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DOROTHY NABATANZI FOR TETRA TECH

UGANDA NATIONAL SANITATION MARKET STRATEGY FOR BASIC SANITATION

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ACRONYMS

BoQ	Bill of Quantities
CLA	Collaborating, Learning, and Adapting
CLTS	Community-Led Total Sanitation
DIY	Do-it-yourself
GoU	Government of Uganda
HH	Household
IBT	Improved Basic Toilets
JMP	UNICEF/ WHO Joint Monitoring Programme
KIT	Key Intervention Theme
MBS	Market-based Sanitation
MEL	Monitoring, Evaluation, and Learning
MFI	Microfinance Institution
MoE	Ministry of Education and Sports
MoH	Ministry of Health
MWE	Ministry of Water and Environment
NSMS	National Sanitation Market Strategy for Basic Sanitation
NSWG	National Sanitation Working Group
O&M	Operations and maintenance
OD	Open defecation
ODF	Open defecation free
RHIS	Rural Household and Institutional Survey
UBOS	Uganda Bureau of Statistics
USHA	Uganda Sanitation for Health Activity
SC	Sub-committee
SDG	Sustainable Development Goal
VC	Value chain
VCAS	Value Chain Actor Survey
WASH	Water, sanitation, and hygiene
WASHPaLS	Water, Sanitation, and Hygiene Partnerships and Learnings for Sustainability Project

GLOSSARY OF TERMS

TERM	DEFINITION
Basic sanitation service ¹	Sanitation facilities which are designed to hygienically separate excreta from human contact, and which are used by a single household
Best-fit products	A product most suited to a customer segment's unique needs, preferences, and affordability
Delivery model ²	The process and mechanism through which products, services, and information reach the customer during the toilet buying process
Demand activation ²	Direct sales and marketing activities carried out to persuade customers to convert product awareness and interest into a purchasing decision
Demand generation ²	Activities carried out to drive awareness of and interest in hygienic sanitation behaviors, and improved sanitation products and services
Enterprise ²	A business that facilitates exchanges of products and services between entrepreneurs and customers
FPE – Focal-point enterprise ²	An enterprise that plays the role of primary contact for a customer and provides materials, services, and/ or information to facilitate the purchase of a toilet
IBT – Improved Basic Toilet ¹	In this document, defined as toilets with a washable interface that are not shared with other households (i.e. meet the definition of basic service)
Implementer	Local or international non-governmental organizations (NGOs), community-based organizations (CBOs), and local governments that oversee the design and implementation of MBS interventions
Interface ²	The surface (e.g. slab, pan, mud flooring or seated technology) the user interacts with while using a toilet, separating the sub-structure and the superstructure
Latent demand ²	Households that have an interest in purchasing a toilet, but have not purchased one yet
Limited sanitation services ¹	Improved basic toilets shared by two or more households
MBS – Market-based sanitation ²	An interrelated series of activities to develop and sustain a sanitation market in which the user makes a full or partial monetary contribution (with savings and/or cash equivalents) toward the purchase, construction, upgrade, and/or maintenance of a toilet from the private sector
On-site sanitation ²	Sanitation facilities (e.g., septic tanks, pit latrines) that are not connected to centralized wastewater collection and conveyance systems
Linked actors	In this document, refers to individuals or organizations that work with sanitation entrepreneurs in furthering MBS, but who do not act as the primary contact for customers (e.g., plastic pan manufacturers, demand activators, financiers)
Permanent materials ³	Construction materials with a usable life of more than 15 years; e.g., concrete, cement screed, tiles, iron sheets
Sanitation entrepreneur	Value chain actors that play some focal-point role by aggregating materials, services, and/ or information on behalf of the customer

¹ WHO/ UNICEF Joint Monitoring Programme (JMP).

² Definitions are based on Agarwal, Rishi et. al. "Scaling Market Based Sanitation". June 2018.

³ Uganda Bureau of Statistics, Government of Uganda. "National Population and Housing Census 2014: Analytical Report". 2017.

Sanitation market ²	Arrangements involving the exchange of sanitation-related goods or services among buyers, sellers, and sanitation enterprises
SanPlat ²	A 60 cm x 60 cm concrete toilet slab that has a key-shaped drop hole, elevated footrests, smooth and sloping surfaces draining towards the hole, and a tight-fitting lid
Substructure ²	The below ground components of a toilet (e.g., pit, lining, septic tank)
Superstructure ²	The walls, roof, and door components of a toilet
Temporary materials ³	Construction materials with a usable life of no more than 3 years; e.g., grass, mud
Toilet buying process	A customer's decision-making journey when purchasing a toilet
Toilet upgrades ²	Converting the interface of an unimproved toilet to an IBT rather than choosing to build an entirely new structure
Unimproved sanitation services ¹	Toilets without a washable slab, bucket latrines, or hanging latrines
Unit margin	The profit margin (%) per unit (e.g., per toilet)
Value chain	The process and activities that are performed in order to construct a toilet for a customer. These activities are performed by actors within the value chain (value chain actors) and includes supply of construction materials (e.g., hardware stores, sand miners), and provision of construction-related services (e.g., masons, transporters)
1-stance toilet	In this document, refers to a toilet with a single drop-hole
2-stance toilet	In this document, refers to a toilet with two drop-holes, typically separated by a wall

FOREWORD

<This section is a work in progress and will be finalized before the NSMS is published>

EXECUTIVE SUMMARY

Household sanitation is a longstanding development priority for the Government of Uganda (GoU). Recent progress in reducing open defecation has not translated into an increase in *basic sanitation services*. Currently only 19% of Ugandan households have access to improved basic toilets (IBTs) and the country is off track to meet Sustainable Development Goal (SDG) 6.2 related to universal access to adequate and equitable sanitation by 2030. The Ugandan government considers on-site sanitation a household responsibility for which direct government or donor investment is generally unavailable. Given this, meeting SDG 6.2 requires a national commitment to fostering Market Based Sanitation (MBS) through which enabling conditions are put in place to empower households to take responsibility for meeting their sanitation needs.

The purpose of this National Sanitation Market Strategy for Basic Sanitation (NSMS) is to provide the Government of Uganda and implementers with a strategic roadmap on how to use MBS to increase basic on-site sanitation services in Uganda. The NSMS is based on formative research and analysis conducted by USHA, supported by the Uganda Bureau of Statistics, from April 2018 to June 2019.

Using the 2018 USAID WASHPaLS MBS framework, the NSMS provides a summary of barriers and drivers for MBS in Uganda across the core sanitation market, the business environment and the broader context.

Formative research suggests the total market potential for IBTs in Uganda is up to UGX 3.5 trillion (approximately one billion USD). The NSMS groups the estimated 5.6 million households without IBTs into 11 customer segments that are internally homogenous and externally heterogeneous with respect to their sanitation preferences and purchase behavior. The research suggests that around 1.9 million households may be able to afford full IBTs at current prices, and an additional 3 million households may be able to afford interface-only upgrades or other potentially lower-priced variants. Using this information, the NSMS suggests four *priority* segments, constituting a target market of 2.7 million households, which are currently most amenable to MBS interventions.

The NSMS details four key intervention themes (KIT) for implementers to focus MBS efforts in Uganda in the near to medium term.

1. **Developing best-fit products** that consider a segment's needs, preferences, and affordability
2. **Activating demand** with tailored marketing messages for each customer segment
3. **Facilitating a network delivery model** that allows customers to receive all the information they need related to the best-fit product, in a consolidated manner
4. **Developing user-appropriate sanitation loan products** to reduce the households' unwillingness to obtain financing, and reduce their liquidity barriers

The NSMS was developed in close consultation with the multi-stakeholder MBS sub-committee of the National Sanitation Working Group (NSWG). The NSMS is to be periodically updated based on market reactions, learnings from implementation, and market evolution. Successful implementation, and therefore significant and sustained impact, will require continued close collaboration across the sub-committee's stakeholders, including government, funders, implementers, local lenders, and the private sector.

1.0. JUSTIFICATION AND PURPOSE

Between 2000 and 2015, the percentage of the Ugandan population practicing open defecation (OD) decreased dramatically, dropping from 12% to 7% nationally, and from 14% to 8% in rural areas.⁴ This was made possible through a supportive policy environment (e.g., Uganda Public Health Act, Environmental Health Policy 2005, the ten-year Improved Sanitation and Hygiene strategy 2006⁵), strong political leadership from the Ministry of Health (MoH) and Ministry of Water and Environment (MWE), and annual conditional grants to district governments. Since 2011, the Environmental Health Division of the MoH has provided funding for Community Led Total Sanitation (CLTS), covering 38 districts, through the Uganda Sanitation Fund (USF). National-level initiatives such as the annual National Sanitation Week help keep sanitation high on the development agenda.

In 2015, the GoU adopted the Sustainable Development Goals (SDGs) as part of the national development agenda – Vision 2040. Directed under the Office of Prime Minister, the SDGs are expected to be fully institutionalized through sector and local government planning, budgeting and project implementation. To that end, in 2018, the MoH and MWE aligned WASH sector performance indicators with SDG 6.2.⁶

Specific to sanitation, SDG 6.2 aims to achieve access to adequate and equitable sanitation and hygiene for all, and end OD. Adoption of SDG 6.2 requires the GoU to continue its focus on eliminating OD, while also supporting an enabling environment for households to adopt basic sanitation. The pace of progress on the latter has been slow – for example, basic sanitation increased from 9% to 19% nationally, and from 8% to 16% in rural areas⁷ between 2006 and 2016.

As per GoU policy,⁸ investment in on-site sanitation services is a household responsibility for which government or donors do not offer subsidies. Hence, achieving SDG 6.2 requires committing to and fostering an MBS approach that encourages household investment in desirable and affordable toilets delivered by local private sector actors. To this end, the purpose of this NSMS is to provide implementers with a strategic roadmap for how to use MBS to increase basic on-site sanitation services in Uganda considering the current context, barriers, and drivers.

This document begins by laying out the current market context and describes the key barriers and drivers that influence MBS in Uganda (Sections 2 and 3). This is followed by a prioritization of customer segments best suited for MBS interventions (Section 4) and key intervention themes that will help advance MBS in the short to medium term (Section 5). The document concludes by identifying critical roles that various stakeholders must play to successfully implement the NSMS (Section 6). Additional information from USHA’s research and analysis are provided in the annexes (Section 7).

2.0. SANITATION MARKET CONTEXT IN UGANDA

A sanitation market refers to arrangements involving the exchange of sanitation-related goods or services between buyers, sellers, and sanitation enterprises. An MBS approach treats households as customers rather than beneficiaries, encouraging them to make a monetary contribution in

⁴ Uganda Bureau of Statistics, Government of Uganda. “Uganda Demographic and Health Survey”, 2006 and 2016.

⁵ Focuses on demand generation for sanitation and hygiene; strengthening supply of sanitation services; and providing an enabling framework to support and facilitate accelerated scaling up of sanitation and hygiene education.

⁶ Ministry of Water and Environment. “Water and Environment Sector Performance Report”. 2018.

⁷ Uganda Bureau of Statistics, Government of Uganda. “Uganda Demographic and Health Survey”, 2006 and 2016.

⁸ Government of Uganda, “Financing Strategy for Sanitation and Hygiene Promotion in Uganda”. 2006.

purchasing or upgrading to an IBT, delivered through the private sector. MBS therefore places the household at the center of decision-making. User perspectives drive the intervention design so that households are ultimately able to choose a product best suited to their needs. Value chain actors engage directly with households, and competition among actors incentivizes innovation.

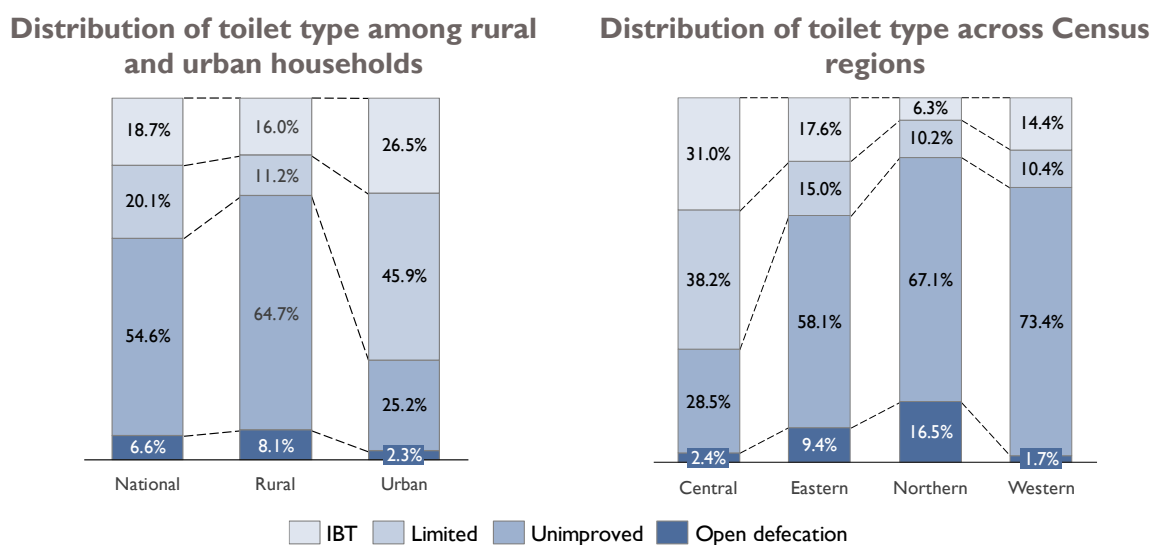
The total market potential for IBTs in Uganda is up to UGX 3.5 trillion.⁹ Among the 5.6 million households that do not currently own IBTs, around 34% (1.9 million households) may be able to afford full IBTs at current prices, and an additional 54% (3 million households) may be able to afford interface-only upgrades or other potentially lower-priced variants. The remaining 12% of households are unable to afford upgrades at current prices.

To unlock this market, implementers must develop and execute interventions that address barriers faced by customers and value chain actors. This requires an understanding of the customer, the private sector value chain, and the policy and regulatory contexts which govern buyer and seller interactions. The following sections describe the current state of the Ugandan sanitation market including household contexts (i.e., customers), value chain context (i.e., suppliers) and the products available.

2.1. HOUSEHOLDS

The sanitation profile in Uganda varies greatly between urban and rural households and across regions, as illustrated in **Figure 1**.¹⁰ Rural areas tend to have a greater proportion of unimproved toilets, while urban households are more likely to have limited services. The Northern and Western regions have the highest prevalence of unimproved sanitation.

Figure 1: Distribution of type of household toilet facilities in Uganda



It is well established that household preferences and beliefs around sanitation differ across the country, sometimes because of varying cultural norms. For example, some communities consider OD to be relatively acceptable, while others see it as highly embarrassing. Subtler differences in

⁹ Market potential was calculated by assuming that the 1.9 million households who are able to pay for toilets would be willing to invest in them. These toilets were full 1-stance and 2-stance variants at current prices (approximately UGX 0.8m and UGX 1.4m respectively). The potential for the additional 3 million households was estimated by taking an average of current prices for interface-only solutions and other potential lower-priced variants, and assuming households would be willing to invest in them.

¹⁰ Uganda Bureau of Statistics, Government of Uganda. “Uganda Demographic and Health Survey”, 2016.

household sanitation preferences and behavior are not consistently explained by geography alone, and behavioral drivers have so far not been well documented.

To further understand how household sanitation preferences and behaviors differ across the country, USHA conducted a Rural Household and Institutional Survey (RHIS) from October to November 2018. The RHIS surveyed 11,871 households across Uganda, of which 1,185 households were selected for in-depth interviews. The sample was designed in collaboration with UBOS, and the results were weighted to develop a nationally and regionally representative data set. 37% of households within the RHIS sample set were female-headed and 56% had unimproved toilets, as compared to 31% and 55% respectively per published national statistics.¹¹ Details on the survey methodology can be found in Annex A.

RHIS results helped identify variables that are most likely to predict significant statistical differences in household behavior against key drivers of IBT purchase. These drivers of purchase behavior are: general sanitation awareness, awareness of IBT benefits, involvement in the toilet buying process, and ability¹² and willingness¹³ of a household to pay for an IBT (described in more detail in Annex B). The household segmentation variables ultimately selected are: region, urban or rural setting¹⁴, distance from the nearest main road, source of water for non-drinking purposes, and use of mobile money.

The selected variables were combined to meaningfully divide the total population of non-IBT users in Uganda (80.4% of total households) into 11 identifiable segments, based on toilet purchase behavior (**Figure 2**). Households within a segment are largely homogenous in terms of toilet purchase behaviors, but vary on some areas such as income level, loan-taking behavior, and house ownership.

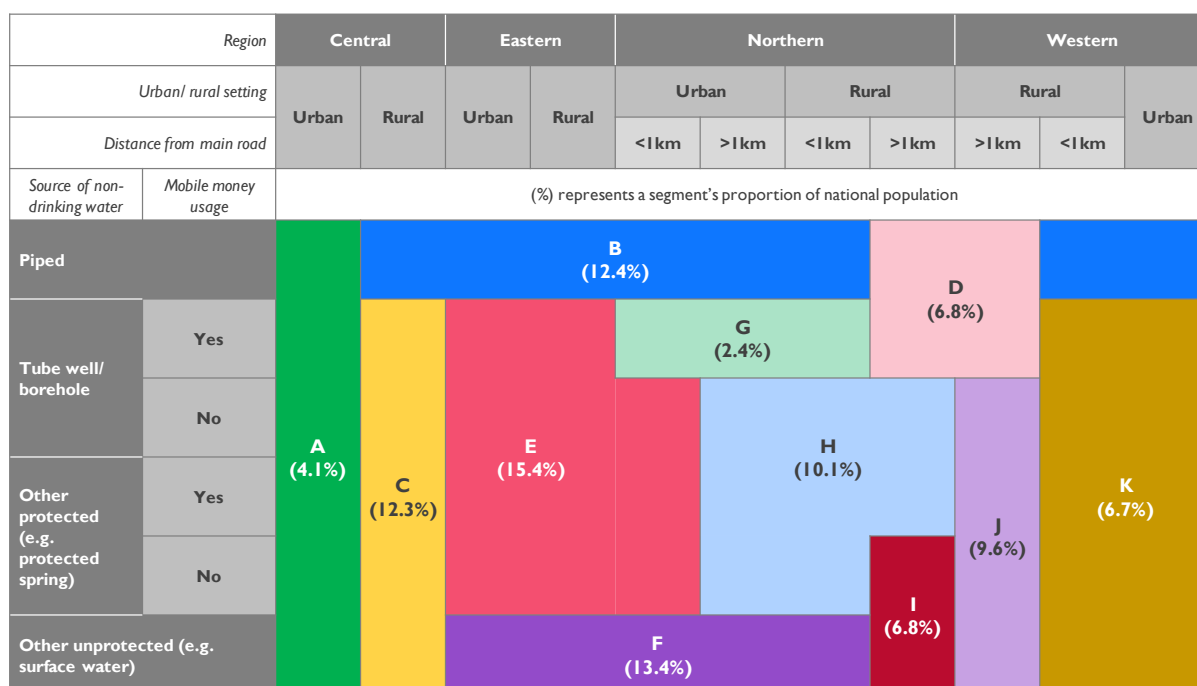
¹¹ Uganda Bureau of Statistics, Government of Uganda. “Uganda Demographic and Health Survey”, 2016.

¹² Ability to pay was estimated based on the market value of select assets owned by the household

¹³ Willingness to pay is as stated by the household

¹⁴ As defined by UBOS

Figure 2: Customer segmentation frame for non-IBT users



2.2. VALUE CHAIN

Results from the RHIS and VCAS¹⁵ suggest that households in both urban and rural Uganda typically construct IBTs using a *Do-it-yourself* (DIY) model whereby households independently arrange for pit digging and masonry labor to construct the substructure, interface, and superstructure. The current delivery model does not offer households information on what type of IBT and toilet design is best suited for their needs and preferences, nor does it offer information on the construction process or materials required in an organized manner, from a single source.

