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UNDERSTANDING HOW SANITATION SALES AGENT GENDER AFFECTS KEY SANITATION BEHAVIORS IN NEPAL

Final Research Report

AUGUST 2019

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ACRONYMS AND ABBREVIATIONS

CBF	Community Business Facilitator
FGD	Focus Group Discussion
GESI	Gender Equality and Social Inclusion
HBC	Hygiene Behavior Change
HCD	Human-Centered Design
IYC	Infants and Young Children
ODF	Open-Defecation Free
OLS	Ordinary Least Squares
PPI	Poverty Probably Index
RACE	Results = Attitude + Competence + Execution
SSI	Safe San Index
USAID	United States Agency for International Development
VDC	Village Development Committee
WADI IDIQ	Water and Development Indefinite Delivery Indefinite Quantity Contract
WASH	Water, Sanitation, and Hygiene
WASHPaLS	Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability Project

PREFACE

The Water, Sanitation, and Hygiene Partnerships and Learning for Sustainability (WASHPaLS) project is a 5-year task order implemented by Tetra Tech in collaboration with several non-governmental organizations and small-business partners—Aquaya Institute, FHI 360, FSG, and Iris Group. WASHPaLS supports the Agency’s goal of reducing morbidity and mortality in children under five by ensuring USAID programming employs high-impact, evidence-based environmental health and WASH interventions. The project identifies and shares best practices for achieving sustainability, scale, and impact by generating evidence to support the reduction of open defecation and movement of communities up the sanitation ladder, while also focusing on novel approaches for reducing feces exposure to infants and young children (IYC). Specifically, the project:

1. Offers USAID missions and technical bureaus ready access to thought leaders and analytical expertise across a wide range of WASH themes in response to their needs (Component 1);
2. Generates evidence through implementation research to increase the sector’s understanding of and approaches to sustainable WASH services, the effectiveness of behavioral and market-oriented approaches to sanitation, and measures to disrupt pathways of fecal exposure to infants and young children (Component 2);
3. Administers a small grants program on innovations in hygiene behavior change (Component 3); and
4. Engages and partners with national and global stakeholders to promote the use and application of WASHPaLS-generated evidence and global best practices by practitioners and policy makers, tapping into broad coalitions and dynamic partnerships (Component 4).

The WASHPaLS small grants program contributes to the project’s learning agenda by supporting grantees to investigate the effectiveness of existing and innovative approaches to improving the adoption and sustainability of key hygiene behaviors. To date, WASHPaLS has issued grants to US- and non-US-based organizations investigating hygiene behavior change innovations in areas such as safe disposal of child feces, handwashing with soap, and reducing exposure of IYC to poultry excreta.

EXECUTIVE SUMMARY

In 2017, WASHPaLS awarded a grant to International Development Enterprises (iDE), a US organization based in Denver, CO, to carry out research to explore the role that women play in the sanitation value chain in Nepal, and how these roles may impact key behaviors such as latrine purchase and use. The proposed activities align with the overall objective of the WASHPaLS grants program to investigate the effectiveness of innovative approaches for improving and sustaining hygiene behaviors, and more specifically to support learning related to gender equality and social inclusion (GESI) principles of hygiene behavior change (HBC).

iDE has been building markets for sanitation in Nepal since 2011. The sanitation marketing model relies on a network of iDE-trained latrine manufacturers and commission-based sales agents to deliver improved latrines to households at market price. In the four districts where this research took place, iDE has trained 106 sales agents, also known as community business facilitators (CBFs). Of these, 68 (64 percent) are male and 38 (36 percent) are female. Overall, female sales agents have accounted for 40 percent of latrine sales, roughly matching their share of the labor force. The aim of this research was to go beyond this simple sales analysis to understand how women and men participate in and experience this key role, and to explore how their participation impacts key sanitation behaviors like latrine purchase and use.

The research relied on a mixed-methods approach utilizing quantitative and qualitative strategies to better understand the main drivers and barriers for female sales agents in promoting latrine purchase and key sanitation behaviors. Quantitative data collection consisted of a household survey administered to 600 households that purchased a latrine from an iDE-trained sales agent, and included modules on demographics, purchasing decisions, intra-household latrine use (reported and observed), and handwashing practices, among others. The research team used regression analysis to explore relationships in the survey data between sales agent gender and outcomes of interest.

The research team also carried out a series of focus group discussions (FGDs) with sales agents to better understand the attitudes, competencies, and execution strategies they employ to promote latrine purchase and use. The team held six FGDs in total, comprising two gender-specific groups in each of three research districts.

Throughout this report, we use the terms “inclusive households” and “non-inclusive households.” Inclusive households are those in which a woman (or women) funded the latrine purchase, participated in the latrine purchase decision, or both. Non-inclusive households are those in which exclusively men were involved in the funding and purchase decision making process. This is a loose labeling convention, and is primarily used to avoid repetitive language in our analysis and explanations. We also use the terms “marginalized” and “non-marginalized” households. Marginalized households are poorer and more likely to be ethnic minorities than non-marginalized households; the categorization was made based on socioeconomic status and ethnic characteristics collected through the household survey. More information can be found in the main body of this report.

Our principal research question is as follows:

How does a sanitation sales agent’s gender correlate with end-user hygiene and sanitation behaviors as related to purchase, installation, and use?

The principal question can then be divided into two sub-questions, each of which has a series of associated outcomes of interest. These questions and findings related to their outcomes of interest are detailed below.

SUB-QUESTION 1: ARE WOMEN SANITATION SALES AGENTS MORE SUCCESSFUL AT MOTIVATING HOUSEHOLDS TO PURCHASE AND INSTALL A LATRINE? ARE THEY MORE SUCCESSFUL AT SELLING TO CERTAIN TYPES OF HOUSEHOLDS? WHY OR WHY NOT?

OUTCOME 1 – REASON TO PURCHASE LATRINE

To gain a better understanding of the first part of sub-question one (motivation around purchasing a latrine), we look for any significant differences in the reasons clients cited for purchasing a latrine from their male or female sales agent. Here we find that households in general are more likely to say that they purchased from a male sales agent because he seemed trustworthy. However, when we narrow our analysis to look only at inclusive households, we find no statistical difference in cited trustworthiness between households buying from male versus female sales agents. The same holds true when we examine only marginalized households: the gendered difference between cited trustworthiness disappears in these households, whereas non-marginalized households are more likely to cite trustworthiness if they purchased from a male sales agent. This finding suggests that the household type, the individuals within the household, and the relationship between these individuals may all be drivers for observed differences in sales agents' perceived trustworthiness.

In a similar vein, both non-inclusive households and non-marginalized households are more likely to state that they purchased a latrine because the sales agent offered them good value if they purchased from a male sales agent. Again, though, households in marginalized populations are just as likely to cite value as a purchase driver if their sales agent was a woman.

OUTCOME 2 – DECISION TIME LAG

Our second outcome of interest is the time taken to complete the sale from initial presentation to purchase date. This is another key component of sales agent effectiveness. We find that clients of female sales agents took less time (2.1 weeks) to complete the household purchase in comparison to clients of male sales agents (2.7 weeks). Though this is not a substantial difference, we also found that the decision lag time increases when a woman is involved in the decision to purchase from a male sales agent, but decreases when a woman is involved in the decision to purchase from a female sales agent. This result is consistent with our findings in Outcome 1, in that it suggests that female sales agents are more effective at motivating households to purchase an improved latrine quicker when there is a female involved in the decision making.

Our qualitative research found that female sales agents talked openly about using formal and informal social sanctions as a means of convincing customers to purchase a latrine. In all three district FGDs, female sales agents discussed highlighting to households measures that local government entities were enforcing to ensure households installed improved latrines as part of the national push toward open-defecation free (ODF) status. While this was not an explicit component of the iDE problem-led sales methodology (indeed, sales agents were discouraged from using this type of messaging), female sales agents appear to have been more willing to use these messages to promote latrine sales or, at the very least, to acknowledge using them during our FGDs.

Female sales agents also demonstrated a more nuanced ability to identify problems faced by the community and frame an improved latrine as a solution to these problems. For example, iDE's initial market research identified security as a primary concern among both men and women. While both male and female sales agents were trained in the same problem-led sales techniques, female CBFs were much more likely to say that they cited specific cases of local security concerns such as snake bites and harassment. These techniques may have been effective at instilling a sense of urgency for households to purchase a latrine to address safety concerns.

OUTCOME 3 – PERMANENT SHELTER RATES

While the first two outcomes studied proxy measures around purchasing, Outcome 3 (rates of permanent shelters) is our proxy measure to understand if sales agent gender affects rates of installation. Importantly, sales agents sell a substructure-only product, so households must typically procure their own superstructure, which can be constructed of durable (permanent) materials like bricks and cement, or less durable materials like plastic sheeting and wooden posts.

We find that, overall, households who purchased from male sales agents have significantly higher rates of permanent shelters installed than households who purchased from female sales agents (64% versus 43%, respectively). However, we also find that this significant difference disappears in inclusive households and non-marginalized households; that is, shelter installation rates are not statistically different in this subset of households. This finding suggests that female sales agents are just as effective as male sales agents when their clients are more marginalized or when women are involved in the decision making and funding, building upon the similar associations observed in Outcomes 1 and 2.

SUB-QUESTION 2: ARE HOUSEHOLDS WHO PURCHASE A LATRINE FROM A FEMALE SANITATION SALES AGENT MORE LIKELY TO PRACTICE KEY HYGIENE AND SANITATION BEHAVIORS? WHY OR WHY NOT?

OUTCOME 4 – INTRA-HOUSEHOLD LATRINE USE

Our outcome of interest related to intra-household latrine use is the Safe San Index (SSI). For the purposes of our study, iDE adapted the SSI Latrine Use Frequency subscale and standardized the results from 0 (household members never use the latrine to defecate) to 100 (all household members always use the latrine to defecate). See Section 5 of the household survey instrument in [Annex IV](#) for details on usage questions adapted from the SSI.

We find that clients who purchased from a female sales agent had an average SSI score of 92.6, and clients who purchased from a male sales agent had an average score of 86.3. Further, we see this gap widen when we segment our clients into marginalized households. Among marginalized households, the average SSI score was 92.5 for female sales agents and 72.8 for male sales agents. There is no significant difference in SSI scores contingent on sales agent gender for non-marginalized households. This demonstrates that households who bought from female sales agents have higher rates of consistent latrine use, particularly among marginalized households, compared to male sales agents.

The results from our regression analysis show that, once we control for other factors, we see a significant association between higher SSI scores and households who bought from female sales agents compared to those who purchased from a male sales agent when looking at inclusive and marginalized households. This suggests that a female sales agent's interactions with women who are involved in purchasing or funding a latrine may lead to higher overall latrine use rates, though our research methodology does not allow us to draw causal inferences on this relationship.

The SSI also gives us the opportunity to look at each group of household members and their defecation practices. Our analysis of intra-household use shows that households who bought from female sales agents exhibited higher use rates for married women and the critically ill, and higher rates of proper infant feces disposal. It is notable that the groups with significant differences seem to be those who fall into the caregiver and care-receiving categories in a household (although our research methodology does not allow us to draw causal inferences).

Our qualitative research provides some additional insight about why women may be more effective at motivating certain households to use an improved latrine. First, one of the most prominent themes that

emerged in our FGDs was the emphasis that female sales agents placed on follow-up. Throughout the FGDs, female sales agents talked about the persistence required to make a sale, with some indicating they would follow up with a household three or four times in an effort to convince them to purchase a latrine. Women also used these follow-up visits to talk about important sanitation behaviors, and specifically mentioned talking with mothers about the importance of disposing of baby and child feces in a proper manner. We believe this difference in persistence and follow-up is one of the primary drivers for latrine use differences between male and female sales agents.

RECOMMENDATIONS

Based on the study's findings, we offer the following recommendation for organizations seeking to leverage local entrepreneurs to drive positive changes in sanitation coverage and key sanitation behaviors.

- **Match household funding and decision profiles with the appropriate sales agent.** Understanding who will be involved in the funding and decision making process for buying a latrine may allow organizations to make better use of their human resources. In particular, organizations may perform rapid scouting exercises to determine which actors in a household are likely to decide to buy a latrine and which are likely to provide the funding. Using this data, sales managers may be able to divide up sales territory more optimally to get the right sales agents to the right households, maximizing both programmatic impact and the likelihood of success for male and female sales agents.
- **Match household socio-economic profiles with the appropriate sales agent.** This study found that female sales agents appear to be more effective at driving positive sanitation behaviors among marginalized households (defined here as poor, ethnic-minority households), while men were more effective with non-marginalized households. Similar to the recommendation above, market-focused organizations might leverage this learning to optimize their sales strategies in the field. Such an approach should start with an effort to define marginalized households clearly in the local context, along with iterative piloting to validate the findings from this study and determine if and why (and through what mechanisms) the same dynamics hold. It must also be acknowledged that this matching approach may allocate more difficult customer households to female sales agents. As such, implementers should be careful to balance the sales strategy in such a way that accounts for all sales agents' ability to profit, as well as considerations such as sales agent security and obstacles to reaching customer households.
- **Explore opportunities to improve female (and male) sales agents' use of social capital.** One finding is that male sales agents are more likely to "recruit" past customers and other community members to help them promote latrines. This study didn't explore why male sales agents use this tactic more frequently, but it may have to do with the levels of social capital they have accrued compared to female sales agents, or their willingness and ability to leverage that capital. In any case, it is worth exploring further how male and female sales agents view and use their respective social capital reserves in order to encourage more proactive use of this strategy among both groups.
- **Train male (and female) sales agents to communicate behavior change messaging effectively through focused follow-up.** Female sales agents were more likely than males to talk about their follow-up with households, both pre- and post-sale. They were also more likely to identify follow-up as an opportunity to communicate messages around important hygiene-related behaviors like handwashing and disposing of infant feces. Future programs might explore opportunities to train male sales agents to adopt the same posture toward follow-up, potentially

using female sales agents' experience as a learning guide (see last recommendation below for thoughts on broader cross-learning opportunities).

