

Short Communication

Getting a foot on the sanitation ladder: user satisfaction and willingness to pay for improved public toilets in Accra, Ghana

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ABSTRACT

Rapid urban growth in developing countries has led to an increase in unplanned, high-density settlements dependent on public toilets for sanitation, yet we know relatively little about users' perceptions and concerns about such facilities. This paper seeks to explore user satisfaction and willingness to pay for improved sanitation services in Accra. Utilising a questionnaire, data were gathered from 245 users of public toilets in two low-income communities of Accra. 80.8% of users expressed overall dissatisfaction with the public toilets, the main areas of concern being: long queues and waiting times, unpleasant smells, dirtiness, concerns about security and lack of running water and soap. The majority of the respondents said that they would be willing to pay higher fees for improved services. Operators should take note of this and explore the potential market for building and maintaining high-quality public toilet facilities as a means to ending open defecation and getting on the first step on the sanitation ladder.

Key words | Ghana, public toilets, sanitation, satisfaction, willingness to pay

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INTRODUCTION

Across the developing world, rapid urban growth has led to an increase in unplanned settlements, with overstretched governments struggling to keep pace with infrastructure demands. One area of particular concern is sanitation, particularly in informal/high-density settlements (Katukiza *et al.* 2012; Tumwebaze 2014). Despite progress made over the Millennium Development Goal (MDG) period, in 2015, nearly one third of the world's population (2.4 billion people) still lacks access to basic sanitation facilities; of these, almost one billion people (13% of the global population) defecate openly, in street gutters, behind bushes or into open water bodies (WHO 2016). While open defecation happens predominantly in rural areas, the WHO (2016) has declared this to be an increasing problem in towns and cities, as urban populations grow without a corresponding

expansion of sanitation facilities. Globally, sub-Saharan Africa continues to have the largest sanitation gap: only 30% of the population in 2015 had access to improved sanitation facilities (ones that 'hygienically separate human excreta from human contact'), compared with 62% in developing regions as a whole and 68% globally (WHO 2016).

This is alarming, since hygienic sanitation facilities are known to be a crucial pre-requisite for good public health and were recognised by the UN General Assembly in 2010 as a basic human right. An estimated 842,000 people in low- and middle-income countries die each year from diarrhoea and other causes associated with inadequate water, sanitation and hygiene, with children under five bearing the greatest burden (WHO 2016). Poor sanitation is believed to be responsible for 280,000 of these deaths, yet sanitation

continues to be the 'poor relation' compared with drinking water quality when it comes to investment priorities. While the MDG target to halve the proportion of people without sustainable access to safe drinking water was met in 2010, the corresponding target for improved sanitation was missed (UN 2015).

Ghana's progress in relation to water and sanitation broadly reflects that across sub-Saharan Africa, exceeding its MDG water supply target (77% coverage), but falling far short of its sanitation target of 52% by 2015 (Republic of Ghana 2015). Only an estimated 15–26% of Ghanaians had access to improved sanitation by 2015, with almost a fifth (18.8%) practising open defecation (Republic of Ghana 2015; WHO/UNICEF 2015). While towns and cities have higher rates of access to improved sanitation (28.6%) than rural areas (10.5%), the fact that nearly 75% of Ghana's urban population lacks access to hygienic facilities poses a grave public health threat, particularly in the context of overcrowding which facilitates pathogen transmission.

In response to this situation, successive governments and donor agencies, through the Metropolitan, Municipal and District Assemblies, have actively promoted provision of communal toilet facilities ('public toilets'). Theoretically designed for visitors rather than long-term residents, public toilets have become the permanent mainstay of sanitation for many of the urban poor in Ghana (Van der Geest & Obirih-Opareh 2002). It is estimated that over a third of households (35.7% nationally and 38.7% in urban areas) use public toilets as their primary source of sanitation (Republic of Ghana 2015).

However, public or shared toilets remain a controversial proposition: according to the WHO/UNICEF (2012), they do not constitute 'improved sanitation', on the grounds that accessibility, safety, cleanliness and maintenance may be compromised (Allen *et al.* 2008; Schouten & Mathenge 2010). However, this assessment has been challenged by other researchers, who contend that shared/public toilets may represent the best (or *only* viable) option for some high-density, low-income urban areas, where private household toilets remain way beyond reach (Schouten & Mathenge 2010; Katukiza *et al.* 2012; Tumwebaze 2014).