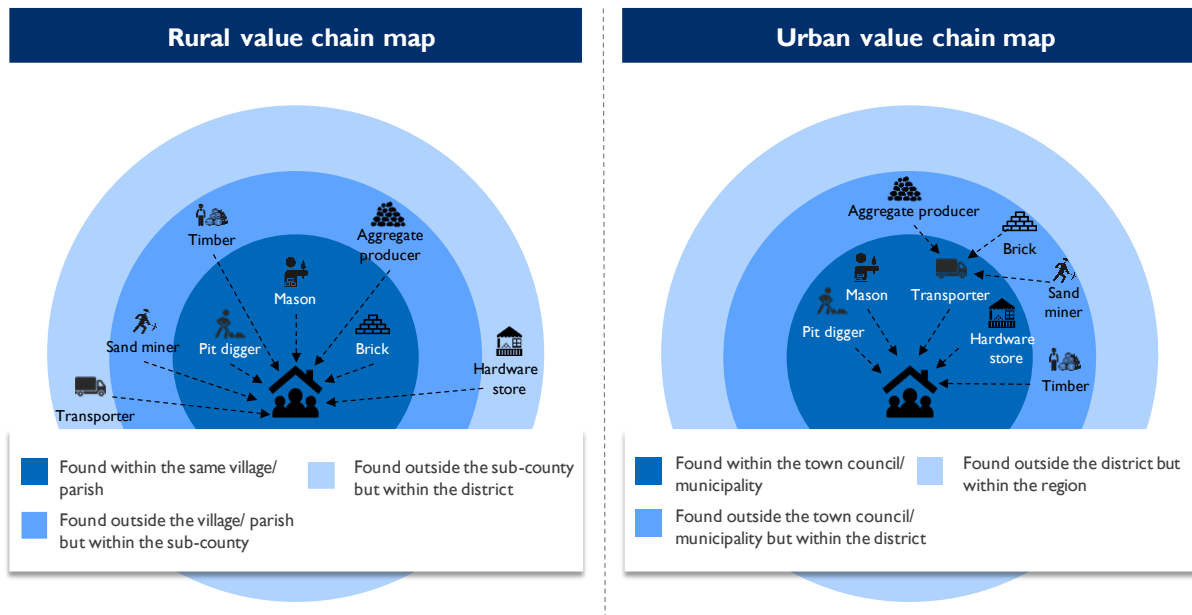
Households typically source construction materials from numerous suppliers (e.g., sand miners, hardware stores) before a mason can perform his/her role. Households in rural areas often independently arrange for these materials (e.g., sand, aggregate, brick) from input suppliers, and hire a transporter to pick up and deliver the materials to their home. Conversely, households in urban areas often arrange for transporters to purchase materials on their behalf.

As seen in **Figure 3**, both rural and urban customers may need to interact with as many as eight value chain actors to construct toilets.¹⁶ Value chain actors are located at varying distances from households – as expected, distances are often further away in rural areas. Service providers (i.e., pit diggers and masons) are typically located within a radius of 2 km of all households, while input suppliers (e.g., aggregate producers) are located further away. It is notable that rural households must travel an average of 20 km to a hardware store that supplies materials required for toilet construction (e.g., cement, iron bars).

¹⁵ Refer to the Annex A for more information on the quantitative and qualitative value chain research conducted.

¹⁶ Based on findings from qualitative value chain interviews

Figure 3: Typical value chain actor maps for IBT customers in rural and urban areas



2.3. PRODUCT

Households in Uganda construct numerous types of toilets (**Figure 4**)¹⁷, across IBTs and others. Among IBTs, 2-stance toilets are more prevalent than 1-stance toilets – 63% of the households that had IBTs in the RHIS had 2-stances. However, there are numerous variations across all types – often with designs that may not be best suited to household needs and preferences – at varying prices. This happens because of a lack of information on best-fit products. While prices are expected to vary across different toilet types (e.g., 1-stance IBT versus 2-stance IBT), they also appear to vary within a toilet type. This may be because of multiple factors, including households’ decision to use own labor and locally gathered materials to reduce costs, and value chain actors’ lack of information about optimal material quantities for the toilet designs. This results in high price variability even within the same sub-county.

¹⁷ Toilet costs have been estimated based on a typical range of material quantities, prices, labor usage, and cost of labor stated by households, masons, and select VC actors, for the respective toilet types

Figure 4: Cost, usage of own labor, and material gathering, across different toilet types in rural and urban areas¹⁸



3.0. KEY DRIVERS & BARRIERS TO MBS IN UGANDA

Sanitation markets are shaped by barriers¹⁹ that inhibit and drivers²⁰ that enhance the participation households and value chain actors. The 2018 USAID WASHPaLS MBS framework²¹ helps identify and categorize barriers that need to be considered when developing sanitation market systems at scale.

The framework identifies three distinct domains: (1) the core **sanitation market**, comprising customers, enterprises, and entrepreneurs (2) the **business environment**, shaped by government policy or the availability of raw materials and financial services; and (3) the **context**, such as social norms, economic environment, and geographic conditions. Refer to Annex D for a more detailed explanation of the MBS framework.

Figure 5 provides a summary of the sanitation market and business environment barriers and drivers, based on the results of the RHIS, VCAS, and secondary research. The barriers and drivers are described in more detail subsequently. It is important to note that drivers and barriers do not apply uniformly across all customer segments identified in Figure 2. Refer to Annex E for further details on the prevalence and impact of drivers and barriers by segment.

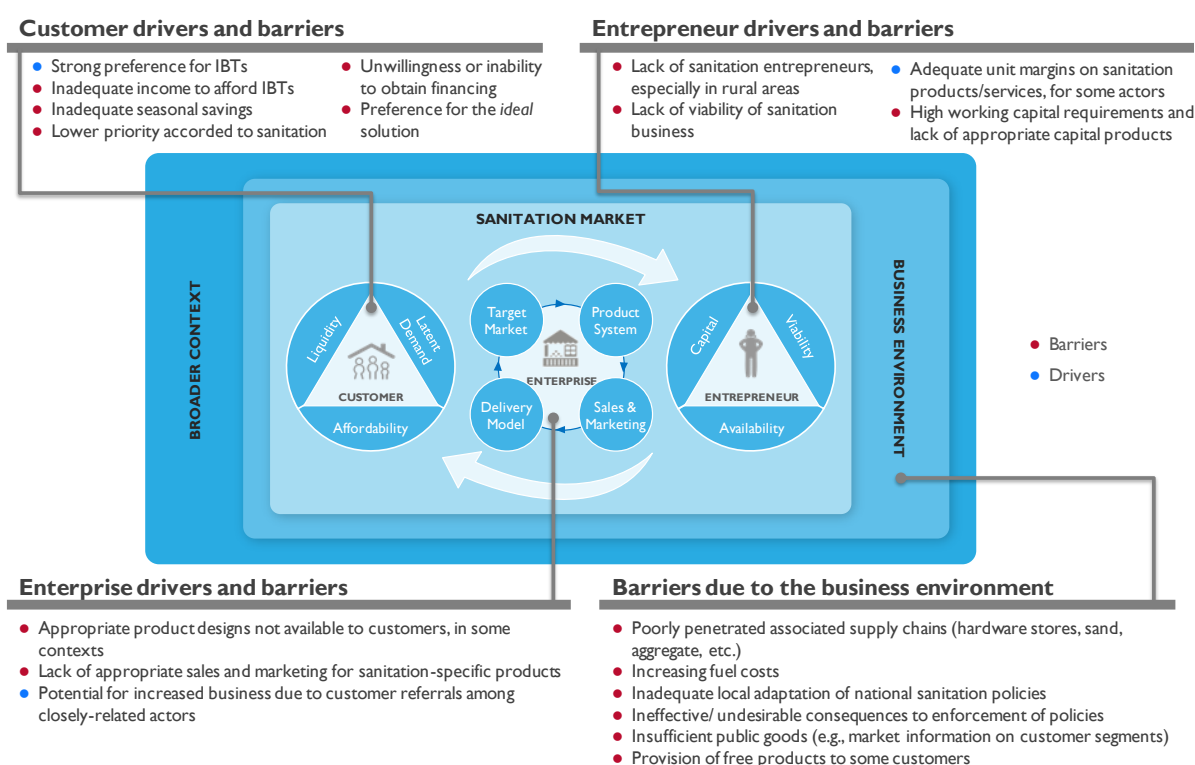
¹⁸ Refer to Annex C for information on build-up costs for an IBT in urban and rural areas

¹⁹ A customer barrier is any factor that inhibits a customer from paying for and constructing an IBT; a value chain barrier is any factor that restricts a value chain actor’s participation in the sanitation market, thereby making it more difficult for customers to adopt IBTs.

²⁰ A customer driver is any factor that enables a customer to pay for and construct an IBT; a value chain driver is any factor that enhances a value chain actor’s participation in the sanitation market, thereby making it easier for customers to adopt IBTs.

²¹ Agarwal, Rishi et. al. “Scaling Market Based Sanitation”. June 2018.

Figure 5: Key drivers & barriers to MBS in Uganda



3.1. HOUSEHOLD DRIVERS AND BARRIERS²²

One of the main drivers of IBT adoption is high household awareness of the health and hygiene benefits of owning a toilet. 97% of respondents across segments strongly agree that owning a toilet leads to general health and hygiene benefits. Moreover, 94% of all households also recognize and desire the durability, safety, and prestige-related benefits most commonly associated with IBTs. This may indicate a preference for IBTs.

However, there are many barriers to IBT purchase and usage, which affect customer segments to different extents. Construction of IBTs may not be an immediate priority for some households, implying a **latent demand** barrier. The RHIS suggests that competing priorities (such as school fees) act as a barrier for households to construct IBTs. This varies significantly across segments – only 18% of Segment G and 23% of Segment J stated competing priorities as a reason for not constructing an IBT, as opposed to 64% of Segment A and 62% of Segment K.

Even for households who prioritize IBT construction, current IBT models may simply be **unaffordable**, leading them to invest in unimproved models that are within their means. The estimated cost of a new 1-stance IBT²³ delivered through the DIY model is approximately UGX 790,000, well above the median household ability to pay (UGX 570,000) of all segments apart from Segments B and K.

²² Refers to drivers and barriers faced in purchasing an IBT by households who do not currently own an IBT (non-IBT users); based on findings from household interviews conducted during the RHIS, and additional secondary research.

²³ Based on point estimates for a 1-stance toilet with an unlined 15-foot pit, a permanent interface and superstructure, with no bathroom or curtain wall. Point estimates are indicative only. Costs of similar toilets might vary based on quantities of material used and prevailing market rates in different locations, for labor and materials.

Toilet upgrades (improving only the interface) are affordable to most households. However, households across all segments expressed little interest in upgrading, often preferring to postpone their purchase until they can afford a more desirable and/ or prestigious new toilet.²⁴ For example, only 3% of surveyed households were interested in such upgrades. Households in Segments D and K expressed a slightly higher interest, at 9% and 16% respectively.

Lack of liquidity constrains households whose income can support investment in an IBT, but whose income is also irregular or seasonal – this limits their ability to make a large lump-sum purchase. This barrier was particularly pronounced in Segments C and F. The liquidity barrier is further exacerbated, as households are either unwilling or unable to obtain loans for any purpose. 81% of all households have not considered, or would not consider, taking a loan to build a toilet. For most, this reluctance stems from fear of default and subsequent loss of collateral. Some segments are slightly more open to taking loans – for example, 33% of Segment D have taken loans – but this is a significant barrier across the market.

3.2. ENTREPRENEUR DRIVERS AND BARRIERS²⁵

The VCAS suggests that entrepreneurs who are willing and/ or have the skills to run sanitation businesses are often **not available** to most households, particularly in rural areas. Cement pre-fabricators, for example, are not established in all urban areas and are even rarer in rural areas. Construction contractors often have limited interest in household toilet construction, perceiving such jobs to be low revenue and unprofitable, relative to larger projects. Other value chain actors that could potentially play the entrepreneur role, such as masons, often do not have the required business acumen and/ or drive to do so. The VCAS revealed that many masons are unable to roughly estimate their annual revenues from toilet construction jobs, and most do not actively market their businesses.

At present, sanitation is not **viable** as a standalone business for many value chain actors. This reduces their interest in actively pursuing sanitation-specific business opportunities. Toilet construction is a seasonal business, mostly taking place during November to February and/ or June to August, because of weather-related constraints and the seasonal income of most households. To compensate, most value chain actors have multiple income sources beyond sanitation.²⁶ Customer payment defaults are common across the value chain, negatively affecting viability and further reducing their interest in sanitation. Approximately 42% of hardware stores, 65% of pit diggers, 67% of transporters, and 84% of masons claimed that they faced challenges related to household payment default. Moreover, 90% of masons faced delays with toilet construction due to materials being unavailable at the time a job was scheduled to begin, causing gaps in revenue and affecting their ability to take on other jobs.

A need for **high working capital** and **lack of appropriate financing mechanisms** make sanitation a challenging business. Hardware stores must maintain an inventory of a variety of non-sanitation-related products to remain competitive; households pay contractors and transporters only when a project is completed and deliveries are made – these issues warrant upfront investment in materials and labor i.e., ample and liquid working capital. Sanitation-specific products (e.g. plastic pans) are notoriously slow moving and as a result hardware stores may not be interested in stocking them. Actors find it challenging to manage working capital requirements, partly due to lack of access

²⁴ Agarwal, Rishi et. al. “Scaling Market Based Sanitation”. June 2018.

²⁵ Based on findings from quantitative and qualitative value chain interviews, and additional secondary research

²⁶ It is common for value chain actors in Uganda to have multiple sources of income, beyond their main professions or businesses; 79% of value chain actors interviewed had multiple income streams

to commercial loan products with appropriate collateral requirements, interest rates, and repayment periods.

Adequate unit margins is a driver for some value chain actors. For example, pit diggers and masons earn unit margins of approximately 75% and 45%, respectively, on the construction of a 2-stance IBT with a bathroom and curtain wall. In contrast, hardware stores earn unit margins of 9-10% on plastic toilet pans, and cement pre-fabricators earn 25% – 34% on a 60 cm by 60 cm slab.

3.3. ENTERPRISE DRIVERS AND BARRIERS²⁷

Current toilet **product systems may not be appropriate** for some households in Uganda. For example, around 21% of pit diggers do not know how to dig circular pits, which are most appropriate for households living in areas with collapsing (loose) soils. Pit diggers working in these areas may not be advising households about the benefits of circular pits. Existing plastic pan designs may not be suitable for some customers, as they require low, but consistent, water usage. Adding to household daily water needs may especially be a barrier to approximately 60% of households in rural areas who require more than 20 minutes to collect water.²⁸

Even when appropriate product systems are available, **inadequate sales and marketing** methods act as a barrier. For some sanitation-specific products (e.g., plastic pans), there is a mismatch between the price advertised on the radio, and the actual retail selling price. This mismatch can negatively impact sales. Furthermore, 78% of mason interviewed were not aware of one or more of the common pan/ slab options (e.g., plastic pans, concrete SanPlats).

As stated earlier in the document, the **existing DIY delivery model** relies on the household to independently navigate the toilet construction process. Households do not receive information on the IBT best suited to their unique needs and preferences, and often receive information on material requirements and the overall construction process in an unorganized fashion. This makes the construction process more cumbersome, and may also increase the cost of purchase.

However, referrals among some actors may be strengthening some businesses. For example, 88% of masons refer their customers to hardware stores and/ or pit diggers.

3.4. BUSINESS ENVIRONMENT BARRIERS

Poorly penetrated associated supply chains make it more expensive and difficult for households to construct IBTs, particularly in rural areas. As stated above, rural households must travel 20 km on average to purchase some products and materials (e.g., cement) from hardware stores. Transporters sourcing materials on behalf of customers also often travel 35-50 km to supply sand or aggregate to rural households. As a result, rural households pay transporters approximately UGX 163,000 to 210,000 (11% of the total toilet cost) to source sand, brick and aggregate for the construction of a 2-stance IBT with a bathing area and curtain wall. Rising fuel costs in Uganda continue to increase total transportation costs.

Inadequate bylaws, budgetary constraints, and unintended consequences may render the enforcement of the Public Health Act ineffective, in some districts. Two out of the five districts visited during the qualitative value chain research either did not have bylaws specific to sanitation, or the relevant district officials were not aware of its existence. Furthermore, where sanitation bylaws

²⁷ Based on findings from quantitative and qualitative value chain interviews, and quantitative household interviews

²⁸ Quantitative household interviews

do exist, budgetary constraints may limit district officials' ability to effectively monitor and enforce them. On the other hand, punitive enforcement can have the unintended consequence of households constructing makeshift unimproved toilets, just to satisfy the legal requirements, thereby missing an opportunity to trigger investment in a more appropriate product.

A lack of public goods on customer behavior insights (such as the information now provided in this NSMS), inhibits actors from designing and marketing appropriate products. In some regions, the effectiveness of MBS may be slowed by a legacy of government or donor initiatives distributing **free or highly subsidized products** – this limits household willingness to invest in sanitation, and value chain actor interest in engaging in the market.

4.0 PRIORITY HOUSEHOLD SEGMENTS FOR MARKET-LED INTERVENTIONS

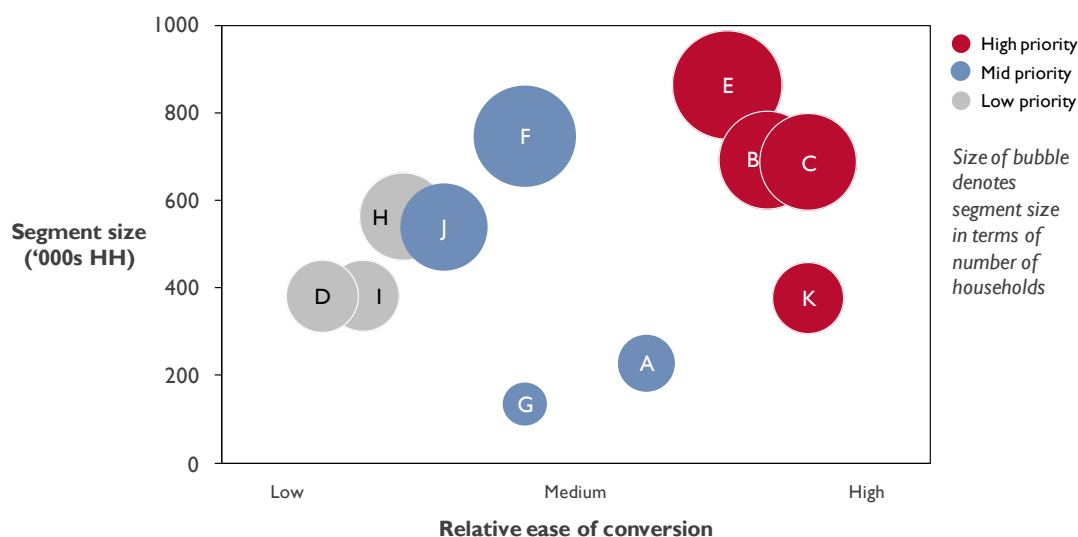
Having discussed the key drivers and barriers to a thriving sanitation market, it is important to identify priority HH segments for market stimulation given the nascent state of the market in Uganda.

