

Distributions

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December Trip to Honduras

By Dan Sobel, Travel Team Member and Spanish Translator

The Honduras travel team had a very productive trip last December. Five students and our professional mentor, Dan Saulnier, spent 17 days in Honduras working on projects in two villages in the Yoro District – El Carrizalito and Los Oros. Based out of the bunkhouse owned by EWB-NEU's partner organization ACTS (Americans Caring Teaching Sharing), the travel team spent many long days working in these villages and many long nights planning and

doing design work.

Los Oros

The primary project the team worked on during this trip was the implementation of a water distribution system in Los Oros. The travel team first visited this community of 11 houses on Christmas Day in 2010, when they measured flow data and tested water quality at two springs. At this time, only four houses had tap stands. This Christmas – exactly one year later – EWB-NEU worked with the community to extend the distribution system to three houses that previously did not have water, and the branches for the remaining four houses were well on their way to completion when the team left.

Although a small project, implementation in Los Oros was far from simple. Based on newly discovered information involving pipe size and pipeline location, the team needed to redesign the distribution system during the trip. The villagers were all incredibly hard working, though, and were able to accomplish an impressive amount during the team's stay. After helping determine the most efficient layout for tap stands and pipes, the villagers

dug the trenches that the pipes would be laid in. They then primed and glued together all of the pipes for the new branch of their system.

The villagers were trained and left with all of the equipment, materials, and knowledge needed to finish the remaining four branches of the distribution system on their own.

The travel team worked with the villages of Los Oros and neighboring La Reynada to create a contract between all three parties governing the water system shared by the two villages. This will ensure that the water is shared fairly, payments are arranged, and the system is maintained well.

While working in Los Oros, the students were shown a dilapidated pipe bridge that spanned a river between La Reynada and Los Oros. The PVC bridge weakens when exposed to the sun, and the La Reynada Water Board has had to repair the bridge many times after it collapses. EWB-NEU is considering replacing the pipe bridge on the next trip.

Continued on next page



Carrying PVC / Photo: D. Saulnier



Surveying rod / Photo: R. Gordon



Honduran girl / Photo: A. Romosiu



EWB-NEU professional mentor Dan Saulnier works with Hondurans to cut PVC. / Photo: R. Gordon

Honduras December Trip (Continued)

El Carrizalito

The travel team spent many days assessing options for a water distribution system in El Carrizalito, a larger village located high in the mountains and not accessible by road. El Carrizalito poses a special challenge because the village is situated at a higher elevation than its current water source.

The team was able to rule out finding another source at a higher elevation by examining a contour map of the region and by speaking with locals. The team also brought in one of the few hydrogeologists in Honduras to find out how feasible a well would be for the village. Unfortunately, a well is most likely not the best option for El Carrizalito due to the difficulty of bringing well-digging equipment to the remote village, the cost of digging the well, the uncertainty of the presence of water, and the fact that a power source would still be required in order to bring the water to the surface.

One feasible option for supplying the community with water is pumping the water from the villagers' current source to their homes. The students spent several days surveying the locations of important points in the village as well as pole position for the proposed electrical line that would power the pump for this system. They also met with the national electric company to confirm that it could help to provide electricity to El Carrizalito.

El Chaguite and Loma Chata

While in Honduras, the team visited two other villages. The students toured the completed EWB-NEU project in El Chaguíté to evaluate how the system was working. The tank built two years earlier was still in excellent condition, and all of the houses were hooked up to the new system. Flow rate, water pressure, and water quality were measured at several taps in the village, and the data matched the team's predictions. The two members of the group that had been to El Chaguíté before the system was installed noticed a definite change in the quality of life there after EWB-NEU's work. The homes were

in better shape, many homes had flowers and gardens, and some families were even preparing a nice meal of meat the day the team was there. In general, there seemed to be more smiles on the villagers' faces.

The travel team also learned the unfortunate story of Loma Chata, another nearby village. The villagers had worked hard and invested money with another organization to build a tank and distribution system for their village last year. They had warned the group that placing the pump far away from the village and close to the road would be dangerous, but the pump was placed there anyways. Sure enough, the pump and transformer were stolen only a few months after the system was installed, and the village is once again without water. The students were very moved by the situation in Loma Chata and would very much like to help them in the future, although it will likely be several years before EWB-NEU can take on another project.

The group hopes to return to Honduras in August 2012 for the first phase of implementation in El Carrizalito.

