and other members of OPM to discuss the findings from the field, prioritize and modify design ideas. The team from WVI was continuously involved in the design and testing process and their inputs informed feasibility concerns. We only collected qualitative data.

Latrine use was not measured during user testing as the key objectives were to assess compatibility of designs and refine of designs.

6. Findings from the pilot

We discarded both the wire and ring latrine filling meter and the latrine game during user testing. Given feedback during user testing, both interventions seem unlikely to be used. Their potential to be effective would rely heavily on whether or not they are used. Further, the wire and ring filling meter could have unintended effects as it could make a filling pit more salient and thus discourage use.

We received mixed feedback on the latrine pit liner intervention. Many community members insisted that they would not empty their own latrines even with this pit liner. There were a few community members who were more open to the idea of using the liner to empty their own pits. Further user-testing with a more representative prototype would be needed to validate or disprove our assumption that the pit liner would facilitate emptying one's own pit.

Additional research needs to be leveraged to determine the logistical and financial feasibility of the latrine pit liner. We plan to discuss engineering of this design with product developers working both in the US and in India in the coming weeks. The card game intervention would be very low cost to create (less than 1 USD per household) and could be implemented by World Vision team members with minimal training or supplementary materials.

In the case of this design solution, we would define success as increasing consistent latrine use and reducing the perception of latrine pits as a limited resource. We retain concerns on the feasibility of this solution achieving its objectives. Success would depend on 1) proper engineering, manufacturing, distribution of the pit liners at the time of latrine construction and 2) the pit liners being perceived as a socially acceptable way to empty ones' pit. Further investigation is needed to determine the feasibility of implementation and potential for effectiveness of this intervention.

We received generally positive feedback on the card game intervention. Community members were surprised by the numbers on the back of the cards, appeared to be learning the trends and patters in latrine filling times, and genuinely seemed to enjoy the game.
We would define success of the card game as 1) effectively changing perceptions about pit filling rates and 2) increasing latrine use by making the latrine pit seem like a less scarce limited resource. Success of the card game would depend on proper implementation, and would likely need to be paired with another intervention to either make pit emptying more socially acceptable or to make the time to pit filling (~10 years) seem as far away as it is. We would like to do additional user testing to explore interventions that could be effectively paired with the card game intervention to reduce barriers to self-emptying.

Through user testing, we did not assess change in behaviour. There was feedback that the pit liner could be used to simplify emptying one's own pit, but it was unclear if the intervention would be used for self-emptying given that there was no physical prototype for user-testing. The card game did facilitate learning of estimated time until pits fill, specifically that pits fill more slowly than previously thought.

Through qualitative research, we noticed bottlenecks to intention formation and habit formation, as anticipated. However, amongst this population, the majority of households faced barriers to intention formation. The only households that did have an intention to use the latrine regularly were those with privately built latrines. These latrines had either much larger pits or septic tanks and therefore were not viewed as a limited resource.

ideas42, OPM and WVI did not assess outputs and outcomes through this pilot.

7. **Implications of formative study. What are the implications for intervention design and implementation?**

One notable implication of this formative research is that interventions to increase latrine use in rural Bihar must address the structural and cultural barriers to pit emptying. Given the SBM policy to 1) avoid mentioning external means of pit emptying and 2) insist that households empty their own pits, in combination with deeply ingrained cultural barriers to self-emptying, latrines are correctly perceived as a limited resource. Any effective intervention to increase latrine use in this setting must overcome barriers to emptying. Among households with government-constructed latrines, habit change interventions are not likely to be effective.

ideas42, OPM and WVI have designed an intervention concept to address barriers to pit emptying, but the feasibility and acceptability of this intervention needs to be assessed through further fieldwork with more households. User testing was conducted with a physical prototype (mesh bags), but this prototype did not have many of the key features of the proposed plastic pit liner. ideas42, OPM and WVI propose creating more representative prototypes for further user testing. OPM and ideas42 will also need to do research on engineering, manufacturing and delivery of the pit liners. The card game would be easy to develop and implement at the community level.

The project team has an improved understanding of the implementation strengths and difficulties inherent in this work, and thus propose testing interventions that do not require extensive explanation or adherence to lengthy protocols. We intend to refine the ideas, based on technical and field feedback, and assess their potential for another round of testing.

Appendices

Annexe 1

References for intervention development:

Katherine Milkman, John Beshears, James Choi, David Laibson, Brigitte Madrian. (2011). "Using implementation intentions prompts to enhance influenza vaccination rates." http://www.pnas.org/content/108/26/10415.full

Saugato Datta. (2015). "Risking it all for love? Resetting beliefs about HIV risk amongst low-income South African Teens." *Journal of Economic Behavior & Organization.* http://www.ideas42.org/wp-content/uploads/2015/10/JEBO-ideas42-Paper.pdf

Literature review:

Princeton University Graduate Student Report. (2016) "Ending Open Defecation in India."

