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WHY ARE WE HERE?

IFC AND WSP ARE WORKING WITH MOPHS AND PRIVATE SECTOR PARTNERS TO:

HELP THE PRIVATE SECTOR PROVIDE SANITATION PRODUCTS THAT MEET CONSUMER NEEDS AND PREFERENCES

-AND-

HELP CREATE DEMAND FOR SANITATION AND DRIVE CONSUMER UPTAKE OF SANITATION PRODUCTS.
THE PROJECT

THE SELLING SANITATION PROJECT WILL SUPPORT MOPHS AND THE PRIVATE SECTOR THROUGH:

CONSUMER-DRIVEN PRODUCT DESIGN
MARKETING AND COMMUNICATIONS
SALES AND DISTRIBUTION
MARKET ENABLING ENVIRONMENT
INNOVATIVE FINANCING
REGIONAL SCOPING AND LEARNING
THE RESEARCH

TO KICK-START THIS WORK, OUR RESEARCH TEAM HAS CONDUCTED THREE WEEKS OF FIELD RESEARCH INTO CONSUMER PREFERENCES AND SUPPLY CHAINS FOR ON-SITE SANITATION PRODUCTS AND SERVICES.
WHERE ARE WE NOW?

PRODUCT DESIGN

- Deep Dive In-Depth Consumer Research
- Kickoff Design Workshop
- Iterative Product Design
- Products Finalized

MARKETING & COMMUNICATIONS

- Formative Research
- Develop Communications Plan & Tools
- Communications Campaign and Distribution Field Trials

Timeline:
- June 2012
- Jan 2013
- Oct 2013
TODAY’S OBJECTIVES

TO SHARE PRELIMINARY INSIGHTS FROM OUR FIELD RESEARCH

TO AGREE ON A SET OF INITIAL GUIDING DESIGN DIRECTIONS FOR PRODUCT DEVELOPMENT

TO BRAINSTORM PRODUCT AND MARKETING MODEL DESIGN OPPORTUNITIES
THE PROCESS: METHODS

In-Depth Interviews, Focus Groups & Observations

Key Informant Interviews
THE PROCESS: STUDY AREAS

Nyanza
Homa Bay
Karachuonyo

Rift Valley
Naivasha
Nakuru
Olokitok

Central
Thika

Eastern
Machakos
## THE PROCESS: METRICS

### HOUSEHOLD INTERVIEWS

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### SUPPLY CHAIN INTERVIEWS

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LATRINES
WE SAW
SHELTERS
Mud & Stick
K’otondi
Mabati Nyakinyua
Mud Block
Wendano

Unfired mud & grass bricks built up with mud mortar. Tends to ‘melt away’ in the rain.
Mud & Stone
Kilimanbogo
Timber
Kaviuni
Hedge Lalwet
A living shelter.
Concrete Plaster

Kihoto

Typically a concrete plaster layered over building stones or fired bricks.
Polythene
Lalwet
Plastic
Mbirikani, Oloitokitok

Given by donor programs.
SLABS
Packed Mud
Wendano

Typically a multi-layer construction consisting of packed mud layered overtop grass or polythene sheet on top of a base layer of cut timber that spans the pit and provides structural integrity.
Timber
Mucerere, Mai Mahiu
In-Situ Cast Concrete
K’otondi

Typically built in multiple steps starting with formwork: a layer of cut timber that spans the pit and then a layer of offcuts fastened transverse to the first set of timber to seal holes. Steel reinforcement is placed on the offcuts and then concrete is poured on top of the formwork over top the pit.
Precast Concrete
Kakdhimu, Karachuonyo

**Offsite**
At an IFAD site in Nyanza, a fundi had been contracted to fabricate round slabs at a central location and then these slabs were distributed to program households.

**On-site**
In Machakos, villagers were casting slabs next to the pits in three rectangular sections and then assembling them over the pit.
Plastic
Kakdhimu, Karachuonyo

A 10-year-old UNICEF-provided plastic slab assembled over timber and surrounded with a concrete rim.
Sacks
Kilmanbogo
Seated
Kyanguli, Machakos
PITS
Rectangular Wendano

Most typically about three feet by four feet and usually dug very deep. In Machakos, pits were more trench-like: 1.5’ x 6’ but still deep.
Collapsed Kilimanbogo

Often from water penetration and erosion around the upper rim.
Reinforced Kapkures

Where people have the resources and access to an informed fundi, stone, block or concrete rims are installed around the top edge of the pit to prevent collapse.
Round
Kakdhimu, Karachuonyo

Rarer and widely believed to be more prone to collapse than rectangular pits. Typically only seen where NGOs are active.
STAKEHOLDER PROFILES
Mwangi, Nyakinyua
Elizabeth, Wendano
Pauline, Lalwet
WHERE DO PEOPLE DEFECATE?
Toilet ownership is already the norm

There is a strong social practice of toilet ownership and usage. Most Kenyans have and use a toilet. Even among open defecators, we found most had owned a toilet at some time in the past. People prefer defecating in a toilet – even a poor quality one – over defecating in the open.

