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**ENSURING AVAILABILITY AND SUSTAINABLE MANAGEMENT
OF WATER AND SANITATION FOR ALL**

**An exploration of sanitation and waste disposal practices
in low income communities in Accra, Ghana**

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Poor sanitation and solid waste disposal practices in communities result in environmental pollution. Thus, the study investigated sanitation and waste disposal practices from community members' perspectives. A qualitative research approach was adopted. The population of the study was all residents in the Odaw-Korle River Catchment, Accra. The sample frame was the three selected low income communities; Alajo, Nima, and Sabon Zongo. Up to 76 individuals were conveniently sampled for the study. The data collection instrument used was a focus group interview guide. Drawing from the grounded theory and content analysis approaches to qualitative data analysis, the focus group discussion notes were analyzed through a process of constant comparison of codes, ideas, and themes. Poor sanitation and waste disposal practices are due to failures in community collective action, poor practices, and insufficient facilities. The city authority can collaborate with community members to address the environmental problems.

Introduction

The majority of urban households in Ghana rely on public toilets and different types of unimproved toilets. Although the advent of private sector management of public toilets has led to general improvements, the situation is still unsatisfactory. According to the 2010 population and housing census, in Ghana, in terms of sanitation, the highest reported facilities were public toilet (34.6%), pit latrine (19.0%), water closet (WC) (15.4%) and Kumasi Ventilated Improved Pit Latrine (KVIP) (10.5%). Public toilets are usually away from the residence of individuals. At the national level, the proportion of dwelling units with a WC almost doubled from 8.5 percent in 2000 to 15.4 percent. The public toilet was used by one in three dwelling units in both 2000 and 2010: 32.7 percent in 2000 and 34.6 percent in 2010 (GSS, 2013).

In Accra, three types of sanitation facilities are important - household toilets connected to on-site septic tanks; household bucket toilets (used extensively in the poorer areas); and public toilets connected to septic tanks (located around the city with high numbers in poor or low income / low infrastructure provision areas) (Boot and Scott, 2008). Emptying of the sanitation facilities in Accra occurs in one of two ways. Large vacuum trucks are used to empty the vast majority of septic tanks in the city (Boot and Scott, 2008). Key challenges confronting urban sanitation relate to disposal practices, especially from on-site low cost facilities, which are often conducted in an unsanitary manner. It is through the presence and the operation of the illegal sector that faecal sludge reaches the immediate urban environment resulting in pollution of surface water bodies (Boot and Scott, 2008).

In Accra, about 1800 tons of Municipal Solid Waste (MSW) made up of household and market waste and 600m³ of human excreta are collected daily (Adampsey et al., 2009). In low income and high density communities and, where households cannot afford the cost of individual collection, the communities benefit from the Accra Metropolitan Authority (AMA) funded solid waste collection services and no fees are supposed to be charged. There are also the informal solid waste collectors (several self-employed youths) who collect solid waste from individuals in such communities with the aid of push carts, for a fee, and dispose the solid waste usually at unauthorised places such as beaches, rivers, and obscure places (Abraham,

2011). A survey of the composition of the solid waste in the city showed that the organic waste component formed the greater portion [55%] (Drechsel and Kunze, 2001).

It is evident from the above that lack of an effective liquid and solid waste disposal system creates an avenue for poor practices in sanitation and solid waste disposal in communities. This may lead to environmental pollution. It was therefore important to investigate the extent of these sanitation and waste disposal problems from the community members' perspective

Methodology

The qualitative research approach was adopted because the researcher wanted to explore in detail the understanding of sanitation and waste disposal practices. A case study design was employed. The design was also exploratory. The population of the study was all residents in the Odaw-Korle River Catchment, Accra. There were 47 communities within the catchment, out of which 17 shared direct boundary with the river, and 3 were selected from the 17 to reflect low income status. This catchment is the most urbanized section of the city and it was thought that it would offer a diversity of issues relevant to sanitation and waste management for the study. The sample frame was the three selected low income communities; Alajo, Nima, and Sabon Zongo. Up to 76 individuals were sampled for the study with the detail as: Alajo, 23; Nima, 28; Sabon Zongo, 25. The researchers approached people in the community, and ensuring that all parts of the communities were represented, invited participants to be part of the FGDs. Thus, participants were conveniently sampled. The consent of participants were secured and nothing that infringed on people's rights or confidentiality were included in the data collection process.

