WASHCost

Community Report

Meriche community report

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

Meriche community with a population of 599 has only one formal water system which has not been reliable. As a result all the inhabitants are not receiving the basic water service level. For sanitation, the community has no toilet facilities. Members of the community were either practising dig and bury or open defecation.

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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 Meriche in East Gonja District of Northern region.

The WASHCost team visited the Meriche 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 599 according to the regional Community Water and Sanitation Agency (CWSA) records. The inhabitants are mostly of Konkomba ethnic group and their main occupation is farming (cash and food crop farming).

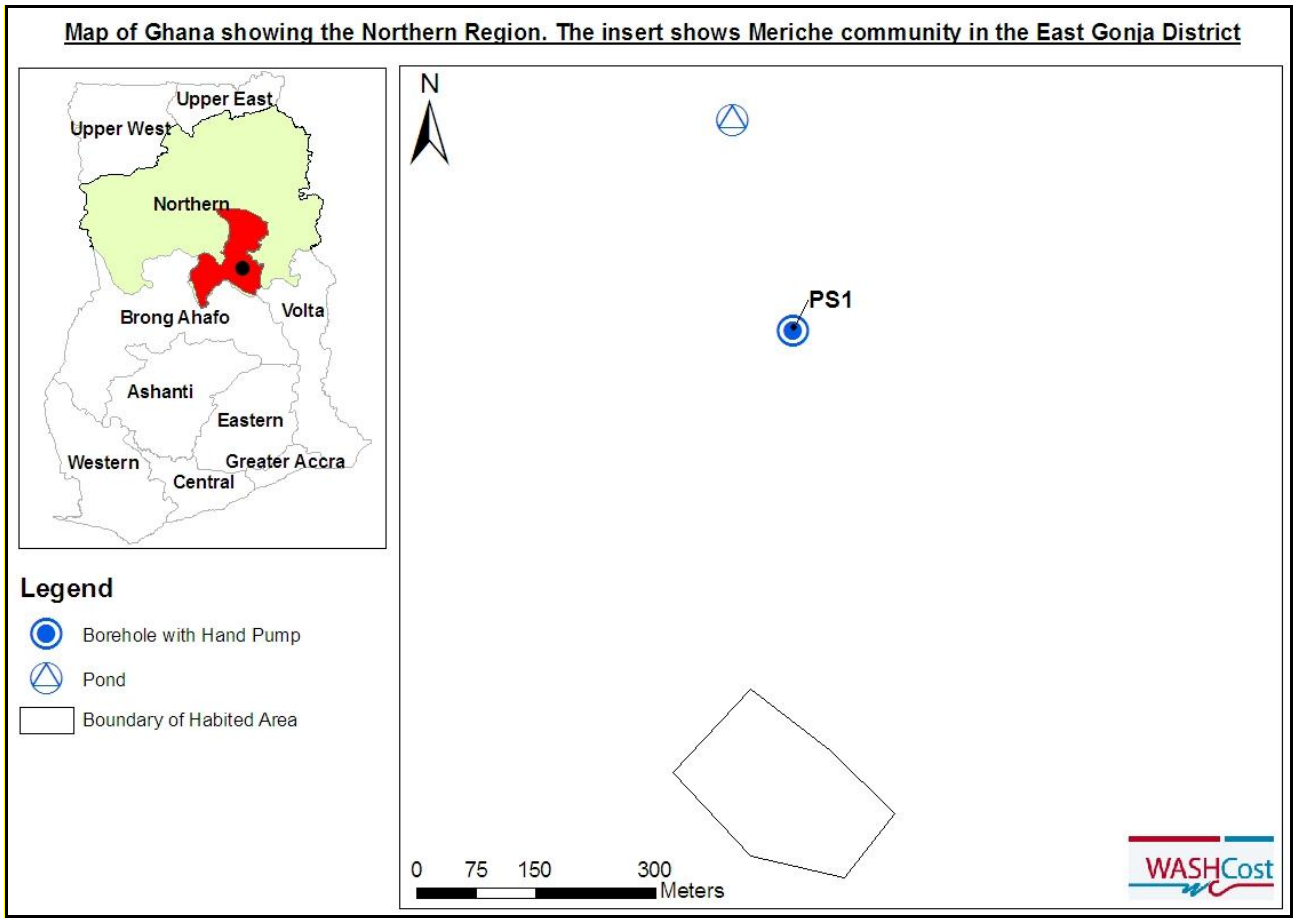

Figure 1: Map of community with water and sanitation facilities

WATER SUPPLY

Before the provision of the formal water point system in 1997, the inhabitants of Meriche relied on a pond/dam and a river as their main sources of water for all purposes. In 1997, the Canadian International Development Agency (CIDA) provided the community with a borehole fitted with