- **Align desired programmatic outcomes with sales agent profile.** One contribution of this research is to look at the correlation between sales agent gender and hygiene behaviors of various sub-groups within the household. Some subgroups appear to exhibit more positive use behaviors when they purchase their latrine from a female sales agent. Noting again this study's inability to draw causal inferences, these results may nonetheless provide guidance for programs that aim to promote consistent use within certain household groups. For example, programs that wish to promote proper disposal of infant feces may want to consider employing a larger cadre of female sales agents or, may want to explore the potential for learning between male and female sales agents (see next recommendation).
- **Encourage learning between male and female sales agents.** This research identifies several ways in which male and female sales agents approach their jobs differently. For example, male sales agents tend to leverage past clients to encourage potential customers to buy, while female sales agents are more proactive in using follow-up visits as an opportunity to sell and transmit key behavior messages. These distinct approaches represent productive opportunities for learning and improving the way that each sales agent does their job. Organizations pursuing this path might want to conduct their own rapid research to both validate (or invalidate) some of the differences observed in this study and uncover other gender-specific tactics for cross-learning.

1.0 BACKGROUND AND PURPOSE

In 2017, WASHPaLS awarded a grant to iDE to carry out research to explore the role that women play in the sanitation value chain in Nepal, and how these roles may impact key behaviors such as latrine purchase and use. The proposed activities align with the overall objective of the WASHPaLS grants program to investigate the effectiveness of innovative approaches to improving and sustaining hygiene behaviors, and more specifically to support learning related to gender equality and social inclusion (GESI) principles of hygiene behavior change (HBC).

2.0 LOCAL CONTEXT AND PROGRAM BACKGROUND

As of 2015, only 46 percent of all households in Nepal had access to a basic latrine; and only 45 percent in rural areas¹. The Government of Nepal set an ambitious goal of reaching 100 percent open-defecation free (ODF) status by the end of 2018. In addition, the national government stressed the importance of hygiene behavior change and gender-sensitive approaches to sanitation. In this context, iDE has worked since 2011 through its Sanitation Marketing program to help the Government of Nepal meet these objectives. The program builds on iDE's global leadership in market-based approaches and Human-Centered Design (HCD). Using the HCD methodology to understand the sanitation needs and motivations of all key stakeholders, iDE Nepal found that existing latrine options were undesirable and difficult to install and purchase. In response, iDE prototyped and finalized a design for the Easy Latrine, an affordable, aspirational, packaged, and ready-to-install improved pour-flush latrine.

The Easy Latrine is sold as a substructure-only product. The pour-flush pan is incorporated into a concrete and tile slab, which are connected to an offset, concrete ring-lined pit (or dual pit). Most customers install a shelter, which may be constructed of durable materials (like brick and cement) or be more temporary (using materials like plastic tapping and poles). The latrine price has varied slightly over time, but currently sells for US \$26.40.

iDE also used insights gained from the HCD process and other research to design business models and training for two key market actors: latrine producers and commission-based sales agents (also known as community business facilitators, or CBFs). iDE trains latrine producers on production and business management, as well as strategies for managing the CBFs. iDE also provides CBFs with rigorous training



Figure 1: The Easy Latrine with simple superstructure.

¹ Joint Monitoring Programme. Data available at washdata.org.

on marketing the Easy Latrine directly to individual households and larger groups, emphasizing the need to focus on the motivations and desires of their customers. CBFs often work in areas that have been triggered through Community-Led Total Sanitation approaches led by local government and other non-governmental organizations. To date, this approach has led to the sale of over 45,000 latrines across eight districts in the terai, or plains, region of Nepal.

In the four districts where this research took place, iDE has trained 106 CBFs. Of these, 68 (64 percent) are male and 38 (36 percent) are female. Overall, female sales agents have accounted for 40 percent of latrine sales, roughly matching their share of the labor force. The aim of this research was to go beyond this simple sales analysis to understand how women and men participate in and experience this key role, and to explore how their participation impacts key sanitation behaviors like latrine purchase and use.

3.0 RESEARCH QUESTIONS

iDE's field research focused on the following principal question and two sub-questions:

Principal question: How does a sanitation sales agent's gender correlate with end-user hygiene and sanitation behaviors as related to purchase, installation, and use?

- **Sub-question 1:** Are women sanitation sales agents more successful at motivating households to purchase and install a latrine? Are they more successful at selling to certain types of households? Why or why not?
- **Sub-question 2:** Are households who purchase a latrine from a female sanitation sales agent more likely to practice key hygiene and sanitation behaviors? Why or why not?

4.0 METHODOLOGY

The research relied on a mixed-methods approach utilizing quantitative and qualitative strategies to gain a better understanding of the main drivers behind the success of women in the sanitation value chain in promoting latrine purchase and key sanitation behaviors. Details on both research components follow.

4.1 QUANTITATIVE METHODS

Quantitative data collection consisted of a household survey administered to 600 iDE customers randomly selected from the sampling frame developed from order forms and project records. The household survey included the following modules:

- Household demographics to identify “lagging” households using measures such as poverty, caste, head of household gender, migration status, livelihood source, and age-dependency ratio, among others.
- Purchasing decision: who made the decision, why they made the decision, and who paid for the latrine.
- Recall on sales agent and sales pitch messaging to determine what components may have driven purchase decision.
- Latrine and shelter physical details.
- Intra-household latrine use: this module was adapted from the Safe San Index (SSI) and data were collected from a woman in the household wherever feasible.

- Observational confirmation of use (e.g., signs of use, such as worn pathway).
- Handwashing practices (both self-reported and observational).
- Livelihood sources.
- Poverty measures adopted from the Progress Out of Poverty index.²

The iDE Nepal team recruited a team of 20 survey enumerators (14 women and 6 men) to administer the survey. The survey was divided into two sections. In the first, the enumerator asked about latrine purchase and installation. At the beginning of this section, the enumerator asked to speak with a household member (who may either be a man or woman) who is knowledgeable about the household's decision making processes for purchasing and installing the latrine. Because we did not know beforehand whether respondents would be men or women, we could not assign men enumerators to men respondents and women enumerators to women respondents. The second part of the survey deals with latrine use and other sanitation-related behaviors. For this section, enumerators asked to speak with female leaders in the household, as they are likely to be more familiar with use patterns especially among the elderly, children, and other women.

4.1.1 SAMPLING STRATEGY

The sampling frame for the survey data collection was all households that purchased a latrine from iDE-trained sales agents within the four research districts for which we have recorded gender of sales agent. Within the four districts, there were 249 village development committees (VDCs) with sales records. The sample was drawn using a multi-stage random sample with stratification based on VDC and gender of the sales agent. First, given that the primary stratum of interest is sales agent gender, we ensured that we had a robust sample size of 300 households for each sales agent gender stratum to allow for difference-in-means testing with significance. The 300 households per sales agent gender were then distributed equally among the four districts, resulting in 75 households per gender per district.

A random sample of VDCs was selected using a criteria filter (detailed below) and was based on logistical considerations from the iDE Nepal team. Given the large number of VDCs with sales records within a district, iDE Nepal determined that travel to and from roughly five VDCs per district was feasible within budget and scope. VDCs were eligible for random sample selection if they had 15 or more sales per sales agent gender. In two districts, we expanded the sample to a sixth VDC, as remaining VDCs were served by only one sales agent gender. This means 30 household surveys per selected VDC with 15 surveys per sales agent gender in each VDC (with four VDCs having only 15 surveys total). Customer records were randomly selected for survey within each randomly selected VDC. Enumerators were also provided with a randomly selected replacement list should they be unable to locate or obtain consent from the sample list. The sampling distribution is provided in Table 1.

As the sample draw was a complex multi-stage design, sampling weights were added during analysis to ensure that the estimates are proportional to the population. It is important to note that the sampling frame (i.e., the record of sales orders) did not have the gender of the sales agent recorded for every sales order and the sample was drawn from only those records with an identified sales agent gender. Therefore, the sampling weights and population representation were calculated to represent the sales orders for which we have recorded sales agent gender and not all sales orders. The team collected detailed household demographic data to classify marginalized customers after data collection was complete.

² www.povertyindex.org

Table 1: Sampling Strategy for Household Survey

District	VDC	Female Sales Agent Clients	Male Sales Agent Clients	Total
Dhanusha	Bahuarba	15	15	30
	Manshingpatti	15	15	30
	Nauwakhor Prashahi	15	15	30
	Ramaidaiyabhawadi	15	15	30
	Suganikas	15	15	30
	District Total	75	75	150
Rautahat	Gaur N.P.	15	15	30
	Hathiyahi	15	15	30
	Sangrampur	15	15	30
	Sarmujawa	15	15	30
	Saruatha	15	15	30
	District Total	75	75	150
Saptari	Chhinnamasta	15	15	30
	Kochabakhari	15	15	30
	Lalapati	15	15	30
	Nardho		15	15
	Rayapur	15	15	30
	Sambhunath	15		15
	District Total	75	75	150
Siraha	Asanpur	15	15	30
	Bhadaiya	15		15
	Bishnupurkatti		15	15
	FulkahaKati	15	15	30
	Jamadaha	15	15	30
	LahanN.P.	15	15	30
	District Total	75	75	150
Grand Total		300	300	600

4.2 QUALITATIVE METHODS

The research team also carried out a series of focus group discussions (FGDs) with sales agents to better understand the attitudes, competencies, and execution strategies they employ to promote latrine purchase and use. The team held six FGDs in total, comprising two gender-specific groups in three of the research districts. Holding women- and men-specific FGDs was critical to prevent a sense of competition and to ensure that both men and women felt comfortable speaking freely. Women staff members from iDE facilitated the women-specific FGDs, and male staff moderated the male FGD sessions. Group size ranged from four to eight participants.

The FGDs were organized around the “RACE” framework (Results = Attitude + Competence + Execution). This is a common framework iDE uses in training and coaching sanitation sales agents, and it is a useful tool for thinking about how sales agent gender might correlate with end-user hygiene and sanitation behaviors as related to purchase, installation, and use. The three components leading to results can be thought of as follows in this context:

- **Attitude:** Discussion explored what female and male sales agents see as the sales agent’s mission and understand why they became a sales agent. Evidence from some iDE programs in other countries shows that female sales agents are more likely to cite the social mission of the job than men. This line of questioning helped us determine if this is the case in Nepal, and whether it makes a

difference in how effective sales agents of either gender are at selling and promoting key sanitation behaviors.

- **Competence:** Questions gauged sales agents' awareness of the barriers that people may face to purchasing a latrine and practicing key sanitation behaviors. This is a key element of the iDE training that all sales agents undergo, but it is also possible that individual sales agents have differing levels of "baseline" competence, whether because of previous experience or greater connection to community members, among other reasons.
- **Execution:** Focus groups explored how proactively sales agents talk about key behaviors and address people's barriers. This is key in measuring how differences in attitude and competence led to different approaches to selling and potentially influencing behaviors.

The FGDs were designed as a qualitative complement to help us better understand *why* we might be seeing differences in our dependent outcomes based on sales agent gender. Note-takers were assigned to document conversations in each FGD. The full FGD Guide is available in Annex V: Focus Group Discussion Guide. The iDE team conducted a "scissor-and-sort" analysis³, in which one team member reviewed the FGD notes and developed a classification system for major topics and issues discussed under each principal question. The analyst then scored each major topic based on the number of times it was discussed in either women's or men's focus groups. Two other team members then reviewed and augmented the framework with their own interpretation of the focus group notes. The purpose of this two-stage approach was to minimize subjectivity or bias that may result from only one analyst reviewing the FGD outcomes. The group first discussed potential interpretations of the FGD analysis in isolation and then reviewed the FGD results alongside the quantitative results to map explanatory relationships.

4.3 LIMITATIONS

This research approach had several limitations that need to be acknowledged:

1. The household survey poses three specific bias threats. As the majority of the data collection was from a household survey with self-reporting, there was the potential for social desirability bias, particularly when it comes to reporting sanitation or hygiene practices. Further, given that we asked clients specifically about their use of an iDE Nepal latrine, we could experience courtesy bias in our responses. We attempted to reduce social desirability bias by including enumerator observations for signs of latrine use. We hoped to reduce courtesy bias by hiring enumerators external from iDE operations for data collection. Finally, there is a threat of recall bias. All of the respondents selected for the survey purchased their latrine within a 15-month time frame, from October 2016 to December 2017. This time lag was purposefully selected in order to allow enough time for observable change in behavior and sanitation practices. However, some of the questions asked respondents to recall information about the sales pitch and purchase decision making that may have occurred over two years ago.
2. The sample was powered to ensure significance testing could detect differences in outcomes between latrines sold by male and female sales agents. In addition, the survey collected detailed household demographic data to classify marginalized customers after data collection was complete. We recognize that ex-post classification did not necessarily ensure our study was sufficiently powered to present stratified findings for marginalized households as the distribution was unknown until after collection was complete. Further, we were most interested in whether the gender of the sales agent had any influence on how well they sell to marginalized households, rather than on analyzing results across marginalized households as a whole. After classification, we found that 22

³ https://www.sagepub.com/sites/default/files/upm-binaries/11007_Chapter_7.pdf

percent of our sample (or 137 households) classified as a marginalized. Of those marginalized households, 43 percent (or 54 households) purchased from a female sales agent while 57 percent (or 73 households) purchased from a male sales agent. In the end, then, the study was sufficiently powered to detect differences between marginalized and non-marginalized households.

