

Research Paper

Improving environmental sanitation in the catchment area of Benya Lagoon, Ghana: the non-household stakeholder role and participation dimension

Justice Mensah

ABSTRACT

Poor sanitation practices pollute the environment and exact undue toll on health, productivity and human life, hence the increasing global call for the maintenance of acceptable sanitation standards in all communities. Although maintaining proper sanitation standards in any community is a function of several factors, the stakeholder participation dimension is one of the most critical. However, unlike the household stakeholders, the non-household stakeholder dimension has not received adequate attention in terms of studies regarding its role and participation in environmental sanitation management. Employing the qualitative design, this study examined the role and participation of key non-household stakeholders in sanitation management in the catchment area of Benya Lagoon, Ghana. Data were gathered from identifiable key non-household sanitation actors who were purposively selected from relevant government agencies, private sector organisations, community-based organisations and opinion leaders and analysed thematically guided by the most significant stories technique. It became evident from the study that the non-household stakeholders were playing useful roles in sanitation management, but their participation and the level of interaction in the enterprise were too limited to enable them to make a substantial impact on improving sanitation in the area. Key non-household sanitation actors, spearheaded by the central government through the sector ministry and municipal authority, need to increase their participation in sanitation management and collaborate more intensively through higher order interactions to ensure the maintenance of acceptable sanitation standards for sustainable local level development and, by extension, national development.

Key words | collaboration, environmental sanitation, Ghana, non-household stakeholders, participation

Justice Mensah
Directorate of Academic Planning and Quality Assurance,
University of Cape Coast,
Cape Coast,
Ghana
E-mail: justice44mensah@gmail.com

INTRODUCTION

Environmental sanitation is an important development issue. Poor sanitation practices, particularly with respect to defecation and waste disposal, pollute the environment and exact undue toll on health, productivity, tourism and human life, hence the increasing global call on all countries

to ensure improved sanitation in all communities. Improved sanitation is associated with multiple socio-economic benefits, including direct economic benefits of avoiding illnesses and indirect economic benefits such as a decrease in work days or hours lost to illness (Hutton *et al.* 2007;

Pickering *et al.* 2015). Additionally, while WHO (2018) argues that poor sanitation is a major factor in several neglected tropical diseases, including intestinal worms, schistosomiasis and trachoma, analysis by Prüss-Ustün *et al.* (2019) finds 432,000 diarrheal deaths attributable to inadequate sanitation in 2016.

Although efforts are being made to improve sanitation in most countries in the world, over two billion people of the world's population still lack access to improved sanitation (WHO/UNICEF 2017). The global acknowledgement of the importance of water and sanitation led to the inclusion of sanitation in the Sustainable Development Goals (SDGs) (UN 2017). Thus, Goal 6 of the SDGs seeks to improve access to water and sanitation for all by the year 2030 (UN 2017). This calls for effective sanitation management approaches in every country, but more so in the developing ones where the sanitation picture is worst.

In the view of Robinson (2008), proper environmental sanitation management (ESM) could be approached in different ways depending on the given circumstances. In this respect, Mazeau (2013) continued that no matter the adopted approach, the role and participation of the key stakeholders are critical and that these stakeholders are expected to collaborate through effective interactions for best ESM outcomes. The argument espoused by Robinson (2008) and Mazeau (2013) embodies the participation theory's (Stoker 1997) premise that such stakeholders must collaborate effectively in order to achieve meaningful results. Although the stakeholders are many, the key ones, according to Ekong (2015), are the government and its agencies, the private sector including non-governmental organisations (NGOs), the community-based organisations (CBOs) and households.

It has been found that households as stakeholders, unlike the other stakeholders in ESM, have received considerable attention in terms of studies (Carrard *et al.* 2009; Abubakar 2017). Abubakar (2017), for instance, finds that many studies on sanitation have been done at the household level especially in the developing countries, including Yemen (Sbrana 2009), Kenya (Koskei *et al.* 2013), Indonesia (Prasetyoputra & Irinti 2013), Southern Ethiopia (Yohannes *et al.* 2016), rural communities in China (Li *et al.* 2015) and Ghana (Adams *et al.* 2016; Oteng-Ababio 2010). These studies, supported by evidence from literature review

(Mensah & Enu-Kwesi 2018; Mwangi & Aggrey 2014), confirm that while a substantial body of literature is replete with the role and participation of households as key stakeholders in ESM, what appears insufficiently researched is the role and participation of the non-household stakeholders such as the government, private sanitation companies, CBOs and other NGOs.

Ayee & Crook (2003) have argued that the 'advocacy' literature on public-private partnerships emphasises the complementarities of interests, resources and efforts among relevant actors. Ayee and Crook's argument is underlain by systems theory's advocacy for a holistic approach to issues which, by extension, is applicable to the partnership between the household and non-household level actors for ESM. This suggests that the two categories of actors must complement each other for a holistic solution to the intractable sanitation challenge. However, the foregoing logic notwithstanding, studies on ESM have been skewed towards the household dimension, making the non-household dimension seem peripheral. While it cannot be posited that the non-household stakeholder dimension has been totally neglected since, at least, mention is made of it in a considerable number of the household studies, it is argued that such references appear casual, marginal and inadequate for comprehensive analyses of non-household stakeholders' role and participation in the enterprise (Mensah & Enu-Kwesi 2018). The non-household dimension appears not to have been singled out for major studies as its household counterpart has been and continues to be, and so information about the dimension is limited. Literature shows that studies on the non-household dimension of ESM have been subordinated to those of the households (Mensah & Enu-Kwesi 2018).

This paper argues that the subordination of studies on the non-household sanitation stakeholders' role and participation in ESM to those of households relegates the non-household stakeholders to the background and potentially deprives policymakers, duty bearers and researchers of the opportunity to know much about the actual and potential contributions of the non-household stakeholders to ESM for meaningful decision-making and further research in that area. With this background, the relevant questions that need to be answered relate to these stakeholders' role in ESM; the extent of their participation in

the enterprise; how they collaborate to address the sanitation challenge at the community and municipal level; their strengths that need to be built on, the opportunities that can be taken advantage of, as well as their weaknesses and threats that need to be addressed or minimised.

The non-household stakeholder dimension of ESM is worth studying because, like their household counterpart, these actors could play significant roles in ESM, which could inform research and policy. Besides, according to Nimoh (2016) and Waletlign & Jiano (2017), it is important to understand the roles of all stakeholders in ESM to facilitate a holistic solution to the sanitation menace in developing countries. These arguments are pertinent to ESM in Ghana because the country's ESM has been so poor in recent years that it has been ranked among the dirtiest countries in the world (MDG Report 2015 cited in Mireku-Gyimah *et al.* 2018). The coastal areas of Ghana, including the catchment area of Benya Lagoon in the Komenda-Edina-Eguafo-Abrem (KEEA) Municipality, are among the dirtiest parts of the country in terms of waste disposal and open defecation. The catchment area of the lagoon falls within the Central Region of Ghana, which is one of the poorest regions in the country. Although the area is poor, it has the potential to provide an escape route from poverty through tourism, fishing and salt mining activities but poor sanitation detracts from this opportunity (Mensah & Enu-Kwesi 2018).

The importance of the catchment area of Benya Lagoon, particularly Elmina, the capital of the Municipality, is historical and socio-economic. Historically, it is a prominent tourist area of both national and international repute due to its special association with the colonisation of Africa and the infamous slave trade as well as the presence of an ancient castle and forts. The Elmina Castle in the area, for instance, is one of the few world heritage sites and, therefore, attracts both local and international tourists daily. On the local front, the area is one of the most important fishing areas in Ghana with arguably the biggest traditional fishing port. It also has small-scale salt mining firms, which, when developed, could reduce unemployment, improve livelihoods and contribute more meaningfully to Ghana's gross domestic product (GDP).