People without toilets are not satisfied. We heard from households that open defecation is a hassle, it is difficult and inconvenient especially at night; they have to walk far, there is no privacy, it is uncomfortable, they are afraid of wild animals, and disgusted by stepping on shit. People don’t want to have to ask to borrow a neighbor’s toilet. They want a toilet of their own.
Toilet usage is inconsistent

Sharers practice open defecation. People who rely on ‘sharing’ their neighbor’s toilet are not likely to do so all of the time. Most sharers admit to defecating in the open when they can’t get to their neighbor’s toilet, e.g. at night or when they have diarrhea. Few households have an ‘open toilet door policy’: Most sharers note that they must ask permission each time they use their neighbor’s latrine – and that making this request is embarrassing and shameful.

For children, open defecation is still a common practice. Even in households that own a toilet, children continue to defecate in the open – usually not very far from the home. Children typically begin using a toilet at around five years old. Before that, they are expected to ‘dig and bury,’ often with the help of their parents. Child open defecation is linked to adults’ fears that they will fall into the latrine pit.
WHAT KINDS OF LATRINES DO PEOPLE USE?
Every toilet is custom-built

Huge variety.
Every toilet is a bit different from the next, as each is built to suit individual household needs and budgets. While variety helps households to improvise with what they have, the range of quality and design often results in poorly constructed facilities.

Big investment, no guarantee.
Households can and do invest cash income in toilet construction, accessing materials and services from local businesses. Although many households pay a significant amount for their toilets, these high-cost but poor-quality toilets often fail to meet basic functional and hygiene standards.

Dry pits are the norm.
Poor access to water leads most households to construct dry pit toilets. Waterless, simple pit technologies are widely accepted and often preferred to options that use water for flushing.

Toilet shelter materials match housing constructions.
Households generally have toilet shelters that match their homes: mud and thatch toilets match mud and thatch homes. Concrete and stone toilet shelters are constructed where homes are of concrete and stone.
Latrine pits are built to last forever

**Wananchi dig deep.**
For the most part, rural wananchi dig very deep pits. The pits we saw were typically 15-30 feet. Most villagers don’t expect to move anytime soon, and they want their latrines to be permanent. Unfortunately, these pits come at very high upfront costs. Pits are typically dug by unskilled laborers, who quote prices by the foot. The average price is about 250Ksh/ft, with prices of up to 2000Ksh/ft in some areas.

**Pit longevity varies tremendously.**
In many regions pit collapse is a real problem. Pits are typically unlined. They will collapse in the rains, flood where water tables are high, or cave in where soils are sandy. Yet households continue to dig the same types of pits again and again, bearing the recurrent cost of pit digging and repeatedly losing investments in their latrine slabs.
Hygiene does not drive design decisions

No lids, no vent pipes.
The vast majority of toilets we saw did not have a lid or a vent pipe to control smell or flies. People do not see vent pipes or lids as key functional elements of the toilet, but rather as optional add-ons. Even in households with pre-cast or manufactured slabs with a hole for the vent pipe, households have not installed one. Some officials believe that a lid is not good because it will ‘trap the bad air’ and flies. In CLTS areas or areas with very active CHWs, some villagers mentioned fecal-fly vectors as a health risk, but even these villagers did not use lids to control fly movement.

Very small holes.
Fears of children or animals falling in, and of people throwing materials that don’t belong, drive decision making on defecation hole size and shape. Rumors abound of children injuring themselves (and even dying) because they have fallen into a latrine pit. Many households therefore opt for very small defecation holes. We observed numerous cases of feces visible around the edges and on the sides of defecation holes – since people have difficulty aiming and often miss or hit the sides.
WHAT DO PEOPLE KNOW AND WANT?
Alternatives are unknown & unavailable

Households don’t know about their options.
Most households do not know of any options between a ‘traditional’ dry pit with mud and timber slab and shelter, and a higher-end dry pit with concrete slab and shelter. Households have limited experience with different types of toilet designs or components—pit linings, pre-cast or manufactured slab components, above-ground storage, composting or ecosan options, etc. are simply not on the radar.

Fundis cannot advise on or construct alternatives.
Most households hire fundis to assist with toilet construction, and trust them to advise on design options. Fundis themselves usually know how to construct only the basic mud-and-timber or the concrete toilet types. Households don’t ask for, and fundis don’t offer, any other alternatives.
People aspire to the ‘ideal’ toilet...

