

PROJECT REPORT

Project: Water is Energy

WASH
WATER & SANITATION
PROJECT



Project Location: Rising Education School, Bertoua, East Cameroon

Implemented by: Hope Foundation Cameroon



Partner Organisation: TechEnergy for Africa – TEFA Germany



Funding Organisation: Stiftung Nord-Süd Brücken, Germany



Year: 2018/2019



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Introduction:

Cameroon is one of the countries in Africa where clean portable water is scarce in some area forcing people to trek long distances in search of clean drinking water. The East region is one of the regions in Cameroon where people still face a big problem is regards to water. Water is life and without water, human beings cannot development themselves actively and healthily. It is estimated that more than 50% of the Cameroonian population do not have access to clean water despite the fact that much of the country have reliable water sources and adequate rainfall.

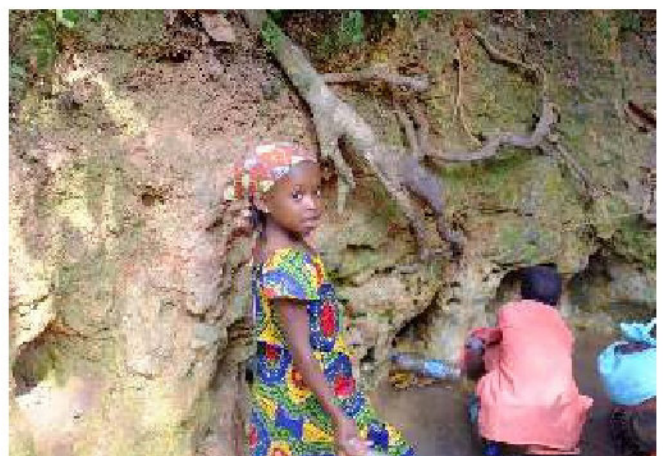
This lack of water is many communities especially in the East region which is our focus has cause a number hazardous situations especially when it comes to poor health and lack of proper daily activities. Water borne diseases attack the people on a daily basis causing the rise in the amount of family deaths and loss of love ones. Girls and women are the ones mostly facing these hard situations when it comes to lack of water. This is because they have the responsibility to take care of families when it comes to food and cleaning, take care of themselves to be healthy girls and mothers and as well this encourages them to attend school and take part in other activities to generate income in their societies. Sometimes these girls and women are the ones to walk these long kilometres to fetch clean portable water for their families.

For this reason, has Hope Foundation Cameroon decided to implement a modern and sustainable water system in its school premises which is almost at the completion face. Hope Foundation want to make the dream of people in the Toungou community where the school is built to have total access to clean portable water. This will go to enhance development, alleviate poverty, fight illnesses, encourage daily activities and boost the morale of youths especially boys and girls. Water access shall not only be for the school participants but as well for the while community in general.

Background and Context:

This project **“Water is Energy”** aim to provide clean portable water to the Rising Bilingual School and the Toungou community as a whole with specific objectives as follows:

- Accelerate the school and training centre construction project which lack water.
- Empower the local community on sustainability livelihood
- Fight all water borne illnesses and improve sanitation conditions in the community and school.
- Reduce walking distances to go fetch water thereby enhancing work and school attendance.
- Introducing renewable energy and practice to the local population with the use of solar power which generates energy to pump water and store.
- Promote hygiene practises among children such as hand washing and tooth brushing.



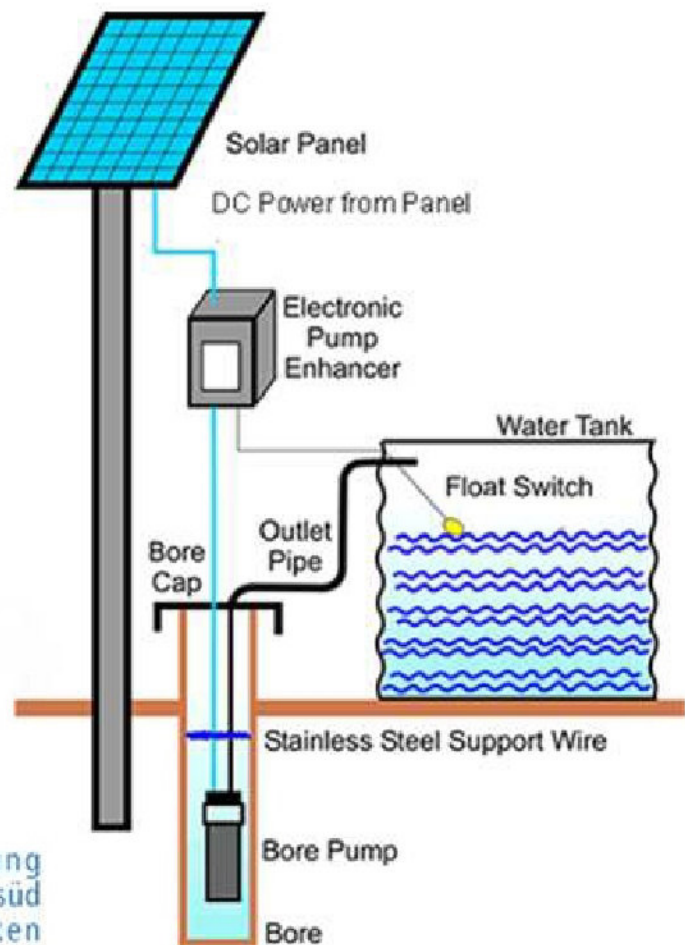
Project Design:

The project "Water is Energy" is a sustainable mechanism to be implemented in the Bertoua **Rising Bilingual School** where water will directly be pumped from a borehole into a water tank on a water tower. Two solar panels of 100watts each shall generate solar energy which shall be used to energise the water pump where water shall be pumped from a bore hole of 45metres deep into a 12 m high water reservoir carrying 5000litres of water. The bore hole will have the capacity to provide up to 8000 litres of water per day meaning the reservoir could be filled more than once to the benefit of the community.

SOLAR PUMP WATER SYSTEM

"A lot of sunshine has been wasted. It is time for our communities to empower and energise themselves using solar"

- Gerald Bobga
Director and founder
Hope foundation



Implementation Phases:

Phase 1: For the first stage of this project, Hope Foundation Cameroon's team members had to visit the school under construction and the community involved. The main aim of this visit was to discuss the upcoming project implementation with the community members and neighbours for the school for them to know what is being planning and coming. After discussing with the community and adopting the final plan, it was now time for the geophysical expert to conduct a survey and study on the plot to find out the most appropriate spot for drilling and construction of the water tower. Once this was successfully done, it was not time for the builders to start the construction of the tower.



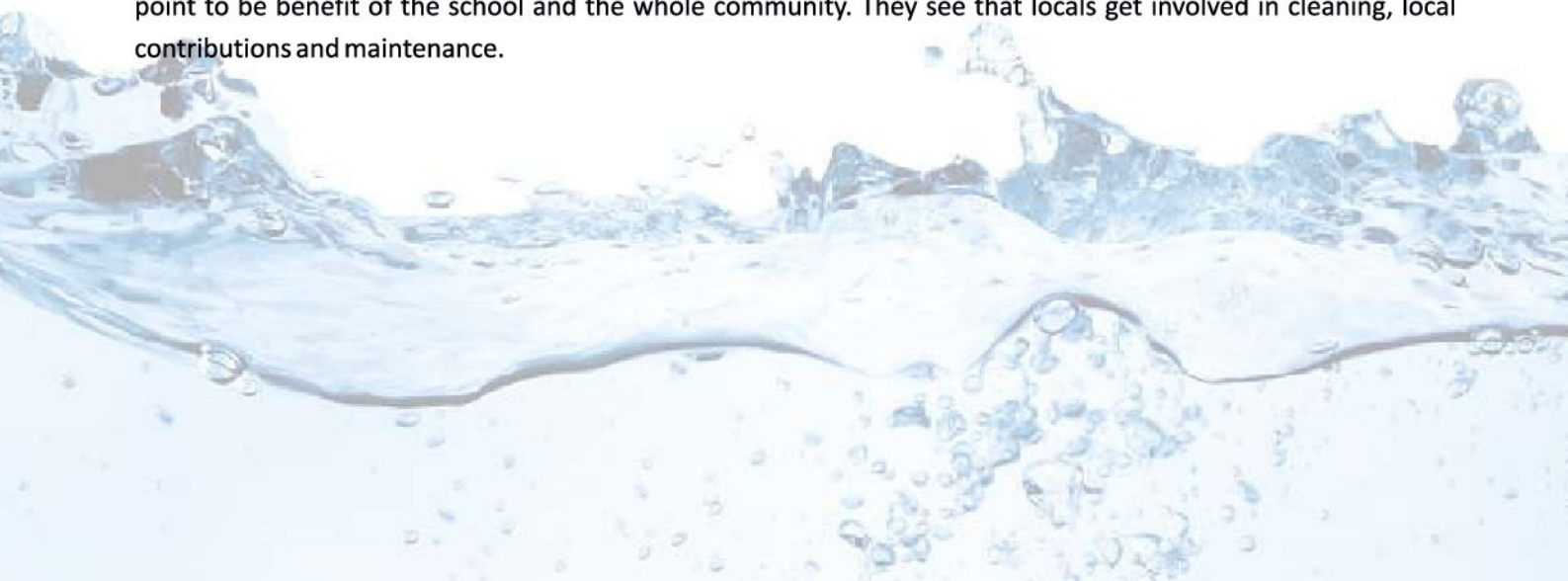
Phase 2: At the stage, the foundation of the tower was dug and pillars set up. A very deep foundation was made because it had to contain lots of concrete to carry a tower which shall go up to 13 meters high and carry up to 5000kg of water. To support this solid foundation special iron rods and white gravel was used together with the concrete. After the foundation was build, the builders who worked in a dynamic team rapidly started with the construction of the tower by raising the walls step by step. After every 3 meters of construction height, a joint linking all four pillars was built. This construction phase took three weeks until the tower reached the prescribed height requested. The various floors and joints were built with concrete to enable he water tank to have a suitable standing position when it is raised above. This stage ended with the roofing of tower.



