

Where do I answer nature's call? An assessment of accessibility and utilisation of toilet facilities in Wa, Ghana

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&

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Abstract

Public toilet is an unavoidable option for sanitation in many low-income towns and cities of developing countries. In most parts of Ghana, it is common practice for people to answer the call of nature in the open field as a result of the lack of household and public toilet facilities, which results in a poor sanitary, health and environmental situation. This paper assesses the accessibility and utilisation of public toilet facilities in Wa, a medium-sized city located in north-western Ghana. Using a stratified random sampling technique, a total of 123 households and 110 house owners were selected for the study using questionnaire survey. In addition, hand-held global positioning system (GPS) receivers were used to pick geographic coordinates of various public toilets. The results indicate inadequacies in the spatial distribution of public toilets with a concentration of these facilities in the central areas of the town. It also revealed financial constraints, distance travelled and poor condition of public toilets as the main factors determining utilisation of public toilet facilities. The study opined that given several socio-cultural conditions, the current system of public toilet operating in the town cannot be resource intensive to meet households' aspirations because they do not respond to local sanitation needs. On the contrary, it tends to create even more problems, thereby encouraging open defecation. Also, their impact on human and environmental health needs to be taken into account. The paper thus calls for suitable alternative sanitation options which consider local beliefs and needs of potential users such as the flush system of public toilets.

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Introduction

Access to and efficient use of safe sanitation facilities is an essential part of public health. This underscores the need for the provision of decent toilet facilities for all. However, more than 40% of the world's population did not have access to a toilet by the end of 2011 (WHO/UNICEF, 2013). These 2.6 billion people, mostly living in low-and middle-income countries in Asia and Africa, face the daily challenge of finding a bush, train track or empty lots where they can urinate and defecate in relative privacy. Between 1990 and 2008, the share of the world's population that had access to basic sanitation increased only 7% to 61% of the world's citizens (UNICEF, 2010), and between 1990 and 2010 1.8 billion people gained access to improved sanitation facilities (WHO, 2011). Currently, two in five people do not have the security and dignity of a hygienic latrine or toilet (WHO/UNICEF, 2013). In most low-income urban communities in Ghana, having access to a private toilet is a privilege. Although Ghana ranks 152 out of 182 on the Human Development Index, it has the fourth lowest rate of sanitation coverage worldwide (Water and Sanitation Sector Monitoring Platform, 2012). Due to the lack of access to a toilet facility, open defecation is prevalent in all 10 regions of Ghana, but most widespread in the Upper East Region with about 82% of households without any form of latrine, followed by the Upper West Region with 78.7% (Water and Sanitation Sector Monitoring Platform, 2013).

Several studies, including Benneh et al. (1993), Songsore and McGranahan (1998) and Osumanu (2007a; 2007b), have shown that it is poor households who are often unable to afford a toilet facility at home. As a result, public toilets have become a significant part of general sanitation principally due to their role in augmenting household toilet facilities. These facilities mostly serve people in low income urban areas, densely populated or informal settlements where household toilet facilities are almost absent, and serve the interest of public health. Without public toilet facilities, people in these areas will be compelled to defecate in the open (Ayee and Crook, 2003; MLGRD, 2010). Public toilet facilities have therefore evolved to become vital components in creating sustainable, accessible, and inclusive cities (Greed, 2006).

In spite of their importance, public toilets present a challenge for every society in Ghana. Anyone who has had the need for a public toilet facility has invariably acquired the knowledge that one nearby is priceless (Drangert, 2010), and such facilities have been consistently poorly managed and have become the site of local political conflict, notwithstanding efforts at franchising them and involving communities in their management. This is attributable to the politics of patronage at the urban level, the relationship between city government and community level groups, and the failure of regulation by municipal authorities (Ayee and Crook, 2003).

When public toilets are properly maintained, they become an important step on the sanitation ladder, ensuring safe containment and disposal of waste. But these facilities are usually not well maintained (Alexander, 2010). In this regard, Greed (2006) observes that the lack of regulation or compulsory standards results in poor public toilet facility design, inadequate maintenance and management and unhygienic conditions. Despite their conditions, public

toilet operators in large cities of Ghana, like Accra, break-even and the concept of cost recovery are well intact (Harris, 2013).