People aspire to the ‘big city’ dream toilet. The ‘ideal’ toilet has a very deep dry pit, a concrete slab, walls of concrete or stone, and a mabati roof. It will last a very long time. It is easy to clean, ‘permanent’, strong and durable, and protected from the elements. It may have two cubicles to accommodate different family members, or a separate cubicle for bathing. People have seen this toilet at schools and hospitals, in bigger towns and cities, and at the houses of their neighbors and the ‘better off’ in their community.
...but there is no stigma attached to a poor quality toilet

Panapo nia, pana njia

Though the ‘big city toilet’ is the ultimate aspiration, households are willing to build and use toilets that are more realistic to their means, e.g. constructing shelters and slabs made of mud and wood instead of concrete. These types of toilets are the norm and what their neighbors have and use. People are not particularly concerned about toilet slabs that are very poorly built, that are foul smelling or attract flies, or that pose a danger due to structural instability. Some households noted they were embarrassed of their latrine shelter if it lacked a door, walls or roof. Yet, households will continue to use these latrines. Poor quality, unsanitary toilets are the norm – and nothing to be ashamed of.
Wood is considered an inferior building material. Even though most households we visited had homes of mud and timber, these are considered poor materials for the toilet slab. Households complain of ants and termites eating away at timber and wood, and of wood rotting over time. People feel that toilet slabs made only of wood and timber need to be replaced, and are therefore only ‘temporary’ – even if they have been in use for years.

People believe concrete is forever...
Concrete is the preferred building material for the toilet slab, because it is seen as permanent, strong, durable and easier to clean. Most concrete slabs are massive – typically 5ft by 4ft and 6 inches thick.

... but in reality it’s not.
Although poured concrete slabs give the impression of permanence and strength, underneath most concrete slabs are timber logs and wood off-cuts. As with ‘traditional’ slabs, this wood can be eaten away or rot over time, causing concrete surfaces to buckle and crack. Below this, pits typically remain unlined, bearing the weight of the heavy concrete slab above. We saw many cases of concrete slabs that had been destroyed when the unlined pit below finally caved in.
WHY DO PEOPLE BUILD?
Owning a toilet is something to be proud of.

A toilet is a measure of a man (or woman).
Strong emotional drivers link toilet ownership and toilet type with one’s identity and standing in a community:

**Having a latrine of one’s own (‘Ni yangu’)***
Many households noted that the best thing about their latrine was simply that it was all theirs. The toilet is visible to others, and there is no need to borrow or share.

**A place for visitors (Wageni)**
People felt very proud to have a toilet for visitors to use, especially if it was one they considered to be of good quality construction. Having a comfortable place for visitors is a sign of respect to them, and a measure of one’s own status in their eyes.

**Dignity and self-worth (Dhamana)**
Owning a latrine – even a simple one – is associated with dignity and self-worth. Keeping one’s home and toilet clean (‘usafi’), neat and well-swept can be just as important as having a latrine of expensive construction materials. People can be proud of their cleanliness, regardless of material conditions.

**Exposure to the ‘modern’ outside world (Akili ya Nairobi)**
People with experience working and living in Nairobi, abroad (e.g. Tanzania), or in the larger towns pride themselves on being able to adopt modern city ways. Owners of concrete toilets felt this was a symbol of their outside knowledge, their ‘Nairobi brains.’
Not owning a latrine is something to be ashamed of.

Shame/embarrassment (Aibu)
For those without a toilet, open defecation or sharing is a shameful and embarrassing condition, associated with a loss of face and status in the eyes of one’s neighbors.

We heard that people who don’t have a latrine are simply not trying
When we asked households what type of people don’t have latrines, we heard that they were ‘lazy’, laggard, and unwilling to work and sacrifice (kujinyima) for their toilet. Toilet owners – even those who had recently been open defecators themselves – did not associate non-ownership with external factors such as lack of money or resources, but with personal characteristics: those with will and motivation can have a toilet if they really want one.
Owning a latrine makes life easier.

**Safety (Usalama)**
Rural villagers are incredibly fearful of attacks by wild animals (lions, hyenas) and other people. Having a toilet within one’s homestead eliminates the need to go out for defecation at night.

**Privacy**
Finding a place to hide can be a real problem in areas with limited forest cover or where houses are close together. Privacy and solitude when defecating is linked to different cultural beliefs around respect.

**Convenience**
Having a toilet of one’s own eliminates the difficulties and hassles of open defecation, such as walking long distances, going out at night alone, needing to carry a spade to dig and bury, and wasting time.
Strong external pressure motivates action.

Pressure from neighbors and community members. In more densely populated settlements and where CHW presence was strong, we met some households that were constructing latrines due to social pressure. In these cases, households noted that neighbors, CHWs and other leaders had sent a clear message that not having a toilet was no longer acceptable. Such pressure is applied to those without a latrine, but does not extend to those households with poor quality or unhygienic facilities.

Enforcement by officials. Sanctions and norms around toilet ownership enforced by village elders, CHWs and CHEWs are strong motivators, particularly in CLTS triggered areas. The threat of sanctions, fines and punishments for those without a household latrine can inspire action. In some areas, we heard stories and rumors of fines of 5,000Ksh – 10,000Ksh for non-compliance, fears that the government would arrest and put in jail those without a toilet, or even take their children away.
Hygiene is not a major driver (except in CLTS areas)

**Households do not mention health**

Few households mentioned health, hygiene or disease prevention as a main motivation for toilet construction and use. A notable exception was in CLTS triggered villages and villages with strong and active CHWs. Although CLTS is meant to work on emotional drivers such as disgust and shame, many households in ‘triggered’ areas recall health education messages, e.g. around diarrhea prevention and fecal-oral disease transmission.
HOW DO PEOPLE BUILD?
Households rely heavily on fundis

Reluctance to ‘do it yourself.’
Although some households may try to build their own simple latrines, most prefer to defer to the ‘experts’ when it comes to construction. For most households, fundis are the main source of design advice, the main contact person for material purchase, and the final arbiter on construction quality and management.