3. Twenty-six observations were dropped from our data set. The sampling frame had the recorded gender of the sales agent from project sales orders. Respondents were also asked to recall the gender of the sales agent from whom they purchased their latrine. Roughly 4 percent of respondents' recall did not match the project data. As there is no "correct" response, this difference in project record and respondent recall could bias the results if kept in the analysis and these observations were therefore dropped. As a result, our actual total sample size was 574, with 275 orders from female sales agents and 299 from male sales agents.
4. This research was limited by the fact that it is an ex-post study of a subgroup of households that have already purchased a latrine. This implies two important limitations. First, we cannot draw causal inferences from our findings. We have thus attempted to be careful about how we frame findings in the narrative. Second, the findings are limited in their external validity, and readers should keep this limitation in mind as they digest our findings and interpretations.

5.0 ANALYTICAL APPROACH

Table 2 presents the primary variables that were constructed from the household survey and their respective use in analysis.

Table 2: Variable Definition

Variable	Symbol	Definition	Use
Marginalized household	L_i	Binary: criteria definition if a household falls below the Poverty Probably Index (PPI) \$2.50 a day poverty line and is also a member of marginalized caste	Strata and covariate
Gender of sales agent	CBF_i	Binary variable: 0 = Male Sales Agent 1 = Female Sales Agent	Strata
Gender of latrine decision-maker	P_i	Binary variable: 0 = Only male decision-maker 1 = Female involved in purchase decision	Covariate
Gender of latrine funder	F_i	Binary variable: 0 = Only male funder 1 = Female participated in funding	Covariate
Household age dependency ratio	DR_i	Continuous variable constructed from survey question 2.12	Covariate
Household with migrated members	M_i	Binary variable constructed from survey questions 2.8–2.10	Covariate
Household income sources	IN_i	Binary variable developed from module 7 where a household has more than 1 non-seasonal source of income	Covariate
District	D_i	Categorical variable of household district to control for regional fixed effects	Covariate
Reason to purchase latrine from the sales agent	$R1_i$	Binary variable on community member reason from survey question 3.11	Dependent variable
	$R2_i$	Binary variable on recommended reason from survey question 3.11	Dependent variable

Variable	Symbol	Definition	Use
	R3 _i	Binary variable on trustworthy reason from survey question 3.11	Dependent variable
	R4 _i	Binary variable on persistence reason from survey question 3.11	Dependent variable
	R5 _i	Binary variable on value reason from survey question 3.11	Dependent variable
Time lag on purchase decisions	T _i	Continuous variable on number of weeks for decision making after sales presentation	Dependent variable
Latrine shelter	S _i	Binary variable classifying latrine shelter type as basic vs. improved constructed from survey module 4	Dependent variable
Intra-household use	IU _i	Index score calculated using the Safe San Index Latrine Use Frequency (LUF) component computation method ⁴	Dependent variable
Hand hygiene	HH _i	Binary variable constructed from module 6 on observational evidence of hand hygiene practices	Dependent variable

Quantitative analysis was completed in Stata using survey estimation commands⁵. Given that our survey data had a complex sampling strategy, we ensured that our analysis accounts for the weighting, clustering, and stratification of the data by using survey data analysis. This corrected our point estimates to reflect population rather than sample distributions and ensured that our standard errors were calculated accurately to conduct hypothesis testing.

Our first step was to analyze dependent variables or outcome variables as averages across key stratifications such as gender of sales agent and marginalized households, where appropriate. We used post-estimation hypothesis testing to test for paired-mean differences in our outcomes between clients who purchased from female sales agents and those who purchased from male sales agents.

Second, to study our outcomes of interest, we used a combination of model specifications given the different types of dependent variables. For the continuous dependent variables, we used ordinary least squares (OLS). However, many outcomes of interest were measured by binary or nominal variables. Given that OLS would not produce the best linear unbiased estimator for these variables, we used logit models to estimate parameters. For each outcome model, our primary covariate of interest was the gender of the sales agent (CBF_i). We looked for statistically significant relationships between CBF_i and the dependent variable while controlling for other covariates as listed in Table 2. Table 3 describes which model we used to answer our different research questions.

Table 3: Primary Model Specification

Dependent Variable	Proxy for which Sanitation Behaviors	Variable Type	Model
Trustworthy reason for latrine purchase (R3 _i)	Latrine purchasing behavior	Binary	Logit regression model
Value reason for latrine purchase (R5 _i)	Latrine purchasing behavior	Binary	Logit regression model
Time lag on purchase decisions (T _i)	Latrine purchasing behavior	Continuous	Ordinary least squares
Latrine shelter (S _i)	Latrine installation behavior	Binary	Logit regression model
Intra-household use (IU _i)	Key hygiene behaviors	Continuous	Ordinary least squares
Hand hygiene (HH _i)	Key hygiene behaviors	Binary	Logit regression model

⁴ Jenkins, M., Freeman, M., Routray, P., (2014) Measuring the Safety of Excreta Disposal Behavior in India with the New Safe San Index: Reliability, Validity and Utility, *Int. J. Environ. Res. Public Health* (11), 8319-8346, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4143864/table/ijerph-11-08319-t001/?report=objectonly>.

⁵ See <https://www.stata.com/manuals14/svy.pdf>.

For each outcome variable of interest, we ran the same three regression models. The primary explanatory variable for each model was gender of the sales agent that sold the household their latrine. We then had three separate model specifications in which sales agent gender was interacted with another explanatory variable: whether a female was involved in the latrine purchase decision, whether a female was involved in funding the latrine purchase, and whether the household was marginalized. The interaction models helped us to understand if an observed association had a differential effect contingent upon other explanatory factors.

For this report, regression findings are presented as predicted probabilities. These were calculated using the margins post-estimation command in Stata after running our regressions. Because our response is a probability, these margins are sometimes called predicted marginal proportions or model-adjusted risks. They let us compare the effect of sales agent gender and key explanatory variables while controlling for the distribution of other covariates in the groups. Computationally, these predictive margins are the weighted average of the predicted probabilities for each observation in the estimation sample. Readers can refer to Annex II: Regression Output Tables for output tables containing point estimates from the regression models for deeper review of the econometric analysis.

6.0 CHANGES FROM ANALYSIS PLAN AS ORIGINALLY SUBMITTED

The initial research plan discussed studying the effects on a type of household previously defined as “lagging.” This definition was to look at households that had certain characteristics such as poverty and minority status that typically correlate with longer times to adopt improved sanitation and to study whether the gender of the sales agent affected performance or behavior for this type of household. We relabeled that classification type from “lagging” to “marginalized” households, as that more accurately describes the household group we are studying. Given that this study did not have a control group and our study population had already purchased an improved latrine, we could not accurately determine which characteristics are predictors of lagging or slower-to-adopt households. Instead, our theory suggests that it is marginalized households that are likely to be slow to adopt and thus we want to study them as a group, rather than pre-suppose they are actually lagging. This change is more in the naming convention and not in the analysis but is important to note for general understanding.

Second, in consultation with the iDE Nepal team, we determined that the most accurate definition of a marginalized household was one that fell below the US\$2.50 a day poverty line and was also from a marginalized ethnicity (Dalit). Given that the marginalized variable is constructed from two of our proposed covariates (poverty status and ethnicity status), those two variables were dropped from analysis to avoid multicollinearity.

Third, the pre-analysis plan initially specified that the first outcome of interest, “reason for purchasing a latrine,” would be a categorical variable and that the functional form for analysis would be a multinomial logit model. However, that survey question was implemented as a multi-select where respondents could select more than one option for response. This changed the type of analysis we could do and now each response option was translated to a binary response and was analyzed in separate regression models.

Fourth, we asked two questions regarding the latrine purchase process: which household members participated in the decision making, and which household members participated in funding the latrine purchase. Initially we proposed categorical responses to indicate whether it was only the male head (husband), only the female head (wife), joint (both husband and wife), son, or daughter. For the final analysis, instead of studying the influence of each type of member, we collapsed the results into binaries

for whether or not a female household member was involved in the decision making, and whether or not a female household member was involved in the funding of the latrine purchase.

7.0 RESULTS

The results of the study are presented by research question, with our principal research interest being to better understand how the gender of a sanitation sales agent is associated with end-user hygiene and sanitation behaviors. This includes end-user behavior across the spectrum of an intervention, from initial purchase and installation decisions to sustained use practices. Our principal finding is that intra-household decision making and purchase-funding dynamics, as well as marginalized household status, are key determinants when analyzing how a sales agent's gender influences key behaviors. Together, these findings point to the importance of understanding the interactions between a sales agent's gender and the type of households that sales agent is addressing.

Throughout this section, we use the terms “inclusive households” and “non-inclusive households.” Inclusive households are those in which a woman (or women) either funded the latrine purchase, participated in the latrine purchase decision, or both. Non-inclusive households are those in which men were exclusively involved in the funding and purchase decision making process. This is a loose labeling convention, and is primarily used to avoid repetitive language in our analysis and explanations. We also use the terms “marginalized” and “non-marginalized” households. As explained earlier in the report, marginalized households are poorer and more likely to be ethnic minorities than non-marginalized households; the categorization was made based on socioeconomic status and ethnic characteristics collected through the household survey.

Findings for each outcome of interest are as follows.

7.1 SUB-QUESTION 1: ARE FEMALE SANITATION SALES AGENTS MORE SUCCESSFUL AT MOTIVATING HOUSEHOLDS TO PURCHASE AND INSTALL A LATRINE? ARE THEY MORE SUCCESSFUL AT SELLING TO CERTAIN TYPES OF HOUSEHOLDS? WHY OR WHY NOT?

7.1.1 OUTCOME 1 – REASONS FOR PURCHASING LATRINE

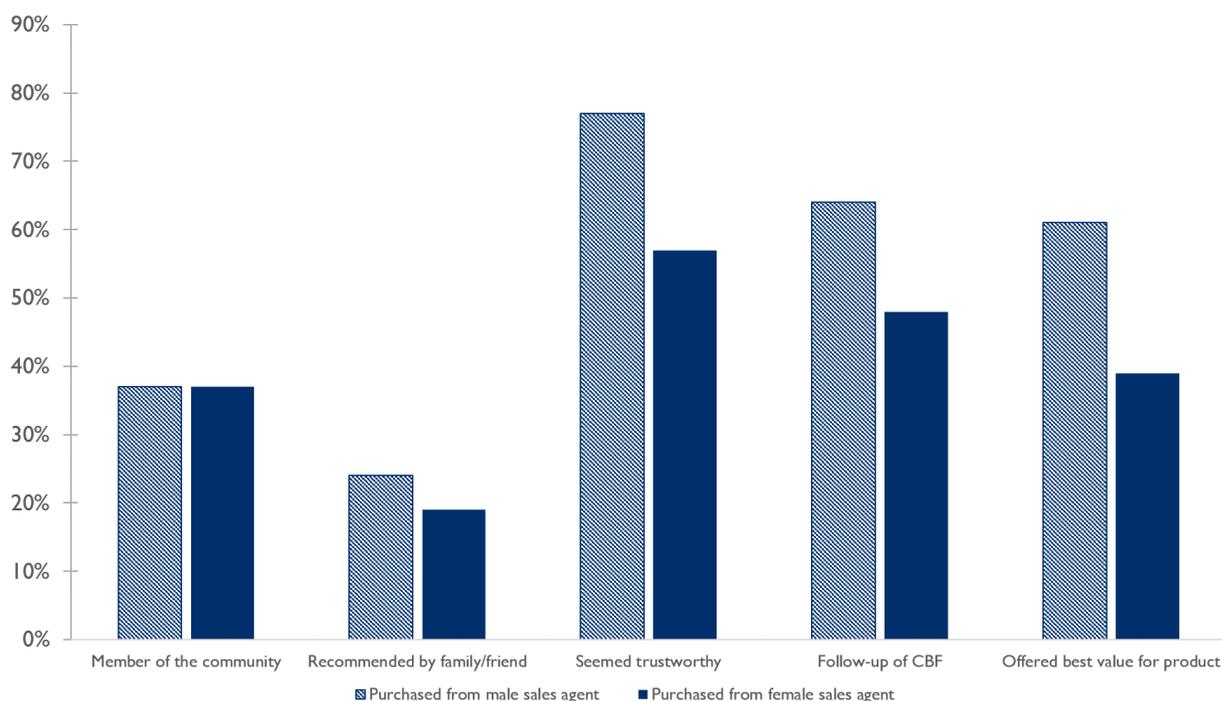
To gain a better understanding of motivations for purchasing a latrine, we looked for any significant differences between the reasons why clients said they purchased a latrine from their sales agent. The results first compared the difference in means for each of the five response options, stratified by gender of the sales agent, as presented in Table 4. There are no significant differences in motivation for clients buying from a male or female sales agent when they consider if the sales agent is a member of the community, if they were recommended by someone they knew, or if the sales agent was persistent in their follow-up. We did find that a higher share of clients who purchased from a male sales agent did so because they felt that the sales agent was trustworthy and offered a good value for the product. Specifically, 77 percent of clients who purchased from a male sales agent said they purchased because their sales agent seemed trustworthy, compared to only 57 percent of clients who purchased from female sales agents. Similarly, 61 percent of clients purchasing from male sales agents said they purchased because their sales agent offered a good value, compared to only 39 percent of female sales agent clients.

