



Jankpariba community report

Cost of water and sanitation services in Jankpariba in the East Gonja District, Ghana

Jankpariba community with a population of 382 has only one formal water point system, which has not been functioning for a year. As a result all the inhabitants are not receiving a basic water service. The community currently relies on the informal water sources for all purposes including drinking. The community has no public or institutional latrines and no one in the community has a household toilet. Due to that, everyone in the community practice open defecation.

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Front Page Photo

WASHCost Ghana

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 Jankpariba in the East Gonja District in the Northern Region of Ghana.

The WASHCost team visited the Jankpariba 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 382 people from the Regional Community Water and Sanitation Agency records for 2009 and 16 households according to the WATSAN committee. The inhabitants are mostly of the Gonja and Dagomba ethnic groups with some Chekosi, forming the minor ethnic group and their main economic activity is farming.

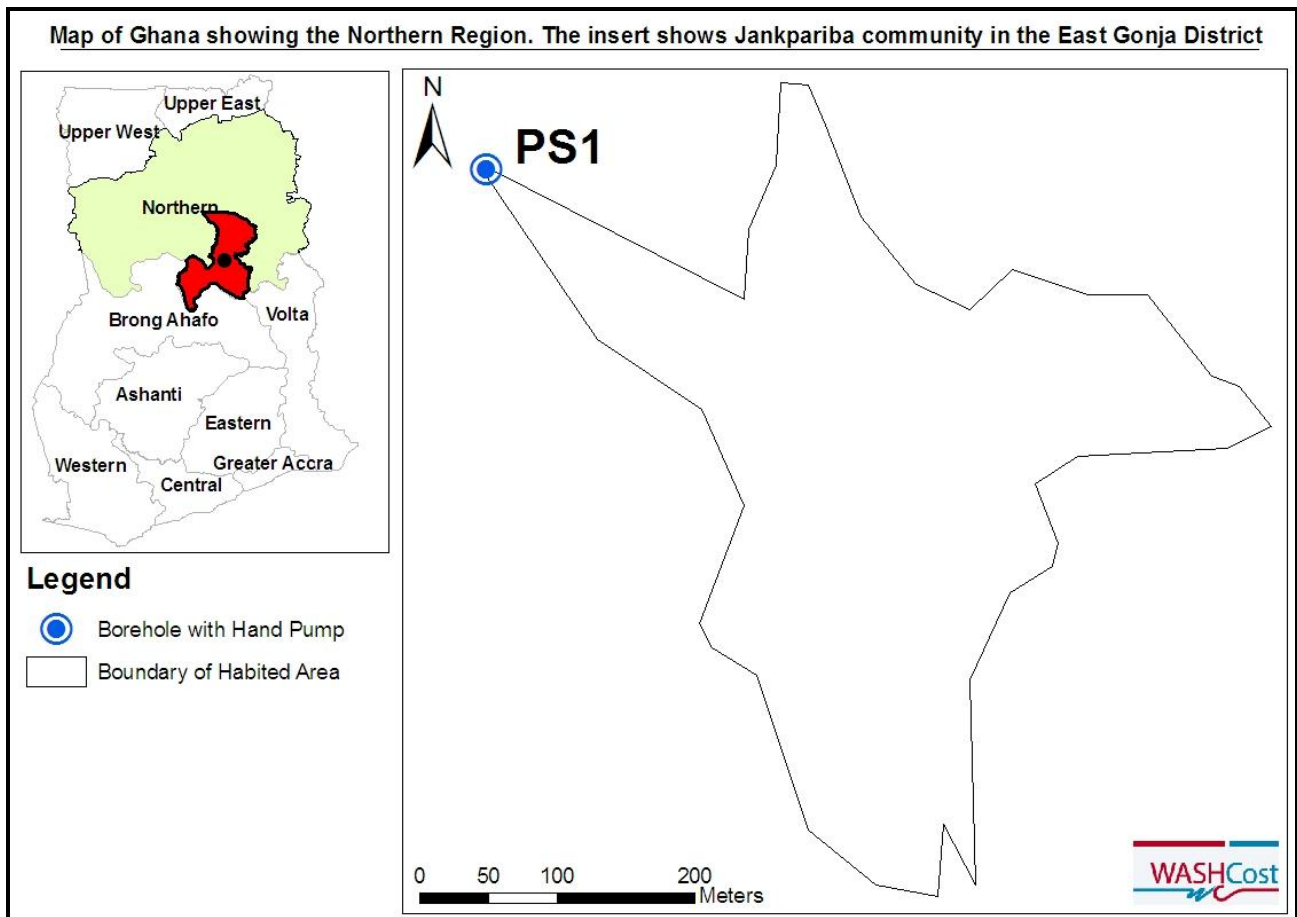


Figure 1: Map of Jankpariba community with water and sanitation facilities

Water supply

