



Old Kokobriko community report

Cost of water and sanitation services in Old Kokobriko in the Bosomtwe District of Ashanti Region, Ghana

Old Kokobriko community with a population of 694 has two formal water systems of which one is reliable. Due to this, everyone in Old Kokobriko is receiving a sub-standard (“limited”) service. The community has one public toilet (traditional pit latrine) and an institutional toilet (Kumasi Ventilated Improved Pit (KVIP)) which are patronised by a majority of the people in the community, about 84%. This provides only 4% of the inhabitants have access to improved sanitation service based on the WASHCost framework.

October 2012

Acknowledgement

This report acknowledges the effort of the following groups and persons in contributing to the research work both on and off the field:

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The following people contributed to the field work and are gratefully acknowledged below:

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WASHCost has been undertaking an action research focusing on quantifying the cost of providing sustainable water, sanitation and hygiene (WASH) services in rural and peri-urban areas in Ghana. This community report presents findings of research carried out in the community of Old Kokobriko in Bosomtwe District of Ashanti region.

The WASHCost team visited the Old Kokobriko community in March 2011 to collect data on the WASH services received by the inhabitants and the cost of providing the services. The community has a population of 694 according to the regional Community Water and Sanitation Agency (CWSA) records. The inhabitants are mostly of Ashanti ethnic group and their main occupation is farming (cash and food crop farming). The location and map of WASH facilities are shown in figure 1 below.

