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Shifting from public shared toilets to home toilets in urban settlements: Implications of household demand in Kumasi, Ghana

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This study was conducted to assess the households' attributes towards the use of public toilet, demand for improved household toilet and the implications of shifting from public shared toilet to improved household or home toilet. A sample of 120 houses was randomly selected from two groups – those without improved household toilets and those with improved household toilets built with subsidy. The results showed that most of the households using public toilet (86%) were not satisfied with the cleanliness and odour, but were not aware of the home toilet promotion. High and middle income households (82%) received subsidy of 50% of the cost of household toilet. Most of the low income households residing in multi-families houses did not have improved household toilet due to limited space for facility, multi-landlords from extended families, and lack of motivation resulting from the presence of public shared toilets. There are difficulties in shifting from public shared toilets to improved household toilets.

Introduction

There are still some problems with people's attitudes towards sanitation demand despite the commitments and the improvements made during the last decade. Provision of new household or home toilets in Africa continues to be privately acquired through the market since the contribution of the public supply-led for construction of household toilets represent very small fraction over the last decade (Jenkins and Sugden, 2006). Sanitation refers to the safe collection, transportation, treatment and disposal of human wastes, and therefore is a critical barrier to faecal-oral disease transmission and prevention of disease burden.

Public shared toilet is not considered as improved sanitation according to the UNICEF/WHO Joint Monitoring Programme on sanitation. Shared home toilet facility by more than one household is also not considered as improved toilet by the JMP. Problems associated with socio-cultural acceptance and health effects of poorly maintained public toilets are enormous. However, shifting from public shared toilet to improved household toilet required sanitation promotion and motivation of the people to acquire the toilet. It is difficult for poor people surviving on subsistence incomes to use their limited funds on sanitation when they have lived their entire life without improved toilet. Even when they are convinced that household sanitation is beneficially, the perceived high cost of installation keeps many people from adopting household toilet. The key factors for lack of improved household toilet or not accepting improved household toilet in urban poor communities include poverty, high construction cost, and lack of space in the house (Jenkins and Scott, 2006; Jenkins and Sugden, 2006).

The objective of this study was to assess the households' attributes towards the use of public toilet, demand for improved home toilets with subsidy funding and the implication of shifting from public shared toilet to improved household toilet. The factors influencing households demand for home toilets which were discussed include availability of public latrines, tenure of the house occupants and ownership, and income groups of the people.

Methodology

Kumasi, located 300 km north-west of Accra and is the second largest city in Ghana and the capital of the Ashanti Region. The metropolitan area covers 150 km^2 and is made up of four sub metros. Kumasi is a fast growing city and a market centre linking the northern and southern parts of Ghana. The city's population as at 2000 was about 1200000. At the beginning of 1990, the proportions of Kumasi residents who used public latrines, bucket latrines, pit latrines and water closets with septic tanks were 40%, 25%, 5% and 25% respectively (Whittington et al, 1992). There remaining 5% used 'free ranged open defecation' There were approximately 400 public latrines scattered in the middle and low income communities at early 1990s.

Some of the areas in Kumasi that have benefited from the sanitation promotions organised by the KMA were included in the survey. The two groups of houses (houses without improved household toilets and those with promoted improved household toilets) were randomly selected and interviewed using structured questionnaire. The areas and sample size for the two groups are presented in Table 1. A total sample size of 120 houses was selected. The unit of analysis was the houses selected from the communities. Table 2 presents the framework for the structured questionnaire for data collection in eight communities.

