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BEYOND THE NETWORKED CITY

Policy Brief no.2: Access to Sanitation in Portee-Rokupa Informal Settlement



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Beyond the Networked City is a 3-year research project funded by the Economic and Social Research Council, on behalf of the Global Challenges Research Fund. The vision for our research is to improve the delivery of water, sanitation, and energy services to poor and marginalised communities by developing and testing a hybrid economy model of on-grid and off-grid systems in Freetown, Sierra Leone and Kampala, Uganda.

This brief No. 2 has been produced by Sierra Leone Urban Research Centre in order to provide insights on the state of sanitation access in Portee-Rokupa, a coastal informal settlement in Freetown. It also aims to identify challenges related to sanitation access and to support policy and interventions to address these challenges.

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I. Introduction

Globally, over one billion people lack access to household sanitation services such as private toilets¹. This has implications on health outcomes such as the spread of diarrhoeal diseases. In Freetown, residents face huge barriers to access safe and improved sanitation services. These barriers are linked to the weak sanitation infrastructures and resource constraints to address the numerous sanitation priorities of residents. Sanitation barriers in Freetown are related more to toilet access at household level and access to public waste disposal facilities. For example, Freetown has only two major waste dumpsites -the Granville Brook and Kingtom Waste dumpsites, which limits access for many residents. Similarly, secured access to a safe toilet is a challenge for many. Toilet access and ownership are influenced by the huge costs of construction, maintenance and emptying. Because², many households do not own a toilet, communal sharing² is very common in Freetown, particularly in the western area. The experiences of people living in informal settlements is even worse, as many use different unconventional strategies to cope with toilet access barriers. Strategies such as the use of hanging toilets and the connection of household toilets to the sea or drainages to empty human wastes³.

Addressing sanitation barriers requires a huge investment and paying more attention to urban development

approaches which have paid little attention to informality as a new form of urban growth. Moreover, addressing sanitation challenges must go beyond tackling infrastructure deficits. It requires tackling the deep structural inequities shaping urban planning and development models which exclude people living in informal settlements. In this study, we focused on access to sanitation, perceptions of safety and strategies employed to retain access to sanitation services in Portee-Rokupa. This brief No. 2 has been produced to provide insights on the state of sanitation challenges in Portee-Rokupa and to support policy and interventions to address these challenges.

Profile of Case Study area- Portee-Rokupa

Portee-Rokupa is a sea front settlement located in the east of Freetown, the capital of Sierra Leone. It is approximately 10 km from the city center and shares borders with Grass field to the west, Congo water to the east, Kuntolo to the south and the Rokel river to the north of the Rokel estuary. The geographic features of the settlement consist of sandy soil and rocky slopes, and it is a vibrant fishing community.

Politically, the settlement is situated within two separate wards (Portee in Ward 355 and Rokupa in Ward 354) divided by the wharf (Jetty). The estimated population of the settlement is 34,502 comprising the formal and informal sections. A 2015 estimate by YMCA indicated that there are over 6,000 residents live in the poorest section of the community, which is often described as informal (YMCA and CODHSAPA, 2015).

¹ WHO Factsheet on Sanitation: Retrieved March 2023. URL: <https://www.who.int/news-room/factsheets/detail/sanitation>

² Statistics Sierra Leone (2015): Thematic Report on Housing.

³ Macarthy, J. et al. (2018) Water and Sanitation challenges and impact on health in informal settlements. Sierra Leone Urban Research Centre.

Methods

We conducted mixed methods research involving 385 household surveys, 6 focus group discussions with community residents, comprising landlords and tenants from formal and informal sections of Portee-Rokupa.

We also conducted 25 key informant interviews with community stakeholders, community and municipal service providers, and institutional stakeholders.