However, poor ESM practices in the area, resulting mainly from the poor stakeholder participation in ESM

(Oduro 2015), have pillaged the area of this opportunity, while the local residents continue to blame the increasing poverty on the lack of job avenues (Mensah & Enu-Kwesi 2018). The need to examine the roles and participation of the actors and the dynamics that exist among them regarding their interaction and collaboration as partners for effective ESM cannot be underestimated. Given this background, the study examined the participation and role of the non-household stakeholders in terms of decision-making, engagement in sanitation-related activities such as law enforcement, education, providing and managing sanitation resources including logistics, personnel and funds; involvement in clean-up exercises, as well as interactions among the stakeholders in the performance of these roles. Additionally, it examined the strengths and weaknesses of the stakeholders' participation in sanitation management endeavours.

THEORETICAL UNDERPINNING

The study is underpinned by the theory of participation which, according to Stoker (1997), emphasises the idea of empowering stakeholders of a development endeavour to be actors rather than passive subjects in taking decisions, managing resources and undertaking other activities that improve the lives of the people. In Brydger's (2012) view, effective participation can be examined within the context of Arnstein's (1969) classification of citizens' participation, which describes a continuum of increasing stakeholder involvement from weak to strong forms of participation. It outlines eight levels of participation, namely manipulation, therapy, informing, consultation, placation, partnership, delegated power and citizen's control as shown in Figure 1.

According to Skelcher (1993), the first two bottom rungs of the ladder, manipulation and therapy, describe virtually non-participation where power holders only educate or 'cure' the participants or citizens but do not give them the opportunity to participate in the planning and implementation of the development endeavour. Rungs 3, 4 and 5, that is, informing, consultation and placation, progress to levels of 'tokenism' that allow stakeholders to have a voice (Hysing 2013; Rowe & Frewer 2000; Rowe *et al.* 2005) but essentially through one-way flow of information where

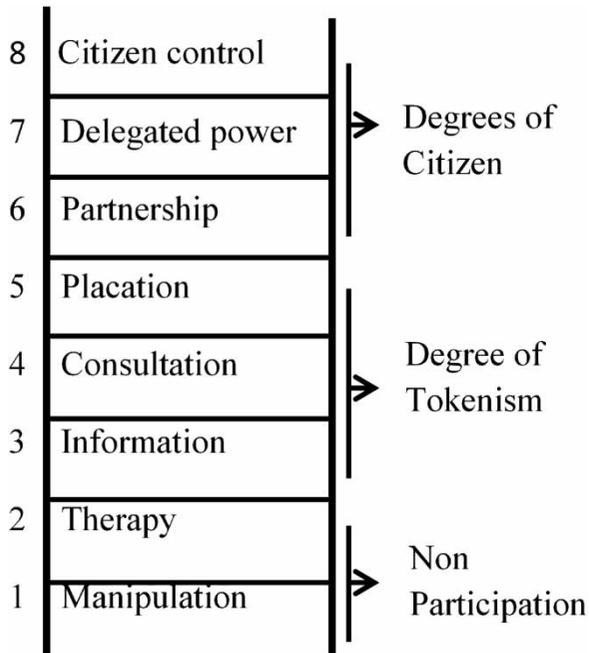


Figure 1 | Arnstein's ladder of citizens' participation (source: Arnstein 1969).

there is no channel for feedback and thus no assurance of changing the status quo. Further up the ladder of participation are partnership, delegated power and citizen control, which are characterised by increasing degrees of decision-making clout. Partnership enables the citizens to negotiate and engage in trade-offs with traditional power holders (Brownill & Darke 1998) to ensure participation in planning and decision-making. At the topmost rungs of delegated power and citizen control, Cornwall (2008) claims that the stakeholders obtain the majority of decision-making powers and can ensure probity and accountability. At rung 8, citizens gain full managerial power to handle the business of planning and policymaking. Thus, while pseudo-participation characterises the bottom rungs of the ladder, real control by the ordinary stakeholders is found at the top three notches, namely partnership, delegated power and citizen control (Chambers 2007).

Choguill (1996) criticises Arnstein's (1969) model in a development context and suggests an alternative model showing tentative classification for the evaluation of participation within underdeveloped countries based on the degree of government, NGOs and community involvement in carrying out community mutual-help projects. Like Arnstein's, Choguill's modified participation ladder has eight rungs in

decreasing order of participation, namely empowerment, partnership, conciliation, dissimulation, diplomacy, informing, conspiracy and self-management.

Empowerment, the highest rung on Choguill's ladder of community participation, takes the form of community members having a majority of seats or genuine specified powers on formal decision-making bodies over a particular project or programme involving participation. The second highest rung on the ladder is the partnership where members of the community and outside decision-makers agree to share planning and decision-making responsibilities. Involvement of government in the project is more intense than in the case of empowerment. Conciliation, the third highest rung of the suggested ladder, occurs when the government devises solutions that are eventually ratified by the people. It may take the form of appointing a few representatives of the community to advisory positions, or even decision-making bodies, where they can be heard but are frequently forced to accept the decisions of the powerful and persuasive elite.

The fourth rung down the Choguill's ladder is dissimulation, where people are placed on rubber-stamp advisory committees or boards in order to achieve a semblance of participation. The next is diplomacy as the fifth rung and, as in the case of dissimulation, it is a type of manipulation. In this case, the government, for lack of interest or resources, expects the community itself to make the necessary improvements, usually with the assistance of an outside organisation such as the NGO. Diplomacy may take the form of consultation, but it is for tactical reasons. In this case, government officials pretend that they are seeking opinions of the people on the project, but there is no assurance that concerns and ideas from the community will be considered.

Informing, as the sixth rung, consists of a one-way flow of information from officials to the community of their rights, responsibilities and options, without allowance for feedback or negotiation. Conspiracy is the seventh rung down the ladder. Here, no participation in the formal decision-making process is considered, as the government seems to reject any idea of helping the poor. At the bottom of Choguill's suggested ladder of community participation is self-management where the government does nothing to solve local problems and the members of the

community, by themselves, plan and implement improvement activities for their neighbourhood. Choguill (1996) shows examples of where the community participation theory has been the basis of sanitation improvements in a number of developing countries, including the sanitation project in the Orangi district of Karachi in Pakistan and the water supply project by the National Water and Sanitation Agency in Honduras.

It can be argued that Choguill and Arnstein's models remain largely the same in terms of basic tenets, in spite of the former's criticisms of the latter's model. Both theories imply that at the lower rungs, there is top-down communication and one-way information flow in which the recipient has a passive role. In the middle rungs, there is a two-way information flow with the small stakeholder input and, so, there is minimal involvement of the community members while at the highest level stakeholders interact closely and continuously with intense two-way information flow. It is only at the highest levels of the ladders that all stakeholders actively participate, share and incorporate each other's plans and ideas. That is where there is open dialogue and stakeholders see themselves and their activities as complementary and mutually dependent. The implication of the models of participation for ESM is that higher levels of participation are characterised by more intensive and effective interaction, which are associated with better results in sanitation and *vice versa*. Gaventa & Barret (2012) and Hendriksen *et al.* (2012) argued that utilising a participatory approach allows stakeholders to own the development project, adding that for successful sanitation management, the principles of participation must be felt inward and lived outward.

METHODOLOGY

The study was conducted in the catchment area of Benya Lagoon in the KEEA Municipality in the Central Region of Ghana. It covered all eight communities in the study area, namely Elmina, Bantuma, Bronyibema, Sanka, Essaman, Pershie, Mbofra Akyinim and Dwira Akyinim. The study used the qualitative research design, which is credited with the ability to maintain close proximity to the phenomenon and participants under study (Aggrey 2013)

depending on the researcher's positionality. Data were collected from a Planning Officer, a Municipal Engineer and an Environmental Health Officer (EHO) of the KEEA Municipal Assembly, an EHO of the Environmental Health Directorate of the Ministry of Local Government and Rural Development (MLGRD) in Accra, a Principal Officer of the Environmental Protection Agency (EPA), two key staff of Zoomlion Sanitation Company as well as three Assembly Members in the study communities. Data were also gathered from eight religious leaders and eight traditional leaders as well as four youth group leaders from the various communities. Data from all these categories of respondents were collected using in-depth interviews (IDIs).