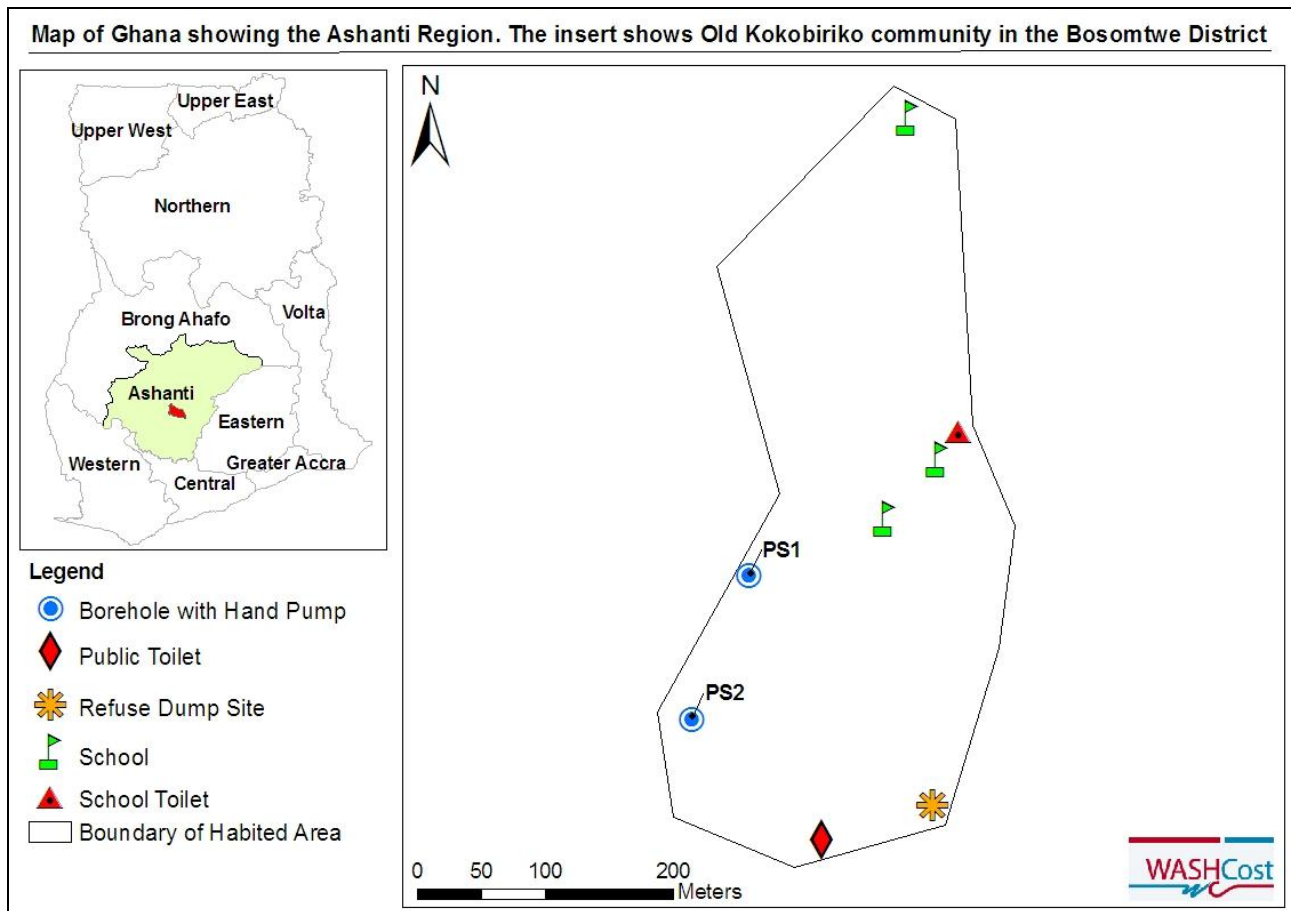


Figure 1: Map of community with water and sanitation facilities

Water supplies

Before the construction of the formal water points systems in 1998, the inhabitants of Old Kokobriko relied on a pond for all purposes including drinking. Due to the unreliable nature of the pond especially in the dry seasons, the community requested for the provision of a formal water source from the District Assembly. At the time of the visit, there were two (2) boreholes with handpumps and they were both working. The district assembly in conjunction with the community provided two boreholes fitted with handpumps, PS1 and PS2. The community provided capital cost contribution of Gh¢ 50 each to support the construction of the two point systems.

Water consumption from formal and informal sources

Average water consumption for the two formal sources did not show any seasonal variation; water consumption per person per day was the same, around 27 l/c/d for formal sources in both wet and dry seasons. However, informal water (harvested rain water) used in the wet season was not captured in this data as respondents found it difficult to estimate how much they use.

Water service levels in Old Kokobriko

What matters to people is how much water they get, how far they have to travel to get it, the quality of the water and how often the service is available. These indicators of service levels can be expressed as high, intermediate, basic, sub-standard or 'no service'. A basic service is one that meets the guidelines set by the Community Water and Sanitation Agency (CWSA). According to CWSA guidelines, a basic level of service entails receiving at least 20 litres of water a day and having a water point within 500 metres, which is shared with not more than 300 people. The service level is the service actually received by users, not what is supposed to be delivered to users. Table 2 below shows the WASHCost service levels based on CWSA (Ghana) norms.

Table 2: WASHCost Ghana water service levels matrix based on national norms

Service Levels	Indicators		
	Litres per person per day	Distance to water source	Crowding with reliability
High	More than 60	500 meters or less	300 people per reliable water point system
Intermediate	40 to 60		
Basic	20 to 40		
Sub-standard	5 to 20	More than 500 meters	more than 300 people per reliable water point system
No service	0 to 5		

Service levels by quantity

The result of the survey revealed that,

- About 64% of the people in Old Kokobriko actually use sufficient water per the requirements of the national guidelines with respect to water(see figure 1)
- The two reliable water point systems are shared by 694 people which is less than the prescribed standard of at 300 people per water point system.