David Neal, Jelena Vujcic, Rachel Burns, Wendy Wood, Jacqueline Devine. (2016). "Nudging and Habit Change for Open Defecation." http://documents.worldbank.org/curated/en/905011467990970572/pdf/104328-WP-PUBLIC-OD-Habit-and-Nudging-Catalyst-Behavioral-Sciences-022916.pdf

Florencia Devoto, Esther Duflo, Pascaline Dupas, William Pariente, Vincent Pons. (2011). "Happiness on Tap: Piped Water Adoption in Urban Morocco." https://web.stanford.edu/~pdupas/MoroccoWaterConnections.pdf

Diane Coffey, Aashish Gupta, Payal Hathi, Nidhi Khurana, Dean Spears, Nikhil Srivastav, and Sangita Vyas (2014). "Revealed preference for open defecation: Evidence from a new survey in rural north India."

Diane Coffey, Aashish Gupta, Payal Hathi, Dean Spears, Nikhil Srivastav, and Sangita Vyas (2016). "Understanding open defecation in rural India: Untouchability, pollution, and latrine pits."

Aashish Gupta, Diane Coffey, and Dean Spears. "Purity, pollution, and untouchability: challenges affecting the adoption, use, and sustainability of sanitation programmes in rural India." *Sustainable Sanitation for All: Chapter 17.* http://dx.doi.org/10.3362/9781780449272.017

Diane Coffey, Aashish Gupta, Payal Hathi, Dean Spears, Nikhil Srivastav, and Sangita Vyas. (2015). "Culture and the health transition: Understanding sanitation behaviour in rural north India."

Parimita Routray, Wolf-Peter Schmidt, Sophie Boisson, Thomas Clasen and Marion W. Jenkins (2015) "Socio-cultural and behavioural factors constraining latrine adoption in rural coastal Odisha: an exploratory qualitative study." *BMC Public Health.* DOI 10.1186/s12889-015-2206-3

Annexe 2

Qualitative Field Guides for Formative Field Work

Annexe 2A: Focus Group Discussion Guide

Date:
Village/District/Region:
FGD Facilitator:
# of participants:
Gender of participants:
Location of focus group:
Other observations about the focus group:

Focus Group Discussion Guide

Introductions

Tell me a little about your community?

- Who lives here? (caste, religion, age, etc.)
- What are the primary livelihoods?

Tell me your experience with SBM? How were the latrines in this village constructed?

Tell me about your experience working with WVI? What activities have they done in this community?

- What did you learn during the WVI activities?
- When did this happen?
- What did you think about latrine usage at the time?

Motivations for Latrine Use & OD

Why would someone want to use a latrine?

- What are the good things about using a latrine?
- What are the bad things about using a latrine?

Why would someone want to practice OD?

- What are the good things about OD?
- What are the bad things about OD?

Latrine Users

Who in your community uses a latrine? (Describe these people.)

- What are some reasons that person/those people use the latrine?
- Do some people need to use latrines? Why?
- Do any men or heads of household use latrines? Why/why not?

In your community, who uses the latrine the most?

- Men or women?
- Young people or old people?
- Which types of families use latrines the most?
- Which religious groups?
- Which castes?
- Which income segments (i.e. wealthy, poor)?

Do men and women in a family use the same latrine? Husband and wife? Father-in-law and daughter-in-law? Why/why not?

Latrine Use

What materials do people NEED on-hand for latrine use? (Ex: shoes, extra bucket, water..)

- What does the process for getting these things entail?
- How much do these materials cost?
- Generally, whose responsibility is it to make sure those things are ready and in the latrine?

What else would people WANT for latrine use?

- What does the process for getting these things entail?
- How much would these things cost?

Where do people wash themselves after using latrine?

- Probes: In latrine? In nearest water source? In covered location outside of home?
- How far is this from the home?
- How do they wash themselves?
- What materials do they need to do this?

How much time does it take to use latrine? To OD?

How is latrine use affected by who else is home/awake?

- Would you use a latrine if other people could see you doing so or hear you?
- Which family members are acceptable to be around/awake and which would you prefer not to be around?
- Are there any situations in which you would definitely not use the latrine if _____ person was at home and awake? Or if _____ was happening in the home?

Pit Emptying

How long/how many uses would it take to fill up the pit of your latrine?