Figure 1: The coastal settlement of Portee- Rokupa. Photo credit: Amadu Labor, SLURC

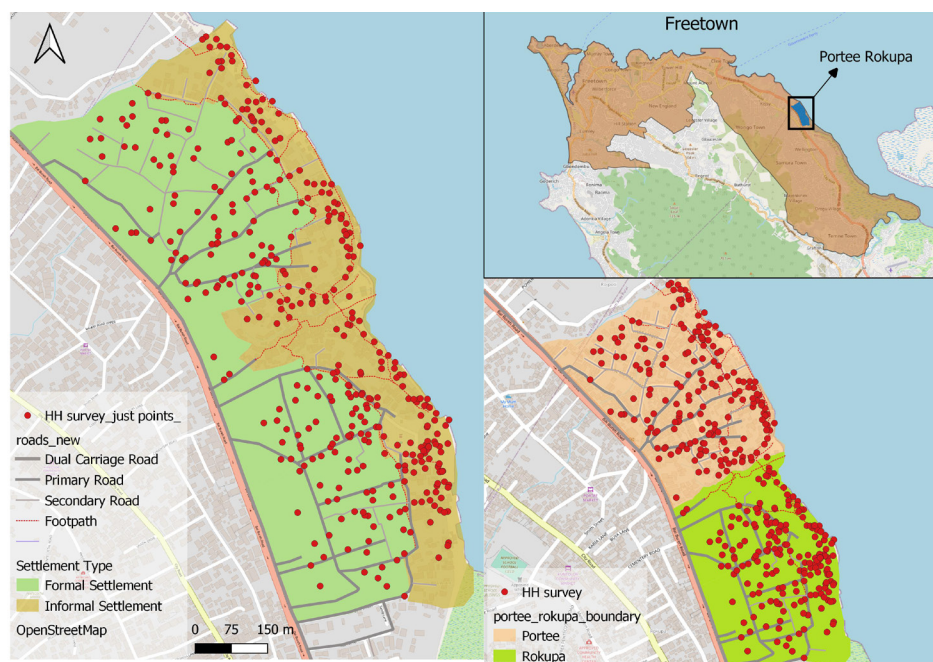


Figure 2: Maps of Portee-Rokupa

Left: Showing the formal & informal sections. Top Right: Location in Freetown. Bottom Right: Showing Portee & Rokupa sections.

Credit: Ansumana Tarawally, SLURC.

II. Findings

In this section, we describe the sanitation situation, highlighting the types of toilets used by residents of Portee-Rokupa, barriers and strategies to enhance access. We also describe community perceptions about toilet safety, and actions by households to enhance safety access. We conclude by recommending key actions that might support improved access to sanitation.

Toilet Types

Community residents classify toilets into various forms: i) improved and ii) unimproved and iii) alternative. These descriptions were based on local understandings about improved and unimproved toilet types as described below:

Improved toilets

Pour flush was classified as an improved sanitation facility. Key considerations for this included sanitation user arrangements which limit toilet usage to only household members. Pour flush toilets are often not shared with people from other households which underlies residents' classification of this toilet type as improved. However, this classification is not completely aligned with standard definitions of improved sanitation which is based on cleanliness, single household use and safe disposal. We found that many residents were directly emptying their pour flush contents into the sea or drainages. We classified pour flush or improved toilet usage into formal and informal to understand usage patterns between residents of formal and informal sections of Portee-Rokupa. Figure 3 below shows usage patterns between formal and informal parts of the community.

Unimproved toilets

Unimproved toilets were described as pit latrines and hanging toilets. Participants described pit latrines as unimproved because of the type of materials used for construction and the user arrangements. Within the settlement, residents stated that these toilet types are often constructed with corrugated iron sheets repurposed from demolition sites, sticks and boards. Many were observed to be without roofs, doors or seats. Hanging toilets were makeshift structures with walls and doors made of sacks. Most hanging toilets were without roofs making usage difficult during the rains.

Because toilet access barriers exist in informal settlements, we explored usage based on place of residence. Our interest was to find out where these sanitation barriers are much direr and to recommend actions to address them. Figure 4 below shows usage differences between formal and informal sections of the community. For example, pit latrines are used more in the formal section (76.8%) than in the informal parts (23.2%). However, there were far more participants using hanging toilets in the informal parts (98.6%) than their counterparts in the formal parts, accounting for just (1.4%). As we shall see in the next two sections, toilet access and usage barriers between formal and informal sections of the community are driven by resource constraints, lack of adequate spaces for construction and availability. For example, toilets were present more along the shorelines which made it easier to empty the human wastes into the sea.

