Camp Sosúa Relief Project April 16, 2010

Proposal for

Compost Latrines

Adapting the Bain Foundation's SaniFerti Project to meet Relief Needs in Camp Sosúa after the January 12, 2010 Earthquake in Haiti

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I. Summary

Camp Sosúa is positioned on the edge of a mountain range and has a well-dispersed population of about 13,000 earthquake refugees. There is no large-scale aid reaching the people here, as is the case for many other make-shift, forgotten, or not yet attended to refugee communities. There has not been an outbreak of disease so far; however, lack of sanitation remains the highest priority problem in the community. Considering the rainy season is only a couple weeks away, it is the optimal time to implement a public sanitation initiative to prevent onset of sickness.

Project SaniFerti was a sanitation project designed by the Bain Foundation to tackle the problems of human waste management in the urban settlements in and around Port-au-Prince. After the earthquake, a group of small organizations and individuals adapted this model to help build latrines for refugees in Camp Sosúa.

This proposal aims to mitigate the sanitation problem by: building 30 pilot compost latrines, staffing and managing latrine facilities for one month, and preventing the spread of sanitation related communicable disease before it becomes a widespread problem. Although this project proposes a medium term solution for what was a problem in Haiti before the earthquake and continues to be a problem afterwards – sanitation – we believe it would be unethical to not at least attempt to alleviate the burden of poor sanitation on the earthquake refugees of Camp Sosúa.

We ask the Timmy Foundation to join us in these efforts and support the funding of Phase 1 of this Compost Latrine Project with \$5,000. This money will be used to purchase the basic materials needed to build the latrines, the motorcycle that will transport the human waste, and motorcycle maintenance for one month. The total budget for the one month pilot project is \$8,450, and we are currently seeking other funding sources.

Although the nature of relief work is that it is ad-hoc, we hope you agree that this project aligns with Timmy's overall vision of helping to development healthy global communities, and we look forward to working together toward that goal for the people in Haiti.

II. Introduction/Needs/Problems

Sanitation has become a pressing need in Haiti and the lack of it could pose health problems for the hundreds of thousands living in make-shift settlements ahead of the rainy season.

"'Some 18,000 latrines are needed in Port-au-Prince for 900,000 people. Less than 5 per cent of the need for latrines has been met,' Paul Garwood – WHO Spokesperson. The need is calculated on the basis of one latrine per 50 people. There are more than 1.2 million people living in spontaneous settlements, the Office for the Coordination of Humanitarian Affairs (OCHA) announced today, and nearly 480,000 have left Port-au-Prince for neighbouring areas, putting additional stress on the rural population in those towns to support the displaced persons."

(http://www.miamiherald.com/2010/02/24/1496587/shortage-of-toilets-may-lead-to.html)

This proposal addresses the need for sanitation in Camp Sosúa, a refugee camp on the outskirts of Port-au-Prince, and aims to mitigate its problem of lack of latrines and safe systems for human waste disposal. It is an adaptation of Project SaniFerti, a long-term sanitation proposal designed by the Bain Foundation before the earthquake. Its objective is to help build a medium term solution to human waste management for Camp Sosúa until more permanent provisions can be made.

There are several different organizations and individuals working together on this project. Although our organizations have different visions, we have banded together in the name of fast and effective relief to the refugees of the earthquake living in Camp Sosúa – a community on a mountain range outside Port-au-Prince on the side of the highway that leads to Cap-Haitian. Large-scale aid is not reaching the people here, making our direct service efforts the only assistance Camp Sosúa presently receives.

Camp Sosúa has a population of about 13,000 people, and is growing. It is rural in that it is on the edge of a mountain range, and must cope with geographic barriers to the relief services and resources that are available. Although there is currently no outbreak of disease and sickness, major priorities as identified by members of the community are: lack of latrines and safe system for human and garbage waste disposal, lack of employment and access to capital, and lack of access to food.

Mr. Gerry Mulder, in partnership with SOMONCA and CORDAID, has been supporting Camp Sosúa with 65,000 liters of water a day. His truck goes in and out of the camp filling and re-filling 5 cisterns with water transported from the Red Cross depot outside the city. Several ex-patriots living in Sosúa, Dominican Republic have also done some small fundraising projects to support the camp with tarps, food, and other much needed supplies. Reverend Milhomme Luckner, a local Haitian Reverend who has since moved the children from his destroyed orphanage in Port-au-Prince to Camp Sosúa has been an effective local leader, and willing to cooperate with small-scale relief efforts. Finally, Florentino LaTortue, Director of the Bain Foundation, and local resident in the area where the camp lies, and Angi Kang, International Programs Director for Health Horizons International, have since partnered to try and tackle the sanitation issue at hand.

