The divergence between acceptability of municipal services and urbanization in developing countries: insights from Accra and Sekondi-Takoradi, Ghana

Abstract:	In most developing countries, the provision of municipal services and infrastructure invariably fails to match the pace and demands of urbanization. The outcome is often increased informality due to improper planning, official bureaucratic barriers, and perhaps, insufficient and shrinking public resources, which then makes leveraging private capital for public service provision imperative. Drawing on in-depth qualitative fieldwork in two Ghanaian cities this paper aims to extend literature on the divergence between service provision and urbanization in developing countries. More specifically, it attempts to qualify recent macro-level data indicating that access to water, sanitation and electricity services in Accra and Sekondi-Takoradi are improving substantively. Contrary to dominant policy narratives circulating in Ghana, we illustrate how the acceptability of key municipal services within urban settings is often inadequate, and how acceptability is tied to spatial and temporal factors. We then identify and examine the reasons underpinning these variations. Through exploring residents' perceptions of key services, and examining critically the possibility and feasibility of meeting urban service needs through leveraging private resources, this paper contributes to broader academic debates over urban service provision, while also feeding into contemporary policy discussions concerning how to achieve several of the SDGs by 2030.

SCHOLARONE™
Manuscripts

The divergence between acceptability of municipal services and urbanization in developing countries: insights from Accra and Sekondi-Takoradi, Ghana

*Martin Oteng-Ababio

Department of Geography and Resource Development, University of Ghana, Ghana

moababio@yahoo.com

Ian Smout

Water, Engineering and Development Centre, Loughborough University, UK

i.k.smout@lboro.ac.uk

Ebenezer Forkuo Amankwaa

Department of Geography and Resource Development, University of Ghana, Ghana

ebenchief@yahoo.com

James Esson

Department of Geography, Loughborough University, UK

j.esson@lboro.ac.uk

Abstract:

In most developing countries, the provision of municipal services and infrastructure invariably fails to match the pace and demands of urbanization. The outcome is often increased informality due to improper planning, official bureaucratic barriers, and perhaps, insufficient and shrinking public resources, which then makes leveraging private capital for public service provision imperative. Drawing on in-depth qualitative fieldwork in two Ghanaian cities this paper aims to extend literature on the divergence between service provision and urbanization in developing countries. More specifically, it attempts to qualify recent macro-level data indicating that access to water, sanitation and electricity services in Accra and Sekondi-Takoradi are improving substantively. Contrary to dominant policy narratives circulating in Ghana, we illustrate how the acceptability of key municipal services within urban settings is often inadequate, and how acceptability is tied to spatial and temporal factors. We then identify and examine the reasons underpinning these variations. Through exploring residents' perceptions of key services, and examining critically the possibility and feasibility of meeting urban service needs through leveraging private resources, this paper contributes to broader academic debates over urban service provision, while also feeding into contemporary policy discussions concerning how to achieve several of the SDGs by 2030.

Keywords: water, sanitation, electricity; Accra; Sekondi-Takoradi, Ghana

1. Introduction

Urbanization, which is an index of transformation from traditional rural economies to modern ones, has undergone major changes in the past decades, and is likely to experience significant transformations in the decades to come. Recent studies indicate that while the developed world became mostly urban around 1950, developing regions which are still mostly rural today, will have more people living in urban areas by 2030 (Turok, 2015; 2016; World Bank, 2015; Parnell & Pieterse, 2014; Carmody & Owusu, 2016). Turok (2016) reveals that from 2010 to about 2030, Africa's urban population is expected to double. These studies at the same time reveal that urbanization offers unparalleled promise to the national economies (accounting for 70% of global Gross Domestic Product), and opportunities for improving people's wellbeing, for poverty reduction and for the promotion of sustainable development. It also offers opportunities for most developing countries to foster innovation and creativity, which should in turn enable greater numbers of their citizens to be part of increased growth and prosperity (see Gillespie, 2014; Turok, 2016; UN-Habitat, 2014).

The optimism associated with urbanization's potential role in forging a more prosperous future does however require qualification. Increasing human populations, which the US National Intelligence Council identified as a "tectonic shift" that will "affect how the world works" by 2030 (USAID, 2013), add complexities to urbanization experiences, and collectively exert a high demand for basic infrastructure and services to which many authorities have so far failed to respond positively because of financial constraints. Rather, and as rightly noted by Tacoli, McGranahan & Satterthwaite (2015), urban growth in most developing countries is too often accompanied by increasing urban

poverty. USAID (2013, 1) highlights this negative relationship emphasizing that: "one billion people currently live in slums without basic services like clean water, electricity or health services; 28 percent of urban under-five children are chronically malnourished; 60 percent of urban dwellers are exposed to natural disasters and often lack voice in local government."

This paper aims to further existing literature on urban infrastructure provision in sub-Saharan Africa, but as the infrastructural challenge spans a wide spectrum, the paper empirically builds on fieldwork investigating the quality and acceptability of water, sanitation and electricity services in Accra and Sekondi-Takoradi (Ghana). It zooms in on the pressures of urban management and illustrates how the acceptability of key municipal services varies both spatially and temporally. It further examines the politics underpinning these variations relative to previous studies that have focused on single themes such as water quality (Verhagen & Ryan, 2008; Ainuson, 2010; Stoler, Weeks & Otoo, 2013); or focused on multiple themes (Konadu-Agyemang, 1991; 2001; Arguello, Grant, Oteng-Ababio & Ayele, 2013; Songsore, Alhassan, Avle, Amponsah, Kala & Chama, 2014). By focusing on the public acceptance factor, we seek to shed much needed empirical light on the constitutive nature of power and complexity within urban settings. This not only provides empirical evidence of city-specific urban conditions, but also has potential utility in stimulating micro-level solutions due to the impracticability of one-size-fits-all remedies (Fuseini & Kemp, 2016).

In this paper, we show that reported access to a service does not imply satisfactory service provision which is acceptable to city residents. Urban growth increases pressure on services and the failure of city authorities to purposefully plan for

this unprecedented growth, leads to increased informality and poor service provision, exacerbating poverty in the already vulnerable communities and jeopardizing the attainment of the Sustainable Development Goals (SDGs). With increased urbanization, the prospects for achieving core development objectives as enshrined in the SDGs for which the Ghanaian President is one of two United Nation (UN) appointed focal persons are tied to what happens in urban areas in the country.

This paper relates in particular to SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy) and SDG 11 (Sustainable Cities and Communities – including transport). Their explicit focus on sustainable cities and communities and on universal access to energy and transport as well as water and sanitation, suggests that the conceptual and policy landscape may be shifting towards a more nuanced approach to development that places more interpretative weight on service infrastructure and on ensuring that everyone has access to services. This is not to discount the statistically quantum improvement in most urban services in Ghana (GSS, 2012).

Our paper is structured as follows. The next section discusses the framing of acceptability of urban services more as cultural and socio-economic issues, which determine whether society will accept a service or obligate a community to appropriate a service with little alternative. This is followed by a brief background on the study locations and the methodology employed in the study. The third section presents the results of the research followed by a discussion that assesses the implications of the results for residents, practitioners and city authorities. The conclusion examines a way forward in how to examine critically everyday realities facing urban dwellers in their quest for sustainable urban service delivery.

