IWMI
International Water Management Institute

Policy Brief

Sanitation practices and circular pathways in the Upper West Region of Ghana

Key messages

- Illegal fecal sludge (FS) dumping and informal reuse practices are common in the Upper West Region of Ghana.
- Achieving safely managed sanitation involves going beyond merely providing toilets and requires considering the sanitation value chain as a comprehensive system. A breakdown at any stage within this chain can lead to failure across the entire system.
- Poor sanitation in Ghana is, in part, linked to unclear guidelines for liquid waste and fecal sludge management, the high costs of sanitation facilities and inadequate personnel to implement and enforce policies.
- Key factors affecting sanitation behaviors in Wa include social norms, the availability of functional private or public toilets, sanitation product attributes, financial capacity to build private latrines, household prioritization of latrines and the lack of sanitation bylaws.
- In Wa, cereal farmers often resort to informal use of FS for farming, partly due to the rising costs of chemical fertilizers. Although the disposal of FS onto agricultural land is officially prohibited, tacit approval prevails as farmers and cesspit truck drivers face few, if any, repercussions. The absence of engineered or official dumping sites and the municipal assembly's failure to provide alternative solutions allow illegal dumping to continue.
- Circular models and resource recovery from FS and other organic waste streams have the potential to create a win-win situation by reducing waste flows, improving environmental health, recovering costs and creating livelihoods.

Context

The United Nations' Sustainable Development Goals (SDGs) aim to achieve safely managed sanitation for all by the year 2030. However, access to safely managed sanitation in Ghana remains low. In 2022, the Joint Monitoring Programme (JMP)[1] estimated that access to safe sanitation in Ghana was less than 16%, with approximately 17.2% of the population still practicing open defecation. While modest progress has been made in the provision of sanitation facilities in Ghana, progress remains uneven across the value chain. As part of the *Towards Brown Gold* project, the International Water Management Institute (IWMI) analyzed current sanitation practices in Wa, a rapidly urbanizing small town in the Upper West Region of Ghana, to gain insights into sanitation systems from the perspective of local communities. The study also explored cultural and social attitudes toward fecal sludge management (FSM) and identified potential circular pathways for improving FSM.

Farmers training on safe use of fecal sludge and other organic waste for composting in Wa, Ghana (*photo*: IWMI).

[1] JMP (https://washdata.org/data/household#!/)

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The sanitation value chain in Wa

There is low access to basic sanitation in Wa Municipality. Of the 49,500 households recorded in the 2021 Population and Housing Census (PHC)[2] only 5,390[3] household toilets are available, as per official municipal records. This implies that the majority of households either practice open defecation or rely on the 42 public and 180 institutional toilets. Furthermore, in addition to widespread open defecation, a large amount of the fecal sludge, including that from individual and public toilets, is not contained or safely managed.

Illegal dumping sites for FS disposal

FS is largely emptied using cesspool emptier trucks. There are four companies that provide desludging services in Wa. Where FS cannot be emptied by a truck — due to blockages, for example — the excreta is manually scooped out with shovels and buckets and then transported using tricycles. The municipality does not have an FS treatment plant or an engineered landfill site for waste disposal. Before 2018, both solid and liquid waste from Wa were disposed of at a designated municipal dumping site located outside the jurisdiction of the Wa Municipality. Following resistance from residents, the site was closed in 2018. Since then, the Wa Municipal authorities have not been able to secure a landfill site for the disposal of waste, leading to dumping at illegal sites. According to the Municipal Director of Environmental Health and Sanitation, there are at least 15 illegal dumping sites in Wa.

Channeling of greywater into the open

The most common method of greywater disposal in Wa involves release from kitchens, laundry and bathing areas into streets, other outside spaces, gutters or directly within the compound. Only a small number of households use drainage systems that channel greywater into a pit or gutter. In the two largest communities visited, it was observed that greywater from kitchen activities and shea butter production is typically discharged into the open. In unpaved compounds, relatively clean greywater is poured onto the ground to dampen dust, particularly during dry seasons.