In addition, data were collected through focus group discussions (FGDs) with CBOs, including town development committees, youth clubs and other opinion leaders, using FGD guides. All the enumerated stakeholders were purposively targeted because they were the key identifiable non-household actors in ESM at the municipal and community levels. Religious organisations (leaders), for instance, were included because in the Ghanaian local setting they command respect to a considerable level, which could be brought to bear on fruitful sanitation education to the congregation and even the general community residents. Separate IDI and FGD guides were developed for each category of informants and discussion groups. The FGD and IDI guides covered questions on the non-household players' roles and participation in sanitation. Specifically, the questions were on sanitation issues concerning policy, education or sensitisation, infrastructure (logistics/equipment), laws/by-laws, funding/financing, as well as participation in mutual or self-help clean-up exercises in the communities. Questions were also asked on the actors' capacities in terms of strengths and weaknesses, their opportunities and threats. The data collection instruments were reviewed and approved by research supervisors at the Institute for Development Studies of the University of Cape Coast before they were used for data collection.

Data collection and analysis took place between December 2015 and February 2016. Data were collected by the lead researcher and two trained research assistants, each with a master's degree in qualitative research. For ethical reasons, informed consent was sought from every respondent after the purpose of the study had been

explained to them and they had also been assured of confidentiality and anonymity. Those who could read and write signed informed consent forms to confirm their willingness to participate, while those who could neither read nor sign, thumb-printed for the same purpose. Each FGD consisted of between 8 and 12 males or females. They were not mixed because some women or men could not talk openly and frankly in the presence of the opposite sex. The average durations for an FGD and IDI were an hour and twenty-seven minutes, respectively. Although the FGD participants answered the facilitators' questions individually, they were encouraged to talk and interact with each other in the course of the discussions. This technique was adopted in the belief that interactions among them would encourage respondents to explore and clarify individual and shared perspectives so that the most significant stories could be distilled.

Data were digitally recorded with the consent of the respondents and where permission for digital recording was not granted, copious notes were taken. Data saturation was reached after conducting six FGDs and 34 IDIs. A review of documents was also carried out using the content analysis approach. Documents that were reviewed included the National Sanitation Policy (NESP) of Ghana, National Environmental Sanitation Strategy and Action Plan (NESSAP), Strategic Environmental Sanitation Investment Plan (SESIP), KEEA Water and Sanitation Action Plan known as 'Vision 2040' and the 'Elmina 2010 Development Strategy'.

The audio-taped data were transcribed and the field notes typed up. After that, the analysis started with manual coding by the lead researcher and one research assistant. The transcribed data were initially read through twice by way of familiarisation with the data. Theory-driven open coding started with the third reading. In the course of the reading, tentative labels were created for chunks of data that appeared to summarise or describe common phenomena and trends based on the meanings that emerged from the data. Notes were made in pencil of catchwords and catchphrases to establish properties of each code. After the open coding, axial coding was done to identify relationships and connections among the open codes, taking into account commonalities or similarities, differences, frequencies and sequences that characterised

the patterns identified. This was followed by another round of coding which took the form of figuring out the core variables or constructs. A re-read of the transcripts was done to check if the codes fitted the identified constructs. Then, the codes were combined under thematic categories, that is, themes that encapsulated the codes; which were then re-organised under basic and major themes and interlinks thereof established and examined. The different skill levels of the coders brought about the inclusion of multiple perspectives. It also afforded the opportunity to discuss coding disagreements and refine the coding system in the iterative coding process.

Finally, guided by the content analysis of the documents (Elo & Kyngäs 2008) and thematic analysis of the coded primary data (Pratt 2009), the results were presented under broad themes using the narrative interpretation technique, where meanings were deductively ascribed to the results through thick descriptions (Pratt 2009). Where relevant and needful, direct quotes from the participants were used for illustrative emphasis, employing both the single and multiple voicing verbatim representation techniques.

RESULTS AND DISCUSSION

This section is structured into four sub-sections. The first three sub-sections describe the roles and participation of government, private sector and CBOs as the identified key non-household stakeholders in ESM, while the last (fourth) sub-section is devoted to the interactions among these stakeholders for effective ESM.

Government's role and participation in sanitation management

The government's role and participation in ESM were examined in the light of sanitation education, regulation, provision and management of personnel, logistics and funds/financing as well as interactions with other stakeholders for improving sanitation. A review of the Environmental Sanitation Policy of Ghana indicated that the overall sanitation manager in Ghana was the central government through a number of governmental agencies, with the MLGRD as the lead ministry in this respect.

Interviews with an EHO and a Municipal Engineer, EPAs revealed that the government had provided the policy guidelines for sanitation management through the MLGRD, acting in consultation with other relevant agencies including the Metropolitan, Municipal and District Assemblies (MMDAs).

The overarching policy framework for ESM was provided by the National Environmental Sanitation Policy (NESP) of 1999, which was revised in 2010. The broad issues presented in the NESP had been translated into an NESSAP and an SESIP. However, content analyses of these documents showed that, although community-based structures such as the traditional authorities and youth were expected to contribute to ESM, their roles were not clearly defined.

Investigations about the role of the MMDAs in ESM in the study area were carried out with the Planning Officer, a Municipal Engineer and an EHO at the KEEA Municipal Assembly. It became evident from the investigations that the Assembly collaborated with other relevant departments, such as the Planning, Water and Sanitation, Building Inspectorate and the Town and Country Planning Departments for sanitation management in the Municipality. The Municipal Assembly had developed by-laws and a District Water and Sanitation Action Plan dubbed 'Vision 2040' for the Municipality. A review of the document revealed elaborate plans, activities and regulations, including the assignment of roles and responsibilities, and in some cases, timelines and budgetary allocations for the activities outlined to improve ESM. However, responding to questions posed on how the laws and the 'Vision 2020' were being implemented a Municipal Assembly key staff revealed that:

'... the laws and the vision are there but they require other things to make them effectively operational. I mean personnel, logistics and funds; but as you know we are not well positioned in terms of resources to execute them. The other issue I will talk about is poor attitude of the people towards sanitation and the attitude of some of our staff towards work. Some of us are working as hard as we can but due to poor attitude of other staff and the community people, we are unable to achieve much and so our roles and active participation are not recognised. Sometimes change of government also comes with its

own political challenges which often draw the clock of progress back but we cannot complain...'

Concerning logistics, it was reported that the Assembly had one motor bike, 30 communal containers, one skip loader, three skip containers, three arm rock trucks and two waste trucks. It also had one compaction truck, a cesspool emptier and a tractor. The weakness, however, was that apart from being inadequate as reported by the informants, an inspection of the pieces of equipment showed that most of them were either in bad shape or were no longer functioning. It was reported that sometimes money to buy fuel for the vehicles was a huge challenge, let alone money for the repair of the broken down ones. This evidence was in conformity with [Fei-Baffoe et al.'s \(2014\)](#) conclusion that inadequate and obsolete sanitation equipment prevented the municipal assemblies from playing their roles as effective managers of sanitation in the communities under them.

As regards capacity in terms of human resource, a key informant at the KEEA Assembly disclosed that the Municipal Assembly had 16 environmental health staff, two building inspectors, one engineer, four quantity surveyors and three draughtsmen, which was described by the informant as 'not too bad' in terms of adequacy. The major challenge here, according to the informant, related to logistics to work with, the technical competence of some staff, corruption and political interferences. While the finding of logistical constraints corroborated the finding by [Acheampong \(2010\)](#), the finding regarding corruption and political interference supported the evidence by [Saei \(2012\)](#) on a similar issue in his study on the application of public-private partnership in sustainable sanitation management in New Delhi and Manila Metropolises.