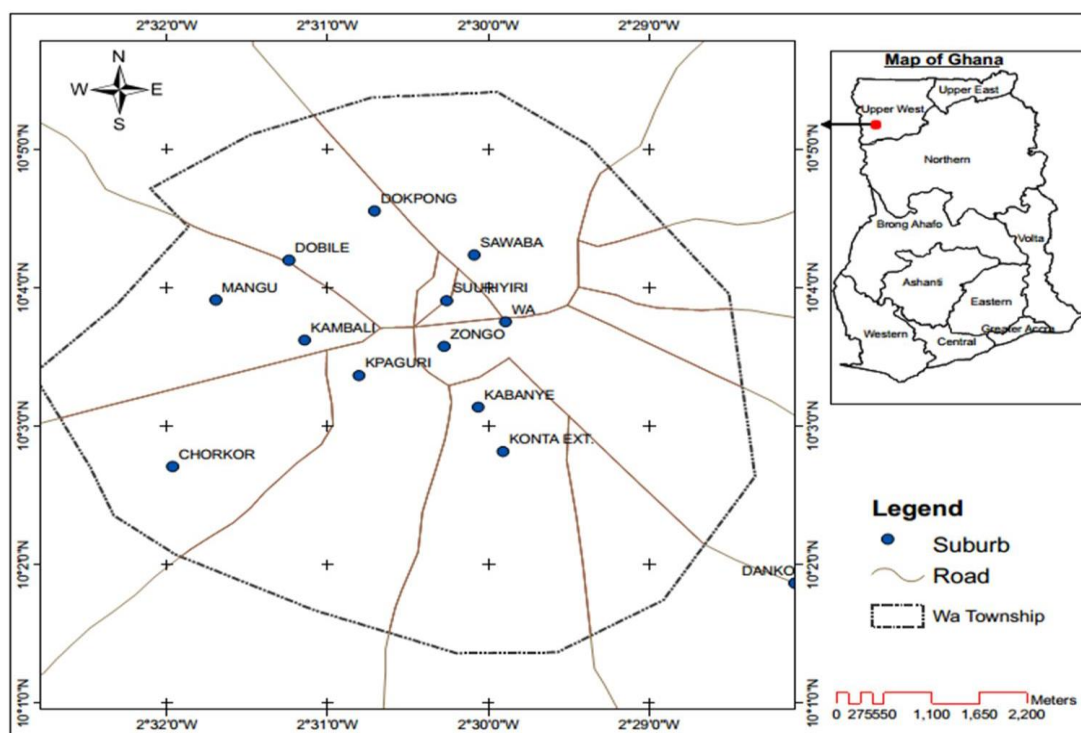
Public toilet facilities in Ghana are mainly built for transient population and places of heavy public activities, but these facilities are heavily relied upon by households within their catchment areas. This is because households without toilets at home have to rely on public toilets (MLGRD and LGS, 2010), and those who cannot access one use the bush or beach for their toilet needs. The Ghana Living Standards Survey, Fifth Round Report (GLSS 5), indicates that 37.5% urban households in Ghana depend on public facilities for their toilet needs and 7.4% use the bush or beach (Ghana Statistical Service, 2008). Available data from the Wa Municipal Assembly (WMA) indicates that only 8.3 percent households in Wa have toilet facilities in use within the home, 44.5 percent use public toilets and 37.2 percent defecate in the open (WMA, 2010) indicating the importance of public toilets in the town; hence the motivation for the study. Interestingly, the rate of open defecation in Wa is also too high compared with 1.1 percent for Accra (the national capital) and an average of 7.4 percent for other urban areas of the country.

The major objective of this study is to assess the spatial accessibility and utilisation of public toilet facilities in Wa. The study sought to address three major questions: what is the spatial distribution and accessibility of public toilets? What determines the utilization of public toilets? What accounts for the high rate of open defecation? The presentation is captured in four sub-sections, beginning with an introduction, followed by a brief description of the study area and a discussion of the methods used in the study. The discussion of the main findings follows in section three while the concluding section looks at some recommendations.

The Study Area and Methodology

The locational context of this study is Wa, which is the regional capital for the Upper West Region of Ghana. Wa lies between latitude 1^o40'N to 2^o 45'N and longitude 9^o32'W (Figure 1), thus covering an area of approximately 1,180 square kilometres which is about 32% and 2.56% of the region and nation respectively. The Municipality is bounded to the North by Nadowli, to the South by both Wa East and West Districts, to the East and West by Wa West and East. According to Ghana Statistical Service (2012), Wa's population was estimated to be 135,638 (female 65,887/Male 69,751) by the year 2010 with a growth rate of 2.7% per annum. The spatial distribution of the population displays a typical character of a young municipality – a heavy concentration of population in Wa town surrounded by smaller towns and rural settlements. Using the 2010 Population and Housing Census (Ghana Statistical Service, 2012) figures, Wa's population is 50 times higher than the next populous settlements (Busa, Sagu, Charia, Kperisi and Boli) each with populations below 3,000 people. The significance of this type of distribution is that Wa town provides the highest level services (first level services and functions) in health, education, finance, administration of justice and security, commerce and transportation amongst others to its hinterland and patent services for resource mobilization, peace building and community needs identification.