2. Acceptability of urban services – a theoretical overview

Theoretical approaches for gauging societal accessibility to urban infrastructural services within the geographical space of cities have evolved rapidly over the past two decades, as academics and policymakers struggle to grasp the implications of increasing urbanization and sprawl vis-a-vis World Bank/IMF sponsored neoliberal policies (World Bank, 2015) and the concomitant receding role of the state in the provision of such services (Budds & McGranahan, 2003; Grant, 2015). Principally, these approaches are less sanguine about the public acceptance factor of the services than their geo-spatial distribution. This approach also tends to mask the economic, social and cultural hurdles associated with the utilization of services, which plays an important role in the potential success or failure in the implementation of public infrastructure service, either by the public or private sector (Basbas, Mintsis, Taxiltaris, Roukouni & Vazakidis, 2015). While prior studies in Ghana (see Songsore et al, 2014; Amankwaa, Owusu, Owusu & Eshun, 2014; Fuseini & Kemp, 2016) have helped to theorize some of the popular dimensions of infrastructural provision – availability, affordability, appropriateness, resource mobilization etc. - they often fail to explain how service beneficiaries accept the services being delivered by service providers.

At a more general level, the concept of acceptability has come into immense prominence lately amid efforts to conceptualize private sector participation in urban service provision, with varying success (Harvey, 2008). The question of acceptability has more to do with cultural and socio-economic factors (including beliefs), which determine the possibility for a society to accept a service or obligate a community to appropriate a service with little alternative and the judged appropriateness for using the service

(Basbas, et al., 2015). According to Levesque, Harris & Russell (2013), the key to understanding better questions of service acceptability in developing contexts revolves around the question of how issues of power influence the dynamics of informal organization, and then impact on wider processes of governance, which in turn affect the opportunity or ease with which consumers or communities are able to use appropriate services in proportion to their needs. Moreover, Levesque et al., (2013) see the ability of an individual or a community to seek a particular service as a function of the person's personal autonomy and capacity to seek knowledge about service options, and his/her individual rights to determine and express the intention to obtain particular services.

As demonstrated by Harris, Harris & Roland (2004), the issue of acceptability therefore relates to ensuring that the service being offered meets the needs of different cultural, socio-economically disadvantaged and vulnerable populations since in all probability, different groups may judge the appropriateness and quality of the service differently and further appreciate, utilize and accept the service from a different perspective. On a more practical standpoint, some researchers (Stoler et al., 2013; Fuseini & Kemp, 2016) maintain that one should not just have access to services based on one's geographical and organizational availability and affordability alone, but that access must encompass the possibility to choose acceptable and effective services. The opportunity for a consumer or community to utilize a service (e.g. dug-out well) cannot be equated to the opportunity for another wealthier consumer (community) to utilize highly rated (in-house) piped services, if these services can potentially generate different health outcomes or satisfaction. In other words, services with inherently differential technical qualities -

either through the utilization of different types, technologies or providers cannot be seen as equally appropriate services.

Conceptually, Levesque et al., (2013) rightly maintain that a consumer's or society's tendency to accept a service has a direct relationship with their level of participation and involvement in the decision-making process, which is in turn strongly determined by the individual's capacity and motivation. This, as has already been demonstrated, is also strongly related to the consumer's level of knowledge about the service and the capacity to communicate this awareness. By inference, it can be concluded that the optimal acceptance of any service ultimately requires the person or community to be fully engaged with or be part and parcel of the service. The concept of acceptability is thus seen as a human-centred framework that presents the pathway through appropriating the needed urban infrastructural services. The conceptual approach provides the basis for a stronger operational measurement, particularly at a time when city authorities are feverishly clamoring for foreign direct investment and other private capital to finance their infrastructural deficit, and thereby provide guidance into policies aiming at addressing certain infrastructure gaps in order to promote access.

3. The study area and methodology

3.1. The study area

In analyzing residents' acceptability of urban infrastructure and service delivery, two cities; Accra, the most urbanized and national capital, and Sekondi-Takoradi, Ghana's rapidly urbanizing oil city, were selected for the fieldwork. This aided greater understanding of inter- and intra-city dynamics and variations and the lessons learnt

could provide insights for planning and policy making. The total population of Accra in

the 2010 national census was 2,076,546 with 450,794 households (Ghana Statistical

Service, 2012). Sekondi-Takoradi, which is the capital of Western Region and doubles as

the capital of Sekondi-Takoradi Metropolitan Assembly (STMA), had a population of

300,524 in 2000 which nearly doubled in 2010 to 559,548 (Ghana Statistical Service,

2012).

Within each city, five residential locations were sampled to cover a range of types

of settlements, a range of income levels, as well as older and newer settlements.

Overviews of the case study settlements in Accra and Sekondi-Takoradi are provided in

Table 1 and Table 2 below respectively.

Table 1: Settlements studied in Accra – TO BE INSERTED

Table 2: Settlements studied in Sekondi-Takoradi <mark>– TO BE INSERTED</mark>

In terms of infrastructural services, the 2010 population census lists Accra and Sekondi-Takoradi as well connected cities, with over 90 and 80% of their respective residents having access to electricity and improved water respectively. We posit however that the reality in both cities can be more worrisome and chronic against the backdrop that most official statistics deal with averages and sometimes undercount those 'living under poverty' in the so-called illegal (informal) and slum communities (Oteng-Ababio, Smout & Yankson, 2017). The assertion that these cities are well connected fallaciously implies all residents to be 'service-rich' once the city average rises over and above the national level, without recognizing intra and inter-city differentials and therefore may be cultivating a misinformed perception that the cities do not need intervention. Re-examining residents' acceptability of service delivery is imperative, and presents critical implications for city managers. Importantly, understanding such dynamics, which is an essential part of piecing together the typologies of service acceptability, can make urban managers better informed about how to address needs and allocate scarce resources for intervention.

3.2. Methodology

A qualitative methodology was followed, using focus group discussions (FGDs), semi-structured interviews and in-depth interviews. In general, four FGDs were held per settlement, one each for elderly males, elderly females, young males and young females, with 6-8 participants per focus group conducted (see Table 3 below).

Table 3: Composition of Focus Groups – TO BE INSERTED

In addition to the focus groups individual residents were purposively selected for semi-structured/in-depth interviews to ensure a wide range of participants, with a target of 20 – 25 interviews per settlement. Gough et al. (2015) provide more details of the focus groups and interviewees, and the standard focus group discussions and interview schedules. Table 4 below provides a summary of the characteristics of interviewees and the number of interviews conducted in each city.

Table 4: Characteristics of Interview Respondents – TO BE INSERTED

The fieldwork findings were written up as Settlement Profiles (Gough et al. 2015) together with a table on the ranking of services for each settlement, in a standard format (see Smout, Kiunsi, Ngouanet, Oteng-Ababio, Esson, Fisher, Yemmafouo, Namangaya, 2015). In Ghana, baseline data on the urban services under consideration were also collected through census reports, as well as in-depth interviews of 16 service officials across the cities (selected in a statistically representative manner). Additionally, case histories of a further nine community leaders, occupational associations and relevant private sector associations were conducted. This summarized the characteristics of the settlement and the findings related to acceptability of services and the focus groups' ranking of the services according to their priority for improvement. It is envisaged that dynamics associated with changes to the built environment, alongside the demographic shifts, can influence the quality and acceptability of services in the study settlements. This is the focus of the next section.

