

HAITI PROJECT TRIP REPORT

(July 24, 2015-August 2, 2015)

Water

Gift of Water (Technical Aspects)

Each Gift of Water (shortened to GoW) “double bucket” water filtration system consists of two 6-gallon buckets stacked atop one another, with a hole in the bottom of the first bucket. When rainwater is first added to the system, the user adds a 67 milligram Chlorine tablet to the top bucket to begin purifying it. On the top of this bucket’s hole is attached a string filter which removes the larger sediments from the water. Directly below the string filter is a PVC pipe filled with a carbon filter, which removes smaller particulate matter and large microbes from the water. The water then falls into the lower bucket, where a 70 milligram chlorine tablet is used for final purification.

- The systems as a whole were 30 USD, with each Cl tablet costing 0.0125 USD (not accounting for their transportation or markups)
- 60 Cl tablets needed per month for purification (roughly)
- System life span is between 8,000-10,000 gallons of water. String filter and carbon filter may need to be replaced.
- Presence of Chlorine implies the absence of Cholera and other diseases.
- Many families only use Cl tablets for purification.

Double Bucket steps:

1. Rainwater added to top bucket.
2. Add 67 milligram Cl tablet.
3. Water passes through string filter, large particulate matter is removed.
4. Water passes through PVC pipe holding carbon filter, smaller particulate matter and microbes partially removed.
5. Water falls into lower bucket.
6. Add 70 milligram Cl tablet.

Lamonthe-GoW Interview

- Reported that the “double bucket” system was highly effective if used correctly. A cheap, efficient model of water purification.
- Extensive mechanical and medical knowledge of how and why the GoW system worked.
- Believed that families had ready access to the double bucket system if they wanted one. This was a disconnect with the reality of the situation in Jeanette, where not many people knew about Cl tablet availability or knew how to repair and maintain the bucket system.

Jacson Leger-GoW Interview

- At one point 300 “double bucket” systems used at one point in Jeanette. Estimated that only 15-20 are still completely functional now.
- Complained that cost-per-system was higher than 30 USD in Jeanette. Reported that the cost of the system was too high for many families, who were at times charged as much as 50 USD for the buckets and filters.
- Most people use Cl tablets for purification, or boil their water. Some households do both.
- Reported that multiple cases of illness related to unclean water per week, as did Marguerite, the clinic nurse. Reported illness cases peak shortly after rainfall, when cisterns are full.
- Families cannot buy Cl tablets currently, either because they are in short supply, they are unsure of their availability, or they cannot afford them. Neither can they afford replacement parts for DB systems. There was also general confusion about the state of GoW, and if it was still providing service.
- When I mentioned the cost of the bucket system our other translator, Nilice, telling him it may be upwards of 1,500 Haitian Gourde, he told me they would “have to be a gift.” Many others believed that the buckets would be too costly for families to purchase themselves.
- The two major sources of water for people in Jeanette are personal cisterns, and the large

QUANTIFICATION

When I asked about the number of people in Jeanette, Jackson estimated close to 1,000 people, Pere estimated the number was higher than 5,000. My guess is that the population the Haiti Project serves is somewhere in the range of 2,000-3,000, serving about 400-600 households. With one bucket system per household, and 720 chlorine tablets per year, per system, the price tag for full GoW “double bucket” sponsorship would be **23,400 USD**.

This is a rough estimate, and does not account for transportation or cost of set up. Neither does it take into account project costs.

Current Garage inventory: 11 Red top buckets, 19 bottom grey buckets, 0 useable string or carbon filters.

Interviews

Marguerite (Nurse at Jeanette Clinic)

- Scabies is the most common disease seen as a result of drinking unclean rainwater in Jeanette. The most common symptom is the skin irritation caused by an allergic reaction to the mites. Red, irritated pimples and itchy skin.

- Diarrhea is the most common symptom of unclean water, and has (or has the potential to) effected all people in Jeanette who drink from cisterns. Cases typically find that water was neither boiled or had the presence of Chlorine, or lacked enough Chlorine.
- More people are sick after the rain, but water borne disease is mostly prevented if the family uses the “double buckets.” *
- Family planning program in place in Jeanette.
- To treat cases of malaria and other diseases, the clinic keeps Malerone to treat viruses once contracted.
- Infant onnocation program includes vaccines for: West Nile, Polio, Scabies (bacterial), and Tuberculosis.

*During long dry spells, high levels of pollutants and dangerous particulate matter accumulate on roofs and other open surfaces that feed into communal or personal cisterns. This initial flow of detritus into the rainwater catchment system, or cistern, is known as “foul flush.” It is the most probable explanation for why so many are sick directly following heavy rains following periods of little to no precipitation. In most modern household cisterns there is a “foul flush” mechanism which operates to separate the initial runoff from the rest of the water travelling to the holding container, but I was uncertain of whether or not the large cistern I observed had such a mechanism. It is my suspicion that if a modern foul flush prevention system could be installed, there would be a sharp decrease in illness reports following heavy rains, and it may even be more inexpensive than paying for hundreds of individual “double bucket” systems.