Our motivation in undertaking the research for this paper was a pragmatic one. If – as seems to be the case – public toilets continue to be a major source of sanitation in urban settings across the developing world, it is important

to understand how they are perceived and used by the populations they serve. Our study contributes to a small but growing literature in this area (see Peprah *et al.* 2015) by exploring user perceptions and experiences of public toilets in low-income neighbourhoods of Ghana's capital city, Accra, and ascertaining users' willingness to pay more for improved services.

STUDY SETTING AND METHODS

The study was conducted in Ghana's capital city, Accra, with a population of nearly 3 million in 2012 (Ghana Statistical Service 2012). An estimated 58% of Accra's inner city population live in low-income, high-density developments with overstretched infrastructure and services. Most of the city's informal businesses are located in these areas, which are the first point of arrival for many new migrants to the city. Two study areas were selected for this research: Nima, a major informal settlement in inner city Accra, and Kwame Nkrumah Circle, a commercial city centre district with a high transient population living side-by-side with long term residents (Figure 1).

Two toilet facilities were selected for this study: one in each study site. The facility in Accra Circle had ten cubicles each for males and females, and wash basins with intermittent flow of water for hand washing. At the time of data collection, the taps were not flowing so the operators provided two containers of water (one each for males and females) for pour-flush by users. The facility at Nima was smaller than at Accra Circle, with six cubicles each for males and females; they also appeared less clean (both toilets and wash basins). In addition to a basic charge for using the toilet, clients could purchase toilet paper, at varying amounts depending on the quality (i.e. newspaper versus 'proper' toilet roll). None of the facilities was connected to a treatment plant but rather to a septic tank that is emptied when full.

The study adopted a similar approach to others that have sought to understand the experiences and motivations of public-toilet users (Bayha 2009; Schouten & Mathenge 2010; Biran *et al.* 2011; Peprah *et al.* 2015). A structured questionnaire was administered to public toilet users at one facility in each of the two study areas, using an 'exit interview' approach. A researcher was positioned by the toilets at different times of

