

Constraints and motivations to sanitation business in peri-urban communities in Ghana

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ABSTRACT

Ghana lags behind the Millennium Development Goals' target for sanitation, despite widespread effort by the central government. Lessons from the historical shortcomings of Ghana's sanitation policy now call for public-private partnership in the management of sanitation in Ghana. Using observations and in-depth interviews with small-scale sanitation service providers, this study investigated the constraints and motivations of sanitation-related businesses in peri-urban communities in the Ningo-Prampram district of Ghana. Both quantitative and qualitative methods were used for data analyses and reporting. The study found that there exist various sanitation-related businesses such as masons/latrines builders, hardware suppliers and pit-emptier, in the study area whose activities are constrained by some financial, logistical, institutional and social challenges which limit their performance. Nonetheless, the operation of a sanitation business in the study communities was found profitable, and service providers are motivated by the financial returns and other non-financial benefits to remain and continue in their respective businesses. Policy efforts by the government and other stakeholders toward addressing the constraints to sanitation business are crucial for increased private sector participation and better service delivery to all stakeholders in the sanitation market, and the Ghanaian economy as a whole.

Key words | constraints, motivations, peri-urban Ghana, sanitation business, SUSAN

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INTRODUCTION

Proper sanitation is a basic human need and it is crucial for life and health (WSP 2004; Jaehyang 2008). Nevertheless, 2.5 billion people worldwide and more than half of the population in the developing world, particularly the poor and disadvantaged in peri-urban communities, do not have access to improved sanitation facilities (improved sanitation facilities include: flush/pour-flush to piped sewer system, septic tank and pit latrine; ventilated improved pit latrine; and composting toilet (JMP [WHO/UNICEF] – WSP 2009)) (WHO/UNICEF 2014). Poor sanitation poses serious health risks with negative implications on the socio-economic development of nations (Choudhury & Hossain 2006; WHO 2008). To halve the proportion of people

without access to proper sanitation is a Millennium Development Goal (MDG 7c). However, it is unlikely the world's MDG target for improved sanitation (that is 75% by 2015) may be achieved until 2026, as unfortunately, the developing world such as Southern Asia and sub-Saharan Africa (including Ghana) are still struggling with low coverage of 42 and 30% respectively (WHO/UNICEF 2014).

Ghana's coverage of improved sanitation is 14% of the 53% target (WHO/UNICEF 2014), despite widespread efforts in the nation's sanitation policy since the colonial times (Thrift 2007). Lessons from the historical shortcomings of Ghana's sanitation policy now call for public-private partnership in the management of sanitation in Ghana

(MLGRD 2010), albeit the opposing interest by users, particularly people in peri-urban communities, due to the 'full price effect'. Moreover, Nyangena (2008) argues that privatisation of sanitation services is the key to the needed expansion and a more cost-effective and better service delivery approach in the sanitation market.

Unfortunately, notwithstanding the importance of proper sanitation, some households in peri-urban communities are normally satisfied, to some extent, with their current open defecation (ODF) practice. For that reason, the perceived demand for improved sanitation may not be high until other needs such as housing, water, farming, and schooling are met (Card & Sparkman 2010). Moreover, the sanitation business in low-income countries (like Ghana) is characterized as: (i) slow moving; (ii) having relatively low priority need by households; (iii) having limited use of technology and fragmented supply chain; (iv) there are donor distortions and subsidies; and (v) is perceived as having a poor social context (Card & Sparkman 2010; WFP 2011). In such a situation, a new private sector enterprise would therefore have minimal interest in pursuing a profitable sanitation business, particularly in poor peri-urban communities, such as the study area, where there are cheaper and/or cost-free alternatives such as ODF in the bush and beach.

Similarly, the introduction of free or subsidized sanitation facilities (thus, latrines) by governments and NGOs is also considered a cause of market distortion, which tends to discourage entrepreneurship in the sanitation market. In addition, limited information on the profitability of sanitation could also dissuade entrepreneurs' interest in the sanitation business. Notwithstanding the possible challenges to the private sector in the sanitation market, studies have shown that the sanitation business is profitable (UN-Water 2013 in Guy & Haller 2004), and to the private sector, the untapped market for sanitation services is considered as one of the world's great business opportunities (Tully 2000). To understand the operations of sanitation-related businesses in poor peri-urban communities, this study investigates the constraints to and motivations of local small-scale sanitation service providers (SSPs) in the Ningo–Prampram district in Ghana. The study is a part of the Sustainable Sanitation Ghana (SUSA-Ghana) project with a broader aim to expand access to improved sanitation facilities among peri-urban residents in the Dangme West District, Ghana (<http://susaghana.com>).