Table 1. Sampling of houses in the communities

Communities	Houses without improved household toilets	Houses with improved household toilets
Ayigya	10	4
Kwadaso	14	-
Asokore mampong	6	16
Anologa	13	4
Odum	10	9
Ahinsan	7	17
Ayeduase	-	4
Kotei	-	6

Table 2. Framework for data collection and analysis

Aspect of study	Variables (factors of sustainability)
Housing and households characteristics	Age, gender, occupation and income levels, housing tenure and ownership
Access to toilet facilities for houses without household toilet	Public or household, type of toilet facility, distance to public toilet, satisfaction, cleanliness, odour
Promotion of improved household toilet for houses without household toilet	Awareness about household toilet policy, awareness about promotion, perception about the 50-50% funding, willingness to benefit from promotion, tenants / owners 50% contribution, availability of space in the house
Attributes of houses (households) with improved household toilet	Preferred choice of technology, Choice of technology, housing tenure and ownership, affordability, satisfaction

Results and discussions

Households characteristics

The socio-economic characteristics of the households include age, gender, occupation and income levels. Table 3 shows the characteristics of households surveyed from the selected communities. Table 3 shows that 66 % of respondents were low income earners in houses without improved household toilet and 34% were middle income earners. The people declined to give household incomes, so the existing income classification was used to classify them into low, middle and high income groups. There is directly relationship between choice of sanitation technology and income level. There is also the influence of the tenure and ownership of the house, the number of households in each house and the availability of public toilets close-by on the demand for improved household toilet. The study showed that 70% of the houses without improved household toilets had multi-families ownership, whereas 49% of houses with improved household toilet had multi-families ownership. The multi-families houses were mostly in the low and middle income areas.

Table 3. Household and housing characteristics of respondents

Characteristics	Houses without improved household toilets		Beneficiaries of improved household toilet subsidy	
	N	%	N	%
Gender				
male	26	43	31	52
female	34	57	29	48
Age distribution				
25-30 years	5	8	4	6
31-45 years	15	25	34	57
46 years and above	40	66	22	37
Occupation				
formal employment	5	8	15	25
self employed / traders	34	58	31	51
farmers	5	8	3	5
unemployed	8	13	6	10
retired	8	13	5	9
Income level				
low income	40	66	11	18
middle income	20	34	36	60
high income	-	-	13	22
Housing tenure and ownership				
private residence (single family)	2	3	11	18
rented apartments	16	27	20	33
rented multi-families houses	11	18	9	15
multi-families houses	31	52	20	34

Households without improved household toilets

Access to toilet facilities

Table 4 shows the responses of the respondent from houses without improved household toilets, where bucket toilets were still in use or abandoned. Even though there were bucket latrines in most of the houses, only 8 (14%) of the respondents used household bucket latrines. Apart from the eight (8) households using the bucket latrine, the rest have abandoned their bucket latrine in compliance with orders from Kumasi Metropolitan Assembly (KMA). There is a policy that bucket latrine will be phased out by 2010. The respondents using bucket latrine were not satisfied with the mode of collection of night soil. Moreover, it is very difficult to find night soil collectors. Night soil is collected and discharged into public toilets pits. They complained about spillage of night soil every time the bucket was emptied, and the severe stench and

breeding of flies due to the spillage. The cost of collection of night soil was GH¢15 (Ghana Cedis) per month for each bucket latrine.

The respondents said there were public toilets close to their houses and eighty six percent of the people used the public toilets – which were Kumasi Ventilated Improved Pit (KVIP), Enviroloo or water closet (WC)/with septic tank. The respondents pay GH¢0.05 (Ghana Cedis) per visit to public KVIP toilet and GH¢0.10 per visit to public water closet. Households without improved household toilets (86% of sample households) who used the public toilets were dissatisfied with their current public toilets. The two most unsatisfied attributes of public toilet were odour and uncleanliness. Other attributes included walking long distances to toilet facilities (57%) and having to share with others.

Table 4. Houses without improved household toilets

Available toilet	N	%
Toilet in use		
use public toilet	52	86
use bucket toilet	8	14
Type of toilet		
public KVIP	39	65
public Enviroloo	4	6
public WC / Septic tank	9	15
household bucket toilet	8	14
Distance to public toilet		
near to house	26	43
far from house	24	57

Promotion of improved household toilet

Table 5 shows the perception of the people about the promotion of improved household toilet. A greater percentage (86) of the people without improved household toilet did not know that by 2010 it would be illegal to use bucket toilet. Eighty four percent of people without improved household toilet had not heard anything about the promotion to upgrade the existing bucket toilet into improved household facility. It appears that KMA had not done enough in communicating to the people the need for improved household toilet and also making them aware of the sanitation promotions.

