

# Helping Clean Water Flow Freely in Ghanaian Village

by Jean Malafronte

The people of Ahanta Abassa in western Ghana are patient people. Four years ago, I visited their village with portable water quality testing equipment and verified that the stagnant stream they were drinking from was unsuitable. Before I knew it, I was left with the burden of informing a community that their only water source was dangerously below health standards. They watched me intently as I tested their water, looking to me for answers to problems they had no means of solving. I made simple suggestions – since the stream was downstream of all the village activities, I showed them how to dispose more carefully of human waste. I told them to be careful where they kept their animals and not to let them drink from the water. I told them to boil water for their babies and when the babies got sick, to continue to feed and give them water, even if they didn't want it. They knew their water supply was bad and although the neighboring village of Mampong had a well, it was too far for them to walk.

I walked away from that village with tears in my eyes as I realized how limited and powerless I felt. Robert Egan, a member of the Assemblies of God Church of Sekondi who was my companion throughout my water quality study, turned to me and said, "This place is now in your heart. You see what is here and you will return."

My initial trip to Ghana was in March 2002. For 10 years, an organization called the Ghana Health Mission has been sending doctors, nurses and nursing students twice a year to set up a clinic in the Assemblies of God church. While pursuing my master's degree at the University of Massachusetts, I asked to tag along and perform a water quality study on villages and towns surrounding the city of Sekondi. A year after my return from Ghana, I was approached by the Ghana Health Mission to take the work that I had performed to the next level. This would mean putting wells and latrines in the villages I had studied and grow the health mission to provide both treatment through the clinic and prevention through a water and sanitation program for the people of the western region of Ghana.

Ghana gained its independence from Britain in 1957. Britain left behind developed roads and infrastructure, but not much else. Sekondi has a water treatment plant and drinking water distribution system for its people, but no improvements to the plant have occurred in the past 50 years, well beyond the life of the facility. Open sewers line the streets of Sekondi and the outfall is located adjacent to the beach where the community fishes and swims.

The population of Ghana is slightly more than 22 million in an area about the size of

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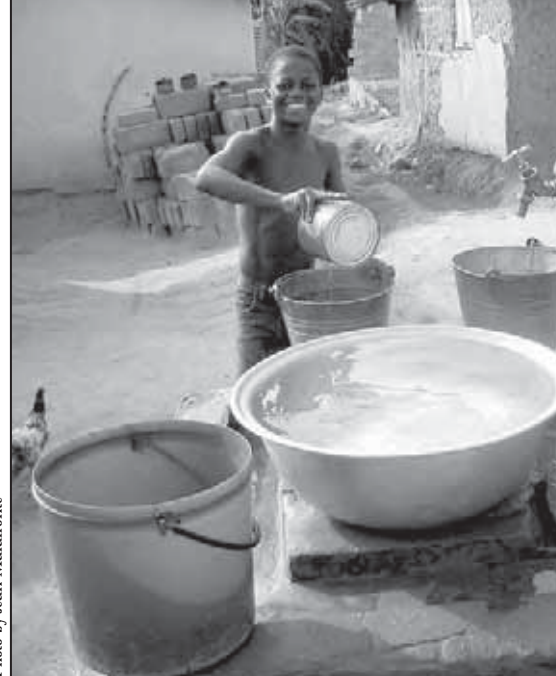
*This place is now  
in your heart.  
You see what is here  
and you will return.*

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Jean Malafronte shown after returning to the Ghanaian village holding the pump delivered from Accra to be installed.

Photo by Jean Malafronte



A boy using the water spigot in the nearby village of Kansawurado which, in contrast to Ahanta Abassa, was on running water.

the state of Oregon. Life expectancies are 58 for men and 59 for women. An average of four children are born per woman in Ghana, with an infant mortality rate of 55 deaths out of 1000 live births (*cia.gov fact sheet*). Forty-nine percent of the rural population of Ghana has access to drinking water, while 64 percent of the rural population has access to proper sanitation.

After three years of preparation and fundraising, it was increasingly clear that nothing was going to move forward with the project until someone spent time in Sekondi concentrating on this project. The doctors, nurses and students all had their work cut out for them and couldn't spend time gathering information and making contacts and decisions about the future of the well and sanitation project. Through funding from the Ghana Health Mission, I returned to Sekondi in March 2006.