Figure 2 provides a graphic representation of the reasons households cited for purchasing from a latrine sales agent, stratified by male and female sales agents.

Table 4: Percent of Clients Reporting Reason for Purchasing Latrine from Sales Agent

Reason	Clients of Male CBF	Clients of Female CBF	Paired difference in means test
	Mean (Std. error)	Mean (Std. error)	
Member of the community	37% (8.8)	37% (4.7)	p-value = 0.980
Recommended by family/friend/neighbor	24% (6.8)	19% (3.3)	p-value = 0.399
Seemed trustworthy	77% (4.9)	57% (5.8)	p-value = 0.003
Persistence and follow-up of CBF	64% (7.1)	48% (6.7)	p-value = 0.110
Offered best product for value	61% (3.2)	39% (5.2)	p-value = 0.020

Figure 2: Reason for Purchasing Latrine from Sales Agent



To gain a better understanding of what might drive the difference in reason for purchase, we ran a series of regression models with the gender of the sales agent interacted with three different variables. These helped us understand if the observed association had a differential effect contingent upon other explanatory factors. We interacted the gender of the sales agent with key variables that we thought may be related to the effectiveness of the sales agent, such as whether a female was involved in the purchase decision, whether a female helped fund the latrine purchase, or if the household was a marginalized household. This was driven by our hypothesis that female sales agents are likely to have a stronger relationship with households where a woman was involved in the decision making or funding and that the female sales agents also may be better at selling to marginalized households. This theory was informed in part by our qualitative deep dive research and was tested through our regression analysis.

Given that our dependent variable of interest was a binary variable, such as whether or not the sales agent was selected because they seemed trustworthy, we used a logit model instead of OLS regression analysis. The results in Tables 5 and 6 are predicted probabilities, which let us compare the probability of the outcome occurring for set values of our sales agent gender and key explanatory variables while controlling for the distribution of other covariates in the groups. Output tables of the odds ratio estimates from the regression models can be viewed in Annex II as desired for deeper review of the econometric analysis.

Table 5 shows there was a significant difference⁶ in the predicted probabilities for citing “seemed trustworthy” as a reason for purchase between clients who purchased from a female sales agent versus a male sales agent in non-inclusive and non-marginalized households. These households were more likely to cite trustworthiness as a reason for purchase if they bought from a male sales agent. However, when we looked at inclusive and marginalized households, the gendered difference is insignificant, meaning that female sales agents and male sales agents were cited as trustworthy at the same rates. In other words, men in non-marginalized households who make and finance purchase decisions tend to trust male sales agents more. **These associations support the theory that the household type and the individuals within a household are key drivers behind observed gender differences in sales agent performance.**

Table 5: Predicted Probability of Clients Citing “Trustworthy” as Reason for Purchase

Client Household Type	Clients of Female CBF	Clients of Male CBF	Significant Difference between CBF Gender?
Male decision-maker only	.487 (.096)	.683 (.063)	p-value = 0.020
Female decision-maker involved	.722 (.085)	.801 (.052)	p-value = 0.296
Male funder only	.570 (.063)	.762 (.051)	p-value = 0.008
Female funder involved	.773 (.105)	.728 (.095)	p-value = 0.665
Non-marginalized household	.645 (.060)	.769 (.045)	p-value = 0.071
Marginalized household	.501 (.126)	.650 (.102)	p-value = 0.206

Table 6 shows no clear pattern of significant differences of clients citing good value as a reason to purchase from a male or female sales agents when interacted with household types. We observed that clients who purchased from a male sales agent are more likely to cite the good business value the sales agent offered than clients who purchased from a female sales agent. There is no observable association between household type and sales agent gender that would help explain this difference.

Our FGDs helped us further clarify the difference in reasons for purchase between households that purchased from male and female sales agents. **During the FGDs, male sales agents presented unique strategies for promoting sanitation behaviors, especially latrine purchase, in comparison to female sales agents.** For instance, male sales agents were more likely to cite examples of providing customers with ideas to overcome perceived barriers to purchase and use.

⁶ We used a p-value threshold of 0.05 to indicate statistical significance, though we acknowledge that current discussions in the sector are calling into question such thresholds.

Table 6: Predicted Probability of Clients Citing “Good Value” as Reason for Purchase

Client Household Type	Clients of Female CBF	Clients of Male CBF	Significant difference between CBF Gender?
Male decision-maker only	.427 (.098)	.503 (.094)	p-value = 0.476
Female decision-maker involved	.459 (.075)	.617 (.089)	p-value = 0.045
Male funder only	.439 (.086)	.541 (.083)	p-value = 0.182
Female funder involved	.513 (.109)	.679 (.101)	p-value = 0.160
Non-marginalized household	.432 (.075)	.607 (.082)	p-value = 0.019
Marginalized household	.560 (.107)	.387 (.093)	p-value = 0.120

Our FGDs helped us further clarify the difference in reasons for purchase between households that purchased from male and female sales agents. **During the FGDs, male sales agents presented unique strategies for promoting sanitation behaviors, especially latrine purchase, in comparison to female sales agents.** For instance, male sales agents were more likely to cite examples of providing customers with ideas to overcome perceived barriers to purchase and use.

At the same time, male sales agents were more likely to bring in others to achieve similar ends. For example, at least two male sales agents mentioned encouraging conversations between potential customers and households that were already using an improved latrine. This strategy may have assisted in building trust with potential customer households, as they were able to interact with other (known) community members who had already made a similar investment. In addition, male sales agents cited their own efforts to negotiate more accommodating payment terms with ring producers on behalf of customers who faced financial barriers to purchase. These findings align with the quantitative results that showed male sales agents had higher rates of “offering the best value for the money.”

7.1.2 OUTCOME 2 – DECISION TIME LAG

Our second outcome of interest was the time taken to complete the sale from initial presentation to purchase date. This is another key component of sales agent effectiveness. Clients were asked to report the average length of time (in weeks) and results were stratified by sales agent gender. Table 7 shows that clients purchasing from female sales agents took less time (2.1 weeks) to complete the household purchase in comparison to clients purchasing from male sales agents (2.7 weeks). We stratified the results by marginalized status and sales agent gender but found that decision lag time did not differ whether the household was marginalized or not.

It is important to note that while female sales agents were associated with shorter decision time for clients, the difference was quite small in magnitude. The difference of 0.6 weeks in decision time is just over four days. Given the limitations discussed earlier in the report around recall bias, the results should be interpreted with caution. Instead of focusing on the exact time lag, a more general interpretation could be that female sales agents may be associated with slightly better performance on closing a latrine sale in comparison to male sales agents.

Table 7: Client Decision Lag Time (in Weeks) from Presentation to Purchase

Clients of Male CBF (n=298)	Clients of Female CBF (n=274)	Paired Difference in Means Test
Mean (Std. error)	Mean (Std. error)	
2.7 weeks (.19)	2.1 weeks (.09)	p-value = .005

To understand the drivers behind differences in decision lag time, we ran the same interaction models as we did under Outcome 1 using decision lag time as our dependent variable. Results are presented in Table 8. We found no significant differential association for decision time lag and sales agent gender by the gender of the latrine financer(s) or a household’s marginalized status. However, we did find a statistically significant interaction effect for the gender of the decision-maker(s). **Overall, we found that when a woman was involved in the decision making process and the sales agent was a man, the estimated margin for decision lag time was 2.8 weeks. When a woman was involved in the decision making and the household was working with a female sales agent, the estimated decision lag time fell to 2.3 weeks. This suggests that female sales agents were more effective at motivating households to purchase an improved latrine quicker when there was a female involved in the decision making—that is, female sales agents were more effective selling to women.** Still, it is important to recall that the magnitude of the difference is small—only three to four days—in purchase time and that respondents are recalling over a year since their purchase, which could be biasing the results.

Table 8: Predicted Margins for Client Decision Lag (in Weeks) from Presentation to Purchase

Client Household Type	Clients of Female CBF	Clients of Male CBF	Significant Difference between CBF Gender?
Male decision-maker only	2.4 (.175)	2.1 (.156)	p-value = 0.329
Female decision-maker involved	2.3 (.189)	2.8 (.209)	p-value = 0.049
Male funder only	2.4 (.189)	2.5 (.211)	p-value = 0.607
Female funder involved	2.4 (.231)	2.6 (.173)	p-value = 0.294
Non-marginalized household	2.4 (.169)	2.5 (.181)	p-value = 0.566
Marginalized household	2.6 (.294)	3.0 (.232)	p-value = 0.224

Our qualitative research provided insight on why women may be more effective at motivating households to purchase an improved latrine quickly. **First, female sales agents talked openly about using formal and informal social sanctions as a means of convincing customers to purchase and use a latrine.** In all three district FGDs, female sales agents cited measures of local government entities to ensure households installed improved latrines as part of the national push toward ODF status. Measures included withholding recommendations for passports and citizenship requests, as well as denying approvals for land sale and transfers. Female sales agents discussed using these sanctions as leverage in conversations with potential customers, sometimes as a “reminder” and sometimes as a “warning” for households. In contrast, male sales agents did not mention these sanctions in the FGDs. While this was not an explicit component of the iDE problem-led sales methodology

(indeed, sales agents were discouraged from using this type of messaging), female sales agents appear to have been more willing to use these messages to promote latrine sales; or, at the very least, to acknowledge using them during our FGDs. While this tactic may have been effective, it must be noted that such techniques may be seen as coercive or exploitative, especially if they are used more frequently when selling to marginalized households (although there is no evidence this was the case here).

Finally, **female sales agents demonstrated a more nuanced ability to identify problems faced by the community, and to frame an improved latrine as a solution to these problems.** For example, iDE’s initial market research identified security as a primary concern among both men and women. While both male and female sales agents were trained in the same problem-led sales techniques, female sales agents were much more likely to say that they cited specific cases of local security concerns such as snake bites and harassment. Two female sales agents mentioned separate incidents of people in their communities having been bitten by snakes while the individuals were defecating in a field. One female sales agent in Rautahat said, “There was a real case in the village when a woman was defecating just at the trail side and a man came on a motorbike and pulled her shawl. I gave this reference and convinced many to build a latrine.” These techniques may have been effective at instilling a sense of urgency for households to purchase a latrine to address safety concerns. It is important to point out that these methods tread a thin line between effective, problem-led selling and potentially exploitative techniques. Thus, this finding may serve as both an inspiration for organizations training sales agents to sell sanitation products, and also as a caution to monitor the messaging that those sales agents use in the field closely.

7.1.3 OUTCOME 3 – PERMANENT SHELTER RATES

While the first two outcomes studied proxy measures around purchasing, Outcome 3 – or rates of permanent shelters – was our proxy measure to understand if sales agent gender affects rates of installation. iDE-trained sales agents sold only latrine substructures, but were trained to encourage households to install a durable shelter structure. For this study, permanent shelters were defined as those with concrete, steel, or wood walls and concrete or steel roof. Permanent shelters must also have a door closure of some kind. We used this variable to study installation as our entire sample already had purchased and installed their latrine substructure.