The data collection instrument used was a focus group interview guide. The focus group discussions (FGDs) were supposed to serve as a preliminary study for a future household survey. The guide contain questions related to sanitation and waste management on the state, prospects, challenges, and solutions to existing problems. Specifically, the topics discussed included perception of sanitation and waste disposal practices, causes of poor sanitation and waste disposal practices, and what might be done to change people's practices. Up to four focus group discussions were held in each of the three communities for men, women, young adults of male and female, and a mixed group of all sexes and from the two age ranges. So a total of 12 FGDs were held. The group sizes ranged from 5-12 participants. The men and women were aged 36 years and above whereas the young adults of male and female were from 18 years to 35 years. The rationale for the division of the groups was that it will create an opportunity for different dimensions of issues to be explored from participants' perspectives. The discussions took place in a local language, there was no need for translation as the researchers were very conversant with the local language. The researchers facilitated and took notes from the discussions. The data obtained from the discussion was the notes of the discussion. Drawing from the grounded theory and content analysis approaches to qualitative data analysis, the focus group discussion notes were analyzed through a process of constant comparison of codes, ideas, and themes, until all were analysed. The researchers also observed the community to verify some of the physical information that were mentioned by participants.

Brief background of selected communities

The three communities are big in terms of spread and population. They are multi-ethnic communities. They are high density communities and they are poorly planned compared to other communities in the city. Access roads in the communities were poorly developed. The communities are full of commercial activities.

Results and discussion

Perception of sanitation and waste management

Access to toilet facility

The FGDs participants indicated that there were three public toilets within the community of Alajo. According to FGDs participants, majority of the community access public toilets since only few houses had toilets. It was mentioned by the FGDs participants that public toilets were built by the state but were operated and managed by individuals on behalf of the state in Alajo. It also emerged in the discussions that there was private participation in the provision of toilet facilities. At each point, there was a male and a female toilet. Participants observed that there were a few pit latrines within the community. It emerged in the discussions that to access the toilets, residents paid between 30 and 50 peswas/ person. Participants indicated

up to 20 minutes of waiting time to access the toilet facility in Alajo, especially in the mornings. It was observed in the FGDs that the desire to raise income and support the community motivated private participation in the sanitation sector. The absence of toilets in the residence of people created a need for residents to seek for alternatives. Both the state and private individuals responded with the construction of public toilets. The presence of queues at public toilets is an indication that the existing facilities were insufficient for the entire community.

It emerged in the FGDs that majority of the population in Nima used public toilets and that various forms of toilets were available at Nima. Participants indicated that community members encountered no queues at public toilets. It emerged that residents paid between 30 and 50 Ghana peswas per person to access the public toilet. According to participants of the FGDs, in Sabon Zongo, most residents had no toilet facilities. Furthermore, in-house toilet facilities were mainly pan latrines. It emerged in the FGDs that majority of people accessed public toilets. Over 6 public toilets were found [state constructed and leased for private management] in the community per participants' observations. There were also the individually constructed and privately owned public toilets. In the view of participants, it cost 30-50 Ghana peswas per person to access the toilet facility. Those unable to pay to access the toilet facility were denied access. Such people may place human waste into polythene bags and dispose into the drains in the night or dispose it in the vicinity of the Korle Lagoon or engage in open defecation, as observed by participants. It emerged in the discussions that sometimes conflicts do occur when someone cannot afford and yet wants to 'force' his/her way through. The foregoing shows that some of the alternatives employed by communities could be harmful to both humans and the environment.

Access to solid waste disposal

According to participants at Alajo and Nima, charges for solid waste disposal into the skips ranged from 50 peswas and above depending on the volume of waste. Secondly, sometimes the skips were not emptied on time when they were full. Skips for solid waste disposal were perceived by participants to be situated far away from the community (about a kilometer). According to participants in Sabon Zongo, skips for solid waste disposal were available and residents paid 50 peswas and above depending on the volume of the waste. In addition, those unable to afford the cost of solid waste disposal were perceived by participants as those who littered the environment. Participants of the FGDs observed over four skips in the community and indicated that the skips were managed by caretakers [youth]. According to participants, the community representative at the city authority (Assembly woman) supervised the caretakers and in turn accounted to the city authority. The city authority (Accra Metropolitan Authority-AMA) was responsible for emptying the skips regularly through its contractor. It emerged in the discussions that there was often delayed collection of full-up skips. Some informal collectors were perceived by participants to dispose of solid waste indiscriminately in the environment. In all the communities, the perception was that solid waste collection skips were inadequate. The foregoing depicts that solid waste management in the communities were to a large extent inefficient. This inefficiency has been exploited by informal solid waste collectors who also contribute to improper disposal of the solid waste. This means that inefficiencies in solid waste management creates avenues for exploitation by groups and individuals.

