



WATER PROJECTS

Water contamination is a primary cause for diseases and deaths in the world, especially in Africa. Unfortunately, more than 40% Africa's population live in areas where clean water is extremely rare . More specifically, 42% of health facilities in sub-Saharan Africa do not have access to sources of water supply within 500 meters vicinity . On a daily basis, families travel long distances to fetch water. In most cases, women are the ones primarily responsible for finding water sources for the family . The United Nations estimates that in sub-Saharan Africa, 40 billion hours are lost annually in collecting water .

DirectAid's vision

DirectAid seeks to minimize the burden on poor families' suffering to get their basic daily needs. This is achieved by drilling environmentally-friendly water wells in certain accessible areas. More specifically, they are drilled in places where the ground is rocky. When drilling is not possible, concrete water tanks are constructed to collect rainwater during the wet seasons to be used later in drought times.

Such environmentally-friendly projects are vital and are line with Africa's 2063 goals and the United Nations' sustainable development goals (SDGs). More specifically, they promote sustainable agriculture, peace, and adequate living for all . They do so because these wells, ensure that affordable and sustainable resources are available to all, in line with the SDGs . They minimize conflicts over sources of water, allowing individuals to focus instead on achieving their full potential and that of a resilient Africa. That said, DirectAid thrives to provide nine out of ten individuals access to safe and drinkable water.

Water projects

Below are some of the water projects DirectAid implements.

1. Small artesian wells

Small artesian wells' depth starts from 20 meters below a rocky layer. Such wells are equipped with electrical/manual mechanisms to pump the water. While the cost of one well, depending on the country and location, starts from USD 6,588, they benefit 500 to 2,000 people.

2. Large artesian wells

Large artesian wells' depth starts from 30 meters below a rocky layer. These wells are equipped with an electric pump and an upper tank, operated through a solar system or electric generator. In addition, holding towers are built along those wells to store the extracted water. While the cost of a single well, depending on the country and location, starts from USD 16,469, they benefit 5,000 to 10,000 individuals.

All wells, whether small or large, are maintained to increase the projected lifespan of the projects. Maintenance is usually made through regular follow-ups, corrective fixes upon need, and preventative measures. Maintenance aims to increase the expected lifespan of the projects and minimize the need for future fixes.

3. Water tanks

A single water tank is fabricated of metal or aluminium to store enough water for the peak demand times, ensuring equal access to all. The average capacity of a tank is three cubic meters. While the cost of water tanks varies depending on the capacity, type, and location, they start at USD 9,223. That said, once tanks are built, they are supervised and followed up on by DirectAid's project management team.

4. Central water stations

Central water stations are built to provide clean water for villages near a large artesian well. They are built of metal or concrete and have an average capacity of 200 cubic meters. They also contain metal pipes with various diameters and lengths, a pumping unit, and a valve chamber. Their cost starts from USD 164,691. They are also supervised and followed up on by DirectAid's project management once they are built.

5. Water pipes

Water pipes, of various lengths and diameters, are laid out in different locations. They are connected to the closest source of water, whether public, large artisan well, or any other. They are used to provide supplies of drinkable water, water for irrigation and livestock, to villages and remote areas deprived of water. While the number of beneficiaries is no less than 2,000, their cost varies depending on pipes' size and length.



Sustainability of water supply projects

1. Suqya

DirectAid made a few essential steps to maintain water supply projects. Firstly, it established, in 2014, Suqya, a company, to implement clean water projects in a quick and efficient manner. The company studies water needs of an area, the geological characteristics of targeted areas, and water treatment, if needed. In addition, it drills the wells, constructs them, develops wells with a pump operating 24 hours, operates the wells it has drilled with the appropriate pumps and suitable power, and constructs the necessary building facilities associated with wells. Moreover, it lays down the pipes and links necessary to deliver water to nearby villages. As of today, the company has completed 361 wells.

2. Partnerships

Secondly, DirectAid establishes formal partnerships to maximize the impact of water projects on all beneficiary sectors. DirectAid leverages its presence for decades in Africa, its accumulated experience in charitable works, development projects, and public benefit projects, to establish partnerships that could serve the beneficiaries best. As a result, DirectAid concluded many partnerships with government agencies, including ministries and bodies responsible for water resources, and private companies in many African countries.

Such partnerships are vital in sourcing water data, maps, frameworks and licenses, and overcoming difficulties to reduce project costs and increase their quality. In addition, these partnerships lead to technical cooperation to provide drinking water to needy villages in a continuous and equitable manner. As of today, 27 local and international partnerships have been established.

3. Community committees

Finally, local community committees follow-ups have been established to ensure the sustainability of water projects. The committees consist of village heads, trustees and members of different ethnicities represented at the village level. Such diverse group reflect the unity of the African community and their common goal in becoming self-sufficient. In most cases, the same committee follows up on the implementation of developmental projects that are usually established after water projects are built.

More specifically, these committees follow up on the stages of well drilling until completion. Moreover, they receive the wells after verifying that all specifications have been met, work to ration consumption, and achieve equitable distribution for drinking, irrigation, and livestock. In addition, they are responsible for settling disputes in cases of high demand, preserve the well, and keep track of maintenance needs.

Environmentally friendly practices

In DirectAid's projects, environmentally-friendly practices are a corner stone, yet, they do differ from one project to another. For instance, solar panels to operate large pumps of artesian wells are put in place. To date, 926 water projects powered through solar panels have been established.

DirectAid ensures that its water projects are environmentally-friendly so there is continuous provision of water, may it be for drinking, agricultural land, or livestock. In addition, such clean energy measures help preserve the health of citizens and workers, reducing the use of generators, which allows for a constant supply of water. Moreover, these measures are easier to operate, have lower associated costs, preserve the environment, getting rid of the rancid sewage that were previously suctioned by vacuum trucks, and avoids outage crises, and scarcity of petroleum materials for well pumps.

Water projects in numbers

- **All in all, 27,168 water projects were built which have benefitted 2.5 million people to date.**