‘Hakuna fundi mzuri.’
Unfortunately, some fundis may take advantage of their position. Household are subject to manipulation, fundis can over-charge less savvy customers or cut corners to lower their costs. They can also simply give bad advice if their skill or experience is limited. Since fundis benefit from larger, more costly jobs, they have an incentive to over-estimate the amount of materials and time it will take to construct a latrine, leading to over-engineered (but not necessarily ‘better’) toilet construction.
HOW DO PEOPLE MAINTAIN WHAT THEY HAVE?
Little evidence of staged construction or upgrading over time

Villagers buy or collect everything they need and construct all at once. Households tend to save money and purchase all the materials they need at one time, most likely due to the high cost of material transport. Construction happens quickly – once materials are purchased and collected, building begins straight away. Although pit digging can take two weeks or more, construction of above-ground facilities is typically completed within one week.

Households repair, but rarely ‘upgrade’. Since most latrines are made of natural materials, routine repair work is common. For most households this will involve seasonal re-plastering of mud walls and floors, replacement of mud bricks, and less frequent repairs of rotting timber. While households will work to maintain what they have, we saw little evidence of incremental improvements to existing facilities. For most households, ‘upgrading’ to a better facility – e.g. from timber and mud to concrete – means digging a new pit and constructing an entirely new toilet, even if this means abandoning a pit they paid to dig. This repair and upgrade behavior mirrors households’ approach to home construction, repair and upgrading.
Cleaning is a problem

**Mud and wooden floors are very difficult to clean and keep clean.**
Cleaning is usually done by women. They will typically sweep the floor with a broom, but avoid applying water or soap to the surface area. Many of the toilets we visited had visible signs of feces on the slab and defecation hole.

**Concrete slabs are not necessarily cleaner.**
Although there is a strong perception that concrete slabs are easier to clean, the concrete slabs we saw were not necessarily cleaner. There is a high degree of variability in quality of concrete construction. Many poured concrete slabs have rough surface areas and sharp edges where feces and dirt can collect. Households tend to use water and a broom for cleaning concrete slabs, but may not scrub the surface to remove feces and dirt.
Using pit contents for agriculture is a foreign concept.

Households don’t like the concept of reuse. Most people we spoke to stated that they would not consider using pit contents for fertilizer. Many had a very strong adverse reaction to the idea. Of the households we interviewed, only one had used human compost on his farm. The more typical scenario is for the full pit to be covered over and left alone. We did see one installed Ecosan toilet, but it had never been used (in over a year) because the owner was waiting for a waste management service from the University to be implemented.
QUESTIONS?
This is the existing supply chain for products such as water tanks, building materials and hardware. Our toilet products will likely need to plug into this building material supply chain.
The end consumer does not have great visibility back up the supply chain and often relies on the fundi to navigate the purchase process.
Villagers lack cash in hand.

**Hard to mobilize money for larger purchases.**
Most villagers have limited cash at any given time and few liquid assets that they can mobilize to purchase more expensive items such as a toilet. The main exception were the Maasai who spoke of cows as ‘cash’ that could be used to purchase a toilet.

‘Our cows are our Equity Bank.’
People will save for things they want.

**Toilets are not a purchase priority**
Although people would like a toilet, they want other things more. The toilet must compete with aspirational products such as furniture and with functional products such as water tanks and livestock. There is room to increase consumer demand and aspiration for a toilet.

**Extensive use of savings mechanisms**
Informal women’s savings groups (and some male savings groups) take small weekly or monthly contributions and then distribute this money to members so they can purchase items (e.g. water tanks, cows, furniture) or take loans. Merry-go-round schemes seem most common. We did not, however, hear of any group organizing to purchase toilets.
‘Cheap’ may not be desirable.

People will pay for quality
Even poorer households don’t just want the lowest cost thing - they are willing to pay for quality. Most people plan for their families to live at their home for a long time, and want to make long-term investments in their property. This explains the desire for 30-foot, 20-year life pits. It also provides an opportunity to sell high-quality, highly durable toilet components.

Kenyans are ‘brand conscious’
Even in rural areas, people make purchase decisions based on brand and reputation. They reference specific cement brands and have preferences for specific water tank brands even though the brands offer nearly identical products.
Transport is expensive.

Based on distance and amount.
For most people living outside the main market towns, transporting heavy goods like construction materials is very costly. Households might pay 100Ksh per cement bag to transport cement by piki-piki, if they live nearby the market. For those further away from market centers, we heard of transport costs of up to 6000Ksh to ship toilet materials by lorry.
Fundi

Fundi are a household’s main link to the toilet supply chain, and are relied upon for their knowledge. They use their role as a middle man between the retailers and the households to make extra money.
Fundis are central to toilet construction...

