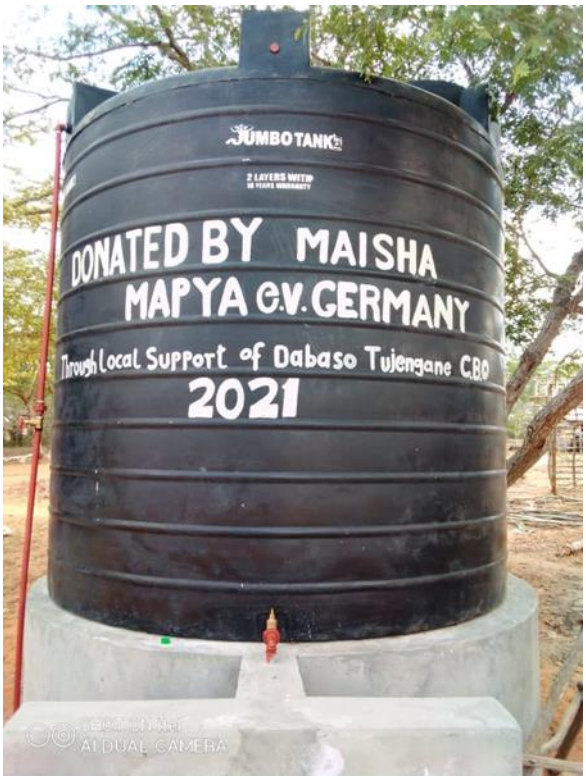
MAISHA MAPYA

Liebe Interessierte und Unterstützer,

wir melden uns mit großartigen Neuigkeiten zurück. Nach einem knappen Jahr voller Planungen und viel Arbeit, haben die Menschen in Adu/Baraka Jembe nun endlich Zugang zu sauberem Trinkwasser. Auf dem Weg dahin mussten wir uns einigen Herausforderungen und unerwarteten Problemen stellen. Am Ende hat sich die Geduld und der Glaube, an die Auszahlung unserer Anstrengungen, gelohnt.



Mit Eurer starken Unterstützung gelang uns der erfolgreiche Abschluss des Projekts. Besonderer Dank sei Alexander Trillitzsch von der Werbegemeinschaft Citypoint/Nürnburg, Sarah Faber von der Digethic GmbH und den vielen anderen, die das Projekt finanziell unterstützt und damit ermöglicht haben, ausgesprochen. Vor allem sei Shadrack Mwadai Nyawa von unserer Partnerorganisation erwähnt, der durch Beratung, professionelles Projektmanagement und Verlässlichkeit, in ausschlaggebendem Maße für den Erfolg mitverantwortlich ist.

Nachdem das Bohrloch Ende 2020 beim ersten Bohrversuch eingestürzt war, planten wir für gute 6 Monate einen zweiten Versuch. Eine neue Felduntersuchung wurde angestellt. Wir holten uns Rat bei deutschen Wasserbaufirmen, wie mit den Treibsandschichten umzugehen sei. Klar war, dass wir um eine teure Sekundär-Verrohrung nicht herumkommen. Es wurden neue Kostenvoranschläge eingeholt und schließlich die Umsetzungsphase mittels Timetabel durchgeplant.

Zwei Wochen vor Projektstart erhielt ich einen Anruf der kenianischen Wasserbaufirma. Mir wurde berichtet, dass aufgrund der Corona-Krise die Preise für die Stahlverrohrung, Benzin und weitere Kostenpunkte mindestens um das doppelte gestiegen waren. Ich wusste, die Finanzierung wäre für uns zu diesem Zeitpunkt unmöglich gewesen.
Weiter wurde mir berichtet, dass zwischenzeitig eine andere Organisation in der Nähe zur Baraka Jembe Schule nach Wasser gebohrt hätte, jedoch selbst jenseits der 200m Marke keine signifikanten Reservoirs fand. Reagan, von der kenianischen Wasserbaufirma EU-REAG, riet uns aus diesem Grund von der Bohrung ab.