For nascent sanitation markets such as Uganda, global evidence²⁹ suggests that an MBS approach should begin by targeting market segments that are (a) relatively easier to convert to IBTs, and (b) large enough to attract private sector participation. Relative ease of conversion of a segment is determined by a combination of ability to pay, willingness to pay, geographic suitability for toilet construction (e.g., flood risk, soil type), the proportion of the segment that own their house, and the proportion of the segment that considered or would consider improved features (e.g., permanent interface) for their toilet.

Figure 6 depicts the results of this prioritization. Segments B, C, E and K emerge as the ones that are currently most amenable for MBS solutions, and where short- and medium-term market stimulation efforts should focus. Households in these segments have generally higher ability and willingness to pay for IBTs than in other segments, and their geographic conditions are largely favorable. Together, these segments represent about 46% of all non-IBT users (approximately 2.7 million households). Segment E is the largest, accounting for 15% of all non-IBT users in Uganda.

²⁹ Agarwal, Rishi et. al. "Scaling Market Based Sanitation". June 2018.

Figure 6: Segment prioritization



Other segments may also benefit from MBS, but in a limited way. They have several characteristics that limit their current suitability for MBS, and will require other approaches to drive significant IBT uptake. Households in Segments F and J have low willingness to pay for IBTs, requiring greater sales and marketing efforts or capital subsidies to unlock demand. Segments A and G are the smallest segments (in total, around 6.5% of non-IBT users), and entrepreneurs may need incentives to target them. Segment A, situated in urban areas in the Central Region, predominately includes renters that face space constraints or other disincentives to invest in an IBT. Appropriate bylaw enforcement mechanisms may bolster IBT uptake. Meanwhile, households in Segments D, H, and I have the lowest ability and willingness to pay and are most likely to live in areas with unfavorable geographic conditions. Accelerating IBT uptake in these segments may warrant targeted capital subsidies and alternate product systems (e.g. raised toilets in flood-prone areas).

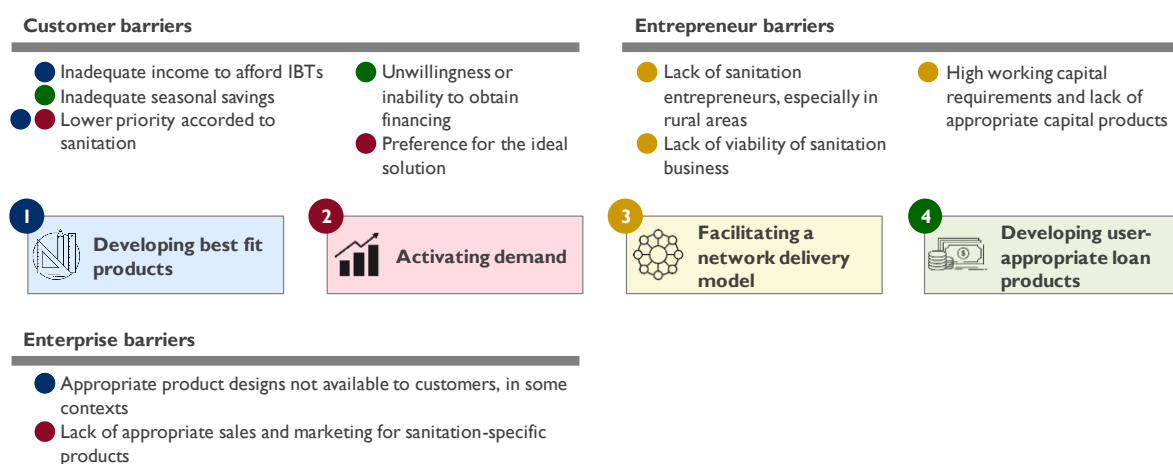
5.0 KEY INTERVENTION THEMES

Considering the barriers and drivers along with the priority segments, the MoH, in consultation with members of the MBS sub-committee of the NSWG, has prioritized four key intervention themes (KIT) to focus MBS efforts in Uganda over the next 5 years.

1. **Developing best-fit products** that consider a segment's unique needs, preferences, and ability to pay, can address affordability barriers and increase the priority that households accord to sanitation
2. **Activating demand** using tailored sales and marketing messages for each segment further increases the priority of sanitation among households and makes the best-fit products more attractive to customers
3. **Facilitating a network delivery model** that allows customers to receive all the information they need (specifications, materials, and services) related to the best-fit products in a consolidated manner, making the toilet buying process easier and potentially cheaper
4. **Developing user-appropriate sanitation loan products** to increase the households' willingness to obtain financing, thereby reducing the liquidity barrier for segments with high irregular or seasonal incomes

Collectively, these KITs will reduce the core sanitation market barriers faced by the priority segments (Figure 7).

Figure 7: Overview of the key intervention themes and the barriers they help address



As discussed in Section 3.4, the dynamic interactions within a sanitation market are also shaped by the business environment and broader contextual factors. These types of barriers are typically beyond the sphere of influence, or manageable interest, for an MBS implementer and are best addressed by government and funders through long-term investments on systems-level issues. Nevertheless, implementers should keep these barriers in mind while designing interventions.

To alleviate the effects of a poorly penetrated associated supply chain and rising fuel costs, implementers should work with actors that are in close proximity to customers, and account for transport cost when developing best-fit products. Similarly, to counter the mindset within some potential customers that the government will provide for their sanitation needs, implementers should design and market products that are attractive to customers. Finally, while all information gaps in the market may not be immediately filled, implementers may consider this NSMS to be a public good and use the insights within, to design and execute their interventions.

Each KIT is discussed further in Sections 5.1 to 5.4, starting with a description of the intervention in the context of the barrier that it intends to address, followed by key *considerations* for implementers to design and execute activities in each area. The considerations are based on insights from the RHIS and VCAS research and analysis, and learnings from sanitation models and MBS interventions globally. Several KITs include boxes that detail intervention examples focused on a specific consideration. Some KITs conclude with an *Intervention in Action* section that describes how a program or initiative has practically incorporated the considerations in activity design and implementation.

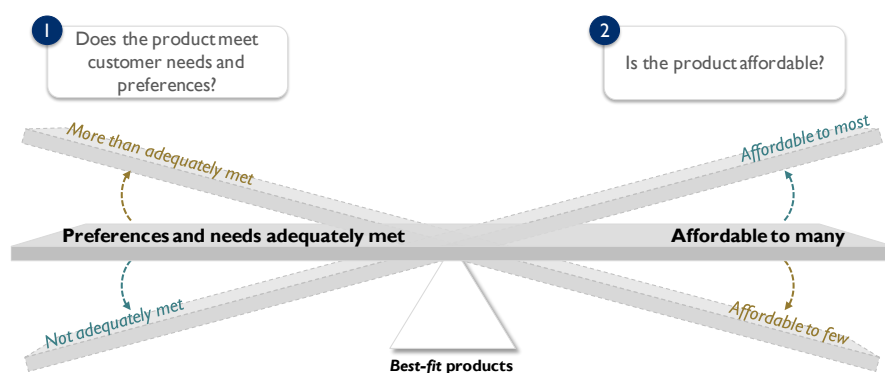
5.1 KIT #1: DEVELOPING BEST-FIT PRODUCTS

The products that are currently in the market are both undesirable and unaffordable to many households in priority segments. Therefore, there is a need to design *best-fit* products, which strike the best possible balance across customer preferences and needs, and their ability to pay.

CONSIDERATIONS FOR BEST-FIT PRODUCTS FOR PRIORITY SEGMENTS

Figure 8 summarizes the two key considerations for designing a best-fit product. Each consideration is discussed in detail below.

Figure 8: Developing a best-fit product



(I) PREFERENCES AND NEEDS

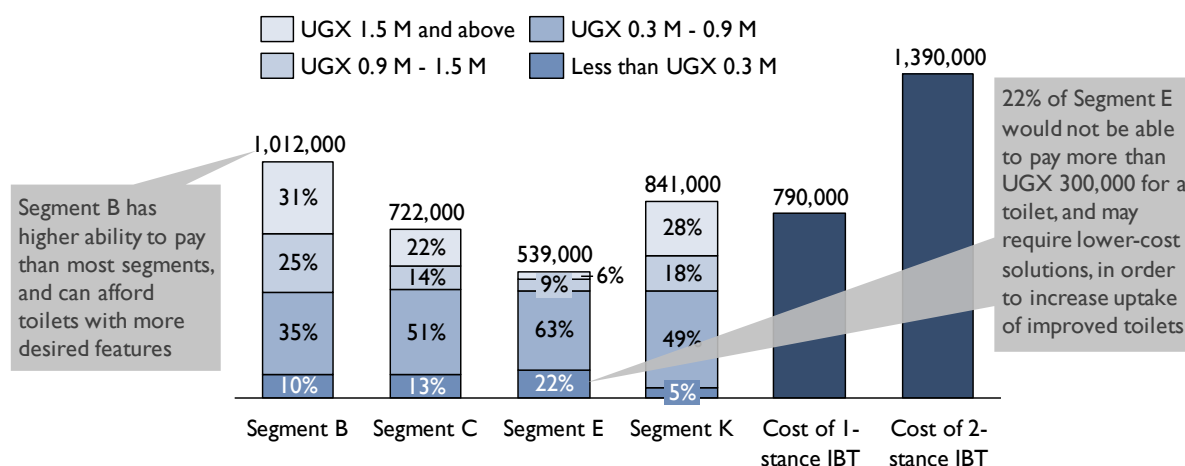
Three factors, summarized below, must be considered to understand household preferences and needs, which vary by segment. Refer to Annex F for more details.

- i. **Desired toilet features:** An IBT has many desirable features (e.g., the ability to be cleaned with water, privacy) and each segment differs in how much value they place on each feature. When features such as privacy or safety are highly valued (as is the case with Segment C), implementers may include doors with locks durable walls and roofs in the best-fit product design. Others may place more value on having a toilet that does not smell bad (as is the case with Segment E), in which case a ventilation pipe, a plastic pan, or a cover for the drop hole might be included in the design.
- ii. **Geographic factors:** Flood risk, water table depth, and soil type can create the need for specific toilet features. Increased flood risk (as seen with Segment K) creates a need for flood-adaptive technology, such as raised toilets, to avoid groundwater contamination. Depth to water table and soil type affect the design of the pit. For example, sandy soil (relatively common in Segment B) may require substructures to be circular and/ or lined to the bottom of the pit, to prevent collapse.
- iii. **Current toilet and housing context:** The number of stances of a household's existing toilet and materials used to construct their house influence toilet design preferences. Segments where the majority of households use 2-stance toilets (e.g., Segment B) may not be interested in purchasing a 1-stance IBT. Similarly, households whose homes are built mainly out of permanent materials may not be interested in a toilet superstructure made of temporary materials, even if it is more affordable. In Segment B for example, only 27% of houses are made out of temporary materials and 27% of households considered using temporary materials for the toilet superstructure.

(2) ABILITY TO PAY

While customer needs and preferences are key inputs to product design, implementers must weigh these against affordability. A single product that includes all desired features may be widely attractive but not affordable to most of the target segment. While preferences and needs within each segment are largely homogenous, the ability to pay for an IBT varies *across and within* segments (Figure 9).

Figure 9: Median ability to pay across priority segments, as compared to the typical cost of an IBT³⁰ (rounded to nearest '000, UGX)



Implementers should consider optimizing the number of product offerings to offer attractive choices, while also ensuring that the sales and marketing and delivery models do not become overly complex. To this end, implementers may consider developing a base product priced at a segment's median ability to pay. The base product should offer the maximum number of desired features possible within median affordability, while also allowing households the opportunity to supplement it with desired add-on features. However, given the conflict between features and costs, this base product may not incorporate all desired features.

In addition to the base product, one or two variants to can also be offered – a lower-priced variant that is more affordable to households with lower ability to pay than the median, and a higher-priced variant that is more feature-rich and therefore attractive to households with higher ability to pay. For example, the base product for Segment K could be a 1-stance toilet costing approximately UGX 841,000, and include features such as a cement interface, roof, and door to satisfy the desire of the segment for a toilet that is private and easy to clean. A more feature rich variant (e.g., a 2-stance toilet) could be developed for the more affluent 28% of households within the segment, who can afford more than UGX 1.5m and may not be willing to settle for a cheaper product that does not meet all their preferences.

A best-fit product portfolio therefore helps to maximize uptake across households within a segment. However, some households may still be unwilling to pay for their best-fit product variant since it does not provide all the desired features. This latent demand-related barrier can be reduced by effective sales and marketing (see KIT #2 below).

³⁰ Based on point estimates for a 1-stance toilet with an unlined 15-foot pit, a permanent interface and superstructure, with no bathroom or curtain wall, and a 2-stance toilet with similar features, but with a bathroom and curtain wall. Point estimates are indicative only. Costs of similar toilets might vary based on quantities of material used and prevailing market rates in different locations, for labor and materials.

INTERVENTION IN ACTION

HOW USHA IS DEVELOPING BEST-FIT PRODUCTS FOR SEGMENT E

Segment E is a priority market segment for USHA. The segment has a median ability to pay of UGX 538,000, which is lower than the average across all segments. Most households in Segment E have unimproved 1-stance toilets and live in houses made entirely of temporary materials. Segment E wants a durable, well-ventilated toilet that is particularly safe for children and the elderly to use.

Considering these factors, USHA developed an initial base product that includes a 15-foot deep pit and a cement slab cast on-site, while allowing flexibility for households to build their own superstructures as desired. At an estimated cost of UGX 220,000, this base offering is affordable to a large portion of the segment. USHA is also developing two variants and an upgrade-only option. These variants allow for 2-stances and superstructures made with permanent materials. Households also have the option to add or remove some features in these variants (e.g., plastic pan with drop-hole cover, plastered walls).

USHA will begin piloting this product system as part of a segment-specific enterprise model in mid-2019. USHA will adopt the USAID CLA (Collaborating, Learning, and Adapting) methodology, and conduct periodic check-ins to refine the model based on market feedback.

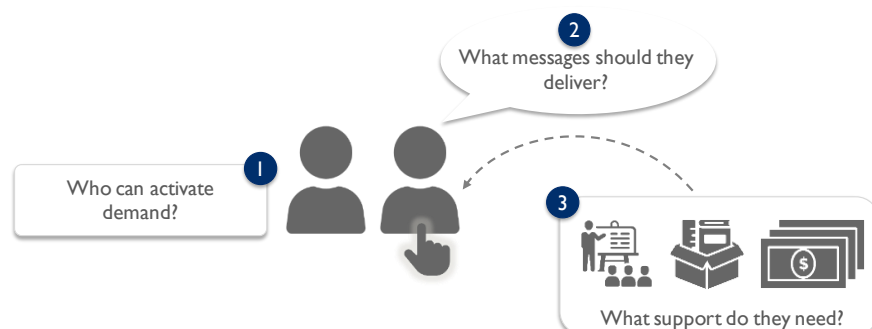
5.2 KIT #2: ACTIVATING DEMAND

Many households interested in toilet construction are putting off their investment due to competing priorities or a lack of awareness of the best-fit products and their pricing. To address these latent demand barriers, global experience in MBS suggests that activating demand³¹ through intensive door-to-door sales and marketing efforts, using messages tailored to the target segment, can be effective. The more passive mass-marketing methods (e.g., radio, billboards) may not directly address the broad variety of household concerns, and therefore tend to be less effective.³²

CONSIDERATIONS FOR ACTIVATING DEMAND

Figure 10 summarizes the three considerations for designing a demand activation intervention. Each is discussed in detail below.

Figure 10: Activating demand



³¹ Demand activators refer to individuals who perform direct sales and marketing activities, to persuade households to convert their interest in toilets into purchasing decisions

³² Agarwal, Rishi et. al. "Scaling Market Based Sanitation". June 2018.

(1) PROFILE OF A DEMAND ACTIVATOR

Successfully selling toilets door-to-door requires demand activators to be persuasive, persistent, trustworthy and to have access to community networks. Local leaders (e.g., village heads) and health workers (e.g., Village Health Teams) often display these characteristics, but other actors (such as masons) could also play this role. Local leaders and health workers naturally have direct access to and influence within community networks. Their community status often comes with a sense of trust among potential customers. Moreover, these individuals are often motivated by political and/ or social objectives (e.g., enhanced status, community welfare) and may therefore be more persistent and ultimately more effective.

Box 1: Community-based demand activators in WaterSHED Cambodia and PHA Benin³³

In the WaterSHED intervention in Cambodia, a demand activator model reliant on professional sales agents was abandoned in favor of locally elected leaders due to their community-based presence, persuasion skills, and interest in holistic community development. Sanitation coverage rates were higher in areas where local leaders promoted sanitation, as opposed to professional agents.

The *Promotion de l'hygiene et de l'assainissement* intervention in rural Benin used volunteer demand activators who were elected by their communities. The individuals chosen typically had strong communication skills and were regarded as influential and respectful.

(2) KEY MESSAGES FOR DEMAND ACTIVATION

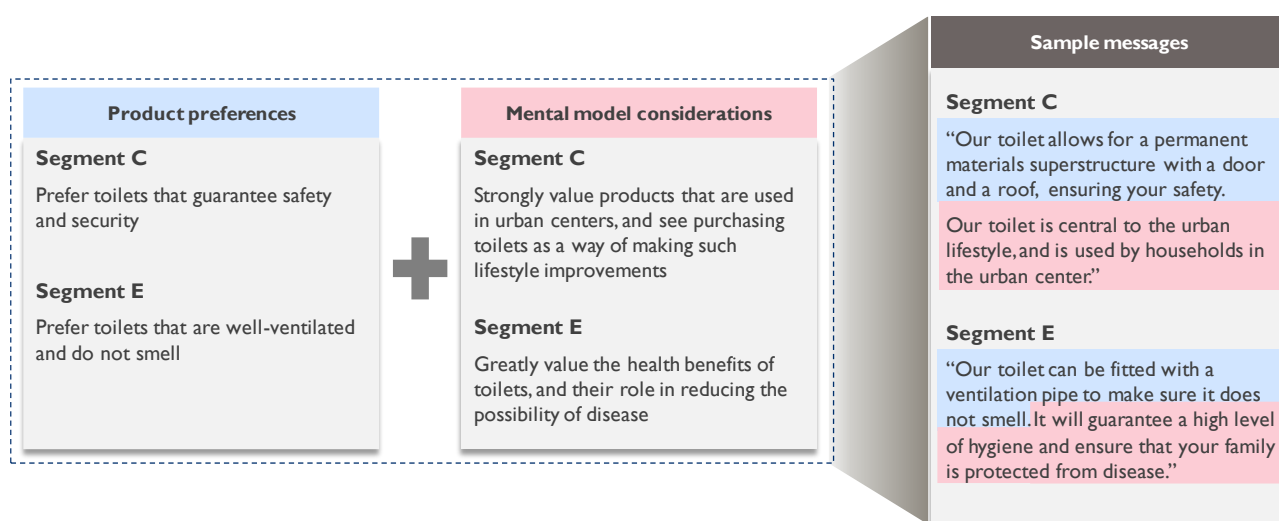
As discussed in Section 5.1, customer segments in Uganda have different product preferences and mental models (See Annex G for detailed customer profiles of all 11 segments).³⁴ To effectively unlock latent demand, marketing messages and value propositions need to be tailored to each segment.

Mental models have several elements that could be considered in developing marketing messages and sales pitches. Implementers must prioritize elements that are simple and straightforward and can be easily understood by potential customers. For example, while households in Segment C value products that increase their standing in the community, implementers may deprioritize this element as it overlaps with the fact that Segment C also values products that are used in urban centers. See **Figure 11** for an illustration of how implementers could prioritize elements in the mental models to develop marketing messages for Segments C and E.

³³ Agarwal, Rishi et. al. "Scaling Market Based Sanitation". June 2018.

³⁴ The mental model describes a customer's preferences and beliefs, particularly related to sanitation (e.g., how much they value the opinion of their community, how they view toilets relative to other durable assets).