4. Results: gauging the quality and acceptability of urban services

The paper builds on fieldwork investigating the quality and acceptability of water, sanitation and electricity services in two case study cities in Ghana – Accra and Sekondi-Takoradi. We first analyze the availability and quality of the services under consideration (i.e., improved water, sanitation, and electricity) within the selected cities and their spatial dynamics, and highlight the current governance structure and some of the accompanying challenges. The level of respondents' acceptability of these services is presented following this.

4.1. Quality of urban service delivery

4.1.1. Urban water services

The baseline data on water services collected from the census reports for the two cities revealed that overall, 80% of the residents had access to a water tap for drinking, which qualifies as an improved water source but this does not necessarily imply an in-house connection. In reality, only 31.8% and 31.4% of the residents in Accra and Sekondi-Takoradi (mostly those in the high-income neighbourhoods) have household or at best a yard connection. Thus, from the results (see Fig. 1) 49.3% of the residents in Labone (Accra) have in house connections whilst only 2.5% of those in Ashaley Botwe enjoy that facility. Similarly, in Sekondi-Takoradi, while 45.3% of the residents in the affluent community (Anaji) have in-house services, only 9.9% in New Takoradi is that lucky.

FIG. 1: Main source of domestic water used for drinking in Accra (a) and Sekondi-Takoradi (b)

[FIGS 1a AND 1b TO BE INSERTED]

Source: Computed from 2010 population and housing census district level data (GSS, 2012)

Importantly, our data clearly revealed that the statistics above only tell part of the story as water access within a house is underpinned by central issues of availability, access and affordability which ultimately price out a number of household members, limiting their access to potable water and compelling the disadvantaged to use unhygienic alternatives. These include unprotected spring, unprotected well, rain water, river/stream, and dugout/pond which have been categorized as Other in the figure.

A participant in a focus group held in Accra New Town illustrated this point as follows;

> Getting a pipe installed is a big issue for those of us in the family houses. Who should take the lead and go for the water meter? Who will control the use of it and how will the bill be distributed among other members? These issues will bring a problem so we use the well, which is mostly salty and cannot be used for drinking and our bodies itch when we use it to bath (Participant, female youth focus group, Accra New Town).

The challenges residents face in accessing water were also touched on in Korle Gonno, where our respondents highlighted an on-going "pay-as-you-go" system, where the homeowner or landlord owns and therefore controls the water tap and prospective users (including tenants) pay per use. In such instances, a bucket of water ("Kufuor gallon", approximately 20 litres) in the community typically costs 20 pesewas (US 5 cents), while

bathing directly using the in-house shower costs between 20 and 30 pesewas (US 5 and 8

cents). The same concern was observed in New Takoradi and Ashaley Botwe where

almost all the residents use alternative sources of water supply including wells and rain,

as depicted in the quotes below;

> At first we had underground water but I can testify that for twenty years now the taps
> do not flow. So the private tanker has to bring water for it to be poured into a
> vendor's polytank for people to buy. As to whether it is clean or not we have to buy.
> It is going to be poured into someone's reservoir for you to buy to cook and bath so
> we really have water problems. Water does not flow (Participant, male elders focus
> group, Ashaley Botwe).
> When it comes to pipe water we suffer because it can take about two weeks or 1
> month before the taps will flow. And it doesn't even flow in the day time when you
> can fetch but at dawn when you are sleeping. So some of us have wells in our homes
> and those who don't have to pay GH¢0.50 [US 12 cents] for a "gallon" of pipe water
> from vendors. This is water you can't even drink (Participant, female youth focus
> group, New Takoradi).

The scenarios outlined above are not unique to Ghana, as residents of a variety of other

African cities, such as Dar es Salaam (Pastore, 2015), Khartoum (McGranahan, Njiru,

Albu, Smith & Mitlin, 2006) and Lagos (Gandy, 2006) face similar challenges as they try

to meet their daily water needs. The difficulties accessing water contravene acceptable

WHO standards for human health and welfare, which stipulate a medium level of health

concern when the total time to collect water is between 5 and 30 minutes (water within 1

km of a dwelling with an average consumption of about 20 liters per day per person)

(Howard & Bartram, 2003). The above-mentioned challenges associated with water

access connect to more practical everyday issues like sanitation, which is the focus of the

next subsection.

4.1.2. Quality of sanitation service delivery

Another key shortcoming with baseline data on services collected from the census reports

is the potential for spatial, temporal and income variations to be overlooked. For

example, sanitation services within the two cities exhibited inequalities in access in a

direct relationship to household wealth. This was more clearly evidenced by the

observation that pit latrines are common in low-income households of Korle Gonno,

Gbawe, Ashaley Botwe (Accra), and New Takoradi, Assakae and Kojokrom (Sekondi-

Takoradi), while flush toilets dominate the affluent communities, namely Labone and

Anaji. This stands in sharp contrast with statistical data from the 2010 population census,

which paints a more satisfactory picture than emanating from our in-depth interviews (see

FIG. 2).

FIG 2: Type of toilet facility used by households in Accra (a) and Sekondi-Takoradi (b)

[FIGS 2a AND 2b TO BE INSERTED]

Source: Computed from 2010 population and housing census district level data (GSS,

2012)

Again, like the water situation, the statistics are very deceptive and paint an incomplete

picture as the presence of a toilet facility does not necessarily equate to access. Such a

decision remains the discretion of the family head and/or the landlord if it is rented

accommodation, as they invariably control usage, and usually allow access to their

immediate family members and/or tenants who can afford to pay for access. Our studies

show that the available toilet facilities in the low-income communities do not match the

increasing numbers of residents since under economic duress, some family heads convert

their washrooms/toilets to bedrooms, effectively worsening access to in-house toilet

facilities. A participant in a focus group with male elders from Korle Gonno touched on

this point and described the situation facing residents as follows;

> It is not everyone who has a toilet at home, the landlords have converted the toilets
> into sleeping rooms. …Unlike before, now we pay for using the public toilets so if
> you do not have 40 pesewas, 50 pesewas you will go to the gutter or beach.
> Sometimes when our children ask for money for the toilet, we sometimes don't get
> the money and if you tell them to go and ease themselves somewhere around the
> house, they get caught (Participant, male elders focus group, Korle Gonno).

During focus group discussions across settlements in both cities, participants

unanimously confirmed that many of them have to rely, at best, on public toilets for their

sanitation needs, even though they have WCs in their respective homes. There are of

course numerous cities throughout the global South where access to sanitation is an issue

for a considerable portion of the population (Mitlin, 2015; Satterthwaite, 2016).

However, given the diversity of social conditions that will be found across and even

within these urban environs, it is important to heed the call by Satterthwaite, Mitlin &

Bartlett (2015) to examine the specific contexts within which inadequate access to

sanitation arises. For example, in the case of Accra and Sekondi-Takoradi, attributing

inadequate sanitation provision to infrastructural limitations would fall short of

explaining why residents are struggling with this particular service. We unearthed that

two key reasons for the reliance on public toilets even though a WC might be available in

the home were: the issue of water and who pays the bills; and the cost of removing the

liquid waste when the septic tank is full. The following comments summarise the

sanitation conditions across the settlements.