Key actor in getting toilets built. The vast majority of villagers employ fundis to dig pits and build slabs and shelters. Villagers usually do not have the tools, training, or confidence to build toilets. They will likely rely on fundis to make any improvements or upgrades to their toilets.

...but toilets are not central to a fundi’s business. The bulk of a fundi’s business is in home construction and government-related construction (schools, health clinics, roads, etc.). Toilets are built so infrequently within the geographic range of a specific fundi that they will never be a major business line. Most fundis report building 5-10 latrines per year. Compared to home construction, toilet construction generates little profit, since most toilets take just a few days of labor. It may be hard to generate excitement amongst fundis given the relative unimportance of toilets to their business.
Fundis are artisans, not toilet engineers

**In situ casting is wasteful**
Most concrete slabs are cast in-situ over the pit rather than being cast to the side and being placed once cured. This requires the building of timber formwork and the use of excessive amounts of concrete. The extra material and labor costs drive up the costs of building improved toilets, but they also ensure good income for fundis.

**Overbuilt slabs are wasteful**
For the most part, fundis build incredibly strong concrete slabs. Typical slabs are a minimum of 4” thick with two layers of iron rebar (one at the bottom and one at the top). Some fundis report building slabs 6” and 8” thick, also with dual reinforcement. This thickness and level of reinforcement is unnecessary and drives latrine costs through the roof. Concrete slab prices range from 6,000 to 20,000 Ksh, without labor.

**No standardized design**
Each fundi creates his own toilet design, and feels strongly that his design is the ‘best’ design. Yet this approach is expensive for villagers and the excessive cost limits the construction of sanitary concrete toilets.
Fundis are micro businesses

Give but don’t receive credit
Fundis rarely get credit from retail stores, with the only exception being local small retailers that have a good working relationship with a fundi. However, fundis almost always have to give credit to villagers—they typically receive only a down payment for a construction job. Although they should receive the balance when they complete the job, in practice they are often paid slowly over time as the household can save money.

Don’t travel far
Fundis have a very limited geographic region in which they work due to the limits of their relationships and transportation. This limits the potential number of customers (and toilets that they build).
Pit digging is a specialized trade.

Separate workers
In most cases, pits are dug by laborers who only dig pits. It is a risky, unskilled and difficult job, and most regular fundis and households will not do it themselves, even though self-digging would save money.

Expensive to dig
Pit digging fees ranged from 90Ksh/foot in Machakos to 2000Ksh/foot Oloitokitok. Some areas had graduated fees that increased for deeper levels of digging. When digging 20-30 foot pits, costs can add up. This huge variation in cost per foot can only partially be explained by soil type and level of digging difficulty. Fundis seem to be taking advantage of the naiveté of their customers (both villagers and NGOs). If new products requiring smaller or shallower pits are promoted, this may alienate fundis.
Retailers are the critical link between the manufacturers and households. However, there is potential for many layers of retail (and retail mark-ups) before a product gets to the final customer. Households (and fundis) will likely bypass some of these layers if the cost/benefit tradeoff regarding pricing and transportation costs is in their favor.
Credit is based on trust.

Retailers extend credit to customers if they trust them and if they are repeat/regular customers. At the medium-to-large retail level, this is limited to large-scale contractors. At the small retail level, this is generally limited to fundis.
The bulk of business is in high-turn, low-margin items.

Revenue from fast-moving raw materials
Cement, mabati and reinforcing iron account for the majority of retail revenue, particularly for smaller retail shops. Yet the margins on these items are very thin, typically 4-8%. Plastic water tanks tend to fall into this category.

Highest profit from obscure items
The highest profits come from the few unique items that a store may sell: plastic plumbing fittings, window glass, specialty paints, etc. Stores may mark-up such items by 50% to 300%. But the volume sales of these items is low. We do not want new toilet components to fall into this category.

Rural toilets are not a core business
Most on-site toilets do not require a trip to the hardware store and those that do only require the purchase of cement, reinforcing wire and mabati—items that a retailer would not know are destined for a toilet. Retailers view toilets as a minor part of their business. The products they consider ‘sanitary ware’ are generally ceramic pans destined for water-based toilets in hospitals, schools or wealthier homes. Retailers may not have great interest in stocking new toilet components unless their credit terms are generous and the market proves itself.
Lots of competition but little differentiation.

**Same stock**
Most retailers sell exactly the same things as their competition across the street, with a small number of unique products. Competition is based on price (and somewhat on relationships), and customers will shop around to get the best price.

**Little active selling**
Retailers typically do not invest resources in active selling. Most of the customer-facing staff sits behind a counter and takes orders from customers who already know what they want. Only one retailer reported having a sales staff that travels to meet with customers. It is unlikely that retailers will be willing to do consumer outreach regarding new toilet products.

**Little marketing**
Retailers use minimal signage and generally do not advertise. Most of their stock is kept behind the counter, out of sight of the customers. Some shops will put limited stock of high-turn and recognizable items on the front sidewalk as a sign that they are a hardware store. Any product promotion material is provided by manufacturers, and, for their part, retailers do seem willing and eager to put this material on display. Manufacturers will also pay to paint stores with their logos.
Retailers do not actively seek nor push new products.