Figure 11: Illustrative segment-specific marketing messages



(3) SUPPORT AND INCENTIVE FOR DEMAND ACTIVATORS

Implementers need to provide hands-on and interactive training to demand activators so that they may deliver effective sales pitches. Implementers should also provide them with incentives to ensure their continued active participation in the delivery model

Delivering an effective sales pitch has several steps. First, demand activators must identify which customer segment a household belongs to (as sales pitches are customized to each segment). Demand activators can do this by asking households a few questions related to the segmentation variables, such as distance from main road, access to mobile money, and source of non-drinking water. For example, identifying the source of non-drinking water for a rural household in the Central region can determine whether the household is in segment B or C. Once the household’s segment is known, segment-specific value propositions, product features, and prices of the best-fit product should be communicated to the household head. Demand activators can provide customer testimonials to supplement their sales pitches and foster trust with the customer. Demand activators conclude the sales pitch by sharing contact information of the linked sanitation entrepreneur.

Furthermore, demand activators must be trained and mentored to deliver effective sales pitches. The initial training should be hands-on and interactive, including live sale pitch demonstrations and mock pitches delivered by demand activators. Demand activators will require mentoring and support to remain effective and engaged in their pitches. Implementers can assist demand activators by providing them with a short manual that describes each stage of the pitch, along with key messages. This can be accompanied by a product catalog and/ or other sales collateral.

Even well-intentioned community-based demand activators are unlikely to be motivated solely by non-monetary incentives (e.g., social status that comes with doing community work, political promotion), and need to be compensated monetarily to ensure their continued active participation in the delivery model. Global evidence suggests that a sales commission - paid to the demand activator by the sanitation entrepreneur who directly benefits from the sales generated - is most effective. The sanitation entrepreneur should consider this commission as a regular cost to business. However, in the initial stages of the intervention, implementers may need to bear these costs, to support the financial stability of the sanitation entrepreneur as their businesses are building traction, and to demonstrate the value of the demand activation model.

INTERVENTION IN ACTION

HOW A DEMAND ACTIVATION MODEL WAS IMPLEMENTED IN BIHAR, INDIA³⁵

In the Supporting Sustainable Sanitation Improvements through Supply Side Strengthening (3Si) Bihar intervention, Population Services International (PSI) relied on demand activators ('toilet motivators') to promote toilets by conducting door-to-door sales and community awareness campaigns.

The model initially worked with professional sales agents as demand activators. However, 3Si quickly realized that the activators needed to have ready access to and relationships with households in order to perform door-to-door sales. Therefore, the focus was shifted to identifying local community members, referred to as toilet motivators, who had good communication skills and community relationships.

Toilet motivators were trained and equipped with sales collaterals containing information on high-level construction processes and timelines, material lists, quantities, costs etc.

Toilet motivators are paid a variable commission based on the number of toilets sold per month, ranging from US \$1.50 to \$2.30 per toilet sold (approximately 0.7% of the total toilet price). Although PSI initially bore these commission costs directly, payment of commissions was eventually transferred to the enterprises in a phased manner, over a 6-8 month period. The project has sold approximately 220,145 toilets (as of June 2017)³⁶ and 3Si believes that the incentives to the toilet motivators was a key success factor in driving sales.

5.3 KIT #3: FACILITATING A NETWORK DELIVERY MODEL

The current DIY delivery model in Uganda requires customers to aggregate information related to toilet construction and manage the toilet construction process independently. This reduces convenience, increases toilet costs and construction timelines, and leads to variable product quality. The RHIS and VCAS results suggest a need to introduce alternate delivery models that involve a sanitation entrepreneur who serves as the primary contact or *focal-point*, responsible for aggregating materials, services, and/ or information on behalf of the customer.

A network delivery model is particularly well suited to the market context in Uganda given the existing informal relationships between closely related value chain actors. In a network model, the sanitation entrepreneur provides a key product or service in the construction of the toilet, and aggregates information about other materials/ services required.

Other delivery models may not be well suited to the Ugandan context (See Annex H for descriptions of alternative models). For example, a one-stop shop (OSS) requires the sanitation entrepreneur to stock inventory, which may not be feasible given the high working capital costs, lack of supplier financing mechanisms, and low toilet sales volumes. A turnkey solution provider model (TSP) is best suited when customers are willing to pay a premium for convenience, and when the sanitation entrepreneur is skilled in managing all necessary service aspects (e.g., delivery of product components) – neither of these may be feasible in the current context in Uganda, particularly in rural areas. Contractors in Uganda do run TSP models for their institutional customers, but they

³⁵ Agarwal, Rishi et. al. "Scaling Market Based Sanitation". June 2018.

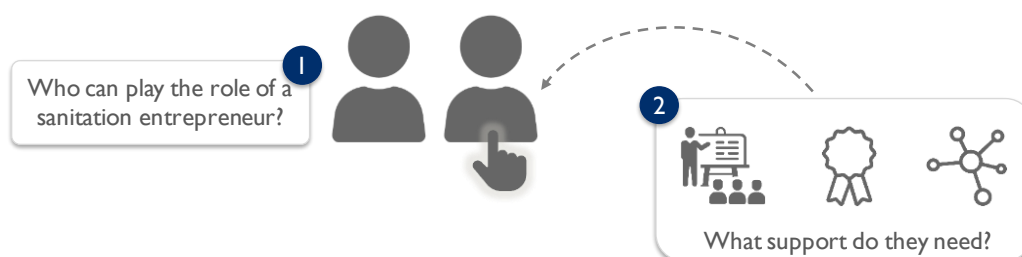
³⁶ PSI. "Developing Markets for Sanitation: Where to Start?" SuSanA & BEAM Exchange. 2017. <https://www.youtube.com/watch?v=ReZTD8XCOGU&feature=youtu.be>

typically have limited interest in pursuing household toilet construction jobs as they perceive them to be low revenue and unprofitable.

CONSIDERATIONS FOR FACILITATING A NETWORK DELIVERY MODEL

Figure 12 summarizes the two considerations for facilitating a network delivery model. Each is discussed in detail below.

Figure 12: Facilitating a network delivery model



(I) SELECTING A SANITATION ENTREPRENEUR

Depending on the local context and setting, various value chain actors may be well placed to play the role of the sanitation entrepreneur, but each come with tradeoffs (see Figure 13).

Figure 13: Pros and cons for other sanitation entrepreneur candidates³⁷

	Cement pre-fabricators	Hardware stores	Pit diggers	Masons
Access and availability	<ul style="list-style-type: none"> Available in some urban areas, but typically unavailable in most rural areas 	<ul style="list-style-type: none"> Available in most urban areas, but typically unavailable in rural areas – often located ~20 km away from rural HHs 	<ul style="list-style-type: none"> Available in both urban and rural areas – often located within a radius of about 2 km from HHs 	<ul style="list-style-type: none"> Available in both urban and rural areas – often located within a radius of about 2 km from HHs
Profitability and revenue potential	<ul style="list-style-type: none"> Moderate unit margin (25% - 34%) on a 60 cm x 60 cm slab 	<ul style="list-style-type: none"> Low unit margins (9-11%) on sanitation-specific products (plastic pans) Sanitation is a small percentage of overall business 	<ul style="list-style-type: none"> High unit margins (~75% per pit) Sanitation is a significant percentage of overall business 	<ul style="list-style-type: none"> High unit margins (44% - 47% per toilet) Sanitation is a significant percentage of overall business
Skills and experience	<ul style="list-style-type: none"> Already aggregate materials required to build the interface of a toilet, and sell a ready-to-install product to the customer 	<ul style="list-style-type: none"> Have relevant business skills (e.g., numeracy, business acumen) which can enable them to play the role of a sanitation entrepreneur in a network model 	<ul style="list-style-type: none"> Limited technical skills, particularly a limited understanding of the overall product system – may not understand material requirements for toilet construction 	<ul style="list-style-type: none"> Moderate technical skills (e.g., understanding of toilet material requirements) Have existing relationships with value chain actors such as hardware stores and pit diggers

Challenges to playing the sanitation entrepreneur role
 Supporting factors to playing the sanitation entrepreneur role

Urban areas expectedly contain a greater diversity of potential sanitation entrepreneurs. Cement pre-fabricators earn moderate unit margins and have several relevant skills, and may be able to play the role of the sanitation entrepreneur. Hardware stores have several relevant skills and stock most materials required, and may also be able to play the required role with adequate support in building

³⁷ Findings are from qualitative value chain interviews

key relationships. However, both these actors are not typically available in rural areas. Pit diggers, while available in both urban and rural areas, may need significant technical and business support. Given these market characteristics, masons appear to have the most potential to play this role across both urban and rural areas. Masons have an interest in the sanitation business, established relations with other value chain actors, and proximity to most households.

Masons are more interested than other actors are in furthering their sanitation business. This is partly because they earn high unit margins on IBT construction jobs, e.g., masons in rural areas earn margins of around 45%³⁸ on a 2-stance IBT with a bathroom and curtain wall (as discussed in section 3.2). They are also interested in sanitation due to its revenue potential – 60% of masons interviewed see sanitation as a key area for their business due to the high revenue potential.³⁹

Masons in both urban and rural areas typically live within a two-kilometer radius of households, and are already a trusted source of information for them. For example, 69% of households in Segment B use masons as one of their sources of information regarding toilets.⁴⁰

Masons also have existing relationships with value chain actors such as hardware stores and pit diggers. However, these relationships do not typically involve standardized referrals with commissions or reciprocal business, and must be further developed and formalized. Furthermore, the referrals may not be consistent or specific, leading to variations in the quality of services/products provided (e.g., material quantities, pit depth) and prices charged.

Regardless of the initial choice of entrepreneur, implementers should take an iterative approach to learning and adapting, assess whether the chosen entrepreneur is effective in a given local context, and make adjustments accordingly.

(2) SUPPORTING THE SANITATION ENTREPRENEUR

In a formalized network model, sanitation entrepreneurs (in this case, masons) have many responsibilities, including: constructing the best-fit product marketed by demand activators, advising pit diggers, aggregating information on key materials required in toilet construction, explaining design specifications to households, and sharing relevant information with them. Sanitation entrepreneurs require specialized support to play the role effectively:

- i. **Technical and business training** - This may include (but is not limited to) training or capacity building focused on how to cast and/ or install the best-fit products, and how to provide pit diggers with instructions on pit dimensions and shape, according to the product specifications. Training on bookkeeping and numeracy skills would help masons to track their revenue, ultimately increasing their understanding of viability
- ii. **Customer-related support** - Masons need customer support training to help them engender trust among households who are unfamiliar with their services. This training may include basic customer care practices, learning how to explain bills of quantities (BoQs⁴¹) and provide advice on toilet designs, and how to connect households with relevant value

³⁸ This calculation does not account for a mason's own time/ labor

³⁹ Quantitative value chain interviews

⁴⁰ Quantitative household interviews

⁴¹ A document shared with households that lists the material quantities required for constructing the *best-fit* product, the suppliers that sell these materials in the local area, and the indicative prices at which they are sold

chain actors. External recognition through accreditation by regional/ national organizations, and branding of clothing/ collaterals with unique logos and messaging also helps foster trust among customers. Masons may also require support in managing household payment default risk. In rural Cambodia, for example, financial institutions (e.g., MFIs) disbursed household loan funds directly to masons to ensure they were paid for their services on time⁴²

- iii. **Value chain linkages** – Masons require support in developing or strengthening relationships with other value chain actors in the network. Alignment on referral fees or reciprocal business between masons and other value chain actors may help ensure that customer referrals occur consistently. Masons must also be supported to align on prices that various actors in the network will charge households, so that the price expectations of households can be managed

Box 2: Branding and accreditation of toilet suppliers in East Java, Indonesia⁴³

In East Java, the World Bank Water and Sanitation Program (WSP) provided a five-day accreditation training to 1,600 toilet suppliers (including masons). Toilet suppliers were then encouraged to use a ‘thumbs-up’ logo and ‘WC Ku Sehat’ (Safe Toilet) messaging to signify their accreditation, as a way of building trust with their customers.

INTERVENTIONS IN ACTION

HOW USHA IS FACILITATING NETWORK DELIVERY MODELS FOR TWO TARGET SEGMENTS

Starting in mid-2019, USHA is piloting a network delivery model for Segments C and E with the mason playing the role of a sanitation entrepreneur. Masons will be linked to a network of local actors including door-to-door demand activators. Masons will be required to pay the demand activators a commission for every toilet sale. Once the activator generates a lead, the mason is responsible for identifying the product most suited for the customer and for providing the head of the household with a BoQ that lists materials that need to be purchased, their associated prices and recommended local suppliers.

USHA will introduce masons to material vendors and facilitate network connections. To formalize these connections, referral fees are expected to be shared between masons and material vendors. USHA will also train the masons on how to construct best-fit toilets, and will provide them with key customer-facing collaterals such as BoQs.

5.4 KIT #4: DEVELOPING USER-APPROPRIATE SANITATION LOAN PRODUCTS

User-appropriate sanitation loan products can help address the liquidity barrier faced by many households. To be most effective, loan products should be tailored to the borrower’s ability to pay, income flow, and asset ownership. Loans targeting low-income households must have affordable interest rates, flexible repayment schedules, and manageable collateral requirements. Implementers should also incentivize financiers to create user-appropriate products, as financiers face significant costs and risks in catering to low-income households, particularly in rural areas.

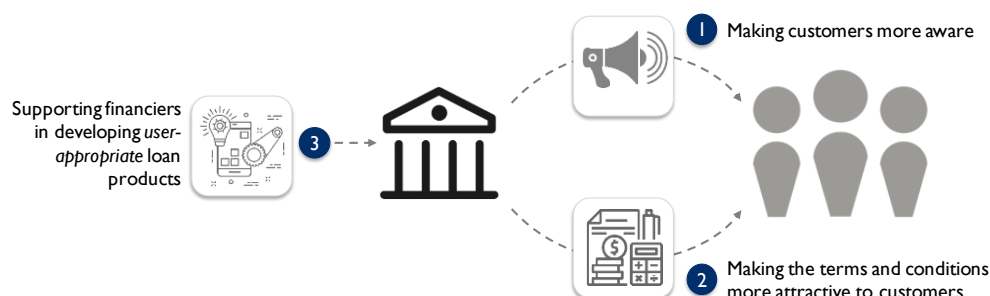
⁴² Water and Sanitation Program. “Making toilets more affordable for the poor through microfinance”. 2014.

⁴³ Water and Sanitation Program. “Introductory Guide to Sanitation Marketing”. 2011.

CONSIDERATIONS FOR DEVELOPING USER-APPROPRIATE SANITATION LOAN PRODUCTS

Figure 14 summarizes the three considerations for developing user-appropriate loan products. Each is discussed in detail below.

Figure 14: Developing user-appropriate sanitation loan products



(1) RAISING AWARENESS OF FINANCIAL SERVICES AND SANITATION LOAN PRODUCTS

As detailed in Section 3.2, many Ugandan households are unwilling to obtain financing. Educating households about financial services can help reduce misconceptions and fears around financing, and increase uptake of sanitation loan products.

Box 3: Financial education for potential MFI customers in Malawi⁴⁴

Customers in Malawi have low trust in financial institutions. To combat this, the Opportunity International Bank of Malawi, the largest commercial MFI in the country, provides potential customers with financial education services to enhance their budgeting, savings, and debt management skills. This is provided through direct and multimedia trainings, and individual meetings. The program resulted in an increase in the number of clients, and the uptake of financial products and services. The number of savings accounts nearly doubled from 2005-2007.

Beyond general financial education, informing households about the availability and benefits of sanitation loans can increase uptake. For example, Post Bank in Uganda began disbursing water and sanitation loans in 2014 but faced low uptake because a large proportion of potential customers were not aware of the service. To address this gap, Post Bank’s loan managers now regularly visit select sub-counties to inform the public about the WASH loan product. In one instance, a loan manager regularly attended market days in sub-counties within a 50 km radius of the branch, and processed over 80 WASH loans within a year as a result.⁴⁵

(2) MAKING LOAN TERMS AND CONDITIONS MORE ATTRACTIVE TO HOUSEHOLDS

The terms and conditions (e.g., interest rates, repayment schedule, and collateral requirements) of current sanitation loan products may not be suitable for many households. Modifications to terms can increase loan uptake, while still according the financier a manageable level of risk.

Lowering interest rates can lead to increased uptake among low-income households. The Three Cities Sanitation Project in Vietnam⁴⁶ worked with creditors to subsidize interest rates on sanitation

⁴⁴ MasterCard Foundation. “Taking Stock: Financial Education Initiatives for the Poor”. 2011.

⁴⁵ Interview with Post Bank

⁴⁶ Water and Sanitation Program. “Financing On-Site Sanitation for the Poor”. 2010.

loans, reducing the annual interest rate from 12.9% to 6.3%. This catalyzed household investment in sanitation, leading to nearly 55,000 loans being disbursed over a 7-year period. These loans enabled the construction of roughly 46,000 toilets and an increase in sanitation coverage from 13% to 21%. Loan repayment rates were close to 100%.

Relaxing collateral requirements is another means of increasing loan uptake. In Cambodia, the Water and Sanitation Program (WSP) partnered with KREDIT, a local MFI, to promote sanitation financing.⁴⁷ KREDIT offered individual sanitation loans without collateral requirements, offsetting the increased risk by increasing the monthly interest rate from 2.7% to 3.0%. Despite the increased interest rate, the uptake was strong even among the poorest households, and there was no increase in loan defaults or payment delinquencies. In addition, KREDIT offered group loans without collateral requirements, where households shared the default risk. These also helped increase sanitation uptake.

Allowing flexible loan repayment terms can also reduce the risk of default. The Centre for European Research in Microfinance reported that moving to a more flexible payment structure (moving payments from once a month to once every two months) resulted in an improvement in loan repayment and a large increase in client retention.⁴⁸ Flexibility in repayment eased money management for households, making them more likely to make loan payments.

(3) SUPPORTING FINANCIERS IN DEVELOPING USER-APPROPRIATE LOAN PRODUCTS

While appropriate financing solutions can motivate households to take loans, financiers often face increased costs and risks, at least initially, in offering sanitation loans to low-income households. However, these can be offset through targeted interventions.

Some banks might see potential in the WASH sector but may not be able to justify the business case to fund initial administration and marketing costs. External project support to lower these initial costs can convince them to enter the sector. For example, in 2014, Post Bank in Uganda signed a 2-year agreement with Water.org, who provided funds for the administration and marketing of Post Bank's new WASH loans. These funds were used for marketing and awareness generation, staff training and project team salaries, and other related administrative costs. Post Bank has since distributed over 2,800 WASH loans worth UGX 1.2 billion, with a 96% repayment rate.⁴⁹

Even for financial institutions that offer sanitation loan products, lower-income households may present a particular risk. Providing initial seed funding for onward loans, and/ or loan default guarantees can help convince financial institutions to extend loans to low-income customers.

⁴⁷ Water and Sanitation Program. "Making toilets more affordable for the poor through microfinance", 2014.

⁴⁸ Centre for European Research in Microfinance, "Flexibility and Payment Discipline in Microfinance". 2012.

⁴⁹ Presentation by Post Bank credit supervisor at MBS sub-committee workshop, April 2019.