handpump. The community contributed an amount of GH 70.00 as capital cost contribution towards its construction. This capital cost contribution was mobilized through cash contribution by community members. The water system remains the only formal water facility in the community and it was not working at the time of visit. Find Figure 1, map of Meriche for water and sanitation facilities available in the community.

Water consumption from formal and informal source

Average water consumption from the formal source showed strong seasonal variation; consumption per person per day was 9 l/c/d and 24 l/c/d for wet and dry seasons respectively. Informal use of water for all purposes was captured in this data and it was found out that average water consumption from the informal sources was 16 l/c/d.

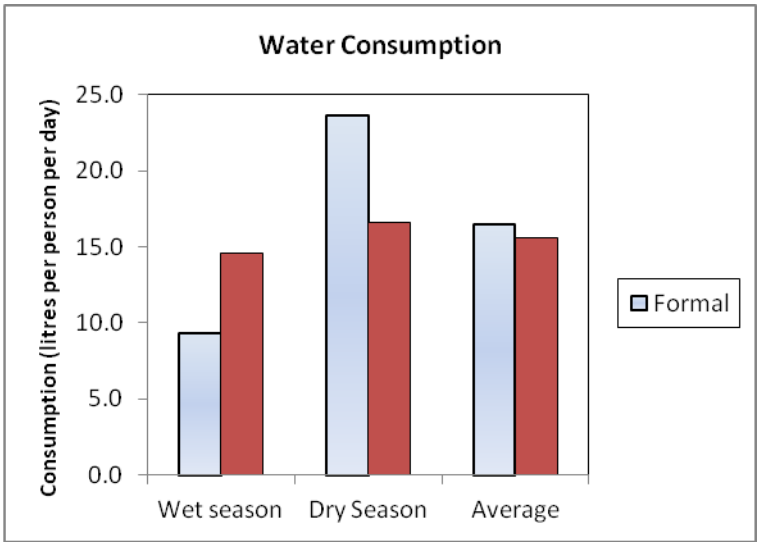

Figure 2: Average water consumption (l/c/d) per season

Water service levels in Meriche

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: 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*

Service level by quantity

The result of the survey revealed that half of the respondents (50%) actually use sufficient quantity (more than 20 litres per day) of water with respect to the national guidelines when the formal water facility is working (see figure 3).

