

## Research Paper

# Tracking user satisfaction of rural water services in northern Ghana

T. C. Kumasi and Benjamin Dawurah Agbemor

### ABSTRACT

The article discusses the level of user satisfaction with actual handpump service levels and performance of service providers. In this paper, we outline some contradiction between actual service levels, performance of service providers and perception of water users. The findings suggest that users appeared satisfied with quantity and reliability of water facilities. In contrast, they were not satisfied with the time it takes them to access water, especially when the quantity of water diminishes. The sad irony is that tariffs are perceived affordable yet users are unwilling to pay for water. Their responses paint a picture of a payment system that is geared at reactive maintenance over preventative maintenance regime. It is worth noting here that this phenomenon raises questions on the sustainability of water systems when sound financial management is key to sustaining services. Service providers were perceived to perform better than they actually did. Perhaps this was due to lack of information and ignorance on the roles of service providers. In this regard it is imperative that the Community Water and Sanitation Agency (CWSA), implementing partners, the district assemblies and Water and Sanitation Management Teams (WSMTs) take steps to address the technical, social, financial and institutional factors during the planning, implementation and post-construction support which invariably affect sustainability.

**Key words** | affordability, Ghana, handpump, user satisfaction, water and sanitation management teams, water service levels

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### INTRODUCTION

Assessment of successful and potentially sustainable water supply initiatives have focused mainly on the extent of project completion based on agreed specifications, performance of water systems as per technical standards, and effectiveness of regulatory policies as well as management structures (Bhandari & Grant 2007; Spaling *et al.* 2014). While these factors are relevant, they do not tell the complete story. It is also the case that continuous patronage by water users could ensure that sufficient revenues are raised towards operations and capital maintenance expenditures (Bhandari & Grant 2007). Indeed, payment for water is an indication of consumers' demand for improved services,

and users' satisfaction with such services would invariably guarantee, to a large extent, continuous patronage and willingness to pay for it (Katz & Sara 2005; Bhandari & Grant 2007). Overall, a combination of these factors is capable of providing greater guarantee for system sustainability. In spite of this, water users' perception of and reaction to services received from potable water facilities is one area which is scarcely discussed in development literature.

In Ghana, water supply had been successfully extended to 62.03% of the rural population at the end of 2016 (CWSA 2017). Amid this success story are a multifaceted set of challenges to ensure that these rural water infrastructures

provide sustainable services (Harvey 2008; Moriarty *et al.* 2011, 2013; Lockwood & Smits 2011). The challenges of making sure these systems continue to deliver reliable and safe supply of water accessible to everyone, therefore remain a significant one in Ghana.

Research conducted in three districts of Ghana under WASHCost Project showed that 29% of handpumps were non-functional. Furthermore, only 23% of people relying on handpumps were accessing the nationally defined minimum level of service (Nyarko *et al.* 2012). In addition, service monitoring conducted by Community Water and Sanitation Agency (CWSA) under the Triple-S initiative in the three districts noted an average non-functionality rate of 30% in 2012 and 26% in 2014 for handpumps. Moreover, the level of service provided and the performance of service providers and service authorities were found to be well below standards (Adank *et al.* 2015).

Rural water services in Ghana are governed under a decentralized Community Ownership and Management model (COM). Legal ownership of water supply systems is vested in the district assemblies (DAs), here referred to as the service authorities, who hold the assets in trust for the communities (NCWSS 2014). Service providers include Water and Sanitation Management Team for Small Communities (WSMT-SC) responsible for the management of point water sources (handpumps) and Water and Sanitation Management Team for Small Towns (WSMT-ST) in charge of small town systems. Communities are responsible through their respective WSMTs for the everyday management of these systems in line with the tenets of community management (NCWSS 2014; Kumasi *et al.* 2017; Kumasi 2018).

CWSA, the prime government agency, is responsible for facilitating rural and small town water supply in Ghana in its bid to address long-term sustainability of rural water schemes' set norms and standards related to the level of water services that should be provided under its community management models. It seeks to improve service levels and sustainability of water services, monitoring whether these norms and standards are being met and whether the conditions for sustainable water service provision put in place is essential. Monitoring to be able to track the level of service over time and the performance of key technical, financial and management functions of service providers is

crucial to allow problems to be anticipated and addressed (Kumasi *et al.* 2014; Adank *et al.* 2015).

