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**ENSURING AVAILABILITY AND SUSTAINABLE MANAGEMENT
OF WATER AND SANITATION FOR ALL**

**Poverty penalty: strategies for coping with water access
problems among the urban poor in Abuja, Accra**

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The aim of this paper is to examine water access in Abuja, an informal settlement in Accra, by assessing the coping strategies and their determinant factors used by the urban poor in their daily struggles for water. Data collection was done using mixed methods. The study shows that water is served by a few private vendors, and chiefly among the coping strategies adopted by residents are drinking sachet water, minimizing water use, paying extra to get water elsewhere and bathing or fetching water on credit. These strategies are clearly manifested through determinant factors such as tenure status, the length of stay, household size and social network. The paper concludes that the informal settlement is a space and place where coping strategies are both produced and perpetuated. It recommends that city authorities need to engage in more consultative rather than face-off approaches to ensure a liveable city for all.

Introduction

The unprecedented pace and scale of the second wave of urbanisation in Ghana has exacerbated informality and tenure insecurity. While a number of studies have focused on the urban challenges and vulnerabilities associated with this phenomenon, the dynamics of access to basic services that the urban poor in informal settlements undergo go under-documented at the research level and are ignored at the policy level (Songsore, 2008; Amankwaa et al., 2014). In Accra, Ghana's capital and largest city, per the policy of the metropolitan authority (Accra metropolitan Assembly) the inherent insecurity of tenure frequently precludes informal settlement dwellers from being able to make legitimate claims for adequate service provision. Such a posture portrays informal settlement economies as urban traps with little to no prospects for (economic) growth or improvements on infrastructural services (Marx et al., 2013; Amankwaa et al., 2014) - a framing closely linked to the economic poverty penalty literature.

Poverty penalty is especially apparent with basic services where poorer households tend to pay relatively more for (and often in absolute terms as well), spend much more time, and risk more in, accessing basic services such as water than wealthier households in the city (Thompson et al., 2000; Stephens, 2011). What is rarely reflected in the mainstream literature on urban poverty and informality, however, is exactly how the urban poor in informal settlements engage very differently with these penalties. Using the urban poor in Abuja, Accra as a case study this paper offers an analysis of coping strategies and their determinant factors that are used to patch up and ameliorate the gaps and deficiencies in water access. These everyday strategies invariably construct an operational human infrastructure, which moves and flexes in ways that transcend stationary and physical aspects of formal piped water systems.

Study area and methodology

The settlement of Abuja began as a temporary shelter in the 1980s for Ghanaians who were deported from Nigeria in 1983, though it was originally inhabited by workers of the defunct Ghana Railways Corporation majority of whom relocated following the collapse. As a result, the name, Abuja, is historically traced to the Ghanaian migrants who were believed to have come from Abuja in Nigeria and settled there. The settlement is located in the heart of the city, adjacent to the Cocoa Marketing Board (CMB) and the Accra Brewery on the Graphic road of the Central Business District. It hosts a transport terminal and a mix of informal

residential and commercial structures, with many hawker and niche food markets and small businesses. An estimated five thousand local residents earn their living from business activities within the informal settlement. The growth of the settlement became significant throughout the 1990s when it became a popular area for housing and work activities for many Ghanaians due to its affordable rent, close proximity to the city centre, and central markets that provide income-generating opportunities. Officially, Abuja does not exist since it is not recognized as a residential zone and lacks government-provided services like piped water facilities, garbage collection and toilet infrastructure. The area witnessed a decongestion exercise in 2009 and is well noted for frequent fire outbreaks with the recent ones occurring in 2013 and 2015.

A mixed method approach was adopted involving questionnaire survey and focus group discussions (FGDs). Altogether 100 households were surveyed using systematic sampling technique, although on some occasions this was not possible due to the housing arrangement and availability (or receptivity) of respondents. In such instances, the next house was surveyed making sure that the dynamics within the settlement in terms of old residents and new comers and their coping strategies were covered. A structured questionnaire with questions focusing on water availability, cost, coping strategies and their determinants were used to illicit information from respondents who were the household heads in most cases. In addition, four FGDs were conducted with most groups comprising six to eight participants who were brought together by a unit committee member. In order to ensure a balance between both genders and the range of ages, separate discussions were held with the following groups: male youth, female youth, elderly males and elderly females. Participants in the FGDs with young people ranged from 18 to 35 years whilst those in the older FGDs were aged from their mid-thirties upwards. The discussions lasted around 45-60 minutes.