Figure 1: The study context



Source: Based on field data with inputs from Town and Country Planning, Wa.

One of the most common challenges to be addressed in environmental sanitation in Wa is the issue of human excreta management. Even though sanitation is an important variable for improved health, it has not been given the necessary attention. Open defecation is a challenge and, indeed, the general sanitation situation in the town leaves much to be desired. The first five causes of OPD (Out Patient Department) attendance in the Wa Hospital are sanitation and personal hygiene related.

Apart from the use of documented sources, the study also generated first-hand information from the field. Considering the nature of the sanitation situation in Wa, preliminary visits to suburbs and public places were undertaken to have an in-depth knowledge and understanding of the nature of public toilets in the town. The study relied on qualitative and quantitative approaches taking into consideration the data demands of the study. Household questionnaires were used as its primary data collection instrument. This approach is deemed appropriate when the object of the research is to explore attitudes or reactions of a group or community in response to some commonly experienced aspects of their environment (Ulinet *et al.*, 2005). Through such interactive discourse, participants are able to offer insights on the perspective of the enterprise, revealing clues to the social contexts that shape their opinions (Scammell *et al.*, 2009). In all, one hundred and twenty three respondents were interviewed using the household questionnaires.

A two-stage sampling methodology was adopted in the selection of households for the interviews. The first stage was the clustering of residential areas according to town planning into three core zones. Zone One covered the unplanned residential areas, which includes the

Central Business District or the business hop of the town. Zone Two is made of the planned suburbs, including SNNIT Residential Area and Konta Extension which has most government bungalows. Zone Three comprises the Newly Developing Areas, part of which is made of the surrounding villages which have been absorbed into the urban agglomeration as a result of urban sprawl. The preliminary visits to suburbs revealed that Zone Two did not have any public toilets since all households in this zone have private toilets at home. The household survey was, therefore, limited to Zones One and Three. Since households in Zone One are more extensive than in Zone Two, 60 percent of the total sample was apportioned to Zone One. Two settlements each – Zongo and Suuriyiri from Zone One and Mangu and Dobile from Zone Three – were selected for the household study. Within the selected residential areas, blocks were created based on the number of houses and interviewers selected households to interview by systematically walking through the blocks and interviewing one household in every tenth (for Zone One) and twentieth (for Zone Three). The questionnaires were administered to household heads or their representatives. In a house where there were multiple households, only one household was interviewed. Again in each selected house where the household interviewed was not the owner of the house, an attempt was made to interview the owner of the house. In all, 110 house owners were interviewed.

In addition to the household surveys, in-depth interviews were organized with District Environmental Health Officers, Building Inspectorate Officers and the Wa Municipal Assembly Staff. The interviews covered themes on the number of public toilet facilities and their distribution within the town to enable the spatial mapping of the facilities as well as their detailed knowledge about the enterprise.