Behavioural patterns

It emerged in the discussion that open defecation occurred in some parts of Alajo and offenders of littering were also approached by residents and asked to pick-up any waste that was poorly disposed. This, sometimes resulted in conflicts. Participants observed that human waste was sometimes placed in polythene bags and disposed into drains at Alajo and Nima and such behaviours were common in the night.

"Human waste is put into black polythene bags and discarded into the drains" (Alajo, mixed group). *"If you litter one can confront you to pick it up. This sometimes results in conflicts."* (Young adults, Alajo). *"We have destroyed the river through defecation, and rubbish disposal"* (Women, Nima). *"A lot of the indiscriminate dumping of faeces and rubbish actually take place in the night. We need to educate people so that they will stop"* (Men, Nima).

It emerged in discussions at Sabon Zongo that sometimes human waste is disposed into the main drain in the community. Participants observed that open defecation remains a problem in all the communities and that there was also indiscriminate disposal of solid waste in the environment. Participants observed that 'Kayanbola' (as they are locally known) are individual solid waste collectors who are implicated in poor waste disposal practices. These are also informal solid waste collectors who have taken advantage of the inefficiencies in the waste management system in the community. The 'Kayanbola' usually leave solid

waste behind people's windows as well as other unapproved places. It can be deduced from the above that poor behaviour was a problem in the communities and that it is probable contributor of water and environmental pollution. Poor behaviour patterns are outcomes of inefficient systems for managing.

Community collective action and responsibility of authorities

It emerged in the discussions that some community initiated clean-up exercises took place sometimes in the communities and these were supported by the city authority as well as other opinion leaders in the communities. It was also observed that community watchdog committees have been leading the community to clean their surroundings. The perception of community members was that the city authorities are responsible for the management of the environment of the community and also to educate the general public. A Waste Management Company, contracted by the city authority, cleans only the main streets in the communities. Members of the communities have initiated various ways of resolving the environmental challenges they face. This is an indication that there were still people who did not support the polluting behaviour of some community members.

Effect of the pollution problem

Community members understood clearly that poor disposal of solid waste and human waste are key problems in the community. They also observed that pollution problems affect families and that it comes with diseases and pose a health hazard to children. In addition, poor quality water also brings diseases to livestock and contributes to the spread of zoonotic diseases. According to focus group participants, there was too much exposure of residents to human waste from improperly cleaned toilets, open defecation, and human waste placed in polythene bags and disposed into the environment. *“There is threat to our children who will pick up their food from the ground and eat even when it falls”. “The most important among these problems is the cleanliness”. “If we keep the environment clean we will have good health and save money”* (Women, Alajo).

Community drains empty into the Odaw River, worsening the pollution problem. Solid waste in the environment sometimes clog drains in the communities and leads to local flooding. Since communities demonstrated an appreciable understanding of the effect of pollution on the environment, it is a good opportunity for promoting stakeholder and community interactions to respond to the observed environmental problems.

Causes of poor sanitation and waste management practices

Some of the causes of the poor sanitation and waste management problems mentioned by participants at the FGDs are below.

- Poverty, which makes it difficult for some residents to afford services, is considered a major cause of the poor environmental practices.
- Lack of regard for law enforcement officers
“The causes of these poor behaviours are as a result of lawlessness”. “The elderly who have no one to assist may also dump indiscriminately”. “Poverty is also a factor”. “Changes work for about a week and works no more” [Mixed group, Sabon Zongo].
- Poor environmental attitudes and behaviours
- Derogatory and abusive attitude of offenders which discourage people from approaching them to ask them to refrain from polluting behaviour
- Fear of the dark and for one's life is a factor in motivating people to place human waste in polythene bags at night
- The elderly may not have any one to assist them to the public toilet or the waste dump and therefore may dispose waste at the wrong places
- Inappropriate siting of community skips encourages solid waste disposal at wrong places in communities
- Delayed emptying of skips is a factor in water pollution
- Locked toilets in the night engender open defecation
- Lack of vigilance from city authority is also a contributory factor
- The silence of community leaders about the poor practices for fear that they may be attacked

Changing poor practices in sanitation and solid waste disposal

This section presents a synthesis of views from participants on how the problem of poor sanitation and solid waste disposal may be addressed.

Behavioural pattern

Participants indicated that open defecation into drains should be stopped and residents should be educated by the relevant authorities.