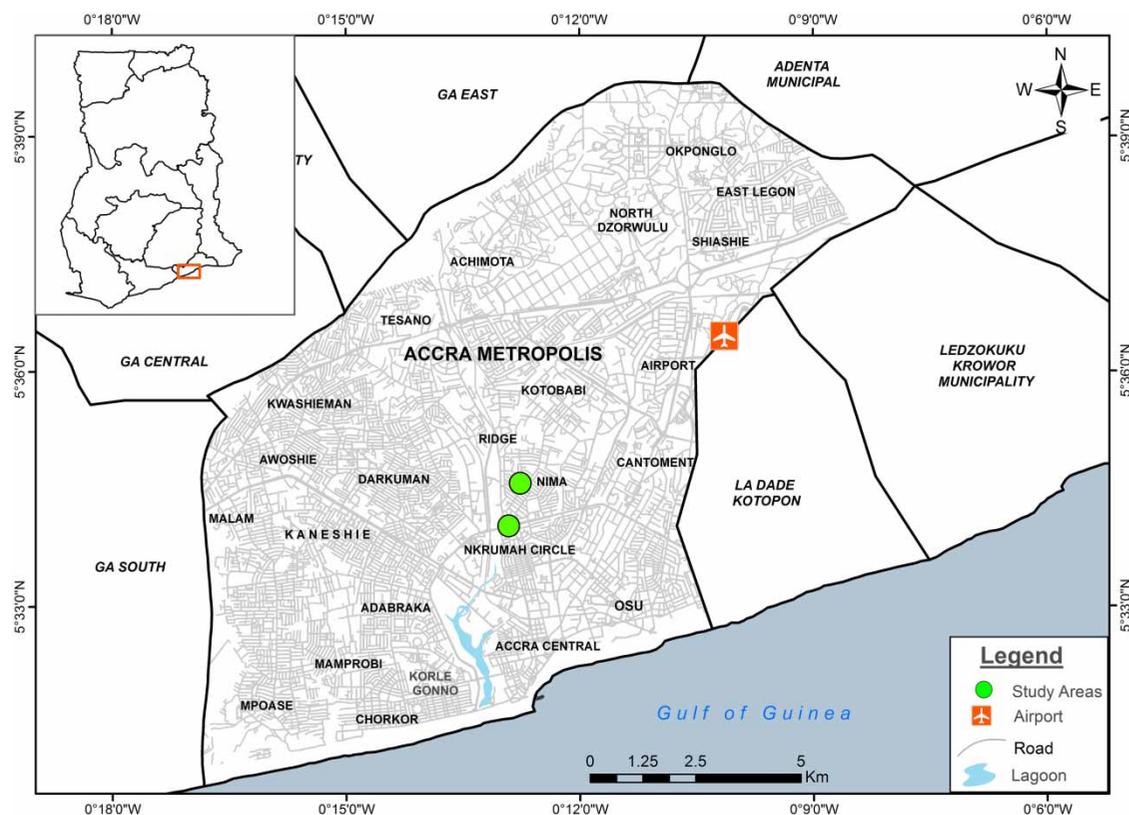


Figure 1 | A map showing the study area (Source: GIS Unit, Department of Geography and Regional Planning, University of Cape Coast, Ghana).

day and approached users on exit, inviting them to participate in the study. Every toilet user was approached, except for the busiest times when it was necessary to take every second or third user. This strategy was necessary because there is no formal sampling frame for public toilet users in these informal settlements. Altogether, 245 toilet users responded to the questionnaire, which was administered orally to ensure comprehension and completion by a population with varying levels of literacy. The questionnaire consisted of both closed-answer (yes/no and Likert scale) and open-ended questions, enabling participants to comment freely on their experiences. The quantitative data were analysed using IBM-SPSS software (v18) while the qualitative data from open-ended comments were analysed thematically.

Ethical considerations

All study participants were aged 18 years or above. Individual informed consent was sought verbally from all participants. All researchers were fully trained in

methodological and ethical procedures, particularly the need to respect confidentiality. The questionnaire took only about five minutes to administer, thus minimising inconvenience to participants. No personal identifiers were recorded, so the dataset was automatically anonymous.

RESULTS AND DISCUSSION

Background data on respondents: socio-economic profile and toilet utilisation

Table 1 gives basic socio-demographic information on the study sample. Of the 245 study participants, there were roughly the same number of men and women. Over 70% had been resident in the area for more than 10 years, and the majority (64.5%) reported using public toilets on a daily basis. The age distribution is noteworthy: the majority of respondents were young adults (aged 30 years or under), while only one was over 50 years. This is partly a function

Table 1 | Socio-economic profile and toilet utilization patterns of respondents (N = 245)

Variable	Frequency	Percent
<i>Sex</i>		
Male	119	48.6
Female	126	51.4
<i>Age (in years)</i>		
18–20	78	31.8
21–30	119	48.6
31–40	27	11.0
41–50	20	8.2
51–60	1	0.4
<i>Education</i>		
No formal education	24	9.8
Elementary/primary	24	9.8
Junior High School	90	36.7
Senior High School/Ordinary level	83	33.9
Tertiary	24	9.8
<i>Marital status</i>		
Single	152	62.0
Married	75	30.6
Divorced	7	2.9
Separated	6	2.4
Widowed	5	2.0
<i>Length of stay in the area</i>		
Less than 10 years	69	28.2
10 years or more	176	71.8
<i>Frequency of public toilet utilisation</i>		
Everyday	158	64.5
Once a week	19	7.8
Twice a week	31	12.7
3–5 times a week	29	11.8
Once in a while	8	3.3
Total	245	100.0

Source: Fieldwork, 2013.

of people's willingness to take part in the study and partly reflective of the demographics of public toilet users in the study areas. Very few children or older people were encountered during the period of data collection. Under 18s were excluded from the sample because they were not covered by the study's ethical approval, while older people generally declined to participate in the study, citing a lack of time. [Peprah et al. \(2015\)](#) note that public

toilets in Accra are under used by children and older people, who may either lack the money to use them or who may struggle to keep their balance over squat holes designed for adults (see also [Van der Geest & Obirih-Opareh 2002](#)).