Customers ask
Retailers will search for and supply most products that customers request. Any business is good business. This is probably the most common way that retailers are introduced to new products. It will be important to create this pull from consumers while ensuring that retailers know where to source any new toilet components.

Manufacturers pitch
Manufacturers will visit retailers to pitch new products to them, though this is typically limited to medium-to-larger enterprises. Manufacturers will also coordinate with retailers to host product demonstrations and seminars for local fundis.
Retailers are not educators.

**Not active teachers.**

Retailers do not spend time teaching customers how to use their products or providing advice on construction. They will answer simple questions but do not conduct seminars, provide instructions or do demonstrations (unless organized and funded by manufacturers.) Instead, they will offer to connect households to a local fundi who can help them, on the understanding that the fundi sources materials from their shop. Retailers will probably not have great interest in teaching fundis or villagers how to install new toilet components.

“**You buy, good-bye.**”
Manufacturers are shielded from much of what happens outside of Nairobi and have little to no contact with their end customers when it comes to water-related products.
Manufacturers operate regionally

Distributed Manufacturing
The main plastics manufacturers are all headquartered in Nairobi but have manufacturing sites and distribution that cover nearly all of East Africa. Production capabilities are similar from country-to-country, such that the manufacturing of products could be distributed to decrease transport costs and incorporate any country-specific variations in products.

Nationwide distribution
Manufacturers have deep distribution, and use a variety of channels – retailer shops, commissioned sales agents, women’s groups, MFIs, etc. to reach rural consumers. Manufacturers typically do not charge for transport. New toilet components can easily piggyback onto these existing distribution networks.
Heavy discounting is the norm.

**Giving a good deal.**
Manufacturers typically offer huge discounts off the list prices for products in order to make customers feel like they are getting a great deal. Water tanks can be discounted over 60%. Other products receive lower discounts.

**No suggested retail.**
Manufacturers do not have suggested retail prices for products like water tanks. Retail outlets are free to sell to their customers at whatever price they wish.
Manufacturers offer long credit terms

Manufacturer as bank. Manufacturers usually offer 60-day, interest-free credit on products such as water tanks. This helps alleviate cash flow concerns for their retail customers. Manufacturers report that some retailers will sell water tanks at cost just for the cash if things are tight, so they act a sort of ‘bank’ to their clients. Equally or more favorable credit terms may be needed to convince retailers to stock newly-introduced toilet products.

“We are like a bank to our retailers.”
Manufacturers already produce slabs, but...

...only for the NGO market
All of the manufacturers already produce a variety of toilet slabs but do not distribute them through the private market. These slabs have been designed by NGOs and agencies. They are manufactured for NGOs and sold directly to NGOs. Manufacturers have very little knowledge of consumer preferences and usage of their sanitation products. They have not attempted to tap private sector consumer market with these products.
MFIs are currently acting as a direct link between manufacturers and groups of end users.
MFIs market products through product-based loans.

A number of MFIs now offer product-based loans to their existing customer base, most notably (in our case) for water storage tanks. In the case of the water tanks, the MFIs act as a broker between a group of women and the manufacturer. The MFIs have a loan agreement with a lending group (usually a women’s group) and pay the manufacturer in full for the products. The manufacturer does a bulk delivery of tanks to the group for free. Group orders are necessary to spread the cost of delivery.
Sanitation is coming

Several MFIs are working on the development of a sanitation product offer following the same model as the water tanks. Most are near finalization of their product portfolio and will enter pilots soon. There may be opportunities for the MFIs to include the products developed through this project in their sanitation loan portfolios.
MFI preference for bigger loans may inhibit penetration.

Is there room for small loans and low cost products?
Many MFIs prefer larger loan amounts in order to lower their transaction costs and retain profitability. As an example, in 2010, KWFT’s average loan amount was ~37,000 KSh, and its product portfolio contains products that mostly price at this level or higher. New products developed under this project will likely be less than 5000Ksh. MFIs may need to rely on product bundling, group purchasing or other methods to make loans for lower-cost products profitable. It may be possible to include new products as part of a sanitation product range that includes ‘higher-end’ options.
QUESTIONS?
PRODUCT FEEDBACK
People want it

Villagers like plastic... more than we expected
Nearly everyone liked plastic as a slab material. People could immediately identify performance benefits of plastic over dirt, timber or concrete slabs, but most interestingly, they connected emotionally to the material and the prototype.

Concrete is King.... until there’s another option
Before showing the prototype, most villagers expressed that concrete would be their ideal slab. In nearly all cases, once shown the prototype, they said plastic would actually be better than concrete.

Retailers think it will sell
Most retailers believed that the prototype would sell to their local communities. A few asked if they could stock it immediately or put up a display. Estimates of retail prices ranged from 1000Ksh to 4000Ksh.
The functional benefits are many

**Cleanability**
Most people talked of the washability of plastic as a big benefit. They liked that the slab would funnel all water into the pit to contain the fecal contamination.

**Durability**
Villagers often compared the durability of plastic to that of concrete. Nearly all expressed that plastic doesn’t crack or break and that it would last longer than a concrete slab. One man thought the slab would be around for generations.

