WASHCost

Community Report

Abono community report

Cost of water and sanitation services in Abono in the Bosomtwe District, Ghana

Abono community with a population of 1,467 has only one formal water point system resulting in limited water service delivered to the community. Some people use lake water although it is not safe. The community relies on public and institutional KVIP latrines.

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Front page photo

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WASHCost is undertaking 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 Abono in the Bosomtwe District of Ghana.

The WASHCost team visited the Abono community in February 2010 to collect data on the WASH services received by the inhabitants and the cost of providing the services. The community has a population of 1,467 people from the Regional Community Water and Sanitation Agency records for 2009. The inhabitants are mostly of the Ashanti ethnic group with Frafra being the minority. The majority of inhabitants sustain their livelihoods through fishing and farming.

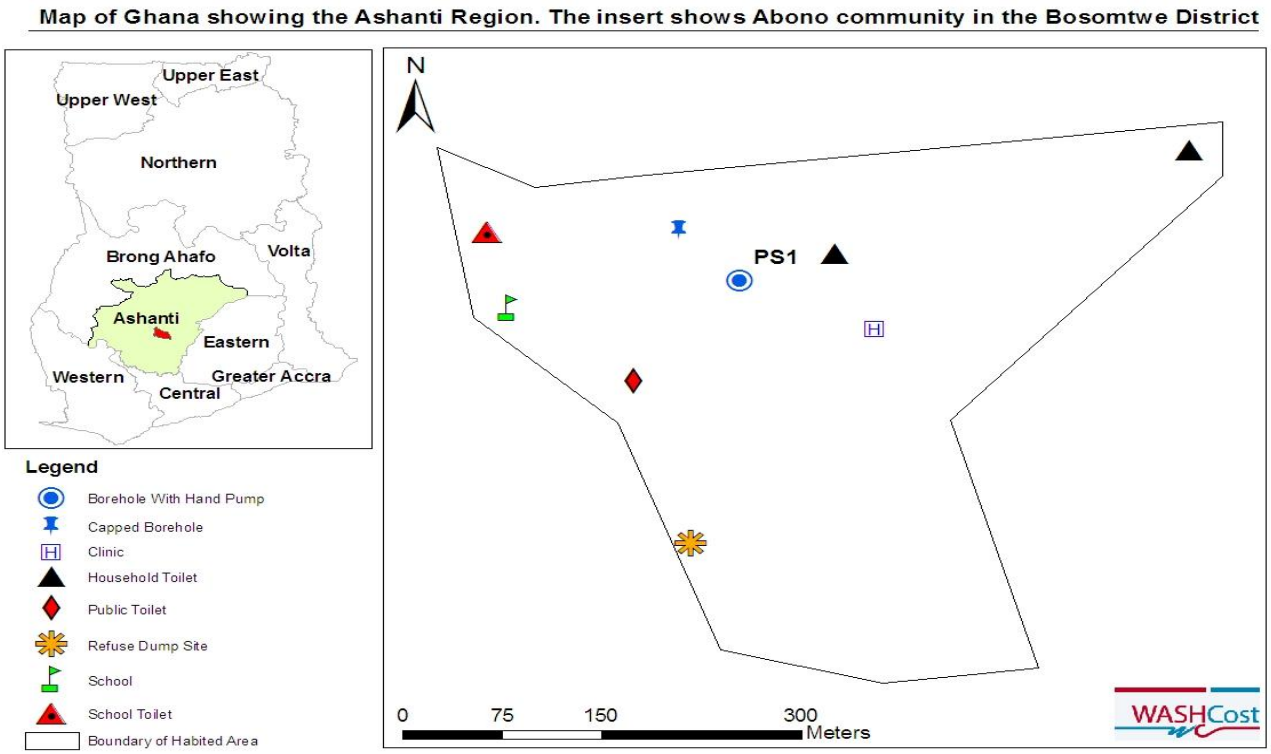

Figure 1: Map of Abono community with water and sanitation facilities

Water supplies

Table 1: The history of the construction and replacement of formal water supplies

Pre-1998	1998
River Ebo and Lake Bosomtwe for domestic, non domestic and productive uses	One borehole (PS1) with handpump provided by the District Assembly (DA)

In 2005 a second borehole was provided in Abono by the district, but it was immediately capped and has never been installed with handpump for use. There was a plan from the district to mechanise it according to the WATSAN committee but that has not happened yet. This is one of 20 boreholes that were drilled across the district under the Rural Water Supply Project Phase 4 (RWSP – 4).

Water consumption from formal and informal sources

Average water consumption did not show any seasonal pattern, consumption per person per day was the same for formal and informal sources in both wet and dry seasons. However, much informal use of water in the wet season is not captured in this data.