Box 4: Encouraging MFIs to enter sanitation financing in Bihar, India⁵⁰

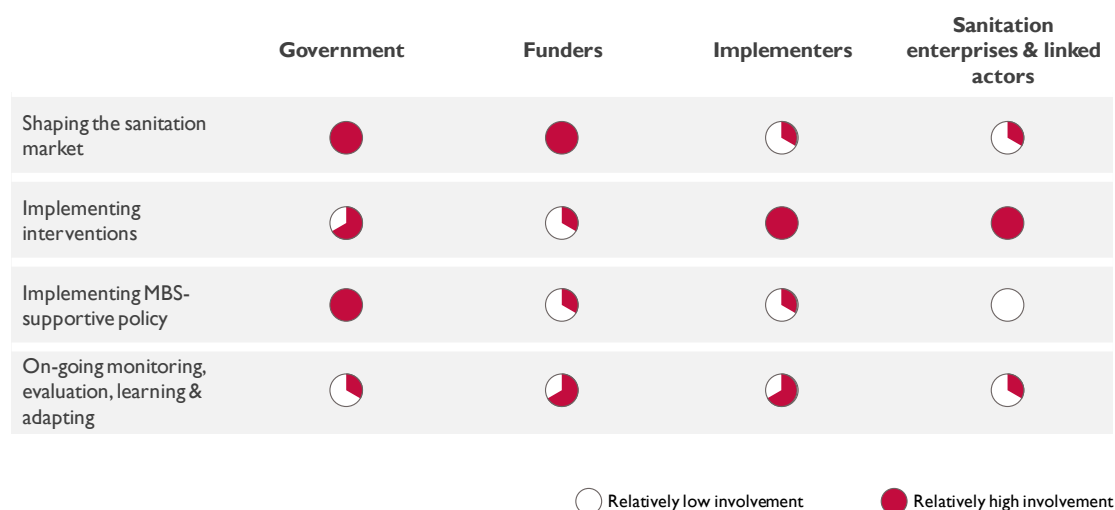
Approximately 80% of households targeted by the 3Si project in Bihar could not buy a toilet without credit, yet MFIs in Bihar were reluctant to provide sanitation financing due to the perceived high risk. To tackle this problem, PSI, a large non-profit focused on global health, provided a one-time risk-free soft capital loan of USD 1.2 million to a fund manager to activate sanitation financing through MFIs.

The fund manager used this loan to provide subsidized seed capital to MFIs at an annual interest rate of 6-10%, well below the market rate of 12%. These MFIs, in turn, offered sanitation loans to households at an annual interest rate of 18-24%. To further incentivize the MFIs, PSI also agreed to underwrite 15% of the loans disbursed. These interventions resulted in the disbursement of over 32,000 loans between 2015 and 2017, with no defaults.

6.0 A CALL FOR ACTION – STAKEHOLDER ROLES IN IMPLEMENTING THE NSMS

Achieving universal basic sanitation in Uganda is a monumental challenge that requires sustained commitment to a collective effort, and close coordination among actors at national and sub-national levels. The size of the unserved market and the scope of the required interventions requires that multiple stakeholders be involved. Therefore, establishing viable sanitation markets in Uganda requires government (national and local), funders, implementers, sanitation enterprises and other linked actors to work collaboratively across a range of activity categories. These activity categories include shaping the sanitation markets, implementing interventions, implementing MBS-supportive policy, and conducting on-going monitoring, evaluation, learning and adaptation. Different stakeholder groups will have varying involvement across each activity category, based on their respective places and roles in the sanitation market system (**Figure 15a**).

Figure 15a: Level of involvement in MBS activity categories across stakeholder types



⁵⁰ PSI. “Supporting sustainable sanitation improvements in Bihar through supply-side strengthening”. 2012-17.

The MBS sub-committee (SC) of the NSWG, which set the vision for the NSMS and provided inputs into its development, will oversee the implementation of the NSMS.⁵¹ The SC will facilitate activities across the categories mentioned earlier. An illustrative set of activities are outlined in **Figure 15b**. Thematic task forces, comprising of members from within and outside the SC, and organized around the KITs, will coordinate and operationalize specific interventions.

Through this journey, stakeholders will need to commit to share information, learn from one another, and iterate on strategies based on field learnings. The SC will facilitate Monitoring, Evaluation, and Learning (MEL) mechanisms by driving stakeholders to collect common and relevant data to gauge whether MBS interventions are making progress (e.g., number of active sanitation entrepreneurs, number of active demand activators, availability of user-appropriate loan products) and understand the effects they are having on market stimulation (e.g., uptake of IBTs within priority segments). In this manner, stakeholders within and outside the SC can effectively collaborate, learn, and adapt as the strategy is being implemented.

While the NSMS provides a strategic roadmap for stakeholders to commence the MBS journey, the CLA approach will ensure that the NSMS is periodically refreshed, reflecting the latest field learnings and the updated market context.

Figure 15b: Illustrative NSMS implementation-related activities by stakeholder type

INVOLVEMENT OF STAKEHOLDER				
	GOVERNMENT	FUNDERS	IMPLEMENTERS	SANITATION ENTERPRISES AND LINKED ACTORS
Shaping the sanitation market	<ul style="list-style-type: none"> At the central level, the MoH to reinforce the importance of MBS within national sanitation strategies and approaches, encourage MBS interventions alongside CLTS, and eventually expand MBS to segments that are not prioritized by the NSMS 	<ul style="list-style-type: none"> Independently identify impact objectives (in terms of customer segments, geographies, etc.) to invest in MBS; identify and work with implementation partners to execute these programs Participate in the SC and work towards planning mutually reinforcing activities 	<ul style="list-style-type: none"> Strengthen and run the SC 	<ul style="list-style-type: none"> Liaise with national and regional suppliers to increase the reach of supply chains in rural areas
Implementing interventions	<ul style="list-style-type: none"> At the national level, provide resources and support for product development (MWE/ATC may drive this) Local governments to support demand activation by providing and/or suggesting effective demand activators, provide greater visibility for and endorsement of sanitation entrepreneurs; monitor uptake of IBTs 	<ul style="list-style-type: none"> As part of new programs, provide resources and support for product development and demand activation Support the creation and dissemination of public goods based on field learnings 	<ul style="list-style-type: none"> Design and pilot-test best-fit products, demand activation strategies, delivery models, and loan products Identify and on-board actors that form a key part of the enterprise model (e.g., demand activators, VSLAs, local MFIs) Train & share knowledge with enterprises and other linked actors Provide additional support to key actors (e.g., initial financial support to activators, collaterals and BoQs for mason, etc.) Create and share public goods arising out of intervention design and 	<ul style="list-style-type: none"> Support the design and pilot testing of various elements of the enterprise model Introduce new products based on customer demand Implement demand activation strategies Run delivery models, in partnership with key actors Engage with identified financiers (e.g., VSLAs, local MFIs) to enable financing solutions for customers

⁵¹ USHA will support the MBS sub-committee through at least 2020

				learnings (e.g., best-fit products)
Implementing MBS-supportive policy	<ul style="list-style-type: none"> • Frame and implement policies to encourage MBS interventions (relevant ministries may drive this at a central level), and support segments that are not priority for MBS (MoH may develop the approach and strategy at a central level, local governments may execute) • Local government to drive/ support the implementation of national policies 	<ul style="list-style-type: none"> • Provide input and advocacy for relevant policies 	<ul style="list-style-type: none"> • Through the SC, use learning from MBS interventions to advocate for new policies that support MBS 	
On-going monitoring, evaluation, learning & adaptation	<ul style="list-style-type: none"> • Stay updated on field learnings and adaptations through periodic participation in the SC 	<ul style="list-style-type: none"> • Support periodic strategy re-assessments and adaptation, based on learnings from the field 	<ul style="list-style-type: none"> • Gather field learnings and share with other stakeholders • Undertake periodic strategy re-assessments, through the SC • Identify and implement revised MBS interventions 	Provide required data to implementers to enable tracking and learning (e.g., masons to share data on the number of toilets built, VSLAs to share data on number of sanitation loans disbursed)

7.0 ANNEX

ANNEX A: RESEARCH SAMPLING METHODOLOGY

RHIS and VCAS research was conducted in 10 districts. The districts were selected to cover a diversity of sanitation related contexts in Uganda, and not necessarily the diversity in all social and economic contexts. Sanitation related contexts may differ based on:

- Customer context (e.g., ability to pay, access to materials, access to value chain actors)
- Customer knowledge and perceptions (e.g., exposure to CLTS, attitudes towards pit emptying)
- Sanitation coverage (proportion of households with access to different types of facilities)
- Physical contexts (e.g., remoteness of location, type of soil)

These factors were used to develop composite variables to assess districts across affluence,⁵² access,⁵³ and market infrastructure,⁵⁴ and choose a diverse set of districts. The chosen districts were spread across different regions within the country, and have different household and institutional sanitation coverage profiles, topographies, levels of OD prevalence, and levels of proximity to fecal sludge treatment facilities.

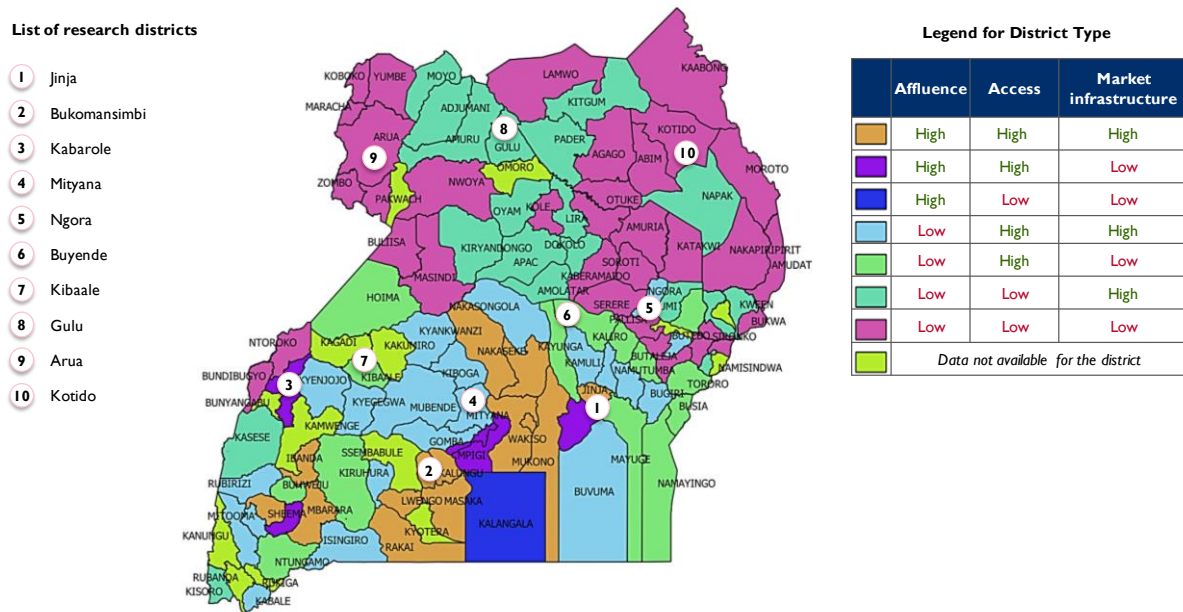
The USHA team engaged with the Uganda Bureau of Statistics (UBOS) to align on the district selection methodology. **Figure 16** lays out the chosen set of 10 districts.

⁵² Measures relative ability of households in a district to pay for construction of sanitation facilities, using a composite of UBOS's poverty indicator, household asset ownership, percentage of households in the district that consume less than two meals a day, and materials used for house construction

⁵³ Measures relative difficulty faced in accessing materials for construction of sanitation facilities in a district, using a composite of average distance from the nearest road, whether the district is difficult to reach, and whether the district is affected by armed conflict

⁵⁴ Measures relative availability of private product and service providers in a district, using a composite of average distance of households from the nearest market selling general merchandise, percentage of households which have at least one member engaged in non-agricultural household based enterprise, and percentage of households with water connections in own yard/ plot/ building

Figure 16: Research districts by district type⁵⁵



Within each district, UBOS identified 10 enumeration areas (EAs) that collectively represent the district’s household sanitation profile.

All households within the identified EAs were listed. This was done by developing quantitative household surveys to collect basic demographic and socio-economic data, along with data on the type of toilet used. Within each EA, 12 of the listed households were selected, based on a random sampling method, to participate in more detailed quantitative surveys (‘in-depth’ interviews). These in-depth interviews included inquiries into the household’s toilet buying process and drivers and barriers towards adopting IBTs.

Quotas were also assigned for certain household types that warranted special focus (e.g., female-headed households). In cases where the research had to stray away from the random sampling approach in order to satisfy quotas, data from these additional interviews was weighed down in the subsequent analysis, to arrive at fair representation at a national-level.

During the VCAS, value chain actors across the 10 districts were asked to participate in ‘in-depth’ quantitative interviews. Five out of these ten districts were also selected for ‘in-depth’ qualitative trace back interviews, which focused on interviewing actors that provided key inputs or services towards a particular households’ toilet construction.

⁵⁵ Certain districts were selected specifically to pilot USHA program interventions

The table below summarizes the interviews conducted for the RHIS and VCAS:

Figure 17: Interviews conducted for RHIS and VCAS

CATEGORY	QUANTITATIVE RESEARCH	QUALITATIVE RESEARCH
Household customers (RHIS)	<ul style="list-style-type: none"> • 11,871 households listed (all 10 districts) • 1,185 in-depth interviews (all 10 districts) 	
Institutional customers (RHIS)	<ul style="list-style-type: none"> • 64 public institutions (all 10 districts) • 40 private institutions (all 10 districts) 	<ul style="list-style-type: none"> • 12 district officials interviewed (5 districts)
Value chain actors (VCAS)	<ul style="list-style-type: none"> • 453 interviews with 10 types of key value chain actors (all 10 districts) 	<ul style="list-style-type: none"> • 8 value chain trace backs (5 districts)

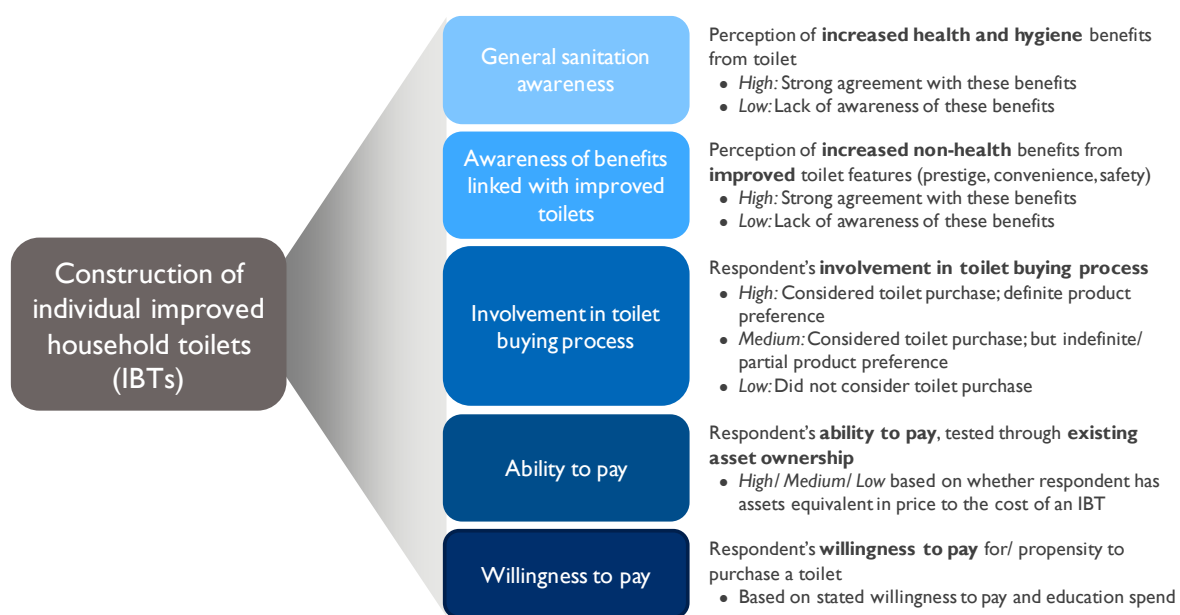
Prior to the RHIS and VCAS, the USHA conducted a shorter field trip ('immersion visit') to map the value chain and gain an initial understanding of the customer context. The Immersion visit, conducted in Arua, Kibaale, and Mukono, included 98 qualitative interviews with households, and 93 qualitative interviews with value chain actors. Additional interviews with government stakeholders, NGOs, and experts were conducted in Kampala.

ANNEX B: CUSTOMER SEGMENTATION PROCESS

KEY DRIVERS OF IBT PURCHASE

Figure 18 below describes and defines the key drivers of IBT purchase considered in the customer segmentation analysis. Customer segmentation variables used for the segmentation (e.g., access to mobile money, access to piped water) were chosen by identifying variables that most consistently predict household behavior against each of these key drivers. For example, whether a customer uses mobile money demonstrates statistically different values (e.g., *High* sanitation awareness) against key drivers.

Figure 18: Key drivers of IBT purchase



ADDITIONAL CONSIDERATIONS OF SEGMENTATION

It is important to keep in mind the purpose and limitations of the segmentation process. Segmentation allows the prioritization of customer profiles that are more amenable to MBS solutions, and understanding of the leverage points and the potential activation efforts for each priority segment. Segmentation allows the design of interventions based on the specific attitudes, preferences, and behavior of priority segments.

However, segmentation related insights are grounded in stated, and not demonstrated, customer behavior (e.g., a customer's description of their product preferences, not a demonstration of it). The data from segmentation analysis should be used directionally, and any planning based on these findings should incorporate qualitative insights from iterative and geographic-specific testing and refinement.

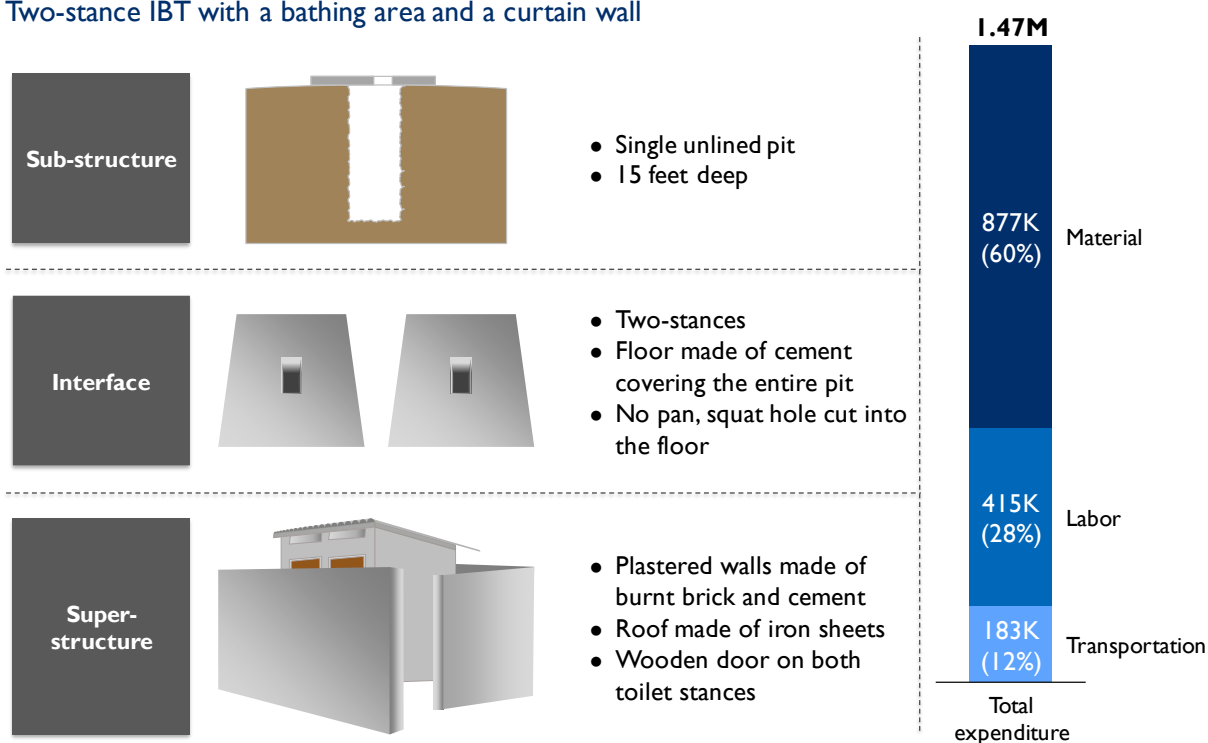
ANNEX C: TOILET COST BUILD-UP

The toilet cost build-up is indicative of the actual costs a rural household may incur in constructing a 2-stance IBT with a bathing area and curtain wall. It is not meant to reflect the stated or actual cost incurred by any particular household. Instead, the build-up is based on analysis of quantity and price data from multiple sources including households⁵⁶, pit diggers, masons, hardware stores, and other value chain actors.