Water access and coping strategies used by households

The findings show that about 96% of households in Abuja do not have access to water in their residences. Altogether only four households were identified to have public bathhouses or shower facilities that served the community. As a result, residents buy water on a daily basis from vendors who operate these showers and standpipes. They pay GH¢0.50 (\$0.13) for either bathing directly under a shower (which is very common because only a handful of households have private bathhouses) or filling a gallon (20-litre jerrycan locally known as *Kufuor gallon*). It was also found that water is increasingly becoming an expensive commodity in the settlement. The quote below by a female resident gives a sense of the cost burden faced by residents: *as for the cost of water it's like we use water in almost everything we do here, I mean to drink, bath, wash, clean, work, and so on... This makes living here very difficult for us because you pay for everything, I mean drinking, bathing, and toilet, leaving less money for food*'.

Households reported using various coping strategies as they struggle daily to get water. The main strategies are indicated in figure 1. The most frequently used strategy is related to 'drinking sachet water'. About 89% of the households reported using sachet water as drinking water source. Though this emerging trend may not be new among residents in Accra what is quite striking is that most households in Abuja tend to buy single sachets (500ml) which appears more costly (GH¢0.20 \$0.05) as compared to buying the full sachet bag of 30 sachets which cost GH¢3.00 (\$0.78) (see Amankwaa, 2015). One male respondent explained why people choose the sachets over the bags: *'...we buy the single sachets because most of us here don't have our own fridges to chill water and you know it is difficult to drink it [water] hot. In my case because we are a group of workers who share [sleep in] this shop it's difficult to monitor who drinks when and who buys next*'.

The second most commonly used strategy is to 'minimize the use of water'. About 67% of the respondents reported managing their water usage as a strategy to reduce the household expenditure and time spent on getting water. Thus, a lot of people either use little water or reuse water for their daily household activities. From the supply side, water vendors bemoaned the decline in daily purchases and it is possible that they do not benefit from economies of scale especially when the field work revealed that three out of the four vendors pay estimated (fixed) bills at the end of the month. Minimizing the use of water has a direct bearing on the poor environmental and insanitary conditions in the settlement further contributing to diseases such as typhoid fever and cholera.

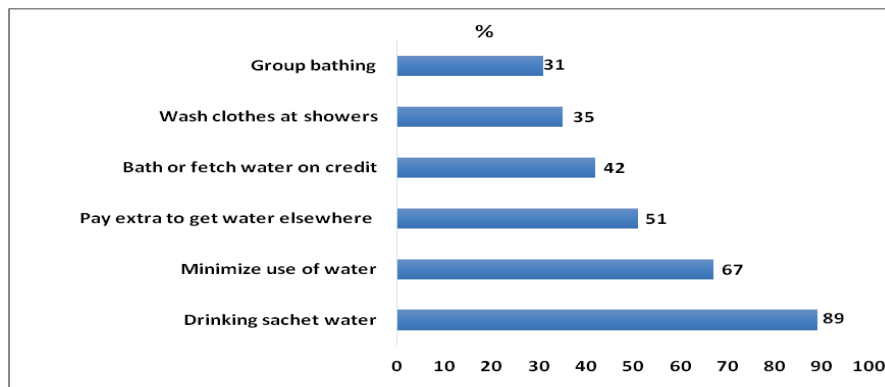


Figure 1. Coping strategies used by households

Source: Field work, 2015

In addition, more than half of the households (51%) reported 'paying extra to get water elsewhere'. This strategy usually occurs when there are water shortages within the settlement and residents have to travel or contract others to access water in nearby communities at an extra cost. This obviously affects schooling and working time. In extreme situations, some reckoned having to bath with a few sachets while others cook with it especially those in the food vending business. A female food vendor who could not hide her experience lamented: *'I pay GH¢0.50 [\$0.13] for each gallon of water and in a day I can use about 15 gallons for my food business so you can imagine the cost. ...even during hard times, I sometimes cook with sachet water. This really affects my profit but it is better than not cooking and losing your customers'*.