Uganda

November

Trip Summary

By Caitlin Candee, *Treasurer*

EWB-NEU's most recent trip to Bbanda, Uganda, was this past November. It was an assessment trip to collect the remaining technical information and supplier information that we will need in order to proceed with the clean water distribution system design.

The travel team consisted of Professional Mentor Tim McGrath, Trip Lead Keith Nelson, Gina Palino, and Caitlin Candee. All members of the team had previously traveled, which gave us an interesting opportunity to be extremely efficient since we were all familiar with Bbanda and able to hit the ground running.

We checked in with our previously implemented rainwater catchment systems and found a range of results. A few of the systems hadn't been maintained properly, but some of the schools had taken ownership and initiative. It was exciting to see that the Bbanda Roman Catholic staff had noticed a water runoff issue and responded by digging a trench to divert rainwater from the tank foundation to prevent erosion.

We conducted several water quality tests and found mild contamination in some of the systems. It was obvious to us that the potential for proper maintenance was there, so we reinforced proper maintenance procedures and shared our water quality results with the Water Board and the school communities.

For the majority of the trip, we conducted assessment for our proposed clean water distribution system. We surveyed various parts of the village to add to our elevation map, despite a slight



Surveying / Photo: G. Palino

hold-up when British Airways left the survey gear in London. To our surprise, though, *Catholic Rectory, Bbanda Village, Mityana District* is enough information to get it delivered within a few days.

We also visited suppliers of pipes, pumps, generators, and tanks in both Mityana and Kampala, scoping out what was available, where it was cheapest, and who had the highest quality of supplies. This will be extremely helpful in continuing our design, as we now have a better understanding of our options.

We had quite a few productive meetings, with everyone from government to schools to community members. We discussed with the Water Board, among other things, fee collection and the community support needed to start the distribution system. Hopefully they are organizing themselves further as we work on the design here. We also met with the chairpersons of both the LC5 (village level government) and the LC3 (district level government) to start communicating and partnering

with them for future development and funding of the distribution system.



Water from a rainwater catchment system fills a jerrycan / Photo: K. Nelson

As it was an assessment trip, we had a chance to talk and get to know Bbanda and its people better. An impromptu meeting with a subset of the Water Board happened in the living room of its chairman, Mathias, where Keith and Tim were amazed to see a room full of books and papers.

When Gina and I went looking for an open source, asking some residents of Bbanda, "Eri wa

nalongo?" we thought we were asking, "Where is the open source?" but we had gotten our vocabulary confused and were really asking, "Where is the mother of twins?" We realized our mistake as we were being ushered into the living room of a woman with two sets of twins and a brand new set of triplets. Apparently she was used to unexpected visitors, as she readily sat us down and handed us babies.

All in all, it was a very productive trip. We all learned a lot about Bbanda and ourselves, and we're excited to move forward with the design of the clean water distribution system.



Caitlin Candee, Gina Palino and Professional Mentor Tim McGrath with Father Josephson and his friends and family / Photo: K. Nelson

Uganda Committee Update

By Gina Palino, *Uganda Program Director*

The Uganda Design Committee has been fully engaged in alternatives analysis and now preliminary design of a distribution system for Bbanda in our weekly meetings. The alternatives analysis report was compiled by many different members of the group who each focused on areas they were interested in, such as pump selection, power and generation needs, tank calculations, and the overall layout of the system using Waternets software.

In the coming weeks we will be focusing on using the best selections from the alternatives analysis as well as work done by seniors working on this project in their capstone groups to form a preliminary design report. We hope to travel in August 2012 to implement Phase I of the water distribution system that is in the process of being ironed out.



Assessing the rainwater catchment system / Photo: T. McGrath

SPOTLIGHT ON...

DANNY WALSH

By Ryan Gordon, Honduras Program Director



Danny Walsh / Photo: Facebook

The Honduras Design Committee has transformed a great deal this semester, and there are many members who are new to the group. They have shown tremendous enthusiasm and have played key roles in the work completed since the return of the travel team this past December. One student that has stood out this semester is sophomore mechanical engineer, Danny Walsh.

Danny has been a dedicated member of the Honduras Design Committee since his freshman year, showing involvement in all areas. Whether design, research or translation, he proves he is knowledgeable in EWB-NEU projects. Even during the summer when many freshmen enjoyed break at home, Danny came by some meetings to help the team out. In meetings, he always provides his opinion vocally during discussions and his points have proven invaluable to many committee decisions.