Phase 3: This stage had to do with the final touches for the tower to be completed. Doors and windows were added to the tower where the floor room will not only serve as power house for the solar module but as well as storage house for other basic items used for the construction and for the running of the school. Added to the doors and windows was the construction of the metal ladder and the connection of pipes and placement of the water tank above the tower. This phase ended with the connectivity of all the water pipes linking the tank to the borehole which is still to be

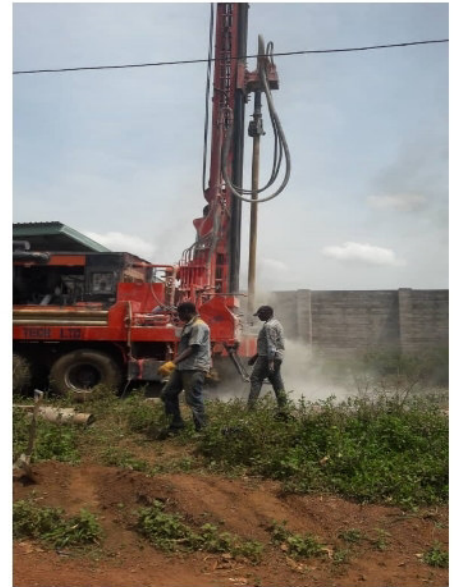


Phase 4: After the completion of the water tower, Hope Foundation Cameroon thought it was important to train the community about the importance of such a water point and how it can be maintained. Community members were gathered and experts of solar energy and water management took two days to reach the community of how this water system can be repaired in times of damages and which maintenance skills are needed to make the system last longer. To conclude this import phase, a local water committee for the Toungou committee was voted consisting of 10 members. These members are in charge of controlling the effective functioning of the water point to be benefit of the school and the whole community. They see that locals get involved in cleaning, local contributions and maintenance.

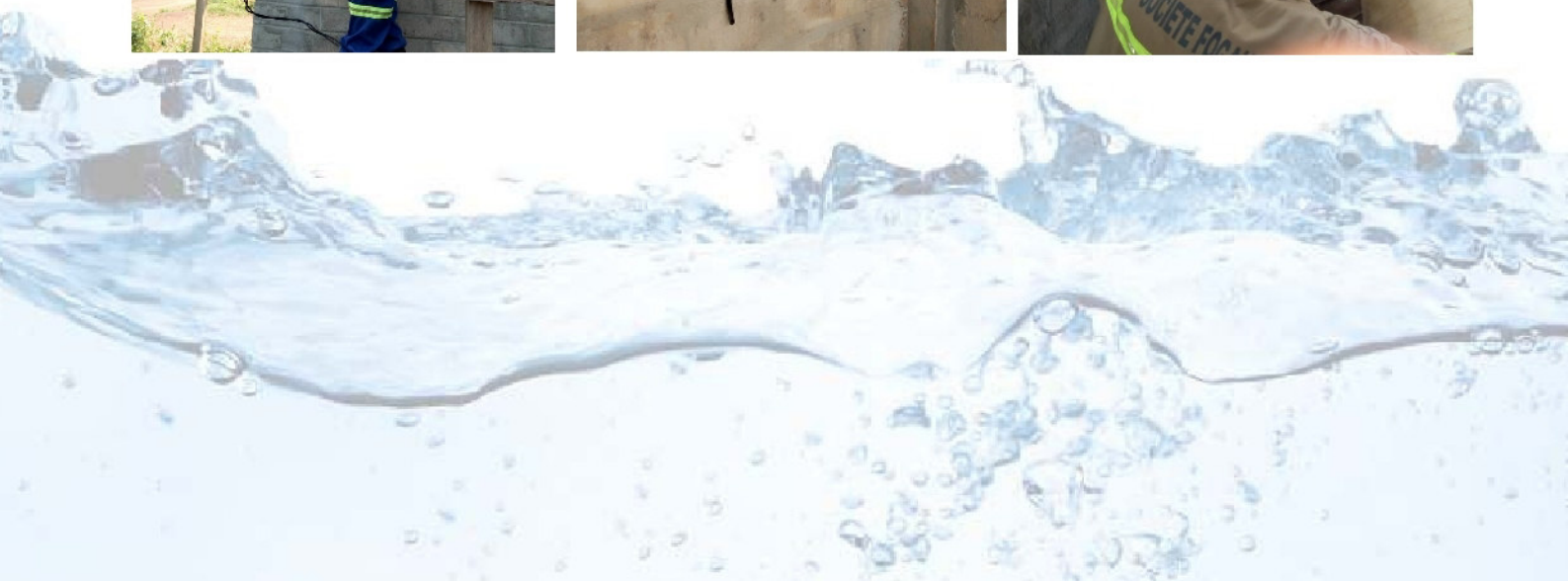


Phase 5:

