Kpolo community report

Cost of water and sanitation services in Kpolo in the East Gonja District of Northern Region, Ghana

Kpolo community with a population of 338 has only one formal water system which has not been reliable. The overall water service in terms of quantity accessed, accessibility by distance and crowding-with-reliability gives all the respondents (100%) receiving sub-standard. The community has two public traditional pit latrines which the community members access at no fee. None of the respondents had household toilet facility. The sanitation service level in Kpolo based on the WASHCost Sanitation Service ladder is 80% sub-standard and 20% no service.

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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 Kpolo in East Gonja District of Northern region.

The WASHCost team visited the Kpolo community in October 2009 to collect data on the WASH services received by the inhabitants and the cost of providing the services. The community has a population of 338 according to the regional Community Water and Sanitation Agency 1(CWSA) records and 38 housing structures according to the Water and Sanitation (WATSAN) committee. The inhabitants are mostly of Gonja ethnic group with Chekosi forming the minority. Their main occupation is farming.

Map of Ghana showing the Northern Region. The insert shows Kpolo community in the East Gonja District

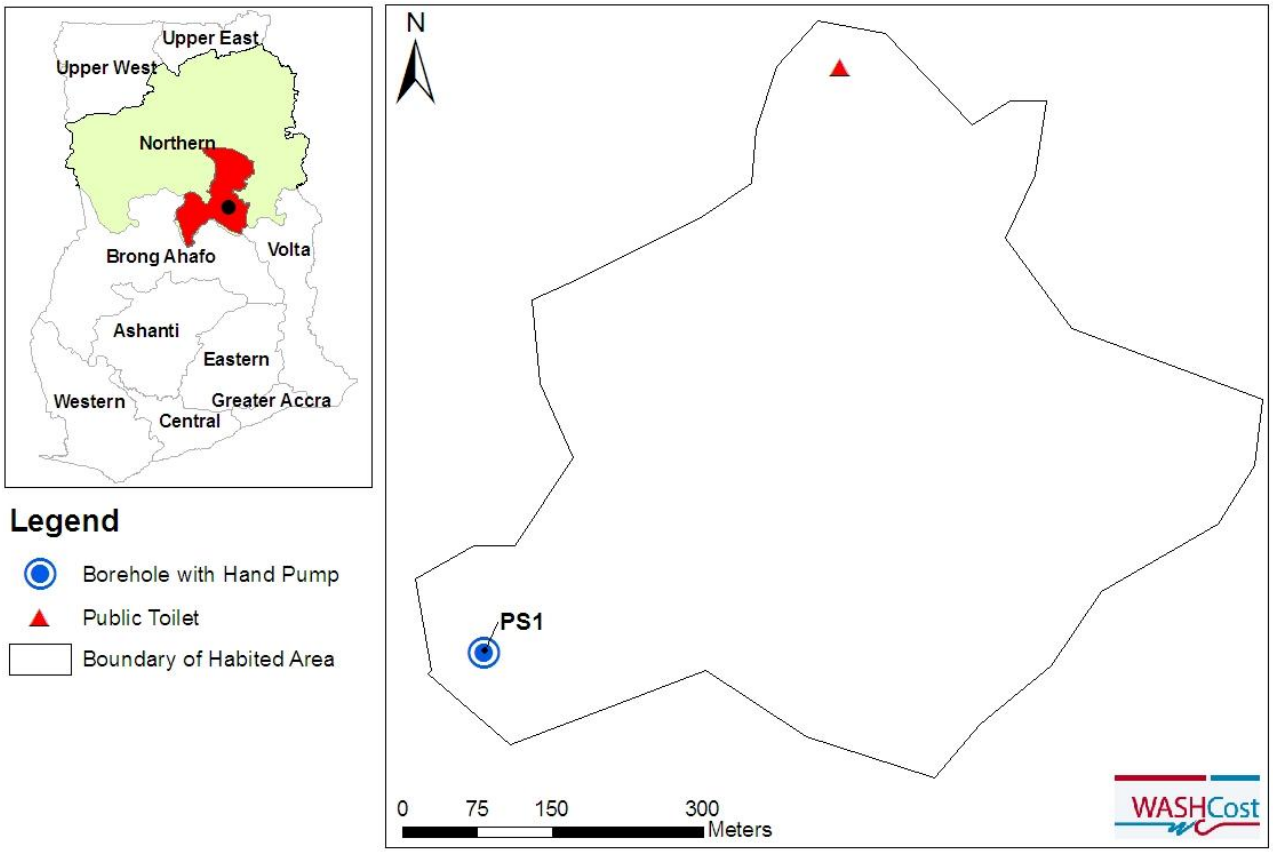

Figure 1: Map of community with water and sanitation facilities

WATER SUPPLY

Before the provision of the formal water point system in 2004, the inhabitants of Kpolo relied on a pond, river and rainwater as their main sources of water for all purposes. In 2004, the French Development Agency (AFD) provided the community with a borehole fitted with handpump. The community contributed an amount of GH¢ 210 towards the construction of the facility. This capital

cost contribution was mobilized through cash community farming by the people of the community. The water system remains the only formal water facility in the community and it was working at the time of visit. The water and sanitation facilities available in the community are shown in Figure 1.