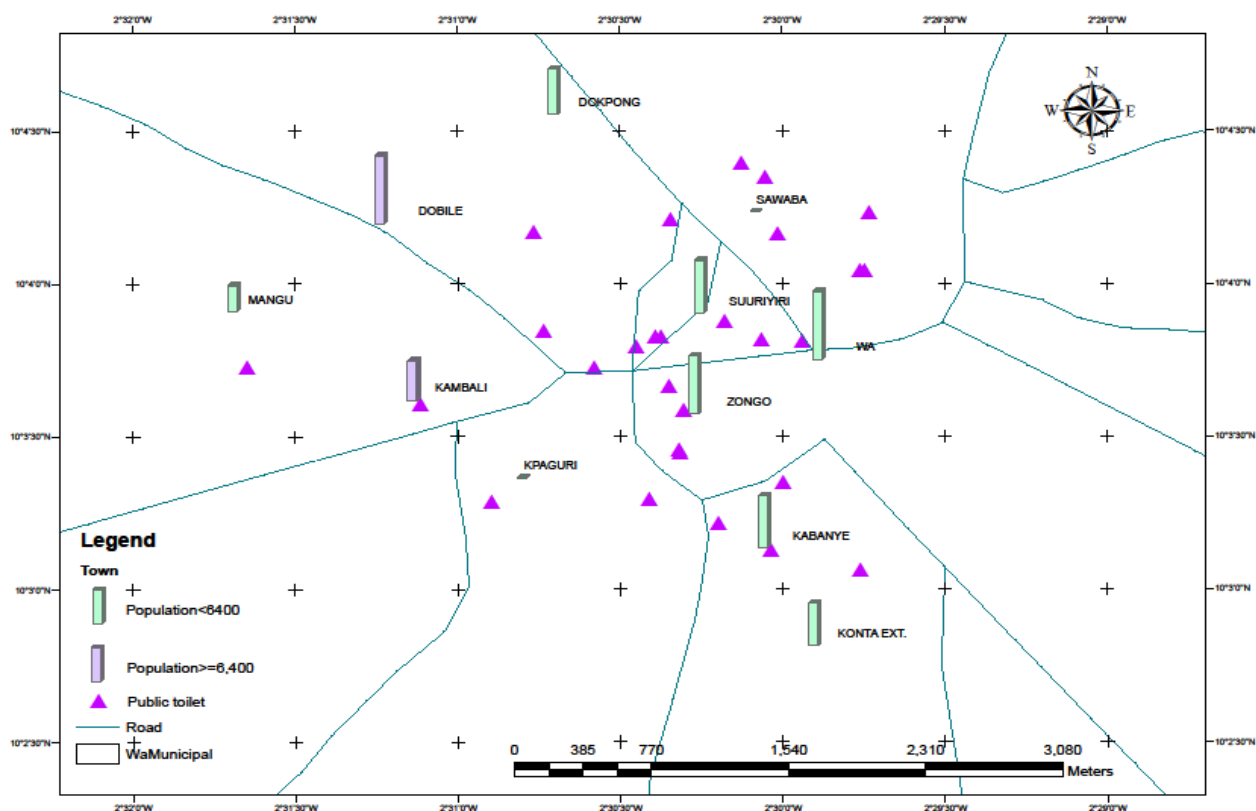
Hand-held global positioning system (GPS) receivers were used to pick geographic coordinates of various public toilets. The coordinates were taken in the Degree Minute Second (DMS) format. These were converted to Decimal Degree (DD) in Microsoft excel spreadsheet using the formulae $= D + \frac{M}{60} + \frac{S}{3600}$ where D = Degree, M = Minutes and S = Seconds. The coordinates were imported to ArcMap software and converted to a Shapefile. The projection parameters were changed from the default World Geographic System 1984 (WGS 84) to projected Universal Transverse Mercator Zone 30 North. It was then overlaid with existing country Shape files and layout maps were produced showing how the various public toilets are spatially distributed within Wa.

Results and Discussion

There are a total of 34 public toilet facilities in Wa. Of these, 88.2 percent are in-use. The predominant public toilet facilities in the town are ventilated improved pits (VIPs) with only one of them being a water closet (WC). These facilities are concentrated in Zone One (mainly Zongo, Suuriyiri and other areas) as shown in Figure 2. The reason for this concentration is the existence of commercial activities in these areas, where people spend a lot of their time transacting businesses during the day.

The standard for KVIP is one man-hole to 50 people (Community Water and Sanitation Agency, 2010). From the study, the number of man-holes in a public toilet ranges between 8 and 24 with an average of 12 man-holes serving 600 people. This clearly indicates that the population in many areas exceed the capacity of the public toilet facilities. For instance, Mangu and Dobile, which are parts of the newly developing areas, have populations of 2,359 and 12,865 respectively and are served by only two public toilets. The situation is not different in areas such as Suuriyiri and Zongo located in the CBD with a population of about 10,198 and six public toilet facilities.