Prior to my arrival, information from Sekondi came in waves. Ahanta Abassa was to get a well and both villages of Mampong and Ahanta Abassa were targeted as locations for latrine projects to be executed. The organization and I received photos showing the villagers stacking bricks as a symbol of their willingness to labor and to provide materials for the effort. In January 2006, word came back that the government of Ghana had decided to place wells in the two villages. We were told the well in Mampong that I had seen four years ago was no longer in operation and wells were needed in both villages. Excited that the government had begun to put some money into these villages, my task switched from imple-

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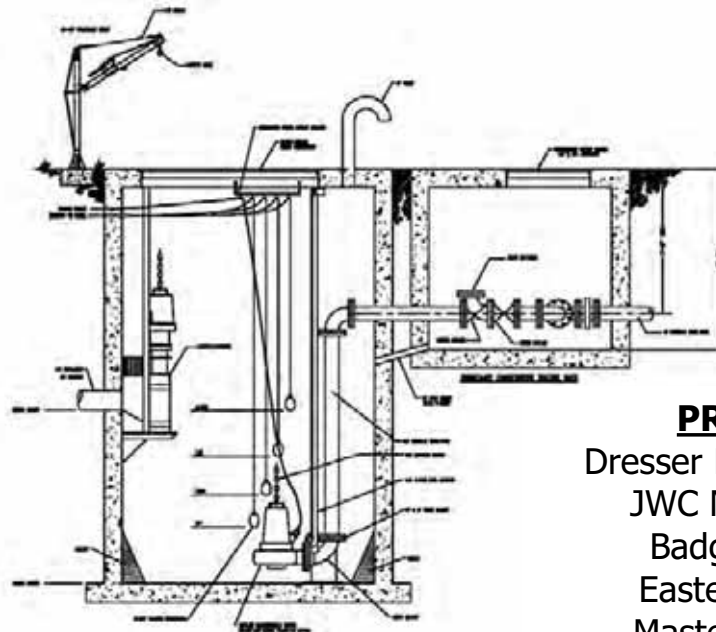


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Photo by Jean Malafronte

Unsafe water supply at Ahanta Abassa prior to the new wells.

menting a well project to implementing a latrine project. Appointments and conversations were planned with local contractors and government officials. Although I had no idea what I could accomplish in 11 days on the ground in Sekondi, I made all the arrangements and was ready to go.



Photo by Jean Malafronte

An example of the well type that was placed in two locations in Ahanta Abassa. This is the well in Mampong, a neighboring village.

### Back in Ghana

Upon arrival in Sekondi, a site visit to multiple installations of latrines gave me an idea of what kind of construction materials and design elements were common in this area. Most latrines were communal latrines, but the Ghana Health Mission was interested in family oriented latrines, which create a greater sense of ownership. Families are more likely to maintain and clean something they know is used by themselves and their families regularly. At the end of my first day of site visits, we visited Mampong and saw that the existing pump that I had seen four years ago, reported to have been broken, was in working condition. The government, to provide an additional water source, also constructed a new borehole well located on the other side of the village. There were still no latrines in the village, but demarcation lines were sited and drawn for the villagers to start digging their own latrine pits.

The Ghana Health Mission would be supplying the funds for the bricks and the skilled labor.

**P**leased at the progress that had occurred in Mampong, we traveled farther down the road to Ahanta Abassa. Would you believe the villagers remembered me? The villagers showed us how deep their latrine pits were getting. When Eghan asked them what they thought about the latrines, one elder responded, “The latrines are really nice, but what we really need is water.” We asked them to show us the new well put in by the government. We were told that even though the government sited a well in the village, they decided not to build one there as it would be too difficult to get the drill rig down the steep slope from the roadway to the well site. The government abandoned the project, and the village that had such a poor water source was still without a well.

I gave the villagers a “stop digging” order and began to discuss a better use of the \$5,000 budget I was given for this project. Traveling with me and Eghan was Kwesi Brown from the Community Water and Sanitation Agency, a governmental agency that identifies and funds projects in rural areas around Sekondi. Amazingly enough, Ahanta Abassa wasn’t considered a rural enough village to be under his jurisdiction. Brown was visiting sites with me as a courtesy and he proved to be a valuable source of information. Based on the location of the government’s well, the proximity of the site to the surface water and his knowledge of the area, he knew a groundwater supply was probably 30 to 40 feet below the ground surface. I couldn’t believe it when he said there were laborers that knew how to dig a four-foot diameter hole 40 feet into the ground. He was able to provide me with a wealth of

information including a supply list, local costs and skilled laborers. The total cost of one well would be between \$2,000 and \$2,500. Since I had the budget for two wells, I asked the village elder what else was needed. He asked if an additional well could be placed off the roadway for access by people from other villages and the local school. After he showed us the location, we agreed and returned to the church compound for a strategy session.

### Coordination and Well Construction

Brown provided me with a list of materials and costs to begin the process of purchasing all the materials and transporting them to the village. The lining of a four-foot diameter well shaft was to be precast 48-inch concrete culverts that would be dropped down the well shaft upon completion of digging. I purchased 13 of these to line each well. Additional supplies included purchasing the hand pumps from Accra, the capital of Ghana, and having them shipped to Sekondi. Other items included: gravel and sand to mix with the cement powder; rebar and binding wire for reinforcement of the cement pad that covered the well hole and supported the hand pump; and, plywood and nails to be used to make the mold to cast the pump stand. Last, but not least was a bucket (my guess was to get the dirt out of the hole).

**P**urchasing all these items was an adventure in itself. There is no Home Depot or Lowes or even a general hardware store. Everything was sold on the side of the road by vendors that everyone knew. The man who sold the nails had wooden buckets with rusted nails of different sizes inside each

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Photo by Jean Malafronte

Villagers in Ahanta Abassa making progress digging the latrine pit prior to the “stop work” order.