User satisfaction with public toilet facilities

In response to a question on *overall* user satisfaction, the vast majority of respondents (80.8%) said that they were not satisfied with the public toilet facilities. [Table 2](#) indicates levels of satisfaction with various aspects of the toilets from a series of Likert-scale follow-up questions. Most users were happy with some aspects of the services: location, number of cubicles, internal space, lighting and opening times. However, in line with another recent study in Accra ([Peprah et al. 2015](#)), our data indicate high rates of dissatisfaction with many critical aspects of toilet facilities: convenience, security, privacy, cleanliness/hygiene, availability of soap and water for hand washing, and waiting time. No statistically significant differences were identified in satisfaction levels by gender, age or settlement location although, as noted above, the age range of respondents was relatively limited.

The vast majority of respondents (83.3%) were either 'dissatisfied' or 'very dissatisfied' with the smell of the toilets. Feelings of disgust associated with bad smells have been found by other researchers to be a serious barrier to public toilet utilization ([Rheinländer et al. 2013](#); [Chambers & Myers 2016](#)), and the salience of this issue was clear from its prominence in the open-ended comments, for example:

'As for the smell, hmmm ... I have a special shirt I wear to visit the public toilet because sometimes you use the facility and return home with smelling clothes' (Female user, April 2013).

'Two of my shirts were stolen because I always hang my shirt outside before entering the toilet facility to prevent it from smelling. So these days I have a special shirt I have dedicated for using the facility' (Male user, April 2013).

Other major sources of dissatisfaction were general uncleanness, inadequate flow of water and non-availability of soap

Table 2 | Users satisfaction with services provided at the public toilets

Variable	Level of satisfaction (%)				
	Very satisfied	Satisfied	Not sure	Dissatisfied	Very dissatisfied
Location of the facility	55.5	33.5	0.8	4.5	5.3
The number of toilet cubicles	23.7	49.4	8.6	13.1	5.3
The internal space in toilet cubicles	12.7	42.4	6.9	26.1	11.8
Security of users	2.4	22.9	6.5	28.6	40.0
Privacy of users	4.5	21.6	9.4	49.4	15.1
Smell from the toilet	2.9	10.2	3.7	33.9	49.4
Lighting in the toilet	8.2	55.1	9.8	20.8	6.1
Cleanliness/hygiene of the facility	3.3	25.3	9.0	47.3	15.1
Adequacy of toilet tissue	6.1	53.1	3.7	29.4	7.8
Time the facility is open/closed	20.8	65.3	9.0	4.5	0.4
Attitudes of attendants	14.3	59.2	12.7	9.8	4.1
Flow of water	2.0	16.3	24.5	43.7	13.5
Provision of soap for hand washing	0.8	13.5	13.1	46.9	25.7
Waiting time to use the toilet	2.4	15.9	10.6	52.2	18.8

Source: Fieldwork, 2013.

for hand washing (very important for preventing disease transmission: Curtis & Cairncross 2003; see also Mariwah *et al.* 2012).

Toilet users were also highly dissatisfied with waiting times: 95.5% of respondents (234 out of 245) reported having queued to use the toilet, with longest waiting times in the mornings. When asked what they did when the queues were very long, most (87.2%) said they just waited, despite causing considerable discomfort and making them late for other appointments. Others either begged to use a neighbour's toilet (4.7%) or resorted to defecating into polythene bags (8.1%) which are then dumped, constituting a different form of open defecation.

When asked to specify the single most important improvement that should be made to public toilets, responses ranged from more regular cleaning and use of disinfectants to better quality toilet paper (Table 3).

User willingness to pay for improved services

In an increasingly market-oriented public health sector, willingness to pay for environmental sanitation services is an important consideration (Rahman *et al.* 2005). Most public

Table 3 | Suggestions to improve the toilet facilities

Suggestions	Frequency	Percent
The place should be cleaned at short intervals	55	22.4
Renovation and maintenance activities should be done	53	21.6
Help build toilets in households	46	18.8
Build more facilities in the community	42	17.1
Use detergents and disinfectants to reduce smell	35	14.3
Give toilet rolls instead of newspapers	14	5.7
Total	245	100.0

Source: Fieldwork, 2013.