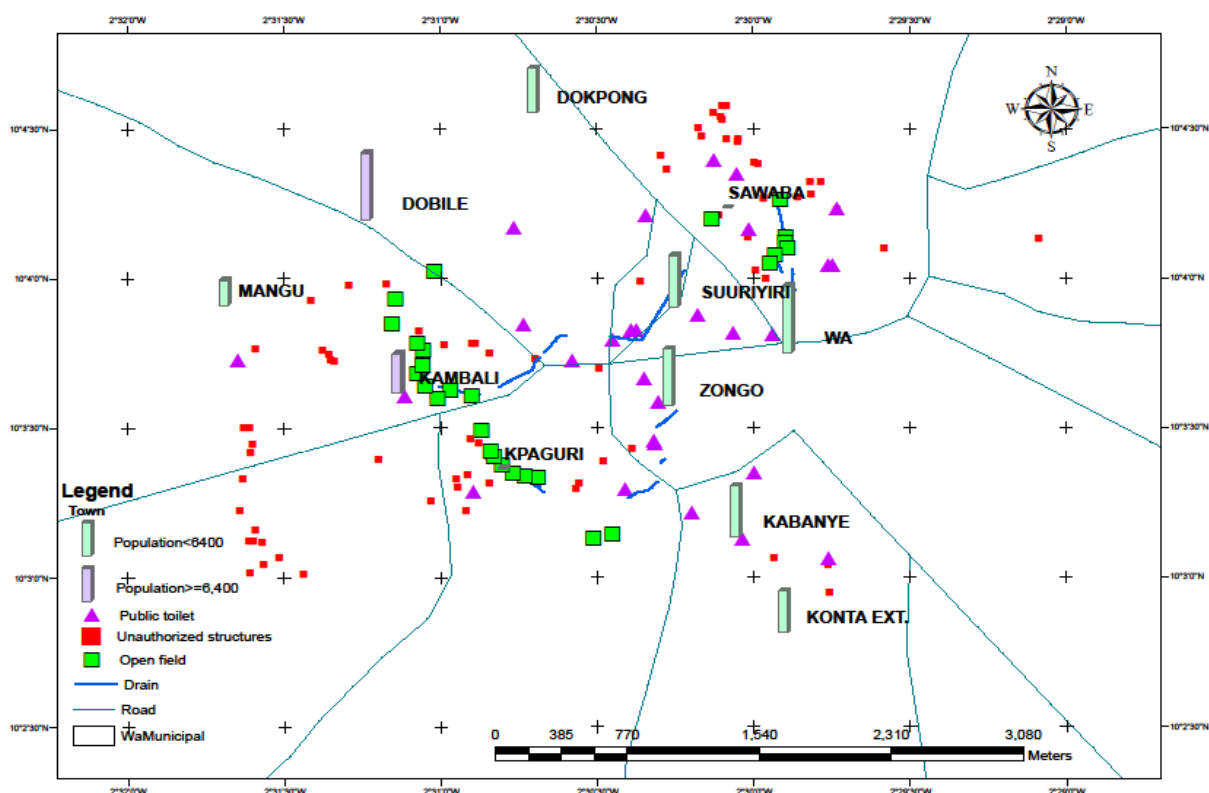
Figure 2: Spatial Distribution of Public Toilet Facilities in Wa



Source: Field survey, 2013.

The study demonstrates that open access to public toilets is low in the newly developing areas (Figure 3). Coincidentally, these are also areas with available free space for such indiscriminate defecation practices. The newly developing areas of Zone Three, including Mangu, Dobile and other areas, happened to exhibit a strong association between availability of public toilets and lack of access.