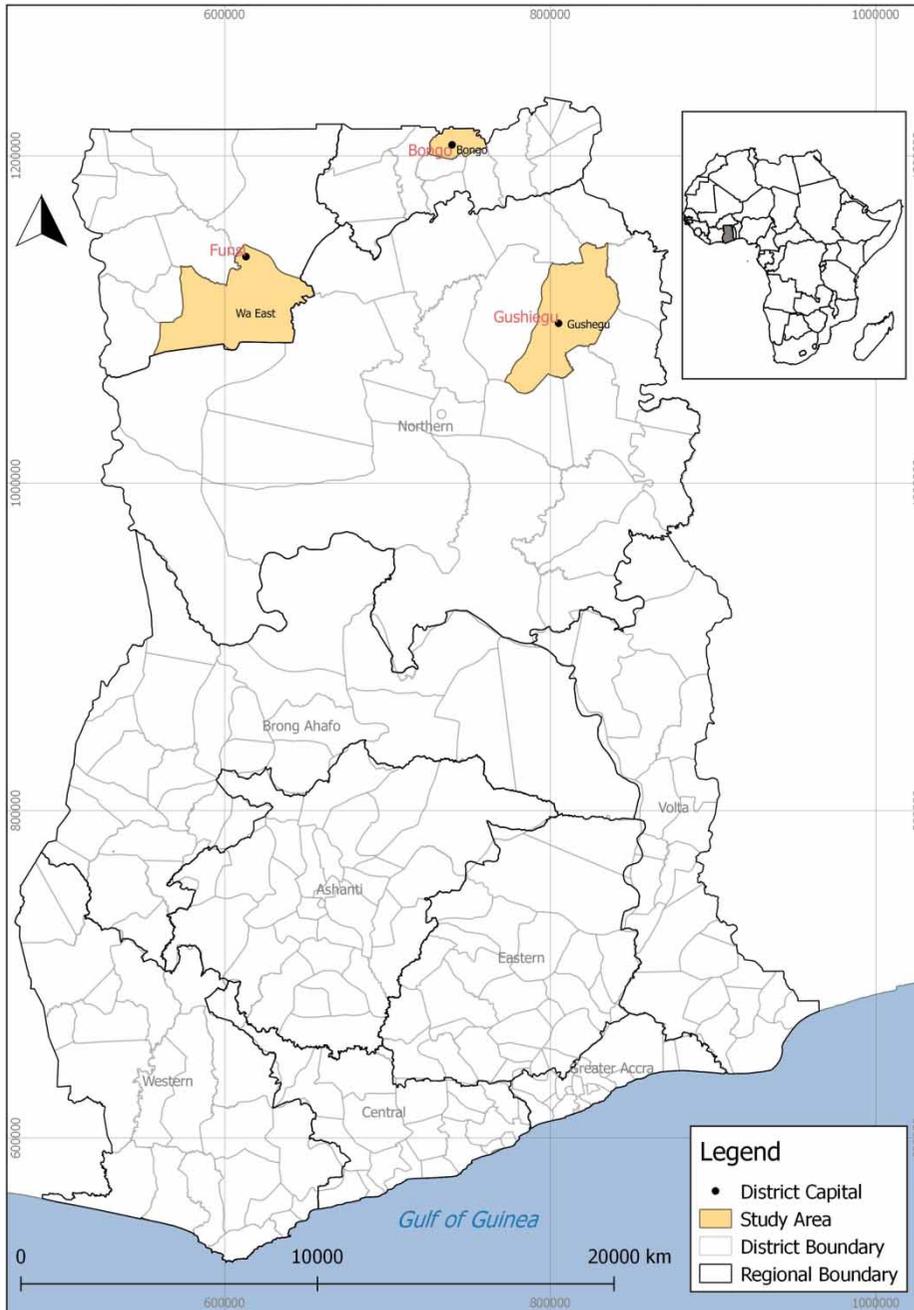
Despite headline progress on functionality and water services, relatively little is known in relation to rural drinking water services and user satisfaction in developing countries, particularly in sub-Saharan Africa (Deichmann & Lall 2007). One would expect that with such low levels of service and limited functionality, users are dissatisfied with the service level, which in turn may lead to non-payment and eventually may exacerbate the long-term sustainability of rural water schemes. As Kumasi *et al.* (2015) discuss, users may be quite satisfied with the level of service when very little or no information is shared with them on the actual level of services and performance of service providers they should expect and demand. Consequently, access to monitoring data can enable water users to realistically demand better services and not be content with low service levels. This can help to ensure that service providers are kept on their toes and users perform their roles. The DA will have to lead and ensure that emerging issues from routine surveys are addressed by users and service providers to guarantee sustained water service delivery.

This paper deals explicitly with the satisfaction of rural households' handpump water services in Bongo, Gushiegu and Wa East districts in Ghana. It assesses the level of user satisfaction with actual handpump service levels and performances of the service providers, as assessed through service monitoring undertaken in 2014. In addition, it seeks to interrogate the differences in user satisfaction service levels and that of actual service level data collected, explore the perceived performance of service providers with the actual benchmarks of service providers and, finally, examine the relationship between water tariffs and affordability among water users in the study districts.