Sanitation education is important in keeping stakeholders updated on current trends in ESM ([Mansuri & Rao 2013](#)). In interviews with Municipal Assembly staff on how the assembly was promoting sanitation through education, the following was revealed by an EHO:

'The EHOs go round to provide house-to-house education to the residents in the communities in the Municipality. What make our work difficult, however, are unavailability of education materials, lack of means of transport as well as computers to keep records of our activities and

data for planning, and negative attitudes of the public to sanitation. We enforce the laws but influential people in society often step in to save people when they fall foul of the sanitation law and are being prosecuted or punished for their offences. We also need sponsorship to enable us educate the public on the local FM or radio stations and other information centres because we do not have money to do that.'

While the above quote suggests that influential people prevent sanitation law enforcement agents from playing their role effectively in ESM, it also supports the finding by [Adubofour \(2010\)](#) that the sanitation departments of the municipal assemblies in Ghana lack planning data. This is significant given the importance of data management in institutional effectiveness in contemporary governance; sanitation governance not being an exception. Another key point deduced from the quote relates to poor attitudes; however, while this is no less an important finding, it is an understatement to maintain that this point appears belaboured as a finding in sanitation studies in Ghana since virtually all such studies have concluded that poor attitudes and inadequate law enforcement are among the major causes of the prevalence of poor sanitation in the country. It is also worth pointing out that the effectiveness of the door-to-door sanitation education reported by the municipal assembly staff was doubted by most of the other community-based respondents, particularly the youth, traditional authorities and religious leaders.

As gathered from the literature ([Tukahirwa 2011](#)), ESM is often not complete without the regulation of people's behaviour, principally through law enforcement. Informants at the Municipal Assembly revealed that in line with the national legislative framework for the promotion of sanitation in communities, the Municipal Assembly had enacted by-laws to regulate sanitation behaviour. A review of the by-laws revealed that they addressed issues relating, among others, to indiscriminate littering and defecation as well as building laws that conformed to the Town and Country Planning regulations. An investigation from the traditional leaders, religious leaders and a Zoomlion officer regarding sanitation law enforcement revealed that the laws existed largely on paper since there was very limited enforcement as reported by these key informants.

The review of documents, supported by reports from the informants at the Municipal Assembly and the MLGRD, revealed that in line with the Ghana Building Code of 1988, the existing municipal regulations on building enjoin landlords to make provision for proper sanitary facilities in the building plan, especially toilet facility, as a prerequisite for obtaining building permits. In this connection, the building inspector must make sure that the building plan has a toilet facility before the Assembly approves it. The challenge, as deduced from the informant's report, was that some actors within the approval chain often failed to apply the laws. It was revealed that there were building inspectors who went round ostensibly to enforce the building regulations in the municipality. However, the informant reported that the professional and technical capacities of some of these officers were weak. Additionally, the building inspectors were reported to be prone to corruption as they easily yielded to bribes by the estate or land developers who flouted the building regulations and wanted to avoid going to court to face the consequences of their actions. An assemblyman reported and was confirmed by several other opinion leaders, that:

'The building inspectors seldom come round to do their work. Once in a while, they come over to threaten land developers by inscribing "stop work" on uncompleted buildings and other structures. However, in spite of these inscriptions, the illegal construction works continue steadily because the developers pay bribes to the building inspectors. Other people continue to put up buildings and other structures where they are not supposed to, as well as houses without toilet facilities because they have fraudulently secured building permit from the appropriate office. The building inspectors' attitudes, morals and work ethics encourage indiscipline and for that matter unacceptable sanitation behaviour and practices in the communities.'

It is instructive that [Ayee & Crook \(2003\)](#) pinpointed politics and corruption as the bane of progress in ESM, especially with the management of public toilets in Ghana similar to what is learnt from the quote above. Besides, the quote supports the evidence by [Dugah \(2013\)](#) that layouts in most communities in Ghana are poor because offenders often go unpunished and this is inimical to ESM efforts.

Furthermore, the quoted unacceptable practices undermine effective sanitation law enforcement, leading to ineffective ESM.

Another challenge that was reported to have been constraining the effective participation of the Municipal Assembly in sanitation projects was sustainable financing. From the interviews with the key informants at the Ministry and Municipal Assembly, it became evident that, although Ghana was a signatory to the Thekwini Declaration, which enjoined the government to commit up to 0.5 per cent of its GDP to sanitation projects or services, the government's commitment over the years had hovered around 0.1 per cent. This evidence corroborates Baabereyir's (2009) finding of how low the commitment of the government of Ghana to sanitation in the country is. Reasons cited for low financial commitments to sanitation bordered on politics, administrative lapses and the Assembly's inability to generate funds for ESM as exemplified by the following quote from an informant at the Municipal Assembly.

'The main source of funding for the Municipal Assembly for most projects, including ESM, is the District Assembly Common Fund (DACF), which is not only inadequate but also irregular. Recently the District Development Fund (DDF) was also introduced but that is accessed by the Assemblies in Ghana on competitive and conditional basis. For the DACF, the Fund Administrator at the headquarters in Accra virtually decides what the money should be used for because he has the political backing. Before the money comes to the Assembly, part of it has already been deducted by the Administrator for the payment of certain things without the knowledge of the Municipal Assembly. A case in point is when the costs of the vehicle for the Municipal Chief Executive and motor bicycles for the assemblymen and women were deducted from the common fund, leaving very little for developmental projects, including sanitation projects. In fact, due to unhealthy politics we are unable to do or say much about it.'

Evident from the above quote is another case of political and corrupt practices that hamper the effective participation of the Municipal Assembly in ESM in the study area which is similar to what Ayee & Crooks (2003) pointed out in their

article titled 'Toilet wars: urban sanitation services and the politics of public-private partnerships in Ghana'. In addition to this, another informant at the Municipal Assembly opined that the provision of several free sanitation services coupled with inadequate revenue from the District Assembly Common Fund (DACF), District Development Fund (DDF) and other internally generated funds made the assembly unable to finance sanitation projects relating to infrastructure, education and regulation. On the same issue, Atuahene (2010) also maintained that the free and/or low fees usually charged for solid waste collection coupled with insufficient funds from the central and municipal budgets cannot finance adequate sanitation services.

From the foregoing, it was learnt that the strengths of the government as represented by the MLGRD at the national level and by the KEEAMA at the local level were the development of sanitation policy and the enactment of laws and by-laws. The weaknesses included inadequate funds, weak law enforcement and monitoring systems. However, the government agencies had the opportunity to ensure compliance to acceptable sanitation management practices through law enforcement, education and infrastructure management. The threats were negative attitudes of the public and some staff, corruption on the part of some government officials as well as political leanings and sycophancy, leading to politically motivated decisions and actions and ineffective implementation of sanitation programmes.

Private sector's role and participation in sanitation management

The only private sanitation company that was identified as being actively involved in ESM in the area was Zoomlion Ghana Limited. According to a key Zoomlion Officer at Elmina, the company participated in ESM by cleaning the streets, gutters and other public places, offering communal or house-to-house waste collection services to the public and educating the public on environmental sanitation. Concerning solid waste disposal management, the Zoomlion Officer noted that the company had distributed dustbins and communal containers for household and communal waste collection, but admitted that these were inadequate. This was not in consonance with Thomas *et al.*'s (2013) observation in their review of ESM in Tanzania that

adequacy of sanitation infrastructure was an important factor in ensuring proper ESM at the household and community levels.

A Zoomlion Officer asserted that about 80 per cent of solid waste generated in the KEEA Municipality was professionally taken care of by their sanitation company. This assertion was, however, challenged by the Town Development Committee members and other opinion leaders in all the communities who, although they commended Zoomlion for their efforts at improving sanitation in the area, held the view that there was a great deal of room for improvement in the company's efforts, especially with regard to the provision of waste bins and prompt evacuation of waste to the final disposal site. With respect to the company's role in sanitation education, the Zoomlion Officer indicated that their staff had been educating the public on the importance of sanitation, but admitted that more education was necessary since the people's attitude to sanitation was still very bad. He indicated that instead of providing money for sanitation infrastructure and education, the Municipal Assembly would always say 'there is no money'.