Das Projekt war gescheitert, alle Zeit und Mühe vergebens – so zumindest meine ersten Gedanken. Aber wenn sich eine Tür schließt, da öffnet sich eine andere.

Mit unserer Partnerorganisation Dabaso Tunjengane besprachen wir alternative Wege, um Wasser in die Gegend von Adu zu bringen. In diesem Prozess wurde uns zugetragen, dass die kenianische Regierung in den letzten zwei Jahren mit dem Ausbau des Wassernetzes Fortschritte gemacht hatte. Die Wasserleitungen seien nur noch wenige Kilometer von Baraka Jembe entfernt. Eine Verlängerung des Wassernetzes, wie ganz zu Beginn angedacht, war damit wieder möglich. Gesagt, getan!

Das Wasser-Projekt

Im August 2021 taten sich die Dabaso Tunjengane CBO und der Maisha Mapya e.V. zusammen, um das neue Projekt zu besprechen. Im Oktober des gleichen Jahres, unterzeichneten beide Organisationen einen Vertrag, der die Kooperation besiegelte: Dabaso Tunjengane CBO als das ausführende Organ vor Ort und Maisha Mapya e.V. als Initiator und Geldgeber.

Eine kleine Ortschaft in der Nähe zur Schule war bereits an das Wassernetzt angeschlossen. Die kenianische Regierung hatte dazu einen Tank bzw. öffentliche Wasserstelle bauen lassen. Jedoch war dieser Tank bereits nach einem Tag leer und manches Mal dauert es mehrere Tage bis wieder Leitungswasser fliest. Außerdem war dieser Tank mit einem Wasserrohr kleinen Durchmessers an die Hauptleitung angebunden, sodass die Kapazität des Wasserdrucks nicht vollkommen ausgeschöpft werden konnte, was wiederum dazu führte das weniger Wasser pro Stunde gespeichert werden konnte.
Des Weiteren war die Schule selbst nicht an das Wassernetzt angeschlossen. Auch die Regenrinnen am Gebäude waren über die Jahre zerstört und konnten während der Regenzeit nicht mehr helfen genug Wasser zu speichern.

Daher wurde Folgendes umgesetzt:

1. Im Dorf wurde ein weiterer 10.000 Liter Wassertank errichtet.
2. Die Leitungen zur Hauptwasserleitung wurden vergrößert.
3. Die Schule wurde an das Wassernetzt angeschlossen.
4. In der Schule selbst wurden 2 weitere 10.0000Liter Tank errichtet, sodass nun der existierende 30.000l Tank aus Beton, während der Regenzeit Wasser speichern kann und sobald dieser trocken ist - so wie der neue Tank auch – mit Leitungswasser gefüllt werden kann.
5. Das Regenrinnensystem an der Schule wurde komplett durch ein hochwertigeres ersetzt.
6. An der Schule wurde ein Wasserzähler angebracht und die Anbindung ans öffentliche Wassernetzt beantragt.
7. Es wurde ein Wasserkomitee, bestehend aus Dorfbewohnern, gegründet. Dieses kümmert sich um die Instandhaltung des Systems und ist der Schule wie auch der Dabaso CBO dem Maisha Maypa e.V. verpflichtet zu berichten und Probleme zu melden.

Die Installation und alle Arbeiten vor Ort wurden durch einheimische Mechaniker und Dorfbewohner ausgeführt. Diese erhielten dafür einen Lohn. Shadrack von der Dabaso Tunjengane CBO übernahm die komplette Organisation, den Einkauf und das Projektmanagement. Auch dafür wurde eine vereinbarte Entlohnung für alle beteiligten Akteure gezahlt. Insgesamt beliefen sich die Projektkosten auf 5,828 €. Einen detallierten Projekt-Bericht mit Bildern, verfasst von der der Dabaso Tunjengane Organisation, findet Ihr untenstehend im weiteren Verlauf auf Englisch.