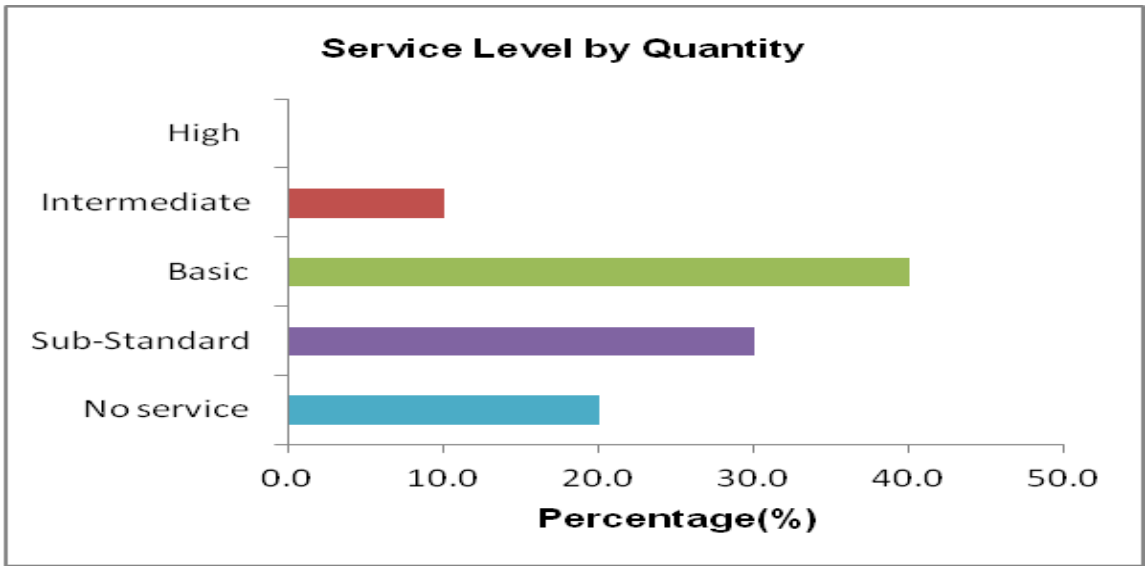

Figure 3: Water quantity service level

Figures 3 also indicates that about 50% of the respondents are not receiving acceptable service by quantity (sub-standard and no service) based on the CWSA norms.

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 agreed by the CWSA guidelines (see Figure 1).

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 sources is used for all domestic purposes including drinking and for productive activities. According to the WATSAN committee, the quality of water from the informal sources (dam/pond and river) is fairly good but has to be treated before drinking. Although the informal water sources such as the river, dams and 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 like local beer (pito) brewing, shea butter and gari processing etc.

Crowding with reliability

The community has only one water point system which has not been reliable (thus not working 95% of the expected time within the past 12 months). This water point system is shared by 599 people, which is more than the prescribed standard of at most 300 people per water point. Due to this, everyone in Meriche 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: a majority of the respondents (80%) receiving sub-standard (or limited) service and about 20% of the respondents receiving no service. Clearly, respondents are receiving the sub-standard service and no service because the whole population of 599 rely on the only available formal water system which has not been reliable and again users travel beyond 500 metres to access formal water source when it is working.

SANITATION

At the time of visit, two public toilet facilities were under construction. None of the respondents had a household toilet facility. Due to lack of toilet facilities, community members were either practising

dig and bury (60%) or open defecation (40%). This means that by the WASHCost sanitation service level, none of the respondents was receiving any acceptable sanitation 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 Meriche is US$ 7,795 as they have only one water point system. Using the design population of 300 people per water point system suggests a cost around US$ 26 per person or US$ 13 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 during which a U seal and pipe were repaired. However, considering actual population of 599, the operational and minor maintenance cost per capita is US$ 0.01. Operational and minor maintenance cost per capita for actual and designed population were less than US$ 1 annually (see Table 3).

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$/person)	13	26
Operational and minor maintenance expenditures (US$/person/year)	0.01	0.03
Capital Maintenance Expenditure (US$/person/year)	0	0

TARIFFS

Members of Meriche community are not charged any tariff for accessing water from the formal water system.

SUSTAINABILITY

As it stands now the community cannot readily take care of operational and minor maintenance costs should the need arise, since the WATSAN had no money kept for any breakdowns.

Conclusion

The overall water service defined in terms of quantity accessed, accessibility by distance and crowding-with-reliability gives a majority of the respondents (80%) receiving sub-standard service whiles about 20% of the respondents receive no service. However, about half (50%) of respondents receive acceptable service with respect to quantity (20 to 60 lcpd) of water from the formal facility. As the community members do not pay water tariff it will be difficult, based on our field experiences, to practice responsive operation and maintenance as well as any major rehabilitation should the facility breakdown. The community should therefore institute operations and maintenance financing mechanisms like generating revenue from water tariffs.

The sanitation service level in Meriche based on the WASHCost sanitation service ladder revealed that all inhabitants are not receiving an acceptable sanitation service.