METHODOLOGY

Study area

The study was conducted in peri-urban communities in the Ningo–Prampram district (formerly the Dangme West district) in the Greater Accra region of Ghana. The study area was chosen as a convenience sample because it is peri-urban and forms part of the study area for the Dodowa Health Research Centre (DHRC), a partner institution of the SUSA-Ghana Project. The district is situated in the south-eastern part of Ghana, lying between latitude 5°45' south and 6°05' north and longitude 0°05' East and 0°20' west. The total population of Dangme West is 122,836 persons (47.9% males and 52.1% females), representing about 0.50% of Ghana's total population and 3.06% of the Greater Accra region population (GSS 2012). The average household size in the District is estimated at 5.2 persons. Agriculture, the dominant occupation, employs about 59% of the people, followed by trade (22.1%) and fishery (6.4%). Financial reports indicate that the highest contribution to internally generated revenue in the District comes from fees and fines, followed closely by business operating permits (<http://www.ghanadistricts.com/districts>).

Population, sampling and data collection

Small-scale sanitation businesses or sanitation service providers (SSPs) in selected peri-urban communities in the Ningo–Prampram district in the Greater Accra region of Ghana constituted the population for this study. Four communities in Prampram, namely: 'Olowey, Kley, Lower East Prampram' and 'Lower West Prampram', were selected for the study. These communities were chosen as a convenience sample because they are peri-urban and form part of the study area for DHRC. Prior to the selection of participants for the study, an observational technique (transect walk) was used to obtain a general idea of the sanitation situation in the study area. To strengthen the possibility of scientific generalization, multiple cases involving two to three local SSPs, in the case of masons and hardware suppliers respectively, were used for the study (Yin 1984; Susan 1997; Zainal 2007). The study participants,

comprising of three masons/latrines builders, two sanitation hardware suppliers, and a pit-emptier, were selected using non-probability sampling techniques based on purpose, convenience and availability of the participants. Using semi-structured and structured questionnaires, in-depth interviews were conducted with the SSPs to elicit data on their personal and business profiles as well as the factors that constrain and motivate their operations in the study area.

Ethics

Clearance was obtained from the ethical review board of the DHRC before commencement of the study. Consent was also sought from the study participants before any discussions or interviews were conducted.

Analysis of data

Both qualitative and quantitative tools were used in the analysis of data for the study. Using the three SSPs (masons, pit-emptier, hardware suppliers) as case studies, an empirical investigation was made into the internal and external factors that constrain and/or motivate sanitation business in the study area. The study employed both descriptive and explanatory case methods (Yin 1984). Tables, narrative texts and quotations were used to present the findings of the study.

The constraints to sanitation business were assessed by ranking of the participants' responses according to the most important to the least important using numerals; 1, 2, 3, ... N , where 1 = most important and N = least important. The motivations of the SSPs' businesses were examined using both pecuniary and non-pecuniary indicators. The study used profit margin estimates as the pecuniary measure of the SSPs' motivations in their sanitation businesses. Following Ross *et al.* (1998), the SSPs' profit margins (PM) were estimated as: $PM = NI/TR$, where NI (net income) = TR (total revenue) - TC (total cost), $TR = P_i Q_i$, and $TC = \sum_{i=0}^n P_{X_i} X_i$, P_i = price per quantity or service, Q_i , quantity of products or services rendered, and P_{X_i} = the price of the i th input (including labour), and X_i is the i th input. All other things being equal, a relatively high profit margin is desirable to cover

part of the overhead or capital costs, implying that a low expense may be desirable.

RESULTS AND DISCUSSION

Types and activities of sanitation businesses in Prampram

The study found a variety of sanitation-related businesses in the study area, which include: solid waste collectors, public latrine attendants/managers, masons/latrines builders, sanitation hardware suppliers, pit-emptiers and commercial bathhouse operators. Based on the purpose of the study and availability of data, the study focused on three of the businesses, namely: masons/latrines builders, sanitation hardware suppliers and pit-emptiers as case-sanitation businesses. The personal and business profiles of the three case-SSPs are presented in Table 1.

With the exception of one of the hardware suppliers who operated the business with his wife, all the other SSPs were men. The SSPs were aged 24–73 years; the youngest and oldest were the masons. They were all natives of the study area, Dangme, except the pit-emptier who was an Akan from Ashanti region of Ghana. The masons and pit-emptier had basic education (thus Junior High School or Middle School), and the hardware suppliers had tertiary education (Polytechnic). The business experience of the SSPs ranged from five to over 20 years. With the exception of the masons, the hardware suppliers and the pit-emptier had registered their businesses with the appropriate institution, the Registrar General's Department. Although not registered, the oldest and most experienced of the masons had a job card, an 'identity card' which was previously accepted and used by all masons as evidence of professional competence.