Ninety percent of the respondents were willing to benefit from the promotion to upgrade their facility, but the main problem was that some of them (40%) expressed that they could not afford the terms the promotion offered. Seventy five percent (75%) of the respondents said that 50% of the total cost of construction was still too high for them to afford. This percentage represented the greater portion of the respondents and if these people could not afford the 50 % funding, then the previous promotions which offered them less support were really challenging to implement.

Most of the households have been built without making provision for construction of improved household toilet. Therefore availability of space for the construction of household toilet is a problem for some households. Another factor for not building the home toilet is the fact that each multi-families house is owned by a number of individuals from extended family, and these landlords owning one or two rooms may not be willing to contribute.

Households with improved household toilets through sanitation promotion

Types of toilets and households preference

Table 6 shows the technology choice, tenure and affordability households with improved household toilet. All respondents said public toilets were available near their houses. Results showed that 80% of the public toilets were KVIP with the remaining 20% being public WC septic tanks. Some households from the sampled houses (7 out of 60 houses) still use the public toilets. This implies that despite the provision of improved household toilet portion of the people still use public toilets and hence they should be well maintained to satisfy the needs of this portion of the population.

Table 5. Perception about promotion of the improved household toilet		
Variables	**N**	**%**
Awareness about household toilet policy		
aware of policy	8	14
not aware of policy	52	86
Awareness about promotion		
aware of promotion	10	16
not aware of promotion	50	84
Perception about the 50-50% funding		
moderate	15	25
expensive	45	75
Willingness to benefit from promotion		
want the facility	30	50
do not want facility	6	10
want facility but cannot afford	24	40
Tenants/owners 50% contribution		
willing to pay	19	32
not willing to pay/cannot afford	41	68
Availability of space in the house		
space available	14	23
space not available	46	77

Results showed that 63% of the respondents who have benefited had KVIP with the remaining 37% being septic tanks. All the high income earners had septic tanks as improved facilities and were satisfied with the system. Most of the people with KVIPs were middle income earners without access to in-house connection of water supply. For those with KVIPs, 4 out of 19 respondents said they were not satisfied – they complained of odour and presence of insects associated with the KVIP. They indicated water closet with septic tank as their preferred option, but either they could not afford it or did not have an in-house connection to water supply. The preferences and choice of the users as well as their ability to afford a particular technology type are taken into consideration in assessing demand for household toilet.

Affordability and funding of household toilets under promotion

From the data obtained it was realized that the income levels of the people determine the kind of improved facility acquired. All the high income earners (private houses) had water closet with septic tanks as improved facilities. This was because the respondents in the private houses were high income earners and therefore could afford the full cost of constructing the water closet with septic tank but want for the 50% subsidy from the project. The people who benefited said that it was very difficult obtaining the funds. They complained of bureaucracies and delays in obtaining the funds. This could actually deter low income earners who want to upgrade their toilets. All the low income earners as well as most of the middle income earners had KVIPs as improved facilities because that was what they could afford. For a sanitation system to be affordable, the owner should not spend more than 5% of their income to average incremental cost. All those with KVIPs said that it was affordable, but 17 out of the 41 with the septic tank said that it was not affordable due to the high cost of construction.

It was noticed that some of the household members did not contribute toward the promotion, therefore were not permitted to use the improved household toilet facility. All of such households who did not contribute were from low-income level and some from the middle income. The problem was from the houses that had been rented out. From the analysis, 7 out of 29 tenants (in rented houses) and 8 out of 20 multi-families occupants contributed towards the cost of construction. The other tenants argued that they were merely renting rooms in the house and could be ejected at anytime and hence they did not see any reason why they should contribute to the cost of construction. They deemed it the responsibility of the landlords to upgrade the facilities. All the private houses had single families and these families were the sole owners of the houses and hence they took full responsibility for the cost involved in the upgrading.