> Toilet is a problem here because most of the old houses don't have toilets. We use the public toilets which are not enough, and in the mornings there is a long queue and the place smells bad. Because of the fees people ease themselves in polythene bags and uncompleted buildings. There is an NGO here that provides houses with toilet, if you give them money. But as for us tenants there is little we can do because it is the landlord who must apply and pay for it (Participant, male youth focus group, Assakae).
> The toilet is a major problem. Because people walk far away to access the public toilets, they tend to defecate anyhow and it is leading to the dumping of polythene bags containing toilets almost everywhere, in classrooms and backyards. So we need more public toilets for proper sanitation". (Interview with 56 years old female, Polytechnic graduate, Teacher, Kojokrom).

4.1.3. Quality of electricity service delivery

In terms of electricity, our interviews revealed that the majority of homes in Accra and Sekondi-Takoradi are connected to the national electricity grid/supply, albeit in some cases illegally. This was in conformity with the data from the 2010 population census, which pegged households, connected to the national grid as over 79% in all the research localities compared to the national average of 64.2% (see FIG 3). Concerns were however expressed about the nationwide frequent power outages popularly called "dumsor", where lights could go off 5 times in a day for several hours at different intervals. The lack of warning is particularly problematic as the sudden withdrawal/return of power damages electrical items that are plugged in. This has contributed largely to the use of alternative sources of electricity including private generator, gas lamp, and solar lamp which have been categorized as Other in the figure. Furthermore, losses of power lead to food items stored in fridges and freezers becoming inedible thus resulting in

additional expenditure on food, and/or resulting in lost income for those businesses involved in the sale of food and drink. The quote below illuminates some of the major concerns captured in the field on this particular issue.

> The frequent black outs are not helping. Previously, they used to inform us before the lights went off but now it is not like that, it can go off from morning 6am to 10pm. It affects TV, fridge, etc. Some people use freezer to sell iced-water, cocoa drink and that gives them their daily bread. But with the current light off situation they can't work as before. (Interview with 79 years old male, Pensioner, Kojokrom).

FIG. 3: Main source of energy used for lighting in Accra (a) and Sekondi-Takoradi (b)

[FIGS 3a AND 3b TO BE INSERTED]

Source: Computed from 2010 population and housing census district level data (GSS, 2012)

Additionally, residents in mainly low-income settlements who rely on the shared metered system complained about higher tariffs. Consequently, incessant disputes over the payment of electricity bills have been the lot of those who live in compound houses. The most pressing issue in this regard, particularly in Accra, is the introduction of 'prepaid meters' to replace paying monthly bills. Previously, a monthly bill would be sent to the property and the occupants would attempt to divide the costs between themselves. This was often decided according to the electrical items at one's disposal (i.e. those with more items paid more). A notable problem with this system is that regardless of service quality, customers are charged for using energy. In contrast, the 'prepaid' system requires consumers to preload a card with credit in order to access electricity.

Unlike other African contexts, such as Maputo, where the key concern for consumers transitioning to a prepaid billing system is 'disciplining' themselves to use electricity in line with available credit (see Baptista, 2013), for Ghanaian participants the main problem with the new billing system is that it is considerably more expensive than monthly billing – reported as two to three times more. It is also more difficult for families and home-based enterprises to budget, as they are unable to predict when their credit will finish. In a context where many residents live in compound houses with other tenants, this has led to disputes over who should reload the card when the credit finishes and power is suddenly cut off. The challenges associated with sharing prepaid electricity meters are reflected in the following quotes:

> Almost all of us have some form of electricity but to have our own meter is a bother. You might have a house of 20 rooms that's using one meter so it is very difficult to determine how much electricity you used. So it is very difficult to share the bills. (Participant, female youth focus group, Accra New Town).
> I used to pay GH¢20 for a month because I was using a fridge, 2 fans and 4 bulbs. Now with the prepaid meters I am unable to use GH¢20 credit for 10 days. I had an error on my card and after sleeping in darkness for 3 days I paid someone to fix it for me because the electricity company only noted down my particulars after my complaint. It has been 3 months since I went there to report the case. We are all facing similar problems with the prepaid (Participant, elders focus group, Kwesimintsim Zongo).

The discussion illustrates the central issues of proximity, quality and affordability of services and connects to the everyday lived experiences of how households access water, sanitation and electricity. These factors underpin residents' acceptability or otherwise of services, which is the focus of the ensuing section.

4.2. Acceptability of services in Accra and Sekondi-Takoradi

As discussed earlier, acceptability largely hinges on quality of services. In this study, acceptability of services delivery was assessed and measured by asking our participants in the focus groups and interviewees to rank them in terms of priority for improvement. Table 5 displays the results of the acceptability index of our respondents in their respective communities. It is evident that overall, water supply was the highest priority service residents called for improvement. Additionally, sanitation service was the second priority, while electricity was the lowest priority, ranked last in 6 out of the 10 settlements. In addition to the services under consideration, residents also mentioned health and education among other services as worth improving.

Table 5: Ranking of services priority for improvement in Accra and Sekondi-Takoradi
TO BE INSERTED

The result re-emphasizes the earlier observation made that defining access by coverage figures alone can give a misleading impression of the standard and availability of services since social propinquity may be different from social accessibility (see Arguello et al., 2013). Indeed, greater coverage of a particular service within the urban space does not seem to be synonymous with an acceptable level of service, yet this dissatisfaction can be rendered invisible by residents accepting the onus for rectifying issues For example, sanitation is perceived by residents as a private issue and, residents are therefore inclined to overcome any problems with access to sanitation facilities themselves on a day-to-day basis.

The findings further illustrate that the priority services for improvement were

similar in the major city, Accra as in the secondary city, Sekondi-Takoradi. This has key implications for urban planning and policy making. The study established a range of sanitation facilities and practices, from flush toilets connected to sewers to use of plastic bags or open defecation, but most people in the two cities used shared latrines or public toilets. Significantly, problems were reported with privately owned public toilets (cost, toilets locked at night, cleanliness) and with pollution from disposal of excreta in the local environment. Two key arguments are put forward based on our findings. First, a common issue across all three services is the increasing adoption of pre-pay billing, which places additional financial pressure on residents' daily living costs without a commensurate improvement in quality and complicates sharing of bills between tenants. Second, home ownership is becoming a crucial factor in residents' ability to access acceptable and affordable municipal services, because landlords are now restricting their tenants' access to water, electricity and sanitation services in both of the cities. This is increasing tenants' living costs, but it is also putting greater pressure on already beleaguered public services, and thus reinforcing the decline in service quality and acceptability.

5. Residents' coping strategies in Accra and Sekondi-Takoradi

Mindful of the poor quality and acceptability of services particularly in the low-income and peri-urban areas, most residents have developed a range of coping strategies to counteract the poor water, sanitation, and electricity services. In the face of irregularities in water access courtesy of the landlords' politics as already discussed, some residents resort to using sachet water mainly for drinking, which appears to be quite expensive for families with large household sizes and those who engage in low earning jobs.