There are two main types of “foul flush” diverters:

- If operated properly, one device can divide the initial and subsequent rainfall, diverting the larger particulate runoff from entering the cistern by the use of a moveable pipe, a diversion valve, a twin funnel, and a pivoting trough.
- Another type of device operates on the principle of overflow, and collects the initial runoff depositing it as it overflows.

Judith Dor

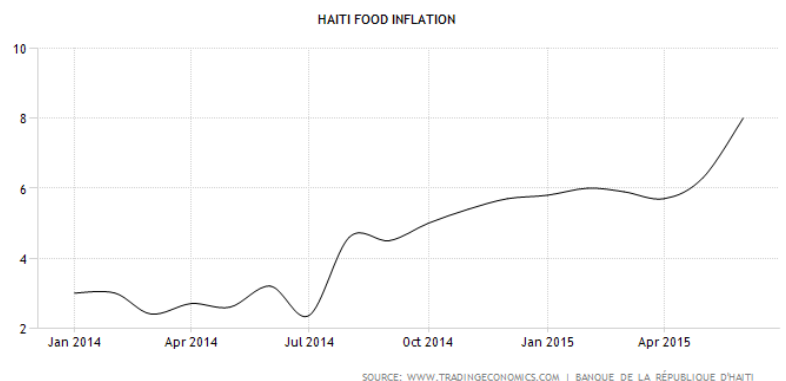
- Graduated from St. Marc’s in 2003
- Indicated that her primary education at St. Marc’s offered her the skills necessary to succeed at University.
- Attended the Bishop Tharp Institute of Business and Technology in Les Cayes, earning a degree in Business Administration.
- Works as the Jeanette coordinator and loan officer for PROCREEH after being sent to Port Au Prince by Pere for a loan officer training program through ERD.

- There are already 35 women who have shown an interest in receiving loans. 15 businesses will receive the initial loans, and by 6 months PROCREEH plans to give out 15 more.
- Each loan will be 11,500 Haitian gourde (approximately 225 USD) with an interest rate of 3 percent.
- Examples of successful Jeanette businesses she had seen were the bakery, a food store selling candy, beans, and rice. She suggested that gasoline or peanut butter could also be sold.
- PROCREEH's goal is to make 100 loans by the end of its first 2 years.
- Judith reported that she would help Jeanette women to draft their own business plans and help them meet deadlines. She affirmed their excitement for the office and the loan program, as they see it as a source of empowerment. One woman slammed her fist into the table, exclaiming that this was their chance to improve their livelihoods and the futures of their children. Other business owners also reported that this would help entrepreneurs start their own ventures.
- "When Pere sent me to Port Au Prince I was uncertain, but I now have hope because of my business understanding."

Jean Paul Blemur (unofficial interview)

- He is currently producing a corn meal, peanut dust, and sugar mixture to mix with rice or other foods. Typically makes Mumba, but peanut prices are too high to make a nut-intensive product.
- He wants to add another wing on his house to help produce more mumba or other peanut based products, but reported that building costs would be close to 3,000 Haitian dollars (about 300 USD)
- Runs a photocopying business as well, being one of the few people in Jeanette with a functional copier and laptop computer. Jean Paul charges 5 Haitian gourde per copy, serving both households and St. Marc's school, whose staff sometimes wear photo identification.

The gourde is currently very low against the strong US dollar. It gave an explanation for Jean Paul's complaints about higher food prices. The Haitian consumer price index and food inflation rate have taken off over the past year, not quite reaching historically high trends, but even a comparably small price change will have an effect on Jeanette's economy.



Garden (John and Nelise) – We toured the garden and found that the black beans grew very well and they had a good crop. The black beans are being dried some will be used for seed and the rest for food. The white beans also created a good crop. All the melons grew well. The pumpkins also did well. Carrots and other vegetables did not do well at all. The cabbage plants are struggling because the goats keep eating them. They did move some of the cabbage plants to an area where the goats do not feed and hopefully they will mature but I personally have my doubts. The garden also has Congo beans planted. I asked about the corn and everyone I asked indicated that the corn is always cooked with Congo beans. They also cook corn with black beans or merely roast it. I firmly believe that corn is not a crop for Jeannette because one stalk produces a 4 inch cob and only $\frac{3}{4}$ full. I did not take many pictures because the crops have already matured. Two women from the school tend the garden. Nelise indicated I should purchase fertilizer (it was \$12 for about 1.5 quarts). The agronomist needs to get involved with composting. With all the manure available in the area a compost pile could replace the need to fertilizer. We took three kinds of chili peppers that were planted near the kindergarten. They will also be transplanted when they come up.

I saw other gardens around the area of Jeannette and they look very good compared to the school. I did not get a chance to meet with the mysterious agronomist who disappears when I am around.

St. Marc's Church (John) – The old church has been torn down and the foundation is being dug. For those who have been to St. Marc's. The church is being widened to the outside of where the cisterns used to be. The church is approximately 20 feet longer. There will be about 5-6 feet from the dotwa (dormitory). Also a small office is being built in the back of the church and a sacristy will be on the left rear of the church. I asked why two foundation walls at the back of the church and Pere told me because they are building a choir loft that the foundation must be all around it. I saw no plans for water catchment which means we probably lost 2 cisterns.