It was found that the high costs and bureaucratic procedure associated with business registration were key reasons for the non-registration of the masonry business. In addition, the masons mentioned that it was not necessary for them to register their business because they operate as local masons and did not need any formal documents to make contracts, as required by formal businesses. The staff strength of the SSPs ranged from one to five employees. The experienced 'master' artisans had larger staff strength. This is common in

Table 1 | Profile of sanitation service providers

Variables	Toilet builders/masons			Hardware suppliers		Pit-emptier
	Case I	Case II	Case III	Case I	Case II	Single Case
Sex	Male	Male	Male	Male	Male	Male
Age (years)	24	36	73	31	38	45
Education	JHS	JHS	MSLC	Polytechnic/ NVTI	Polytechnic (DBS)	MSLC
Ethnicity	Dangme	Dangme	Dangme	Dangme	Dangme	Akan
Business experience	5 years	7 years	> 20 years	8 years	4years	7 years
Business registration	Not registered	Not registered	Not registered	Registered	Not registered	Registered
Staff strength	One	One	Five (all males)	Three (two males and one female – wife of the owner)	Three (all males)	Four (all males)
Occupational status	Full-time	Full-time	Full-time	Full-time	Full-time	Full-time

Source: Field data, 2012.

Ghana as most apprentices normally prefer to learn from an experienced artisan. In such a situation, the knowledge and skills acquired by the trainees may be idiosyncratic, as is common in most small-scale artisan businesses.

The study found that all the SSPs operated on full-time, mostly during the week days (Monday–Friday) and sometimes on weekends (Saturday). They operated within and outside the study area. Some of the SSPs mentioned that they did not need further (formal) training to operate. The local authorities (Assemblymen and District Officers) however disagreed with the SSPs' response of 'no need for further training'; they mentioned that it was necessary for the SSPs to acquire further training and also register their businesses to enable them have the opportunity to access contracts on the District Assembly's developmental projects. Moreover, [Nalumansi *et al.* \(2002\)](#) point out that lack of education, which is linked to poor managerial and skills competence, could be a limitation to the performance of small-scale businesses.

CONSTRAINTS TO SANITATION BUSINESS

The constraints to the SSPs' businesses are presented in [Table 2](#). It was found that credit payment by service users or households, and inadequate and irregular cash flow

(wage) were the most important constraints to latrine builders/masons. The SSPs considered the constraints important, as the youngest mason remarked in an interview that: 'the people in this area do not like paying for work we normally do for them; even for those who pay, they pay in bits which doesn't help us because we hire other workers to assist in the work which we have to pay them'. In a further discussion, he added that 'because the clients do not pay as expected, we normally decline our decision to work for them, and once we refuse our services, the clients normally hire other workers for which they do the same thing (delayed/credit payment) to the new workers'. The study found that the SSPs were not happy about the behaviour of the clients/households, as they mentioned that there are occasions where some households hire masons outside the study area to work for them for the same fee when those clients really are aware of the presence of the local masons.

It was also found that unavailability of quality materials and high prices of hardware were the major constraints to the latrine hardware supply business. The remarks by the hardware suppliers corroborate the importance of the constraints, as one of them said: 'the people here like good things but they are not willing to pay higher price for what they want. In the market are cheaper alternative latrine materials like the toilet bowls which do not last long, and

Table 2 | Constraints to sanitation business in study area

Toilet builders/Masons (N = 3)		Hardware Suppliers (N = 2)		Pit-emptier (N = 1)	
Constraints	Rank	Constraints	Rank	Constraints	Rank
Delayed/credit payment	1	Quality of materials	1	Difficulty in accessing desludging/dumping site	1
Inadequate/irregular cash flow (wage)	2	High prices of materials	2		
Risky (accidents) and tedious job	3	Land litigation/slow rate of development	3	Inadequate/lack of capital to expand business	1
Trustworthiness in networking	4	Delayed/credit payment by clients	3	Difficulty in accessing households' septic tanks	3
Inadequate/lack of capital	5	Inadequate/lack of capital for expansion	5	Inconvenient tax system	4
Lack of protective clothing	6	Inadequate/irregular cash flow (wage)	5	Unapproved/unauthorized payments (e.g. intermittent stops by the police)	5
Water (sometimes) a challenge to work	7	Water scarcity (affecting sales)	7		
Unavailability of materials for building	7	High tax	8		

Source: Computation from field data, 2012.

once you sell such materials to your clients, you end up 'killing' your business as the client may not buy from you the next time'. In a further discussion, the SSP remarked that: 'because I think about the future of my business, I always go for quality materials which are too expensive for the clients, so I normally have in stock few of the expensive hardware like the toilet bowl which when the people buy, then I use the money to buy new ones to sell'.