Usually purchased from local vendors, sachet water comes in two sizes; small 500ml sachets that can be purchased individually as and when needed for GH¢0.20 (US 5 cents) and a larger bag containing 30 sachets that costs between GH¢3.00-3.50 (US 75-87.5 cents). Although buying single sachets is more expensive (double the cost of buying the larger bags), for economic reasons most people in low-income areas choose the former option over the latter. The cost implication becomes clearly evidenced when compared to the utility supplied water, as 1000 litres of piped-borne water cost GH¢2.98 (US 74.5 cents) based on the tariff of the Ghana Water Company Limited (GWCL) (see Amankwaa, 2017).

In the coastal indigenous communities such as Korle Gonno and New Takoradi, some residents use boreholes and spring water, while others use sea water for bathing and other domestic chores and purposes. In migrant settlements like Accra NewTown and Kwesimintsim, because of the micro-politics surrounding who accesses the pipe water and who does not, most residents mainly use the services of private vendors, including bathing under showers at a cost of GH¢0.50 each per visit. Some residents also harvest rainwater, while others occasionally chance upon leaked/broken pipelines and draw water from these. During periods of severe water shortage, some residents often travel to distant locations with vehicles and trucks while others contract middle persons to collect water, and this eventually increases the cost of water and minimizes usage with serious health implications.

Similarly, the poor quality of sanitation services leads to residents located along the coast (Korle Gonno and New Takoradi) resorting to open defecation along the beaches as well as in the open gutters and drains (known as free range). On the contrary,

residents in the mixed/migrant communities such as Accra New Town, Ashaley Botwe and Kwesimintsim mainly rely on public toilets (water closet, KVIP), where apart from the cost visitors incur, visitors have to spend long waiting hours in queues especially in the rush hours in the mornings. To avoid such experiences, which can be very uncomfortable, some residents' resort to the practice known as "flying toilet": where they defecate in polythene bags and under the cover of darkness "fly" (throw) the bag to nearby places such as backyards, gutters and roof tops which are deemed to be a "no man's land". Others also dump it with their household waste, a practice termed as "take-away" toilet.

The case of electricity is not different. Residents in the indigenous core and the built-up environment, who have accumulated bills and have been subsequently disconnected use illegal connections. Most illegal connections are made in the cover of the dark and in the process, affect the quality of power supply and expose others to fire hazards. Particular mention can be made of Accra New Town, New Takoradi and Ashaley Botwe where fires have resulted in the death of children and the destruction of properties. The use of shared meters is another common practice among low-income households. In the middle/high-income areas such as Labone and Anaji and in some peri-urban areas like Gbawe, wealthier households use generators to help meet their domestic energy needs and also for their home-based enterprises, albeit being a very expensive and unsustainable solution to inconsistent electricity supply. In both cities, and across the different income strata, poor electricity access and frequent power outages have necessitated the use of two or more mobile phones to ensure a charged phone is available to stay connected with friends and business customers. The situation also created

emergency mobile charging centers (through the use of generators) where residents can recharge their phones for a fee of between GH¢0.50-1.00. Other residents carry their chargers to the workplace to be able to recharge, giving them a charged phone which will last until the next morning.

6. Concluding remarks

Our paper highlights how in most urban areas, residents who are dissatisfied with the current service delivery, adopt a range of tactics and strategies to improve access to a variety of services. We establish that in most cases, the residents' concern over a particular service for example, water quality, was intricately linked to the settlements' geographical location within the city, and the make-up of public facilities and private vendors operating within that particular settlement. Additionally, problems such as interruptions to water supplies and queues at vendor points and wells are shown to disproportionally impact household members particularly women and the elderly. This paper presents data from Ghana, but similar findings were obtained from parallel studies with the same methodology in Cameroon and Tanzania (Smout et al. 2015). Consequently, to ensure safe, sustainable cities, then the urban environment should aim to improve the livelihoods of all those who dwell within them and those who depend on the economic activity they generate (see Esson, Gough, Simon, Amankwaa, Ninot, & Yankson, 2016). Our study has abundantly demonstrated that such information and analysis are essential to understand these challenges and to assist policy-makers define, formulate and evaluate policies and programmes that address them.

These insights can lay the foundation for a sustainable urban future by assisting governments to close gaps and deliver services in an inclusive, transparent, and

sustainable manner. It also points the way for the public sector to leverage scarce

resources through collaboration and partnerships with the private sector, and other

organizations. These partnerships are crucial because the public sector will not be able to

achieve the anticipated results through the use of its resources or efforts alone (USAID,

2013). Significantly, the findings have shown how government policies must be informed

by the wealth of local knowledge and experiences. We concur with the observation that

attempts to "ensure sustainable urban service delivery will not just improve the lives of

people living in cities. They will also benefit the farmers who rely on urban markets for

their produce; the parents whose income is supplemented by remittances sent from their

children in the city; and the rural businesses that are financed by urban-based banks. By

addressing the development challenges of urbanization we can help the cities of today

become vibrant centers of the future with opportunity for all" (USAID, 2013, vi).

There is still a dearth of research critically examining the everyday realities facing

most urban residents in contexts where municipal service infrastructure is known to be

inadequate and unreliable. This paper has shown how these contexts vary within cities, in

particular how access to services varies by location and income, resulting in residents

adopting a range of coping strategies to establish themselves in the city. These differing

contexts need to be understood and incorporated in plans for the improvement of urban

services and thence for the achievement of the SDGs (particularly SDGs 6, 7 and 11).

Acknowledgements

References

Ainuson, K.G. (2010). Urban Water Politics and Water Security in Disadvantaged Urban
Communities in Ghana. *African Studies Quarterly,* 11(4), 59-82.

Amankwaa, E. F., Owusu, A. B., Owusu, G. & Eshun, F. (2014). Accra's poverty trap:
Analysing water provision in urban Ghana. *Journal of Social Science for Policy
Implications* 2(2), 69-89.

Amankwaa, E. F. (2017). Water and electricity access for residential livelihood activities
and poverty reduction in the Greater Accra Metropolitan Area (GAMA). Doctoral
thesis. University of Ghana, Ghana (Forthcoming).

Arguello, J. E. M., Grant, R., Oteng-Ababio, M., & Ayele, B. M. (2013). Downgrading–
An overlooked reality in African cities: Reflections from an indigenous
neighborhood of Accra, Ghana. *Applied Geography*, *36*, 23-30.

Baptista, I. (2013). Everyday practices of prepaid electricity in Maputo, Mozambique.
*University of Oxford Institute for Science, Innovation and Society Working Paper
Series*.
https://dev.cam.ox.ac.uk/fileadmin/InSIS/Publications/Baptista_InSIS_WorkingPaper.pdf
[accessed 6 March 2017]

Basbas, S., Mintsis, G., Taxiltaris, C., Roukouni, A., & Vazakidis, A. (2015). Public
acceptance in financing urban transportation projects using the Value Capture
concept. *WIT Transactions on The Built Environment*, *146*, 613-625.

Budds, J. & McGranahan, G. (2003). Are the debates on water privatization missing the
point? Experiences from Africa, Asia and Latin America. *Environment and
Urbanization*, *15*(2),87-114.