## METHODOLOGY

### Study area

This study was undertaken in Bongo, Gushiegu and Wa East districts in northern Ghana. Figure 1 shows the locations of the districts. Bongo district lies between longitude 0° W and latitude 10° N and has an area of about 460 km<sup>2</sup>. The



**Figure 1** | Map of study districts in Ghana.

population of Bongo rose from 77,885 in 2000 to 84,545 in 2010, representing an increase of 8.6%. In terms of gender distribution, females constitute 52% of the population and males 48% (GSS 2010a). Water coverage increased from 80% in 2014 to 85% in 2015, representing an increment of about 5% (CWSA 2015a). Yet, Alfredo *et al.* (2014) observed

that fluoride contamination in the district is confined to the geologic areas of Bongo granite, creating localized contamination of groundwater sources. These granite formations contain from two to more than 20 times the amount of fluorine in the surrounding rock formations. Water facilities in the district consist of 463 handpumps, three small town

water schemes and seven Limited Mechanized Small Town Water systems (DWST Quarterly Report 2016). According to CWSA service monitoring data (2015), 74% of handpumps are fully functional, 7% are partially functional and 19% are non-functional; only 15% provide basic service level in line with the CWSA benchmark indicators (CWSA 2015b).

Gushiegu district is located in the northeastern corridor and it is bordered by eight other districts in the northern region. Gushiegu district lies within longitude 0° W and latitude 9° N. According to the Ghana Statistical Service Population and Housing Census (GSS 2010a, 2010b, 2010c), the district recorded a total population of 111,259, representing 4.5% of the region's total population comprising 49% males and 51% females. Total land area of the district is approximately 5,796 km<sup>2</sup>. It has a population density of 22 persons per km<sup>2</sup> (GSS 2010b). As at 2015, 84% of handpumps were functional and only 3% delivered a basic service level with the district's water coverage estimated at 74% (CWSA 2015a, 2015b). Salifu *et al.* (2017) hinted of high fluoride contents in about 53% of groundwater samples collected in the district.

Wa East district is located in the southeastern part of Upper West Region and positioned between latitude 9° N and longitude 1° W with a landmass of about 3,196.4 km<sup>2</sup>. The district occupies 17.3% of the total landmass of the Upper West Region. The population of the district was estimated at 72,049 and made up of 50.5% males and 49.5% females (GSS 2010c). Wa East has rural water supply coverage of 73.65% (CWSA 2015a) with 336 handpumps, five limited mechanized systems and four small town piped systems. Assessments conducted on water facilities have shown that service levels provided by water facilities in the district are very low. Only 7% of handpumps provided basic service when they were assessed on national recommended indicators such as quantity, quality, distance and reliability (CWSA 2015b).

### Sampling strategy

A purposeful sample was applied in this survey, focusing on households with access to safe water sources. Households with handpumps, piped schemes (standpipes and household connection) were considered as using safe water sources. A total number of 1,181 household surveys were conducted in

the study districts. Sample size per district was based on 95% confidence level and  $\pm 5\%$  margin of error using the Ghana Statistical Service 2010 Population and Housing Census on number of households per district for estimating sample size for each district, which is considered representative of the entire district population.

Random sampling was applied to ensure reasonably reliable independent estimates for each district. Communities were clustered into area/town council and randomly drawn from area/town council and distributed proportionally to the sample size of each given area/town council. Total district sample size was divided by the total number of sampled communities to derive the number of households interviewed per community.

Overall, 60% of respondents were females in order to ensure gender representativeness and target effective water users. The average age of respondents was 42 years. On the whole, there was no reported non-responsive cases observed during data collection. This is because random sampling was employed to select households and at least a member of a household was available and happy to grant an interview.

### Data collection

A structured questionnaire was developed to measure rural water user satisfaction with level of service delivered by water systems, water use and perceived performance of service providers. Questionnaires were segmented into general information, water supply, reliability, quality, quantity, accessibility, funds mobilization and performance of WSMT-SCs. User satisfaction data were collected between October and December 2015. Data collection was done using smart phones running on the Android operating system. Submitted surveys stored on the phones were transferred over the local mobile data network or WIFI into the online database. A web-based information and communication technology application, called Field Level Operations Watch (AKVO, 2013), was used for monitoring and data collection. Questionnaires were pre-tested in line with standard survey practice in order to further test the suitability of the questionnaires and the procedures for data collection. Subsequently, the questionnaires were loaded on each of the phones and administered face-to-face.

## Data analysis

Data were cleaned and validated prior to analysis, processed and analysed using logical formulas and pivot tables in MS Excel. A total of 133 household surveys was disregarded, as they were collected from households using unsafe (such as surface water and hand-dug wells) or sachet water for their domestic purposes, bringing the total sample size to 1,048. In order to compare the results of service monitoring findings related to handpump water services, households not using handpumps as their main source of drinking water supply were filtered out leaving a remaining 1,010 households. User satisfaction findings were compared with actual service monitoring data collected in 2015. As part of service monitoring, performance of all water facilities, service providers and service authorities was assessed in the three focus districts against national norms, standards and guidelines for community water supply as set by CWSA.