There are several action steps being taken to help build a sustainable camp community for the refugees living in Camp Sosúa; however, these are long-term solutions, and the dire sanitation problem needs to be addressed now, even if sustainable solutions replace this project later on.

Individuals Involved:

Angi Kang – International Programs Director for Health Horizons International (<u>http://healthhorizonsinternational.org/</u>)

Florentino Latortue – Director of Bain Foundation (http://www.bainhaiti.com/)

Gerry Mulder – Owner of Tractor del Norte and working in conjunction with SOMONCA (<u>http://www.somonca.com/</u>) and CORDAID (<u>http://www.cordaid.nl/English/About_Cordaid/Index.aspx?mld=10182</u>)

Sandi Pinsonneault and Lynne Pennington – Two ex-patriots living in Sosúa, Dominican Republic (<u>campsosua@gmail.com</u>)

Reverend Milhomme Luckner – El Bethel House of Children (elbethelhouseofchildren@yahoo.fr)

III. Goals/Objectives

- Goal 1: Pilot the adapted SaniFerti Proposal by building 30 bucket latrines, purchasing a motorcycle to transport waste, and creating a system for management by May, 2010.
- Goal 2: Based on feedback and evaluation from community members and individuals on the ground, adjust and adapt the Compost Latrine Project, as resources allow, to best meet sanitation needs in Camp Sosúa.
- Goal 3: Continue to outreach to larger scale organizations and aid opportunities to find permanent, safe, and healthy living solutions for the people of Camp Sosúa.

IV. Procedures/Scope of Work

Humanure Collection System

The project will implement a network of collection latrines throughout Camp Sosua, starting with one localized area of the camp to ensure achievability and effectiveness before expanding. Each public latrine will be enclosed under a 'Nuradome' with plastic tarps separating individual facilities, allowing six persons to use the facility simultaneously. Each compartment will have a collection receptacle of 5 gallons in use and one or two in reserve for a total of about 12 collection receptacles. Each latrine facility will be managed by one person who is responsible for the cleaning and enforcing of standards of use for the facility.

Transport

This project will use small motorcycles with flat bead trailers attached behind it to transport the collected human waste from the latrines to the area of land designated for humanure cultivation directly outside the camp living space. These motorcycles are

capable of transporting about 30 five-gallon buckets of collected human waste at a time. Each transport unit would consist of a driver/collector.

Humanure Cultivation Land

The entire area surrounding Camp Sosúa has been declared "camp land" or land legally available for and accessible to refugees of the earthquake. Therefore, this project will be able to utilize the designated land area located outside the camp to cultivate the humanure. The land will have enough space to accommodate humanure piles for 8000 tons. Florentino has already secured an area accessible to the camp that can accommodate the waste.

Training/Safety

Both Gerry and Florentino are engineers and have extensive experience designing, consulting in, and constructing all types of ecological, landscaping, environmental, civil engineering, water, and development projects. They have both offered their expertise in managing training and overlooking safety standards of this project.

Humanure Marketing

The final product 'SaniFerti Humanure' will be used in Camp Sosua itself. A Dutch high school, Wageningen High School, has recently expressed interest in partnering with Camp Sosúa relief efforts by planting 20,000 young trees in the community. The fertilizer created from this project would go toward the cultivation of these trees.

Compost Latrines Operations

The project will start with a total of 30 bucket latrines separated into about five facilities of six latrines each. Two facilities will be built under NuraDomes separated into six individual stalls. A NuraDome is a simple, inexpensive dome structure consisting of several steel rods and wires with large tarps covering and shielding the inside. NuraDome's designer, an individual from Santo Domingo, has offered two Nuradomes to the camp at no cost. They can be used as imperfect but sufficient structures for the latrines. To expand this project to the extent necessary, a more stable building will be necessary. Tarps will again be used to divide the inside space of the dome into six individual stalls. The 18 other bucket latrines will be placed in individual make shift structures strategically placed around the camp. There are several abandoned make-shift tents in the camp already that could potentially be turned into latrine facilities.

Side View of NuraDome Facility:



9 Feet

Compost Latrines Management

To keep the facilities as clean as possible and to reinforce hygiene standards, one person will supervise every facility. The supervisors' job description is as follows:

- 1. Keep the sanitary units clean at all times. This involves making sure that the users do not litter in the vicinity of the units.
- 2. Ensure that all non-organic trash (glass, plastic bottles, etc.) are kept away from the containers.
- 3. Make sure that the unit does not emit any foul odors, inform users of the requirements to cover their waste in the container and in the case that a user does not abide by this rule, make sure that all waste materials are covered.