As a Spanish translator, Danny demonstrates his understanding of the Spanish language through his outstanding ability to translate letters and e-mails and to perform research using Spanish websites. This semester, when given the task of putting together a system to organize and track our correspondences with Honduran contacts, Danny designed the framework for a new sector of the group, called the **Spanish Translator Committee**. In this committee, Danny's role is the Translation Coordinator, and he delegates the translation tasks performed by all of the translators on our team.

When asked why he joined EWB-NEU, Danny said, "In addition to having grown up traveling and visiting a lot of countries in Central America, I did a lot of community service and leadership in high school that inspired me to want to do something bigger. Plus, when on my admissions tour I had found out that EWB had a Honduras division and that I could use my Spanish, I was more than sold."

But Danny's involvement at Northeastern doesn't stop at EWB-NEU. In addition to being a great student, Danny participates in the triathlon club, wrestling team, American Society of Mechanical Engineers, and Northeastern University Husky Outdoors Club. He also enjoys any community service opportunities that come his way. How does he have time to do it all? That is one thing that amazes me about Danny; he finds the time to do it! If there is any member worth highlighting this semester, it is most certainly Danny Walsh.

Honduras Committee Update

By Matt Pellegrino, Honduras Design Lead

Following the December 2011 trip to the Yoro District, the Honduras Design Committee has been hard at work to complete many tasks resulting from the trip and to prepare for the next phases of the project line. The current tasks include creating reports which are not only requirements of EWB-USA, but also are important for our own analysis of data and for proper documentation of our plans and finished products.

In the Post-Assessment Report for El Carrizalito, we are revisiting all of the data collected while in country. This data includes survey points for the possible electrical grid extension to the village and water quality test results from various water sources around the community. The report also gives information pertaining to the other potential

alternatives for this project.

The team is also working on an alternatives analysis report, which is in the very beginning stages and will explain the different water system design options for El Carrizalito using the information gathered during the trip. With the best alternative chosen, the Honduras Design Committee will then create a preliminary design and write a subsequent report for approval by EWB-USA before beginning implementation of a potentially multi-phase project beginning in August 2012.

A task that the group has finished is the creation of as-built drawings for the constructed water system in El Chaguité. This project was completed in 2009, and now that the as-built drawings are also completed, they will be available for EWB-NEU and the villagers of El Chaguité on the next trip to the region.

As seen from all this activity, the Honduras Design Committee has their work cut out for them. The rest of 2012 will certainly be a test for the group as they progress with the project in El Carrizalito.

Spanish Translator Committee

The most recent addition to the Honduras Design Committee is the formation of the Spanish Translator Committee, which has taken over all Spanish correspondence for the group. Whether translating e-mails or letters, summarizing Spanish phone calls, or doing research on Spanish websites, the design committee has been set up to provide efficiency, organization, and reliability to the Honduras Design Committee's work. So far there are six translators on this committee, and they have created a system for handling translation work and coordination with the rest of the group. The translators' first major project involves translating letters that will go to El Carrizalito and Los Oreros to check in following the most recent trip.



December Travel Team with Hondurans / Photo: A. Romosiu

SURVEYING OUR ALUMNI

Name: Ann Polaneczky

Years involved with EWB: 4-5

Committees on: All? Fundraising was definitely my biggest commitment

Positions held and when: Freshman - Treasurer; Sophomore - Head of Fundraising; Junior - President

Current location: Beverly, MA / Mirebalais, Haiti



Ann in traditional Ugandan dress
Photo: EWB-NEU

What have you been up to since graduating?

I've been working for my last co-op-job-turned-full-time, Partners in Health, on building a massive 320-bed public hospital in Mirebalais, Haiti. I project managed and partially designed (with the help of my EWB mentor-extraordinaire, Dan Saulnier) the wastewater system for the hospital. I also have been intimately involved in most of the other trades of the hospital including the electrical system, medical gas system, IT system, PV system, water system, and some structural and architectural details. I also recently took over a project managers position (in addition to my existing duties) coordinating what's left of the shipping and procurement for the project. It's been a dream-come-true and I definitely owe my successes to EWB.

What skills have you gained from being a member of EWB?

I'm currently in Haiti working on the wastewater system installation. A man I was working with noted that I had a lot of "practical" knowledge for my age and asked where I learned it. I proudly told him I learned it from Engineers Without Borders. I learned everything from plumbing to how to write grants and everything in between. As president, I gained a ton of experience managing people, running meetings, building relationships with donors and university higher-ups. I think one of the most valuable things I learned was public speaking. As long as I am speaking about something I have a decent knowledge base on, I am always very comfortable in front of large

crowds. This confidence carries through to meetings and interviews as well.