Carmody, P., & Owusu, F. (2016). Neoliberalism, Urbanization and Change in Africa:
the Political Economy of Heterotopias. *Journal of African Development*, *18*(18),
61-73.

Esson, J., Gough, K.V., Simon, D., Amankwaa, E.F., Ninot, O. & Yankson, P.W.K.
(2016). Livelihoods in motion: linking transport, mobility and income-generating
activities. *Journal of Transport Geography,* 55, 182-188.

Fuseini, I., & Kemp, J. (2016). Characterising urban growth in Tamale, Ghana: An analysis of urban governance response in infrastructure and service provision. *Habitat International*, *56*, 109-123.

Gandy, M. (2006). Planning, anti-planning and the infrastructure crisis facing metropolitan Lagos. *Urban studies*, *43*(2), 371-396.

Ghana Statistical Service (GSS) (2012). 2010 Population and Housing Census: Summary report of final results. Accra: Ghana Statistical Service

Gillespie, A. (2014). *The illusion of progress: Unsustainable development in international law and policy*. London: Earthscan.

Gough, K. V., Esson, J., Andreasen, M., Mainet, H., Namangaya, A., Yankson, W. K., Agergaard, J., Amankwaa, E. F., Kiunsi, R., Moller-Janser, L., & Yemmafuou, A. (2015). *City dynamics: mobility and livelihoods of urban residents*. Deliverable 3.2, European Commission Framework 7. https://dspace.lboro.ac.uk/2134/21567 [accessed 6 March 2017]

Grant, R. (2015). Sustainable African urban futures: Stocktaking and critical reflection on proposed urban projects. *American Behavioral Scientist*, *59*(3), 294-310.

Harris, M. F., Harris, E., & Roland, M. (2004). Access to primary health care: three challenges to equity. *Australian Journal of Primary Health*, *10*(3), 21-29.
Harvey, D. (2008). The right to the city. *New Left Review*, 53, 23-40.

Howard, G. & Bartram, J. (2003). *Domestic Water Quantity, Service, Level and Health*. *World Health* Organization. http://www.ircwash.org/sites/default/files/Howard-2003-Domestic.pdf [accessed 6 March 2016]

Konadu-Agyemang, K. (2001). A survey of housing conditions and characteristics in Accra, an African city. *Habitat International*, *25*(1), 15-34.

Konadu-Agyemang, K. O. (1991). Reflections on the absence of squatter settlements in West African cities: the case of Kumasi, Ghana. *Urban Studies*, *28*(1), 139-151.

Levesque, J. F., Harris, M. F., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International journal for equity in health*, *12*(1), 18.

McGranahan, G., Njiru, C., Albu, M., Smith, M.D. & Mitlin, D. (2006). How small water enterprises can contribute to the Millennium Development Goals: Evidence from

Dar es Salaam, Nairobi, Khartoum and Accra. WEDC, Loughborough University; Report ISBN: Paperback 1 84380 091 8: https://dspace.lboro.ac.uk/dspacejspui/bitstream/2134/12703/1/B5%20%20swe%20complete%2018%20Jan%202006.pdf [accessed March 6 2017]

Mitlin, D. (2015). Will urban sanitation "leave no one behind"? *Environment and Urbanization*, *27*(2), 365-370.

Oteng-Ababio, M., Smout, I. & Yankson, P.W.K. (2017). Poverty politics and governance of potable water services: the core –periphery syntax in Metropolitan Accra, Ghana. *Urban Forum*, doi:10.1007/s12132-017-9301-8

Parnell, S., & Pieterse, E. A. (2014). *Africa's urban revolution*. London: Zed Books

Pastore, M. C. (2015). Reworking the relation between sanitation and the city in Dar es Salaam, Tanzania. *Environment and Urbanization*, *27*(2), 473-488.

Satterthwaite, D. (2016). Missing the Millennium Development Goal targets for water and sanitation in urban areas. *Environment and Urbanization*, *28*(1), 99-118.

Satterthwaite, D., Mitlin, D. & Bartlett, S. (2015). Is it possible to reach low-income urban dwellers with good-quality sanitation?. *Environment and Urbanization*, *27*(1), 3-18.

Smout I, Kiunsi R, Ngouanet C, Oteng-Ababio M, Esson J, Fisher J, Yemmafouo A, Namangaya A (2015). *Urban residents' access to water, sanitation, electricity & transport and the acceptability of services*", RurbanAfrica Deliverable D4.2, European Commission Framework 7. http://rurbanafrica.ku.dk/publications/urban-briefs/del2/urban-residents-access-to-water-sanitation.pdf [accessed 6 March 2017]

Songsore, J., Alhassan, O., Avle, S., Amponsah, P.E., Kala, M., & Chama, M. (2014). Environmental Health and Disaster Risks, Livelihoods and Ecology within the Korle-Lagoon Complex in Accra, Ghana. Accra: Ghana Universities Press

Stoler, J., Weeks, J. R. & Otoo, R. A. (2013). Drinking water in transition: a multilevel cross-sectional analysis of sachet water consumption in Accra. *PloS one*, *8*(6), e67257.

Tacoli, C., McGranahan, G., & Satterthwaite, D. (2015). Urbanisation, rural–urban migration and urban poverty. International Institute for Environment and

Development Working Paper. http://pubs.iied.org/16574IIED [accessed 6 March 2017]

Turok, I. (2015). Turning the Tide? The emergence of national urban policies in Africa. *Journal of Contemporary African Studies*, *33*(3), 348-369.

Turok, I. (2016). Getting urbanization to work in Africa: the role of the urban land-infrastructure-finance nexus. *Area Development and Policy*, *1*(1), 30-47.

UN Habitat. (2014). The State of African Cities: Re-Imagining Sustainable Urban Transitions. http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3528&AspxAutoDetectCookieSupport=1 [accessed March 6 2017]

USAID (2013). Sustainable service delivery in an increasingly urbanized world. USAID Policy. http://www.usaid.gov/sites/default/files/documents/1870/USAIDSustainableUrbanServicesPolicy.pdf [accessed 6 March 2017]

Verhagen, J., & Ryan, P. (2008). *Sanitation services for the urban poor: symposium background paper*. IRC International Water and Sanitation Centre.