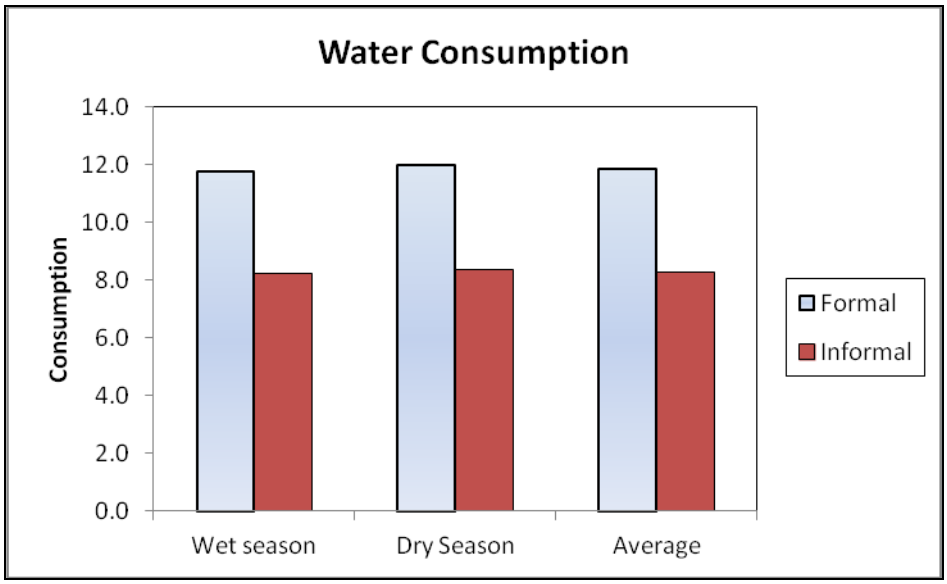

Figure 2: Average water consumption per season

Water service levels in Abono

Generally, what matters most to people is how much water they can get, how far they have to travel to get it, the quality of the water and how often the service is available. These form indicators that can be expressed as service levels – high, intermediate, basic, sub-standard ("limited") and 'no service' as shown in Table 2 below (where all indicators are treated as equally important). A basic service meets the guidelines set by the Community Water and Sanitation Agency (CWSA). The service level here is the service actually received by users, not what is supposed to be delivered to users.

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

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

Intermediate	40 to 60	less	water point system
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		

According to CWSA guidelines, a basic service level entails receiving at least 20 litres of water a day and having a water point within 500 metres, which is shared among at most 300 users.

In Abono,

- Less than a quarter of the people (22%) actually use sufficient water according to national guidelines.
- The only available water point is shared by 1,467 people, which is about five times more than the standard maximum of 300 people per water point.
- Due to overcrowding (over five times the norm) of the only borehole (though reliable[1]), Abono can currently be said underserved and does not meet the basic norm for a rural water service.

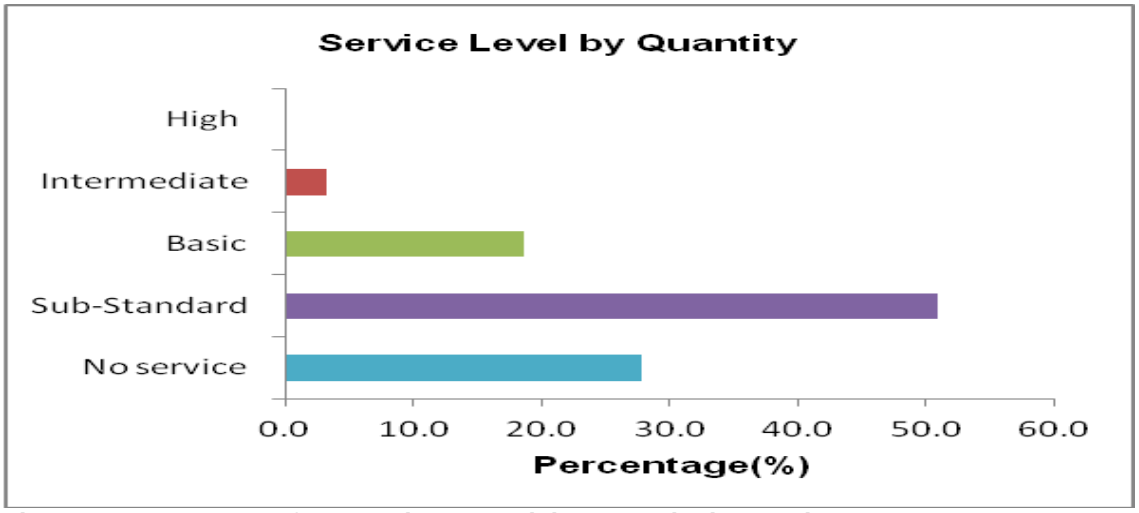

Figure 2: Percentage of respondents receiving a particular service

A majority of respondents (78%) are receiving a sub-standard or no service throughout the year with respect to the quantity of water received per person. This means that, a majority of the people are not receiving the basic level of at least 20 litres of water per person per day as stipulated in CWSA guidelines. However, on

the average only 22% of the respondents are enjoying an acceptable service level (basic service level or better).

