

Project: Creating A Safe, Accessible Water Supply for Lavaud, Haiti

VHF Project Area: Safe Water and Sanitation

Country and Community Profile:

Haiti occupies half of a rough, mountainous island in the hurricane belt of the Caribbean Sea.

It was formerly a French colony to which thousands of African slaves were transported to work in sugar production. The fragile, mountainous land was deforested, causing ongoing and devastating erosion and flooding. This decreased the island's ability to grow food and contributed to Haiti's status as the poorest country in the Western Hemisphere.

Haiti also has one of the lowest rates of access to improved water and sanitation infrastructure. Lack of available clean water for drinking, cooking and washing is a critical obstacle to health and quality of life. The amount of fresh water withdrawn for each American citizen is about ten times that for the average Haitian.

Many Haitians live in small, isolated villages like Lavaud with no roads, no electricity, and most critically, no nearby water supply. People must walk miles to retrieve water, and the burden very often falls on children as young as seven. They must make the two-hour trip up to five times a day since they can't carry as much as adults or walk as fast.

The never-ending need to fetch water dominates everything - it makes every day just a matter of survival until the next day, when the process starts all over - never allowing individuals and communities to make the leap to improving quality of life.

Your life doesn't get better through education, improved nutrition, or better health. You just stay alive one more day.

Why Is Clean Water In Haiti So Scarce?

- Because of Haiti's extreme poverty, there simply aren't the resources available for governments to create a water supply network and supply clean water to everyone - particularly those in remote rural areas.
- Although the water supply authority sometimes provides for poor communities to receive free water, there are so many obstacles that it is essentially impossible to pursue the process to completion, and even then it may not end in success. Connection fees and monthly fees are far out of reach for many Haitians.

- Haiti sits right along the fault line of two tectonic plates - meaning earthquakes, like the devastating one in 2010 that led to a cholera epidemic, can and do destroy what little infrastructure exists.
- Natural sources such as rivers and streams exist, but these are often contaminated due to the lack of sanitation facilities. People are forced to use these sources anyway, and waterborne illnesses such as cholera and dysentery that have long been eradicated elsewhere account for half of Haiti's deaths each year.
- There is little to no rain in Haiti for half the year. Even during the rainy season rainfall can't provide a reliable water source.
- In Haiti's mountainous terrain, well-digging is not an option.

Figure 1: Rivye lakay in Lavaud



Lavaud project site, along with sites of other Vision Help Foundation projects to improve quality of life in Haiti through education and public health measures. Scoping out on the map shows the stark difference in forest cover between Haiti and the Dominican Republic, with which Haiti shares the island of Hispaniola.

Figure 2: [Vision Help Haiti Projects](#)



The Project

Bringing water to Lavaud was a monumental challenge - since flow relies only on gravity, the route had to be carefully planned over an uneven landscape, then an approximately 4.5-mile three- to four-foot deep trench to contain the pipe had to be hand-dug and the pipe laid, originating at a DINEPA pipeline. In the village, a kiosk sheltering two taps was constructed.

Figure 3: Pipe Layout



But first, we had to gain the cooperation of DINEPA, the government agency overseeing water supply in Haiti, and convince them the project was viable. On April 16, a DINEPA technician came to Lavaud and worked with VHF's Program Director Brucelee Duverny, a qualified plumbing technician, to assess feasibility. The beginning of the system was planned using a relatively large-diameter pipe (two inches) then the pipe size for the remainder of the system was successively decreased to create sufficient water pressure to ensure water would consistently reach the village.

Figure 4: Connection to the main pipeline

We began procuring materials, mostly from local vendors, and mobilizing the Lavaud community to make the project a reality. On April 21, we broke ground on the trench. Community members continued the work of digging and pipe-laying, supported by VHF staff and other community members who cooked and brought food to the laborers. On May 7, the pipe to Lavaud was connected to the supply pipeline, and, five days later, water arrived in the village for the first time through two taps. Over the following few days, we constructed a kiosk to shelter the taps and people drawing water.



Figure 5: Pavement construction by the kiosk

Project Results

Making clean water accessible in the village has transformed the lives of every community member and brought new hope to the community as a whole.



Figure 6: Villagers fetching water

Envision how your life would be transformed: you're a villager, maybe a little boy or girl, a pregnant mother, an elderly community member with no money to pay someone to get water for you - who has to walk to fetch heavy containers of water up to five times a day. Within a few weeks, water is available right at your doorstep - you can draw a gallon in just over eight seconds.

Before water came to the village, **children** had to:

- Collect water at night so they could bathe in the morning before school

- Wake up as early as 4AM so could walk the two hours to get water and arrive back home by 7AM to get ready for school at 8AM
- Collect water in the afternoon, sacrificing time to study
- On weekend days, spend up to ten hours a day making trips to collect water

Now, children have time to study, rest - and even play - giving them the capacity to create a brighter future.

Not having to fetch water gives **women** the gift of hours per day and a break in the unrelenting cycle of housework, cooking, washing, and childcare. These found hours bring benefits like time to support children in their schoolwork.

The blessing of extra hours also gives women the opportunity to earn income selling goods in the local market.

Elderly and disabled community members had to pay others to fetch water for them three to five times a day - an expense they could ill afford. Now they can use scarce money to buy food and medication.

The health of **all community members** is enhanced and protected by having clean water - they no longer have to risk severe illness from drinking contaminated water.

The new system also provides a tremendous health benefit in the face of the **Covid-19 pandemic** - sources of clean water are often heavily overcrowded, making social distancing impossible and greatly increasing the probability of coronavirus transmission. Lavaud's new water system means no crowding to get water, and there have been no coronavirus cases in the village.

Because of the new water source, the future for Lavaud and residents of nearby villages will be even brighter. Lavaud's system is supporting about 500 residents of other villages with water and there is future potential to tap into it for their own water systems. There also plans to leverage the new system for agricultural watering, another major challenge for Haitians in a climate that is dry half the year and a landscape in which half the topsoil has been washed into the sea due to deforestation.

Moving Forward to Keep the Clean Water Flowing

VHF helped the community organize a community water committee to manage the water system into the future and trained the members in basic plumbing so they're empowered to maintain and repair it. The committee was able to put its new skill to use on the first day of water service - water pressure caused a pipe breakage which was quickly identified and repaired.

When demands on the water source are high and crowding may occur, the committee maintains order through a first come/first served queueing system. VHF will also assist in paying the reoccurring cost of \$48. This is an annual government fee payable to DINEPA.

Project Costs and Contributions

Costs

Water System Materials (pipe and simple tools)	\$491.65
Other Construction Materials	\$1,083.00
Services and Labor	\$6,554.00
TOTAL	\$8,328.65

Contributions

Lavaud villagers (in-kind contribution)	\$6,200.00
Vision Help Foundation	\$2,128.65
TOTAL	\$8,328.65

Annual Fee (Reoccurring cost)

DINEPA Annual Government Fee for Water Supply (Year: 2020) paid by Vision Help Foundation	\$48
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TOTAL	\$8,328.65
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