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Project Haiti Report for December 2011

Most of us think of Haiti's rebuilding effort as a response to the devastating Earthquake that hit in January of 2010. The unfortunate reality is that Haiti has been held hostage to numerous socio-economic, political, and environmental disasters since achieving independence in the early 1800s. Much like hurricane Katrina in New Orleans, the earthquake that hit Haiti two years ago, served to highlight the rampant injustice and inequity that has become such an ingrained element of Haitian society for so long.

However, despite a long history of turmoil and chaos, Haitians do see hope. They see ample opportunity to move in a positive direction. Unfortunately, what they see from much of the large-scale international aid community is the same developmental ideology that has been complicit to much Haiti's current problems.

To be sure, there are organizations doing great things in Haiti – I've seen it with my own eyes…but what most *Haitians* have seen, is a whole lot of money dumped into their country, in the name of humanity, with little evidence of long-term benefit or change.

In essence – to borrow from an old cliché – too many fish have been served, and not enough people have been taught to fish.

As with all of our projects, Ecofficiency.Org will not be a part of the status quo. If it won't result in meaningful change, we won't do it.

Under this mindset, we have initiated two separate, yet related, projects in Haiti, that promote a more sustainable and positively impacting rebuilding process.

Ecofficiency.Org Projects in Haiti

1. Water filter distribution and cholera education
2. Build aquaponics systems in schools, orphanages, and community education centers

Interestingly, the water filter distribution and cholera education project takes place in a mountainous area with no road access, while our Aquaponics project – an alternative form of agriculture – is being implemented in Haiti's most urban area, its capital.

Both projects promote the importance of basic health, nutrition, and clean water…critical building blocks of a truly sustainable and just society.

Water Filter Distribution | Cholera Education

In December of 2010, we made our initial trip to Haiti to distribute water filters in the wake of a cholera epidemic that had killed several thousand people throughout the country over the course of two months. Most cholera deaths were – and still are – in rural areas not being addressed by the large international aide organizations charged with most of Haiti's earthquake recovery.

We hiked four hours into the roadless mountains of Pays Pourri (2 hrs outside of Port-au-Prince), bringing water filters and cholera supplies in on mules. Pays Pourri, is home to a numerous small villages spread throughout its 300 sq miles, with a total population of approximately 15,000.

We also coordinated presentations about cholera to give while distributing our water filters. People living in the area were largely unaware of what bacteria are, let alone cholera, and they literally had no idea why their friends and family were dying.

In 5 villages, we distributed 20 water filters, and gave presentations about the basics of cholera to over 300 people.

The type of filter we distributed, commonly called a "bucket system," is made by Sawyer (SP 180ND), and provides up to 100 people a day with clean drinking water for 5 years if properly maintained.

Cholera deaths increase dramatically during the rainy season (August through November), yet people deal with a variety of water borne illness year round, and diarrhea is an everyday fact of life – which severely impacts the overall health of the community.

Clean drinking water is important to community health regardless of cholera.

In December of 2011, we returned to Pays Pourri to resume our project, and see how we could improve our impact. Cholera awareness has vastly improved in the year since our initial visit, and people are desperate for an effective way to clean their water.

The bucket filtration systems we distribute are ideal in areas like Pays Pourri because:

1. "Bucket" systems are highly portable, and there is no road access into the area
2. Water must be collected at different points depending on the season, so filtration systems need to be moved multiple times per year
3. Electricity is not available in these areas, and bucket systems require no energy
4. They are easy to use, keep clean, and are highly durable – lasting up to 5 years
5. Inexpensive and effective – $60 provides clean water for up to 100 people for 5 years; this equals 1¢ per person each month for 5 years

In our December 2011 trip, we distributed 25 filtration systems to 8 villages in the northeastern area of Pays Pourri, and gave another to an orphanage in the nearby town of Fond Parisien, where we staged our mission.