As alluded to, an Officer of the Municipal Assembly explained that the assembly normally met financial demands in respect of sanitation from the DACF, which was bedevilled with challenges of inadequacy and irregularities. When asked why the assembly did not complain about the frustrations, the informant said the assembly did so through the National Association of Local Authorities of Ghana (NALAG), but the complaints did not yield any meaningful results for political reasons. In the words of this informant:

'NALAG is more or less an appendage of the government and so everything of theirs is beclouded with political sycophancy and, therefore, they only pretend to be barking. They are unable to bite.'

Furthermore, a Zoomlion Officer hinted that the town planning of the communities in low-class residential areas was not suitable for ESM, especially with regard to siting of communal containers and the collection of refuse. According to the officer, 'there is no proper layout so most places in the communities are not accessible by road to allow for driving of trucks to locate a public waste container

there, let alone collect the garbage when the container is full'. This evidence supports the conclusion by [Dugah \(2013\)](#) that the poor layout of most communities in Ghana poses difficulty in the appropriate siting of communal containers for effective ESM in the communities.

The role and participation of NGOs in the ESM in the study area was also investigated. According to an EHO of the Municipal Assembly, there was an NGO known as SNV, a Netherlands Development Organisation, which was collaborating with the Water and Sanitation Department of the Municipal Assembly to provide sanitation education on the dangers of indiscriminate defecation and waste disposal in the area, particularly Elmina. The NGO had also provided financial and technical support for the design of the water and sanitation plan for Municipal Assembly known as 'Vision 2040'. Although the NGO in question was not available for interview, [Robinson \(2008\)](#) reported of similar roles being played by NGOs in Timor-Leste about community education and awareness-raising as reported by the EHO.

At Elmina, it was reported by some opinion leaders that the Netherlands government, through the Gouda-Elmina Partnership programme, had provided some vehicles for sanitation management in the Municipality, which the Municipal Assembly confirmed and described as very useful for that purpose. This evidence supported the argument by [Cairncross \(2003\)](#) that the provision of technical and financial assistance by NGOs was crucial for ESM. The weakness here, according to a key informant at the Assembly, was that money for the purchase of fuel to run the vehicles was a problem. This finding supported [Fei-Baffoe et al.'s \(2014\)](#) conclusion that the difficulty on the part of the municipal authorities and the waste collection companies in securing adequate funds to purchase fuel and other logistics was a major constraint to sanitation management in Ghana.

At Sanka, a joint European Commission (EC)/United Nations Fund for Population Activities (UNFPA)/Government of Ghana (GoG) Project was reported to be helping with community-based ESM. According to an opinion leader in the community, although the project was basically about adult reproductive health, the NGO occasionally liaised with the youth and traditional authorities for clean-up exercises in the community.

Additionally, as part of their sexual reproductive life education dubbed 'Time with Grandma' to the youth in the community, the project talked about sanitation as well. Similarly, at Bronyibema an NGO, called 'Hope for the Future Generation', was reported by some opinion leaders to be assisting to provide a communal toilet facility for the residents but due to politics, work on the project had stalled.

Although no significant NGO activity in ESM was reported in the other study communities, the main strength of NGOs as gleaned from the foregoing was that most of them had the expertise, logistics and funds for innovative sanitation management. The weakness was that they covered a limited number of communities and did not venture into the domain of sanitation law enforcement. In terms of opportunities, the NGOs had the potential to undertake research to pilot and nurture more innovative technologies as well as engage in policy dialogue and advocacy. They also had the opportunity to foster more collaboration with the other stakeholders, but what posed a threat to their activities was the lukewarm attitude of the general public and politics.

CBOs' role and participation in ESM

The CBOs that were identified as being involved in ESM in the study area included faith-based organisations (FBOs) or religious organisations, youth groups and traditional authorities. Most faith-based leaders who were interviewed confessed that, although their religious organisations occasionally talked about sanitation, they did not translate the preaching into action by doing enough in the communities to help improve sanitation. Only one religious leader (Moslem) in one of the communities indicated that, occasionally, they (Moslems in the community) donated logistics to the youth groups for communal labour, but admitted that, given the importance of sanitation, the members needed to do more in that direction.

The opinion leaders in all the study communities confirmed through interviews and FGDs that FBOs were not doing much to help improve sanitation. It was deduced from the opinion leaders' submissions that the only time the FBOs became a little active in ESM was when the Ebola disease broke out in 2014. That was when the Municipal Assembly collaborated with some of the churches to

mount education on the disease in some of the churches and mosques, and as part of such programmes, sanitation was talked about. Contrary to this evidence, [Bandy & Crouch \(2008\)](#) found that FBOs played a key role as partners to other stakeholders in addressing the gaps in executing development projects including the provision of sanitation services. According to Bandy and Crouch, 'some donors are beginning to recognise the role and participation of FBOs, especially the churches, in similar endeavours and, therefore, are deepening their engagements with them for development-oriented interventions'.

It was reported by the opinion leaders in all the communities that there was very little collaboration between the FBOs and other stakeholders to undertake either clean-up or sensitisation campaigns in the communities. Some religious leaders confessed that their churches had never undertaken any sanitation-related activity in their communities and reiterated that they needed to participate in ESM in their respective communities. A typical response from a religious leader in that regard is quoted below for illustrative evidence.

'The core mission of the church is to win souls and this is what we have traditionally concentrated on so far. We are aware cleanliness is next to godliness and we talk about this to the congregation. If you are talking about participation of our members in communal labour to clean the community, our members take part. They do that as community members but as a church we don't do it. We do not normally do clean-up exercise in the community as a church neither do we go out to sensitise the community on sanitation nor provide logistics for sanitation management. We do not consult and/or are not consulted by anyone on sanitation issues, whether on education, law enforcement or policy. There is very little interaction, if any at all, between the church and the traditional authority, the municipal authority nor the central government on sanitation matters but we agree that the FBOs could do better in this respect.'

While not intended for direct comparison, it can be posited that this submission by the religious leader which was shared by most of the FBO leaders in the communities contrasts with [Carter & Rwamwanja's \(2006\)](#) conclusion

from their experience with Tearfund Partners in Burkina Faso, Madagascar and the Democratic Republic of Congo. The conclusion was that some local churches took part in facilitating community-led endeavours including sanitation projects so they (the churches) could be useful partners to local government and NGOs in sanitation management. However, it is deducible from the current study that, although no policy in Ghana obliged them to participate in ESM, the FBOs could be useful in that regard, given their admission that they were not doing much but could be of help in that regard.

The next CBO whose role and participation in ESM was investigated was the traditional authorities. [Kendie & Guri \(2004\)](#) found that in some communities in Ghana, traditional authorities wielded such a great influence that the implementation of any community development project that failed to recognise the presence, authority and role of these leaders stood a high risk of failing. It emerged from interviews with chiefs, queen-mothers (female chiefs) and other opinion leaders of the various study communities that the traditional authorities participated in ESM by mobilising the residents for communal labour. Actual activities that were undertaken during such mutual self-help sanitation exercises included cleaning a public toilet, refuse dumps as well as drains and gutters. One queen-mother had this to say:

‘Every first Tuesday of every month, we undertake communal labour in our community. All the public places of convenience are cleaned, choked gutters are desilted and drains are cleaned. We do this because we know that a dirty environment does not only attract diseases but is also an affront to the image and dignity of our community.’

