



All latrines are the same, right? Wrong.

Even amongst the poorest consumer segment, how a latrine is designed makes a difference in a potential customer's actual willingness to pay for the product. The 'Selling Sanitation' initiative supports manufacturers in the nascent Kenyan sanitation market by helping them develop competitive product offerings that meet market needs. Based on extensive consumer market research and an iterative product design approach, manufacturers have developed a range of new sanitation slab designs. **This brief describes Selling Sanitation's consumer-driven product design approach and highlights key consumer product preferences.**

What is Consumer-Driven Product Design?

Designing a product that consumers will buy begins with understanding what they want and how they make buying decisions. The consumer-driven product design approach is an iterative process that starts and ends with consumers' preferences and behaviours.

The 4-Phase Approach





Initial Research



How do you know what to make and who to target? The Market Analysis phase is centered on answering these two fundamental questions.

Market Analysis

Conduct thorough desk research and rapid on-the-ground consumer research to gain an understanding of the current market trends and drivers.

Activities

- *Issue Diagnostic:* identify a problem consumers are facing that can be solved through a new product
- *Opportunity Assessment:* determine whether a viable market opportunity exists, understanding both growth drivers and major barriers
- *Field Research:* conduct site visits to see what consumers use and learn how they want to improve their current situation

What We Did

- *Household Sanitation Supply-Side Market Assessment:* secondary literature review, rapid field assessments of 60 household latrines, and interviews with sanitation service providers along the supply chain
- *Consumer Deep Dive Insights:* three weeks of field research into consumer preferences and supply chains for on-site sanitation products and services

What We Found

Issue Diagnostic

- Customers are dissatisfied with their current sanitation product choices and are interested in latrine construction and upgrades – if costs are reasonable
- Available plastic slab products are not designed to fit consumer needs *and* preferences
 - Little to no market testing of plastic sanitation products done before because onsite sanitation is seen as a low priority and high risk market
 - Misinformation about improved latrines led manufacturers to design plastic products that did not fully achieve health benefits for consumers

Opportunity Assessment

- The market for latrine slabs in rural and peri-urban Kenya is estimated at 1.6 billion KES (USD 19 million) in 2014
- Consumers do not know of options between traditional and high-end concrete slabs; they are heavily dependent on *fundis* (local masons/artisans) to design and build their latrines
- Households do not prioritize sanitation spending, and desired concrete slabs, with a median cost of 4,500 KES (53 USD), are typically priced out of reach
- On average, household in rural and peri-urban Kenya spend a median 7,200 KES (USD 85) on their latrine, including 2,200 KES (USD 25) on the slab

Common Latrine Slab Materials

IMPROVED SANITATION

UNIMPROVED SANITATION

Poured Concrete

Most expensive (material, labor, transport, and installation); varying quality but perceived durability



13,800 KES (162 USD) median cost of latrines with concrete slabs

Wood

Cheaper to produce but not easy to clean; typically no lids; cracks allow flies to pass through



2,500 KES (29 USD)

Earth

Minimal cost; difficult to clean; typically no lids; limited life without regular maintenance



median cost of latrines with wood or mud slabs

Consumers want a sanitation solution that is: *affordable, clean, easy to use, durable, and aspirational*



Product Development



In the Design and Testing phases, identified consumer desires and preferences are translated into a marketable product. These two phases are iterative: feedback from prototype testing lead to product design adjustments, which are then re-tested in the field.

Product Design

Develop designs and product prototypes for initial testing and market analysis.