Filters	Village	Residents	Contact
3	Pelerain	600	Bill Montgomery
3	Bouzi	500	Pierre
4	Robia	600	Rosemond & Manaus
3	W. Robia	400	Jean Simon
1	NW. Robia	200	Luc
2	Diobel	400	Lenny
3	Chappelle	600	Jesel
3	Touchet	500	Jesel
3	Pensec	600	Bill Montogmery
1	Orphanage in Fond Parisien	330	Yvrose Ismael
26	**Total**	4,730	

We distributed 26 filters, providing clean water for up to 2,600 people in a collection of villages with a total population of 4,730. Leaders from each village had expressed their need, and we did not want to deny anyone. Still, this speaks to the urgency of our work, and the need to bring more filtration systems when we visit. In the future, we need to equalize distribution to 1 filter per 100 residents as much as possible.

Distribution was done through community leaders we connected with through our local contact, Yvrose Ismael, the founder and director of an orphanage / school in the nearby town of Fond Parisien.

We also had the opportunity to connect with a mobile medical clinic that happened to be visiting the area at the same time. This helped consolidate costs, allowed us an opportunity to see first hand the poor state of overall health of the local population, and gave us a chance to make contacts with people that can help expand our project to include a sanitation component.

There is also a possibility for us to bring doctors into the area on future missions.

<u>Opportunities for improvement</u>:

1. Develop a more systematic record keeping process of the leaders we gave our filters to, which will help expand the local leadership necessary to be more effective
2. General education about sanitation needs to be included
3. Solutions need to be found to improve the cleanliness of latrines (toilets)
4. We can bring water filters in from the US at a slightly lower cost
    a. Risk of being lost by the airline, or possible confiscation by customs
5. We need to bring more filtration systems – there is too much need; conflict can arise when a limited supply of a high demand product is brought to a needy population
6. Corporate sponsorship and branding opportunities can be developed by placing a logo on the bucket of each filtration system distributed

Aquaponics System

During our 2010 trip to Haiti, we noticed that very few vegetables were available – which runs counter to what we have seen first hand in other developing countries where we have worked. We thought this might simply be due to taste or preference, but the more we asked, the more we learned that there is ample demand for vegetables – certainly in orphanages and schools – but Haiti lacks a developed agricultural system that can fill this demand. Reasons include a history of (counterintuitive) dependence on imported food, and deforestation leading to increased erosion, among others.

Fresh vegetables are an important aspect of improved community health – especially when it concerns child nutrition.

Aquaponics is a sustainable food production system utilizing fish (in our case, Tilapia) as both a source of food, and to produce waste, which then acts as an effective fertilizer for growing vegetables. The most efficient vegetables to grow are greens, such as kale, spinach, and chard – which also happen to be some of the most nutritious. A 1-pound Tilapia will produce approximately 40 pounds of green leafy vegetables every 4-6 weeks. This can become a significant source of nutrition in countries like Haiti.

<u>Benefits</u>

- Uses 90% less water than traditional agriculture
- Requires no soil
- Ideal for urban settings
- Provides an excellent educational tool / opportunity for schools and orphanages
- Huge return on energy use
- Easily adaptable to be run on solar

<u>Cons</u>

- Needs a consistent source of electricity
  Solution: convert to solar, or other form of alternative energy
- Must have a consistent source of Tilapia
  Currently: we know at least 2 Haitian sources – Love a Child | Markenedy

We built a three unit modular system at the Aide Communitiare (formerly GrassRoots United) base in Port-au-Prince. The AC base acts as a local outreach and educational resource center for Haitians to learn about sustainability and alternative redevelopment projects. This particular system totals 14 sq feet of highly efficient grow area, will hold up to 150 Tilapia, and can be easily converted to run on solar energy.

Thomas Cemo, an Orange County based Solar Engineer, and Scott Skamness, a former Riverside based commercial contractor, designed the system only after seeing what types of materials were available in country. Once there, it was decided to build the system 3x larger than originally planned, as we were given (3) 150-gallon cisterns for the Tilapia. We used mostly reclaimed materials; if all materials were purchased in Haiti, each module would cost under $300.

While in Port-au-Prince, we made contact with four worthy organizations that want us to build similar systems on their property.