Section 2.0 mentions a point estimate for the cost of a 2-stance IBT, which is at the lower end of the build-up range below. This is because the point estimate assumes that the precise amount of material required for each sub-part of the toilet (e.g., roof, wall, interface) can be purchased by the household whereas the build-up is based on stated quantities that households may have been required to purchase. For greater specificity, the point estimate relies on fewer interviews that provided more complete information while the build-up is based on a wider set of interviews that helped provide a broader range of possible costs incurred by households.

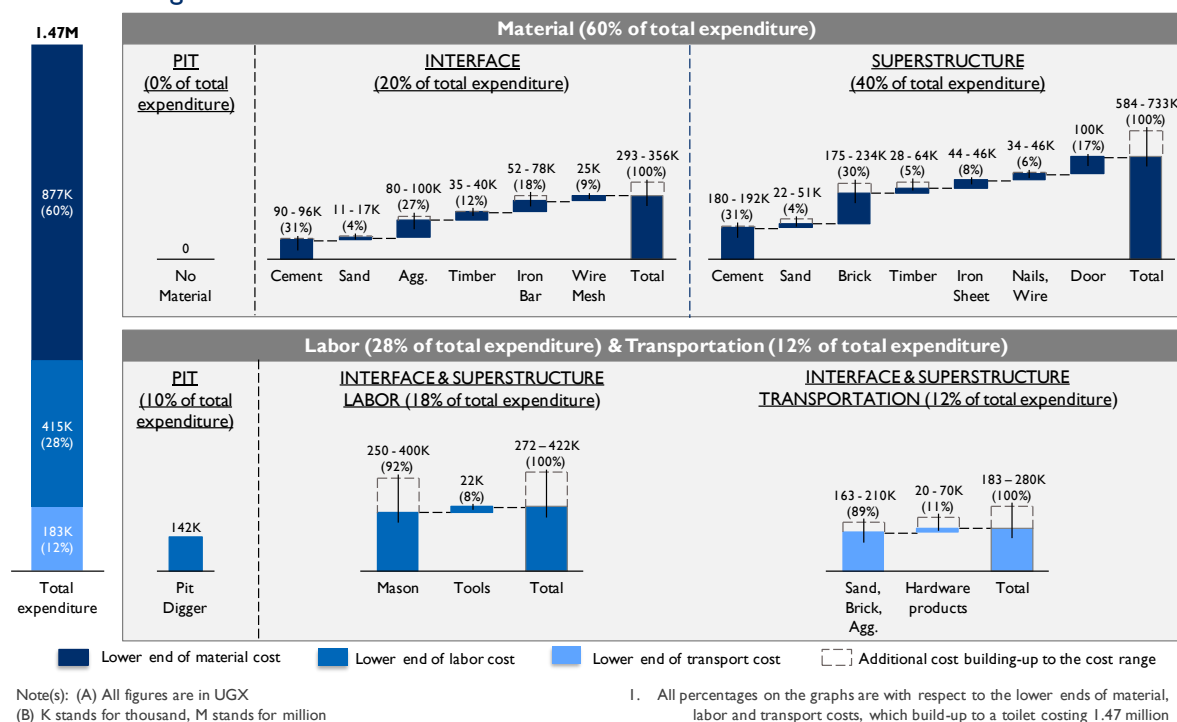
TOILET COST BUILD-UP IN RURAL UGANDA

Two-stance IBT with a bathing area and a curtain wall



⁵⁶ Households were not always able to allocate the quantity of a particular material that was used towards the construction of the interface versus the superstructure. Therefore, assumptions were made to allocate the amount of materials that were used across the different parts of the toilet

Total cost ranges between UGX 1.47 million and UGX 1.93 million¹



ANNEX D: THE MBS FRAMEWORK

This Annex defines and explores the implications of Ugandan-specific barriers across the three domains of the MBS framework, i.e., the sanitation market (i.e., enterprise, customer, and entrepreneur), the context, and the business environment.

Sanitation market (Enterprise)		
	Description	Implications of barrier
Target market	<ul style="list-style-type: none"> The target market refers to the geographic location and customer segments that are the focus of a sanitation enterprise 	<ul style="list-style-type: none"> A target market barrier indicates that an intervention is not prioritizing the right target market segments – the current target customers may not be willing or able to pay for an improved toilet
Delivery model	<ul style="list-style-type: none"> A delivery model refers to how products, services, and information reach the customer during the toilet buying process 	<ul style="list-style-type: none"> A delivery model barrier indicates that the current toilet buying process is costly and/or inconvenient for the customer, requiring him/ her to interact with multiple value chain actors in order to purchase a toilet
Product system	<ul style="list-style-type: none"> A product system refers to the substructure components, interface, and/ or superstructure components of a toilet 	<ul style="list-style-type: none"> A product system barrier indicates that the toilet products on offer in the market are unaffordable and/ or undesirable for target customers; and/ or unfeasible to produce, hampering the uptake of the toilet product
Sales and marketing	<ul style="list-style-type: none"> Sales and marketing refers to the methods used to promote toilets and persuade customers to make a purchase 	<ul style="list-style-type: none"> A sales and marketing barrier indicates that the current marketing methods used by enterprises and/ or implementers are ineffective and/ or insufficient in activating latent demand and driving toilet purchases

Sanitation market (Customer)		
	Description	Implications of barrier
Latent demand	<ul style="list-style-type: none"> Latent demand refers to the interest that households have in purchasing a toilet, which has not been converted to a toilet purchase yet 	<ul style="list-style-type: none"> A latent demand barrier indicates that competing financial priorities (e.g., children school fees), insufficiency of desirable and affordable product options, or limited access to sanitation enterprises can prevent conversion of interest into a purchase
Affordability	<ul style="list-style-type: none"> Affordability refers to a household's overall ability to pay for a toilet 	<ul style="list-style-type: none"> An affordability barrier indicates that market prices for improved toilets are higher than what the target household is able to pay (based on average household income)
Liquidity	<ul style="list-style-type: none"> Liquidity refers to a household's ability to pay the full amount upfront for purchases of products/ services 	<ul style="list-style-type: none"> A liquidity barrier indicates that household customers cannot make upfront payments for a toilet due to a lack of savings, or due to seasonally fluctuating and unpredictable income flows Customers may have enough annual income to afford a toilet, but their income cycles may not match the payments required to ultimately purchase one

Sanitation market (Entrepreneur)		
	Description	Implications of barrier
Availability	<ul style="list-style-type: none"> Availability refers to the availability of entrepreneurs with the business and technical skills required to run a sanitation enterprise 	<ul style="list-style-type: none"> An availability barrier indicates that entrepreneurs with the skillset are unavailable or unwilling to run sanitation enterprises, resulting in shortage of supply
Access to capital	<ul style="list-style-type: none"> Capital refers to the financing available to enterprises, used to purchase equipment and materials 	<ul style="list-style-type: none"> A capital barrier indicates that entrepreneurs do not have access to financing needed to run or grow their sanitation enterprises
Viability	<ul style="list-style-type: none"> Viability refers to the profitability of the sanitation enterprise after fully accounting for all costs 	<ul style="list-style-type: none"> A viability barrier indicates that the sanitation enterprise is not making sufficient profits on individual toilet sales to attract or sustain entrepreneur participation

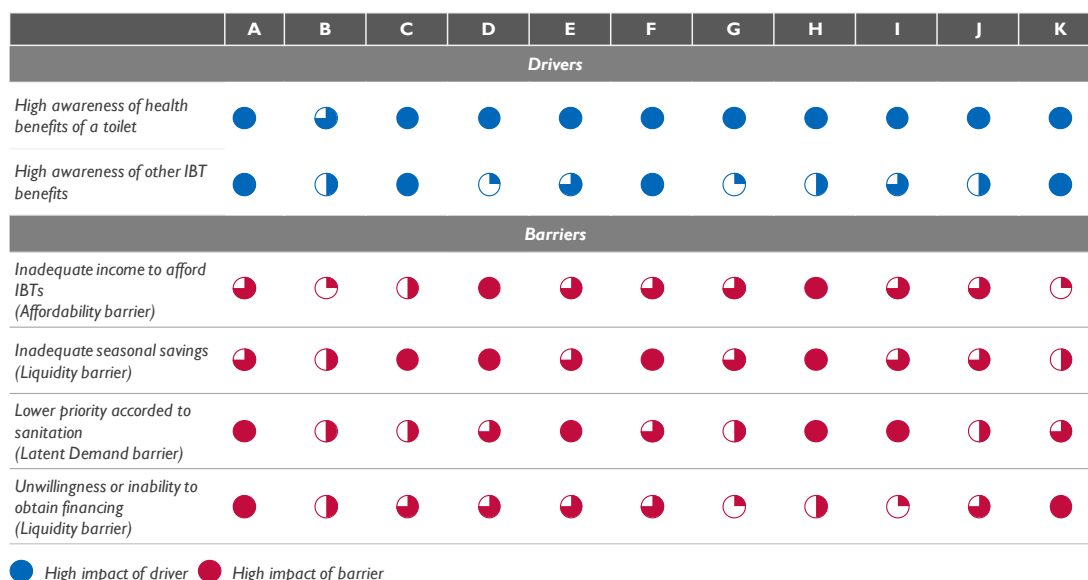
Context		
	Description	Implications of barrier
Infrastructure	<ul style="list-style-type: none"> Infrastructure refers to the ease of transport and road connectivity in a market 	<ul style="list-style-type: none"> An infrastructure barrier indicates that transportation infrastructure is weak – elevating supply costs and toilet prices
Environmental factors	<ul style="list-style-type: none"> Environmental factors refer to factors such as the topography, groundwater conditions, and soil conditions 	<ul style="list-style-type: none"> An environmental factors barrier indicates that certain environmental factors may limit the choice or raise costs of toilet products that can be offered in a market

Business environment		
	Description	Implications of barrier
Associated supply chains	<ul style="list-style-type: none"> Associated supply chains relate to the upstream supply of raw materials and components (e.g., cement) and capital equipment (e.g., slab molds) that support the functioning of sanitation markets 	<ul style="list-style-type: none"> An associated supply chain barrier indicates that access to materials and capital equipment is limited, increasing input costs, translating to higher toilet prices for customers
Public goods	<ul style="list-style-type: none"> Public goods refer to resources available to all market participants, which can support the demand and/ or supply conditions in sanitation markets (e.g., demand generation campaigns) 	<ul style="list-style-type: none"> A public good barrier indicates an insufficiency of such resources, thereby hampering the growth of MBS (e.g., a lack of suitable toilet product designs in the market)

ANNEX E: IMPACT OF DRIVERS AND BARRIERS OF IBT PURCHASE ON CUSTOMER SEGMENTS

Figure 19 highlights the importance of ‘impact’ of various drivers and barriers on each of the 11 customer segments. For each driver and barrier, a four-point relative scale was defined (based on segment-level averages of relevant data points), to determine the impact of the driver/ barrier on each segment; i.e., ‘Very low impact’, ‘Low impact’, ‘Moderate impact’, ‘High impact’. The relevant data points include household income and ability to pay for a toilet, seasonality of income, stated household priorities, and openness to financing.

Figure 19: Impact of drivers and barriers on customer segments



ANNEX F: CUSTOMER NEEDS AND PREFERENCES FOR BEST-FIT PRODUCTS

Desired product features, geographic factors, and current toilet and housing context have varying implications on the potential design of *best-fit* products. These have been described below for the NSMS *priority* segments.

Product feature	Segments				Potential segment-specific impact on product design
	B	C	E	K	
Able to clean with water	●	●	●	●	An interface made with permanent and washable materials
Durable	●	●	●	●	An interface made of permanent and washable materials; could also have implications on pit depth (to prevent collapse) and superstructure material (using longer-lasting permanent materials)
Private	●	●	●	●	Product design for all segments could include a superstructure with a roof and door, ideally with a lock
Children/ elderly able to use	●	●	●	●	For Segments B and E, could consider a smaller drop hole so that vulnerable groups, such as children, may also be able to use it
Does not smell/ well-ventilated	●	●	●	●	For Segment E, consider having a ventilation pipe, as having a toilet that does not smell is particularly important to them
Safety and security	●	●	●	●	For Segment C wants safety and security from their toilet, which could come from a superstructure with a roof and lockable door, or a design with greater structural stability, such as walls made with permanent materials
Improving status in the community	●	●	●	●	For Segment B, visible parts of the toilet could be made to look more 'prestigious' by building a permanent material superstructure, plastering, and/ or painting the walls, etc.
Aesthetically pleasing	●	●	●	●	For Segments C and K, aesthetic appeal of their toilet is relatively important, designs could therefore consider visual appeal of the toilet, as suggested above
Unlikely to collapse	●	●	●	●	Segment K is particularly interested in toilets that are unlikely to collapse easily, a factor which could be taken into account for both interface and pit design

● Feature has significant implication on product design ● Feature has moderate implication ● Feature has low implication

Geographic factor	Segments				Potential segment-specific impact on product design
	B	C	E	K	
Flood risk	●	●	●	●	83% of Segment K is in a 'Medium' flood risk class, so product design must have flood-adaptive technology (e.g., raised toilets) to prevent ground water contamination
Water table depth	●	●	●	●	Over 66% of Segment C and 37% of Segment B have <10 m water table depth, as a result of which pit depth should be less than 10m
Soil type	●	●	●	●	Over 16% of Segment K lives in rocky soil conditions, as a result of which pit depth should likely be relatively shallow
Current toilet and housing context	Segments				Potential segment-specific impact on product design
	B	C	E	K	
Number of stances	●	●	●	●	51% of Segment B and 49% of Segment K currently have two-stance toilets, indicating that they may not be interested in buying one-stance toilets
House materials	●	●	●	●	As 66% and 63% of Segments E and K live in houses made entirely of temporary materials, they are likely to use similar materials for much of their toilet

● Factor/ context has significant implication on product design ● Factor/ context has moderate implication ● Factor/ context has low implication

ANNEX G: ADDITIONAL INFORMATION ON CUSTOMER SEGMENTS

SEGMENT A

KEY STATISTICS



Demographics	
Family size (Avg.)	3.85
Gender of HH Head	
• Male	60.5%
• Female	39.5%
Tenure status	
• Owned	27.4%
• Rented	68.3%
• Other	4.3%

Income and education	
Nature of income	
• Regular	38.6%
• Irregular	33.4%
• Seasonal	24.7%
HH Head education¹	
• No education	6.0%
• Up to primary	51.5%
• Secondary+	42.6%

Affluence indicators	
Mobile phone	66.9%
Bicycle	14.7%
Solar light system	14.8%
Bed	100.0%
Radio	58.9%
Bank account	34.5%
Home improvement	24.7%

Segment size	
% of potential market	4.1%
# of households	227,406

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	60.1%
Strongly associate toilets with prestige	63.4%
Strong willingness to pay for convenience	60.1%
Strong willingness to pay for prestige	48.6%

Behavioral indicators	
% used a toilet	100.0%
% constructed their own toilet ¹	32.6%
% taken a loan in the past	28.3%
Top expenditure areas	
• Health	78.1%
• Food	59.9%
• Education	58.3%

Willingness to pay	
Willing to pay³	
<UGX 600K	21.6%
UGX 600K–900K	21.3%
>UGX 900K	57.1%
Willing to pay for upgrade⁴	
<UGX 600K	28.5%
UGX 600K–900K	17.1%
>UGX 900K	54.4%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> • Live entirely in urban areas of the Central region in Uganda • Have relatively small families (~4 people) • Tend to live in rented houses made predominantly of permanent materials • Typically have irregular or seasonal incomes; slightly less than half spend under UGX 1.2m/ year, which is above the average for segments • Major expenditure areas are food and education, although health is also among the top three priorities for the large majority of the segment • The large majority are likely to use mobile money, more so than bank accounts, though the use of both is below the average for urban Uganda • Most own mobile phones and radios, but this is also lower than the average for urban Uganda 	<ul style="list-style-type: none"> • Very strongly desire respect from people in their community • Value products that make their life more convenient, or that are prestigious • Conformity is not particularly important to this group, as more than half disagree or strongly disagree that one shouldn't do things 'differently' from their neighbors • Averse to taking loans due to fear of not being able to repay or losing collateral (nearly three-quarters have never taken a loan) • Place their family's needs above their own, and strongly associate not having a toilet with irresponsibility – almost no one in the community practices OD <ul style="list-style-type: none"> • The majority strongly believe having a toilet makes the family proud, more so than other segments do • The main influencers on information about toilets are health workers/ local leaders, or value chain actors – masons or pit diggers
<ul style="list-style-type: none"> • Durability is the top desired feature in a toilet, followed by safety, security, and privacy • Tend to have improved toilets, but share them with others • Their desire for safety and privacy, and a belief that toilet ownership leads to better health/ increased prestige, drives toilet construction • For almost two-thirds, house construction/ alteration is also a key trigger for toilet construction 	<ul style="list-style-type: none"> • The vast majority considered improved features when considering purchasing a toilet, and nearly all used or would use a mason • They are largely satisfied with their current toilet, and are less likely to consider upgrading than most segments; however, their top point of dissatisfaction with the toilet is that they have to share it • The large majority paid or are willing to pay over UGX 600,000 for a toilet
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;
 2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;
 3. Of the 71.5% of the segment who answered this question, scaled up to 100%;
 4. Of the 25.4% of the segment who answered this question, scaled up to 100%

SEGMENT B

KEY STATISTICS



Demographics	
Family size (Avg.)	4.83
Gender of HH Head	
• Male	57.4%
• Female	42.6%
Tenure status	
• Owned	39.8%
• Rented	57.8%
• Other	2.4%

Income and education	
Nature of income	
• Regular	60.9%
• Irregular	27.6%
• Seasonal	6.2%
HH Head education¹	
• No education	10.8%
• Up to primary	40.3%
• Secondary+	48.9%

Affluence indicators	
Mobile phone	83.2%
Bicycle	19.9%
Solar light system	8.1%
Bed	81.3%
Radio	68.7%
Bank account	33.0%
Home improvement	21.7%

Segment size	
% of potential market	12.4%
# of households	691,605

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	43.5%
Strongly associate toilets with prestige	29.5%
Strong willingness to pay for convenience	31.5%
Strong willingness to pay for prestige	20.7%

Behavioral indicators	
% used a toilet	100.0%
% constructed their own toilet ¹	31.2%
% taken a loan in the past	22.5%
Top expenditure areas	
• Food	92.8%
• Education	72.7%
• Health	69.1%