Sanitation practices as experienced by communities

An in-depth study conducted in the two communities of Kpongu and Nakori revealed widespread open defecation, indicating that only a small portion of households use public or private latrines. Children under the age of seven are typically not allowed to use these latrines due to safety concerns, leading them to use backyards or community refuse sites. In Kpongu, only 9% of the 460 households have toilets, while in Nakori, 23% of the 220 households have toilets, predominantly pit latrines. Public toilet availability is also limited, with Kpongu having two public toilets and Nakori only one.

In the key informant interviews and focus group discussions (FGDs), community members attributed the prevalence of infectious diseases such as diarrhea, cholera, dysentery and malaria to open defecation. Some respondents stated:

> *"Due to open defecation, diseases like diarrhea, cholera and malaria affect us. Our foods are also contaminated by flies."*
> *"When feces are not well contained and it rains, the water washes the feces into our dam and when our animals such as goats and cattle drink the water, they fall sick and when we kill and eat them, we can also fall sick."*

While the researchers do not necessarily agree with all the statements made by the participants, it is important to highlight the communities' perceptions. Understanding these perspectives is essential for tailoring interventions to their specific needs and concerns.

Greywater from bathrooms channeled into the open in Kpongu, Ghana (*photo*: IWMI).

Drivers of sanitation behavior in Wa

Community and stakeholder engagements revealed that sanitation behaviors in Wa are influenced by social norms, access to functioning toilets, sanitation product and service attributes, and the ability to pay for construction of private latrines. Open defecation is a generational practice rooted in culture and tradition learned since childhood, with many elders feeling uncomfortable using pit latrines despite the availability

[2] GSS (Ghana Statistical Service). 2021. *Population and Housing Census (PHC): General Report - Volume 3A*. Accra, Ghana: Ghana Statistical Service.
[3] Regional Environmental Health and Sanitation Department. 2022. *Understanding sanitation practices and challenges along the sanitation chain in Wa Municipality*. Presentation made for the IWMI stakeholder workshop, July 7, 2022, Wa, Ghana.

of public toilets. The financial capacity to afford latrines is limited by low household income and competing basic needs. Access to toilets is constrained, with only 9% of Kpongu and 23% of Nakori households having toilets, and public toilets often being far apart and poorly maintained. The negative perceptions of sanitation facilities due to poor hygiene and safety also discourage their use.

Lack of sanitation bylaws which exacerbates unsafe sanitation practices

In line with the Local Government Act of Ghana, Metropolitan, Municipal and District Assemblies (MMDAs) are responsible for the provision of safe sanitation services in their respective districts. Of the 30 development programs that featured in the Municipality's 2018–2021 Medium-Term Development (MTD) plan, improved sanitation was ranked as the third most important. Although the plan recognized poor sanitation as a key development issue in Wa, its objectives and strategies were not robust in achieving safely managed sanitation, as the plan had no strategy for the sustainable management of fecal sludge and wastewater.

The sanitation objectives and strategies of the plan were ultimately not achieved. As of May 2022, the Municipality still lacked a comprehensive sanitation plan and bylaws as envisioned in the MTD plan. Open defecation and indiscriminate disposal of waste remain prevalent. These challenges, together with the absence of a designated waste management department in the Wa Municipality, indicate a lack of commitment and prioritization of sanitation issues on the part of the Assembly. During a stakeholder workshop, the lack of sanitation bylaws was reported as one of the reasons why some households continue to engage in unsafe sanitation practices. If enacted, such bylaws would empower the Municipal Environmental Health and Sanitation Department to take action against unsafe practices.

Informal use of fecal sludge for farming

In Wa, insights obtained from key stakeholders suggest that the informal use of FS for farming is common among nearly half of all cereal farmers. Farmers pay tanker drivers to dump FS on their land, a departure from the norm where drivers pay tipping fees for offloading FS at designated treatment facilities. FS application typically takes place at the onset of the dry season, allowing ample time for drying over several months before it is incorporated into the soil, primarily for maize cultivation. Farmers express difficulty in accessing FS due to the high cost of transportation, and they are generally unwilling to pay these transportation fees. Since the Municipal Assembly lacks designated FS dumping sites, some farmers view their use of FS as a service to the Assembly.