Has your involvement with EWB made an impact your life?

Practically and professionally, my experience in EWB is what set me up to be hired at Partners in Health, which has been an incredible and expanded continuation of my work in EWB. Moreover, it showed me what poverty looks like and what can be done about it. It taught me to value of infrastructure in the most intimate and basic of ways. I also made many incredible lifelong friends, all people whom it is an honor to know. I was able to see parts of the world that would otherwise be inaccessible to me. It changed the direction of my life, or rather, it gave direction to my life.

What is your fondest EWB memory?

My fondest memories are eating balliatas in the shade after a hard morning work in Honduras with my equally-tired companions and giggling over simple things despite our exhaustion. I also loved wearing a traditional Gomez in Bbanda. Also, visiting Rigo's crocodile farm. Rigo's farm is one of the largest in the world and also has a private zoo. He is such an incredible and generous man.

Is there anything else you'd like to add?

If I could add to these comments anything, it would be that not only is EWB a great program, but that the Northeastern University Chapter is exceptional in it's leadership, mentoring, donor-base, resources, and projects. EWB-NEU is the best-of-the-best!

Research Nomination

By Charlotte Alger, VP of Administration

Honduras Program Director Ryan Gordon (left) and Honduras Design Lead Matt Pellegrino (right) stand proudly in front of their poster at Northeastern's Research in Innovation and Scholarship Expo. Ryan, Matt, and the Honduras Design Committee researched different ways of bringing water to the village of El Carrizalito this past December. The project was nominated as a finalist out of over 400 research exhibits. Congratulations, guys!



Ryan (left) and Matt (right) at RISE:2012 / Photo: D. Saulnier

Fontbonne Academy Event

By Olivia Deterling, *Public Relations and Recruitment Coordinator*

This winter, EWB-NEU put on their second annual Fontbonne Academy event. This event funds a group of thirty to fifty high school girls from the academy, as well as a few chaperones, to join us in a day of engineering.

The day began with presentations about EWB-NEU's projects in Uganda and Honduras, where speakers Olivia Deterling and Matt Pellegrino were able to explain the programs and give their insight on each village, project, and EWB-NEU as a whole. The girls were able to ask questions, such as what our favorite memories were from traveling in country.

Once the girls were engaged and excited about EWB-NEU, Christine Abichaker led the group through a hands-on water quality activity. She first gave background on what bacteria is, why it is important to test for various types, and how to collect water quality samples. EWB-NEU members then were able to talk with the girls in break out groups and help them assemble their samples.

The day also included a tour of the Northeastern campus, guided by a Husky Ambassador, which allowed them to get a feel for what Northeastern offers and what student life is like here. It was also great to have a Society of Women Engineers panel who spoke to the girls about how they found engineering and why they liked it so much. Each panel member was able to share their co-op and extracurricular activity experiences as well as what it is like to be a woman in engineering.

Lastly, an exhilarating part of the day was the Jerrycan Challenge. The Jerrycan Challenge is an event where the girls walked a quarter of a mile carrying a 5-gallon jerry can, as the villagers EWB-NEU helps have to carry for miles. This is a meaningful experience because it puts into perspective how readily available water is to us and how we take it for granted.

Overall, the event was a fantastic success. The Fontbonne Academy girls had a great time and were able to see how engineering can make a global impact. It was a really rewarding day for members of EWB-NEU to share their experiences and help inform others of EWB, while mentoring high school girls. We were thrilled to have made this event a success for the students of Fontbonne for a second year in a row!



Christine (second from the left) with students from Fontbonne Academy / Photo: EWB-NEU

EWB-USA International Conference: Las Vegas



Left to Right, Back Row: Keith Nelson, Tim McGrath, Ryan Gordon, Christine Abichaker, Caitlin Candee, Dan Saulnier. Front Row: Charlotte Alger, Lindsey Broderick, Liz Cherchia. / Photo: EWB-NEU

EWB-NEU students and professional mentors celebrate the 10th anniversary of EWB-USA at the EWB-USA International Conference in Las Vegas, Nevada. EWB-NEU was nominated for the Premier Chapter Award.

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**Congratulations to Caitlin Candee,
the newly elected president for
2012-2013! / Photo: K. Nelson**

Donations

EWB-NEU is a group of dedicated students with ambitious goals for the future of our chapter and project locations, which can only move forward with your support. Please find information below on how to donate. All donations are tax deductible.

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