

# San-Dem: Formative Research

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BRIEFING NOTE



Figure 1: Formative Research being conducted in Lusaka.

## Introduction

Low-quality, peri-urban sanitation is a growing public health problem due to rapid urbanisation in developing countries. Few effective methods for improving on-site sanitation quality in peri-urban areas are known, particularly from a consumer demand perspective in a landlord-tenant context.

The aim of this study is to determine how far a state-of-the-art approach to behaviour change can enhance demand for and acquisition of improved toilets in peri-urban informal settlements of Zambia. The project will demonstrate the potential role for demand creation in accelerating uptake without improving supply. Furthermore, it will bring into focus critical barriers that may continue to prevent uptake even once high demand is secured.

## Objectives

The study has three main objectives:

- Test the hypothesis that demand for and acquisition of improved toilets can be enhanced without intervention on the supply side;
- Identify the barriers and facilitators that prevent acquisition of a toilet when demand is improved;
- Provide learnings about what elements to include in a behaviour change intervention targeting toilet improvement in a high density peri-urban area.

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This study is the first to examine the broad range of behaviours by different actors by which shared, on-site sanitation systems are maintained or upgraded.

## Methods

The **Behaviour Centred Design** model of behaviour drove the formative research process. In-depth interviews were conducted with 33 landlords and 33 tenants in a neighborhood in peri-urban Lusaka. Respondents were asked about plot characteristics, toilet construction and financial decision making; toilets were observed; and interactive activities were conducted to understand plot social dynamics and sanitation improvement preferences.

## Study population

Bauleni, a peri-urban area in southeast Lusaka, Zambia with a population of about 64,000, was chosen as the study setting in consultation with local stakeholders as being a typical compound in terms of age, density, and demographics as well as the lack of any recent or planned sanitation marketing or infrastructure projects.

## Results

### Social demographics

Adult landlords (n=33) and tenants (n=33) were sampled. Landlords were generally older than tenants [Median: 39 years vs. 28 years] and had lived much longer on their current plot [Median: 20 years' vs 17 months]. However, landlords had completed slightly fewer years of school than tenants [Median: 8 years' vs 9 years]. Both landlords and tenants had a range of professions, from unemployed or casual labour to salaried employment, though some landlords had retired and simply lived on income from their plots.

### Plot composition

The median number of households on a plot was 4 [Range: 1-13], while the median number of residents was 15 [Range: 1-47]. The median tenure on a plot for resident landlords was 20 years [Range: 1-65 years], though 24% had been in residence for 3 years or less. Tenants had lived on plots for a median of 17 months [Range: 1 month-19 years], with 29% in residence for less than 6 months and 29% for more than 3 years.

### Sanitation status

Sanitation facilities were assessed using the peri-urban healthy toilet index (PUHTI), a composite score for peri-urban sanitation with four sub-scales: Hygiene, Access, Desirability, and Sustainability. The overall mean PUHTI score was 7.78 (45.8%). The percentage of possible points scored for the accessibility sub-scale was highest (69%), while hygiene scored lowest (33%). Hygiene, which involves the separation of waste from human contacts, includes: type of pit lining, cleanliness, presence of cleaning products, and a handwashing place with soap or ash. Accessibility

points describe usability features for plot members. These are: solid door with outside lock; disability accessible features; and social and culturally inclusiveness of plot members. Desirability points reflect the comfort, privacy and convenient aspects of a toilet (solid roof, odour reduction technology, solid door lockable from the inside). Lastly, sustainability points relate to the long term management toilet system, these are: type of pit lining, emptyable and presence of a cleaning rota.

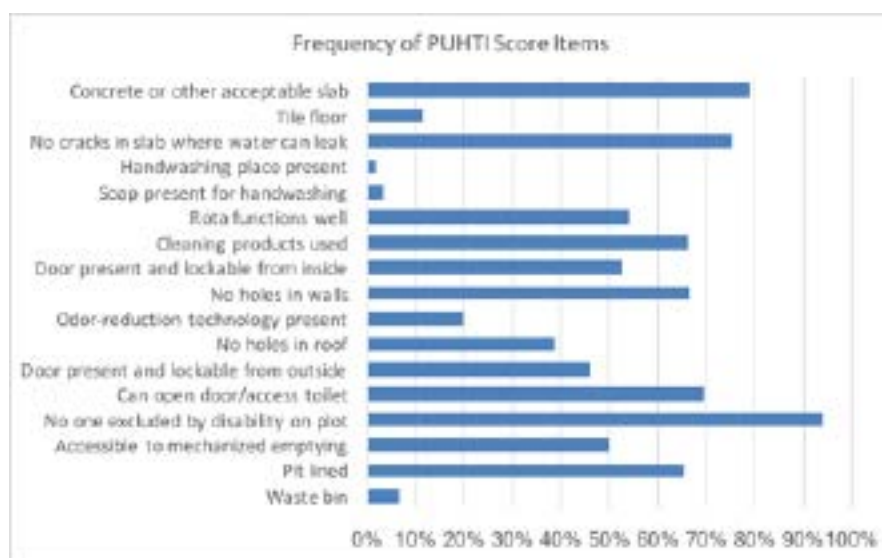


Figure 2: Frequency of PUHTI Score Items

## Toilet construction and improvement

Landlords were responsible for planning the changes to make and contributing finances to infrastructure and functional aspects of toilets. This included building new toilets or emptying existing ones when pits filled and repairing damaged roofs, walls, or doors.