Another 42% of households 'bath or fetch water on credit'. Although this strategy is not new what is worrying is the rapidity with which it is occurring, suggesting that most residents have used water on credit at some point in time. Most residents alluded to the fact that the cost of water is expensive and greatly affects household expenses, at times more than 50%, and in some cases they are left with choosing between spending their limited income on food or water. On the supply side, this strategy can also be disadvantageous for vendors as they sometimes lose count or are unable to reconcile the credit differences. One public bathhouse operator remarked: *'this act of bathing or fetching water on credit is becoming too much, before it was children who came in the name of parents but now the old people are doing it and it is affecting relationships with friends and even families... At times some claim to have paid the debt but it may not appear so in my records book'*.

Furthermore, 35% of the households 'wash clothes at showers'. This strategy often involves the simultaneous use of the showers to wash clothes after paying to bath. Apart from avoiding to pay separate fees for the water to wash, it was discovered that a lot of households in the settlement have few or no water storage containers apparently due to the purchasing cost and lack of space for storage. The quote below by a female resident illuminates the situation: *'most of us here don't have money to buy gallons to store water. ..Even if you do, where will you keep them [gallons]? My neighbour here use to keep the buckets outside but they got stolen'*. This strategy apart from the negative impact it has on vendors profit also creates long queues for other users of the public bathhouses who at times end up resorting to alternatives which include using the group showers.

Apparently, a sizeable percentage (31%) of households reported 'group bathing' as their coping strategy. This strategy involves a group of people sharing a dormitory-like shower at the public bathhouse. Amidst the inconveniences associated with it some patrons of the public bathhouses have no choice than to use the group showers especially during rush hours or when flow is intermittent. A male resident recounted his experience of using the group shower: *'I have used the group showers a couple of times mostly when I am late for work. I sometimes get worried when I see young ones bathing with their big brothers or at times fathers... I can't complain but I have to manage'*. The fact that people end up bathing in groups probably reflects the worst case scenario and suggests the urgent need for improved access to water supply in informal settlements.

Determinants of use of coping strategies

The study further analysed the determinants of use of specific coping strategies. Table 1 provides results from chi-square analysis. The finding shows that tenure status, the length of stay, household size and social network clearly affect the likelihood of using a particular coping strategy. For instance, the determinant factors were statistically significant at 95% for all the coping strategies apart from 'washing clothes at showers'. The determinant variables for use of the coping strategy 'drinking sachet water' seem relatively consistent ($p = 0.006$) across the categories. Also, it is striking to note that tenure status and length of stay increase the tendency of using coping strategies such as 'minimizing water use' ($p = 0.000$), and 'paying extra to get water elsewhere' ($p = 0.027$). This is hardly surprising as it is possible for households with some form of tenure directly from the landlords (Ghana railway corporation) and those with longer stay in the settlement (and might command local resources or power) to have greater opportunities, such as having storage facilities and ownership of space to store water and increase water security or even rent out space for livelihood activities to increase purchasing power, and therefore can negotiate better and differently in terms of their coping strategies than their counterparts without tenure security.

Coping strategies	Determinant variables (%)			
	Tenure status	Length of stay	Household size	Social network
Drinking sachet water <i>Chi-square = 12.524; df = 3; probability = 0.006</i>	100	95.7	85.2	70
Minimize use of water <i>Chi-square = 28.072; df = 3; probability = 0.000</i>	100	73.9	40.7	45
Pay extra to get water elsewhere <i>Chi-square = 9.155; df = 3; probability = 0.027</i>	73.3	47.8	37	40
Bath or fetch water on credit <i>Chi-square = 34.574; df = 3; probability = 0.000</i>	16.7	17.4	55.6	90
Wash clothes at showers <i>Chi-square = 7.577; df = 3; probability = 0.056</i>	36.7	43.5	14.8	50
Group bathing <i>Chi-square = 16.817; df = 3; probability = 0.001</i>	50	8.7	44.4	10

Number of observation = 100. (%) = percentage of respondents within the various determinant variables
Source: Field work, 2015