There will also be one driver/collector whose job description is as follows:

- 1. Collect all of the buckets from the ~5 sites, drive them to the compost area, and deposit the waste there in a safe manner four times a day.
- 2. Maintain the transportation motorcycle, making sure it is clean and fueled.

Timetable

	Description of Work	Start and End Dates
Phase One	Purchase 1 transportation motorcycle, 30 bucket latrines and toilet seats, 60 buckets, building materials necessary for ~5 facilities	Early May, 2010
Phase Two	Build said facilities	Mid May, 2010
Phase Three	Hire, train, and provide salaries for 5 latrine attendants, 1 driver/collector	Late May, 2010

V. Budget (US Dollars)

	Description of Work	Anticipated Costs
Phase One	Bucket & Toilet Seat (30 at \$20 each) - \$600 Buckets (60 at \$2 each) - \$120 Motorcycle/Trailer (\$2,000 each) - \$2,000 Tarps (100 \$14 each) - \$1,400 Nails, wire, planks, other building Material - \$1,000 NuraDomes (2 donated) - \$0 Motorcycle Maintenance (1 month at \$30) - \$30	\$5,150
Phase Two	20 Local community members (Food Provisions, and small time stipend) - \$1,500	\$1,500
Phase Three	Latrine Attendant (5 at \$300/month) - \$1,500 Humanure Driver/Collector (1 at \$300/month) - \$300	\$1,800
	Total	\$ 8,450

V. Evaluation

This proposal is a relief project, and therefore does not have a perfect system for evaluation. It is completely flexible, and able to be adjusted based on feasibility, community need, increased or decreased resources, and changes in development strategies regarding Haiti relief and rebuilding efforts.

The individuals involved in this project are the only ones currently serving Camp Sosúa. In this sense, the project is well-controlled, and community feedback and assessment, as well as direct observation by the directors of this effort will be used to evaluate the effectiveness of this project.

The project will be considered successful if:

- 1. More people are able to use a latrine and dispose of their human waste in a safe way than are presently able to do so.
- 2. The directors of this project better understand how to work toward permanent sanitation solutions for Camp Sosúa.
- 3. International organizations and individuals are engaged in direct service relief efforts to earthquake refugees.

VI. Endorsements

These groups supported the SaniFerti Project before the earthquake: Ministry of Education, Ministry of Health, Ministry of Planning, Ministry of Public Works, Mayors' office, Schools, Churches

VII. Next Steps

- Next Step 1: Decide if the Timmy Foundation would like to support this sanitation project and in what capacity.
- Next Step 2: Wire money to the appropriate organization (TBD, most probably "Health Horizons International") in order to begin Phase I and II of this project.

VIII. Appendix

Photos of Camp Sosúa:



See More: http://picasaweb.google.com/AngiKang/CampSosuaBeyond#

Photo of SaniFerti Bucket Latrine, Transport Moto, and NuraDome:







YouTube clip describing how BBCNews first caught sight of Gerry's water truck, how it got to Camp Sosúa:, and what the conditions are like there:

http://www.youtube.com/watch?v=ZCOugO0uzeU

Article written by Sandi and Lynne regarding their work in Camp Sosúa:

http://rapidshare.com/files/376632455/ARTICLE FOR SANDI AND LYNNE ON CAMP SOSUA.pdf.ht ml

Some Articles on Sanitation in Camp Cities in Haiti:

http://www.miamiherald.com/2010/02/24/1496587/shortage-of-toilets-may-lead-to.html

Facts as listed at the end of the "Original SaniFerti Project Operations Document"

Phosphorous3-5.4% Potassium1-2.5% Carbon40-55% Calcium.....4-5%

C/NRatio5-10

2 – Some backyard composters refer to organic materials as "browns" and "greens." The browns (such as dried leaves) supply carbon, and the greens (such as fresh grass clippings) supply nitrogen. It's recommended that two to three volumes of browns be mixed with one volume of greens in order to produce a mix with the correct C/N ratio for composting 3 – When organic material is composted in a batch, four distinct stages of the composting process are apparent. Although the same phases occur during continuous composting, they are not as apparent as they are in a batch, and in fact they may be occurring concurrently rather than sequentially.

The four phases include: 1) the mesophilic phase; 2) the ther- mophilic phase; 3) the cooling phase; and 4) the curing phase.

4- The unturned compost cost \$3.05 per wet ton, while the compost turned twice a week cost \$41.23 per wet ton, a 1,351% increase.