**Portability**
We anticipated that portability from the market would be a big benefit because it would save transport costs from the shop to their houses. A few mentioned this, but most actually focused on the portability from one toilet to the next. An investment in the slab would not be wasted if a toilet collapsed or became full or if the household had to move. They could easily transport this slab to the new toilet.

**The lid**
Almost no one had a lid on their existing toilet, but nearly everyone commented that they liked the lid on the prototype. They generally thought it would be useful to prevent smell; a few mentioned fly control. Some thought the lid would be useful so they could bathe inside the toilet shelter and not be straddling the open hole.
The emotional benefits are many

Increases existing emotions regarding toilets.

Beauty/Aesthetics
Many expressed that the slab would be a wonderful thing to have and to provide for their own family. One man commented that “one of the things that one should have in life,” and that his children and grandchildren would be able to have and use it.

A place for visitors (wageni)
Villagers expressed that having a modern plastic toilet slab would raise their status in the eyes of visitors.

Dignity and self-worth (dhamana)
Villagers expressed that if they had such a slab, everyone in the village would know it and talk about it. Additionally, most people agreed that the plastic slab would remain cleaner and nicer than their current toilet slab, increasing their sense of dignity derived from having a clean, well-kept house.

Exposure to the ‘modern’ outside world
The plastic products reminded many of toilets they had seen in Nairobi, in schools or in health clinics. It was decidedly not local.

“This is one of the things that one should have in life.”
Retrofitting was not instinctive

**Viewed as a new installation**
Our hope was that this small slab would be viewed as a retrofit to existing mud and timber slabs. But nearly everyone expressed that they would use it in building a new toilet. There was not a lot of expressed interest in mixing this new, modern material with old, used mud and timber slabs. Only a few people suggested it as a retrofit without probing. Once probed, a few more people could see doing it.

**If upgrading, people are not likely to stop at the slab**
There was not huge interest in mixing new (the plastic slab) with old (mud slabs and mud/stick shelters). Many talked of also putting a full concrete skirt around the plastic slab and some of upgrading their shelters to stone block or fired brick.

**Some evidence to the contrary**
We did see a few cases where more modern slabs (precast concrete and plastic) were being installed in more traditional toilets (just surrounded by dirt and with mud and stick shelters). In these cases, however, the slabs had been donor-provided, so it is still unknown whether people will invest in buying a modern slab and install it in a traditional toilet.
Installation is not obvious

Many methods
The installation process for the prototype was not obvious to anyone we talked to. Most villagers had no idea and said they would rely on the fundi to do it. Most fundis eventually came up with a method, but there seemed to be a different method for every fundi.

Installation may cost more than a concrete slab
Some fundis suggested that they would cast a full in-situ concrete slab and then install the plastic slab on top of it. This will be costly and structurally redundant.

Want portable but fixed
Installation will be further complicated by the fact that most villagers want the slab fixed (in order to prevent theft or children playing with it) but retain portability for when the latrine fills or collapses or the household moved homesteads.
Size actually does matter

**People want it bigger**
Nearly everyone thought the slab was too small. They expected it to completely cover the pit (typically 3’ x 4’) with some overlap for support. A minimum of 6-12” of overhang on all sides was requested. This size requirement will drive up the slab cost significantly.

**Dimensions aren’t flexible**
In contrast to timber, mud and concrete slabs, a plastic slab will come in a fixed size (or a small range of sizes). As such, the pits will need to be dug to match the slab size, rather than slabs being sized to the pits after they are dug (as is the current practice).
**Features also matter**

**The hole is confusing**
Almost no one understood the keyhole shape of the product samples, and it sometimes created confusion as to what the products were for. Most households have square or rectangular holes.

**Everything should drain to the center**
Every household requested that water from all sources (bathing, cleaning or rain) drain into the center of the pit. They viewed the water as dirty and wanted it to go into the waste hole rather than to the surrounding area.

**The footsteps cause confusion**
The discretely-shaped footsteps force users to put their feet in very specific locations. Some users worried that they would not have good aim if they had to put their feet exactly on the footsteps. They liked raised footsteps in order to protect their feet from urine and diarrhea but requested more flexibility in foot placement.
QUESTIONS?
PRODUCT DIRECTIONS
Focus on Slab and Pit

The main hygienic and performance issues that people have with toilets relate to the slab and the pit. As such, our work will focus on improving both of these areas but not on the shelter. Most people are able to build a simple shelter by themselves or at low cost by a fundi and seem happy to have shelters that match their homes.

**Improved Slab**
Design work to focus on strength and durability; cleanability; easy, intuitive installation; and affordability.

**Improved Pit Lining**
Design work to focus on strength and durability; pit longevity; easy, intuitive installation; and affordability.
New Build v. Retrofit Slab

We believe there is a need and a market for both an improved retrofit slab and an improved new build slab. Many people wanted the plastic slab for a new installation if the costs are manageable (and lower than a concrete slab).