Figure 3: Distribution of Public Toilets and Available space for Open Defecation

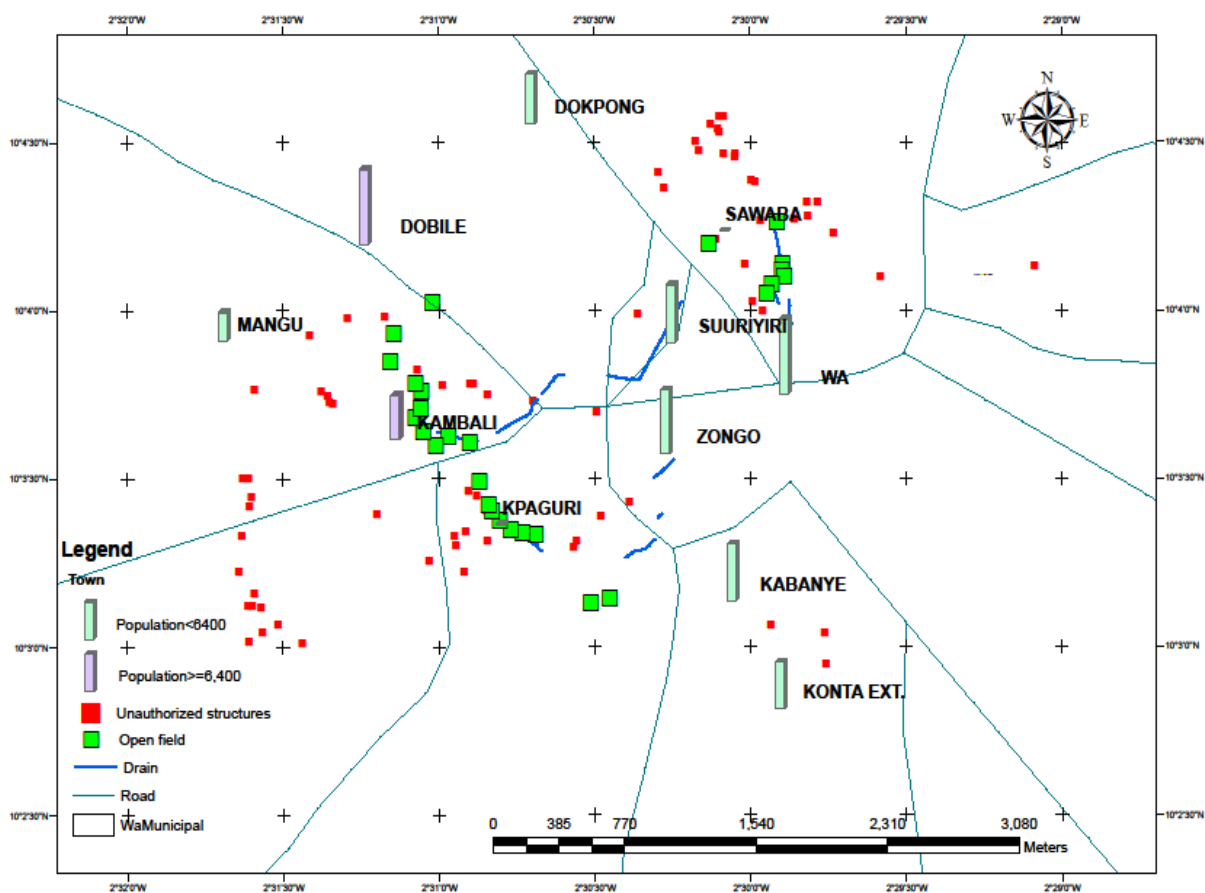


Source: Field survey, 2013.

The study revealed that only 24.6% of the 20,741 households without toilets in their homes actually patronise public toilet facilities. From the 123 respondents interviewed, 4% had toilet facilities in their homes. The rest depend on public toilet facilities, open fields or uncompleted building structures within their vicinities in response to “nature’s call”. Not surprisingly, the highest demand for public toilet services of 78% comes from Zone One, where there are no spaces such as open fields and uncompleted structures for open free defecation. The reason is that these are areas of very brisk commercial activities and people make use of every available space for constructing shops, banks and private offices. People in these areas use the public toilet facilities during day time hence open defecation is minimal compared to other areas. However, there is a drain around the Suuriyiri area where residents use for open defecation during the night. This is because the distance from the place of residence to the public toilet facilities are far and, therefore, the use of the drain is preferred.

Newly developing areas tend to have more unauthorized/uncompleted structures for open free defecation (Figure 4). Also, residents of these areas who live along drain, use them as places of convenience (Plate 1). As a result, and coupled with the generally low distribution of public toilets, patronage of public toilets in the newly developing areas is as low as 15%.

Figure 4: Distribution of Unauthorized Structures, Drains and Fields used for Defecation



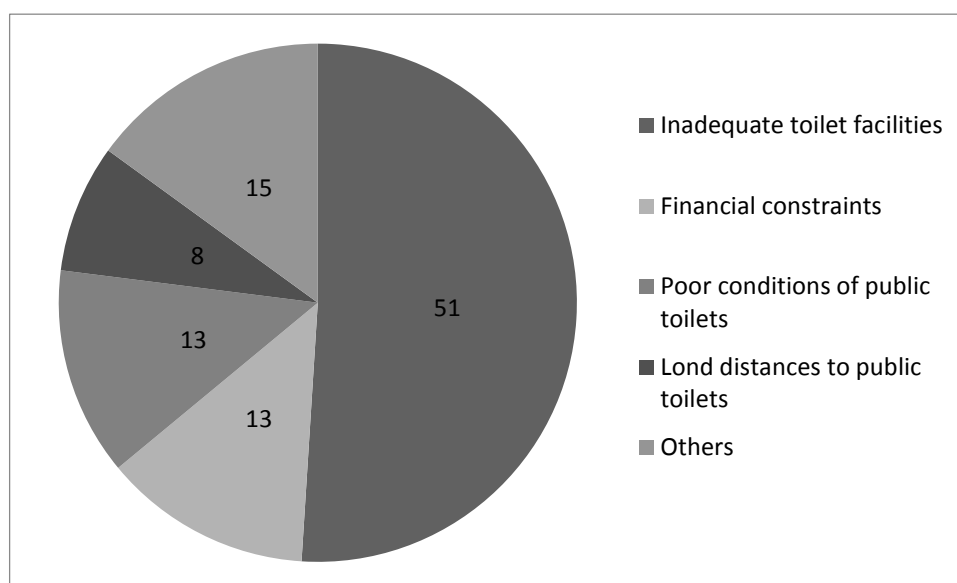
Source: Field survey, 2013.