Willingness to pay	
Willing to pay³	
<UGX 600K	30.1%
UGX 600K–900K	22.6%
>UGX 900K	47.3%
Willing to pay for upgrade⁴	
<UGX 600K	48.0%
UGX 600K–900K	14.3%
>UGX 900K	33.9%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Two-thirds of households live in urban areas; all have access to piped water Over half live in houses that are made of permanent materials; and over half rent the house they live in Most have regular sources of income, the highest of any segment Nearly all earn above UGX 1.2m/ year; compared to an average of two-thirds across segments The vast majority of households spend above UGX 1.2m/ year; nearly double the segment average Key expenditure areas are food and education; households have among the highest spend on education across all segments Most households own radios; the vast majority own mobile phones (at higher levels than national averages) Approximately a third of household heads have a bank account (more than double the national average) 	<ul style="list-style-type: none"> Less likely than other segments to want a product just because many people in their community have it Whilst a large majority are willing to pay for products that are prestigious, they don't feel as strongly about this as most of the other segments The vast majority agree or strongly agree that open defecation is irregular practice and embarrassing; very few households therefore practice OD Compared to other segments, tend not to associate toilets with modernity or view them as a source of pride Most likely to have not built an individual toilet because they consider it a low priority, and as they live in rented houses <ul style="list-style-type: none"> View the functional benefits of having an individual toilet (e.g., reduction of flies, disease prevention) as less attractive than the average for other segments Rely on either family and friends, or value chain actors (masons or pit diggers) for information on toilets
<ul style="list-style-type: none"> See the ability to clean with water, and privacy as the two most important product features when deciding which toilet to construct The majority have improved toilets, that they share with others Prestige, and the desire for safety and privacy were the main drivers of toilet construction for most, but a large majority also evaluated the affordability and convenience of the available options 	<ul style="list-style-type: none"> Willingness to pay is higher than most segments – less than a third would pay less than UGX 600,000 for a new toilet, nearly half would pay over UGX 900,000 Largely use a mason and/ or pit digger when constructing a toilet A large majority of households are satisfied with their toilets; most are not looking to upgrade their toilets in the future
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 74.1% of the segment who answered this question, scaled up to 100%;

4. Of the 24.9% of the segment who answered this question, scaled up to 100%

SEGMENT C

KEY STATISTICS



Demographics	
Family size (Avg.)	3.66
Gender of HH Head	
• Male	61.3%
• Female	38.7%
Tenure status	
• Owned	62.9%
• Rented	25.8%
• Other	11.3%

Income and education	
Nature of income	
• Regular	29.6%
• Irregular	46.3%
• Seasonal	19.7%
HH Head education¹	
• No education	12.0%
• Up to primary	51.6%
• Secondary+	36.4%

Affluence indicators	
Mobile phone	73.7%
Bicycle	28.0%
Solar light system	31.6%
Bed	93.1%
Radio	75.8%
Bank account	10.7%
Home improvement	9.8%

Segment size	
% of potential market	12.3%
# of households	686,407

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	51.5%
Strongly associate toilets with prestige	51.6%
Strong willingness to pay for convenience	34.8%
Strong willingness to pay for prestige	43.4%

Behavioral indicators	
% used a toilet	99.2%
% constructed their own toilet ¹	70.9%
% taken a loan in the past	16.9%
Top expenditure areas	
• Health	86.2%
• Food	61.5%
• Education	56.8%

Willingness to pay	
Willing to pay³	
<UGX 600K	28.3%
UGX 600K–900K	16.0%
>UGX 900K	55.6%
Willing to pay for upgrade⁴	
<UGX 600K	34.9%
UGX 600K–900K	22.7%
>UGX 900K	40.4%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Live in rural areas in the Central region Relatively small household size (~4 people), below the average for rural areas The majority live in houses that are partly or fully made of permanent materials and own the houses they live in Over two-thirds have seasonal or irregular sources of income (nearly two times the average level for all segments) This segment both earns and spends less than the average for other segments – nearly four in ten earn less than UGX 1.2m/ year; half spend less than UGX 1.2m/ year Key expenditure areas are essentials such as food and health-related expenditure Approximately three-quarters own radios and mobile phones, higher than the average across segments The vast majority of households do not have access to a bank account, lower than the national average 	<ul style="list-style-type: none"> Value products that can make their lives more convenient and desire products that households in urban centers use; they would be willing to pay for such products Strongly desire respect from their community and are willing to pay for products that would increase their standing in the community Reluctant to take loans as they are afraid of not being able to repay it, or of losing their collateral; the vast majority have never taken a loan – the lowest amongst all segments Nearly all consider owning a toilet to be an important part of improving one's lifestyle, but don't believe a toilet is as important as other durable assets <ul style="list-style-type: none"> Regard education to be important and approximately half the households in this segment believe that school fees are more important than toilets Rely on either family and friends, or value chain actors (masons or pit diggers) for information on toilets
<ul style="list-style-type: none"> The ability to clean with water and safety/ security are seen as the most desirable features in a toilet and, along with health, are the key drivers for toilet construction Though more than half the households in the segment considered improved features when selecting their toilet (above average among segments), two-thirds of them have unimproved toilets 	<ul style="list-style-type: none"> Affordability and convenience are the most significant drivers when choosing between toilet products This segment were the most dissatisfied with their toilets, with nearly half being dissatisfied Most households would consider upgrading their toilet in the future The majority are willing to pay above UGX 900,000 for a toilet, but may wait until other competing expenses are met
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 46.2% of the segment who answered this question, scaled up to 100%;

4. Of the 49.1% of the segment who answered this question, scaled up to 100%

SEGMENT D

KEY STATISTICS



Demographics	
Family size (Avg.)	5.71
Gender of HH Head	
• Male	72.8%
• Female	27.2%
Tenure status	
• Owned	82.4%
• Rented	17.6%
• Other	0.0%

Income and education	
Nature of income	
• Regular	40.0%
• Irregular	36.0%
• Seasonal	24.1%
HH Head education¹	
• No education	39.3%
• Up to primary	46.0%
• Secondary+	14.7%

Affluence indicators	
Mobile phone	75.8%
Bicycle	32.2%
Solar light system	36.1%
Bed	54.1%
Radio	57.9%
Bank account	3.8%
Home improvement	36.3%

Segment size	
% of potential market	6.8%
# of households	380,811

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	39.5%
Strongly associate toilets with prestige	30.5%
Strong willingness to pay for convenience	23.1%
Strong willingness to pay for prestige	17.7%

Behavioral indicators	
% used a toilet	94.1%
% constructed their own toilet ¹	81.2%
% taken a loan in the past	32.8%
Top expenditure areas	
• Health	82.0%
• Education	62.8%
• Food	58.2%

Willingness to pay	
Willing to pay³	
<UGX 600K	71.5%
UGX 600K–900K	6.8%
>UGX 900K	21.7%
Willing to pay for upgrade⁴	
<UGX 600K	71.8%
UGX 600K–900K	3.5%
>UGX 900K	22.1%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Live in relatively remote rural areas further from main roads; split across the Northern and Western regions A large majority live in houses that are made with temporary materials; the vast majority own their houses Over a third have not attained any education (over 1.5 times more than the average level) The average size of a plot of house is less than half of the average across segments (the second lowest amongst segments) Over half have irregular or seasonal sources of income; less than half earn under UGX 1.2m/ year and most earn less than UGX 2.4m/ year, with less income than most other segments Key expenditure areas are mainly essentials such as food and health-related expenditure Asset ownership is slightly higher than the average across segments: over half of households have radios; over three-quarters have mobile phones Nearly none have access to bank accounts 	<ul style="list-style-type: none"> Believe that one shouldn't do things differently from one's neighbors/ community (second highest amongst segments) Most likely amongst all the segments to have taken a loan with a third having done so; of these, over half borrowed from a VSLA or SACCO Believe that it is embarrassing to be seen defecating in the open, and irresponsible to not have a toilet A vast majority agree or strongly agree that they are willing to pay for products that are prestigious, however, this segment is less likely than average to strongly agree that toilets provide prestige <ul style="list-style-type: none"> Nearly half of households feel that school fees are more important than building or improving a toilet, higher than the average for all segments Rely on their family and friends, health workers, or local leaders for information about toilets
<ul style="list-style-type: none"> Privacy and the ability to clean with water are seen as the most desirable features when purchasing a toilet A large majority of households have unimproved toilets; though a significant minority have no toilet (nearly twice as high as the average for other segments) Households viewed affordability and convenience as the most significant drivers when choosing between toilet options 	<ul style="list-style-type: none"> Safety, privacy, and health are the key drivers in toilet construction Most households are satisfied with their toilets, however, a vast majority are willing to consider upgrading their toilets, particularly to improve the floor However, most households in the segment are not willing to spend more than UGX 600,000 on a new toilet, or UGX 300,000 on upgrading their existing toilet
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 46.4% of the segment who answered this question, scaled up to 100%;

4. Of the 53.8% of the segment who answered this question, scaled up to 100%

SEGMENT E

KEY STATISTICS



Demographics	
Family size (Avg.)	5.92
Gender of HH Head	
• Male	62.9%
• Female	37.1%
Tenure status	
• Owned	79.7%
• Rented	16.3%
• Other	4.0%

Income and education	
Nature of income	
• Regular	44.4%
• Irregular	16.2%
• Seasonal	38.2%
HH Head education¹	
• No education	27.6%
• Up to primary	51.4%
• Secondary+	21.0%

Affluence indicators	
Mobile phone	61.9%
Bicycle	48.2%
Solar light system	20.7%
Bed	78.6%
Radio	43.2%
Bank account	12.5%
Home improvement	36.1%

Segment size	
% of potential market	15.4%
# of households	862,039

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	45.8%
Strongly associate toilets with prestige	51.0%
Strong willingness to pay for convenience	26.0%
Strong willingness to pay for prestige	31.4%

Behavioral indicators	
% used a toilet	100.0%
% constructed their own toilet ¹	80.1%
% taken loan in the past	27.9%
Top expenditure areas	
• Health	84.4%
• Education	73.2%
• Food	65.4%

Willingness to pay	
Willing to pay³	
<UGX 600K	58.5%
UGX 600K–900K	8.5%
>UGX 900K	33.0%
Willing to pay for upgrade⁴	
<UGX 600K	62.9%
UGX 600K–900K	6.3%
>UGX 900K	26.7%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Largely rural setting with about a fifth in urban areas; mostly in the Eastern district, with less than a fifth in the Northern district Slightly above the national average household size, with ~6 people in every household The large majority have fairly low levels of education (no or only primary education) The large majority also own their house, which is made mostly out of temporary materials Slightly over half do not have regular income, and nearly half earn and spend less than UGX 1.2m annually Their main expenditure areas are food and health-related, although agriculture or animal husbandry is also among the top expenditure priorities for nearly half the population The number of household heads with a bank account is below the national average 	<ul style="list-style-type: none"> Strongly influenced by neighbors, as they are more likely than other segments to believe a product is useful if it is owned by many people in the community; the respect of those in their community tends to be more important to them than it is to other segments Over half strongly agree that their family's needs are more important than their own, the highest among all segments Over a quarter of households have taken a loan in the past, above average for segments Clearly recognize the health benefits of toilets, as the majority strongly agree that having a toilet reduces the possibility of disease, more so than any other segment Believe that building a toilet is as important as other durable assets, slightly above the average for other segments <ul style="list-style-type: none"> Nearly half strongly agree that owning a toilet makes the family proud, above the average for other segments Family/ friends are the main source of information on toilets for a third of this segment
<ul style="list-style-type: none"> Want a durable, clean, and hygienic toilet Currently have mainly unimproved toilets, with less than one in ten practicing OD, above the national average for Uganda Around half constructed their toilet as they felt it provided greater safety and privacy, as well as health benefits Affordability is the main factor determining toilet choice Convenience also plays a major role for over half of this segment 	<ul style="list-style-type: none"> The majority considered or would consider improved features for their toilet; nearly a third would use a mason for this construction A large majority of those who have a toilet older than 3 years plan to build a new toilet when their current one fills up Most of the segment is satisfied or very satisfied with their current toilet, but would largely consider upgrading to a new toilet in the future Nearly half would spend more than UGX 600,000 for a new toilet
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 45.2% of the segment who answered this question, scaled up to 100%;

4. Of the 51.9% of the segment who answered this question, scaled up to 100%

SEGMENT F

KEY STATISTICS



Demographics	
Family size (Avg.)	6.99
Gender of HH Head	
• Male	74.3%
• Female	25.7%
Tenure status	
• Owned	96.6%
• Rented	2.5%
• Other	0.9%

Income and education	
Nature of income	
• Regular	35.3%
• Irregular	31.3%
• Seasonal	32.6%
HH Head education¹	
• No education	25.1%
• Up to primary	58.5%
• Secondary+	16.4%

Affluence indicators	
Mobile phone	54.0%
Bicycle	54.9%
Solar light system	25.0%
Bed	65.3%
Radio	46.3%
Bank account	5.7%
Home improvement	38.7%

Segment size	
% of potential market	13.4%
# of households	746,543

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	28.3%
Strongly associate toilets with prestige	51.3%
Strong willingness to pay for convenience	22.5%
Strong willingness to pay for prestige	32.9%

Behavioral indicators	
% used a toilet	99.4%
% constructed their own toilet ¹	94.0%
% taken a loan in the past	23.3%
Top expenditure areas	
• Health	91.1%
• Education	78.2%
• Food	62.4%

Willingness to pay	
Willing to pay³	
<UGX 600K	71.1%
UGX 600K–900K	8.9%
>UGX 900K	20.0%
Willing to pay for upgrade⁴	
<UGX 600K	77.7%
UGX 600K–900K	12.3%
>UGX 900K	8.6%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Have the highest percentage of male-headed households (around 3 in 4) and the largest household size (~7 people) of all segments Largely live in rural areas and most are from the Eastern region; though about a third can be found in the Northern region as well Most have not studied beyond the primary grades and a quarter have no formal education Tend to live in self-owned houses that are predominantly made of temporary materials Only a third of the segment has a regular income source and nearly none have a bank account; this is well below the national average Nearly half have annual expenditure of less than UGX 1.2m, meaning they spend less than the average for segments The top expenditure areas are food, education and health care Agriculture and animal husbandry are one of the top five expenditure areas for more than half the segment; this is above the average for all segments Less likely than other segments to own assets such as mobile phones and beds 	<ul style="list-style-type: none"> Perceive products owned by others in their community to be useful for them, more so than other segments Averse to taking loans as they are afraid of not being able to repay them Slightly more likely than other segments to believe that building a toilet is as important as investing in other durable assets Strongly believe that toilets are a source of pride for the family and greatly value the privacy toilets offer compared to open defecation Value the health and safety benefits of a toilet (increased cleanliness, reduced likelihood of disease), but believe it takes a great deal of effort to keep a toilet clean Rely on their family and friends, health workers, or local leaders for information about toilets Though OD is more prevalent in this segment than in most others, people are embarrassed to be seen defecating in the open
<ul style="list-style-type: none"> The most important features desired in a toilet are durability and privacy, although it is also important to them that children and elderly family members are able to use the toilet Tend to build unimproved toilets made of mud and poles; and a significant number construct toilets using their own labor Safety and privacy are the main drivers of toilet construction for this segment, with prestige also playing a role 	<ul style="list-style-type: none"> For those that own toilets, affordability and convenience were the primary considerations in their selection of product features Most are satisfied with their toilets, they would consider upgrading to a new toilet or improving the floor of their current toilet However, the majority are not willing to pay more than UGX 600,000 for this upgrade
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 43.5% of the segment who answered this question, scaled up to 100%;

4. Of the 51.9% of the segment who answered this question, scaled up to 100%

SEGMENT G

KEY STATISTICS



Demographics	
Family size (Avg.)	5.36
Gender of HH Head	
• Male	55.1%
• Female	44.9%
Tenure status	
• Owned	64.1%
• Rented	35.9%
• Other	0.0%

Income and education	
Nature of income	
• Regular	51.2%
• Irregular	46.0%
• Seasonal	2.8%
HH Head education¹	
• No education	13.6%
• Up to primary	66.6%
• Secondary+	19.8%

Affluence indicators	
Mobile phone	86.2%
Bicycle	13.2%
Solar light system	32.4%
Bed	67.5%
Radio	32.7%
Bank account	26.6%
Home improvement	27.5%

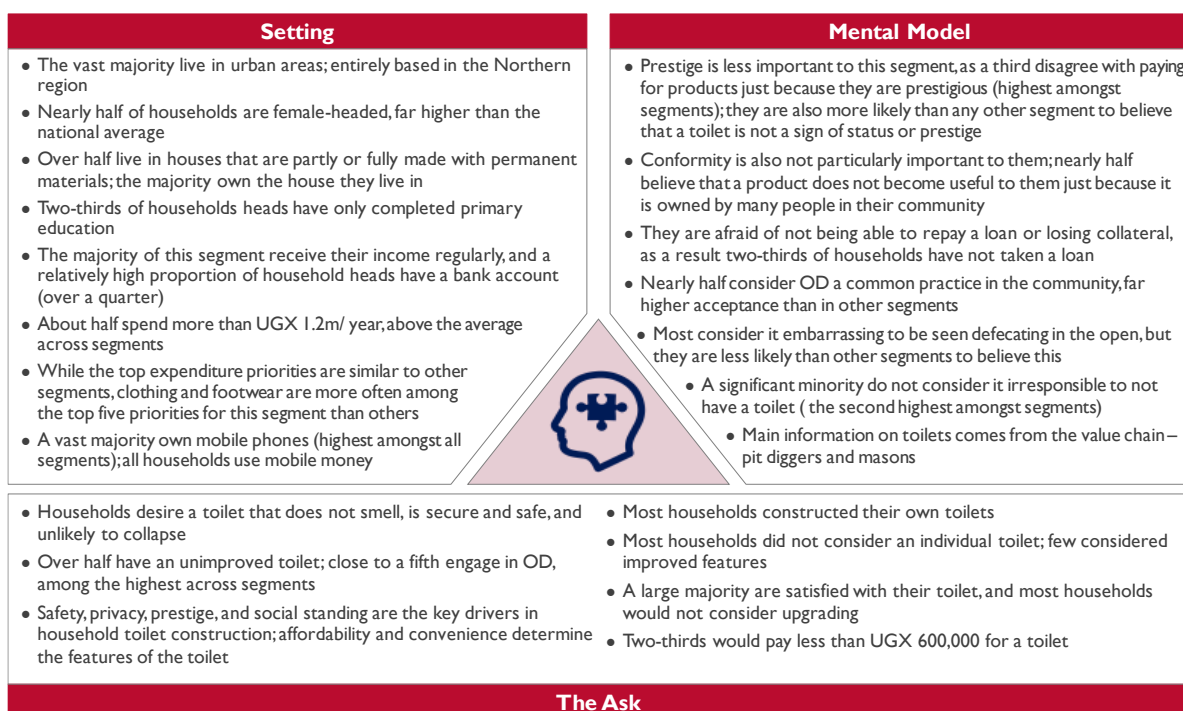
Segment size	
% of potential market	2.4%
# of households	135,167

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	17.2%
Strongly associate toilets with prestige	0.0%
Strong willingness to pay for convenience	17.6%
Strong willingness to pay for prestige	6.3%

Behavioral indicators	
% used a toilet	96.9%
% constructed their own toilet ¹	45.2%
% taken a loan in the past	23.4%
Top expenditure areas	
• Health	89.0%
• Education	74.7%
• Food	65.2%

Willingness to pay	
Willing to pay³	
<UGX 600K	66.5%
UGX 600K–900K	15.1%
>UGX 900K	18.4%
Willing to pay for upgrade⁴	
<UGX 600K	54.5%
UGX 600K–900K	0.0%
>UGX 900K	31.3%

CUSTOMER PROFILE



1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 78.2% of the segment who answered this question, scaled up to 100%;

4. Of the 20.2% of the segment who answered this question, scaled up to 100%

SEGMENT H

KEY STATISTICS



Demographics	
Family size (Avg.)	6.65
Gender of HH Head	
• Male	45.4%
• Female	54.6%
Tenure status	
• Owned	97.3%
• Rented	1.3%
• Other	1.4%