Consumer Desire

Affordable

2,200 KES (USD 26) average household spend on a latrine slab

Clean

42% of surveyed households mentioned "clean" as the first thing that made a good latrine

Easy to Use

4 average age Kenyan children begin using a latrine

61% of surveyed households who potentially need a new latrine slab

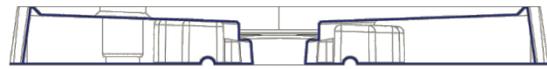
Durable

1.5m x 1.2m x 15cm size of a typical concrete slab, which is incorrectly perceived to be a permanent solution

Example Slab Product Features

Plastic is lightweight, re-usable, easier to move and cheaper compared to concrete

Thin walls (3mm) and better touch-offs reduce product cost while increasing strength



Sloped surfaces towards the center hole allowing for self-draining, a feature highly requested by surveyed households

Few nooks and crannies to collect dirt allow for easy cleaning and washing



Portable, allowing for easy transport and re-use when existing pit fills up

Butterfly-shaped footrests allows flexibility in foot position and use by children

Modified keyholes were developed, sized (18cm diameter, 30.5cm length) to address concerns of children falling in

Fastening features allow for intuitive self-installation to save on labor costs

Foot-operated lid controls odor and prevents flies from entering the pit

Thicker edges to demonstrate durability to potential customers, who tend to "size up" products by bending and standing on them



Product Testing

Test consumer reactions to prototypes while conducting more market research, and adjust designs accordingly.

Activities

- *Surveys*: develop a statistically rigorous understanding of consumer motivations and preferences in product features
- *User Testing*: take promising prototypes to the field to learn and get feedback from consumers

What We Did

- *Quantitative Research*: survey of 2000 rural and peri-urban households in Kenya on demographics, current sanitation practices, preferences, and intended changes
- *Qualitative Research*: three rounds of user testing with prototypes; 16 focus group sessions across eight provinces, with 130 participants

What We Found

- When presented with the option of plastic, people found it an appealing alternative to concrete
- Bigger is better for latrine slabs, but poorer households will accept the trade off of smaller solutions at lower cost
- Consumers would like quality assurance in the form of industry standards or product certification



Go-to-Market



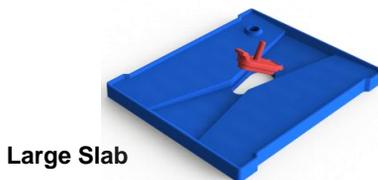
The final stage is bringing the product to market. For first movers in the industry, navigation to market – from finalizing designs to solidifying distribution channels to launching marketing campaigns – takes time, creativity, and resources. Selling Sanitation is currently providing technical assistance to first movers who are paving the way into the nascent Kenyan onsite sanitation market, including support to make consumers aware of the new products through sanitation marketing activities.

Design Finalization

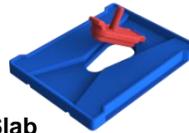
Product Portfolio

A generic product line was developed after product prototyping and testing phases. The Selling Sanitation Initiative has made these designs open to the public, and manufacturers are now taking the base designs and adding their own new features for product differentiation.

Example Product Line



Large Slab



Small Slab



Small Collar

Pricing

Pricing is a key next step that is highly depend on a number of factors including:

- **Manufacturing method:** different manufacturing techniques require different up-front investments
- **Distribution method:** each additional actor along the supply chain adds 10-15% onto the final product price for the consumer
- **Quantity produced:** higher-investment production methods can produce greater volume at lower price; risk to manufacturer is knowing potential market size

Going the Last Mile

Activities

- *Distribution:* determine the cost, packaging, and timing implications of both traditional and alternative distribution channels for new products
- *Partner negotiations:* determine key partners to collaborate with in order to distribute, finance, market and sell the product

What We Are Doing

- *Rapid Market Assessment:* interviews with over seventy manufacturers, supply chain actors, financing groups / institutions, and end-users
- *Niche distribution channel exploration:* mapping and costing potential niche slab distribution channels that can directly reach consumers

Our Next Steps

Help Private Sector Identify Optimal Distribution Channels

- Utilize and optimize traditional and niche channel alternatives by learning about their comparative advantages
- Determine how to engage *fundis* (local masons/artisans), given their prominent role in the consumer latrine purchasing process
- Identify opportunities to effectively market the product to villages who have been triggered through CLTS activities

Help Private Sector Address Purchase Complexity and Financing Constraints

- Simplify the purchase and installation process so that potential consumers can easily get all the information and services they need
- Define strategies to address challenge with access to consumer finance, including partnering with financing organizations (e.g. SACCOs, *chamaas*, and MFIs)

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