Da das Bohrprojekt nicht vollends umgesetzt wurde und dieses den Verein ca. 5000€ gekostet hat, bleiben nun noch 9.000 € übrig (durch vertragliche Absicherung war es uns möglich die nicht verwendeten Gelder zurückzuverlangen). Diese sollen für Nachfolgeprojekte genutzt werden. Geplant ist beispielsweise, die Böden von öffentlichen Gebäuden und privaten Wohnflächen, mit einer Mischung lokaler und kostengünstiger Materialien, zu zementieren. Damit soll der Ausbreitung des Jigger-Parasiten vorgebeugt werden.
Wir halten Euch auf dem Laufenden und bedanken uns vorerst für Alles was wir bisher zusammen erreichen konnten. Dass die Menschen um Adu das erste Mal in der Geschichte einen direkten Zugang zu Trinkwasser haben, ist ein großer Meilenstein. Über 1000 Menschen profitieren von den neuen Wasserstellen. Wir Alle zusammen haben das geschaffen. Ich bin stolz auf uns!

David Seidemann, im Namen des Maisha Mapya e.V.

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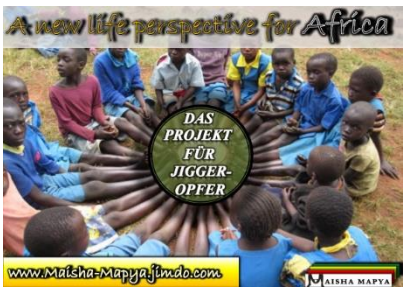

Baraka-Jembe Primary School Piped Water Installation Project Report

Background

This project was aimed to begin in January 2019. David Seidemann, the Director of Maisha Mapya e.v. visited Dabaso Tujengane CBO. In early January and showed his intention to fund a water supply project in one of the hardest to reach areas that we work in. One thing that was concluded was that matching this with the Dabaso Tujengane CBO's Jigger (Tunga penetras/tungiasis) treatment project. The main cause of recurrent jigger infection in a family is a lack of washing the feet and hands regularly and regularly cleaning the house floor with soap and water. The most infectious area for jiggers is the sleeping area/room in a house, Referenced in the research project "Efficacy of neem and coconut oil for topical treatment of tungiasis: A randomized controlled, proof-of-principle study" by Dabaso Tugengane CBO 2018. Therefore, a family that has a scarce supply of water will prioritize drinking and cooking water to regular washing of the house floor. In addition, a low-income household will not have a cement or at least sealed hardened floor in their house and therefore will hardly be cleaned using water. A loose sandy floor is an ideal condition for the jiggers to Thrive and multiply. As Referenced in "Controlling tungiasis in coastal Kenya with locally appropriate, sustainable hard floors" research project by (Dabaso Tujengane CBO 2020-2021). Therefore, with all these pieces of evidence, it was easy to plot a way of selecting the worst affected areas from the Dabaso Tujengane CBO data and having a visit to the selected site to check the current water supply.

We, therefore, selected Mjanaheri, Mambrui, Dakacha, and some outskirts of Adu, such as Ramada, Kamale, and Baraka-Jembe. Upon consulting with CHVs and some of the Public Health Officers (PHOs) of the area, we eliminated areas that had some aspects of piped water (though with unreliable supply) because they at least could store some water for the days without a supply of water. This left Baraka-Jembe and one remote area of Mambrui. These are the two areas that were visited by a Dabaso Tujengane team which included David of Maisha Mapya. Mambrui was found to at least have an average of one borehole per 5 to 10 households and therefore as much as they do not have piped water, they still had some access to water for cleaning. Baraka-Jembe on the other hand did not have any access. The nearest water source was a five-kilometer (km) walk to Adu town, considering that water supply in Adu is also not every day one could walk a round trip of 10 km and still come back home empty-handed! Therefore, Baraka-Jembe was chosen as the neediest site for a water installation project.

