



The Furniture Program

Building Capacity and Creating Jobs for the Disabled and Parents of the Disabled in Haiti: Creating Furniture From Empty Plastic Bottles

A Proposal for a Cottage Industry That Reduces Environmental Waste and Creates Jobs

Afya Foundation Background Information

The Afya Foundation, a NY-based not-for-profit medical and humanitarian supply recovery organization, is unique amongst medical supply recovery organizations: we build strategic partnerships with well-established NGOs that deliver healthcare services on the ground in Haiti and Africa (e.g. Partners in Health). The supplies that we send, which are diverted from landfills and incineration, come from our donating partners (major hospital systems, hospices, rehabilitation centers, corporations, universities, schools and individuals). Our objective is to serve as the "one-stop shop" for the supplies needed to build infrastructure, ensure access and improve quality of medical care. Through this recovery and delivery model, the global health care community is able to significantly enhance the level of international health.

During the past four years, The Afya Foundation has had outstanding record of success in providing disaster relief in Haiti. In 2010, we shipped nearly one million pounds of medical and humanitarian supplies to on-the-ground partners in Haiti. These shipments included stretchers, surgery tables, IV fluids, medical consumables, blankets, tents, water, wheelchairs and walkers. The Afya Foundation's success delivering needed medical supplies to Haiti has been highlighted in *The New York Times*, *Family Circle* and *MORE* magazine.

In addition, The Afya Foundation created The Rehab Project , which entails identifying, assessing and delivering rehabilitation services while creating individualized adaptive products for patients. Danielle Butin OTR MPH, Founder and Executive Director of The Afya Foundation, took a needs assessment trip to Haiti weeks after the earthquake and realized the need for rehabilitation services. With funding from the Joint Distribution Committee and United Nations Credit Committee, The Rehab Project was established in 2010. From the beginning, the Rehab Techs and Adaptive Builders canvassed most of the International Displaced Persons (IDP) camps in Port au Prince; and identified those

individuals most in need of rehabilitation services. These individuals were referred to various sites for appropriate rehabilitation services including two clinics independently staffed and run by our Haitian team. The Rehab Project staff members visited 66 IDP camps and have referred and/or treated 1500 individuals and over 1100 individualized and ambulatory products have been distributed to disabled individuals.

To view a video about Afya's Haiti Rehab Program, please visit
<http://www.youtube.com/watch?v=sd04ZfkReUA>

The Furniture Program Objectives

To create a sustainable business in Port au Prince, Haiti, that will:

1. Provide furniture for thousands of people living in IDP camps;
2. Impact the local environment/need for sanitation solutions;
3. Create a sustainable employment opportunity for people with disabilities or parents of children with disabilities (often, the people who are marginalized)

Rationale for Furniture Program

Empty plastic bottles are littered everywhere in Port au Prince. This overabundance of trash creates an opportunity to re-purpose the plastic bottle garbage by developing a business model that will generate ongoing employment for many disabled individuals or caregivers of disabled children, living in IDP settlements.

Prior to the earthquake, the disabled had little choice for employment and were often relegated to begging in the street. Post-earthquake, the disabled seem to have been even further marginalized in PaP. Thousands of people, recently disabled, are subjected to verbal assault, segregation in IDP camps, and terrible challenges in accessing rehab services and rehab products. The Rehab Program, developed by Afya, has attempted to remedy a component of this problem, people's ability to ambulate and function. We know we can do more.

The earthquake left millions of individuals without basic furniture for their homes and the furniture that is available for sale is completely unaffordable for the majority of Haitians. During our most recent trip to Haiti two Afya volunteers, an engineer and a designer, collected 41 empty water bottles from the ground, used their expertise and training well and created a modular stool. While 41 bottles create a stool, when 10 stools are connected, they construct a bed. There are countless ways to potentially connect these modular building blocks into vitally needed furniture.

We tested the plastic stools with citizens of different IDP camps. They reported that they were sturdy and comfortable. Many immediately asked for one and/or the supplies needed to begin construction. The plastic bottle stool is a simple solution. The stools get people off of the ground, which is especially important during the rain and

hurricane seasons. In addition, it provides a lightweight, sturdy and convenient seat for the street vendors and children in school, throughout Port au Prince.

The potential for market penetration with this vitally needed service/product is high. Afya has succeeded at providing supplies for life throughout Haiti . As was previously stated, since the earthquake, we have delivered more than one million pounds of medical and humanitarian supplies to providers throughout PaP. This furniture program marks a design/development response that directly correlates to the needs observed and assessed by our team.



Sample Stool Made and Used in Cite de Soleil



Additional Stool Made and Used in Cite de Soleil

Program Oversight/Management

1. Evenel St. Vil - Haitian Project Manager
 - Mr. St. Vil currently manages our Rehab Project and is the liaison between Afya Management in NY while independently running rehab clinics currently in IDP camps and the building workshop in Croix de Bouquets.
- | 2. Afya's existing Rehab Staff (Haitian Rehab Techs/Adaptive Builders) will identify patients and caregivers of disabled children involved with our rehab program to be selected for Furniture Maker positions. Each Furniture Maker will recruit and train apprentices as the volume of orders driven by market demand dictates the need for additional support.
 - Additional rehab providers/service organizations can be asked for recommendations of Furniture Makers (e.g. BRAC) to support roll-out of program at specific sites.
- | 3. The senior leadership team at Afya (who launched The Rehab Program) will visit every three months to evaluate and ensure program stability and potential for scaling. Afya will approach tape manufacturers and bleach/disinfectant companies to explore the possibility of a bulk donation of tape and bleach to ensure a cost-effective system for product creation.