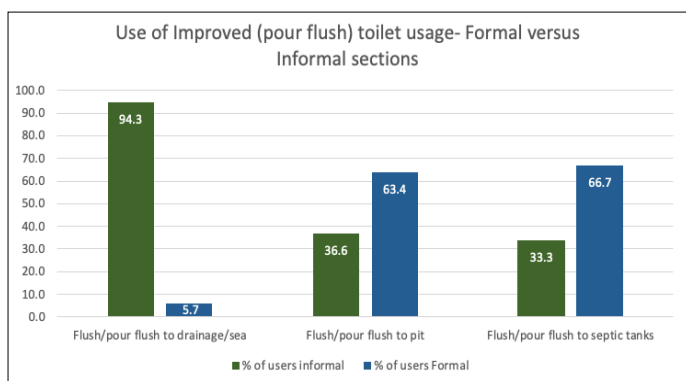


Figure 3: Pour flush usage between formal and informal sections

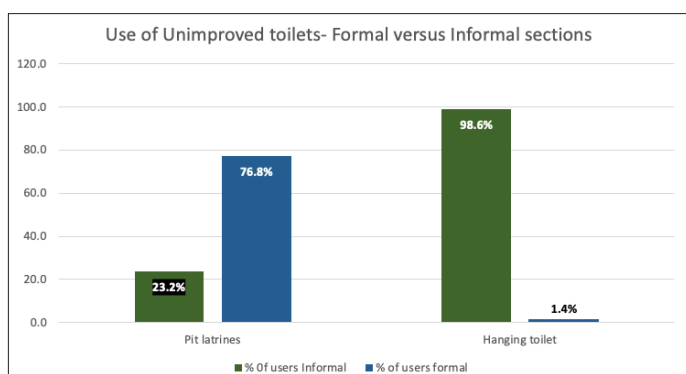


Figure 4: Unimproved toilet usage between formal and informal sections



Figure 5: Unimproved toilet facilities in Portee-Rokupa. Left: A pit latrine. Right: A Hanging toilet. Photo credit: Amadu Labor, SLURC.

Alternative Sanitation/Toilets

Alternative sanitation or toilet usage was described by most residents as temporary. These usage strategies were used mainly to address access gaps using what they referred to as “Blackberries” (Figure 7) and open defecation (Figure 6). Blackberries were described as black plastic buckets used inside the house, and later emptied, while open defecation involved the use of open spaces to defecate. Motivations for using alternative facilities were based on availability and access. Beyond these, usage in the informal section was based on safety concerns. Blackberries were used more frequently by women in the informal areas for fear of possible infection while using shared facilities such as pit latrines or hanging toilets.

Barriers to Improving Sanitation Infrastructure

Access to safe sanitation services in Freetown is influenced by the weak sanitation infrastructure. In Portee-Rokupa, these infrastructures are much worse because the community is not connected to the sewer system to enhance safe channelling of liquid waste to a central sewage system. Thus, residents considered construction and maintenance of toilets as a challenge, which impacts access. These challenges are highlighted as follows:

Cost of construction and maintenance

Costs of constructing and maintaining toilets were considered prohibitive. Residents attributed these costs to the high cost of building materials and construction labour. Participants stated that constructing toilets for one household could go as high as NLE 14,500 (US\$ 1,381) at the time of data collection in October 2021. Cost of maintenance was much lower than construction as that related to the purchase of cleaning materials and maintaining cracks. This could be high however, depending on the frequency of maintenance as described by a landlord in a focus group discussion:

“The cost for constructing toilets is high. I spent approximately Le14,500 to construct all the four toilets and bathrooms with showers in all my four apartments. For the maintenance, it’s not every month. My tenants do their maintenance on their own, but the cost is high.” (FGD- Landlord formal)

Cost of emptying

Cost of emptying, according to participants, was high, and this also depended on whether toilet owners employed a mechanical or manual emptier. Due to the poor road network in the informal sections of the community, the cost of emptying could be higher because of the extra cost of operation by emptiers. As such, they do the manual emptying which is expensive and time consuming. These constraints were explained by a landlord in the formal section and a tenant in the informal section:

“The cost of emptying is high. I have emptied my toilet once using a mechanical pit emptier. The amount I paid was Le1,000,000.” (FGD- Landlords formal)

“The last time we emptied our toilet, we paid Le2,500,000 in total to the manual pit emptier because it is difficult for mechanical emptier to access this part of the community due to poor road access. That is why other landlords connect their toilets directly to the sea whilst others just construct hanging toilet.” (FGD-Male tenants informal)