## RESULTS AND DISCUSSION

### The paradox of user satisfaction with the actual level of water services

Level of user satisfaction with regard to handpump services delivered (quantity, accessibility, reliability and quality of water provided) was assessed and presented below. Proportion of households satisfied with these services were compared with a fraction of handpumps that met the national standard on the indicators in each district, as assessed through service monitoring data collected in 2015. These national standards are presented in Table 1.

Figure 2 gives an overview of the proportion of handpumps meeting standards on the accessibility indicators, and proportion of handpump-using households that are satisfied with the accessibility of their water services per district. It shows that in all three districts about half of handpumps managed to meet accessibility standards, with the highest proportion of handpumps failing to meet accessibility standards in Gushiegu district (54%). In line with this observation, the proportion of households that expressed satisfaction with accessibility of their handpump water services was low in Gushiegu (13%) (Figure 2). In

**Table 1** | Service level sub-indicators and standards set by CWSA

Service level indicators	Benchmark
Accessibility	Maximum 150 people per facility Maximum distance between water point and users 500 m
Quantity	20 litres per capita per day
Reliability	Facility is providing water for at least 95% of the year, interpreted as at least 345 days of regular service, without interruption
Quality	Meeting all Ghana Standards Authority water quality standards for drinking water (here: assessed based on perceived acceptability)

Source: CWSA (2014).

Wa East for instance, 50% admitted they spend less than 10 minutes fetching water in the dry season compared to 36% from Bongo and 14% from Gushiegu. In total, 38% in Bongo, 33% in Gushiegu and 28% in Wa East spend more than 1 hour fetching water in the dry season. Accessibility of water sources was especially challenging for households in Gushiegu. Accessibility of safe water sources, especially in the dry season, is an issue for many households. A significantly higher proportion of households reported queuing to fetch water during peak hours in the dry season (73%) than in the wet season (10%). Drawing on insights from Tadesse *et al.* (2013), we argue that queuing for more than 1 hour to fetch water in most cases takes away the labour force necessary for productive activities. The peculiar groundwater development and fluoride contamination in Bongo and Gushiegu, as reported by Alfredo *et al.* (2014) and Salifu *et al.* (2017), may have made it problematic for the perceived accessibility yardstick to be met.

From the perspective of the service provider (as assessed in service monitoring) as well as from households, the quality of handpump water was generally perceived as acceptable, as shown in Figure 3. Nevertheless, service providers' perceived quality was high, ranging from 91 to 96%, compared to water users' perception of quality, which was far lower with an average satisfaction rate of 33% per district (Figure 3).

Quantity of water use reported was less than the standard 20 litres per capita per day for a large proportion of handpumps in Gushiegu (58%) and Wa East (45%). Yet,

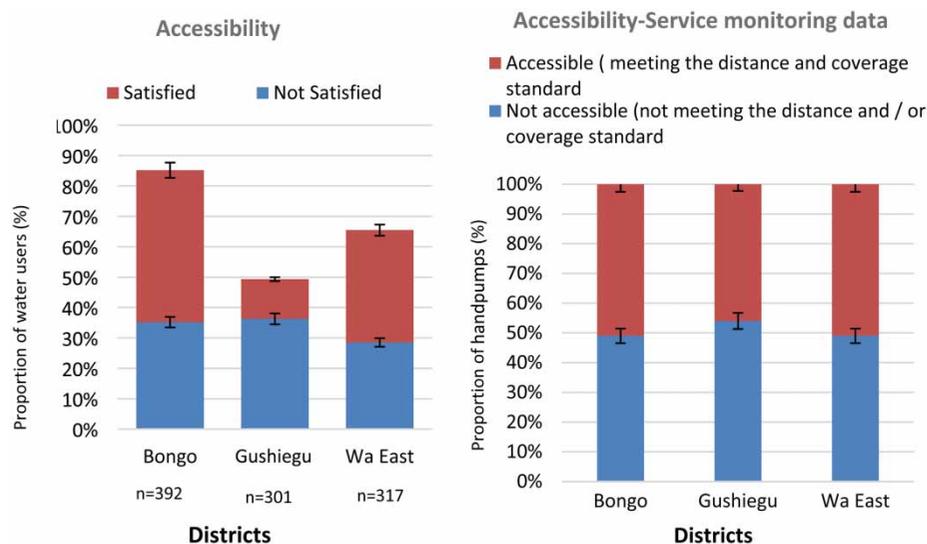


Figure 2 | Water users and service monitoring data (Source: CWSA 2015b) on accessibility of handpump.