Before the year 1994, the inhabitants of Jankpariba relied on open wells and harvested rainwater as their main sources of water for all domestic purposes including drinking. Currently, the community relies on one (1) formal water point system, a borehole with handpump (PS1 on the community map) which was provided by the Adventists' Development and Relief Agency (ADRA) in 1994. The WATSAN committee could not provide any data pertaining to the construction of the borehole with handpump. Therefore, pertinent information such as the capital cost contribution towards the provision of the facility could not be obtained at this level. Meanwhile, the water facility (PS1) had not been working for a year during the team's field visit.

Water consumption from formal and informal sources

When the formal system was functional average water consumption from formal water sources shows a strong seasonal pattern, rising in the dry season (≈ 57 l/c/d) and falling in the wet season (≈ 40 l/c/d) when other sources are available. However, much of the 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.

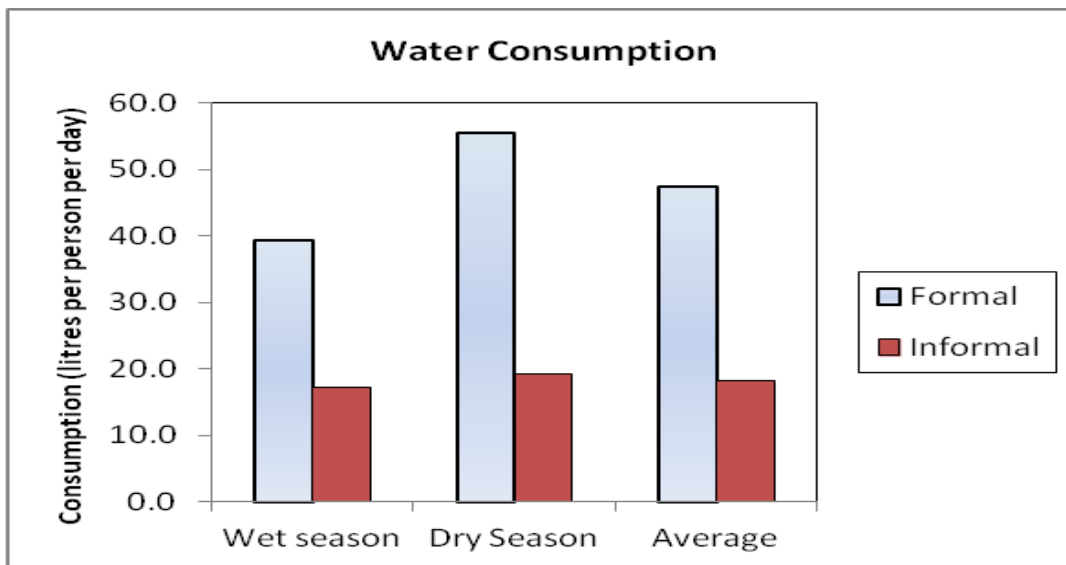


Figure 2: Average water consumption per person

Water service levels in Jankpariba

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 service levels 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 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		

The result of the survey with respect to water quantity revealed that,

- When the formal water system is working, everyone in Jankpariba actually uses sufficient water per the requirements of the national guidelines.
- The only available water point is shared by 382 people when it is working, which is more than the prescribed standard maximum of 300 people per water point.

