

RESEARCH BRIEF, JULY 2019

# SANITATION POLICIES, PRACTICES AND PREFERENCES IN NAKURU, KENYA



## SUMMARY

- Nakuru County in Kenya is a leader in advancing sanitation and piloting sanitation improvement programs.
- The majority of low-income residents use unlined dry pit latrines but would prefer pour-flush toilets.
- Most low-income areas have loose soil, so pits are prone to collapsing.
- When pits are full, residents commonly dig new pits rather than empty existing ones.
- Nakuru town has several treatment options for sewage and fecal sludge.

## 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 Nakuru, Kenya.

## NAKURU, KENYA

Nakuru is Kenya's fourth largest town with a population of approximately 405,276 and population growth of about 3.1% per annum. Nakuru town has 49 low-income areas, comprising 57% of the population. In low-income areas, only 43% of households have water sources on plot (MajiData, 2011).

Nakuru County leads Kenya in prioritizing improved sanitation: it was the first county to pass a sanitation bill (2016) and to launch a sanitation strategy (2019). The legal responsibilities for sanitation service provision and fecal sludge management are outlined in Table 1.

## METHODS

We conducted reviews of 26 national and county-level documents describing sanitation policies and programs. In the town of Nakuru, we conducted 28 transect walks, 18 key informant interviews, and 8 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
<ul style="list-style-type: none"> <li>• <b>Environmental Sanitation and Hygiene Policy</b> (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.</li> <li>• <b>Environmental Sanitation and Hygiene Strategic Framework</b> (KESSE) (2016-2030): medium-term implementation strategy for the KESHP that focuses on declaring Kenya open defecation free by 2030.</li> <li>• <b>County Environmental Health and Sanitation Bill</b> (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.</li> <li>• <b>Urban Sanitation Guidelines</b> (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.</li> </ul>
County policies
<ul style="list-style-type: none"> <li>• <b>Nakuru County Public Health and Sanitation Bill</b> (2016): once passed as an Act, it will provide quality standards for the design of toilets (i.e., ventilation, pit lining). It will also require landlords to provide toilets on premises.</li> <li>• <b>Nakuru Countywide Inclusive Sanitation Strategy</b> (2019): provides a framework for improving sanitation infrastructure in Nakuru County. Fecal sludge management (FSM) regulations have also been drafted to manage fecal waste from onsite sanitation systems.</li> </ul>

## KEY FINDINGS

### 1) The most common sanitation facilities in low-income areas of Nakuru town are unlined pit latrines with concrete or sand slabs.

Access to improved sanitation is low (31%) in these low-income neighborhoods. Approximately 2% of low-income residents practice open defecation, and 21% of households in low-income neighborhoods share a toilet (Furlong, 2015; MajiData, 2011). Furthermore, 19% of households in low-income areas are connected to the sewer network, though these households are mostly located in the town center (Furlong, 2015; MajiData, 2011). In contrast, across the entire town of Nakuru, 42% of residents use improved sanitation facilities and 30% are connected to the sewer network. Low-income residents expressed concerns that toilets are currently shared by too many households and also present health risks, especially for children and vulnerable populations, 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) Most residents of low-income areas prefer water-based sanitation options, such as pour-flush toilets to pits, septic tanks, or sewers.

Sewer connections, however, are not feasible in many low-income areas due to distance from the sewer network or low elevation; wastewater flows are managed via gravity. Another preferred sanitation option is dry pit latrines with concrete slabs. Residents also

expressed preferences for the following sanitation features: ceramic pans for water-based solutions, handwashing facilities, and waste receptacles and water for menstrual hygiene management.

3) **Most low-income areas have loose, sandy soil, so pits are prone to collapsing.** Loose, sandy soil only allows for shallow pits (~ 3 meters deep) in many low-income areas. These conditions also make it difficult to empty pits. Other areas with rockier soil are able to accommodate deeper pits (up to 8 meters). Additionally, run-off occurs during the rainy season, which occasionally causes flooding in low-lying low-income areas; 27% of low-income areas are prone to flooding (MajiData, 2011).

4) **When pits are full, residents commonly dig new pits rather than empty existing ones.** Emptying, either done manually or by exhauster trucks, is not widespread in Nakuru low-income areas. There is little knowledge about the availability of emptying services and exhauster trucks are perceived as cost prohibitive by low-income residents. The 15 privately-owned vacuum exhauster trucks operating in Nakuru primarily serve middle- and high-income populations. To operate, the vacuum exhauster trucks and formal, trained manual emptying groups must pay a one-time registration and annual licensing fee to the National Environment Management Authority (NEMA). Informal manual emptiers operate at night and without

a license, which is punishable by a fine but rarely enforced. Low income-area residents expressed the following concerns about informal manual emptying: environmental pollution and disease risks from spillages, unpleasant odors, and that the pits are rarely completely emptied. Additionally, informal manual emptiers are also highly exposed to unsafe fecal sludge.

**5) Nakuru town has several treatment options for sewage and fecal sludge: 2 wastewater treatment plants** (one of which also receives fecal sludge), **1 fecal sludge treatment site**, and **1 briquette manufacturing facility** (established in 2016, primarily using fecal sludge from dry pits). The local water utility, NAWASSCO manages all treatment facilities; however, the fecal sludge treatment site is currently not functional.

**6) Nakuru County is a leader in piloting projects and programs on improved sanitation.** Two recent programs in Nakuru County supported the construction and rehabilitation of toilets through financial incentives: the Nakuru County Sanitation Program (NCSP) (2013-2018), funded by the European Union, and Up-scaling Basic Sanitation for the Urban Poor (UBSUP) program (2013-2018), funded by the Bill and Melinda Gates Foundation. The NCSP also trained two manual emptying groups that operate in Nakuru (37 manual emptiers) to safely empty pit latrines and deposit the fecal waste at transfer stations that rotate among the low-income areas. NAWASSCO also trained a manual emptying group, Wasafi, that operates in the low-income area of Manyani. Innovative sanitation solutions have also been piloted in Nakuru County: UBSUP piloted urine-diverting toilets in Nakuru, and Sanivation, a private service provider, operates container-based sanitation program in the nearby town of Naivasha.



## NEXT STEPS

In Nakuru, we are currently conducting detailed cost evaluations and real-money and stated willingness-to-pay trials of different sanitation facilities and services. This in-depth assessment includes the following sanitation options: pour-flush pan to lined pit, pour-flush pan 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.

## REFERENCES

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