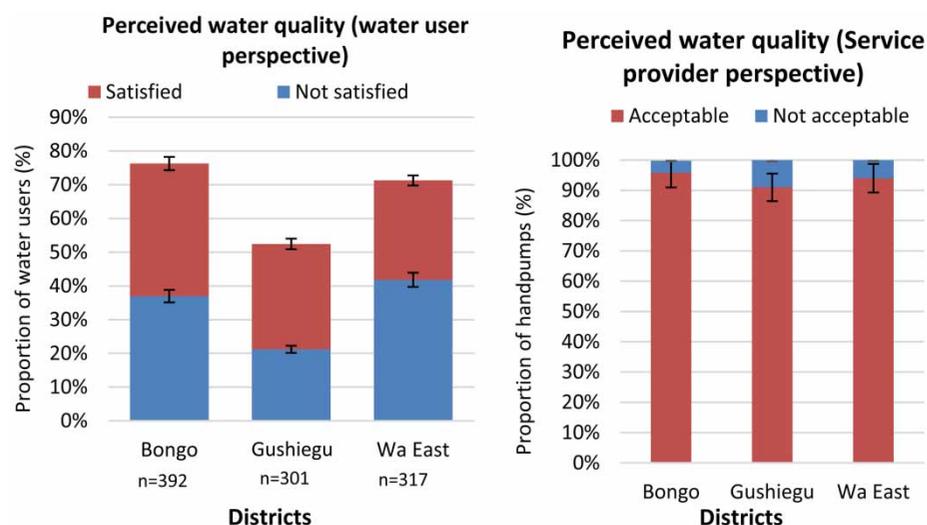
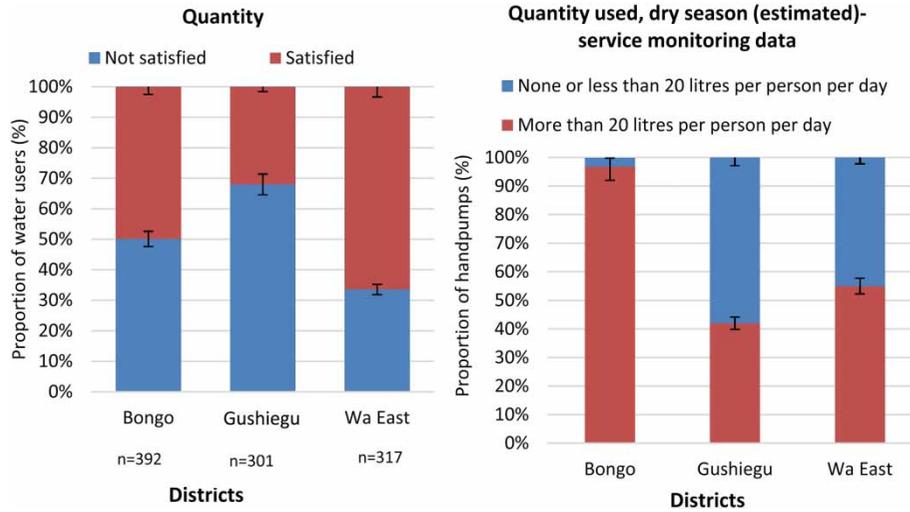


Figure 3 | Water user and service provider (Source: CWSA 2015b) perspective on water quality.

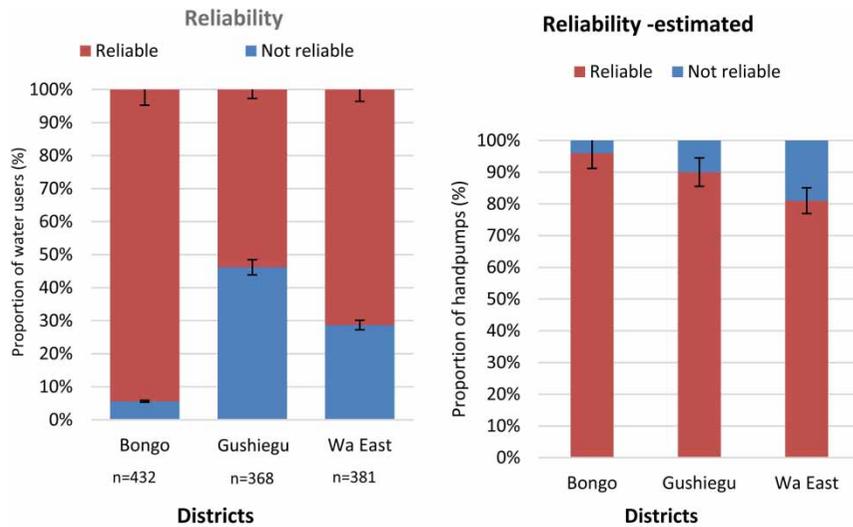
the proportion of households satisfied with the quantity of water provided was high in Wa East (42%), as shown in Figure 4. In general, users were not satisfied with the quantity of water received from handpumps.

