aquaya

WSUP | Urban Sanitation Research Initiative Kenya

RESEARCH BRIEF, JULY 2019

SANITATION POLICIES, PRACTICES AND PREFERENCES IN KISUMU, KENYA

SUMMARY

- The majority of low-income residents use basic unlined pit latrines but prefer water-based sanitation options, such as pour- or cistern-flush toilets to lined pits, septic tanks, or sewer.
- Kisumu's high water table complicates toilet construction and accelerates pit fill-up rates.
- Kisumu has the capacity to safely treat fecal sludge, with two treatment sites in operation.
- Multiple ongoing sanitation programs focus on safe emptying and disposal in low-income areas.

BACKGROUND

Limited access to safely managed sanitation infrastructure and services compromises public health and economic growth in the developing world. Low-income households are the most affected: they often cannot afford to construct and manage on-site sanitation facilities or connect to sewerage networks (Daudey, 2017). Understanding the economics of sanitation service improvements, including both life-cycle costs and affordability, is essential for expanding safe sanitation in low-income settings.

The Aquaya Institute is conducting this research on urban sanitation economics under the Urban Sanitation Research Initiative, a program managed by Water and Sanitation for the Urban Poor (WSUP). The research goal is to assess the extent to which low-income households can bear the financial costs of safely managed sanitation in five cities across Kenya (Nakuru, Malindi, and Kisumu), Bangladesh (Rangpur), and Ghana (Kumasi). This brief is on sanitation policies, practices, and preferences in the city of Kisumu, Kenya.

KISUMU, KENYA

Kisumu, a port city on Lake Victoria, is Kenya's third largest city with an estimated population of approximately 510,787 and population growth of about 3.4% per annum. Kisumu city has 40 low-income areas, comprising approximately 60% of the population. Only 19% of low-income households have water sources on plot (MajiData, 2011).

Kisumu County only recently drafted its first sanitation policy and bill to complement national policies. The legal responsibilities for sanitation service provision and fecal sludge management are outlined in Table 1.

METHODS

We conducted reviews of 30 national and county-level documents describing sanitation policies and programs. In the town of Kisumu, we conducted 20 transect walks, 20 key informant interviews, and 6 focus group discussions. Through these activities, we identified water and sanitation stakeholders; located and characterized low-income neighborhoods; identified existing sanitation facilities, practices, and services; and examined sanitation preferences and gender concerns.

TABLE 1:

SANITATION LEGAL FRAMEWORK

National policies

- **Environmental Sanitation and Hygiene Policy** (KESHP) (2016-2030): provides broad guidelines to both state and non-state actors to work towards universal access to improved sanitation and a clean and healthy environment for all by 2030. The Policy promotes the adoption of low-cost technologies in peri-urban and slum areas.
- **Environmental Sanitation and Hygiene Strategic Framework** (KESSF) (2016-2030): medium-term implementation strategy for the KESHP that focuses on declaring Kenya open defecation free by 2030.
- **County Environmental Health and Sanitation Bill** (2016): guides County Governments on how to develop county level legislation that ensures the effective delivery and regulation of sanitation services and environmental health standards across all counties.
- **Urban Sanitation Guidelines** (draft) (2019): provide recommendations for the provision of sanitation technologies and services implemented in urban areas. County governments should facilitate the selection of appropriate technologies and regulate pit emptying services.

County policies

- **Kisumu County Environmental Sanitation and Hygiene Policy** (draft) (2018): recognizes a range of sanitation and emptying options; however, it does not include quality standards.
- **Kisumu County Environmental Sanitation and Hygiene Bill** (draft) (2018): once passed as an Act, it will provide quality standards for the provision of sanitation technologies and services.

KEY FINDINGS

1) **In Kisumu low-income areas, access to improved sanitation is very limited.** Approximately 60% of the population uses unimproved sanitation (MajiData, 2011). Basic unlined pit latrines, usually shallow pits due to the high water table, are the main sanitation facility used by 55% of the population in low-income areas. Open defecation is also practiced in these areas by 5% of the population (Furlong, 2016). Overall, in Kisumu city, only approximately 20% of residents are connected to sewer, followed by 5% connected to septic tanks (Furlong, 2016). Low-income residents expressed concerns that toilets are currently shared by too many households and also present health risks, especially for children and vulnerable persons, due to their lack of cleanliness. Residents also raised concerns about safety at night and lack of privacy (i.e., no door or holes in superstructure).