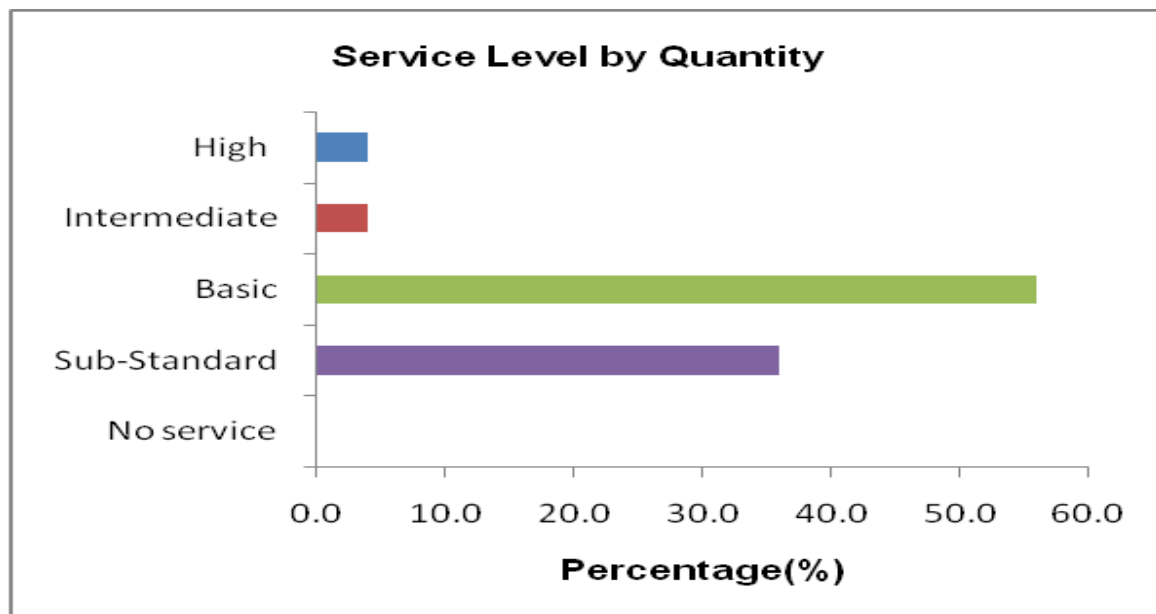


Figure 2: Average water consumption per person

The result also indicates that about 36% of the respondents are not receiving acceptable service by quantity (sub-standard level of service). Thus, majority of the respondents are receiving the basic level of at least 20 litres of water per person per day as stipulated in the CWSA guidelines.

Accessibility

Almost all the respondents (96%) meet the accessibility criteria. This is because their maximum walking distance to the most accessed formal water facilities falls within the norm of 500 metres prescribed by the CWSA guideline.

Crowding with reliability

One of the two water systems that were available to the community was found to be reliable (working at least 95% of the time within the past 12 months). Due to this, everyone in Old Kokobriko was receiving a sub-standard (“limited”) service. In other words, no one in Old Kokobriko was served even with the basic water service level (putting together all criteria stipulated by the norm) at the time of the visit.

Quality and Use

A majority of the respondents, about 84% perceived the quality of water accessed from the formal water sources to be satisfactory. However, no water quality test was carried out to confirm their perception.

Water from the formal sources is used for domestic purposes (including drinking, cooking, washing, bathing, etc). Although the informal water sources such as non standardised household harvested rainwater are not considered improved for domestic use, especially drinking, the community members use them for domestic as well as productive activities/purposes. Also, 8% of the respondents purchase sachet water from vendors, only for drinking purposes and this is mostly during the dry seasons.

Based on the WASHCost Ghana service level matrix (see Table 2), the overall water service level, putting all indicators together as equally important, gives: 100% of respondents receiving sub-standard (“limited”) service although almost all the respondents (96%) met the accessibility

criteria and a good number of households (64%) were receiving basic and higher service level in terms of quantity accessed.

Sanitation

The community has one public toilet (traditional pit latrine) and an institutional (school) toilet (Kumasi Ventilated Improved Pit (KVIP)). Members of the community are not charged any user fee for accessing these toilet facilities. About 16% of the respondents had household toilet facilities. Half of these household toilets are Ventilated Improved Pit (VIP) technology while the other half are traditional pit latrine. All the community members (84%) without household toilet facilities access the public toilet. As a result only 4% of the respondents have access to basic sanitation service.