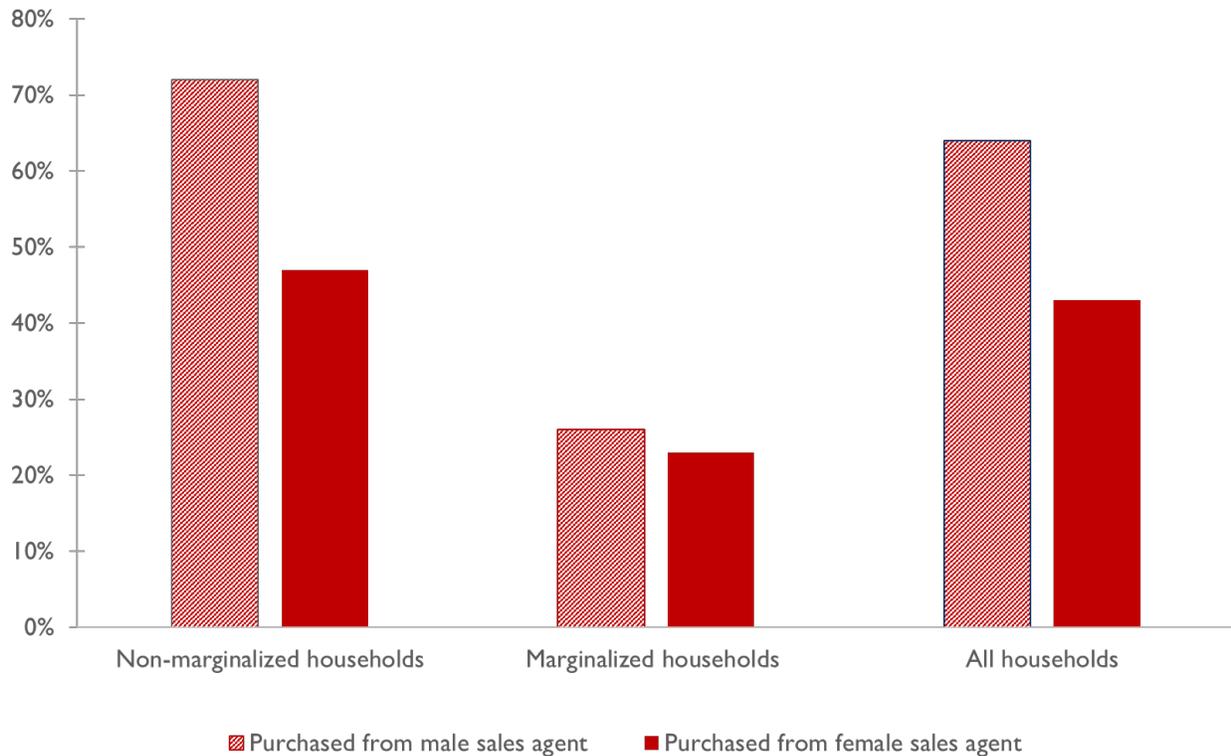
Table 9 shows that households who bought from male sales agents had significantly higher rates of permanent shelters installed than those who purchased from female sales agents: overall, 64 percent of clients who purchased from a male sales agent had a permanent shelter compared to only 43 percent of clients who purchased from a female sales agent. However, this difference in permanent shelter rates disappeared if we look only at marginalized households. **The difference in performance between male and female sales agents, as measured by rates of permanent shelter installation, only exists for non-marginalized households.**

Table 9: Client Households with Permanent Shelters

	Clients of Male CBF	Clients of Female CBF	Paired Difference in Means Test
	Mean (Std. error)	Mean (Std. error)	
Non-marginalized households	72% (4.8)	47% (6.1)	p-value = .009
Marginalized households	26% (8.6)	23% (8.1)	p-value = .667
All households	64% (5.8)	43% (5.6)	p-value = .009

Figure 3 shows the same information graphically. Again, it is primarily the difference in shelter installations among non-marginalized households that drives overall differences between households that purchased from male sales agents and those who purchased from female sales agents.

Figure 3: Permanent Shelter Installation Rates



To understand the difference in permanent shelter rates, we interacted the gender of the sales agent with key variables that we thought may be related to the effectiveness of the sales agent, such as whether a female was involved in the purchase decision, whether a female helped fund the latrine purchase, or if the household was a marginalized household. Table 10 shows a positive and significant difference (p-values of 0.05 or less) in the predicted probabilities for permanent shelter installation between clients who purchased from a female sales agent versus a male sales agent for only non-inclusive and non-marginalized households.

As an example, a household with a male decision-maker that purchased from a male sales agent had a 61.7 percent predicted probability of having a permanent shelter installed. In contrast, a household with only a male decision-maker that purchased from a female sales agent had a lower predicted rate of permanent shelter installations, at 38.6 percent. However, looking at households that have a female involved in the decision making process, the difference in predicted permanent shelter installation changed to 61.8 percent for households buying from male sales agents and 58 percent for households buying from female sales agents. The difference is statistically insignificant. **Thus, while male sales agents had higher rates of permanent shelter installation for non-inclusive and non-marginalized households, male and female sales agents performed similarly for inclusive and marginalized households. This association supports the theory that the household type may explain observed gender differences in permanent shelter installation rates.**

We are not able to draw causal inferences from this analysis. However, these associations are consistent with trends in the other outcomes we observed, strengthening the story that female sales agents may be

especially effective when interacting with households where women are involved or which are marginalized.

Table 10: Predicted Probability of Permanent Shelter Installation

Client Household Type	Clients of Female CBF	Clients of Male CBF	Significant Difference between CBF Gender?
Male decision-maker only	.386 (.080)	.617 (.084)	p-value = 0.026
Female decision-maker involved	.580 (.055)	.618 (.051)	p-value = 0.501
Male funder only	.470 (.062)	.608 (.056)	p-value = 0.070
Female funder involved	.538 (.076)	.622 (.088)	p-value = 0.329
Non-marginalized household	.530 (.055)	.677 (.052)	p-value = 0.038
Marginalized household	.288 (.074)	.302 (.080)	p-value = 0.853

7.2 SUB-QUESTION 2: ARE HOUSEHOLDS WHO PURCHASE A LATRINE FROM A FEMALE SANITATION SALES AGENT MORE LIKELY TO PRACTICE KEY HYGIENE AND SANITATION BEHAVIORS? WHY OR WHY NOT?

The second part of the Results section examines how the gender of a sales agent may affect post-installation sanitation and hygiene behaviors.

7.2.1 OUTCOME 4 – INTRA-HOUSEHOLD LATRINE USE

To study intra-household latrine use, we adapted the Safe San Index (SSI), which was published in 2014 after piloting in India⁷ and is used to quantify the hygienic safety of a household’s defecation and human feces disposal practices using 15 self-reported items and two subscales. For the purposes of our study, we adapted the Latrine Use Frequency subscale, using the same weighting methods as described in the paper linked above, and standardized the results from 0 (household members never use the latrine to defecate) to 100 (all household members always use the latrine to defecate). See Section 5 of the household survey instrument in [Annex IV](#) for details on usage questions adapted from the SSI.

Table 11 shows a statistically significant difference between SSI scores based on the gender of the sales agent. Clients who purchased from a female sales agent had an average SSI score of 92.6, while clients who purchased from a male sales agent had an average score of 86.3. Further, we see this gap widen when we look only at marginalized households. Among marginalized households, the average SSI score was 92.5 for female sales agents and 72.8 for male sales agents. There is no significant difference in SSI scores for non-marginalized households. **This demonstrates that female sales agents are correlated with higher rates of consistent household latrine use, particularly among marginalized households, compared to male sales agents.**

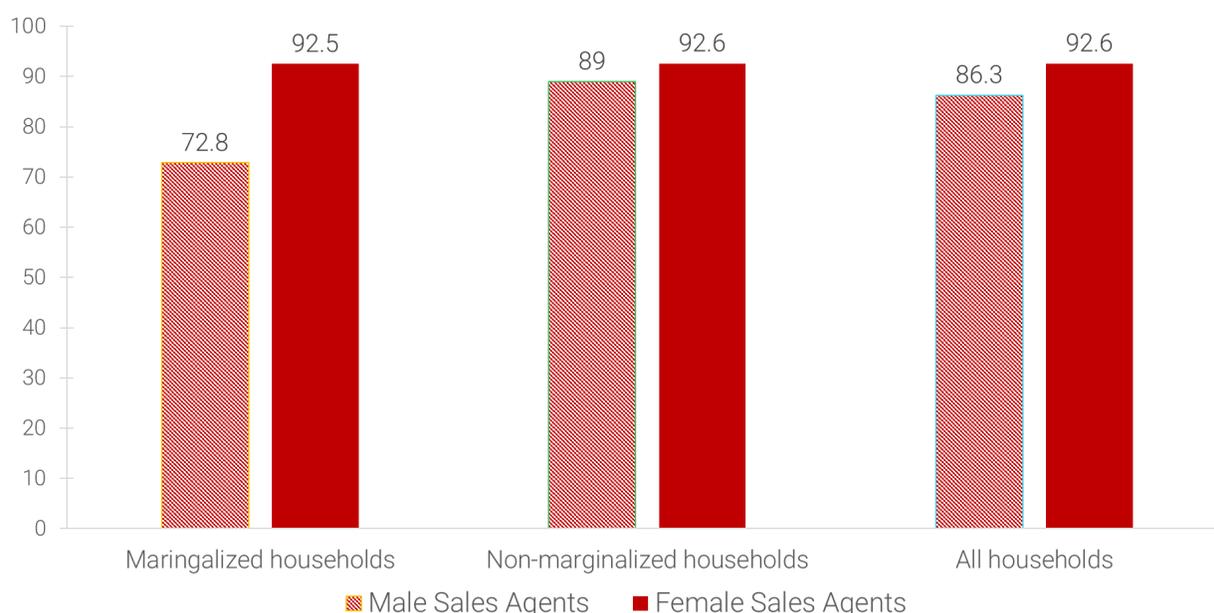
⁷ Jenkins, M., Freeman, M., Routray, P., (2014) Measuring the Safety of Excreta Disposal Behavior in India with the New Safe San Index: Reliability, Validity and Utility, Int. J. Environ. Res. Public Health (11), 8319-8346, <https://www.mdpi.com/1660-4601/11/8/8319>

Table 11: Average Safe San Index Score

	Clients of Male CBF	Clients of Female CBF	Paired difference in means test
	Mean (Std. error)	Mean (Std. error)	
Non-marginalized households	89.0 (1.66)	92.6 (1.58)	p-value = .149
Marginalized households	72.8 (8.31)	92.5 (2.81)	p-value = .041
All households	86.3 (2.14)	92.6 (1.42)	p-value = .022

Figure 4 shows the same information graphically, highlighting the sales agent gender-conditional differences in SSI scores for marginalized households versus non-marginalized households and households in general.

Figure 4: Safe San Index Score (0–100) (by Household Type and Sales Agent Gender)



To understand the drivers behind the differences in SSI scores for client households that purchased from a female sales agent, we ran the same interaction models as in all other outcomes and share the predicted margins in Table 12. **The interaction models showed that intra-household use was statistically the same between households that purchased from either gender sales agent for the non-inclusive and non-marginalized households. However, when we looked at inclusive and marginalized households, there was a significant and appreciable difference in intra-household use, whereby households reported higher rates of intra-household use when they purchased from a female sales agent.** For example, marginalized households that purchased from a male sales agent have a predicted SSI score of 75.8, compared to a predicted SSI score of 91.9 if they purchased from a female sales agent. **The results from the interacted models further support the theory that household type and the individuals making decisions within a household are key drivers for the observed gendered differences in intra-household use rates.**

Table 12: Predicted Margins for Safe San Index Score

Client Household Type	Clients of Female CBF	Clients of Male CBF	Significant Difference between CBF Gender?
Male decision-maker only	88.8 (2.024)	89.0 (3.482)	p-value = 0.926
Female decision-maker involved	93.2 (1.239)	86.4 (1.930)	p-value = 0.005
Male funder only	90.4 (1.166)	89.8 (2.106)	p-value = 0.751
Female funder involved	91.1 (1.818)	80.4 (3.120)	p-value = 0.007
Non-marginalized household	90.3 (1.270)	89.6 (1.768)	p-value = 0.687
Marginalized household	91.9 (2.706)	75.8 (5.958)	p-value = 0.046

The SSI was a helpful tool as it not only provided an overall score measuring intra-household latrine use, but also gave us the opportunity to look at each group of household members and their defecation practices. Table 13 gives the share of each household member type that were reported to always use the latrine, disaggregated by the gender of the sales agent. We ran this analysis because we suspected that the different sales strategies (for example, messaging strategies, relationship-building tactics, or follow-up, among others) employed by male and female sales agents may have influenced use for different types of household members. **Statistically significant differences among married women and the critically ill, and proper infant feces disposal show, that female sales agents were associated with consistently higher rates of latrine use by certain groups within the household⁸. The groups with significant differences seem to be those who fall into the caregiver or care-receiving categories in a household.**

Table 13: Percent of Household Members Always Using Latrine

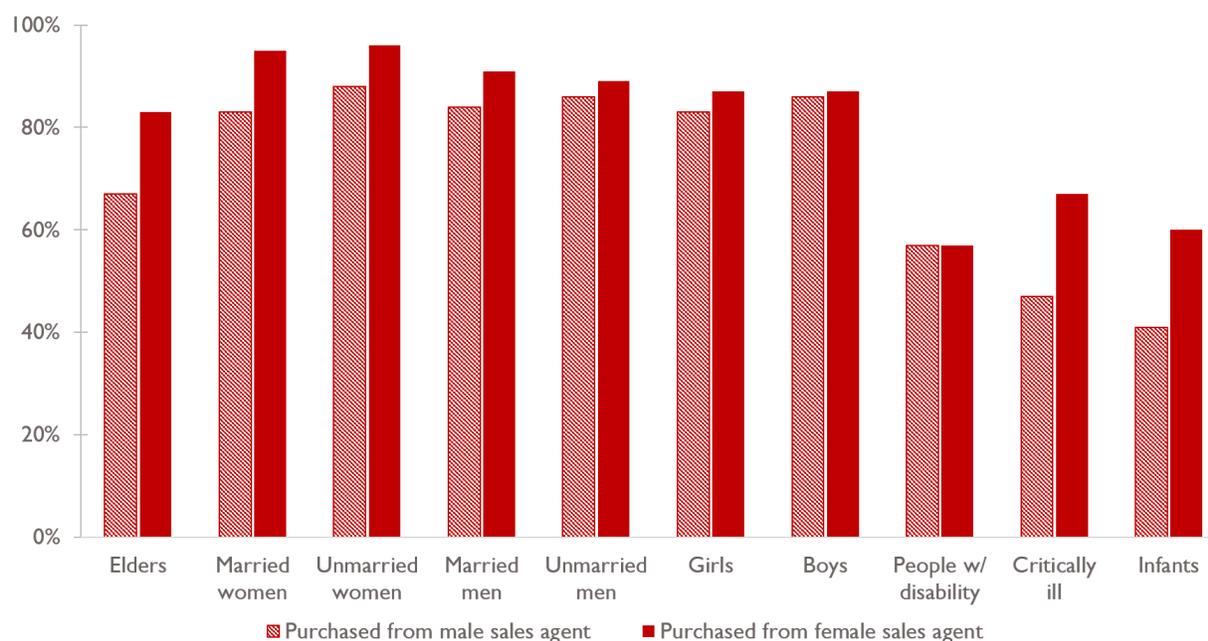
Household Member Group	Observed	Clients of Male CBF	Clients of Female CBF	Paired Difference in Means Test
		Mean (Std. error)	Mean (Std. error)	
Elders	263	67% (8.0)	83% (3.8)	p-value = .077
Married women	490	83% (3.6)	95% (1.7)	p-value = .007
Unmarried women	374	88% (3.6)	96% (1.7)	p-value = .075
Married men	449	84% (3.9)	91% (2.8)	p-value = .125
Unmarried men	442	86% (3.2)	89% (3.1)	p-value = .437
Girls	417	83% (5.3)	87% (4.9)	p-value = .418
Boys	465	86% (4.3)	87% (3.4)	p-value = .915

⁸ There is also a large difference in rates of consistent use by elders; however, this group has a smaller sample size given that every household does not have elders which eliminates the statistical significance. The finding is still worth noting as the focus group discussions showed that female sales agents discussed engaging with elders while men did not.