“Stop open defecation into the water body at night” (Men’s group, Alajo). “Stop discharge of human waste into the environment during rainfall as it ends up in people’s houses” (Men’s group, Alajo).

Responsibility of city authorities

According to participants, the community will accept the re-introduction of the community inspection teams to ensure cleanliness. They also emphasised that there is the need to sensitize city authorities to bear responsibility for the pollution problem. Participants also indicated that there is the need to re-introduce sanitation and solid waste disposal monitoring by the city authorities. Furthermore, the city authority must ensure that houses that are built have sanitation facilities in them. Education of residents should be alongside provision of facilities. Good practices should be shared through demonstration projects in the communities. It is important to provide adequate facilities for waste disposal and where it is possible, alternatives should also be provided to residents. Community skips should also be emptied on time. This means that the city authority is perceived as bearing a greater responsibility in responding to the problems of poor sanitation and poor solid waste disposal.

Enforcement of laws

Participants indicated that it is important to enforce the law on sanitation and environmental cleanliness in the communities. Other suggestions by participants are the following. The city authority must also ensure the arrest and prosecution of culprits/offenders of environmental pollution. There should also be an arrangement to ask culprits to pay a fine. The courts should punish these offenders when the cases come to them. If sanitation law enforcement officers are found to have been compromised by polluters, they should be excluded from the enforcement process. Any attempt at changing poor environmental behaviour or practices should be in collaboration with the police and other law enforcement officers. The community leadership also have a role to play in pollution prevention.

“There should be implementation or enforcement of laws on sanitation and waste management” (Men’s group, Alajo).

Ultimate, community members should find it unattractive to pollute the environment, otherwise it will be difficult to address the problem.

Community collective action

Community collective action is the process where the community unite and execute activities or actions aimed at addressing the pollution problem. These were some of the collective actions suggested by community members to help address the pollution problem. The communities are willing to cooperate with the city authority to solve the pollution problem. The city authority is known to be a representative of the government and therefore they will cooperate with them. The educated people in the communities are seen as ‘lights’ and therefore they are expected to set good examples for the others to follow. They can also lead the collaboration between the community and the city authority. The community teams, watchdog committees, should be encouraged and strengthened to support monitoring of environmental quality.

“The community will respond to a call on behaviour change”. “However, this will be difficult if the person is from the community. If AMA officials come, they will be listened to because they are known to be government officials and can cause arrest of people”. “If you are in the community, you are seen as one of them, so they will not listen to you” (Mixed group, Sabon Zongo).

The communities may have to be assisted to strengthen their watchdog committees. Community members should avoid the services of informal waste disposal service providers. Since they are a major culprit in polluting behaviour. The youth leaders have a special role to mobilize their people to participate in pollution prevention activities. It is necessary to improve the planning in the communities to discourage poor disposal of waste. The foregoing emphasises the essence of harnessing social capital-the connectedness between community members, in responding to the sanitation and solid waste disposal problems.

Use of toilet facility

According to participants since excessive heat in public toilets makes some residents to resort to open defecation, improvement in the technology of public toilet may help to reduce the incidence of open defecation attributed to this.

Conclusion

Inefficiencies in sanitation and solid waste management has created an avenue for formal and informal participation in the provision of services. The state and public sector responded to the gaps in access to sanitation through the construction of public toilets. Some of the services by the informal operators have been a source of environmental pollution. The community members initiated activities to keep their community clean. The study showed that causes of poor sanitation and solid waste disposal practices can broadly be categorised as due to poverty, personal attitudes, and disregard for sanitation and waste management laws, limited social capital, lack of infrastructure, poor service level, and lack of enforcement of environmental laws. To respond to the poor sanitation and solid waste disposal practices, the above mentioned issues should be addressed.

Lessons learnt

Communities' will often look for alternatives to solve their water and sanitation problems if the existing systems fail. Inefficiencies in sanitation and waste management creates opportunities for both formal and informal interventions. There is some level of social capital within the communities which can be explored to change people's behaviour. The study has revealed that community members have the capacity to identify the causes and solutions to the problems they face in the environment, emphasising the need to incorporate their views and concerns in any development interventions to improve sanitation and waste disposal practices. The FGDs created opportunities for people to freely express themselves in the study. In so doing explanations of various phenomenon were obtained. However, in terms of factual information, the FGDs were not sufficient to draw any conclusive opinions and therefore will require follow-up investigation to authentic, though some, such as the availability of public toilets could immediately be verified through observation.

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