In fact, the traditional leaders in all the communities reported similar roles and participation of the community in ESM which were confirmed by almost all the other community level interviewees and discussants. In an FGD with a youth group in one of the communities, it was reported that the chief of the community who was a Sanitation Ambassador had been organising clean-up exercises on his birthdays to promote sanitation. The exercises had been receiving massive support from the youth, some traditional

leaders and staff of Zoomlion. It can be argued from the support that the chief’s initiative had been receiving from the people that a great deal could be achieved in improving sanitation if the government strengthened its partnership with the traditional authorities in this regard. It is recalled that, according to [Arnstein’s \(1969\)](#) and [Choguill’s \(1996\)](#) theories of participation, the partnership rung is often associated with meaningful results.

With respect to sanitation education, the traditional authorities were reported to be involved on a very limited scale and *ad hoc* basis. According to four opinion leaders, ‘when there is an outbreak of sanitation associated disease such as Cholera, the chief and his elders collaborate with the Municipal Assembly for sensitisation on sanitation. However, as soon as the problem is solved, the education stops completely’. This showed that the traditional authorities and the Municipal Assemblies were doing little to promote ESM on a constant or sustainable basis. Concerning law enforcement, the traditional authorities’ involvement was found to be limited as a chief reported, and which report was confirmed by the queen-mothers in separate interviews, that they were involved in very minor sanitation offences such as sanctioning people for not participating in communal labour. This corroborated the observation ([Acheampong 2010](#); [Mensah & Enu-Kwesi 2018](#)) that, although traditional authorities’ roles in ESM were not clearly defined, they were often the arbiter in minor environmental sanitation offences.

At Bronyibema, it was reported that a volunteer in the community had mobilised the youth to form a Sanitation Youth Club known as the ‘Friends of the Environment’. Led by their leader, the club members had been cleaning the community and sensitising people on sanitation through route marches, radio education and clean-up exercises. However, the leader of the club reported that the public attitude towards the club was discouraging as some community members called the youth club members names, such as ‘Tankass’ – that is, ‘town council sanitary workers’ – and so some of the members had resigned. Besides, their role and participation in sanitation endeavours were constrained by logistics and funds as they had to pay for the radio programmes, but they did not have money for those services because the members were school children who were not working so they were unable to pay dues. They had appealed

to the Municipal Assembly and the Member of Parliament of the area for assistance but to avail. It was discerned from the interviews and focus group discussion with the youth that the strength of the youth as sanitation promotion agents in the study area lay in their zeal to work. Like all the CBOs, another strength of theirs was their proximity to the community. Again, furthermore, apart from the fact that their roles were not clearly defined in the sanitation policy of Ghana, they also lacked adequate support in terms of funds and logistics. However, they had the opportunity to improve sanitation in their communities through advocacy and collaboration with NGOs, Zoomlion, the traditional and the Municipal Assembly. Their main threat was the uncooperative and lukewarm attitude of some community members and inadequate support from the Municipal authority.

STAKEHOLDERS' INTERACTIONS FOR IMPROVING ENVIRONMENTAL SANITATION

Fruitful interactions among stakeholders are important for the success of endeavours whose execution requires participation by different actors. ESM is one of such multi-stakeholder enterprises. It was learnt from a youth leader, a religious leader and a traditional chief through separate interviews that the government agencies, as represented in this study by MLGRD, EPA and the Municipal Assembly did not engage with the CBOs on a regular basis to discuss sanitation issues. According to these leaders, the Municipal Assembly's engagements with the CBOs were on *ad hoc* basis and occurred mostly in emergency cases such as when there was an outbreak of cholera. Even among the government agencies, such as MLGRD and the KEEA Municipal Assembly, it was discerned from separate interviews with the key informants from these outfits that the interactions among them were often the top-down flow. The Municipal Assembly, for instance, reported having to succumb to the whims and caprices of the ruling government through the sector ministry. This finding was in contrast with the evidence from the review of documents that the District Environmental Sanitation Action Plans of the MMDAs were developed with the input from the local assemblies. In the [Choguill \(1996\)](#) model, this can be put

under the fourth rung down the ladder – dissimulation – where in order to achieve a semblance of participation, people are placed on rubber-stamp advisory positions just to engineer their support, but their participation is actually characterised by passive roles and often minimal results.

A Municipal Assembly staff noted that 'although some inputs are sometimes elicited from the relevant assembly staff for the development of district and national plans and policies, when it comes to implementation, dictatorship sets in, transparency and accountability suffer and corruption reigns'. It can be argued that just being consulted for inputs and being dictated to when it comes to implementation shows that participation is at the consultation level in terms of [Arnstein's \(1969\)](#) ladder of participation. Arnstein argues that the consultation level of the citizens' participation ladder demonstrates token participation, which can be described as a window dressing but not true participation.

The informant further had this to say about the Assembly's interaction with the government as far as sanitation management was concerned:

'We are not consulted on some critical issues that affect sanitation in this area. The laws are handed down to us to enforce without the corresponding required funds and logistics. There are a lot of things we cannot disclose to you about the attitude of the politicians and senior technocrats, most of whom yield to the dictates of their political and selfish interests. We deserve to be commended for our efforts in sanitation management given the attitude of the politicians, some senior technocrats and the general public, although we agree that a lot more needs to be done. I tell you, politicians and some superior technocrats would not open up for fruitful interactions. At the community level too, the structures are not working well and the general public have very negative attitude towards sanitation' (A Municipal Assembly staff).

That the government would not open up for fruitful interaction smacks of the 'informing rung' of both Arnstein's and Choguill's classifications of participation which is characterised by a one-way flow of information from officials to the community of their rights and responsibilities,

without allowance for feedback or negotiation. This is often associated with less impactful results. By way of accentuation, other opinion leaders' submissions corroborated the Assembly staff's position, a typical example of which is manifested in the quote below

'The government or KEEA Assembly consults us only when consultation is unavoidable. They need to constantly dialogue with us because it works better than merely informing us about sanitation issues. Even the information is scanty, irregular and ad hoc' (An Opinion Leader, Dwira Akyinim).

From the foregoing, it can be discerned that the interactions between the government and CBOs as well as among the government agencies as far as sanitation is concerned, incline towards either the informative level of both Arnstein's and Choguill's classification or at best, consultative level in Arnstein's and dissimulation level in Choguill's, both of which can be described as tokenism. It also shows that, although the essence of the district assembly concept is to delegate or decentralise power to the citizens, delegation of powers has not taken place in the true sense of Arnstein's 'delegated power and citizens' control' or 'empowerment' in the case of Choguill's hierarchy of community participation.

A key informant working with the Zoomlion Company reported of the company's engagement with the Municipal Assembly being contractual in terms of payment for the company's services and procurement of equipment by the central government through the Municipal Assembly. According to the key informant, the Assembly, which was representing the central government at the local level, would not open up for any serious dialogue on sanitation. The informant opined that

'There should be, at least, occasional meetings for relevant Assembly staff, Zoomlion staff, traditional leaders, religious leaders, and other identifiable stakeholders in the communities to dialogue on sanitation management issues. The present situation where every sanitation actor is doing their own thing in the name of sanitation in this area is not the best. There should be better co-ordinations and collaborations. Most of the

engagements are ad hoc and the government will not be forthcoming in terms of provision of funds and logistics' (Key informant, Zoomlion Ghana Limited).

It can be discerned from the quote that the stakeholders were not interacting well, or where there were interactions, they were either at the informative or consultative level as per the Arnstein's (1969) and Choguill's (1996) theories of participation. This implies that interactions among the sanitation actors were weak and needed to be strengthened to at least the partnership level in both Arnstein's and Choguill's hierarchies of participation, and eventually to the citizens control level (Arnstein 1969) and empowerment level (Choguill 1996), which are theoretically associated with the most meaningful results.