2) **Among low-income residents, there is a preference for water-based sanitation options, such as pour- or cistern-flush toilets to lined pits, septic tanks, or sewer.** Although Kisumu city has an established sewer network, some low-income areas (such as Nyalenda and Manyatta) cannot be connected due to their low elevation: wastewater flows are managed via gravity. In addition to water-based sanitation options, residents also expressed preferences for the following sanitation features: squatting toilets, ceramic or concrete pans, handwashing facilities, and waste receptacles and water availability for menstrual hygiene management.

3) **The city's high water table complicates toilet construction and accelerates pit fill-up rates.** The high water table throughout Kisumu limits pit depth to about 2 meters in low-income areas where pits fill up quickly. Overall, 54% of low-income areas are prone to flooding (MajiData, 2011); flooding is more common in low-income areas in the east of Kisumu (such as Nyalenda and Manyatta) due to their low elevation and proximity to Lake Victoria. Additionally, the city has rocky, clayey soil, which makes the soil difficult and expensive to excavate.

4) **The majority of Kisumu's low-income residents rely on informal manual emptying whereby fecal sludge is dumped directly into the environment or buried onsite.** Other emptying services, including three formal manual emptying groups and eight vacuum exhauster trucks, are also available in Kisumu, but generally only serve middle- and high-income populations. The formal emptying groups in Kisumu city were trained, certified, and equipped by various organizations (described in more detail below).

5) **Kisumu has the capacity to safely treat fecal sludge, with two treatment sites in operation, both operated by the local water utility KIWASCO.** The sewerage treatment plant is a conventional system that treats sewerage and waste from vacuum exhauster trucks. The lagoon is a pond system that receives fecal sludge from vacuum exhauster trucks and formal pit emptiers. There are also plans to construct an additional treatment plant, which will substantially increase treatment capacity for Kisumu city.

6) **Sanitation programs have been rolled out in Kisumu, though mainly focused on emptying services.** In 2018, Water and Sanitation for the Urban Poor (WSUP) designed Standard Operating Procedures for fecal sludge management, in collaboration with the Kisumu Public Health Office. WSUP also trained a manual emptying group, Gasia Poa, on the application of the Standard Operating Procedures (i.e., safe emptying and disposal practices). KisumuSan, funded by Comic Relief (2016-2021), developed a revolving fund to give sanitation loans to landlords. The program also trained two manual emptying groups (Vukasasa and BlueStars), totaling 60 people. Another program, Kenya Integrated Water, Sanitation, and Hygiene (KIWASH), funded by USAID (2015-2020), markets sanitation products for the construction of improved latrines. Lastly, the Lake Victoria Water Region Water and Sanitation Initiative, funded by the European Union (2015-2022), focuses on extending sewerage coverage in Kisumu and nearby towns. Overall, in Kisumu, there is a focus on creating an enabling environment for safe pit emptying services in low-income areas.

NEXT STEPS

Future interventions need to address the price barrier between formal (safe) and informal (unsafe) fecal sludge emptying. In Kisumu, we are currently conducting detailed cost evaluations of sanitation facilities and a real-money willingness-to-pay trial for emptying services. The detailed cost analysis includes the following sanitation options: pour-flush to lined pit, pour-flush to sewer, and container-based sanitation. Specifically, we are examining willingness-to-pay for different cost structures (i.e., upfront payments and installments) for both landlords and tenants.

We will compare costs and willingness-to-pay to measure the gap between the costs of providing pro-poor sanitation products and services and the amounts that low-income households are able to invest in sanitation improvements. We will apply these gap assessments to develop recommendations for delivering improved sanitation solutions to urban, low-income residents.

Additionally, The Aquaya Institute is currently conducting a randomized, real-money demand trial in Kisumu to quantify the gap between existing prices and consumer willingness-to-pay for safe pit emptying services. A Sanitation Working Committee (comprised of representatives from the National, County and City Public Health Department, KIWASCO, the Greater Lakes University of Kisumu, WSUP Kisumu, and the Aquaya Institute) is exploring intervention models to subsidize and manage safe emptying in targeted low-income areas of Kisumu.

REFERENCES

Daudey, L. (2017). The cost of urban sanitation solutions: a literature review. *Journal of Water Sanitation and Hygiene for Development.* 8(2): 176-195. https://doi.org/10.2166/washdev.2017.058

Furlong, C. (2016). *SFD Report - Kisumu, Kenya - SFD Promotion Initiative.* http://www.susana.org/_resources/documents/default/3-2622-7-1471944664.pdf

MajiData. (2011). MAJIDATA. http://majidata.go.ke