Safe water through the power of the sun

This project provides access to safe water for around 50,000 people in rural communities in Eastern Uganda as many people still depend on open and unsafe water sources like lakes and rivers often leading to diseases like diarrhea, typhoid or cholera.

As in other rural regions in Uganda, access to safe drinking water is a huge issue in Eastern Uganda. Waterborne diseases are a continuous problem for the people. The project is working in Buhemba Sub-County, Namayingo District, where currently approximately 40% of people don’t have access to safe water. Most of them depend on Lake Victoria for their daily supply of drinking water. The average income in this region is less than 1 USD per day, hence buying clean water or water disinfection technologies are rarely an option for the people in Buhemba.

The project comes at a very crucial moment where so many cases of waterborne diseases like diarrhoea, dysentery, typhoid and worms are so common among our people including children.

Auma Patricia, Women Association Leader of Babiri-Bandu Women Development Association in Bukewa East Village

To manage the microbiological contamination of water, families fall back on the available resources and practices: boiling the water with firewood on inefficient three stone fires. For this, people have to cut down trees for timber/charcoal or collect branches in nearby forests or on their own land, further contributing to local deforestation and drop in forest coverage. However, due to financial reasons many people do not treat their water at all, hence being even more exposed to serious diseases as cholera, typhoid or worms.

Project type:
Water (Purification & Saving)

Project location:
Eastern Uganda, Namayingo District

Project status:
Planning

Annual CO₂ reduction:
Approx. 18,000 t CO₂e

Situation without project
Boiling water with firewood or no water treatment

Project standard
Gold Standard
VER

Impressions

WADI in use by Beatrice: It usually takes 3-6 hours until the disinfection process is completed. Photo: Barbara Oberfichtner/Helioz

WADI functions as an UV indicator showing the users a smiley face when the solar disinfection process is completed. Photo: Barbara Oberfichtner/Helioz
Solar-powered, robust and cost-effective solution for water disinfection

The vision of myclimate’s partner HELIOZ, an Austrian Social Enterprise, is to provide equal access to safe drinking water and to provide knowledge about proper hygiene and sanitation measures as this is a human right and fundamental to the health and well-being of people. HELIOZ developed a device called WADI (Water Disinfection), a solar powered UV measurement device that visualizes the process of solar water disinfection in PET bottles. Solar water disinfection is a natural process, in which the UV-radiation of the sun inactivates certain harmful pathogens in the water. The process only requires PET bottles which are everywhere available in the project region. They are filled with contaminated water and are then exposed to the sun. The duration of this disinfection process is determined by the sun’s UV intensity. A smiley face is shown on the WADI device once the process is completed confirming that the water is safe to drink. The method has been tested by the World Health Organization (WHO) and approved as an effective method for household water treatment.

Safe water has been a problem, the only treatment option available here is when you have some firewood and can boil the water or put chlorine tablets which is expensive and also the water taste is not good!

Lwande Godfrey, Local Council One Chairperson, Ogojje Village, Buhemba Sub County

The project sets out to provide 10,000 households in up to 100 villages in Buhemba Sub-County with WADI devices and regular trainings on water use and proper hygiene and sanitation practices. By this, the project will reach around 50,000 people. In a previous pilot project in Uganda, families reported that the WADI device is a very easy-to-use solution. As in most households, women are responsible for the collection of firewood and providing their families with water, the project solutions will especially benefit the women by saving time and money. The reduced consumption of firewood will also lift the burden on nearby forests and will save CO2 emissions as boiling on the open three stone fires is prevented. Through the project, the families will be supplied with the necessary resources to disinfect up to 20 litres of water per day.

Menstrual hygiene management for school girls

Carbon finance will be used to finance the implementation of the project by HELIOZ Austria and their local affiliate Get Water Uganda and to further enhance its impact by working on complimentary activities in water, sanitation and hygiene (WASH) such as providing menstrual hygiene trainings to young girls and supporting households with installing simple handwashing facilities, pit latrines, etc. Carbon finance will also be used to create income opportunities, especially for women in form of fruit tree planting and establishing plastic collection groups to support recycling of plastics.

This project contributes to 8 SDGs:
Households will save time and money for the collection and purchase of firewood. The project will also initiate income opportunities such as plastic collection and fruit tree planting.

Up to 50,000 people will benefit from save water and thus, there are less waterborne diseases such as diarrhea, cholera and typhoid.

Trainings on proper practices related to the use of water, sanitation and hygiene through the project.

Women will save time for the collection of firewood and will have the opportunity for income earning activities. A special focus will be the education for girls on menstrual hygiene.

Access to safe water is a human right. Each family will be supplied with the necessary resources to disinfect up to 20 liters of water per day.

Each WADI will avoid up to 2t CO₂ per year from reduced use of firewood for water boiling.

Reduction of firewood means reduced deforestation which protects the habitat of many animal and plant species.

Cooperation between international and national organizations, the local authorities, village representatives and women group leaders ensures a strong local ownership.