Generally, costs of construction and emptying do not apply much to the informal parts of Portee-Rokupa because

Table 1: Alternative sanitation/toilet usage

Toilet type	Settlement type	Motivation	Quotes
Blackberries	Formal	Used by women for fear of infection in shared toilets	<i>"I normally use the blackberry because I don't want to contract infection. There are many people using the facility"</i> (FDG- Female tenants formal)
	Informal	Women use for safety concerns linked to outdoor toilet use E.g flooding, high tides; some use to prevent infection	<i>"We use the black bucket because we are afraid of contracting infection also when there is high tide because sometimes the water will flood the toilet"</i> FGD-Female tenants informal)
Open defecation	Formal	Pit and flush toilets shared by tenants are not enough; children use open spaces to defecate	<i>"The facility cannot serve us all.... others arrange open defecation for their children and then the parents will clear after"</i> (FGD-Landlords formal)
	Formal	Open defecation considered improper because of toilet availability	<i>"I have a pit latrine with four cubicles, and it is shared amongst tenants. Each of my tenants has one cubicle for their household. It is difficult to see the children to even defecate in the open because the structure of the toilet and the seat is very good"</i> (FGD-landlords formal)
	Informal	Shared hanging toilets not suitable for tenants, so children use open spaces to defecate	<i>"We use hanging toilet, and we share it with tenants and other neighbours. Because it is not suitable for children to use, most parents ask their children [to] use the seashores to defecate"</i> (FGD Landlords informal)

most residents use alternative sanitation facilities such as hanging toilets and open defecation which are not cost-intensive. For example, the hanging toilets do not have containment or storage facilities. Thus, costs of construction and emptying are more applicable to the formal parts due to the high use of septic and pit toilets.

Inadequate land space and lack of water access

Limited land spaces, particularly along the seafronts affect the construction of toilets by residents. This was more of a concern to people living in the informal sections who live very close to the shoreline. Across coastal informal settlements in Freetown, residents reclaim land through waste accumulation which makes land use for construction very difficult or unsafe. Drilling a hole on such reclaimed lands is hard because of fragile soil formation. Residents stated that having a toilet in such places is almost impossible, leading to communal ownership and use of toilets. This was explained by a landlord:

"I don't have a toilet in my compound because there is no land space. We all are using the hanging toilet and I am not the one who paid for the construction or maintenance of the toilet we are using. My contribution most of the time is providing manual labour whenever they are doing maintenance of the toilet facility" (FGD- Landlords informal).

Finally, access to water was identified by many participants as a challenge affecting access to safe and hygienic toilets.

Financing Strategies for Toilet Emptying

Residents of Portee-Rokupa deploy different financing strategies towards toilet emptying. These included individual and household financial contributions to employ an emptier. Within the scheme, level of usage was the key factor determining contribution. In some cases, costs were paid indirectly by tenants by absorbing toilet usage and emptying fees into the rent, as explained by two landlords:

"I was the one who covered all the costs for emptying when I last emptied the toilet. The only thing is that one of my tenants suggested that next time it will be nice if I call a meeting for all the other tenants so that they can contribute, no matter how small, to cover the emptying cost". (FGD- Landlords formal)

"For me some of my tenants helped willingly with some contribution to cover the emptying cost, but the emptying cost is part of the rent I am charging". (FGD-Landlords Formal).

While these charges were levied directly or indirectly by

landlords, some tenants stated that the charges are not fixed, and that they often depend on household size. Similarly, the total amount paid by each tenant would also depend on the fees charged by an emptier.

"We usually empty our toilets through manual means and we make contributions based on the number of family members we have in our households" (FGD- Male tenants formal)

"We make a financial contribution for emptying depending on the amount of people we have in our household. But we do not pay to use the toilet. For example, if you have five people in your household, you will contribute approximately Le300" (FGD- Male tenants informal)

Safety Concerns and Mitigation Strategies

Residents had safety concerns regarding the use of toilets in Portee-Rokupa, but deployed mitigation strategies. These concerns were expressed more by women who had fears about being affected by vaginal infection as a result of sharing the toilets with users from different households and other users from within the community. Other women were concerned about their safety, particularly when women are using the toilets at night, because they are dark and at a far distance from their homes. Across the formal and informal sections of the community, many women prefer to use blackberries rather than the shared outside toilets as strategies to respond to safety concerns. Some toilets are provided with electricity and lights to allow users, particularly women, to be confident about using them at night. However, these measures are not enough because many still prefer to use blackberries which enhances their personal dignity and space.