- How do you know when the pit is full?
- What happens when the pit is full?
- What are your options for what to do when the pit is full?

Who in your community would you contact to empty a full pit? Who in your community knows how to empty a pit or what to do when it's full?

- How is pit emptying done?
- How much does it cost? How would you go about finding out the cost if you don't know the cost?

Have you seen or heard of anyone having their pit emptied? How did they do it? What did they say about it?

Latrine Design

What do you think about the construction of the latrines in this village?

- What do you like about them?
- What don't you like about them?
- If you were given money to make changes to the latrine, what would you change? What would you add? What would your spouse add?

Do people typically aspire to make updates to their latrines after they are constructed? Why?

- What do these updates entail?

Faecal Contamination Knowledge

Why do people get diarrhea?

Conclusion

Do you have any other thoughts you'd like to share about latrines or OD?

Annexe 2B: Individual Interview Guide

Date:
Village/District/Region:
Interviewer:

Interview Guide
Interviewee Info:
Gender:
Age:
Marital status:
Religion:
Highest level of education attained:

Introductions
Tell me about your family? Who are the people in your household?

Bathroom Habits
When you have to go to the bathroom, what are your different options for where to go? Do you think about your different options for where to go each time you need to use the bathroom?

Where do you most commonly go to the bathroom?
- Why is this your most commonly used bathroom?

How often do you use the bathroom in a day?
- When you wake up, where do you go?
- When you are at home during the day, where do you go?
- Before you go to sleep where do you go?
- When you are outside your home, what do you do?

Latrine Construction & Intentions to Use:
Do you have a latrine in your household?
- When was it built?
- Who built it?
- How long did it take to build?

What do you NEED to have when building a latrine?

What else would you WANT your latrine to have?
- Do you plan on making any modifications to the SBM-designed latrines?
- What would these modifications entail? (cost, materials, labor, etc.)

If you could have extra things to make your latrine nicer, what would you choose?

Who is the latrine for in your household?
- What are some reasons that person/those people would need to use the latrine?
- What about other family members?
- Do guests/visitors ever use your latrine?

Latrine Use
How frequently do you use the latrine in your home?

If currently using:
When do you use the latrine (morning, afternoon, night, late at night)?
- (If only use at certain times) Why do you use the latrine during these times and not others?

For which types of needs (short call or long call) do you use the latrine?
- How does this change when someone has diarrhea?
- Do people get diarrhea or think of urge to defecate as diarrhea?

Walk me through the steps you take when you want to use the latrine? What is your process?
- What do you need for latrine use? (water, bucket, etc.) What does process for getting these things entail? Where do you get these things? What do you do if you don't have these things on hand?
- How long does it usually take to use the latrine?

What do you NEED to use latrine? (water, bucket, shoes, etc.)

What else is nice to have when using the latrine?

Does it matter who else is home/awake?

Have you ever planned to use the latrine but forgotten to use it?

How long do you plan on using your latrine?
- Why might you stop using it?

What are some of the things you like about your latrine?

What are some of the things you don't like about your latrine?

If not currently using:
Did you plan on using the latrine when you had it built?
- When were you going to start using it?
- What happened when it was done being built? How did you know it was done?

Why don't you use the latrine?
- What are some of the things you like about your latrine?
- What are some of the things you don't like about your latrine?

Does anyone in your family use the latrine?
- Why do they use it?

Pit Emptying
What happens when the pit is full?
- How will you know it is full?
- How long will it take for it to fill up?

What are the options when the pit is full?
- Have you considered what you will do? Who have you discussed this with?
- Who decides what you will do with it when it's full?

How could you empty the pit?
- Who would do this?
- How much would that cost?
- How long would it take?

Do you know anyone whose pit has filled up?
- What did they do?

Open Defecation (OD)
Do you ever go to the bathroom in the field or outside the latrine?

Describe your process for OD?
- Do you go with other people? Who? How do you decide who to go with? Do you always go with the same people?
- How do you decide which time to go? Do you go at the same time every day?
- Where do you go? Why there? How far away is that/how long does it take to get there?
- How long does it take to OD?
- What do you bring with you? What is this used for?

What are some of the things you like about OD?

What are some of the things you don't like about OD?

Miscellaneous
Who in your community uses their latrine?
- Any men or heads of household?
- What are these families/people who use latrines like?

Who do you think uses the latrine in other communities?

Who uses the latrine the most in other communities?
- Who in a family?
- Which types of families?
- Which religions?
- Which castes?
- Which income segments?

Conclusion
Do you have any other thoughts you'd like to share about latrines or OD?