Program Implementation Details

1. Create a model of the stool and bed with corresponding laminated index cards that visually illustrate each step for construction. Neither words nor complicated illustrations will be used for these guides to alleviate potential issues regarding functional literacy.
2. Identify ten Furniture Makers in IDP settlements in PaP.
 - Afya's team has visited all of these communities, and our rehab staff will identify the candidates with greatest potential in each camp.
 - Each Furniture Maker will be trained, versed in teaching others and supplied with tape to secure bottles and bleach for disinfection of the bottles prior to construction of the final product.
 - Banners will be created in-country to identify the Furniture Maker's location. This will advertise this cottage industry and promote easy identification of sites for furniture building.
 - Each Furniture Maker will seek out, identify and oversee apprentices that he/she will train and work with as needed based on market demand. This model for product creation/execution has been well documented and successful in Haiti (e.g. Fair Winds Trading). Ms. Santos and Mr. St. Vil will work collaboratively to create a system to expand staffing based on the outcomes of initial program launch.

3. Product Creation

- All Furniture Makers will be provided with an initial material investment of clean bottles, tape, gloves, disinfectant, chlorine test strips and a soaking tub to create 10 stools. The sale of these stools/furniture will provide enough volume of products to sell that the Furniture Makers will have the time to spend creating stools/furniture.
- A stool takes 45 minutes to create. As a Furniture Maker becomes more proficient in construction of the product, the time will decrease. The average Haitian daily wage is \$2 USD. A Furniture Maker initially has the capacity to produce \$1.33 USD worth of product an hour, or around \$11 USD per day of full work. As the market for the stools/furniture expands, this will only increase as apprentices will be taken on and more furniture will be created and designed with the modular stools.
- Customers who want to purchase a stool are instructed to collect 41 of the same type of bottle (soda, water) and bring them to the Furniture Maker.
 - Cost for a Stool if bottles are delivered for construction: \$1 USD/40Gds
 - \$1 is paid to the Furniture Maker
 - Cost for a Stool if bottles have to be collected: \$1.25 USD/ approx 80Gds
 - \$1 is paid to the Furniture Maker
 - \$.25 is paid to the runner (when a person is needed to collect bottles for the Furniture Maker)
- People who want to purchase a bed are instructed to collect 410 of the same type of bottle (soda, water) and bring them to the Furniture Maker.
 - Cost for a Bed if bottles are delivered for construction: \$12 USD/480Gds
 - \$12 is paid to the Furniture Maker
 - Cost for a Bed if bottles have to be collected: \$14 USD/600Gds
 - This includes paying runners \$2 USD/80 Gds to collect 410 bottles and deliver them to the furniture maker
- Afya will establish relationships with local seamstresses (one in each camp/settlement community to start) and negotiate a pre-arranged rate (to be advertised) for creating a strap for the stools and fabric covering with elastic for beds
- Afya will begin with five cottage industry set-ups in PaP. This will include providing and overseeing distribution of all materials and processes to ensure an effective roll-out and safe product development.

4. Sanitizing Product

- In order to produce a safe product, the water bottles must be sanitized to protect the consumer from pathogens that may be present on the recovered bottles. Chlorine based bleach, chlorine test strips, a large soaking tub and gloves will be provided to each individual. All furniture makers will be instructed in and will maintain the following protocol to ensure sanitation standards are maintained:
 - Every bottle to be used for construction must be disinfected.
 - A disinfecting/sanitizing solution of chlorine based bleach and water measuring 50-100PPM will be made. We will use 50PPM as the absolute minimum. To ensure the proper PPM is met, we will instruct all furniture makers how to use chlorine test strips and provide these to all employees.
 - Every Furniture Maker and apprentice will be given a large soaking tub to soak bottles for 5 minutes each. Bottles must not be overloaded into the tub. Additionally, water must not get too hot, as warmer temperatures will decrease effectiveness of the solution. All bottles will be used only once to ensure the plastic does not disintegrate due to oversozaking.
 - Gloves must be worn to protect employee hands.
 - The water may be re-used if it meets the PPM requirements and is clear. Water must not sit overnight.
 - The availability of services/products will be announced on local radio and television stations, billboards and print ads where appropriate.

Anticipated Outcomes

Following are the anticipated outcomes of the Furniture Program:

- 10 cottage industry set-ups will be established in PaP
- 10 furniture makers will be trained and employed in the program
- 10 local seamstresses will be identified at each site
- 20 bottle collectors will be employed, 2 per site, for situations where customers do not come with their own bottles
- 1 Haitian project Manager will be employed
- As market demand develops, all furniture makers will be encouraged to take on apprentices and additional bottle collectors to increase employment and volume of product created

Potential Collaborative Opportunities and Partnerships

- The US-based Project Manager and the Haitian Project Manager will identify topics for training and areas for competency building for the Furniture Makers.
- Working collaboratively, the Project Managers will offer classes ranging from English to basic business management to conflict resolution.
- Afya has done a great deal of work with ProDev and Partners in Health in Haiti. We expect that these relationships will be additional sources of support for scaling the project and building additional opportunities for collaboration.

Sales and Tracking

Each Furniture Maker will be given a receipt book to keep track of sales, and must hand in receipts and empty tape roles as proof the tape was used to create product rather than sold. Only then will they receive additional tape. This will provide AFYA with a tracking reference for supply and demand in order to monitor the viability of the program. Additionally this will enable us to determine actual costs of operations (supplies/volume). This also aligns incentives and encourages productivity of the Furniture Makers.