Table 2: Safety concerns and mitigation strategies

Toilet type	Settlement type	Safety concerns	Strategies	Quotes
Improved toilet	Formal	Dirty toilets: women fear infection through sharing	Toilet cleaning rotated among households every 3 days	<i>"Our toilets are safe because they are regularly cleaned, and the cleaning is apportioned by households for two days each. When a particular household finishes it in three days, they must inform the next household in charge. Defaulters are notified to leave the house."</i> (FGD- Landlords formal)
			Regularly disinfected; sprayed with insecticides	<i>"Our toilet is safe and clean. We spray it with disinfectants weekly."</i> (FGD- Male tenants formal)
	Informal		Women use Blackberries	<i>"Our toilet is safe for men to use, but women fear using it due to fear of exposing themselves to infectious diseases. That is why they sometimes prefer to use their own toilet facility they call blackberry."</i> (FGD- Male tenants informal)
	Formal	Toilet is dark at night and unroofed	Toilet is roofed & has electricity	<i>"We can use our toilet in both the rainy season and dry season because it is roofed, and it has electricity."</i> (FGD- Female tenants formal)
Unimproved toilets	Formal	Toilet is unsafe due to lack of electricity	Toilet is provided with electricity	<i>"To ensure safety in using the toilet at night we connect EDSA light in the toilets, except when there is a breakout that we use Chinese light and some use phones."</i> (FGD- Landlords formal)
	Formal	Toilet has a pungent smell	Pouring oil into the toilet to reduce the smell	<i>"In my compound, we normally pour used oil into the toilet to cut off the smell."</i> (FGD- Male tenants formal)
	Informal	Fear of infection by women	Use of antibiotics	<i>"I buy antibiotics that are commonly called 'woman concern'. I don't take the medicine for prevention; I only take it when I started experiencing symptoms and signs of infections."</i> (FGD- Female tenants informal)



Figure 6: Children using open space by the beach to defecate. Photo credit: Andrea Klingel, SLURC.



Figure 7: An alternative toilet facility, “The Blackberry”. Photo credit: Amadu Labor, SLURC.

Priority Interventions

Due to the numerous challenges related to toilet access and safety, residents of Portee-Rokupa suggested measures which they consider will help them access improved toilet facilities. Given that toilet access pathways are different within informal and formal areas, priorities were found to be different.

Formal residents' priorities:

- Connecting community to the sewage network.
- FCC to intervene and ensure that sludge disposal companies reduce the cost of emptying.
- Regular supply of water to improve hygiene, particularly in public toilets.
- Landlords to invest in their toilets to enhance safety through providing electricity and roofing.

Informal residents' priorities:

- Rehabilitation of public toilets around the Portee Wharf and strengthen the management structures.
- Government and the Freetown City Council to improve road access to enhance access for trucks doing mechanical emptying.
- Safety of toilets to be enhanced through regular spraying of toilets with insecticides by households.
- Construction of more public toilets to increase access to those who lack toilet access within their homes.

III. Conclusion

Sanitation access challenges are dire in Freetown, particularly in informal settlements. These barriers are linked to the weak sanitation infrastructures and resource constraints to address the numerous sanitation priorities of residents. Toilet access and ownership are influenced by the huge costs of construction, maintenance and emptying. The lack of toilet access and ownership motivate residents to use different strategies to enhance access. Many use unconventional strategies such as the use of private chambers, hanging toilets, and connecting household toilets to the sea or drainages to empty human wastes.

These challenges have built up over time because of the way planning has been approached, which has been exclusionary in many ways. This has allowed marked inequities in service distribution between formal and informal sections of the Freetown city, which leaves sanitation indices much worse in informal settlements. Beyond fixing the weakening sanitation infrastructures, there is a need to tackle the deep structural inequities shaping current urban planning and development models.

This brief No. 2 has been produced to provide insights on the state of sanitation challenges in Portee-Rokupa and to support policy and interventions to address these challenges. We hope to do this through dialogue with policy makers, service providers and community residents. We hope that this brief will generate conversation among actors having oversight over sanitation in Freetown and community members, through our relationship with the Federation of Urban and Rural Poor (FEDURP).

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