CONCLUSION AND POLICY IMPLICATION

This study examined the role and participation of key non-household stakeholders in ESM in the catchment area of Benya Lagoon in the KEEA Municipality of the Central Region of Ghana. The stakeholders concerned were categorised broadly into government, private sanitation sector and CBOs. The evidence showed that the government was responsible for the provision of legal and institutional frameworks as well as budgetary support for ESM. Although the government, through its agencies such as the MLGRD, EPA and the Municipal Assembly had provided the necessary frameworks in terms of policies, laws and by-laws, these existed largely on paper. There was little enforcement of the laws and policies, while the government's commitment to financial and logistical support for effective sanitation management was also low.

In the case of the private sector, there was limited NGOs presence as well as participation in ESM in the study area. Although the few NGOs were facilitating sanitation service delivery by providing some technical expertise, logistics and sensitisation programmes, the NGOs were not sufficiently engaged with the sanitation sector in the study area. Besides, the NGOs and the private sanitation company (Zoomlion Ghana Limited) had concentrated mainly on the hardware aspect of sanitation, with little attention to the software aspect, particularly

with respect to regulation and sensitisation, in their respective sanitation management endeavours. They were also not doing much in terms of policy dialogues and introduction of innovative technologies in sanitation management. The CBOs were also playing a limited role in ESM. While the traditional authorities, assemblymen and youth had virtually limited themselves to the mobilisation of the residents for communal cleansing exercises, the faith-based FBOs organisations were doing close to nothing as far as sanitation was concerned. The FBOs neither participated meaningfully in sanitation policy dialogues, advocacy nor any other form of meaningful sanitation improvement projects. Furthermore, the roles of some non-household stakeholders such as youth, traditional leaders and religious organisations in ESM were not clearly defined in the sanitation policy of Ghana.

The stakeholders were virtually not interacting, or where there were interactions, they (the interactions) were either at the informative or consultative level as per the Ainstein's and Choguill's ladders of classification. This was not consistent with the theoretical best practices in sanitation management per the theory of participation, where stakeholders are expected to collaborate with one another through constant interactions and dialogue in order to offer hope of changing the status quo. The weak collaboration among them needed to be strengthened to, at least, the partnership level in order to achieve meaningful results in the ESM. In summary, the stakeholders were playing useful roles in sanitation management, but their participation in the enterprise was too limited to make a substantial impact on sustainable ESM for sustainable community development.

The implication is that the key sanitation actors, spearheaded by the central government through the sector ministry and the municipal authority, needed to increase their participation in sanitation management and collaborate more effectively through engagement in higher order interactions to ensure the maintenance of acceptable sanitation standards for sustainable community development. In spite of their respective weaknesses, they have some strengths to be taken advantage of and potentials to be tapped for better ESM. The government should demonstrate more commitment to ESM by providing the needed funds and logistics in addition to the legal frameworks

that had been provided and also ensure a sanitation management system where all stakeholders are actively involved and have their roles clearly defined to facilitate accountable participatory sanitation governance for more meaningful sanitation improvement outcomes. Further research is needed in the area of accountable sanitation governance with respect to the non-household stakeholders' participation in ESM.

REFERENCES

- Abubakar, I. R. 2017 *Access to sanitation facilities among Nigerian households: determinants and sustainability implications*. *Sustainability* 9, 547. doi:10.3390/su9040547.
- Acheampong, P. T. 2010 *Environmental Sanitation Management in the Kumasi Metropolitan Area*. Master's Thesis, Kwame Nkrumah University of Science and Technology, Kumasi.
- Adams, E. A., Boateng, G. O. & Amoyaw, J. A. 2016 *Socioeconomic and demographic predictors of potable water and sanitation access in Ghana*. *Social Indicators Research* 2016 (126), 673–687.
- Adubofour, K. 2010 *Sanitation Survey of Aboabo and Asawase*. Unpublished Master's Thesis, Kwame Nkrumah University of Science and Technology, Kumasi.
- Aggrey, D. M. T. 2013 Place of positionality, values, ethics and reflexivity in qualitative urban field work research. *Journal of Human and Social Science Research* 1 (1), 19–29.
- Arnstein, S. R. 1969 A ladder of citizen participation. *Journal of the American Planning Association* 35 (4), 216–224.
- Atuahene, Y. O. 2010 *Enhancing Sanitation Services Delivery in the Ejura-Sekyedumase*. District Thesis, School of Graduate Studies, Kwame Nkrumah University of Science and Technology, Kumasi.
- Ayee, J. & Crook, R. 2003 Toilet Wars': Urban Sanitation Services and the Politics of Public-Private Partnership in Ghana. IDS Working Paper 213. Available from: <http://opendocs.ids.ac.uk/opendocs/handle/123456789/4008>.
- Baabereyir, A. 2009 *Urban Environmental Problem in Ghana: A Case Study of Social and Environmental Injustice in Waste Management in Accra and Setondi-Takoradi*. Doctoral Thesis, School of Geography, University of Nottingham, Nottingham. Available from: http://eprints.nottingham.ac.uk/10847/1/Full_thesis_pdf_copy.pdf.
- Bandy, G. & Crouch, A. 2008 *Building From Common Foundations: The World Health Organisation and Faith-Based Organisations in Primary Healthcare*. WHO, Geneva. Available from: http://apps.who.int/iris/bitstream/_eng.pdf. Accessed on 26 November 2018.
- Brownill, S. & Darke, J. 1998 *Rich Mix! Inclusive Strategies for Urban Regeneration*. Policy Press, Bristol.
- Brydge, M. 2012 *Working for the Lakota: The Theory of Participation*. Colorado State University, Fort Collins.