This is a very important phase of the project because it involves the water drilling. After weeks and months of negotiations with different drilling companies from all over the country, we finally had the reliable company of Clarke Energy signed a realistic and professional contract with us for drilling on the well on our school campus. Borehole drilling took 2 full working days where the technicians almost got discouraged because of the hard rock layers and the massive physical work it involved. After 90 meters of deep drilling over two days, the construction company finally came in touch with pure clean portable water. This was to the excitement of the construction workers and the general community as a whole.

**Phase 6:**

This was the final stage of the project which consisted on installing and connecting all necessary devices together to produce fresh potable water for children of the school and the community. Now water is directly pumped from the borehole to the reservoir water tank with the use of an emerged pump sent through the borehole to the end of the hole. Power supply has been initiated with the supply of local power energy. Our local technicians have to place a meter to control the power supply from the main energy source and this energy is now used on a daily basis to pump water from the well to supply to the community.



Challenges encountered during implementations:

- The prevailing drilling costs are high and the existing companies involved in drilling are always booked out and always not on time with specific contracts and appointments.
- The weather plays a big role in the implementation of a water project where the dry season remains the best moment to build a tower and drill. Due to the delays with other issues, we were always caught up with time and change of season which enabled us to push most of the phases to a favourable construction period.
- Moreover the political atmosphere, where a presidential election played a big role in hindering the respective planned schedules. Most of the times many shops were closed and construction workers had to suspend work to engage themselves in their civic duties.

Monitoring and Evaluation:

An effective monitoring method has been put in place to enable the project to stay, remain sustainable and to properly serve the community for long time. After consulting the general community at the start of the project and the creation of the water committee to monitor and maintain the water point and structure, the project coordinator had to select 5 community leaders to work in the monitoring and evaluation committee where once every two months, a report will be submitted to the water committee about the water point. This team will be in charge to report on maintenance and renovation works done in case of any damages. From time to time, they are expected to visit community members and the school to ask about existing problems and queries faced in regards to water and sanitation. All of these members shall always be present in all.

Organisations Involved:

Hope Foundation Cameroon: Hope Foundation is a Cameroonian registered non-profit organisation which has as goal to promote healthy standards of living, alleviate poverty and promote development. Hope Foundation was founded in the year 2001 in Cameroon and since then, has implemented different projects related to health, education, water and sanitation, child support and humanitarian assistance in different parts of the country. Hope Foundation got into partnership with TEFA e.V Germany for the realisation of this water project in Cameroon. More about them can be read under: www.hope-found.org



TechEnergy for Africa e.V: This is our partner organisation based in Berlin. With TEFA, we were able to plan and implement this project together. TEFA e.V was solely concerned in applying for funds and advising us Hope Foundation Cameroon on which appropriate technology to use. TEFA. E.V is a registered non-profit organisation under German law which has as objective to promote technology and renewable energy projects in different African countries. This organisation was founded by a group of diaspora students in the year 2016. More about the organisation under: www.tefaev.org

Stiftung Nord Süd Brücken -SNSB: This is a private foundation based in Berlin Germany, which has a sole goal to promote and fund development related projects in so called less developed countries around the world. Funds donated by this foundation is raised from different sources both private and public. SNSB has over the years supported projects in Africa, Asia, Latin America related to themes contributing to the sustainable development goals –SDGs. We are thankful for the consideration which was made to fund our water project. More about the foundation: nord-sued-bruecken.de

Acknowledgement:

First and foremost, we would like to express our sincere gratitude to “**TechEnergy for Africa – TEFA e.V** Germany for partnering with us and applying for funds for the implementation of the “Water is Energy” project at the Rising Primary School in Bertoua, East region, Cameroon. The project would not have been realized without their commitment and valuable support.

A special appreciation and thanks goes to the **Stiftung Nord Süd Brücken** which is a donation foundation based in Germany. They supported financially this project with 10K Euros and we only had to contribute to complete the final remaining four thousand euros.

Last but not least, the general community and other stakeholders in all the project sites showed a lot of commitment and hence the success of the project. They were supportive both with hand labour and advice from the beginning of the project to the end. Special thanks to Toungou and Bertoua.