Household Member Group	Observed	Clients of Male CBF	Clients of Female CBF	Paired Difference in Means Test
		Mean (Std. error)	Mean (Std. error)	
People with disability	129	57% (15.1)	57% (11.6)	p-value = .984
Critically ill	574	47% (7.7)	67% (7.2)	p-value = .038
Infants and young children (proper disposal of feces by adult)	308	41% (5.4)	60% (6.9)	p-value = .050

Figure 5 shows the same information graphically, again showing clear differences in use rates in groups such as the elderly, critically ill and infants.

Figure 5: Intra-household Latrine Use Rates: Percent of Household Members Always Using the Latrine (by Member Group)



During the focus group discussion analysis, one of the most apparent themes that emerged was the emphasis that female sales agents placed on follow-up. Throughout the FGDs, female sales agents talked about the persistence required to make a sale, with some indicating they would follow up with a household three or four times in an effort to convince them to build a latrine⁹. Female sales agents also discussed post-sale follow-up visits, which they used to talk about important sanitation behaviors, and specifically mentioned talking with mothers about the importance of disposing of baby and child feces in a proper manner. Men almost never mentioned follow-up visits; when they did, they were more likely to view the interactions as a nuisance (e.g., sales agents have to be present at time of latrine installation, which takes time out of their day), rather than as an opportunity. **We conclude this difference in persistence and follow-up (both pre- and post-sale) is one of the primary**

⁹ We do not have data on the number of sales calls required for male and female sales agents to make a sale, but did note that female sales agents talked about multiple visits more commonly.

drivers for latrine use differences between households that purchase from male sales agents and those that purchase from female sales agents.

In addition, our qualitative study found that men and women did not mention different motivations for having taken on the sales agent position in the first place. Both groups cited profit motive, social mission, and community connection in about equal measure, though women were more likely to talk about a sense of pride or accomplishment from having taken on the sales agent role. Likewise, female and male sales agents discussed addressing similar household barriers to latrine purchase, including financial need, lack of land availability, objections from elderly household members, and the desire to build a more permanent housing structure before buying a latrine. **Despite this similar mindset, it may be that the follow-up and guidance that female sales agents provide generates a difference in household use rates overall, and especially within certain groups.**

8.0 CONCLUSIONS AND RECOMMENDATIONS

This research offers important insights into the role that female and male sales agents may play in driving positive sanitation behavior through market-based approaches. Keeping in mind the methodological limitations that affect our ability to generalize the findings, this research has shown that male sales agents in the study area tend to perform better in promoting latrine purchase and use when they are interacting with non-marginalized households and households where men are themselves exclusively financing and making the decision to purchase a latrine (non-inclusive households). Female sales agents appear to be associated with faster sales and more consistent latrine use, especially among specific groups within a household, when they are selling to marginalized households and households where women are involved in the financing and/or decision making process (inclusive households).

Overall, our qualitative analysis suggests that male sales agents are more likely to leverage connections with other households and community members to “close the sale,” and are potentially more proactive in offering solutions to overcome households’ objections or challenges to purchase. Female sales agents talked consistently about the role of follow-up and persistence in their FGDs, while male sales agents mentioned follow-up visits only as a nuisance. This follow-up may help explain why households that purchased from female sales agents have higher latrine use as recorded by the Safe San Index. In particular, we see that groups of typical caregivers (married women) and care-receivers (infants, the critically ill, and the elderly) have statistically higher rates of use among female sales agents compared to male sales agents.

In general, female sales agents are more likely to say that they draw on local context to illustrate the problems facing the community, especially related to security concerns, to strengthen their problem-led sales approach. They are also more likely to highlight potential social sanctions during sales presentations than are their male counterparts (or at least more willing to talk about using such strategies in a group setting).

Based on these findings and conclusions, we offer the following recommendation for organizations seeking to leverage local entrepreneurs to drive positive changes in sanitation coverage and key sanitation behaviors.

- **Match household funding and decision profiles with the appropriate sales agent.** Understanding who will be involved in the funding and decision making process for buying a latrine may allow organizations to make better use of their human resources. In particular, organizations may perform rapid scouting exercises to determine which actors in a household are likely to decide to buy a latrine and which are likely to provide the funding. Using this data, sales managers may be

able to divide up sales territory more optimally to get the right sales agents to the right households, maximizing programmatic impact and increasing the likelihood of success for male and female sales agents by matching both to the households where they are most likely to make sales.

- **Match household socio-economic profiles with the appropriate sales agent.** This study found that female sales agents appear to be more effective at driving positive sanitation behaviors among marginalized households (defined here as poor, ethnic-minority households), while men were more effective with non-marginalized households. Similar to the recommendation above, market-focused organizations might leverage this learning to optimize their sales strategies in the field. Such an approach should start with an effort to define marginalized households clearly in the local context, along with iterative piloting to validate the findings from this study and determine if and why (and through what mechanisms) the same dynamics hold. It must also be acknowledged that this matching approach may allocate more difficult customer households to female sales agents. As such, implementers should be careful to balance the sales strategy in such a way that accounts for all sales agents' ability to profit, as well as considerations such as sales agent security and obstacles to reaching customer households.
- **Explore opportunities to improve female (and male) sales agents' use of social capital.** One finding is that male sales agents are more likely to successfully "recruit" past customers and other community members to help them promote latrines. This study didn't explore why male sales agents use this tactic more frequently, but it may have to do with the levels of social capital they have accrued compared to female sales agents, or their willingness and ability to leverage that capital. In any case, it is worth exploring further how male and female sales agents view and use their respective social capital reserves in order to encourage more proactive use of this strategy among both groups.
- **Train male (and female) sales agents to communicate behavior change messaging effectively through focused follow-up.** Female sales agents were more likely than male sales agents to talk about their follow-up with households, both pre- and post-sale. They were also more likely to identify follow-up as an opportunity to communicate messages around important hygiene-related behaviors like handwashing and disposing of infant feces. Future programs might explore opportunities to train male sales agents to adopt the same posture toward follow-up, potentially using female sales agents' experience as a learning guide (see last recommendation below for thoughts on broader cross-learning opportunities).
- **Align desired programmatic outcomes with sales agent profile.** One contribution of this research is to look at the correlation between sales agent gender and hygiene behaviors of various sub-groups within the household. Some subgroups appear to exhibit more positive use behaviors when they purchase their latrine from a female sales agent. Noting again this study's inability to draw causal inferences, these results may nonetheless provide guidance for programs that aim to promote consistent use within certain household groups. For example, programs that wish to promote proper disposal of infant feces may want to consider employing a larger cadre of female sales agents, or may want to explore the potential for learning between male and female sales agents (see next recommendation).
- **Encourage learning between male and female sales agents.** This research isolated several ways in which male and female sales agents approach their jobs differently. For example, male sales agents tend to leverage past clients to encourage potential customers to buy, while female sales agents are more proactive in using follow-up visits as an opportunity to sell and transmit key behavior messages. These distinct approaches represent productive opportunities for learning and improving the way that each sales agent does his or her job. Organizations pursuing this path might want to conduct their own rapid research to both validate (or invalidate) some of the differences observed in this study and to uncover other gender-specific tactics for cross-learning.

ANNEX I: RESPONDENT DEMOGRAPHIC DATA

Annex I presents demographic data for the respondents included in our household survey sample across key demographics. Table 14 stratifies the data by sales agent gender and presents the overall statistics. Table 15 presents the data by district. We see wide variation in the district data, which supports the decision to include district level controls in the regression analyses.

Table 16 presents the sample sizes for our focus group discussions with iDE sales agents, disaggregated by district and gender of group.

Table 14: Demographic Data for Quantitative Survey Respondents (by Sales Agent Gender)

Attribute	Clients of Female Sales Agents	Clients of Male Sales Agents	Total
Female head of household	19%	18%	18%
Households below \$2.50 a day poverty line	64%	62%	63%
Households with a migrated family member	63%	57%	59%
Households from minority ethnic group	33%	27%	30%
Marginalized households	19%	17%	17%
Women involved in decision to purchase latrine	45%	69%	61%
Women involved in funding latrine	26%	27%	27%

Table 15: Demographic Data for Quantitative Survey Respondents (by District)

Attribute	Dhanusha	Rautahat	Saptari	Siraha
Female head of household	11%	6%	30%	30%
Households below \$2.50 a day poverty line	26%	58%	31%	73%
Households with a migrated family member	72%	22%	72%	40%
Households from minority ethnic group	16%	18%	30%	76%
Marginalized households	9%	14%	13%	57%
Women involved in decision to purchase latrine	80%	57%	44%	57%
Women involved in funding latrine	17%	31%	26%	49%

Table 16: Sample Size for Focus Group Discussions (by District)

District	Female Sales Agent FGD	Male Sales Agent FGD
Dhanush	5	5
Rautahat	5	4
Saptari	4	4
Total	14	13

ANNEX II: REGRESSION OUTPUT TABLES

Each table in Annex II is organized according to the following three models:

- Model (1): Outcome variable regressed on gender of sales agent, gender of latrine purchase decision-maker and interaction of gender of sales agent and decision-maker; covariates included.
- Model (2): Outcome variable regressed on gender of sales agent, gender of latrine funder and interaction of gender of sales agent and funder; covariates included.
- Model (3): Outcome variable regressed on gender of sales agent, marginalized household and interaction of gender of sales agent and marginalized household; covariates included.

Table 17: Logistic Regression Analysis of “Seemed Trustworthy” Purchase Reason, Odds Ratio

	(1)	(2)	(3)
Female CBF	.417** (.143)	.384*** (.126)	.516* (.172)
Female Decision-maker	1.91 (.914)		
Female CBF x Female Decision Maker	1.52 (.686)		
Female Funder		.827* (.425)	
Female CBF x Female Funder		3.37* (2.02)	
Marginalized household			.528* (.198)
Female CBF x Marginalized household			.978 (.522)
Constant	2.45 (1.78)	2.28 (1.51)	2.18 (1.41)
Covariates included ^a	Yes	Yes	Yes
Observations	571	571	571
* = p < 0.10 ** = p < 0.05; *** = p < 0.01			
^a Covariates include M _i , IN _i , D _i , M _i , F _i , P _i			

Table 18: Logistic Regression Analysis of “Offered Good Value” Purchase Reason, Odds Ratio

	(1)	(2)	(3)
Female CBF	.675 (.361)	.592 (.219)	.396** (.136)
Female Decision-maker	1.80 (.830)		
Female CBF x Female Decision Maker	.654 (.407)		
Female Funder		2.10 (.985)	
Female CBF x Female Funder		.692 (.471)	
Marginalized household			.310** (.136)

	(1)	(2)	(3)
Female CBF x Marginalized HH			2.00*** (.761)
Constant	1.01 (.657)	1.12 (.717)	.265 (.636)
Covariates included ^a	Yes	Yes	Yes
Observations	571	571	571
* = p < 0.10 ** = p < 0.05; *** = p < 0.01			
^a Covariates include M _i , IN _i , D _i , M _i , F _i , P _i			

Table 19: OLS Analysis of Decision Lag Time (weeks)

	(1)	(2)	(3)
Female CBF	.212 (.235)	-.089 (.188)	-.062 (.217)
Female Decision-maker	.645*** (.453)		
Female CBF x Female Decision Maker	-.630** (.259)		
Female Funder		.142 (.241)	
Female CBF x Female Funder		-.216 (.277)	
Marginalized HH			.506*** (.399)
Female CBF x Marginalized HH			-.253 (.345)
Constant	2.86 (.255)	2.97 (.256)	2.97 (.237)
Covariates included ^a	Yes	Yes	Yes
Observations	458	458	458
* = p < 0.10 ** = p < 0.05; *** = p < 0.01			
^a Covariates include M _i , IN _i , D _i , M _i , F _i , P _i			