While unloading FS on farmers' lands is illegal and the authorities are aware of this practice, no actions are taken against the truck drivers or the farmers. Key informant interviews with the municipal assembly staff revealed that, in the absence of alternative solutions, the authorities feel that imposing penalties alone is not going to solve the problem. This is particularly true in Wa, where engineered, official dumping sites do not exist and the authorities are left with little choice but to tolerate the practice.

A truck driver offloading fecal sludge at a farmer's land in Wa, Ghana (*photo*: IWMI).

A circular pathway for Wa – safe use of fecal sludge and wastewater for farming

From informal to formal and safe use of FS for farming

In Ghana, FS as a source of fertilizer has not received much recognition due to the informal nature of FSM as well as cultural, religious and perceptual barriers. In Wa, although many farmers who use FS for farming are maize farmers, negative perceptions and attitudes toward its application in farming persist. For example, Muslim farmers indicated that they will not be able to pray in their farms if they apply FS to their fields. Women fear that the crops will not be wholesome for consumption if FS is used for farming. Others also fear they would be stigmatized in the community. Furthermore, community members also have concerns that applying FS to fields could pollute community drinking water sources, such as streams running through farms.

Treating FS at farms poses health and environmental risks. To mitigate these risks and promote the safe use of FS in agriculture, 40 farmers from Nakori and Kpongu were trained in safety measures, microbial hand hygiene and composting FS with other organic materials. Participants included farmers, agriculture extension agents and municipal and regional agricultural directors. Continuous monitoring and follow-up through field visits assessed the farmers' activities post-training. The farmers produced compost, each receiving a 65-kilogram bag. However, ongoing monitoring is needed to ensure they continue safe practices and produce compost in the future.

Safe greywater reuse for home gardening

Some basic use of greywater for crop production is ongoing in Wa. With agriculture being the main economic activity in the peri-urban areas of the town, there is potential for safe use of greywater in home gardening. However, despite this potential, a large amount of greywater from households and institutions is not collected and is instead disposed of in the open. With increasing competition for scarce potable water in Wa, innovative water conservation techniques, including greywater harvesting and safe reuse, are crucial for future vegetable irrigation in home gardens.

Recommendations

- Ensuring safely managed sanitation requires more than just the provision of toilets; it necessitates viewing the entire sanitation value chain as a holistic system. Any breakdown at any point within this chain can result in failure throughout the entire system.

- The municipality in Wa requires a dedicated waste management department, a clearly defined sanitation plan and bylaws, and sufficient personnel to enforce policies to address sanitation challenges. Innovative financing and partnership models, along with well-developed cross-sectoral collaborations, supporting policy instruments, and awareness campaigns, are essential to reduce the high cost of sanitation facilities and make them more affordable for the community.

- Diverse stakeholders, including government agencies, agricultural extension services, nongovernmental organizations, research institutions and private sector organizations, must play a role in promoting safe farming practices and advancing affordable solutions. Farmers in Wa show interest in reusing FS, suggesting potential circular pathways such as safe FS use in farming and greywater reuse for home gardening. The stakeholders must ensure safety for farmers and consumers through increased awareness creation, training in safety measures and the development of affordable composting techniques.

- Circular models offer the potential to apply market-based principles to parts of the service delivery chain where waste can offer incentives for business development and cost recovery. Implementation of circular models, however, requires innovative models that include well-formulated cross-sectoral partnerships, supporting policy instruments, greater awareness and sustainable financing arrangements.

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Project

This work is produced as part of the project *Towards Brown Gold*, funded by the UKRI Collective Fund: Global Challenges Research Fund (GCRF) [project code: ES/T008113/1].
Read more about the *Towards Brown Gold* project: https://www.ids.ac.uk/projects/towards-brown-gold-re-imagining-off-grid-sanitation-in-rapidly-urbanising-areas-in-asia-and-africa/

Acknowledgements

The support provided by Ben O'Donovan-lland (Communications and Impact Officer, Institute of Development Studies [IDS], Brighton, UK) in reviewing the content of this brief and Senuri Weerasekara (Production Editor, IWMI, Colombo, Sri Lanka) for editing and proofreading is greatly appreciated.

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Published: October 2024