Income and education	
Nature of income	
• Regular	23.0%
• Irregular	66.1%
• Seasonal	10.2%
HH Head education¹	
• No education	62.9%
• Up to primary	28.4%
• Secondary+	8.7%

Affluence indicators	
Mobile phone	34.3%
Bicycle	29.7%
Solar light system	13.9%
Bed	29.1%
Radio	29.3%
Bank account	4.7%
Home improvement	18.1%

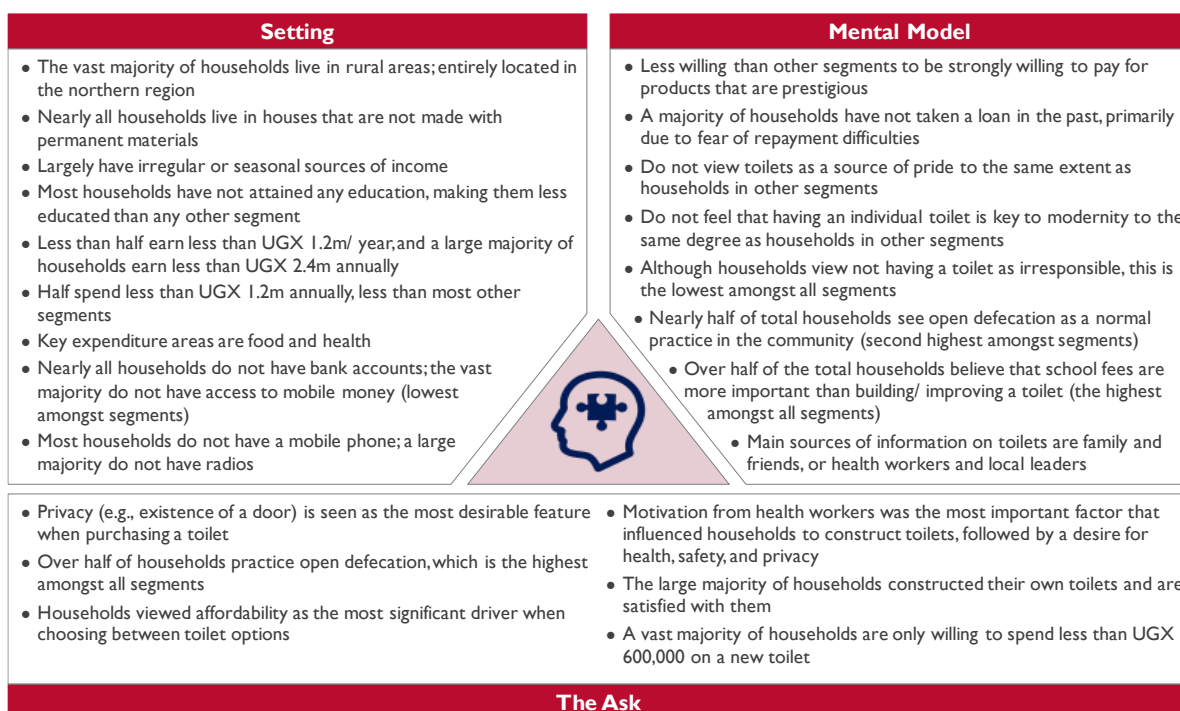
Segment size	
% of potential market	10.1%
# of households	561,893

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	15.9%
Strongly associate toilets with prestige	13.6%
Strong willingness to pay for convenience	23.4%
Strong willingness to pay for prestige	16.1%

Behavioral indicators	
% used a toilet	82.2%
% constructed their own toilet ¹	69.5%
% taken a loan in the past	32.4%
Top expenditure areas	
• Health	91.9%
• Education	65.7%
• Food	64.3%

Willingness to pay	
Willing to pay³	
<UGX 600K	82.5%
UGX 600K–900K	11.6%
>UGX 900K	5.9%
Willing to pay for upgrade⁴	
<UGX 600K	95.7%
UGX 600K–900K	0.0%
>UGX 900K	4.3%

CUSTOMER PROFILE



1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 83.8% of the segment who answered this question, scaled up to 100%;

4. Of the 11.9% of the segment who answered this question, scaled up to 100%

SEGMENT I

KEY STATISTICS



Demographics	
Family size (Avg.)	5.45
Gender of HH Head	
• Male	59.8%
• Female	40.2%
Tenure status	
• Owned	98.1%
• Rented	0.0%
• Other	1.9%

Income and education	
Nature of income	
• Regular	49.1%
• Irregular	47.1%
• Seasonal	3.8%
HH Head education¹	
• No education	31.5%
• Up to primary	56.8%
• Secondary+	11.6%

Affluence indicators	
Mobile phone	38.0%
Bicycle	38.5%
Solar light system	35.4%
Bed	56.0%
Radio	43.3%
Bank account	0.5%
Home improvement	30.1%

Segment size	
% of potential market	6.8%
# of households	381,595

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	44.7%
Strongly associate toilets with prestige	33.5%
Strong willingness to pay for convenience	10.6%
Strong willingness to pay for prestige	10.9%

Behavioral indicators	
% used a toilet	100%
% constructed their own toilet ¹	68.2%
% taken a loan in the past	21.5%
Top expenditure areas	
• Health	86.5%
• Education	73.5%
• Food	60.8%

Willingness to pay	
Willing to pay³	
<UGX 600K	89.0%
UGX 600K–900K	0.0%
>UGX 900K	11.0%
Willing to pay for upgrade⁴	
<UGX 600K	95.2%
UGX 600K–900K	4.8%
>UGX 900K	0.0%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Live entirely in remote rural areas; completely in the Northern region Nearly all live in houses that are made predominantly of temporary materials Over half of household heads have only completed primary education; close to a third have attained no education (third highest amongst segments) Over half of the total number of households have irregular or seasonal sources of income Over a third earn less than UGX 1.2m/ year, and the majority of households earn below UGX 2.4m annually Over half of households spend less than UGX 1.2m/ year, spending less than most segments Key expenditure areas are food and health Nearly all households do not have access to a bank account; most households do not have access to mobile money The majority of households do not own a mobile phone; less than half own a radio 	<ul style="list-style-type: none"> Nearly all households are willing to pay for products that would make their lives more convenient (third highest amongst segments) Few strongly agree that they would be willing to pay for goods that are prestigious A majority of households believe that one should not do things differently from one's neighbors/ community (higher than most segments) Households are not likely to take a loan – most households have not taken one in the past because they believe they had no need for one All households believe that individual toilets reduce the incidence of disease and help avoid the dangers of defecating in a bush at night <ul style="list-style-type: none"> More likely than most segments to agree that building a toilet is as important as durable assets Sources of information on toilets are family and friends or health workers and local leaders
<ul style="list-style-type: none"> Privacy (e.g., existence of door) is seen overwhelmingly as the most desirable feature a toilet should have A vast majority of households have unimproved toilets, which is the third highest amongst segments A desire for safety and privacy were the most important reasons households were driven to construct toilets, followed by influence from health workers and increased convenience 	<ul style="list-style-type: none"> Selected product features mainly based on affordability and convenience; over half of households did not consider improved features Largely satisfied with their current toilets; nearly all households were only willing to pay less than UGX 300,000 to upgrade their toilets A vast majority of households are only willing to pay less than UGX 600,000 for a new toilet, the vast majority were only willing to pay up to UGX 300,000, less than any other segment
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 67.1% of the segment who answered this question, scaled up to 100%;

4. Of the 32.9% of the segment who answered this question, scaled up to 100%

SEGMENT J

KEY STATISTICS



Demographics	
Family size (Avg.)	5.25
Gender of HH Head	
• Male	73.9%
• Female	26.1%
Tenure status	
• Owned	74.5%
• Rented	22.6%
• Other	2.9%

Income and education	
Nature of income	
• Regular	43.7%
• Irregular	13.9%
• Seasonal	42.5%
HH Head education¹	
• No education	17.2%
• Up to primary	69.3%
• Secondary+	13.5%

Affluence indicators	
Mobile phone	62.7%
Bicycle	24.7%
Solar light system	40.8%
Bed	83.8%
Radio	56.9%
Bank account	5.7%
Home improvement	30.3%

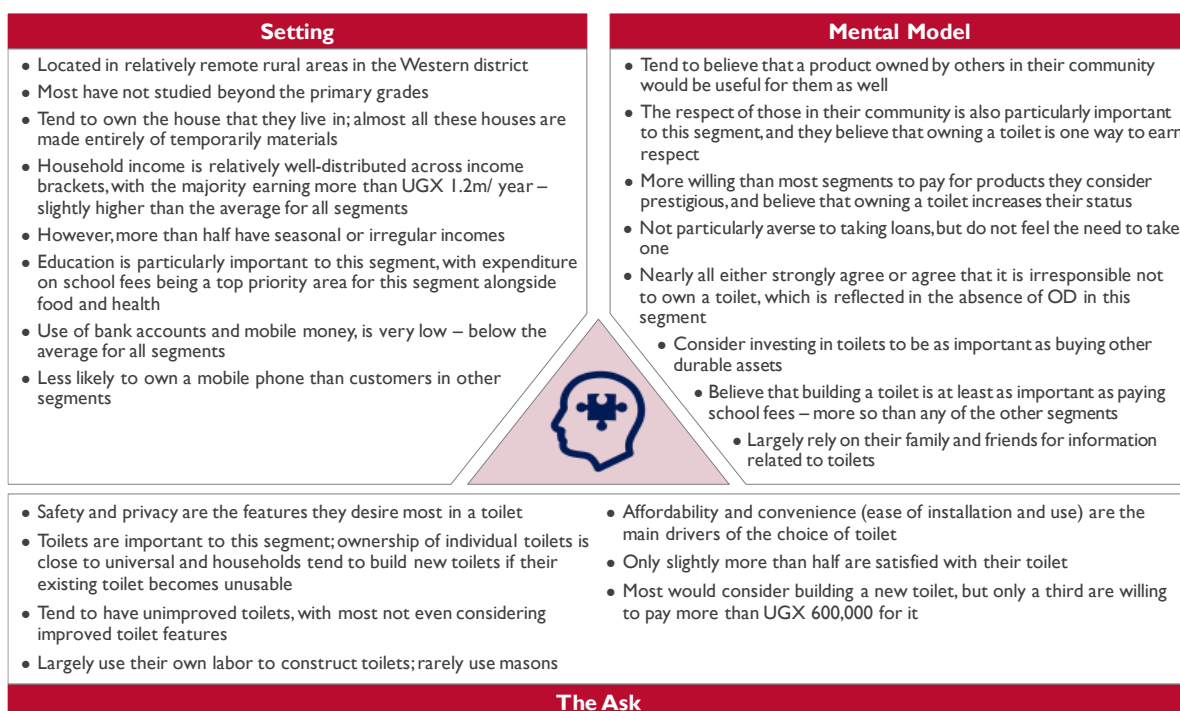
Segment size	
% of potential market	9.6%
# of households	538,318

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	39.9%
Strongly associate toilets with prestige	35.3%
Strong willingness to pay for convenience	37.3%
Strong willingness to pay for prestige	29.0%

Behavioral indicators	
% used a toilet	100%
% constructed their own toilet ¹	75.1%
% taken a loan in the past	31.7%
Top expenditure areas	
• Health	78.4%
• Education	77.7%
• Food	69.3%

Willingness to pay	
Willing to pay³	
<UGX 600K	67.8%
UGX 600K–900K	11.2%
>UGX 900K	20.9%
Willing to pay for upgrade⁴	
<UGX 600K	66.4%
UGX 600K–900K	2.5%
>UGX 900K	19.5%

CUSTOMER PROFILE



1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 29.3% of the segment who answered this question, scaled up to 100%;

4. Of the 56.7% of the segment who answered this question, scaled up to 100%

SEGMENT K

KEY STATISTICS



Demographics	
Family size (Avg.)	4.45
Gender of HH Head	
• Male	70.6%
• Female	29.4%
Tenure status	
• Owned	67.5%
• Rented	26.1%
• Other	6.4%

Income and education	
Nature of income	
• Regular	61.3%
• Irregular	5.0%
• Seasonal	32.1%
HH Head education¹	
• No education	14.2%
• Up to primary	39.9%
• Secondary+	45.9%

Affluence indicators	
Mobile phone	77.6%
Bicycle	20.3%
Solar light system	42.2%
Bed	94.1%
Radio	88.2%
Bank account	15.7%
Home improvement	32.7%

Segment size	
% of potential market	6.7%
# of households	375,147

Attitudes and beliefs ²	
Strongly believe that OD is irresponsible	44.2%
Strongly associate toilets with prestige	47.4%
Strong willingness to pay for convenience	40.6%
Strong willingness to pay for prestige	33.7%

Behavioral indicators	
% used a toilet	100%
% constructed their own toilet ¹	72.5%
% taken a loan in the past	28.4%
Top expenditure areas	
• Health	73.3%
• Education	72.6%
• Food	69.8%

Willingness to pay	
Willing to pay³	
<UGX 600K	34.2%
UGX 600K–900K	16.7%
>UGX 900K	49.2%
Willing to pay for upgrade⁴	
<UGX 600K	53.4%
UGX 600K–900K	17.8%
>UGX 900K	28.8%

CUSTOMER PROFILE

Setting	Mental Model
<ul style="list-style-type: none"> Live in the Western region, with slightly more than half living in urban areas Most household heads are educated, with more having studied at the secondary school level or higher than in any other segment Tend to own their houses, which are mainly made of temporary materials More likely than most segments to have a regular source of income; the majority of this segment have one The large majority earn and spend more than UGX 1.2m/ year, both well above the average for other segments Food, health, transport, and education are among the main expenditure areas Asset ownership is generally high relative to other segments – radio ownership is higher in this segment than in any other segment, and mobile phone ownership is also well above average The proportion who have bank accounts is roughly consistent with the national average 	<ul style="list-style-type: none"> More likely than other segments to strongly agree that they would pay for products that make their lives more convenient All value the opinions of neighbors, and agree or strongly agree that having the respect of their community is important Believe more strongly than most that they should not do things differently from others in their community, and that commonly owned products would be useful for their family as well Consequently, family and friends are the most important influencers when seeking information related to toilet purchase Don't feel the need to take loans, which is consistent with their relative affluence as compared to other segments Nearly all consider a toilet as important as other durable assets, and believe owning a toilet makes one a proud and respected member of the community Almost all are aware of the health and hygiene benefits of toilets and see OD as embarrassing, OD is therefore non-existent
<ul style="list-style-type: none"> Their ideal toilet would be a two-stance toilet one that they are able to clean with water, is private, and is unlikely to collapse They also believe a toilet should be aesthetically pleasing, possibly linked to their stronger desire for the respect of their community The vast majority of this segment have unimproved toilets Many built their current toilet out of a desire for greater health, hygiene, and prestige 	<ul style="list-style-type: none"> Nearly all selected their toilet features based on affordability; and the majority did not consider individual toilets with improved features Most are at least slightly satisfied with their toilet but would consider upgrading, particularly to improve the floor of their toilet Close to half the households in the segment are willing to pay over UGX 600,000 for this upgrade, and of these households, the majority are willing to pay more than UGX 900,000
The Ask	

1. The percentages reflect the profile across interviewees who responded to this question; scaled up to 100%;

2. Respondents were asked if they 'strongly disagreed', 'disagreed', 'agreed', or 'strongly agreed' to statements (e.g., 'OD is irresponsible') related to their attitudes and beliefs. Here only the percentage of those who 'strongly agreed' with a statement is reported, but overall 'agreement' with the statement may be higher;

3. Of the 38.9% of the segment who answered this question, scaled up to 100%;

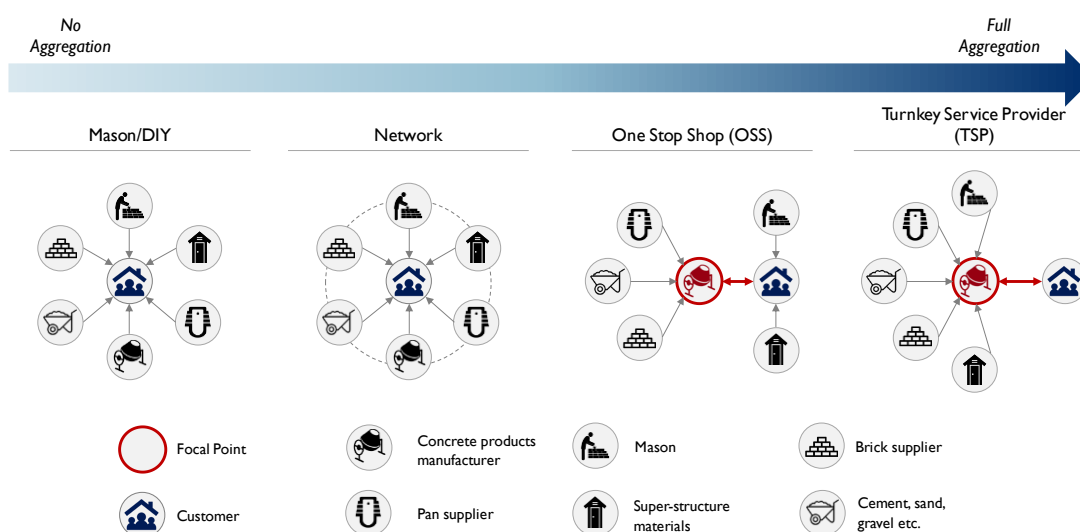
4. Of the 57.2% of the segment who answered this question, scaled up to 100%

ANNEX H: DELIVERY MODELS⁵⁷

A delivery model refers to how materials, services, and information required to build a toilet reaches the household. As seen in **Figure 20**, different delivery models involve varying levels of product/ service aggregation, and can therefore reduce the number of transactions and interaction points for customers. This can increase convenience, enhance the supply of quality toilets, and reduce costs. *Focal-point* sanitation enterprises often exist at the center of these models, and serve as the primary contact for the customer, aggregating products/ product components, services, information, or a combination of these, depending upon the delivery model.

In the **DIY** model, masons provide an onsite, build-to-order service to local households. DIY models do not have focal-point enterprises (FPEs, run by sanitation entrepreneurs), indicating that customers may need to independently procure materials, and arrange for pit digging and masonry labor. In the **network** model, an FPE, who is already involved in toilet value chain, aggregates information for the customer by providing linkages to key value chain actors and generalized information on the construction process. The FPE in a **one-stop shop** moves beyond information aggregation, and provides ready-to-install toilet packages by fabricating key toilet and substructure components, but may not always provide delivery/ installation services. The **turnkey service provider** model aggregates the full range of toilet products (including substructure, interface, and superstructure) and services (including delivery and installation), requiring customers to pay a premium for the convenience of transacting with only one entity.

Figure 20: Toilet delivery models



⁵⁷ Agarwal, Rishi et. al. “Scaling Market Based Sanitation”. June 2018.

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ANNEX K: ORGANIZATIONS CONSULTED

The following ministries, organizations, and groups were consulted as part of the research undertaking. Several from this list are a part of the MBS sub-committee.

Appropriate Technology Centre for Water and Sanitation (ATC)

Bonastore

BRAC

Centenary Bank

Community Development Fund (CDF)

Crestanks Limited

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)

Enterprise Uganda

Hima Cement

Kampala Cement

Lixil Group

Ministry of Education and Sports (MoES)

Ministry of Local Government (MLG)

Ministry of Health (MoH)

Ministry of Water and Environment (MWE)

National Water and Sewerage Corporation (NSWC)

Nice House of Plastics

Plan International

PostBank

Tororo Cement

Sanitation Africa

Sanitation Solutions Group (SSG)

SNV Netherlands Development Organisation

Uganda Sanitation Fund (USF)

Uganda Water and Sanitation NGO Network (UWASNET)

Voluntary Action for Development (VAD) Uganda

Water for People

World Health Organization (WHO)