



How You Can Help

Kroger Gift Card Program

When you use a Kroger Gift Card purchased from EWB Greater Cincinnati Professionals, Kroger donates 4% of the dollars spent directly to the EWB-GCP chapter. The gift card can be recharged for continued use with any dollar amount at any Kroger store.

This is one of the chapter's largest fund raisers, with nearly \$100 being raised monthly. To order a gift card, please email ewbgcp@hotmail.com



this issue

Kroger Gift Card Program **P.1**

2010 Rwandan Trip **P.1**

Engineering in Rwanda **P.2**

Additional Water Needs **P.2**

N'tobwe Water Committee **P.3**

Briquette Project Update **P.3**

Greeting Cards **P.4**

2010 Implementation & Assessment Trip

In June and July of this year, four of our team members traveled to Rwanda to continue our work in several villages in the rural northwest portion of the country.

Rainwater Harvesting Implementation

The team was able to implement two rainwater harvesting projects while on the ground. The team had worked over the winter to develop a simple gutter system, first flush device, and tank storage. When the team hit the ground, changes were made to adjust the location of the tanks and revise the gutter plans. The team was able to make the adjustments and still get the projects done on schedule. The school and orphanage served by these tanks were very excited.

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Briquette Assessment

The team trained community members on basic alternative fuel briquette techniques. They learned enough about the basic technology to experiment on their own with the resources surrounding them. The team also intro-

duced the idea of biomass briquettes to leaders in the community.

The team found there is no need to leave the village, or even the land surrounding one's home or institution, to gather briquette feedstock. At the orphanage, they gathered materials and created briquettes in the courtyard utilizing waste from the cooking areas, dried banana leaves from the orphanage-owned banana trees, and woodchips and sawdust from the orphanage woodshop.

You can find more about both the briquette and rainwater harvesting projects in this newsletter.



Engineering in Rwanda

Kigali Institute of Science, Technology and Management (KIST) was established by the Rwandan government in 1997. There were few technical experts available in Rwanda at the time due to the losses and displacement caused by war and genocide.

KIST is a technology based higher education institution. There are programs at KIST concentrating on agriculture and water supply. KIST has received recognition for projects on improved ovens and the use of sewage waste for cooking gas.

On the 2010 EWBGCP trip to Rwanda our team was able to visit the facilities at KIST and meet with a number of the professors and staff.

KIST is interested in supporting the research and training that EWBGCP has started with the water supply and alternate fuel projects. EWBGCP is working to develop an agreement for our continued collaboration.



Additional Needs for Water

There is a water demand beyond what is needed for drinking, cooking, and agriculture.

This tank installed with our help will help provide additional water for sanitation and cleaning.

On EWBGCP's last trip to Rwanda in August 2009, community leaders called to our attention the need for additional water for sanitation and washing at the Muhororo Secondary School and the N'tobwe special needs orphanage.

From information gathered on that trip it was determined that a rainwater catchment system would be the easiest, most cost effective, and most sustainable solution to this problem. While the storage provided would not be sufficient to last through the dry seasons, it would provide additional water needed for the majority of the two wet seasons.

The orphanage at N'tobwe participated in the project by providing lodging, transportation, and translation services. Muhororo Secondary School furnished stone and sand for construction of the base of the storage tank. The headmaster of the school took a personal interest in how to operate and clean the first flush system that helps remove debris from the water.



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Power of Language

Most of villagers speak only Kinyrwanda. Those who completed secondary school prior to 2010 also speak French. Some speak Swahili learned through contact with Eastern African countries. English is now an official language of Rwanda, but only those currently in school are learning English.

Our travel team members spoke English, French, and Swahili and were able to communicate with the local school, religious, and government leaders. One of the keys for the success of our recent trip was the presence of Ernest, a Rwandan engineer from KIST. His technical understanding and ability to talk directly to the

crew in Kinyrwandan significantly accelerated progress.

While English is used in the class room the level of understanding of the students and teachers is limited. Improved hands on and graphic science and math materials for instruction may help bridge the gap in language and engineering education. This is an area that our culture committee may explore further in the future.





N'tobwe's Water Committee

The village of N'tobwe has a population of approximately 500 people. Subsistence farming is the primary occupation of the village's people. There is a health clinic and a school plus a few shops in the town square. Travel to N'tobwe is difficult via a dirt road. There is no major industry present.

Water is available from standpipes that are supplied from springs via a gravity pipe system. There is infrastructure for electricity but the hydroe-

lectric generator used to provide the electricity has been inoperable for several years.

This trip allowed us to meet and discuss future village plans with a local committee that is working for the betterment of the community in N'tobwe. The Committee goes by the name UBAKA (Ubumwe Bwi Abakristu Buganiye Amajambere ya Roho N'Ay'Umubiri, meaning Association of Christians for Human and Spiritual development).

This committee has members who are from the Primary School, Government and the N'tobwe orphanage. They are implementing a program where all people that benefit from the water source and tank will pay RWF 100 per month and those that have piped connections from the tank will pay RWF 300 per month.

To date, the water committee in N'tobwe has built walls around a standpipe that was repaired in last year's project to ensure it is used properly.

The water committee committed labor to work with our local construction manager to perform housekeeping around the source constructed last year as a check on erosion.

The water committee will take the lead on future projects as they develop the skills to maintain and run their system. EWBGCP will provide technical support towards their goals.

New Goals for the Briquette Project:

The engineering committee is continuing research and testing for the alternative fuels project.

The goal of this project is to help the Rwandan communities develop safe and sustainable alternatives to firewood for cooking.

This year's trip allowed for assessment of the available feed stock, processing options, and cooking techniques. From the response from the community and the team's assessment work, the bio-mass briquette appears to be a viable solution.



Using GoodSearch and GoodShop to help EWBGCP

GoodSearch is search engine similar to Google or Yahoo, but EWBGCP receives 1 penny each time you search. To use the search engine, go to www.goodsearch.com, enter "Engineers Without Borders – Greater Cincinnati Professionals" in the "Who do you GoodSearch for?" box, click verify, and start searching!



GoodShop is an additional fundraiser found on the good search home page that donates a portion of the internet purchases from partner merchants such as Amazon.com to EWBGCP. A percentage of your purchase will go to EWBGCP. The amount donated is different for each retailer but it averages approximately 3% of the total sale.

Further research is aimed at:

1. Finding a sawdust briquette binder.
2. Finding a banana foliage briquette binder.
3. Developing appropriate grinder or chopper for foliage.
4. Developing burn properties for banana foliage briquette.
5. Optimizing the briquette mold for ease of use.



Rwandan Cards are perfect for your holiday thank-you cards

Rwandan native, Sister Patricia Mukanyonga, has cared for over 200 orphaned and handicapped children for whom she provides shelter, food, clothing, medical care and education. One focus is on self sufficiency by creating projects that generate income and help families such as farming, wood working, and handicrafts.

In partnership with the Bridge to Rwanda Charity, the EWBGCP Chapter would ask that you support their efforts through the Greeting Card program. The cards are designed and handmade by the children, using banana tree bark. All proceeds benefit the Rwandan community.

Packs of 5 or 10 cards are available for \$6 or \$11 via mail. Please contact us at ewbgcp@hotmail.com



You Can Help

Engineers Without Borders is made up of caring people from diverse professional backgrounds. There are always needs for volunteers with health care, language, shipping, clerical, writing, financial, agricultural, computer, social service, safety, marketing, and many other skills. Please go to: www.ewbgcp.org to find out about our general meeting on the second Saturday of each month.



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