Retrofit Slab
Smaller slab that can go on top of existing mud and timber slabs. Will likely be supported by existing structures. Needs to be easily installed.

New Build Slab
Larger slab that should span standard pit hole and be self-supporting over the hole.
Mass Production Materials

Due to the interest in achieving mass scale with the existing supply chain in Kenya (and East Africa), our focus will be on materials that can be manufactured in a central location and distributed at low cost. We are currently considering Plastic and Aluminum due to their material properties.

We also considered fiberglass and steel but have put them both aside for now due to concerns around durability and wear (fiberglass) and rust and consumer perception (steel).

Plastic
Very desirable and recognizable material with pre-existing associations to pride, modernity and cleanliness. Will sell if we can achieve adequate strength and durability; easy, intuitive installation; and affordability. Looking at both rotomolding and injection molding.

Aluminum
Potential lower cost than plastic but will have fewer features and design potential due the limitations of manufacturing with the material. Design work to focus on developing adequate feature set and gauging consumer interest.
Why not pre-cast Concrete?

Pre-cast concrete will often offer the lowest piece cost of any available material or process. Nevertheless, we have not considered concrete for this project for numerous reasons:

Lack of a pre-cast concrete supply chain in Kenya
There are very few businesses in Kenya specializing in pre-cast concrete. As such, we would need to build a pre-cast concrete supply chain which is far more complicated than training existing fundis.

Desire for consumers to have easily portable slabs

High cost of transport and risk of damage to heavy parts
Improving the Slab

A number of changes need to be made to the existing products in order to make them ready for the market.

Intuitive Installation
The installation process for the slab needs to be more obvious for fundis and households to minimize improvisation.

Fastening Features
The slab needs features for fastening it to timber and/or concrete so that it can be secured in place. The fastening should be releasable without breaking the slab in case the owner wants to move it.

Self-Supporting
The slab (especially the new build) should be self supporting across its length so that the fundi does not need to improvise to safely install it.

More obvious hole shape
We may want to consider a hole shape more aligned with local practices in order to make the product more recognizable on the market.

More flexible footrests
Footrest shape should allow more freedom for users during use.

Center draining
Slab surfaces should drain towards the center per household preference.
What about seated?

We tested a seated toilet to gauge market interest in such a product. We found the following:

Seated toilets are not viewed as as aspirational for typical rural and peri-urban households even though they were mostly associated with urban life.

Some people did not know what a seated toilet is nor how to use it.

People expected that some users (especially children) would misuse it and soil it.

People expected that the toilet seat would be soiled during typical use and preferred a squat pan.

Seated toilet have great functional value and appeal for the elderly and infirm, and there is likely a small market for them amongst this population.
Pit Reinforcement

Pit failure is a major complaint of households and a major hurdle for the elimination of open defecation in rural and peri-urban areas. Some fundis will install a reinforced rim on the pit. In rare cases, a full-height reinforced pit will be built with blocks. There is room for a lower cost and easier-to-install solution.

Pit Insert
Lining for the pit that supports the upper rim and prevents rainwater influx and erosion of the pit edge. Can interface with the slab to provide a robust structure.

Pit Insert + Slab
One-piece, integrated pit lining + slab that is dropped into the pit and provides a slab and pit reinforcement in one step.
Small Hygienic Improvements

Most households do not currently use a lid to seal the pit hole and pit holes are often made of materials that can easily be fouled by feces but are hard to clean. Low cost lid and pit-hole solutions could be introduced to the market that provide better cleanability, better sealing and improved aesthetics.

**Concrete Slab Insert**
Plastic rim is cast into concrete slab and provides cleanable surface plus good fit with matching lid.

**Retrofit Lid**
Aftermarket rim is fastened to existing mud, timber or concrete slab and provides cleanable hole surface plus tight fitting lid.
QUESTIONS?
CONCLUSIONS & NEXT STEPS
WHERE ARE WE GOING?

PRODUCT DESIGN

- Deep Dive In-Depth Consumer Research
- Kickoff Design Workshop
- Iterative Product Design
- Products Finalized

MARKETING & COMMUNICATIONS

- Formative Research
- Develop Communications Plan & Tools
- Communications Campaign and Distribution Field Trials

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IN THE SHORT TERM: JULY TO AUGUST

ITERATIVE ROUNDS OF PRODUCT PROTOTYPING

NATIONAL FORMATIVE MARKET RESEARCH BEGINS

BEGIN SCOPING NATIONAL QUALITY ASSURANCE MECHANISMS

BEGIN SCOPING CLTS LINKAGES

EXPLORE REGIONAL POTENTIAL
HOW WILL WE USE YOUR FEEDBACK?

TODAY’S DISCUSSION WILL HELP INFORM PRODUCT DESIGN DIRECTIONS IN THE SHORT TERM

AS WE MOVE AHEAD, WE WILL CONTINUE TO SEEK STAKEHOLDER INPUT

WE ARE LOOKING FOR OPPORTUNITIES TO LINK THESE ACTIVITIES TO EXISTING DEMAND CREATION AND OTHER EFFORTS... AND WELCOME OPPORTUNITIES TO COLLABORATE
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