Table 6. Technology choice, tenure and affordability of households with improved household toilet

Preference and choice	Technology	
	KVIP	WC / Septic tank
Preferred choice of technology	19	41
Choice of technology		
low income	6	5
middle income	13	23
high income	0	13
Tenure and ownership		
private (single family)	-	10
rented apartment	12	9
rented multi families houses	-	9
multi families houses	7	13
Affordability		
facility was affordable	19	24
facility was not affordable	-	17

Are shared toilet facilities 'improved or unimproved' facilities?

The UNICEF/WHO Joint Monitoring Programme (JMP) is designed for monitoring and reporting progress towards achieving the water and sanitation targets of the Millennium Development Goals (MDGs). JMP defines an improved latrine facility as one that hygienically separates human excreta from human contact. To allow for international comparability of estimates, the JMP considers only the following as improved latrine facilities: flush or pour flush into septic tanks, into pits, or into piped sewerage systems, Ventilated Improved Pit latrines, composting toilet and pit latrines with slab.

The JMP clearly separates shared latrine facilities from the improved and unimproved ones. This mean that shared facilities cannot be classified as unimproved, and therefore could be included in the improved facility category. The only problem that could be of concern is the sustainable maintenance and management of the public shared facilities. For household (home) shared facilities there is no problem with maintenance, because the households themselves are responsible for cleaning and desludging. Public shared water closet facilities which are well managed by private sector on cost recovery basis cannot be classified as unimproved. However, concerns about the sustainable maintenance and management of non-water dependent public share facilities such as Kumasi Ventilated Improved Pit (KVIP) and Enviroloo need attention and cannot be ignored by the public sector and the national institutions responsible for sanitation delivery. Though JMP recognizes that well-maintained public or shared facilities represent an improvement over rudimentary forms of sanitation, the likelihood of poor hygiene and unsustainable use of these facilities, especially by children and women was the argument against counting them as improved facilities.

Table 7. Sanitation coverage of urban communities in Ghana (percentage)

	Year	Improved	shared	Unimproved	Open defecation
Urban	1990	11	47	31	11
	1995	12	54	24	10
	2000	14	61	16	9
	2006	15	69	8	8
Both urban and rural	1990	6	29	41	24
	2006	10	51	18	20

Source: UNICEF/WHO Joint Monitoring Programme (2008)

A recent report from the UNICEF/WHO Joint Monitoring Programme (2008) called "A Snapshot of Sanitation in Africa" indicated that only ten percent of Ghanaians had access to improved latrine facilities as at 2006. The separation of shared latrine facilities from the improved and unimproved ones placed Ghana, in terms of performance 48th out of 51 African countries and 14th out of 15 West African countries assessed in the report. If the definition of improved sanitation precludes shared public toilets, then the sanitation coverage, especially in Ghana is very low since the greater proportion of people in middle and low income urban communities still used public shared toilets everyday as the only sanitation available to them. According to the report, shared facilities alone represent 69% for urban communities (Table 7) and 51% for both urban and rural in terms of access to latrines in Ghana. The proportion of people with access to improved toilet would increase if the shared proportion is added to the improved category.

However, according to Multiple Indicators Cluster survey (MICS) by Ghana Statistical Services (2006) about 61% of the people (including people using shared toilets) have access to improved latrine facilities. Some authorities in the sanitation sector, however, contended that it was too harsh to declare every type of shared facility unimproved or unsafe. They claimed that several shared water closet facilities were managed by full time attendants and were clean enough to be counted as safe and to say these facilities were unimproved was not fair (Public Agenda, 2008). It was argued that due to lack of space, couple of households built neighbourhood latrine with two or three cubicles but each of the cubicles was managed by a particular household and to declare them unimproved rather compounds the efforts at promoting safe household latrines in such poor communities.