- Cairncross, S. 2003 Sanitation in the developing world: current status and future solutions. *International Journal of Environment and Health Research* **13** (1), 123–131.
- Carrard, N., Pedi, D., Willetts, J. & Powell, B. 2009 Non-governmental organisations' engagement in the sanitation sector: opportunities to maximise benefits. *Journal of Water Science & Technology* **60** (12), 31–109.
- Carter, R. & Rwamwanja, R. 2006 *Functional Sustainability in Community Water and Sanitation*. Tearfund, UK.
- Chambers, R. 2007 *Participatory Workshops: A Sourcebook of 21 Sets of Ideas and Activities*. Earthscan, London.
- Choguill, M. B. G. 1996 A ladder of community participation for underdeveloped countries. *Habitat International* **20** (3), 431–444.
- Cornwall, A. 2008 Unpacking 'Participation': models, meanings and practices. *Community Development Journal* **43**, 269–283.
- Dugah, R. 2013 *Solid Waste Management in Poor Peri-Urban Communities*. MSc Thesis, Department of Civil Engineering, Kwame Nkrumah University of Science and Technology, Kumasi.
- Ekong, I. E. 2015 An assessment of environmental sanitation in an urban community in Southern Nigeria. *African Journal of Environmental Science and Technology* **9** (7), 592–599. doi:10.5897/AJEST2015.1882.
- Elo, S. & Kyngäs, H. 2008 The qualitative content analysis process. *Journal of Advanced Nursing* **62** (1), 107–115. doi:10.1111/j.1365-2648.2007.04569.
- Fei-Baffoe, B., Atta Nyankson, E. & Gorkeh-Miah, J. 2014 Municipal solid waste management in Sekondi-Takoradi Metropolis, Ghana. *Journal of Waste Management* **2014**. doi:10.1155/2014/823752.
- Gaventa, J. & Barret, G. 2012 Mapping the outcomes of citizen engagement. *World Development* **40**, 2399–2410.
- Hendriksen, A., Tukahirwa, J., Oosterveer, P. J. M. & Mol, A. P. J. 2012 Participatory decision making for sanitation improvements in unplanned urban settlements in East Africa. *The Journal of Environment & Development* **21**, 98–119. Available from: <https://www.jstor.org/stable/26199414>
- Hutton, G., Haller, L. & Bartram, J. 2007 Global costs-benefit analysis of water supply and sanitation interventions. *Journal of Water Health* **5** (4), 481–502.
- Hysing, E. 2013 Representative democracy, empowered experts, and citizen participation: Visions of green governing. *Environmental Politics* **22**, 955–974.
- Kendie, S. B. & Guri, B. Y. 2004 *Traditional institutions, culture and development*. The 'Asafo' group in the Mankessim Nkwanta traditional area. Centre for Development Studies, University of Cape Coast Press, Cape Coast, Ghana.
- Koskei, E. C., Koskei, M. C., Koskei, R. C. & Koech, H. K. 2013 Effect of socio-economic factors on access to improved water sources and basic sanitation in Bomet Municipality. *Research Journal of Environmental and Earth Sciences* **5** (12), 714–719, doi:10.19026/rjees.5.572.
- Li, X., Hu, Q., Miao, Y., Chen, W. & Yuan, C. 2015 Household access to sanitation facilities in rural China. *Journal of Water, Sanitation and Hygiene for Development* **5**, 465–473.
- Mansuri, G. & Rao, V. 2013 Can participation be induced? Some evidence from developing countries. *Critical Review of International Social and Political Philosophy* **16**(2), 284–304. <https://doi.org/10.1080/13698230.2012.757918>. Accessed on 21 August 2019.
- Mazeau, A. P. 2013 *No Toilet at Home: Implementation, Usage and Acceptability of Shared Toilets in Urban Ghana*. Doctoral Thesis, Loughborough University, Loughborough.
- MDG Report 2015 *Ghana Gets Tagged as 7th Dirtiest Country?* Available from: <https://www.newsghana.com.gh/ghana-gets-tagged-as-7th-dirtiest-country-report/> (retrieved 23 August 2019).
- Mensah, J. & Enu-Kwesi, F. 2018 Implications of environmental sanitation management in the catchment area of Benya Lagoon, Ghana. *Journal of Integrated Social Sciences* **16** (1), 23–43, DOI:10.1080/1943815X.2018.1554591 (Accessed on 23/08/2019).
- Mireku-Gyimah, N., Apanga, P. A. & Awoonor Williams, J. K. 2018 Cyclical cholera outbreaks in Ghana: filth, not myth. *Infectious Diseases of Poverty* **7**, 51. doi:10.1186/s40249-018-0436-1.
- Mwangi, W. M. & Aggrey, D. M. T. 2014 Towards conceptual and theoretical foundation for identifying problems, challenges and mechanisms for municipal waste management in developing countries. *International Journal of Innovation and Scientific Research* **2**, 230–251.
- Nimoh, F. 2016 *An Analysis of a Peri-Urban Sanitation Market and Farmers' Perception on Excreta Reuse in Agriculture in Dangme West District, Ghana*. PhD Thesis, Department of Agricultural Economics, Agribusiness and Extension; Kwame Nkrumah University of Science and Technology, Kumasi.
- Oduro, Y. A. 2015 *Analysis of Sanitation Promotion Strategies of Kaneshie Market Complex, Accra*. MPhil Thesis, University of Ghana. Available from: <http://ugspace.ug.edu.gh> (retrieved 22 November 2018).
- Oteng-Ababio, M. 2010 *Private Sector Involvement in Solid Waste Management in the Greater Accra Metropolitan Area in Ghana*. Sage Publications, Accra.
- Pickering, A. J., Djebbari, H., Lopez, C., Coulibaly, M. & Alzua, M. L. 2015 Effect of a community-led sanitation intervention on child diarrhoea and child growth in rural Mali: a cluster-randomised controlled trial. *The Lancet Global Health* **3** (5), E701–E711.
- Prasetyoputra, P. & Irinti, S. 2013 Access to improved sanitation facilities in Indonesia: an econometric analysis of geographical and socioeconomic disparities. *Journal of Applied Sciences in Environmental Sanitation* **8**, 215–224.
- Pratt, M. G. 2009 From the editors: for the lack of a boilerplate: tips on writing up (and reviewing) qualitative research. *Academy of Management Journal* **52** (5). doi:10.5465/amj.2009.44632557.

- Prüss-Ustün, A., Wolf, J., Bartram, J., Clasen, J., Cumming, T., Matthew, O., Freeman, C., Hunter, P. R., Medlicott, K. & Johnston, R. 2019 **Burden of disease from inadequate water, sanitation and hygiene for selected adverse health outcomes: an updated analysis with a focus on low- and middle-income countries**. *International Journal of Hygiene and Environmental Health* **222** (5), <https://doi.org/10.1016/j.ijheh.2019.05.004>.
- Robinson, A. 2008 *Rural Sanitation in Timor-Leste: Policy Options and Development Process*. IDSS, Timor.
- Rowe, G. & Frewer, L. J. 2000 **Public participation and methods: a framework for evaluation**. *Science, Technology, & Human Values* **25** (1), 3–29.
- Rowe, G., Horlick-Jones, T., Walls, J. & Pidgeon, N. 2005 **Difficulties in evaluating public engagement initiatives: reflections on an evaluation of the UK GM Nation? Public debate about transgenic crops**. *Public Understanding of Science* **14** (4), 331–352.
- Saei, H. 2012 *Application of Public Private Partnership in Sustainable Solid Waste Management, Case of Delhi and Manila Metropolises*. Master's Thesis, Department of Development and Planning. Available from: <http://projekter.aau.dk/projekter/files/63621127/>. Accessed on 28 March 2019.
- Sbrana, G. 2009 *Technical Note on the Determinants of Water and Sanitation in Yemen*. Prepared for the Project. *Assessing Development Strategies to Achieve the Millennium Development Goals in the Arab Region*. United Nations Department of Economic and Social Affairs (UNDESA), New York, NY, USA.
- Skelcher, C. 1993 **Involvement and empowerment in local public services**. *Public Money & Management* **13** (3), 13–20. doi:10.1080/09540969309387770.
- Stoker, G. 1997 Local political participation. In: *New Perspectives on Local Governance: Reviewing the Research Evidence* (H. Davis, C. Skelcher, M. Clarke, M. Taylor, K. Young, N. Rao & G. Stoker, eds). Joseph Rowntree Foundation, York, pp. 157–196.
- Thomas, J., Holbro, N. & Young, D. 2013 A review of sanitation and hygiene in Tanzania. Available from: <https://assets.publishing.service.gov.uk/media/57a08a2fed915d3cfd000628/tanzania-sanitationreview.pdf>. Accessed on 22 August 2019.
- Tukahirwa, J. T. 2011 *Civil Society in Urban Sanitation and Solid Waste Management: The Role of NGOs and CBOs in Metropolises of East Africa*. Thesis, Wageningen University, Wageningen.
- UN 2017 The Sustainable Development Goals Report: Reviews progress made towards the 17 Goals in the second year of implementation of the 2030 Agenda for Sustainable Development. Available from: <https://unstats.un.org/sdgs/2017report20>.
- Waletlign, S. Z. & Jiano, X. 2017 **Dynamics of rural livelihoods and environmental reliance: empirical evidence from Nepal**. *Forest Policy and Economics* **83**, 199–209. doi:10.1016/j.forpol.2017.04.008.
- WHO 2015 World Health Statistics 2015. Global Health Observatory (GHO) data: Progress on the health-related Millennium Development Goals (MDGs). https://www.who.int/gho/publications/world_health_statistics/2015/en/
- WHO 2018 *World Health Statistics: Monitoring Health for Sustainable Development Goals*. Available from: <https://apps.who.int/iris/bitstream/handle/10665/272596/9789241565585-eng.pdf> (accessed 23 April 2019).
- WHO/UNICEF 2017 Progress on Drinking Water, Sanitation and Hygiene: 2017 Update and SDG Baselines: WHO, UNICEF, Geneva.
- Yohannes, T., Workicho, A. & Asefa, H. A. 2016 **Cross-sectional study: availability of improved sanitation facilities and associated factors among rural communities in Lemo Woreda, Hadiya Zone, Southern Ethiopia**. *Open Access Library Journal* **1** (8), 1–10.

First received 29 January 2019; accepted in revised form 17 July 2019. Available online 16 August 2019