Water consumption from formal and informal source

Average water consumption from the formal source showed strong seasonal variation; consumption per person per day was 15 l/c/d and 38 l/c/d for wet and dry seasons respectively. However, informal use of water in the wet season, particularly for productive purposes, was not captured in this data as people found it difficult to estimate how much they use e.g. rainwater harvesting in the wet seasons.

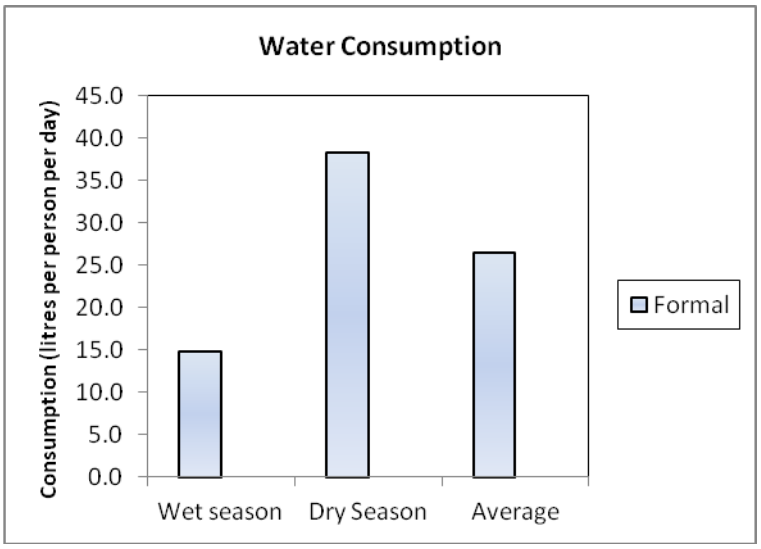

Figure 2: Average water consumption (l/c/d) per season

Water service levels in Kpolo

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 and '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 these CWSA norms.

Table 2: WASHCost Ghana water service levels according to national norms.

Service Levels	Indicators		
	Quantity (Litres per person/day)	Distance to water source	Crowding with reliability*
High	More than 60	500 meters or less	300 people or less 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		

** Reliability means water point working at least 95% of the time*

The result of the survey revealed that,

- Majority of the respondents (80%) actually use sufficient quantity of water according to the requirements of the national guidelines with respect to quantity when the formal water facility is working.
- The only borehole fitted with handpump is shared by 338 people which is more than the prescribed standard of 300 people per water point in principle.

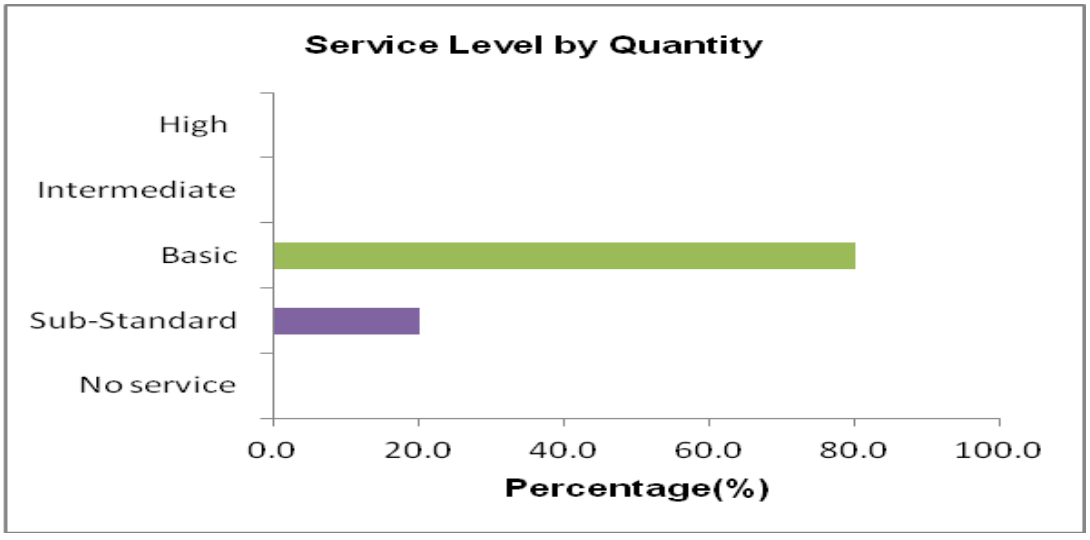

Figure 3: Water quantity service level

The result also indicates that about 20% of the respondents are not receiving acceptable service by quantity (sub-standard and no service).