toilets in Ghana, including those in the study areas, demand a small fee from users. Questionnaire respondents reported paying between GHS 0.10 and GHS 0.50 for using the public toilets, with most spending GHS 0.20–0.30 (Table 4), depending on the quantity and quality of toilet paper required, as explained by one (male) respondent:

'Due to complaints from us, the attendants these days have both ordinary paper and toilet roll, so depending

Table 4 | Current payment and willingness to increase payment for improved public toilets

GHS ^a	Current payment per use (%)	Additional amount willing to pay (%)	Total willing to pay (%)
0.0	0.0	24.1	0.0
0.10	8.6	57.1	0.8
0.20	48.2	15.1	13.1
0.30	38.8	2.4	49.4
0.40	2.4	1.2	18.0
0.50	2.0	0.0	18.8

^aUS\$ 1 = GHS 2 at the time of data collection. Source: Fieldwork, 2013.

on the user's preference, you pay accordingly. For ordinary paper, you pay GHS 0.30 and for toilet roll, you pay GHS 0.40' (April 2013).

Study participants were asked whether they would be prepared to pay more for an improved service (more regular/thorough cleaning, provision of 'proper' toilet paper, etc., see Table 3) and, if so, how much more (i.e. contingent valuation). Over three-quarters (75.9%) said that they would be willing to pay more for improved services, typically an additional GHS 0.10 per visit, amounting to a total fee of GHS 0.30 or more (Table 4). While willingness to pay does not necessarily map exactly onto ability to pay (especially in low-income populations like these), and while not every respondent indicated a willingness to increase payments, this is nonetheless an important finding, suggesting potentially a strong effective demand for clean and hygienic public toilets.

CONCLUSIONS AND RECOMMENDATIONS

Despite their shortcomings, public toilets continue to be in widespread use in Ghana and throughout the developing world, particularly for people living in low-income, high-density urban settlements. While we would not disagree with international agencies advocating private single-household toilets as preferred forms of sanitation, this is unlikely to be realised in the short term for many of the world's urban poor. In the meantime, there is, we believe, a danger in lumping all shared/public toilets into the same

disaggregated category of 'unimproved sanitation' – a classification that covers many degrees of '(un)improvement'. Currently, in Ghana (and in many other countries that failed to meet their MDG sanitation targets), public toilets represent the main alternative in high-density, 'informal' urban settlements to the far more dangerous (and growing) practice of open defecation.

Our argument, therefore, is not that public/communal toilets be promoted instead of private household toilets, but rather that proper management of public toilets may be an important first step on the sanitation ladder, with the immediate focus of ending open defecation. However, to be effective – i.e. for people to be willing to use them and for them not to pose a significant public health risk – communal toilets must be clean, hygienic, well maintained, and devoid (as far as possible) of unpleasant smells and security threats. As other studies have shown, widespread dissatisfaction with public toilets may result in non-use. One limitation of our exit-sampling approach is that we do not know what non-users do or why. However, even among users, it appears that long waits, among other considerations, may drive people to alternative, more hazardous arrangements, such as defecating in plastic bags which are then dumped.

The good news is that people appear to be willing to pay for better facilities. Although there are some important caveats here, in that non-users were not interviewed and that willingness is not necessarily the same as ability to pay, this is nonetheless encouraging and suggests that operators (public and private) should further explore potential markets for building and maintaining high quality public toilet facilities. Further information about the economic status of toilet users and non-users will be important in relation to the feasibility of different financing options. This is particularly pressing in the light of on-going government-supported privatisation of 'public' toilet facilities, which potentially incentivises facility improvement through increased competition, but also risks disinvestment in areas where private operators may not expect to see a good financial return. Crucially, local people need to be brought into dialogue with providers to establish how best to set up and manage public toilets that genuinely meet their needs, bearing in mind that solutions to safe sanitation are as much about

socio-cultural appropriateness as they are about technical specifications.

In summary, public toilets are almost certainly here to stay for some time as an important part of the sanitation 'landscape' in towns and cities across the developing world. Simply dismissing them all as 'unimproved' could lead to disinvestment and rejection which, without alternatives, is a recipe for an increase in open defecation. Instead, we should see public toilets as a potentially important step on the sanitation ladder, and facilitate proper investment and appropriate management.

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