Almost half (46%) of water users in Gushiegu alleged their handpumps were unreliable compared to 29% in Wa East (Figure 5). A total of 28% water users from the study districts explained their handpumps broke down, lasting between 1 and 3 months, and 49% reported three to over 6 months' downtime. Only 14% of users interviewed

indicated their handpumps had never broken down; further checks revealed that these handpumps were relatively new (1–3 years). Only 37% of handpumps were fixed within 3 days and 57% of users alluded to the fact that their handpumps took more than 3 days to be fixed, sometimes taking 6 months to a year. A total of 32% water users in Bongo admitted their handpumps were fixed within 3 days compared to 40% in Gushiegu and Wa East districts, respectively. Unreliability of handpumps was attributed to mechanical (81%) and seasonal (4%) breakdown.



**Figure 4** | User satisfaction and estimated water quantity (Source: CWSA 2015b) used.



**Figure 5** | Water user reliability and estimated reliability (Source: CWSA 2015b) from service providers.

In a similar study, Magara (2014) analysed the level of service that water users receive with emphasis on quantity of water accessed, reliability of the supply facilities, user satisfaction, willingness and ability to pay for water. The author observed that despite all the drawbacks associated with rural water service delivery in Uganda, water users are generally satisfied with the service they receive. Further, the study found that 70% of all households surveyed in eight districts accessed a substandard water service characterized by poor quality and inadequate quantity. People expressed dissatisfaction with quality and the majority of households

accessed less than the prescribed 20 litres per person per day. In terms of reliability, it was observed that when sources broke down, it took longer than a week on average to repair them and in some cases it took 2 months. The total level of service satisfaction, depending on the district, ranged from 55% to 85% of households who access water services not meeting the minimum standards set. In a related study, Kumasi *et al.* (2015) highlighted that water users in Akatsi South, Sunyani West and East Gonja districts were unperturbed about the quality of water received. On the other hand, they were not satisfied with

the time it takes them to access water, especially when the quantity of water diminishes. These findings raise the question whether the norms and standards have been set too high, or whether water users are insufficiently aware of their rights to water supply meeting these norms and standards. If indeed water users are not aware of the standards that their rural water service is expected to meet, this obviously makes it difficult for users to demand a better service.

### Exploring water user satisfaction with actual performance of service providers

Service provider indicators describe the extent to which WSMTs are fulfilling their roles and responsibilities as per the CWSA guidelines and standards, including the model bye-law for WSMTs. It is considered that when service providers comply with all these standards, they are in a good position to provide a service that lasts (Kumasi *et al.* 2014). For each indicator, a scoring system has been developed, going from 0 (worst case) to 100 (best case) and a benchmark has been set, indicating the minimum acceptable level. Each indicator is scored based on a number of

sub-indicators. These sub-indicators are processed towards a score, using a logic decision-tree.

The performance of these service providers was assessed in the 2015 service monitoring round using CWSA service provider indicators and the set benchmarks for small communities presented in Table 2. It showed low levels of performance with less than half of the WSMTs meeting benchmarks on the majority of the service provider indicators (Table 3).

As shown in Table 3, a larger proportion of WSMTs in the districts failed to meet the benchmark on financial management indicators. Although they met over 50% of indicators on governance and operational, they performed abysmally on composition of WSMT, reporting and accountability, water quality testing and corrective action in Bongo and Wa East districts. For instance, Bongo and Wa East district WSMTs failed to meet 8 out of 12 indicators and 7 out of 12 in Gushiegu district (Table 3). Although only a relatively small proportion of WSMTs managed to meet the benchmarks on most service provider indicators, a relatively large (over three-quarters) proportion of the households using handpumps managed by WSMTs expressed contentment with the performance of their handpump water service providers, as shown in Figure 6.

**Table 2** | Indicators and benchmarks for monitoring performance of water service providers

Indicator	Benchmark
<b>Management and governance indicators</b>	
WSMT-SC composition	There is a WSMT-SC, which has been composed in line with the CWSA guidelines, and has received initial training
Record keeping	All records are kept and up-to-date
Political interference	Any change that had occurred in the WSMT-SC was not due to political or chieftaincy interference
<b>Operational indicators</b>	
Spare parts	It takes 3 days or less to acquire spare part(s)
Area mechanics	It takes 3 days or less to acquire the services of an area mechanic
Breakdown repairs	Breakdown repair is carried out within 3 days
Periodic maintenance	Routine maintenance is carried out
Water quality testing	Water quality sampling and analysis is done by certified institutions
<b>Financial management indicators</b>	
Revenue–expenditure balance	Annual revenues are higher than annual expenditure
Financial management	There is a bank account and a cash book is kept up-to-date
Tariffs	There is a tariff

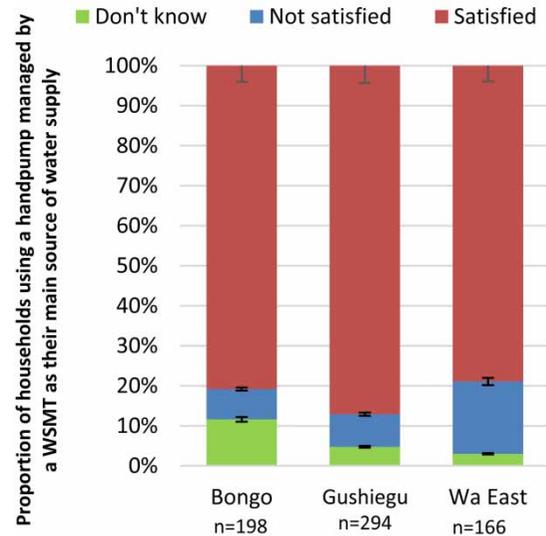
Source: CWSA (2014).

