FINAL REPORT ON:PAKRO COMMUNITYORGANISATION:YOUNG VISIONARY LEADERS GHANA (YVLG)

COMMUNITY DESCRIPTION

Pakro community is in the Southern East of Ghana (Eastern region), in the hearth of Akwapim South District, located at GPS coordinates N 5°54'17.5" W 0°19'04.9" (Figure 1). The community is located around 40 km North of the capital Accra.



Figure 1 + 2: Location of Pakro community

Pakro community is the center point of the five (5) beneficiary communities: Pakro, Fantitown, Abease, Adjinases and Apenso. Young Visionary Leaders Ghana (YVLG) embarked on a feasibility study for the community. They describe Pakro as a farming and hunting community, with a total population of five thousand eight hundred and three (5803) inhabitants which consists of children, aged, men, women, youth and people with disabilities. Pakro has the highest population between the communities (3040), followed by Fantikrom (723), Abease (698), Apensu (678) and Adjinase (654). The population numbers were retrieved from local governmental agencies in charge of community statistics and verified by W4W with the help of software counting buildings from satellite photos.

DESCRIPTION OF THE PROBLEM

Despite the numerous challenges, including lack of proper health care facilities and economic hardship confronting the natives of Pakro and the surrounding communities, access to clean and affordable water remain their foremost desire for infrastructural aid, as this contributes as a root cause to several of their other major issues.

Having engaged the district assembly, community leaders and members of the communities during the survey carried out by YVLG, we are convinced that these communities are in worthy need of potable water.



According to Mr. Abdul Lateef, assembly member for the area, access to water has been their challenge for the past 15 years, since the only source of clean water for the communities installed by the government broke down in 2005.

Today the community members are left with one of the following 3 options to bring home water.

1. To walk to the nearby Densu river to collect water. This water is free and close by, but it is shared by animals and contaminated with e-coli and other bacteria, and a cause to lethal diseases, especially among young children.

2. To buy water from the private well in Pakro at 1,5 GHC / 25 litres, which is more than most people are able or willing to pay, thus choosing the other alternatives despite of the consequences. The coordinates of the private pump site are N 5°54'22.6" W 0°19'03.0".

3. To walk 8,8 kilometres to and back from the nearest public improved water service outside of the village, where water can be bought at GHC 0.50. The time spent on this, are keeping children out of school and adults from engaging in other social and financial developing activities.



Figure 3. Community overview including walking distance to nearest affordable source of safe water.

IMPLICATIONS ON HEALTH (SDG3)For the past 15 years the lacking accessibility to affordable clean water have resulted in critical health issues such as outbreaks of cholera, diarrhoea and other water borne diseases that had led to loss of lives in the various communities.

Recent and current viral diseases such as Ebola and Covid-19 has only increased the importance of access to clean affordable water for improved hygienical conditions.

Additionally, there are incidents of drowning accidents when children collect

water at the river, as well as attacks from wild animals such as snakes, and sexual assaults on women and girlchildren when walking long distances for water through the bushes.



Figure 4: Collecting water at the stagnant muddy Densu River and surrounding streams is the most frequented solution for the villagers, despite the hazarding of health and wellbeing form intake of unsafe water.

IMPLICATION ON ECONOMY (SDG1)

The current situation has a serious negative impact on the achievement of the Sustainable Development Goal 1 (SDG1), which seeks to put an end to extreme poverty by 2030.

The rate of poverty and illiteracy is on the rise since families have to use their daily-generated incomes from farming activities on buying water at a very expensive rate from the only improved source in town, or to spend significant amounts of time walking to other towns for water, rather than working.



Additionally Families spend their incomes taking care of their relatives who are infected by the water related diseases whenever they fall sick.



IMPLICATION ON QUALITY OF EDUCATION (SDG4)

The water situation additionally has a negative impact on the achievement of the sustainable development goal 4 (SDG4), which seeks to ensure inclusive and equitable quality education for all.

To avoid drinking river water, some children wake up very early in the morning to travel several miles to fetch water for domestic consumption by their respective families. They return late and tired from the long journey, and often come to school late and exhausted.

These schoolchildren end up performing poorly in school due to absence from class or low concentration during class hours. This has contributed hugely towards the high rate of school dropouts and illiteracy.





Figure 5: School girls collecting water at the river, before going to school.

IMPLICATION ON GENDER INEQUALITY (SDG5)

Women, and to lesser extent children are primarily the ones who spends hours daily on collecting water for household use, and use it for cooking, cleaning, washing, and watering household animals. Women negotiate with their neighbours for access to water supply, evaluate water sources, analyse supply patterns, lobby relevant authorities, and launch protest when water availability reaches dire levels.