Costs and finances of water service

Cost data was collected where available to cover capital investment, operational expenditure and capital maintenance expenditure (that is larger repairs and rehabilitation), and were adjusted for inflation to a base year of 2009.

Capital investment costs

Capital investment cost was calculated using a regional average because the actual cost was not available for boreholes that were surveyed. The average regional cost of developing a borehole and handpump is US\$ 7,121. This implies that the total investment that has been made in Old Kokobriko is US\$ 14,242. Using the design population of 300 people, this suggests a cost of US\$ 24 per person but US\$ 21 per person for the actual population of 694.

Operational and minor maintenance costs

Operation and maintenance costs were reported for the water facilities, PS1 and PS2 over the period of their existence during which it suffered at least eight breakdowns- the handpump, PS1 suffered its first breakdown in 2003, where a broken handle tube had to be repaired after 183 days of its breakdown. PS1 again, suffered subsequent breakages of handle tube from 2006 to 2009. In 2009, the foundation bolt of the PS2 were replaced and it again suffered breakage of pump rod which had since not been repaired at the time of the field visit.

Using the designed population of 300 people gives an operational and minor maintenance expenditure of US\$ 0.4 per person per year and US\$ 0.17 per person per year for the actual population of 694. According to the WATSAN committee, the Area Mechanic fixed breakdown at little cost.

Capital maintenance expenditure

Capital maintenance expenditure had never been incurred. The reason is that, there had never been any major rehabilitation and/or replacement of handpump. This means that capital maintenance expenditure is US\$ 0 (see Table 3).

Table 3: Cost of providing WASH services

Cost Components	Current Cost (2009) in US\$	
	Observed pop	Design pop
Capital investment (US\$/person)	21	24
Operational and minor maintenance expenditures (US\$/person/year)	0.17	0.2
Capital Maintenance Expenditure (US\$/person/year)	0	0

Tariffs

Members of Old Kokobriko community are not charged any tariff for accessing water from the formal water systems. However, in the case of any breakdown, contributions are made by the community members to offset cost of its repairs. This approach, according to the WATSAN committee, is flexible but does not allow prompt response to maintenance any time the facility breaks down.

Sustainability

The WATSANs admitted that it was difficult to mobilise user fees (tariffs) from community members for prompt response to maintenance. Unless the approach to collecting water tariffs is

changed to a workable and prompt payment mechanism like pay-as-you fetch to be able to mobilise funds, there is no guarantee for sustainable water service delivery.

Conclusion

The overall water service based on the indicators: quantity accessed, accessibility by distance and crowding-with-reliability gives a sub-standard service for all the respondents. although almost all the respondents (96%) met the accessibility criteria and a good number of households (64%) were receiving basic and higher service level in terms of quantity accessed. service level in terms of crowding-with-reliability gives 100% sub-standard due to overcrowding of the one (1) reliable facility in the community. It was also clear that a majority of the population of Old Kokobriko were using a quantity of water which is above the national norm of 20 litres per person per day, with 36% of the people receiving below 20 litres.

The data on operation and maintenance and major rehabilitation showed that the community practice break-down (responsive) maintenance. This means that they only repair any of the parts when there are breakdowns and there was no systematic or regular preventive maintenance schedule for the systems. Communities should therefore be encouraged to have a systematic approach to preventive maintenance.

On sanitation, the community had one public toilet (traditional pit latrine) and an institutional (school) toilet (Kumasi Ventilated Improved Pit (KVIP)). Only 16% of the respondents had household toilet facilities. Half of these household toilets are of Ventilated Improved Pit (VIP) technology while the other half are traditional pit latrine. All the community members (84%) that do not have useable household toilet facilities access the public toilet. Only 4% of the inhabitants have access to improved sanitation service based on the WASHCost framework.