Initially, it was believed that the best method was to construct a big water pan for groundwater collection during the rainy season that could be used in the dry season. A groundwater expert was consulted and upon surveying the site concluded that it was not the most cost-effective method due to 2 major challenges. One the gradient of the area concluded that the most effective site for a water pan, that is the lowest area that rainwater will gradually collect to, is a former seasonal river basin that is near Adu town – at least three kilometers from the intended beneficiaries. Secondly, the area keeps receiving less rainfall with each passing recent year. The village used to have two rainy seasons, a long rain from March to May/June and a short rains season in September and October. Currently, in the last two or three years, there has been no short rain season while the long rains are getting shorter and less predictable. Therefore, the risk of the water pans not filling up well to supply water throughout the year is very high. It was therefore concluded that the most cost-effective method of bringing water to Baraka-Jembe school and village is through borehole drilling. This was because piped water installation from the government supply the main pipe from Adu town to Baraka-Jembe village proved too expensive and out of budget.

Borehole drilling was scheduled and started by August 2020. Two companies were selected and contracted to do the work. Village drill was contracted as the primary company responsible for the whole system survey and installation including the best pumping system and recommended EUREAG a secondary contractor responsible for drilling the borehole to the recommended depth of 230 meters. EUREAG in the end also rented a drilling rig from Sky-contractors limited and began the drilling up to around 130 meters. Dabaso Tujengane CBO was to act as a witness or local representative for Maisha Mapya e.v. At this point, the walls of the borehole started to collapse. EUREAG had a follow up discussion with the donor and Sky-contractors to find a solution, including EUREAG offering to use its own funds to continue, but, thy then with COVID-19 getting serious the price of drilling fuel, a need for secondary casing which was not in the initial budget, and the cost of purchasing secondary casing skyrocketing made it harder with each passing month to resume drilling. Additionally, there was another company drilling about a 5killimetre radius to our site that did not find a sustainable aquifer, further casting doubt to the viability of this whole venture. Therefore, the refund clause of the main contract was activated and a long system of partial or full refund of funds sent to EUREAG and Village drill is going on. Therefore, the drilling project had failed.

Lucky for the project, the Government of Kenya finally installed the main water pipe from Baraka-Jembe to Adu village – past Baraka-Jembe Primary school and we could finally connect the school to the main grid piped water and assist the village with water storage.

Actual project

In August 2021 we restructured the project and by October Maisha Mapya e.v. and Dabaso Tujengane CBO signed a contract as donor and implementor respectively and the project began. The main goal was to connect Baraka-Jembe primary school to the national water supply grid and installation of a 10,000-liter capacity plastic tank including a long-lasting concrete slab that will accommodate the weight of a full tank. The connection includes applying for a school water usage meter. The secondary objective was to install another 10,000liter plastic tank at Baraka-Jembe village (approximately 500mtrs from the school), including another concrete slab to be able to store water that the villagers buy for their homes. The village was already connected with piped water and a water fetching kiosk but does not have adequate storage. The water supply in the pipe is usually not done daily, therefore having adequate storage between supply

days was important. The donor fully funded the project with an estimated implementation period of one and a half months.

Site visit

The first task of the implementor was to conduct a site visit to the area to establish the current needs because a lot had changed since the last attempt of the project. The pictures below best explain the findings;

Baraka-Jembe Village

Figure 1. Baraka-Jembe village water kiosk

We found that the government main supply ended at least 80-meters from the village. And there was an extension of a three-quarter inch diameter pipe from the main government pipe of 3-inch diameter to the water selling kiosk that had a 2,000-liter storage tank. The water supply to the whole pipeline from Adu town is at best only two days a week and sometimes even less than that and the current storage tank only gave the residents a couple of hours of water after the main pipe dries up. In addition, the small piped water extension was a contributing factor to low water pressure and therefore reduced the number of jerrycans that can be filled per hour during the times when there is water in the main grid pipe.

Baraka-Jembe School

Figure 2. Baraka-Jembe School tanks 1 and 2

We found out that there had been a donor who donated a fourth tank to the school (tank with roof at figure 2). The school now had a total capacity of storing 55,000 liters of water at a time. Therefore, there was no need of adding another tank to the school. The funds could be used on other pressing matters such as the failing gutters and overhauling the small pipe extension at the village. However, we found that there was one old tank that did not have a slab and was sitting on uneven ground (figure 3 below) and if the tank was filled up at this stage it could have easily cracked at the bottom, therefore we complement the other donor by supporting the school's tank, to ensure durability. In addition, the whole gutters of the class block that feeds into the concrete tank were falling and needed a full overhaul as briefly shown in figure 4.