Table 20: Logistic Regression Analysis of Permanent Shelter Rates, Odds Ratio

	(1)	(2)	(3)
Female CBF	.323** (.148)	.504* (.171)	.496** (.148)
Female Decision-maker	1.00 (.340)		
Female CBF x Female Decision Maker	2.56* (1.16)		
Female Funder		1.08 (.418)	
Female CBF x Female Funder		1.29 (.642)	
Marginalized HH			.169*** (.057)
Female CBF x Marginalized HH			1.87 (.720)
Constant	3.96 (2.06)	3.12 (1.47)	3.23 (1.53)
Covariates included ^a	Yes	Yes	Yes

	(1)	(2)	(3)
Observations	573	573	573
* = $p < 0.10$ ** = $p < 0.05$; *** = $p < 0.01$			
^a Covariates include $M_i, IN_i, D_i, M_i, F_i, P_i$			

Table 21: OLS Analysis of Safe San Index Scores

	(1)	(2)	(3)
Female CBF	-.240 (2.55)	.617 (1.91)	.730 (1.99)
Female Decision-maker	-2.58 (3.33)		
Female CBF x Female Decision Maker	6.97*** (2.37)		
Female Funder		-9.39*** (3.05)	
Female CBF x Female Funder		10.05*** (3.35)	
Marginalized HH			-13.85** (5.28)
Female CBF x Marginalized HH			15.39* (7.58)
Constant	88.4 (3.78)	86.9 (3.44)	87.6 (3.12)
Covariates included ^a	Yes	Yes	Yes
Observations	573	573	573
* = $p < 0.10$ ** = $p < 0.05$; *** = $p < 0.01$			
^a Covariates include $M_i, IN_i, D_i, M_i, F_i, P_i$			

Table 22: Logistic Regression Analysis of Hand Hygiene Rates, Odds Ratio

	(1)	(2)	(3)
Female CBF	.266** (.090)	.484** (.139)	.411*** (.102)
Female Decision-maker	1.21 (.452)		
Female CBF x Female Decision Maker	3.58** (1.65)		
Female Funder		.565 (.287)	
Female CBF x Female Funder		1.33 (.722)	
Marginalized HH			.128*** (.047)
Female CBF x Marginalized HH			3.82*** (1.55)
Constant	2.70 (1.42)	1.91 (.880)	2.05 (.939)
Covariates included ^a	Yes	Yes	Yes
Observations	573	573	573
* = $p < 0.10$ ** = $p < 0.05$; *** = $p < 0.01$			
^a Covariates include $M_i, IN_i, D_i, M_i, F_i, P_i$			

ANNEX III: HAND HYGIENE ANALYSIS

Hand hygiene was not a central component of our sanitation marketing component, so analysis of hand hygiene behaviors was not a priority during this study. However, we did take advantage of field research resources to conduct a simple observation to explore any associations between sales agent gender and hand hygiene practices. Our hand hygiene measure is a binary that is true if (1) the household had a dedicated place to wash hands near the latrine and (2) the enumerator observed presence of clean water and soap.

We see in Table 23 that there was a significant difference between clients of male sales agents compared to female sales agents. **In particular, overall, more clients of male sales agents (69 percent) had evidence of good hand hygiene practices, compared to only 58 percent of clients of female sales agents. However, we saw this difference reverse when we looked at marginalized households.** In this case 39 percent of clients from female sales agents had higher rates of observed hand hygiene compared to only 23 percent of clients who purchased from men. This again suggests that male sales agents may have had more influence over key sanitation behaviors in non-marginalized households, while female sales agents had more influence with marginalized households.

Table 23: Percent of Households Practicing Hand Hygiene (by CBF Gender)

	Clients of Male CBF	Clients of Female CBF	Paired difference in means test
	Mean (Std. error)	Mean (Std. error)	
Non-marginalized households	78% (3.9)	63% (4.8)	p-value = .003
Marginalized households	23% (6.4)	39% (7.1)	p-value = .046
ALL Households	69% (4.4)	58% (4.1)	p-value = .026

The logistic regression analysis presented in Table 24 shows there was a significant difference (p-values of 0.021 or less) in the predicted probabilities of hand hygiene between clients who purchased from a female sales agent versus a male sales agent in non-inclusive and non-marginalized households. However, when we looked at inclusive households and marginalized households, the gender difference was insignificant meaning female sales agents and male sales agents had statistically equal probabilities of hand hygiene for these household types. **This association supports the theory that the household type is a driver behind observed gender differences in sales agent performance.**

Table 24: Predicted Probability of Hand Hygiene Practice

Client Household Type	Clients of Female CBF	Clients of Male CBF	Significant difference between CBF Gender?
Male decision-maker only	.423 (.060)	.681 (.059)	p-value = 0.001
Female decision-maker involved	.705 (.048)	.713 (.042)	p-value = 0.878
Male funder only	.589 (.048)	.719 (.044)	p-value = 0.021
Female funder involved	.531 (.077)	.619 (.084)	p-value = 0.342
Non-marginalized household	.595 (.052)	.764 (.041)	p-value = 0.003
Marginalized household	.436 (.073)	.340 (.080)	p-value = 0.275

ANNEX IV: HOUSEHOLD SURVEY INSTRUMENT

I. Interview Data

“I would like to talk with someone in your household about sanitation. This survey is voluntary and anonymous meaning we will not take down your name or connect it back to what you tell us. The survey will not affect your ability to receive any sort of support or access products in any way. I will need to talk to someone or multiple people in your household who can confidently speak about your household’s sanitation. This means someone who was knowledgeable about or who helped decide to buy a latrine. I will also need to speak to someone who can talk about who uses the latrine in your household, especially how children, young girls, and the elderly use the latrine, this should be a female leader. This may or may not be the same person in your household who can talk about those two aspects: buying the latrine and who uses the latrine. Is there someone or a couple of people in the household who fits that criteria that would be willing to speak with me?”

—> If NO, thank them for their time and move on to next household.

1.1	INTERVIEWER NAME										
1.2	INTERVIEW DATE										
			Y	Y	Y	Y			M	M	
											D
1.3	SUPERVISOR NAME										
1.4	SUPERVISOR SIGNATURE (After the survey has been checked)										
1.5	DISTRICT		1.6	VDC							
1.7	WARD NUMBER	[PROVIDE ENUMERATORS WITH LIST OF WARD NUMBERS AS PART OF SAMPLING PLAN]									
1.8	VILLAGE/TOLE NAME										

2. Basic Household Data

Respondent details

2.1	Sex of primary respondent	<ol style="list-style-type: none"> 1. Male 2. Female 	<input type="checkbox"/>
2.2	Who is present and actively listening or participating when the survey is being administered?	<ol style="list-style-type: none"> 1. Respondent alone 2. Respondent with other family members of the opposite sex 3. Respondent with other family members of the same sex 	<input type="checkbox"/>
2.2	Is respondent the head of household?	<ol style="list-style-type: none"> 0. No 1. Yes – traditional head of household 2. Yes – de facto or temporary head of household while traditional head of household is away for migration 3. Yes – widowed head of household due to deceased traditional head of household 	<input type="checkbox"/>
2.3	Sex of household head	<ol style="list-style-type: none"> 1. Male 2. Female 	<input type="checkbox"/>
2.4	Age of household head (in years)	<input type="text"/> years	
2.5	Ethnicity of household head	<ol style="list-style-type: none"> 1. Dalit 2. Marginalized Janajati (<i>Janajati except Newar and Thakali</i>) 3. Marginalized Madhesi (<i>Madhesi castes excluding Brahmin Jha, Mishra and Rajput Kayastha and similar so called upper castes, Dalit and Janajati from Tarai /Madesh origin</i>) 4. Others- Brahmin, Chhetri and others 5. Non-response 	<input type="checkbox"/>
2.6	Education of household head - based on highest grade completed	<ol style="list-style-type: none"> 1. Illiterate 2. Informal Literate 3. Primary Education (Class V completed) 4. Secondary Education (Class X completed) 5. Higher Secondary Education (Class XII Completed) 6. University (Above Class XII) 	<input type="checkbox"/>

HOUSEHOLD COMPOSITION

(A household as a group of people who live together and take food from the “same pot”)

2.7	Does anyone in this household have... Any condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	0. No 1. Yes	[]		
2.8	Does anyone in this household have... A vision problem that prevents them from seeing even if wearing glasses?	0. No 1. Yes	[]		
2.9	Does anyone in this household have... A hearing problem that prevents them from hearing what is said in normal conversation even with a hearing aid?	0. No 1. Yes	[]		
2.10	Have any of your household members migrated and are still living away from home?	0. No 1. Yes – within district 2. Yes – within Nepal 3. Yes – outside of Nepal	[]		
2.11	Please complete the table, showing number of male and female household members in each category	AGE RANGE IN YEARS	NUMBER OF HOUSEHOLD MEMBERS		
			MALE	FEMALE	TOTAL
		>=65			
		30-64			
		15-29			
		2-14			
		0-2			

3. Latrine purchase information

For these questions I would like to talk to someone in the household who has knowledge of and feels comfortable talking about the decision to buy a latrine and knows who paid for it.

3.1	Who in your household decided to buy the latrine?	<ol style="list-style-type: none"> 1. Wife 2. Husband 3. Husband and Wife jointly 4. Oldest Son 5. Oldest daughter 6. Other, <i>specify</i>: <hr/>	[]
3.2	<p>What role does this [person/people] play in the household?</p> <p><i>Select all that apply.</i></p>	<ol style="list-style-type: none"> 1. Head of household 2. Main income earner 3. Main decision maker 4. Adviser to the main decision maker 5. Raising children 6. Prepare household meals 7. Domestic household work (sweeping, washing utensils, cleaning toilets and bathrooms) 8. Other, <i>specify</i>: <hr/>	[]
3.3	Who gave the money to buy the latrine?	<ol style="list-style-type: none"> 1. Wife 2. Husband 3. Husband and Wife jointly 4. Oldest Son 5. Oldest daughter 6. Other, <i>specify</i>: <hr/>	[]
3.4	Does this person live in this household?	<ol style="list-style-type: none"> 0. No 1. Yes 	[]
3.5	<p>Why did your household decide to purchase a latrine?</p> <p><i>Select all that apply</i></p>	<ol style="list-style-type: none"> 1. Health reasons 2. Privacy 3. Security 4. Social Status 5. Peer/community pressure 6. Other: <hr/>	[]

3.6	<p>Did you or someone in your household receive a sales presentation about purchasing a latrine?</p> <p><i>Select all that apply</i></p>	<p>0. No (or don't recall) <i>SKIP to 3.9</i></p> <p>1. Yes – via a group sales presentation</p> <p>2. Yes – via a visit to my household</p>	[]
3.7	<p>What information or messages can you recall from the sales presentation?</p> <p><i>(Do not read options out loud. Let respondent speak and then select all that apply from the list.)</i></p>	<p>1. Costs of not owning a toilet - hospital and medicine bills</p> <p>2. Costs of not owning a toilet - lost time at work</p> <p>3. Costs of not owning a toilet - transportation to hospital or clinic</p> <p>4. How poor hygiene can cause sickness</p> <p>5. Security</p> <p>6. Privacy</p> <p>7. Cost of Easy Latrine</p> <p>8. Other:</p> <p>_____</p>	[]
3.8	<p>After hearing the sales pitch, how long did it take your household to make the decision to purchase a latrine?</p>	[] weeks	
3.9	<p>Can you recall the name of the person from whom your household purchased your latrine?</p>	<p>0. No</p> <p>1. Yes:</p> <p>_____</p>	[]
3.10	<p>Can you recall whether you purchased your latrine from a man or a woman?</p>	<p>1. Male</p> <p>2. Female</p>	[]
3.11	<p>Why did your household decide to purchase a latrine from this source (CBF)?</p> <p><i>Select all that apply</i></p>	<p>1. Member of the community</p> <p>2. Recommended by family/neighbor/friend</p> <p>3. Seemed trustworthy</p> <p>4. Persistence /follow-up of CBF</p> <p>5. CBF offering best product for value</p> <p>6. Other:</p> <p>_____</p>	[]

4. Latrine and shelter Details

4.1	<p>What type of latrine did your household have before installing this one?</p>	<ol style="list-style-type: none"> 1. No latrine 2. Open pit latrine 3. Shared latrine with others 	[]
4.2	<p>What kind of shelter walls does your current latrine have?</p> <p><i>Determine by direct observation. Select one, if more than one wall type chooses the material that covers the largest area.</i></p>	<ol style="list-style-type: none"> 1. Concrete / brick 2. Galvanized steel 3. Wood 4. Bamboo / Leaves / Thatch 5. Plastic sheet 6. Cloth 7. Other: _____ 	[]
4.3	<p>What kind of roof does your current latrine have?</p> <p><i>Determine by direct observation.</i></p>	<ol style="list-style-type: none"> 1. No roof 2. Concrete / brick 3. Galvanized steel 4. Wood 5. Bamboo / Leaves / Thatch 6. Plastic sheet 7. Tiles 8. Other: _____ 	[]
4.4	<p>Is there a latrine closure/door over entry for privacy?</p>	<ol style="list-style-type: none"> 0. No 1. Yes 	[]
4.5	<p>Do you intend to make any changes to your latrine in the next three years?</p> <p><i>Select all that apply</i></p>	<ol style="list-style-type: none"> 0. No 1. Yes – install a second pit 2. Yes – build a water reservoir 3. Yes – build a space to shower 4. Yes – install a basin to wash hands 5. Yes – build a new shelter or upgrade the existing shelter 6. Yes - other: _____ 	[]
4.6	<p>What does your household plan to do when your pit latrine fills?</p>	<ol style="list-style-type: none"> 1. Plan to empty it ourselves 2. Plan to open it during a flood 3. Plan to pay a professional to empty it 4. Plan to install a second pit 5. Plan to stop using the latrine 6. Not sure what to do 	[]

5. Latrine Use

For this section I would like to speak with a female leader in your household who feels comfortable and able to talk about who uses the latrine for different groups of household members.