Plate 1: Places used for open free defecation

The distributional disadvantage in some areas as well as the inadequate capacity of public toilets to meet the needs of many has encouraged the practice of open free defecation in many areas. Of the 123 respondents interviewed, 51% attributed the practice of open defecation to inadequate public and household toilet facilities, while 13% indicated poor conditions of the public toilets and financial constraints respectively as the main cause of open free defecation. 8% attributed the practice to long distances travelled to public toilets. Other causes mentioned were preferences for free range, fear of contracting diseases, lack of sensitization and too much pressure on the few available public toilet facilities (Figure 5).

Figure 5: Respondents' View on Causes of Open Defecation



Source: Field survey, 2013.

The inadequacy of both household and public toilet facilities affects children most than others. In all, only 5% of children use household toilets and none use public toilets. Households do not allow children to use public toilets for fear of falling into the pits. Most often children finish defecating at any convenient place around the house before other members of the household would realize. Children's faeces are collected in diverse ways: 48% of households collect their children's faeces by the use of pots, 33% use diapers, 12% use polythene bags and 7% use napkins/rags. The use of a particular method of collection, however, depends on the age of the child with older children's faeces being more likely to be collected with chamber pots and polythene bags, and that of younger children collected by diapers and napkins/rags. Households with toilets at home pour children's faeces into such toilets after collection. On the contrary, those without toilet facilities of their own have to pour them at any place of convenience (58%), into municipal solid waste containers (20%) or bury them (22%).

Financial constraints present two challenges. First, it inhibits house owners from the provision of household toilets. From Table 1, 55.3% of house owners cited financial constraints as the reason why there are no toilet facilities in their homes while 1.6% landlords/ladies indicated the irresponsibility of tenants.

Table 1: Reasons for Landlords not incorporating toilet facilities in their houses

Reasons	Percentage
Financial constraints	55.3
Ignorance	17.1
More demand for rooms	13.8
Lack of space to provide toilet facilities	10.6
Lack of proper supervision and non-compliance with building regulations	8.1
Lack of planning	3.3
Others	1.6

Source: Field survey, 2013.

The second challenge presented by financial constraints is people’s inability to afford fees charged by public toilet operators. Households in Zone One pay 20Gp per visit to a public toilet while those in Zone Three pay 10Gp per visit. This indicates that there are variations in the fees for using public toilets stemming from demand for such facilities; demand tends to be higher in areas where there are no opportunities for open free defecation. It also implies that there are no strict regulations on the operation of public toilets in the town. In all, 75% of the households in Zone One said they could not afford the fees charged as against 35% from Zone Three. Self-reported payment for toilet showed that households using these facilities spent, on the average, between ¹GHC40.00 and GHC55.00 per month. A respondent in Zone One explained that: “*during the day time, those who could not use open fields or travel to the bush which is outside the town go to toilet on credit*”. This implies that if a household cannot afford the fees for the use of a public toilet, then they will practice other methods which will not only make the environment unclean but pose a lot of health challenges. Again, if going to toilet on credit becomes a norm, it is likely that toilet operators may not be able to sustain the services they render to households.

Lack of effective maintenance is identified as one of the problems confronting usage of public toilets in the study area. The management problem associated with public toilets is mainly operation and maintenance. Water is needed to clean the toilets and, for water closets, a greater amount of water is needed for flushing. There is also the need to empty the public toilets, which are franchised to individuals in communities to manage, occasionally. All these are management issues that need to be considered. The study reveals that the average cost of emptying a septic tank for a public toilet is GHC50.00. The Wa Municipal Assembly provides the cesspit emptier while the manager of the particular toilet is responsible for the cost of

¹ GHC1.9 is the equivalent of US\$1.00

emptying which is paid through the user fees charged for the services rendered to the public. Respondents complained seriously about conditions of public toilets in the town because the facilities are not cleaned regularly (Plate 2). At times the holes are not emptied on time. Most of the facilities do not have bins to collect used toilet papers and these are disposed-off on the surroundings of the holes. Also, people who use the facilities tend to defecate around the holes which contribute to the poor condition of the facilities. There were also times when people found it inconvenient to use the toilets because of scores of flies. Furthermore, most of the public toilets do not have constant water supply for hand washing after defecation. The Environmental Sanitation Unit of the Wa Municipal Assembly attributed the poor condition of public toilet facilities to irresponsible caretakers who do not keep the facilities tidy, technical inadequacies since most of the facilities are poorly constructed, and effluent overflows resulting from rainfall.