Figure 3. Baraka-Jembe School tanks 4 and 5

Therefore, the project slightly changed to include the following;

1. A 10,000-liter tank at the village.
2. A long-lasting concrete slab/tower at the village to support the tank.
3. Replacing the 80-meters extension pipe to a larger one meter to accommodate a higher pressure and higher water flow rate.
4. Installing a 100-meter water pipe from the government grid to some of the school tanks.
5. Fund the school to apply and connect a water usage meter that is monitored by the government for processing of monthly water bills.
6. Installing a long-lasting concrete slab to the existing 10,000-liter tank that is on the soil.
7. Connect two tanks, the concrete 30,000-litre and the plastic 10,000-litre to the water grid to store clean drinkable water. The plan is both to be used during the dry season while only the plastic 10,000-liter used during the rainy season when the 30,000-liter is collecting rainwater from the gutters. The 10,000-liter plastic tank is not connected to gutters.
8. Replace the full class block gutters with a new higher grade plastic gutter that can withstand the long sunny months.

Figure 4. Baraka-Jembe School gutters failing

Water management subcommittee

The school's board of management selected a water management sub-committee within its ranks in order to be the caretaker of the installed water. The purpose of this group will be, regular inspection of pipes to ensure there is no leakages, being in contact with the local installers for repairs and maintenance and making sure water bills are paid on time. This subcommittee is answerable to the school board of management and can meet the donor (or their representatives) whenever they visit.

Figure 5. below shows the sketch of the project implemented.

The parts highlighted in orange are the areas that were installed by this project as listed in numbers 1 to 8 on page 5 above.