To the pit-emptier, difficulty in accessing desludging/dumping sites and inadequate/lack of capital were identified as the most important constraints to the pit-emptying business. In an explanation, the service provider remarked that: 'previously, there were three dumping sites for fecal sludge but all have been sold to individuals for their private businesses, a situation which compels us to travel long distances at higher costs to dump fecal sludge'. In a further discussion on the inadequate/lack of funds for his business, the SSP said that: 'I have approached the banks on several occasions for financial support, but all attempts have proved futile. I have presented the necessary document/assets like my septic truck and other vehicle to secure a loan, but the banks say my vehicles are too old to be used as collateral for a loan'.

In all the cases, lack of and/or inadequate capital and high tax payments were also identified as important

constraints to sanitation business in the study area. A statement by the pit-emptier confirms the importance of the tax payment as a constraint to the SSPs business, as he remarked that: 'even if you work or don't work, you have to pay tax'. A number of studies have shown that the presence and magnitude of these constraints can affect the performance and growth of small businesses, the sanitation business inclusive. Keefer (2000) attests that the performance of small businesses is usually affected by unfavourable taxation systems, heavy regulatory burden and administrative bureaucracy. Other studies also attest that the performance of small businesses is usually affected by limited capital and limited access to finance (Mugume & Obwona 2001; Kappel 2004; Kappel *et al.* 2004).

MOTIVATIONS TO SANITATION BUSINESS

The results of the pecuniary indicators identified as motivations to the SSPs are presented in Table 3. A financial analysis on the profitability of the operations of the SSPs showed that sanitation business in the study area is profitable, despite the constraints in the sanitation market. The study found that the SSPs obtain *PM* of 27–46% for specific

Table 3 | Profit margin for sanitation business

SSPs	Revenue (GHC)	Operational cost (GHC)	Operating profit (GHC)	Time dimension*	Average days/freq. pa	Average. annual profit (GHC)**	PM (%)
Masons (<i>N</i> = 3)	32.5	17.5	15 (USD8)	Daily	180	2,700 (USD1,431)	46
Pit emptiers (<i>N</i> = 1)	200	140	60 (USD31)	Weekly	52	3,120 (USD1,654)	30
Hardware suppliers (<i>N</i> = 2)	225	165	60 (USD31)	Weekly	52	3,120 (USD1,654)	27

Exchange rate: US\$1.00 = GHC1.90 (2012). *Average, but variable. **Average profit computation based on frequency of service provision or sales. Source: Computed from field data: December 2012/March and June 2013.

periods of operation. Their margins are at par or higher than the lending rates of 17–26% charged by commercial financial institutions in Ghana (Finance – Bank Base Rates 2013), implying that they could use the surplus to ‘cushion’ their costs of operation.

Indeed, the SSPs attested that the ‘positive’ financial returns on their operations serve as motivation for them to stay and continue in their sanitation business. One of the hardware suppliers in an interview remarked that: ‘the profit on my business is what I use to feed myself and my family, and so far as I get profit on what I sell, I am ok with my business’. In addition, the pit-emptier also remarked that: ‘the profit I obtain in my business is what I use to feed myself and my family, as well as to pay my workers’.

In all the cases it was found that the possibility of future market prospects and inadequate service providers in the sanitation market serve as motivation to the SSPs. A statement by the pit-emptier confirms the responses by the SSPs, as he remarked that: ‘Once development is a never ending process and the study area is experiencing development, thus construction of new houses which consider (flush) toilet, I see a good future in the sanitation business. Sanitation is necessary and inevitable in life, so there would always be the need for a pit-emptier’. The inadequate service providers in the sanitation market in the study area therefore provides an opportunity for the few SSPs to operate, a situation which may not ensure effective competition and better service delivery to users.

CONCLUSION AND RECOMMENDATIONS

This study investigated the constraints and motivations to small-scale sanitation business in selected peri-urban

communities in the Ningo–Prampram district of Ghana. The study found that there exist various sanitation-related businesses in the study area, which include: solid waste collection (Zoomlion, Zoil, and ACI) and latrine-related businesses. Focusing on three of the latrine-related businesses, namely: masons/latrine builders, hardware suppliers and pit-emptiers, it was found that the operations of those businesses are constrained by some financial, logistical, institutional and social challenges which limit their performance. Notwithstanding the threat of the constraints, it was found that the small-scale sanitation service providers are making a healthy profit margin, which serves to motivate them to stay and continue in their respective businesses. The study recommends that policy efforts by the government and other stakeholders (e.g. financial institutions) toward addressing the constraints to sanitation businesses are crucial for the survival of the service providers. The provision of financial and logistical supports and education of service users would help to encourage more private participation for effective competition, and hence better service delivery to all stakeholders in the sanitation market and the Ghanaian economy as a whole.

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