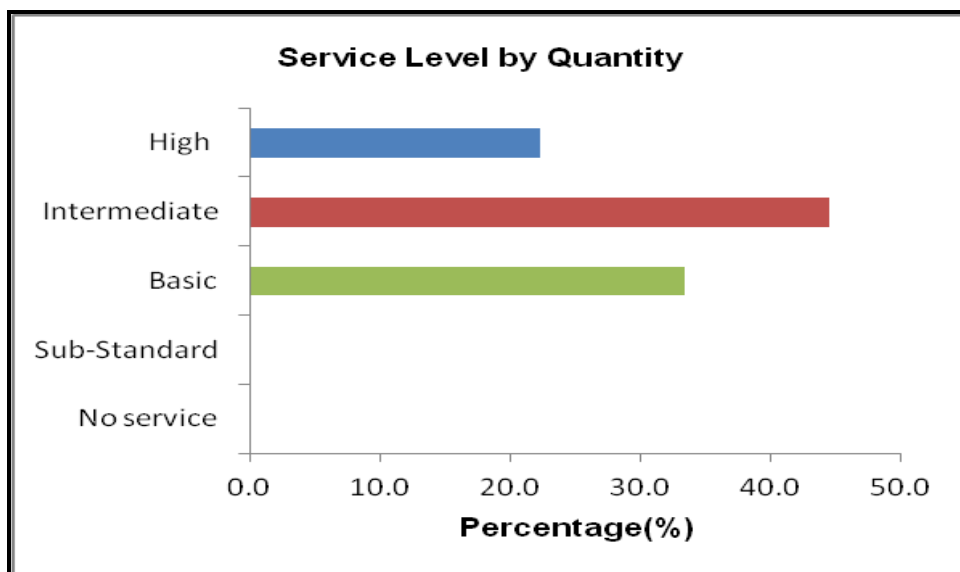


Figure 3: Percentage of respondents receiving a particular service

The result also indicates that all the respondents enjoy acceptable service when the formal water point system is working. This means that everyone receives at least the basic level of 20 litres of water per person per day as stipulated in the CWSA guidelines. A majority of respondents (44%) receive intermediate service (40 to 60 litres per person per day) throughout the year with respect to the quantity of water received per person.

Accessibility

All the respondents meet the accessibility criteria. This is because their maximum walking distance to the formal water facility falls within the norm of 500 metres prescribed by the CWSA guidelines.

Crowding with Reliability

The community has only one formal water system (PS1) which has not been working for one year. Due to this, no one in Jankpariba can currently be said fully meets the basic standard for a rural water service.

Quality and Use

All the respondents perceived the quality of water accessed from the formal water point system when working to be satisfactory in both the dry and wet seasons. However, no water quality test was carried out to confirm their perception. Water from the formal source is used for all domestic purposes including drinking and also non domestic uses such as livestock watering and irrigation.

Based on the WASHCost Ghana water service level matrix (Table 2), the overall water service level, putting all indicators together as equally important, gives 100% of respondents receiving **sub-standard service level**. This is because 100% of respondents are receiving sub-standard service in terms of crowding with reliability; otherwise all respondents would have satisfied the standard water service level.

SANITATION

The community has no public toilet facility or institutional latrine. None of the respondents (100%) had a household toilet. Due to this, all community members resort to open defecation. Therefore all the inhabitants are not receiving the basic 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 are calculated using a regional average as actual costs were not available for all boreholes surveyed. The average regional cost of developing a borehole and handpump is US\$ 7,795. This implies that the total investment that has been made in Jankpariba is US\$ 7,795. Using the design population of 300 people, this suggests a cost of US\$ 26 per person but US\$ 20 per person for the actual population of 382.

Operational and minor maintenance costs

Operational and minor maintenance for the borehole with handpump were reported over the period of its existence during which period the water facility had suffered at least three breakdowns. However, considering the community population of 382, operational and minor maintenance cost of 0.13 per capital seems very small. The low value is partly due to two reasons; the funding partner provided spare parts at

project inception, subsequent repairs by a local mechanic also cost very little or were effected free of charge. Operational and minor maintenance expenditure per capita for actual and designed population were less than US\$ 1 annually.

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\$	
	Observed population	Designed population
Capital investment (US\$/person)	20	26
Operational and minor maintenance expenditures (US\$/person/year)	0.13	0.17
Capital Maintenance Expenditure (US\$/person/year)	0	0

Tariffs

Members of Jankpariba community are not charged any tariff for accessing water from the formal water system when it is working. 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 handpump suffered its first breakdown in 2003, where a broken rod had to be replaced. Some repair works were subsequently carried out on it in 2005. In 2008, the handpump suffered yet another breakdown which had since not been repaired at the time of the field visit. According to the Area Mechanic, the handpump requires replacement but has not been replaced since there is no money available to the WATSAN committee to take care of the cost of replacing the handpump.

Conclusion

Jankpariba community (with a population of 382) is considered to be unserved based on the CWSA norm of facility provision where one borehole with handpump should serve 300 people. In terms of access by distance, everyone in the community has access to the water system within 500 metres. The overall water service received by the respondents in terms of quantity accessed, accessibility by distance, and crowding-with-reliability gives 100% sub-standard.

All the community members use the formal water point system when it is working although they also rely on informal sources like the open well and harvested rainwater. Water from the formal and informal water sources is used for all domestic and productive purposes.

There is lack of funds for maintenance as no user fee is charged for accessing water system. Hence, there has not been assurance of sustainable service delivery since the current service depends on one borehole which has not been restored after a year of break down.

Due to the lack of a public or institutional toilet facility, all the community members resort to open defecation. Thus all community members do not have access to basic sanitation service.