Local Robert Eghan breaks ground for a new well with the laborers and a village elder.

Photo by Jean Malafronte

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bucket. One buys nails there by the pound, so the nails were weighed and placed in a brown paper bag. To purchase a truckload of gravel, Eghan flagged a truck off the road and asked if they were free to provide transport, and they were. We met them on a large strip of barren road where piles of different sized gravel were loaded in heaps. You paid by the heap, which was a very inaccurate way of determining how much gravel you were buying. Gravel makers involved taking large pieces of rock and holding it steady with their flip-flopped feet. At the end of a piece of flexible bamboo, an anvil was attached. They swung this bamboo and anvil contraption from over their shoulder and onto the rock to break it into smaller pieces. It was the most labor-intensive activity I had seen -- that was until the truck crew started loading the gravel into the back of the flatbed. About five men with shovels were there to shovel the heaps lying on the ground up and over into the flatbed of the empty construction vehicle we had flagged earlier. With five shovels in the air and a lot of dust kicked around, the truck bed slowly filled with the newly purchased gravel.

After the gravel was delivered to the site, we concentrated on acquiring sand. Waiting on the side of the road to flag down a sand truck, I hid low in the car so they couldn't see the white woman and give an inflated price for a truck load of sand. The sand truck driver agreed to meet us at the same place the next morning at 8 a.m. No phone numbers or names were exchanged. No deposits were taken. They said they would be there and we said we would be there, and that was it. It was incredible. Without Eghan, I don't think anything would have been accomplished, and if it

had, it would have taken twice as long and cost three times as much.

### Breaking Ground

On the day before I was to leave for the capital of Accra to return to New York, Eghan and I returned to Ahanta Abassa to watch the laborers begin their work. All the materials had been delivered to the site, and I was excited to see the project underway. From

the main roadway, the ground sloped down through the village toward the well site. Walking down this path, I was greeted by villagers and children. A woman began to speak to me in Fante, a language I hardly know except for "hello" and "thank you." Eghan translated and told me the woman was asking if I liked goat, a common staple in the diet of most Ghanaians. I said yes, and she offered me one of her livestock as a gift. I did not know whether to graciously accept or refuse. I couldn't figure out how I would get the goat out of the village, let alone back to the states, so I politely declined. I have had fun telling people about my trip and my "thank you" gift!

The laborers were at the well site since early that morning clearing the land and marking the four-foot diameter of the well. They cut a piece of bamboo exactly 48 inches long and I learned that by keeping this stick at the bottom of the hole, they used it as a guide to make sure the hole was staying the right size. A shovel head, a pick axe and spade head, were the tools used -- all worn down so much the handles were replaced by pieces of bamboo. Eghan grabbed the pick axe and, while surrounded by the laborers and villagers, said a prayer in Fante before striking the ground. He told me he prayed for a never-ending supply of clean water for the people of Ahanta Abassa. To that, I could only say, "Amen."

### Back in the States

I received a few e-mails from Eghan's son and heard word from the organizers of the Ghana Health Mission that all was well with the construction of the wells. After four weeks, I was told the Ghana Water Works arrived to test and disinfect the wells before they were capped to provide water to the vil-

lagers. Water is now flowing freely for the people and children of Ahanta Abassa. Another Ghana Health Mission group will be traveling to Sekondi and they will be checking on the well to see how it is working and return with pictures. I hope to return in March 2007 to continue the work of the Health Mission as latrines are the next item needed in Ahanta Abassa and in neighboring Mampong. I hope that with some fundraising, there won't be a four-year gap between projects in these villages.

To this day, I still find it difficult to believe those wells were built and are providing water to the people in Ahanta Abassa. I feel as though I need to travel back and see it flowing and touch the water with my own hands to know that it really happened. The 10 days I spent making the purchases and arranging for the well to be built went by so quickly. Nothing happens in Africa on the timeframe it happened while I was there. It was as if this project -- providing safe water for the people of Ahanta Abassa -- was meant to happen. I had originally arrived assuming water was in the village and it wasn't. Then, I had no idea how to afford the well. If it wasn't for Brown, I wouldn't have known where to get the laborers, buy the materials and make the project come together. If it wasn't for Eghan volunteering his time to communicate with the people of Ahanta Abassa about their needs and negotiating fair prices with all the suppliers, none of this would have happened.

The one thing that I had been told so many times but never really comprehended until this trip, is that people in developing countries are very capable and know what needs to be done to supply water and sanitation facilities to their people. They just don't have the money to do it.

Working with the Ghana Health Mission and with Water For People has confirmed this concept repeatedly. Therefore, I urge you to consider supporting and fundraising for organizations that provide these services to people in developing countries.

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Jean Malafronte is an engineer with Greeley and Hansen in New York City. In 2006, she was awarded the Kenneth J. Miller Award for outstanding service to Water For People, an international development organization (see article this issue). She is an active NYWEA member and chairs its Humanitarian Assistance Committee.