**Table 3** | Proportion of WSMTs that met service provider benchmarks (Source: CWSA 2015b)

	Bongo (n = 363)	Gushiegu (n = 187)	Wa East (n = 120)
<b>Governance indicators</b>			
Composition of WSMT	0%	1%	3%
Reporting and accountability	4%	0%	24%
No political and chieftaincy interference	100%	98%	94%
<b>Operational indicators</b>			
Spare part supply	81%	63%	74%
Area mechanic services	87%	71%	88%
Corrective maintenance	60%	58%	63%
Routine maintenance	35%	72%	31%
Water quality testing	0%	23%	7%
<b>Financial management indicators</b>			
Revenue/expenditure balance	10%	0%	12%
Financial management	4%	0%	23%
Tariff setting	12%	2%	11%
Facility management plan in place	6%	11%	24%

In all districts, the leading reason for dissatisfaction with performance of service providers was lack of communication with community members (Table 4). This observation is consistent with service monitoring data, which show that less than 10% of WSMTs in the districts were accountable to their communities, i.e., keeping and sharing records with community members. In Gushiegu, for example, out of a total of 304 handpumps there were only 187 WSMTs. Wa East district recorded 276 handpumps with only 120 WSMTs responsible for the day-to-day management of the facilities. In contrast to this, Bongo district recorded 363 WSMTs responsible for the management of 436 handpumps. In what follows, we observe that some facilities in the districts have no WSMTs managing them; a few of the facilities have been hijacked from the WSMTs and were managed by individuals. This observation reaffirms the seeming dissatisfaction with keeping and sharing of records with communities in the districts. Overall, a clear picture emerges of lack of technical and financial expertise of management teams and the lack of monitoring and enforcement of the bye-laws by the DA.

## Performance of WSMTs

**Figure 6** | User satisfaction with service provider performance.**Table 4** | Reasons for dissatisfaction of handpump users with service providers

Reasons for dissatisfaction with service provider performance	Bongo (n = 12)	Gushiegu (n = 23)	Wa East (n = 26)	Grand total (n = 61)
Lack of communication with water users	50%	61%	19%	41%
Handpump not properly maintained by WSMTs	42%	39%	31%	36%
Lack of proper financial management and accountability	8%	0%	50%	23%
Grand total	100%	100%	100%	100%

In our study, more than a quarter of unsatisfied households were not pleased with the level of maintenance of water facilities by the WSMTs (Table 4). It is important to note that the lack of information on the roles and responsibilities of service providers may also explain why water users perceive the performance of their service providers as good. Peter & Nkambule (2012) noted that the main factors, which resulted in unsustainable water systems, were: long fetching time; non-involvement in decision-making; lack of willingness to contribute funds; absence of WSMTs; and lack of cooperation between local leaders and the WSMTs. Rautanen & White (2018) acknowledged

that successful service providers were ingrained in good water governance principles such as participation, responsiveness, financial transparency, accountability and overall strong commitment technical assistance. In this regard, it is imperative that CWSA, implementing partners, the DAs and WSMTs take steps to address the technical, social, financial and institutional factors during the planning, implementation and post-construction support which invariably affect sustainability.

### Water tariffs and affordability of water services

WSMTs have the responsibility of setting tariffs in consultation with the community and approval from the DA. From the service monitoring results, only 10% of hand-pumps in the districts had set water tariffs for pay-as-you fetch. CWSA guidelines advocate that a volumetric water tariff is charged and collected by water point vendors. This type of collection is termed 'pay-as-you fetch'. This mode of payment was rarely practised in the districts (Figure 7). Water users in Bongo (74%), Gushiegu (39%) and Wa East (70%) acknowledged paying for water from hand-pumps but resorted to other modes of payment.

Figure 7 also shows that other payment methods such as fixed monthly, annual contributions, or emergency/ad hoc (breakdown maintenance) contributions when the infrastructure fails were mostly adhered to. The responses therefore paint a picture of payment systems that are geared at reactive maintenance over preventative maintenance regime. Clearly, from the study, we observe challenges with monthly and annual contributions from users. Monthly levies were inadequate to ensure effective

operation and maintenance. For instance, Braimah *et al.* (2016) suggest that about 56% of broken down facilities were operated and maintained with funds from monthly levies. Management teams cited lack of funds to maintain and fix the water systems when they eventually broke down. Furthermore, revenue generated through monthly contribution was only adhered to during periods of harvest when communities could sell farm produce to settle their levies.