Accessibility

Everyone in the community (100%) has access (by distance) to the water system within 500 metres required by the CWSA norm.

Crowding with Reliability

As stated earlier, the community has been relying on the only available formal water source (PS1) which has been reliable (working 95% of the expected time), implying that, the entire population of 1,467 persons is relying on a facility designed for 300 persons. . Due to this overcrowding, no-one in Abono can currently be said to fully meet the basic standard for a rural water service.

Quality and Use

A majority of the respondents, about 61% perceived the quality of water from the formal source to be poor due to its saline taste. However, no water quality test was carried out to confirm their perception. Meanwhile, the water is used for all purposes including drinking. Also 12% of respondents purchase sachet water from vendors for drinking purposes only, primarily due to the saline taste of the formal water.

Although the informal water sources are not acceptable for domestic use, the community members use them for domestic as well as productive activities. The informal water sources used are a river, the [2]Lake Bosomtwe and rainwater harvested by households. Many people use lake water for cooking and some even use it for drinking.

Based on the WASHCost Ghana service level matrix (Table 2), the overall water service in Abono in terms of quantity accessed, access by distance, and crowding-with-reliability does not meet the basic service level. This is because 100% of respondents are receiving sub-standard or no service in term crowding-with-reliability.

[2] The only natural Lake in Ghana

SANITATION

The community has a 10-seater Kumasi Ventilated Improved Pit (KVIP) toilet for the public and one institutional KVIP. The public toilet is used by all the inhabitants of the community. None of the respondents (100%) had a household toilet. None of the respondents practice open defecation or dig and bury instead they were patronising the public toilets free of charge. Cleaning of the public toilets had been taken place on a voluntary basis by the WATSAN committee chairman.

Costs and finances

Cost figures were collected, where available, to cover operational expenditure and capital maintenance expenditure (larger repairs and rehabilitation), adjusted for inflation to base year 2009.

Capital Investment costs

Capital investment costs were calculated using a regional average as actual costs were not available for the water point system. 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 Abono is US$ 7,121. Using the design population of 300 people, this suggests a cost of US$ 24 per person but only US$ 5 per person for the actual population of 1,467. The actual population is about 5 times more than the design population.

Operation and maintenance costs

Operation and maintenance costs for the borehole with handpump were reported over the period 2004-2008, during which period the water facility was repaired. The operational and minor maintenance expenditure (OpEx) in terms of cost per capita based on actual population of 1,467 was US$ 0.25 and US$ 1.22 per person per year for the design population of 300.

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.

Table 3: Cost of providing WASH services

Cost Components	Current Cost (2009) in US$	
	Actual population (1,467)	Designed population
Capital investment (US$/person)	5	24
Operational and minor maintenance expenditures (US$/person/year)	0.25	1.22
Capital Maintenance Expenditure (US$/person/year)	0	0

Tariffs

According to the WATSAN committee, the water tariff is set by all members in an open forum at any time deemed appropriate. The water tariff is supposed to be collected and kept by the WATSAN committee for the purposes of repairs and maintenance. A tariff of [3]GHp 5 (US$ 0.04) is charged for 36 litres of water fetched from the water point source on pay-as-you fetch basis. A majority of respondents, (65%) claimed the water tariff was acceptable, 28% said it was low and 7% said it was high. A focus group discussion with the WATSAN committee revealed that, there are frequent breakdowns of the formal water facility due to the high intensity of use since the community is underserved with facilities.

Sustainability

If all inhabitants use an average of 12 litres of water per person per day, the expected revenue would be GHp 1.7 per person per day which translates to US$ 6,329 per year, which should clearly be more than sufficient to pay for operation and maintenance expenditure. The study revealed that, the water point system has never been down for more than a week due to the prompt response to restore the facility because it is the only formal water facility available in the community. Thus all operation and maintenance cost could be funded from the revenue generated from tariffs.

Cleaning of the public toilet is done on voluntary basis. It is therefore important for the WATSAN committee to have proper arrangement including paying tariffs to access the public toilet for the operations and maintenance – thus cleaning of the toilet, replacement of vent pipes, reroofing and desludging else sustainability of the public toilet cannot be ensured.

[3] GHp is Ghana pesewa

Conclusion

Abono community with a population of 1,467 is considered to be poorly served in terms of water coverage, based on the CWSA norm of one borehole with handpump for 300 people. By the CWSA criteria, the community should have about five boreholes with handpumps thus, implying that currently the community is seriously underserved. The overall water service level received by respondents is therefore considered to be sub-standard and does not satisfy even the basic service defined by the CWSA norm.

The data collected on operation and maintenance showed the community only repaired parts when there were break downs.

The pay-as-you fetch tariff system and the willingness of the water users to pay the tariff has enabled the WATSAN committee to accrue enough money to repair the water point source which if continued will make the system sustainable.

All the respondents resort to public latrine (KVIP) and the sanitation service level for the community is sub-standard.