It is also the women who bear the primary burden of caring for the sick children because of infectious diseases caused by intake of unsafe water.



OBJECTIVE OF THE PROJECT

The project for which we are requesting funds will make a difference in the lives of the inhabitants of Pakro and surrounding communities, drastically reducing the above-mentioned negative impacts of the current water crisis.

The project aims at providing the community with an electrified water supply system, providing the communities with a nearby source of clean water, affordable for all inhabitants.

WISHED BOREHOLE SITE

The water project bases on the identification of the best location of the borehole construction site, from which community members will be able to get water supplies. The borehole site must be central enough to facilitate supply from all the beneficiaries. The wished borehole site (marked with a heart in Figure 2 and 3) represents a central location in which all 5803 inhabitants will directly benefit from, as included in a 1.5 km radio. The quality of the surrounding of the wished borehole site has also been assessed. No humans and not humans' activity represent a risk for groundwater quality at the borehole site.

Moreover, the wished borehole site guarantees access to electricity for the installation and functioning of an electric pump. However, the final decision on the borehole site must be discussed by local partner and W4W after a geological survey that will be caried out to assure there is water in the underground on site before the drilling commences. The coordinates of the wished borehole site are **N 5°54'16.9" W 0°19'05.7"**.

PROPOSED WATER PROJECT

EASTERN REGION PAKRO WATER PROJECT



Figure 6: Pakro community water project

The proposed project includes a geological survey, the drilling of the borehole. Two (2) 8,000 liters polywater-tanks, with four (4) standing taps and ten (10) taps on the concrete platform making a total of fourteen (14) taps in altogether.

The design of the water project was done in collaboration between YVLG and W4W. First the amount of water needed to provide enough water for the direct beneficiaries of the project was assessed.

- 1. In 5 minutes, system will discharge 42 litres of water from each tap (14).
- 2. In 5 minutes, the 14 taps will discharge 42 ltrs x 14 taps = 588 litres.

- 3. In an hour, 588 ltrs x 12 = 7,056 litres.
- 4. In six (6) hours 7,056 ltrs x 6 = 42,336 litres
- In twelve hours 7,056 ltrs x 12 = 84,672 litres
 Total Quantity of water to be discharged in 12 hours is = 84,672 litres in a day which will be sufficient for the beneficiaries in a day.
- 84,672 litres / 5,803 people = 14.59 litres which approximately 15 litres per beneficiary. Based on WHO guidelines a total of 7.5-15 L/d is a sufficient water requirement for survival (drinking and food), basic hygiene practices and basic cooking needs.
- 7. The pump will be working with ECG, and will be regulated with automatic controllers, so the pump will be able to pump water into the tanks automatically each time the levels in the tanks falls.
- 8. 2HP pumps and 1-inch transporting holes will be helpful. This will help maintain a stable supply of water into the tanks throughout the day, two (2) 8,000 litres of tanks will be needed to hold a sufficient amount of water to satisfy all users during the most frequented times of the day (early morning and early evening)

A double-check of the needed quantity of water was also calculated with pump formulas taken from <u>https://sciencing.com/how-7835457-figure-water-flow-existing-chiller.html.</u>



Figure 7: Picture of similar water project established by YVLG and W4W in August 2021.

SUSTAINABILIY

- 1. At completion of the water supply system YVLG will test the water quality and train the beneficiaries in proper use and maintenance.
- 2. YVLG guarantees full functionality of the installation within 2 years of installation. If it collapses, dries out or fails to deliver portable water, or in any other way fails to be functional within 2 years, YVLG will fully cover the repairs or drilling of a new borehole for the beneficiary community
- 3. When completed, the water supply system will be the property of the community, whom are responsible for establishing a water-committee, keeping it maintained, functional and available for public use. YVLG will guide the community in establishing the water committee. YVLG will also revisit the community at least once a year for 2 years, to make sure that the water committee is active and managing to keep the water at an affordable rate, and put money aside for future maintenance.
 - a) The targeted price water will be of 0.10 GHC/yellow gallon (around 0.001 USD/L). This will be a big decrease in prices (90%) compared with the current private sellers prices, allowing all the population, including the most vulnerable to have an economic sustainable access to safe water.

VIDEO

Optionally, at an extra cost, the sponsor can choose to have video-realization made of the building an inauguration of the project.

The video will include:

- Shootings of the area (camera and drone)
- Interviews with community representatives
- Shootings of current water situation and related issues (camera and drone)
- Shootings of work activities during the project realization
- Shootings of finalized project
- Mentions of gratefulness to donor, YVLG and people involved into the project

The quotation for the video realization can be found in the Appendix.

COST OF PROJECT

The final quotation can be found in the Appendix. The total cost of the project is **26,789USD**.

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