Accessibility

All the respondents do not meet the accessibility criteria. This is because their maximum walking distance to the formal water facility exceeds the norm of 500 metres defined by the CWSA guidelines.

Quality and Use

All the respondents (100%) perceived the quality of water accessed from formal sources to be satisfactory. However, no water quality test was carried out to confirm their perception.

Water from the formal source is used for domestic, non domestic and other productive uses such as livestock watering, irrigation, pito brewing etc.

According to the WATSAN committee, the quality of water from the informal sources (pond and river) is fairly good but has to be treated before drinking. Although the informal water sources such as the river, pond and non standardised household harvested rainwater are not considered improved for domestic use, especially for drinking, about 8% of the community members use them for all purposes.

Crowding with reliability

The community has only one water point system which has been reliable (working 95% of the expected time within the past 12 months). However, the community is not meeting the crowding indicator because the number of users is more than 300. Due to this, everyone in Kpolo does not fully meet at least the basic standard for rural water service in terms of crowding with reliability.

Based on the WASHCost Ghana service level matrix (see Table 2), the overall water service level, putting all indicators together as equally important, gives: all the respondents (100%) receiving sub-standard (limited) service. Clearly, respondents are receiving the sub-standard service because the whole population of 338 rely on the only available formal water system (supposed to serve 300 users strictly following the norm) which has been reliable otherwise almost all the respondents would have satisfied the basic water service level.

SANITATION

The community has two (2) public toilet facilities which were constructed in 1970 by the District Assembly. All these toilet facilities are all traditional pit latrines. There is no fee charged for using the public toilet. There were no institutional toilet facilities. None of the respondents had a

household toilet facility. Due to the availability of useable public toilet facilities, all the respondents access the public toilets.

Sanitation service level in the community based on WASHCost sanitation service level revealed that none of the respondents was receiving acceptable sanitation service. About 80% of the respondents received sub-standard service whiles about 20% were receiving no service.

COSTS AND FINANCES

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 costs were calculated using a regional average as actual costs were not available for all boreholes surveyed. The average regional cost of developing a borehole fitted with handpump is US$ 7,795. This implies that the total investment that has been made in Kpolo is US$ 7,795 as they have only one borehole or water point system. Using the design population of 300 people per water point system suggests a cost of US$ 26 per person or US$ 23 per person for the actual population of 599.

Operational and minor maintenance costs

Operational and minor maintenance for the borehole fitted with handpump was reported in 2007 and 2008 during which time centraliser and bearing, and U seal and bearing had to be repaired. However, considering actual population of 338, the operational and minor maintenance cost per capita is US$ 0.03. Operational and minor maintenance per capita for actual and designed population were less than US$ 1 annually.

Capital maintenance

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	Cost in US$ (2009)	
	Actual population	Design population
Capital investment (US$/person)	23	26
Operational and minor maintenance expenditures (US$/person/year)	0.03	0.03
Capital Maintenance Expenditure (US$/person/year)	0	0

TARIFFS

Every household in Kpolo community is charged tariff of GHp 50 monthly for accessing water from the formal water system. Revenue accrued from the monthly tariff is used to offset cost of repairs of the formal water facility. A majority of the respondents (90%) believed the tariff was acceptable.

SUSTAINABILITY

D. The breakdown of the water point system was mostly associated with the handpump and had been replaced on two occasions since its installation. As it stands now, if every household makes the payment of Gp 50 every month, the expected revenue would be Gh¢ 228.00 per year considering that the total number of household is 38 as the WATSAN committee provided. The community may be able to meet the operational and minor maintenance cost but not the capital maintenance expenditure when hand pump has to be replaced.

CONCLUSION

Capital investments had been made in the water facility which should be adequate for a population of 300. However, the reality is that, the current population of 338 relies on the only borehole fitted with handpump. The overall water service in terms of quantity accessed, accessibility by distance and crowding-with-reliability gives all the respondents (100%) receiving sub-standard.

Majority of the respondents (80%) were receiving a good service (80% receiving basic service (20-40 litres). It was also clear that about 20% of the people were using a quantity of water below the national norm of 20 litres per person per day. Water tariff of Gp 50 every month per household does not fetch the WATSAN committee enough money for operation and maintenance, and major rehabilitation should the facility breaks down. Communities should therefore be encouraged to

have a systematic approach to preventive maintenance where parts of the water facility are changed or replaced periodically to ensure sustainability.

The sanitation service level in Kpolo based on the WASHCost sanitation service ladder is 80% sub-standard service and 20% no service.