The analysis further suggests that in certain instances tenure and length of stay alone may not suffice to guarantee the possibility of navigating around specific coping strategies. For instance, social network and household size seemingly complicate the water landscape and agglomeration of strategies that can be potentially harnessed. As clearly demonstrated in the table, they tend to increase the possibility of adopting coping strategies such as 'bathing or fetching water on credit' ($p = 0.000$) and 'group bathing' ($p = 0.001$) respectively. Highlighting on the significance of social networks in determining coping strategies a male respondent revealed: '*for most of us here we go to this nearby shower because it is near to us but other people prefer to use showers that belong to people they know, maybe from the same association or ethnic group*'. At the same time, it was unanimously agreed among the respondents that depending on the type of network social relationships could either foster or hinder the chance of accessing water on credit. It is worth adding that from the field observation distance appears to be the key determinant for accessing a particular public bathhouse as most households tend to build clusters around the nearby shower. Similarly, the size of a household is particularly significant because larger households

tend to be poorer as they may have to support more dependents, resulting in higher expenditure and therefore the need to cope with strategies such as 'bathing or fetching water on credit' and 'group bathing'.

Conclusion

The study found that 96% of households in Abuja do not have access to water in their residences. This finding is similar to the study by Awumbila et al. (2014) which reported that 92% of migrant households in Old Fadama, a slum in Accra, do not have access to water in their residences. Not only are services generally unavailable in informal settlements, but the urban poor end up paying more for water than their counterparts in rich neighbourhoods (see Amankwaa et al., 2014). As a result, water access is constantly produced through a labyrinth of coping strategies which invariably increase household expenditure and exacerbate the poverty penalties of the poor. Households' most common coping strategies adopted include: 'drinking sachet water', 'minimize use of water', 'paying extra to get water elsewhere' and 'bathing or fetching water on credit'. Having a tenure status or long stay in the settlement or having social networks appear to be determinant factors for the coping strategies adopted by households. The high share of households engaging differently with these penalties fit with the fact that household poverty will be reduced when informal settlements have available and improved access to water. The analysis further points to the need to enhance the purchasing power of households, which suggests that creating income generating opportunities should complement any intervention aimed at improving access to water. In essence, policies that result in increased access to water for the urban poor, and regulating pricing of water by private vendors are likely to have meaningful consequences on poverty. In the interim, it would be useful for the existing community based associations to collaborate with civil society organisations and mobilise resources to install community standpipes as a way to increase the availability of supply and improve access to affordable water (see also Owusu et al., 2015).

The study thus further illustrates that just as cities provide services for their residents, the urban poor including those in informal settlements and slums should be equally catered for. Policies and strategies regarding the provision of services and sometimes forced evictions do not seem to provide long-term solutions to urban inclusive growth, rather they often create urban traps and poverty penalties that worsen the burden of vulnerable groups and produce deeper exploitative conditions for the poor. As rightly noted by Awumbila et al. (2014) pervasive urban poverty and proliferation of informal settlement and slum, which is typical of Africa's cities, are likely to become even more widespread under current urban development trajectories, especially given the sheer lack of urban governance capacities and investment in public goods. This indicates that providing infrastructure and services and ensuring inclusive growth necessitate the pursuit of realistic and sustainable national urban development policies, and key improvements in access to livelihood opportunities.

Rapid urbanization being currently experienced in Africa, including Ghana has not been able to keep pace with the tenets of formality. Therefore, informality must be seen as a product of the fast-occurring urbanization process. As Roy (2009) puts it, "an organizing logic, a system of norms that governs the process of urban transformation itself". The reality is that widespread urban services are rarely provided without the active agency of individuals and groups, hence there is the need for policy makers to stitch together policies aimed at building safe, inclusive and sustainable cities to harness the potential of urbanization and the variable practical outcomes for poor people. The study concludes by emphasizing a broader intellectual context that acknowledges how new approaches and processes such as multi-stakeholder platforms may be better suited to the governance of water in a complex, multi-dimensional setting than conventional formal systems of water management based on notions of order and structure which rarely operate in such settlements. Such thinking highlights the continued importance of agency, including 'grassroots' efforts, in ensuring service provision. In the end, this paper shares useful insights into how poor people cope with, and are affected by, changes in access to water on a daily basis, and how they pay the penalty despite their poverty.

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