Tenants contributed by supplying their own time and money in limited circumstances. Tenants would provide labour after landlords purchased materials, sometimes in exchange for reduced rent payments. Notably, tenants expressed willingness to pay for aspects of sanitation not considered a part of the fixed structure like cleaning products. While tenants were generally unwilling to pay specifically for sanitation infrastructure improvements, they did admit the possibility of paying increased rent for better facilities. Construction of new toilets is sometimes restricted by available space, though many plots have sufficient space for several additional pits to be dug in the future. Toilets were reported to have been repaired or improved by 41% of respondents during their tenure on the plot. The most commonly reported repairs were for doors, roofs, or external locks. Less frequently, upgrades to toilets were described, including plastering walls made of concrete blocks, adding a seat, and adding a septic tank. Though not uncommon in Bauleni, these features were usually incorporated into the construction of a new toilet made necessary when existing toilets filled or broke.

## Toilet maintenance

Toilet maintenance involved regularly cleaning the toilet. This responsibility was usually shared by landlords and tenants, though men rarely took part in cleaning the toilet. Cleaning responsibilities were often formalised in a rota, typically an unwritten list of the order of households responsible for cleaning the toilet at least once a day. Unwritten rotas challenged enforcement as they caused confusion among tenants on whose turn it was. Each household's period of responsibility ranged from 1-7 days. Longer periods seemed more effective than shorter periods, as households were less likely to forget their turn and it was easier to determine which household failed to clean if the toilet appeared unclean for a few days. However, in some circumstances, longer periods led to more conflict, and sometimes peace was prioritised over cleanliness. On plots where no rota system existed and cleaning happened only haphazardly, there were many cleanliness issues reported unless a specific individual simply took sole responsibility. Solid waste disposal in the toilets was practiced when a household could not afford to pay for waste disposal services. This practice is not allowed by the local authorities as it impedes on the effective emptying process of toilets.

## Shared sanitation materials

While the toilet may easily be shared between households, keeping water and soap for handwashing in a shared space, or even a freestanding handwashing itself, was challenging. In addition, cleaning materials for the toilet, such as antibacterial soaps, that could also be used for other purposes by residents were never kept in shared spaces. The only material that could be kept in a shared space was the brush or broom used to clean the toilet. This item was considered to be for the sole purpose of cleaning the floor of the toilet and has little value, and so there was no problem with keeping it in a shared space.

## Toilet improvement choices

The top five most important toilet components selected by respondents were a lock on the outside of the door to restrict access to the toilet, a toilet pan with a seat, a place for handwashing, a lined pit, and an odour-reduction technology. Outside locks were valued for their ability to keep away unwanted outside plot members while a toilet seat was comfortable, cleanable and disability friendly. While accessible handwashing facilities were valued, few existed near toilets on plots. Lined pits were considered safe and less likely to collapse and odour reduction technologies were desired as toilets were located close to in plot houses.

## Motives for toilet improvement

15 motives (lust, comfort, fear, disgust, hunger, nurture, love, attract, affiliation, status, curiosity, hoard, create, play and justice) underpinned by the Evo-Eco theoretical framework were assessed among tenants and landlords. Tenants and landlords received a visual of all the motives and an explanation of what each of them

meant. They were then asked to describe which motive would move them to make an improvement. Status scored highest overall for landlords, while tenants ranked nurture as the most important motive for making sanitation improvements. Detailed quantitative analysis is precluded by the small sample size, but it is worth noting that status, nurture, love, and affiliate - all social motives - scored higher than disgust overall. However, motives are not homogenous and vary by life stage and household composition.

## Recommendations for the intervention

- 1 Target landlords as the primary target audience because they are responsible and financially capable of making toilet improvements.
- 2 Aim towards strengthening social cohesion on plots, as toilets are maintained as a shared resource
- 3 Primarily use the status and nurture motives, which scored highest, while also emphasizing justice and disgust to promote social cohesion and cleanliness
- 4 Encourage the use of different financial investment schemes by landlords to encourage savings for deliberate, planned toilet improvements

## Conclusion

Shared sanitation in Bauleni compound and possibly other similar settings present challenges for coordinating, cleaning and ensuring proper use of toilets by plot members. Improvements are dependent on landlords whose primary motives for making these improvements are financial, social, and familial. Properly designed demand-side interventions may be able to increase peri-urban sanitation quality in a cost-effective way.

## Contributors



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