Annexe 2C: Latrine Observation Guide

Date:
Village/District/Region:
Observer:

Latrine Observation Guide
*take pictures of the inside and outside of the latrine, if your host/the owner will allow it

Type of latrine? (single-pit, double pit, etc.)

Where is the latrine located?
- How close is it to: the compound entrance, places people sleep, places people cook, places people sleep, places livestock are kept?
- Is it close to a path or walkway?
- How busy is the location of the latrine?
o Is anyone else around?
- How private is the location?
- Where is the nearest water source? What type of water source is this?

What is the condition of the latrine from the outside?
- Are there walls around it? What kind? (cement, thatch, etc.) How high are the walls?
- Is there a roof? What kind?
- What type of door is there?
- How is the condition of the latrine?

Can you see into the latrine from the outside?
- If yes, what can you see?

What is the condition of the latrine from the inside?
- How clean is the latrine? Are there insects? Fecal residue?
- How does the latrine smell?
- Does the latrine lock?
- Does the latrine appear to be regularly used?

What is inside the latrine?
- Is there a container for water? What type of container is it?
o Is there water in the container?

Does the latrine appear to be used for something other than defecation/urination?

Other Notes:

Annexe 3

Field Guides for User Testing

Increasing Latrine Usage: User-testing

A. Goals of user testing:

1. Collect feedback on intervention 1
2. Observe use of interventions 2&3 and collect feedback on interventions
3. Identify points about the designs that need to be refined

B. User testing overview:

1. User-testing teams: Each session will require one facilitator (conducting user testing) and one note taker (take notes by hand, in English if possible).

2. User-testing session for designs 1: During each session, we will show a simplified version of the plastic box to male community members and explain it's purpose (to be placed inside the pit during construction such that the pit can be emptied by a household member). We will then spend 15 minutes asking male community members a few questions about the design concept to gather feedback.
    a. This should be completed with ~5 adult male community members
    b. Each session should take ~30 minutes total

3. User-testing session for designs 2&3: During each session, we will observe how male community members interact with the both designs and identify any parts of the designs that they find difficult to use or confusing. At the end of the user testing, we will spend 10-15 minutes asking male community members a few questions about the design concepts to gather additional feedback.
    a. This session should be completed with ~5 adult community members; mix of male and female
    b. This session should take ~45 minutes total

4. User-testing session for design 4: During each session, we will observe how various community members interact with the maze/game design. At the end of the user testing, we will spend 10 minutes asking community members a few questions about the design concepts to gather additional feedback.
    a. This session should be completed with ~5 community members; mix of male and female, young (5-15) and adult (15-45)
    b. This session should take ~20 minutes total

5. Sharing insights with ideas42: At the end of the day, the individuals conducting user-testing will have a call with ideas42 to share insights. If possible, they will share written notes of from sessions. If not possible, they will translate/explain findings over phone. Ideas42 will refine designs (as possible) for day 2.

C. User-testing sample:

- Community members who participate in user-testing should have basic, government-built latrines (not improved latrines or self-funded latrines)
- If possible, should have twin pit latrines
- If possible, should be conducted with varying ages and castes

D. User testing instructions for design 1 (plastic pit liner for safe emptying)

Materials:

- Plastic box (storage container) and jerry can

- Interview/user-testing questions
- Note-taking materials

Instructions:

- Introduction: Thank you for meeting with us. We are working with World Vision to better understand latrine usage in your community. We are currently gathering feedback on a solution to make pit emptying easier and acceptable. Our goal is to learn from you, the expert. We want to make this solution as strong as possible, so we appreciate all feedback and suggestions you have about this idea. We hope you can be open with us.
- Consent process
- Ask basic demographic questions (5 min)
- Demonstration (10 min):

  a. Show and explain physical design and drawing of design (without saying that we want men to use it so that they empty their own pits).
  - Show drawing, explaining features (decomposition features, handle for easy removal, spout for easy disposal)
  - Show plastic box, explaining that the pit liner would be made out of something similar
  - Explain how it could be removed without coming into contact with faeces, then how the decomposed contents (manure) would be disposed of (through spout), and finally, how it could be placed back inside the pit.
- Collect feedback (20 min):

1. Emphasize again that they are the expert and we want their honest opinion on the plastic pit liner tool.
2. What are your initial thoughts on this plastic pit liner?
3. What is good about it?
4. What is not good about it?
5. What questions do you have about how it works?
6. Imagine that this was placed inside your latrine when it was being constructed. Imagine that you were told that once the pit fills, to empty it you remove the box, take it to a place to be emptied, and empty the dry manure. Would you be willing to use this to empty your pit? Remember that this is still just an idea we have. We want your honest feedback so that we can improve the idea or so that we can decide to try a different idea.
7. What are some reservations you would have about emptying it?
8. What are some reservations other community members might have about emptying it?
9. What would you change about it to make it better?

a. If we made those changes, would you use it to empty your pit?