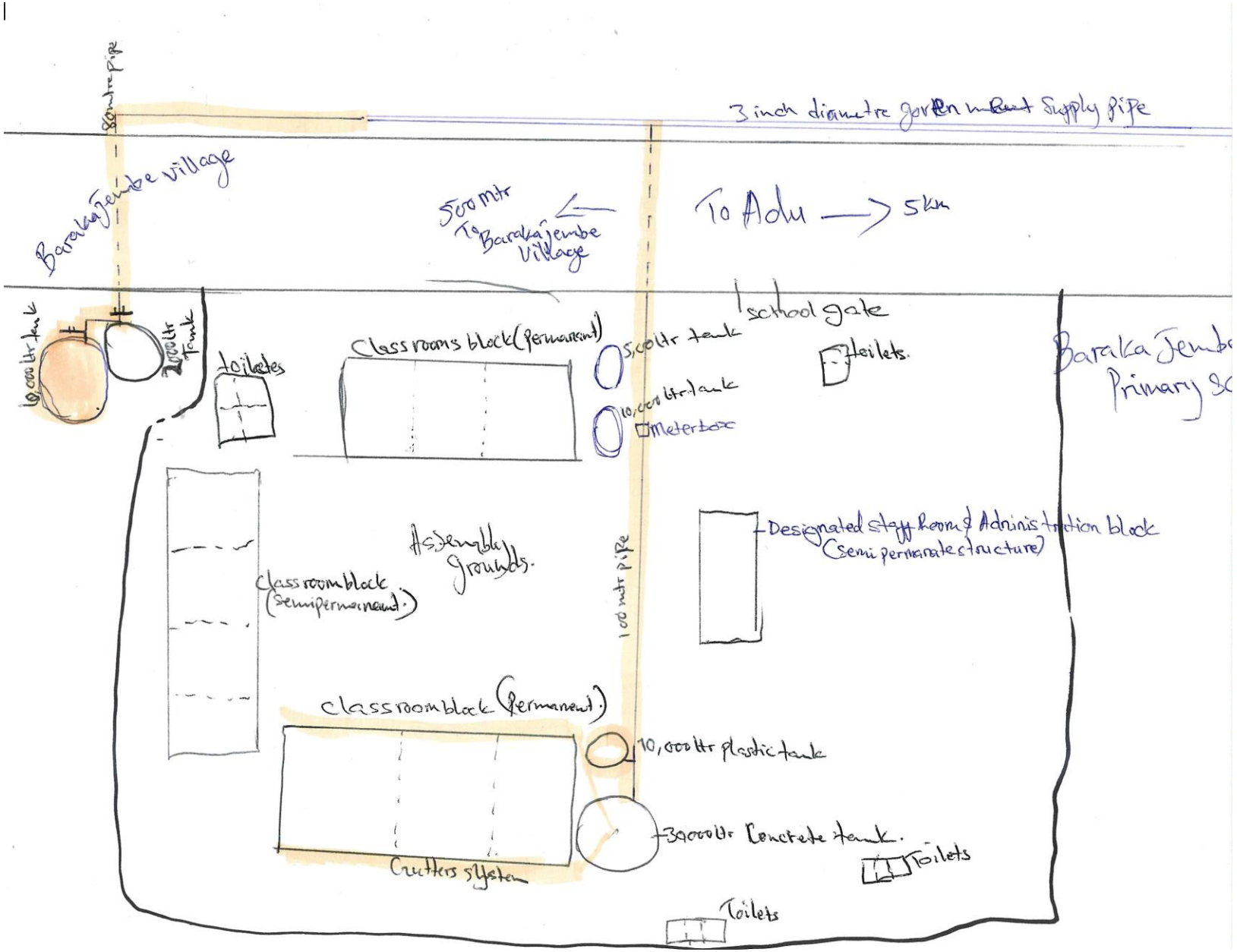

Figure 5. Sketch of the project (Not to scale)

Materials

Materials were sourced from different sites and transported to the site.

Figure 6. Ballast, From Jaribuni, Kilifi. Coral blocks and hardcore from Tezo.

Figure 7. Sand from Mambrui - Magarini and Cement and concrete metals from Watamu.


Figure 8. Concrete metals and gutters delivered

Implementation


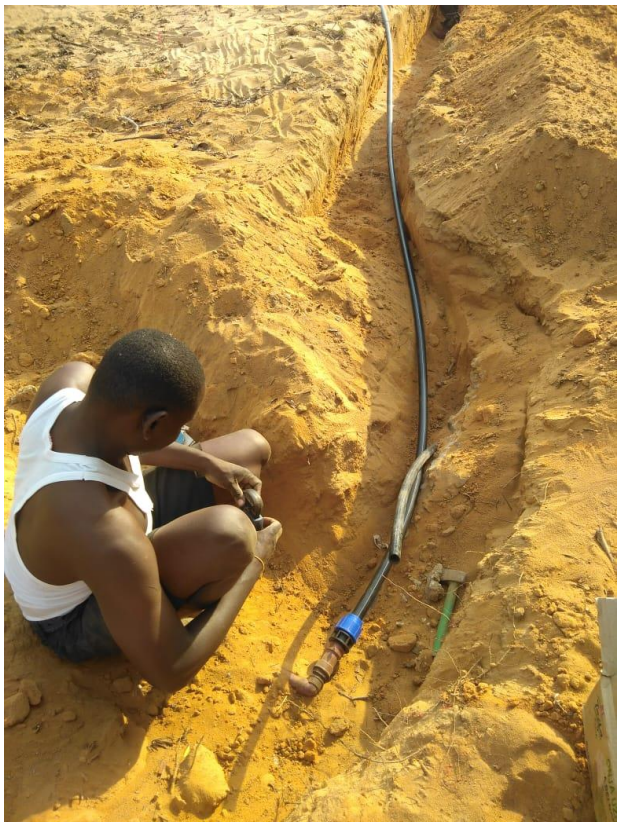

Figure 9. Trench digging and pipe laying.

Figure 10. Connecting to the 3-inch main pipe

Figure 11. Concrete slab construction. At school and village.

Figure 12. Slab completion and tank fitting.

Figure 13. Complete construction with labeling.

Figure 14. The gutter system is fully installed!

As of 7th November 2021, the project was fully implemented and all facilities were handed back to the school or village to utilize. Some non-perishable construction materials that remained were handed to the school to use for developing their classes or administration block which is a semi-permanent structure that is not in good condition currently.