Implications of shifting from public shared toilet to improved household toilet

There are thousands of public latrines in both rural and urban communities. Government and several NGOs and CBOs have provided communities with expensive Kumasi Ventilated Improved Pit (KVIP) latrines believed to be an improved latrine technology to communities mostly without household latrines. Ghana has made enormous investments in public latrines and to declare all these facilities unimproved would imply additional financial resources to either provide or promote household toilet. Shifting from public shared toilet to improved household toilet required sanitation promotion and motivation of the people to acquire the toilet. However, the promotion of the household toilet was indeed not reaching the target group – poor urban households – due to a number of factors such as lack of space for the facility, availability of public latrines reducing motivation to own household facility, tenure of the house occupants and ownership where landlords were not willing to pay for the cost, and low income of the target population.

Sanitation promotion strategies had been implemented over time to address sanitation problems as part of the Kumasi Sanitation Project (KSP) and Urban Environmental Sanitation Project (UESP). However, these strategies failed to achieve the project targets – reaching the poor urban households. The Kumasi Sanitation Project (Pilot Project) was implemented from 1998 to 1999 to build household KVIP and water closet with septic tank. There were three sizes of the household toilets for the KSP depending on the number of individuals that makes up the household. The government paid for the whole cost ($1000 per household toilet) and arrangements were made for the beneficiaries to repay the entire cost over a period of three years, but the people were not willing to pay the loan. The main target group – the poor – who were to benefit from this project, was discouraged since the cost was too much for them to afford. Therefore, the rich inhabitants rather benefited from the project instead of the low income households (Kokroko, 2008).

After the failure on the part of the people to pay the loan, a different strategy was adopted in a development project introduced in 2000 to 2002 known as Urban Environmental Sanitation Project (UESP) – Urban 4 Project Phase 1. This project was introduced to more communities compared to the previous project and took into consideration availability of water in the communities. Funding of the construction of the improved household latrine was 50% Government subsidy and 50% user funding from the beneficiaries. The government paid 50% of the cost after initial commitments on the part of the households have been made towards the construction. The household had a choice of selecting any kind of improved toilet technology. The Urban 4 Phase 2 of the development project was implemented from 2006 to 2007 and all communities in Kumasi were included in the household toilet promotion. The same strategies and funding arrangements for Urban 4 Phase 1 were used. Cases where spaces were not available for constructing the KVIPs, households were asked to acquire a portion of land from neighbours the construction of the facilities.

Sanitation policy on household toilet for every house would be difficult to implement due to the presence of many public toilets within the communities. There is no motivation to construct household toilet if public toilets meant for visitors are available within the residence areas for used daily by the residents. About 84% of the people without household toilets were not aware of any past promotions. This implies that the KMA

was not doing enough in disseminating information to the people concerning the promotion. The promotion strategies need to target the urban poor communities. The survey of communities that had benefited from the sanitation promotion showed that high income households benefited most. For sustainable development of urban sanitation, a more pro-poor method needs to be adopted since the poor who are the actual target of the promotion cannot afford it. A more appropriate method would be to involve low income households to contribute the 50% of the capital cost for the facility in the form of material and/or labour.

Conclusion

This study assessed the attributes of the households towards the use of public toilet, demand for improved household toilet and the implications of shifting from public shared toilet to improved household toilet. All the households using public toilet (86%) were not satisfied with the cleanliness and odour. Most of the households without household toilet (84%) were not aware of the sanitation promotion. Ninety percent of the households expressed willingness to acquire household toilet when they became aware through the survey. High and middle income households (82%) received subsidy of 50% of the cost of household toilet. Most of the low income households residing in multi-families houses could not acquired improved household due to limited space for facility, multi-landlords from extended families (no one to build), and lack of motivation resulting from the presence of public shared toilets. There are difficulties in shifting from public shared toilets to improved household toilets if the supply-led provision of public shared toilet continues in the low income communities.

Keywords: sanitation policy, improved household toilets, urban sanitation, urban settlement.

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