- Thank community member for their time

E. User testing instructions for designs 2&3 (activities to adjust mental models)

Materials:

- Demo wire+ring for latrines
- Demo game
- Interview/user-testing questions

Instructions:

- Introduction: Thank you for meeting with us. We are working with World Vision to better understand latrine usage in communities like yours. We are currently gathering feedback on a solution to improve community member's understanding of how quickly/slowly their latrine pits fill. Our goal is to learn from you, the expert. We want your honest opinion on how to make these activities as beneficial as possible. We hope you can be open with us and that you share feedback.

- Consent process
- Ask basic demographic questions (5 min)
- **Design 2 activity (5 min):**
  a. Show design, explaining features (wire with metal rings)
  b. Explain how design would be used (placed inside latrine; metal ring to be switched over every time latrine is used for long call)
  c. Have community member practice moving a metal ring on the wire.
  d. Explain how metal rings correspond to amount latrine can be used before emptied
- Collect feedback (15 min):

1. Emphasize again that they are the expert and we want their honest opinion on the plastic pit liner tool.
2. What are your initial thoughts on this metal wire and ring and how it can be used to keep track of how full the pit is?
3. Imagine you and other family members have used the latrine occasionally for half a year and you see the wire like this (move over correct number of rings), what do you think about how the on the left (used/filled) side look compared to those on the right side? What would this tell you about how full the pit is?
4. What is good about this tool?
5. What is not good about it?
6. What would you suggest changing about it to make it better?
7. Imagine that this was placed inside your latrine when it was being constructed. Imagine that you were told that every time the latrine is used, a metal ring should be moved over. Would you move these rings? Would other members of your household? Remember that this is still just an idea we have. We want your honest feedback so that we can improve the idea or so that we can decide to try a different idea.
8. What are some reservations you would have about having this in your latrine?
9. What are some reservations other community members might have if they were asked to keep this in their latrine?

- **Design 3 activity (10 min):**
  a. Show card game, explaining how it is played
  b. Ask the community member to play the game
  c. Help the community member if they struggle to play
- Collect feedback (10 min):

1. What was the takeaway message from that game?
2. What was one thing you learned?
3. What was one thing that surprised you?
4. Imagine someone from World Vision comes and plays this game with you and other members of your household. How would other members of your household react? (ASK ABOUT EACH ONE?). Remember that this is still just an idea we have. We want your honest feedback so that we can improve the idea or so that we can decide to try a different idea. Is there anyone who wouldn't play? Is there anyone who would have difficulty playing?
5. What is good about this game?
6. What is not good about it?
7. What would you suggest changing about it to make it better?
8. What are some reservations other community members might have if they were asked to play this game?

- Thank community member for their time

F. User testing instructions for designs 4 (maze game to go in latrine) - MIX OF YOUNG AND ADULT MALES AND FEMALES

Materials:

- Maze game
- Interview/user-testing questions

Instructions:

- Introduction: Thank you for meeting with us. We are working with World Vision to better understand latrine usage in communities like yours. We are currently gathering feedback on different thing we might add to the latrine to make it more pleasant or enjoyable to use. Our goal is to learn from you, the expert. We want your honest opinion on the latrine game we are about to show you. We hope you can be open with us and that you share feedback.
- Consent process
- Ask basic demographic questions (5 min)
- Design 4 activity (5 min):
  a. Go to latrine
  b. Show maze game, explaining how it works. Explain that it will be connected to the latrine for use in the latrine only
  c. Have community member practice playing game in latrine (not while defecating). Let them play for ~5 minutes, at least long enough to begin to get hooked on the game
- Collect feedback (10 min):

1. Emphasize again that they are the expert and we want their honest opinion on the plastic pit liner tool.
2. What are your initial thoughts on this maze game and the idea of having it to play with in the latrine.
3. Imagine you and other family members use the latrine occasionally. Who in your family/household do you suspect will play the game?

a. Probes: Children; teenaged household members; newly married/young adults; adults; older people

4. What is good about this game being in the latrine?
5. What is not good about this game being in the latrine?
6. Imagine that this was placed inside your latrine after it was constructed. Would you play this game when you use the latrine? Remember that this is still just an idea we have. We want your honest feedback so that we can improve the idea or so that we can decide to try a different idea.
7. What are some reservations you would have about having this in your latrine?
8. What are some reservations other community members might have if they were asked to keep this in their latrine?

- Thank community member for their time