5.0	Able to locate and speak with a female leader within the household?	0. No Skip module 1. Yes	[]
5.1a	How often do you (respondent) personally use the latrine to defecate?	0. Never 1. Sometimes / occasionally 2. Usually / mostly 3. Always Skip to 5.2a	[]
5.1b	Why do you not use the latrine facility to defecate?	1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: _____	[]
5.2a	How often do the elders (65 years or older) in your household use the latrine to defecate?	0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always Skip to 5.3a	[]
5.2b	Why do you think this group does not use the latrine facility to defecate?	1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: _____	[]

5.3a	How often do the (other) married women who are not elders in your household use the latrine to defecate?	<ul style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.4a</i> 	[]
5.3b	Why do you think this group does not use the latrine facility to defecate?	<ul style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: _____ 	[]
5.4a	How often do the (other) unmarried women (over 15 years old) who are not elders in your household use the latrine to defecate?	<ul style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.5a</i> 	[]
5.4b	Why do you think this group does not use the latrine facility to defecate?	<ul style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: _____ 	[]
5.5a	How often do the married men who are not elders use the latrine to defecate?	<ul style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.6a</i> 	[]

5.5b	Why do you think this group does not use the latrine facility to defecate?	<ol style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: <hr/>	[]
5.6a	How often do the unmarried men (over 15 years old) who are not elders use the latrine to defecate?	<ol style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.7a</i> 	[]
5.6b	Why do you think this group does not use the latrine facility to defecate?	<ol style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: <hr/>	[]
5.7a	When school age girls in your households are at home, how often do they use the latrine to defecate?	<ol style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.8a</i> 	[]
5.7b	Why do you think this group does not use the latrine facility to defecate?	<ol style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: <hr/>	[]

5.8a	When school age boys in your households are at home, how often do they use the latrine to defecate?	<ul style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.9a</i> 	[]
5.8b	Why do you think this group does not use the latrine facility to defecate?	<ul style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: _____ 	[]
5.9a	How often do people with a physical disability in your household use the latrine to defecate?	<ul style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always <i>Skip to 5.10</i> 	[]
5.9b	Why do you think this group does not use the latrine facility to defecate?	<ul style="list-style-type: none"> 1. Did not contribute financially to the purchase 2. Doesn't accommodate physical needs 3. Prefer open air, don't like closed space 4. Social taboo for different genders or ages to share the same space 5. Latrine is too close to the house – makes the house impure 6. Miss the group / social time to catch-up with friends and neighbors 7. Other: _____ 	[]
5.10	For young children, too young to use the latrine, after they defecate on the ground around your household, how often do you put their feces in the latrine?	<ul style="list-style-type: none"> 0. No member / others beside the respondent in this group 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always 	[]

5.11	If a member of your household becomes critically ill and must defecate in the dwelling or outside, do you throw their feces in the latrine?	<ol style="list-style-type: none"> 1. Never 2. Sometimes / occasionally 3. Usually / mostly 4. Always 	[]
5.12	<i>Observe, do not ask, for signs of latrine use. Select all that apply</i>	<ol style="list-style-type: none"> 1. Well-worn path between the house and the latrine facility. 2. Signs of wear around the pan. 3. Pan is not broken 4. Absence of storage materials. 5. Door in good repair 6. Absence of spider webs, among others. 7. Cleaning agents inside the latrine (broom, water container, bleach) 8. Slippers outside or inside the latrine 	[]

6. Hand Hygiene

6.1	Do you have a designated area to wash hands in your household after defecation?	0. No <i>end module 6 skip to module 7</i> 1. Yes <i>ask to be shown the location</i>	[]
6.2	<i>Observe and do not ask:</i> Is there presence of soap, detergent, or other cleansing agents observed?	0. No 1. Yes	[]
6.3	<i>Observe and do not ask:</i> Is there presence of clean water observed?	0. No 1. Yes	[]
6.4	<i>Observe and do not ask:</i> Where is the designated handwashing place located?	1. Near the latrine 2. Near the kitchen / food preparation area 3. Near the bedroom / living area 4. Other: _____	[]

7. Livelihood Sources

7.1	To the best of your recollection, can you estimate your household's average monthly income over the past year?	[] rupees per month	
7.2a	What is your household's primary source of income?	0. No source of income 1. Agriculture wage labor 2. Agriculture earnings from market 3. Animal husbandry / livestock 4. Trade (buy and sell goods for a profit) 5. Small business (retails shops / tea stalls) 6. Skilled labor (plumbing, tailor) 7. Other daily labor 8. Remittances 9. Renting land or equipment 10. Transfer payments (pensions, aid) 11. Other	[]
7.2b	To the best of your knowledge, how much did this income source earn per month?	[] rupees per month	
7.2c	How many months out of the past year (1-12 months), did you have this income source?	[] month	
7.3a	What is your household's secondary source of income?	0. No source of income 1. Agriculture wage labor 2. Agriculture earnings from market 3. Animal husbandry / livestock 4. Trade (buy and sell goods for a profit) 5. Small business (retails shops / tea stalls) 6. Skilled labor (plumbing, tailor) 7. Other daily labor 8. Remittances 9. Renting land or equipment 10. Transfer payments (pensions, aid) 11. Other	[]
7.3b	To the best of your knowledge, how much did this income source earn per month?	[] rupees per month	

7.3c	How many months out of the past year (1-12 months), did you have this income source?	[] month	
7.4a	What is your household's third source of income?	<ul style="list-style-type: none"> 0. No source of income 1. Agriculture wage labor 2. Agriculture earnings from market 3. Animal husbandry / livestock 4. Trade (buy and sell goods for a profit) 5. Small business (retails shops / tea stalls) 6. Skilled labor (plumbing, tailor) 7. Other daily labor 8. Remittances 9. Renting land or equipment 10. Transfer payments (pensions, aid) 11. Other 	[]
7.4b	To the best of your knowledge, how much did this income source earn per month?	[] rupees per month	
7.4c	How many months out of the past year (1-12 months), did you have this income source?	[] month	

8. PPI - Poverty Measure

#	Question	Response Options		Code
8.1	How many household members are there?	Eight or more		0
		Seven		6
		Six		8
		Five		12
		Four		19
		Three		30
		One or Two		34
8.2	In what type of job did the male head/spouse work the most hours in the past seven days?	No male head/spouse		0
		Does not work, or paid wages on a daily basis or contract/piece-rate in agriculture		0
		Paid wages on a daily basis or contract/piece-rate in non-agriculture		4
		Self-employed in agriculture		5
		Self-employed in non-agriculture		7
		Paid wages on a long-term basis in agriculture or non-agriculture		8
8.3	How many rooms where household members sleep does your residence have?	None		0
		One		2

		Two		7
		Three or more		11
8.4	Main construction material of outside walls?	Bamboo/leaves, unbaked bricks, wood, mud-bonded bricks/stones, or no outside walls		0
		Cement-bonded bricks/stones, or other material		6
8.5	Main material roof is made of?	Straw/thatch or earth/mud		0
		Tiles/slate, or other		2
		Wood/planks or galvanized iron		6
		Concrete/cement		7
8.6	Does your residence have a kitchen?	No		0
		Yes		5
8.7	What type of stove does your household use for cooking?	Open fireplace, mud, kerosene stove or other		0
		Gas stove, or smokeless oven		3
8.8	What type of toilet is used by your household?	None, household non-flush, or communal latrine		0
		Household flush		6

8.11	How many telephone sets/cordless/mobile phones does your household own?	None		0
		One		8
		Two or more		14
8.10	Does your household own, sharecrop-in, or mortgage-in any agricultural land? If yes, is any of it irrigated?	No		0
		Yes, but non irrigated		3
		Yes, and some irrigated		6

9. DATA ENTRY RECORD

9.1	DATA ENTRY CLERK NAME											
9.2	DATA ENTRY DATE											
			y	y	y	y		m	m		d	d

ANNEX V: FOCUS GROUP DISCUSSION GUIDE

Structure Checklist

1. Male and female CBFs separate
2. Between 4 and 8 participants per group
3. 1-2 notetakers
4. FGD experienced moderator
 - Female moderator and notetakers for Female CBF - very important that it is a female only space
 - Male moderator and notetakers for male CBFs

Consent

Consent forms for focus group participants are completed in advance by all those seeking to participate. Below is a summary of the information in the consent form that focus group organizers and facilitators should use to make sure participants understand the information in the consent form.

Thank you for agreeing to participate. We are very interested to hear your valuable opinion about your work as a CBF to sell latrines.

- *The purpose of this study is to learn how CBFs sell latrines, from what approaches work best to what problems they encounter. We hope to learn things that iDE and other organizations can use to better sell latrines to all groups of people.*
- *The information you give us is completely confidential, and we will not associate your name with anything you say in the focus group.*
- *You may refuse to answer any question or withdraw from the study at any time.*
- *We understand how important it is that this information is kept private and confidential. We will ask participants to respect each other's confidentiality.*
- *Please check the boxes on and sign, initial, or thumbprint to show you agree to participate in this focus group.*

Name	Gender	District (area covered as CBF)	Experience as CBF (in years – can include quarter and half years)	Consent

Focus Group Discussion Guide

1. Introduction

- a. Introduce yourself and the notetaker and have the notetaker complete the sign-in sheet and obtain consent from every participant before beginning.

- b. Review the following:

Who we are and what we're trying to do: We are trying to understand how your work as a CBF affects how customers BUY and USE latrines

What will be done with this information

Why we asked you to participate

2. Explanation of the process

- a. Ask the group if anyone has participated in a focus group before. Go over the principles:

We learn from you (positive and negative feedback always welcome)

There are no "right" answers. We are looking to understand what you think and how you feel about these topics.

Not trying to achieve consensus, we're gathering information

Information provided in the focus group must be kept confidential

3. Ask the group if there are any questions before we get started, and address those questions.

4. Introductions

Go around table: name, where you were born

5. Discussion begins

- a. Make sure to give people time to think before answering the questions and don't move too quickly. Use the probes to make sure that all issues are addressed, but move on when you feel you are starting to hear repetitive information.

Focus Group Questions

1. Why did you become a CBF?

Probe: What part do you like the most or get most excited about?

Probe: What part do you like the least or is the hardest?

Probe: Besides selling latrines, do you have much other contact with your customers in the community? What types of interactions do you have with them?

2. We understand that there are many reasons that people don't or can't buy latrines. What do you think some of the biggest reasons are?

Probe: What sort of things do you look for to give you an idea of whether a household is likely to buy a latrine?

Probe: Do your observations affect how much time you will spend with them or if you will visit them? Why or why not?

3. We just talked about some reasons why people don't or can't buy latrines. As a CBF, what do you do when you hear these types of responses?

4. Do you think of your potential clients in different types or groups? What sort of groups or types? Why or why not?

Note: If the group does not come up with its own groups, you may help prompt participants with different groups such as socioeconomic groups, ethnic groups, more rural vs more urban etc.

Probe: How does thinking about them differently affect your work?

5. One way to distinguish customers is between men and women. In your opinion, is selling to men any different than selling to women?

Probe: Do women generally buy differently than men?

Probe: Do men and women ask different questions? Do they express different concerns?

Probe: Do you use different tactics or messages to sell to men versus selling to women?

Probe: Do you think women or men are better at selling to certain 'kinds' of clients? Who? Why?

6. What do you generally talk about in your sales presentation?

Probe: What do you think is the most effective message(s) to convince people to buy a toilet?

Probe: Is that effective message the same for all types of potential clients? Why or why not?

Probe: Do you talk to potential customers about how to use or maintain the toilet properly?
(Please use this probe as a transition into the next question)

7. Do you have any idea who in the household uses the latrine after they buy one?

Probe: Do you think everyone uses them equally? Why or why not?

Probe: Have any of your customers expressed concern about not having access at all, or at certain times for one reason or another? What kinds of concerns did they express? For whom in the household? **(Note: Probe for different aspects of use and access. These could be physical barriers (such as latrines getting muddy or waterlogged in rainy season), or social barriers (such as women not using the latrine while menstruating)).**

Probe: Have you ever done anything to help clients overcome the barriers they face to using their latrines?

8. Are there other sanitation behaviors that you think households should be practicing, in addition to using their latrine? **(Note: if respondents do not answer, you may provide examples such as handwashing after defecation, cleaning the latrine periodically, disposing of children's feces in the latrine, etc.)**

Probe: Do you talk about these behaviors during the sales presentation? Why or why not?

Probe: Have any of your customers expressed concern about not being able to practice these behaviors for one reason or another? What kinds of concerns did they express?

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