World Bank. (2015). Rising through cities in Ghana: Ghana urbanization review overview report. The World Bank, Washington DC. http://documents.worldbank.org/curated/en/613251468182958526/pdf/96449-WP-PUBLIC-GhanaRisingThroughCities-Overview-full.pdf [accessed 6 March 2017]

Table 1: Settlements studied in Accra

Neighborhood/ Settlement	History	Location	Income-level	Population growth (2000 -2010)
KorleGonno	Indigenous/traditional settlement	Western edge of centre	Low-income	27,826 - 30,555
Labone	Traditionally a middle income residential area	Eastern edge of centre	Middle/High income	17,675 (2010)
Accra New Town	Migrant settlement established in 1940s, mainly Muslim	Northern edge of centre	Low/middle income	45,130 – 31,363
Gbawe	Indigenous core, growing rapidly since 1990s	Peri-urban West	Heterogeneous	29,000 – 67,998
Ashaley Botwe	Indigenous core, growing rapidly since 1990s	Peri-urban North East	Heterogeneous	11,974 – 17,071

Table 2: Settlements studied in Sekondi-Takoradi

Neighborhood/ Settlement	History	Location	Income-level	Population growth (2000- 2010)
New Takoradi	Indigenous	Central	Low-income	13,556 – 20,204
Kwesimintsim	Established in 1930s	Western edge of centre	Heterogeneous	20,024 – 47,211
Anaji	Indigenous and newcomers	North Western edge of Takoradi	Middle/upper income	9,274 – 30,397
Assakae	Indigenous and newcomers since 2000	Peri-urban West	Low/middle income	5,553 – 9,139
Kojokrom	Indigenous/migrants and newcomers since 2000	Peri-urban East	Low-income	9,515 – 37,722

Table 3: Composition of Focus Groups

Settlement	Focus Group Composition						
	Youth			Elders			
	Male	Female	Mixed	Male	Female	Mixed	Total
Accra							
Korle Gonno	1	1		1	1		4
Accra New Town	1	1		1	1		4
Gbawe	1	1		1			3
Ashaley Botwe	1	1		1			3
Total	4	4		4	2		14
Sekondi-Takoradi							
Anaji	1	1				1	3
Assakae	1	1		1	1		4
New Takoradi	1		1		1	1	4
Kwesimintsim	1	1		1	1		4
Kojokrom	1	1		1	1		4
Total	5	4	1	3	4	2	19

Table 4: Characteristics of Interview Respondents

Settlement	Number of respondents	Gender (%)		Age (%)	
Accra		male	female	18-35	36+
Korle Gonno	26	54	46	40	60
Accra New Town	29	65	35	58	42
Labone	15	40	60	66	34
Gbawe	35	49	51	62	38
Ashaley Botwe	28	57	43	60	40
Total	*133*				
Sekondi-Takoradi					
Anaji	20	45	55	50	50
Assakae	27	52	48	44	56
New Takoradi	22	55	45	50	50
Kwesimintsim	19	63	37	42	58
Kojokrom	20	35	65	40	60
Total	*108*				

Table 5: Ranking of services priority for improvement in Accra and Sekondi-Takoradi

City	Settlement	Water	Sanitation	Electricity	Other priorities
Accra	Korle Gonno	2	1	3	Vocational schools, markets, recreational spaces
	Accra New Town	1	2	3	Recreational spaces, library, vocational schools,
	Gbawe	3	1	2	Recreational spaces, secondary school, community centre
	Ashaley Botwe	1	2	3	Hospital, post office, police station, secondary school
	Labone	1	3	2	Hospital, police station
Sekondi-Takoradi	New Takoradi	1	3	2	Markets, cold stores, police station, recreational spaces
	Kwesimintsim	1	2	3	Vocational schools, markets, recreational centers,
	Assakae	2	1	3	Clinic, roads, police station, schools
	Kojokrom	1	2	3	Hospital/clinic, police station, transport terminal, market
	Anaji	1	3	2	Hospital, recreational and community centers
Overall		1	2	3	

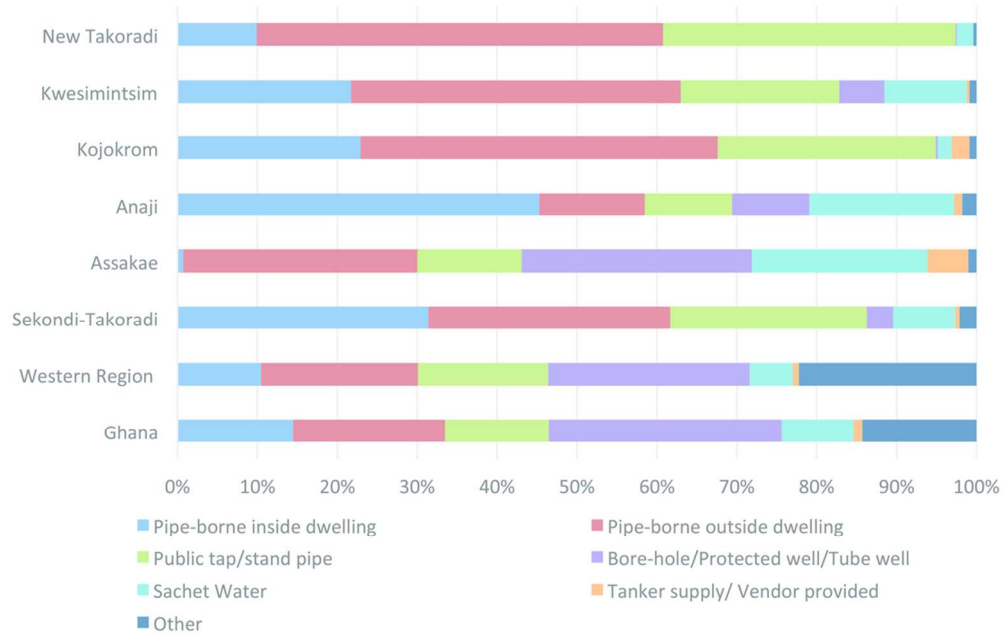FIG. 1a: Main source of domestic water used for drinking in Accra

99x62mm (300 x 300 DPI)