Plate 2: Unclean Public Toilets



Distance is one of the main challenges confronting access to public toilets as many households using public toilet facilities have to cover some distance before getting a place to answer nature's call. The average distance covered is 250m with a minimum of 100m (in Zone One) and a maximum of 450m (in Zone Three). If the distance is more than 100m (UN-HABITAT, 2005), the likelihood is that members of the particular household may not be able to use the facility, especially at night.

Besides the numerous spatial and economic conditions, several socio-cultural factors inhibit households from the use of public toilets. Some (15%) of the respondent households consider filth, heat and bad odour in the toilets as an abomination, 14% of them are of the view that they inherit curses when they squat over other peoples' faeces, while 6% would not like to use the communal toilets because they are hideouts for witches. 5% hold the perception that one cannot use the same toilet facility with his/her in-laws. In fact, a lot of meaning is drawn concerning the maggots, frogs, fowls and other animals that may be found in the public toilets, especially at night. The faeces, heat and odour from the toilet equally have their various superstitious interpretations. A respondent explained that witches often disguise themselves as frogs, fowls or other animals and enter the toilet to eat the faeces at night. According to him:

".....these disguised animals can harm anybody at night. It is even possible for a witch to disguise as a maggot. As a result, anybody who attends communal toilets can contract spiritual marriages as one exposes his/her private organs and may never be able to marry again".

There are also views that when someone's faeces lie on top of another's, the first person may not prosper (make it in life). This is partly the reasons why some people enter the toilet but refuse to defecate directly into the hole. In addition to discouraging households from using public toilets, such socio-cultural beliefs may not allow households or house owners who hold onto such values to provide communal toilet facilities in their homes.

Conclusion

The sanitation coverage values for Ghana and other developing countries are low, but still people living there need to respond to the call of nature every day. Inadequate sanitation or lack of access to proper sanitation poses a great threat to human health, taking a heavy death toll especially on children and degrades the environment, especially its aesthetic quality. Provision of public toilets in urban areas of low-income countries is, therefore, an important activity in the field of community health and environmental sanitation.

The study of accessibility and utilization of toilet facilities in Wa, in north-western Ghana, reveal the inadequacy of the facility in the town. Where there are toilets available, they normally serve much more people than they were originally designed for. Moreover, these toilets are mostly pit latrines or their variants (that is, ventilated pit latrines), which require emptying. However, operators of these facilities either cannot afford to or refuse to dislodge them. Thus, pits overflow quite often, especially during the rainy season. Additional factors that make the existing toilet facilities poor are inadequate care, technical inadequacies and poorly constructed facilities. Thus, the condition of the toilets is rather poor with little maintenance being performed. It is therefore not surprising that some residents prefer to use open spaces, incomplete structures and drains as places of convenience, resulting in poor environmental sanitation with obvious health implications.

Given house owners' inability or unwillingness to provide toilet facilities at home, public toilets have become very important sanitation issues in Wa, but households have to pay before using them. The findings indicate that there are variations in the fees for using public toilets

with households depending on them spending between GH¢40.00 and GH¢55.00 per month. This amount of money is a lot to pay for the households living there who do not generate any income. When people do not have access to a toilet or do not have money to pay to use a public one, the most common solution for them is to answer nature's call in the open. In a nutshell, people do what they need to and wherever they find a place for it without any regard for environmental health. However, people living in such conditions are generally aware of the poor sanitary and health conditions they are faced with, but they do not have alternatives to make things better. The absence of toilet facilities has affected children's excreta management indirectly in that in households where there are toilet facilities, children's excreta is easily transferred from pots to toilets with ease. Where there are no toilet facilities, children's excreta are hardly collected and their disposal is largely unregulated. Even if there are a few toilets around in the area, they are never used by children. Thus, for the majority of children the only way of answering nature's call is open defecation.

There is a direct relation between what people believe in and what they do. Human excreta management among a particular group of people cannot be understood without a thorough investigation about their values and belief systems. People believe that defecating is a private matter and see it as immoral to share toilets with others. The perception of households concerning human excreta means that even in the presence of toilet facilities, open defecation cannot be eradicated. This calls for public education to change negative perceptions on shared toilet facilities as a measure to curb open defecation. In addition, the paper recommends strict enforcement of by-laws by the Wa Municipal Assembly on building codes to ensure that house owners provide household toilet facilities, and monitoring of public toilet operators to ensure regular cleaning of the facilities as well as fee regulation. Again, the Municipal Assembly should consider providing more public toilet facilities, preferably using the flush system, especially in the newly developing areas of the town to meet the needs of the increasing population.

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Where do I answer nature's call? An assessment of accessibility...

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