em[POWER] Energy Group, Inc.

April 2012
Volume 1, Issue 1

Phase III Pilot Program Proposal and Business Plan in Action

Dhaka, Bangladesh (Photo by Tahsin Hyder)
Sejan Bari, Sushmita Saha, and Mukit Anis Niloy

From the first stages of registering em [POWER] as an NGO in Bangladesh to proposing methods of waste renewable resourcing to improve the livelihood of waste pickers currently working in Matuail Landfill, to implementing Phase III of the empower model. Technical and process solution prototypes were created and tested to help insure its efficiency to help improve the Matuail community lifestyles. The successful prototypes were replicated and presently in the stage of being executed during our Phase III pilot program to help test and insure its effectiveness in the Dhaka, Bangladesh which began March 2012.

Em[POWER]'s Phase III pilot program will include developing and enforcing a house hold waste management system program to prevent further burning of organic waste which initially was a harmful solution for waste pickers to sort out inorganic material which were sold for profit. Instead pre sorted waste will improve the health of waste pickers while attaining inorganic material for profit. During Phase III, constructing a sanitary sorting facility, which will be located outside of the landfill. The sorting facility will help insure the waste remains sorted and will be transported to the designated stations: composting and biodigestor. Composting stations will support agriculture without manipulating local soil properties. The biogidestor will help generate electricity for local facilities. While vocational training will take place with in the community center which will be constructed next to the sorting facility. The community center will hold a host of facilities such as on-site eco-toilets and portable water supplies.

Site Scouting Continues...

Em[POWER]'s primary concern is to connect with near by landowners to build relationships and partnerships which will allow further development of em[POWER]'s model of Phase III and if successful to venture out and execute Phase IV . Phase IV will expand on the pilot program on a much larger scale, such as building on the current mechanism that is applied to the biodigestor to help generate electricity to households throughout the landfill.

Inside this issue

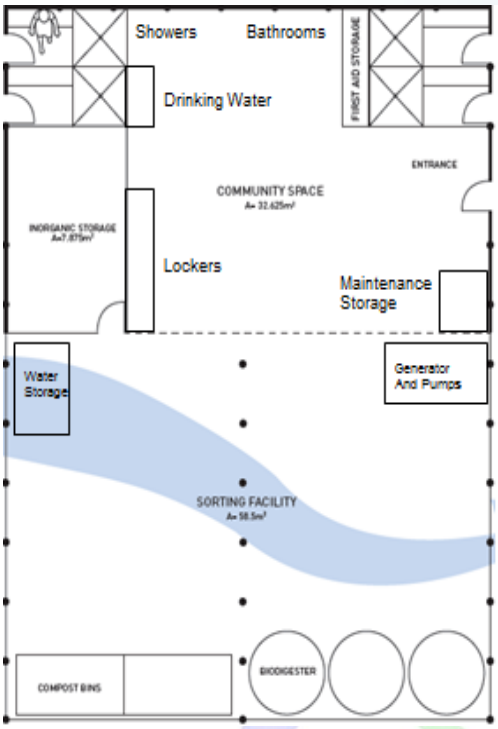
Special points of interest

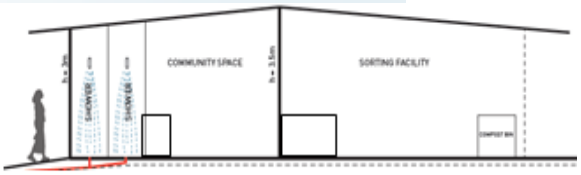
- Currently recruiting Board of Members and Executive Board Members....2
- All-Day Planning Meeting on International Projects 4

Implementation Phase

The proposed architectural plans of the Sorting Facility and Community Infrastructure

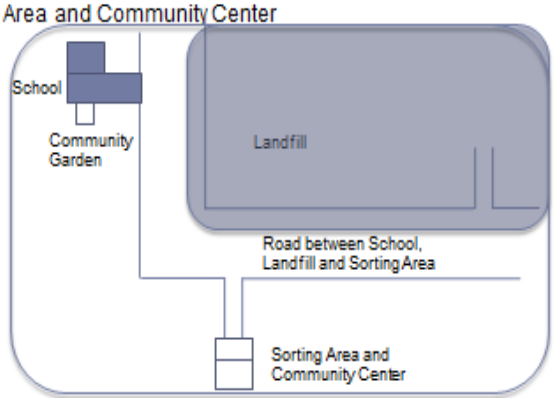
Scheduled for Implementation: The expected starting date of construction is May 1, 2012 and expected date of completion is December 1, 2012.The average space for each waste picker is 5.5 feet by 3 feet. There will be approximately 30 waste pickers in a 500 sq ft area. With in this facility 87 sq.ft will be allocated for storage and 41 sq.ft. for sanitary latrines (eco-toilet) and 77 sq.ft. will be designated to install a rest area/ community center.