FIG. 1b: Main source of domestic water used for drinking in Sekondi-Takoradi

98x62mm (300 x 300 DPI)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
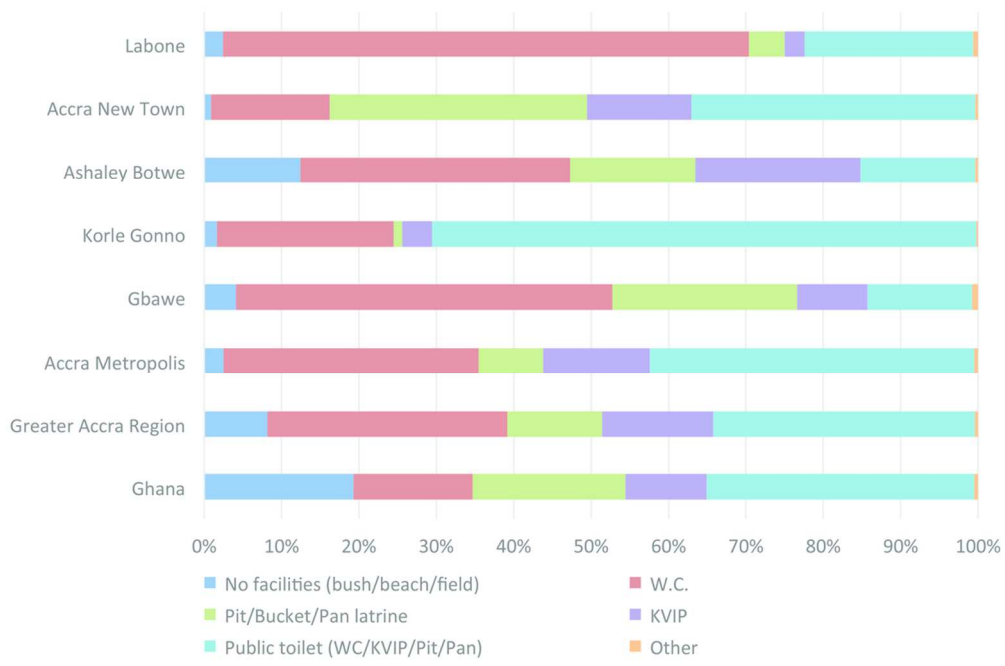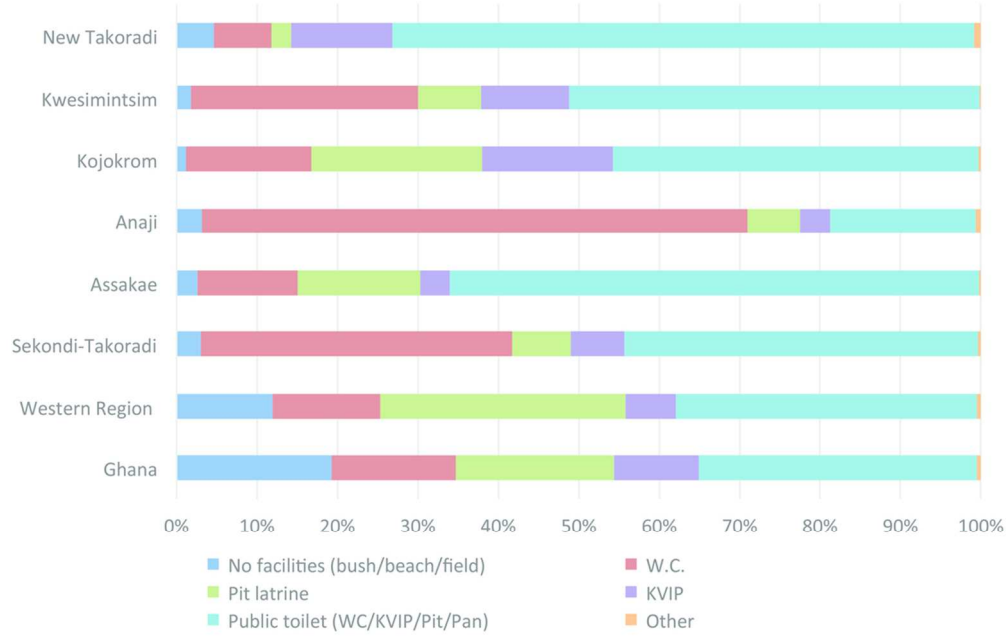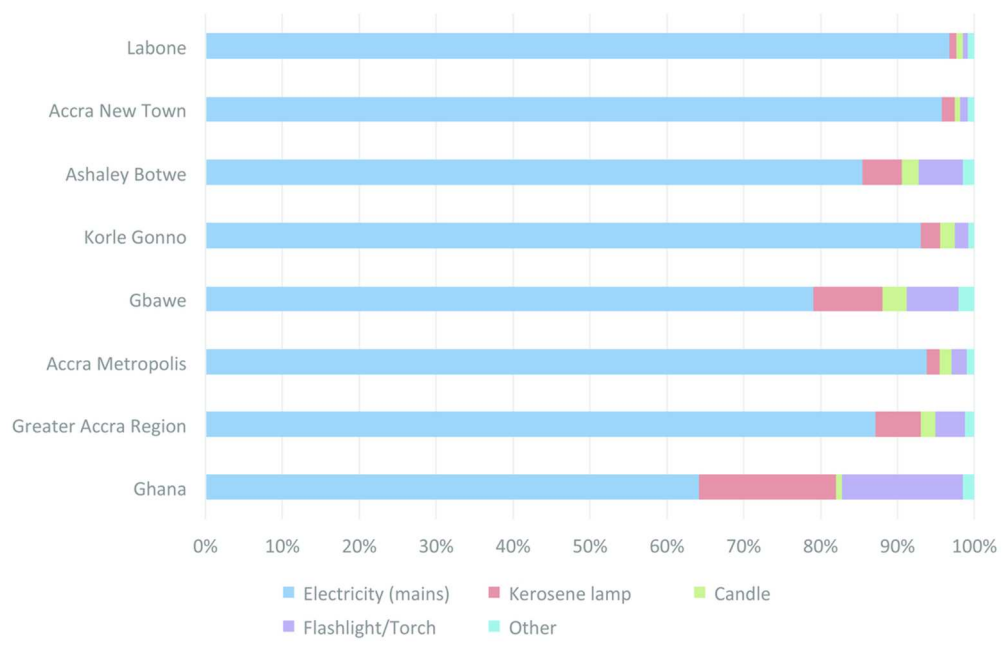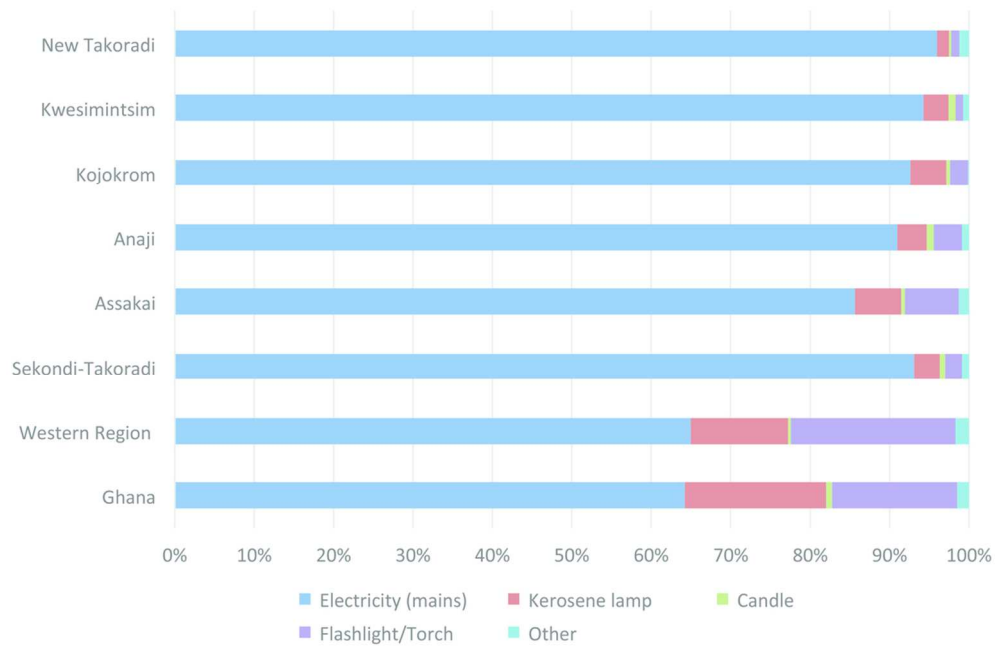48
49
50
51
52
53
54
55
56
57
58
59
60

FIG 2a: Type of toilet facility used by households in Accra

105x71mm (300 x 300 DPI)

FIG 2b: Type of toilet facility used by households in Sekondi-Takoradi

98x62mm (300 x 300 DPI)

FIG. 3a: Main source of energy used for lighting in Accra

102x66mm (300 x 300 DPI)

FIG. 3b: Main source of energy used for lighting in Sekondi-Takoradi

104x70mm (300 x 300 DPI)