Kumasi *et al.* (2018) posits that revenue collection by communities was lower than was expected or planned for. Communities which practised 'pay-as-you fetch', were charged tariffs between 1 cent and 2 cents per 20 litre bucket, which were considered affordable by community members. However, the reality is that many WSMT-SC are not implementing pay-as-you fetch tariffs from the findings and according to Kumasi *et al.* (2018), Kumasi (2018) and Adank *et al.* (2013), especially in the northern part of Ghana.

In contrast to this, Braimah *et al.* (2016) observed that approximately 45% of the WSMTs practised a pay-as-you fetch regime for the mobilization of funds for operation and maintenance in the Sekyere East District of southern Ghana.

Although water users admitted water tariffs were realistic, about 87% were not willing to pay for water regarding either quality or quantity. In their view, water was life and should not be paid for. Clearly, this phenomenon raises questions on the sustainability of rural water systems when financial management is key to sustaining services. This finding is contrary to the study conducted by Ogunniyi *et al.* (2011), where 75% of respondents are willing to pay for better water quantity because they need more water

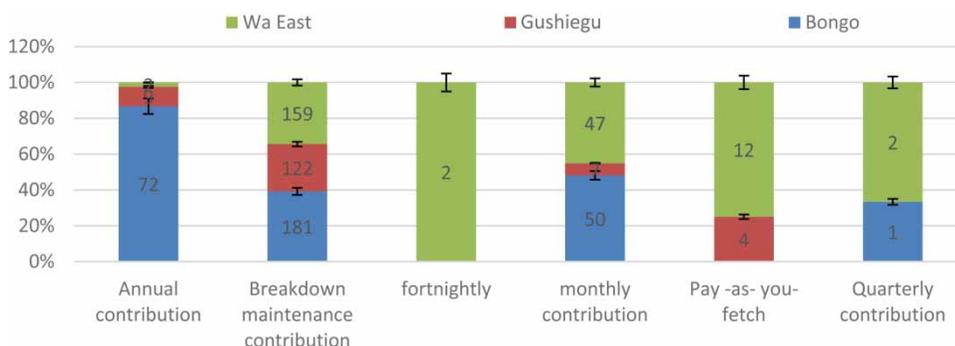


Figure 7 | Breakdown of modes of payment. Source: CWSA (2015b).

than they currently have. Also, about 57% of respondents are willing to pay for improved water quality to assist in the avoidance of water-related diseases.

When asked about affordability of the service, the majority of users reported that they were satisfied with it. However, looking at the actual payment for water, the majority of users do not pay for the water they collect. Hence, affordability is not seen as an important issue to them. Nyarko *et al.* (2012) analysis of 75 handpumps in 31 communities in three districts in three regions of Ghana indicates that higher functionality of systems is important in ensuring that those using the systems have good service. Users of the systems with the highest functionality and thus highest service levels were generally paying for water. This is an indication that systems where users have a high willingness and ability to pay are better placed to spend on operations and minor maintenance and hence remain sustainable.

## CONCLUSION

We conclude by suggesting that the level of handpump user satisfaction is higher than the level of compliance of services and service providers based on national norms, standards and guidelines. This implies that many users are satisfied with services that are considered sub-standard. Overall, handpump users did not express major concerns regarding the reliability and quantity of water they accessed. Water users were perturbed about the quality and accessibility of their water services, related to the time it takes them to obtain water. This underscores the significance of accessibility of water services to users. Indeed, many handpump users expressed satisfaction with the performance of the service providers, even in instances where the service provider's performance proved to be below standard.

However, this study suggests that users rarely practise pay-as-you-fetch mode of payment for water in the districts. Water users resort to breakdown maintenance, monthly and annual contributions for water payment. Although water tariffs were perceived as reasonably priced and affordable, the revenue was lower than expected. These observations present worrying signs for sustainability since sound financial management is critical to ensuring sustainable rural water supply.

The discrepancy between the level of user satisfaction and level of compliance of services and service providers with national norms and standards can be due to different reasons, as follows. The national norms and standards are minimal and exist to ensure that users of water services obtain the optimum health and socio-economic benefits. Water users lack information and knowledge on their rights to water services (as per nationally set norms and standards) and on the roles and responsibilities of the service providers.

The findings can be used to raise awareness of water users about their right to water services and may increase their capacity to demand these services and hold service providers accountable. It can also be presented at national and district level, in order to inform dialogue, eliciting roles and responsibilities of key stakeholders, and to engage and initiate reforms in the rural water subsector. In addition, there should be increased awareness created among users on the benefits of providing water services that meet the service level norms and standards.

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