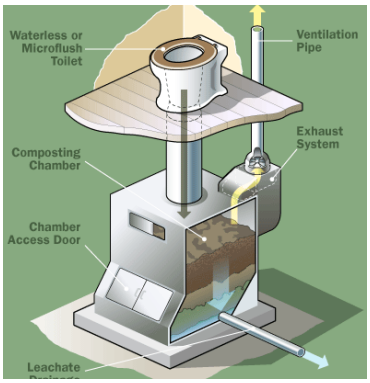


Lot size is 47 feet X 60 feet = 2820 sq. feet
Approximately 500ft from both the school and the landfill

Community Garden and Vocational Training Can Occur at the School. This is shown below in relation to the Sorting Area and Community Center



The technology in Phase III will consist of installing eco-toilets, compost bins, bio digestor, solar lanterns, and duckweed bio-fuel.



The use of duckweed will help consume toxins in the waste and could be used in composting, biodigestion, animal feed if not contaminated and potentially for the production of ethanol as fuel.

The biodigestor feedstock will be processed at the organic waste handling facility. The dimensions of the container will not take up an area more than 1.5 sq meters or about 16sq ft each. The contatiner it-self will be stainless steal and with an outer concrete lining. Which will include a mechanism to stir the waste inside.

Pakistan Implementation

Recruiting A New Team

Em[POWER] has opened positions to help form our Board and Executive Board. The deadline to submit resumes was May 30, 2012. Interviews are currently in progress.

Installing solar bottle bulb inside the Matuail School

Solar Bottle Bulb Installation

Train.

Protect.

Develop.

Our efforts to improve the current educational resources for the Project Bangladesh begins with our collaboration with Grambangla Unnayan Committee, which is a non-profit development organization working with the child scavengers of Matuail Sanitary Landfill since May 2009. The planning and research to help improve the physical infrastructure of the school with in the Matuail Landfill is in progress. The onsite Project Manager for Project Bangladesh, Sejan Bari, helped oversea the installation of solar bottle bulbs to improve the lighting inside of the school on February 11, 2012. Students are now able continue with their activities inside of the school with ease. The final installation, which includes sealing the roof, took place on February 22, 2012. The overall cost of installing one solar bottle bulb unit, including the cost of labor result to a total of 2000TK which is about 25 USD. This cost efficient method made a difference to improve the educational resources that are being presented to the children of Matuail Landfill.

Building Compost Bin

Phase III of building the compost bin took place on February 24, 2012. This will help support further development of agriculture and the growth of a community garden near the landfill. The overall cost of constructing the compost bin was 4100Tk which is about 50 USD.

This prototype consists of two compartments, about 1 m3 each that will hold about one ton of kitchen waste. The waste will be procured from nearby waste carrying vans. Once it is gathered, it will be chopped, moistened and layered to ensure hot compost. Piles will be turned weekly for aeration. A pile made with a balance of fresh greens and bulking materials and turned weekly can be ready to use in three weeks. This process will be concurrently done with em[POWER] US teams own prototype research. Data and findings will be shared between them and the local team.

What Is Your Ideal Home?

As working professionals and active students you may have dreams of owning a beautiful home. But have you ever wondered how your life would be if you were to turn on a faucet and there was no water? What if you were unable to turn on the heat when it was cold outside? Students between the ages 5-14 attending the school within the Matuail Landfill created an art project exhibiting their visions of what would be the perfect home. The em-[POWER] Rutgers Student Chapter help fundraise money to order and send school and art supplies for these students and showcase their artwork.

Matuail Landfill Dhaka, Bangladesh

Through Art They Share Their Stories Across the World

All-day Planning Meeting on International Projects

On February 12, 2012 the International team meets US team at Princeton University in efforts to collaborate information and ideas to help implement Project Bangladesh Phase III of the em[POWER] model.

Interns, student chapter of Princeton and Rutgers University, SCS Engineers, Habitat For Humanities Rep, Yolo County Engineer, and the On Site Bangladesh Team were all working together to understand the current infrastructure of Matuail Landfill as well as the onsite School. The overall attendees were broken up in to groups to develop and discuss methods that would be applied to implement an efficient household waste management system, while examining the effects of community development, composting, biodigestor, and duckweed. In addition Legal findings such as current policies were presented by Neha Kapadia (Legal Intern) to allow better understanding of government procedures that would affect the execution phase of the Pilot Program.

23 Redcliffe Ave.
Highland Park, NJ
E-mail: empowerenergygroup.org