

My Trip to Ghana with Engineers Without Borders-Las Vegas Professionals Chapter

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The Republic of Ghana is located in Western Africa at about 6 degrees north latitude. The country is about the size of the state of Wyoming and has a population of about 20 million, making it one of the more densely populated nations in Africa. It has a Gross Domestic Product of about \$2,000 per person compared to \$30,000 for the USA. Major industries are gold, lumber, mining, some light manufacturing and subsistence farming.

English is the official language although there are 7 distinct ethnic groups each with their own language. Ghana recently held national elections and a peaceful and orderly transition occurred between the outgoing party and the newly election opposition party. The people I talked to were very proud of this transition and hoped it would inspire other African nations to do the same. People seemed to believe that both the outgoing and incoming presidents were good men.

EWB-Las Vegas Professionals was established last summer and selected the Ghana Orphanage Project as our first project. Our founder and chapter president, David Levine of the Las Vegas Valley Water District traveled to Ghana, last summer with the volunteer agency, Globe Aware which introduced him to the local NGO, Disaster Volunteers of Ghana (DIVOG) They informed David of the need to construct a new orphanage for the village of Tsito. Installation of a well pump on a newly drilled well was also recommended.

The village of Tsito is located in the Volta Region of Ghana about 30 km from the provincial capital of Ho and about 135 km north of Accra, the capital and largest city (1.7 million) in Ghana. The Volta Region sits between Lake Volta and the border with Togo in eastern Ghana. Tsito has a population of about 4000 and most people are engaged in subsistence farming. Crops such as mangos, cassavas, maize (corn), papayas, palm fruit and other vegetables are grown there.

At present there are about 39 orphans housed in a rented facility with another 40 in foster homes. The sanitary conditions at the present facility consist of an open pit with some squat planks. Our goal is to improve these conditions by providing a new facility to house up to 90 children with a modern latrine and washroom in addition to the well pump. This project will also save money for the orphanage operator, Mama Elise, (by eliminating the rent expense). She intends to use the money she saves to build a school.

The well is located on property owned by Mama Elise who uses the land for farming. The income and crops are used to support and feed the orphanage. The water from the well is available to all that wish to use it and it is expected that about 250 villagers who live in the area will take advantage of this new source. This well will also be used to supply the orphanage with clean water.

Our trip to Ghana is the second of three and the first for me and other EWB members Anthony DeLeon and Danika Meyers. The purpose of our trip was to select, purchase and install a well pump, meet with all the stakeholders, gather information on the community, review construction practices and price materials for the cost estimate.

Our trip began on arrival in Accra on Sunday February 1, 2009. This is the dry season with temperatures in the mid 90's and humidity around 50%. We took a three hour mini van ride to Ho and checked into our hotel and set to work.

The well site was in the village of Tsito about a 45min drive from the hotel. The most common form of travel for short distances was by taxi as there are no municipal busses. At the well site we measured the depth of the water table at 15 ft, diameter of casing 5" and we ran out of line at 100 ft in attempt to find the bottom of the well. We were later told it was about 150" in depth. We then got on our cell phone and called pump distributors in Accra and located the appropriate pump, designed and manufactured in Africa. The next day we returned to Accra to purchase the pump. The following day we purchased the materials to place the concrete slab around the well casing. The slab is necessary to keep contaminants from entering the well and to anchor the pump. Formwork was placed and rebar cut and tied with the help of DIVOG volunteers. The truck that was to deliver the cement, sand, gravel and water broke down so we had to delay the pour until the next day.

By early afternoon on Wednesday we had all the materials for the concrete pour and the slab was placed and the anchor bolt template was set. We used some palm leaves to cover the concrete to assist curing.

The next day we went to the market in Ho to price construction materials. Rebar, cement, wood, metal roofing, polytanks and plumbing were some of the items we priced.

That afternoon we met with the Elders (chiefs) of the Tsito and Anyirawase communities, DIVOG and Mama Elise to gather information on their communities and to get their input on their wants and needs for the Orphanage Project. All were unanimous in their support of this project. We informed them that it was the intention of EWB to provide the money for materials but that the community would have to supply the labor. EWB would provide a stipend for the craftsmen such as the carpenters, electrician, masons etc and DIVOG would be compensated for its role as Construction Manager. A Memorandum of Understanding would be drafted for all to sign in the near future.

Thursday we visited the site where the new Orphanage is to be built. Mama Elise wanted the front of the building to face the mountains to the West. A porch will be provided on the west side and will be used to hold classes for the children in morning. The building site is about 1 mile north of Tsito and about 0.5 miles off the main highway to the east. Electricity will have to be run from the main highway to the site. The cost was estimated to be about \$4000. Mama also wanted to have space to store vegetables harvested from her farm for the children. She also wanted all grey water to be returned to the planting fields.

On Friday we returned to the well site and removed the template, finished placing concrete on the drainage swale and placed curbs on the pump slab. The concrete was still “green” and did not have enough strength to install the pump yet. We hope to do this on Sunday.

On Saturday we attended a funeral. Robert, one of the members of DIVOG, grandmother, Madam Isabella Yegbor Ahiale, died. She was 90 and in ill health for quite some time. The ceremony was in a village named Akpokofe just east of Ho, near the Togo border. She was Catholic, as are about 25% of Ghanaians, I estimated about 500 people were in attendance. After the Mass and eulogy there was dancing to the beat of drums – a celebration of her life. While I was passing one of the dance circles, two women grabbed me and I found myself dancing with the others too. It was very festive.

On Sunday we returned to the well site. The concrete still looked “green” but we decided to install the outer tube, rods and pump as we were planning to leave the next day. The pump we selected would lift a 10 meter column of water. We felt this was adequate as the water table was less than 5m and it was the dry season. We attached the base plate to the protruding anchor bolts and it fit perfectly thanks to the use of the template. Next we carefully lowered the PVC pipe into the well taking care to firmly thread each 3m section to the next. When the last section was attached we threaded the pump to PVC and attached it to the base plate. Nuts were placed on the anchor bolts and snugged down. We will tighten them later in about a month. The moment of truth has arrived. We started pumping. Clean clear water was now coming from the well and flowing down the concrete swale. Success!!!! One important task still remains and that is to have the well water tested. DIVOG will be contacting the local water authority, CWSA, to have them come out and test the well for potability.

Thus ended our trip to Tsito and Ho. We had a few more days before our departure to Las Vegas in order to see another part of the country. It too was a wonderful experience.

I found the Ghanaians to be very friendly and resourceful. Although this is a poor country I saw very little abject poverty. Everyone was neatly dressed and took pride in their appearance. I also saw a lot of schools of all types, including universities. The government seems to be doing what it can to help the people. Most communities have a health clinic. Tsito like others had one but people have to pay for their own medication. Which is out of reach for most.

I wish to thank all of you for your generous support. Your contributions have made this project possible. It is greatly appreciated not only by EWB but also by the communities of Tsito and Anyirawase.

Akpe! (Ewe for Thanks)