The memories of waking up to the sound of Las gallinas cantanto [roosters’ crowing] at four in the morning are so distant now. However, the image as I looked over the valley – still remains ingrained, as it was truly a Buena Vista. It’s been over a year since we were up in the mountains of the Buena Vista community located on the northern coast of Honduras, where the aromas of strong Honduran coffee brewing would help us get out of bed, preparing us for the long day of work ahead. We reported to the Maestro de Proyecto and Junta de Agua and despite the language barriers limiting our communication, through broken Spanish and hand signals, our EWB team and the village came together to form a close partnership. Our goal was to help begin implementation of our water filtration and distribution system design for the community.

We began the implementation of the Community Water Supply with digging trenches to lay down the pipeline and constructing the storage tank in Buena Vista. Everyone in the community lent a helping hand, whether it was carrying rocks up the mountain or digging the trenches. After a week, the hard work was noticeable and the physical beginnings of the project were seen. It’s been a year and a half since we were in Honduras beginning implementation, yet those digging days aren’t quite over. While much progress has been made, the project is not quite finished. The project is 60% done; the storage tank is completed, along with the break pressure tanks and the distribution tanks. Three of the four villages within the community have access to potable water. All that is left now is to dig the remaining trenches to lay down pipeline for the last village. Over the past year we have had challenges carrying materials up the steep, unpaved hillsides of the mountains, due to the rainy season. Although this obstruction delayed our project, it has also made us eager and excited to finish the project. In the meantime, we have been fundraising to...cont. on page 3…

Electricity for Abra Malaga, Peru

In the community of Abra Málaga Thastayoc, Peru, 17 of the 33 families lack access to sufficient electrical energy, which could be used for basic lighting and recharging of cell phones and radios. To address this issue, a few engineering students have created a partnership with ECOAN Peru and together plan to install a series of alternative energy technologies depending on the available resources. In areas where abundant water can be utilized, pico-hydro generators will be installed. Meanwhile solar panel arrays will be installed where water is lacking. Our students strongly believe that these small scale technologies are ideal methods to provide electricity to rural Quechua villages that receive very little support from the Peruvian government. Cont. on page 3…
Collaborative Research in Mexico

Stewart Diemont and 7 engineering students traveled to Mexico from Mar. 10-18, 2012 in order to conduct collaborative research with the Instituto de Ecologia (INECOL). Two main projects were addressed during the trip, the first being a contaminated wetland site in the cloud forests of Xalapa, and the second being the viability of mycofiltration techniques for water purification. El Santurio de Bosque Niebla is a 30 acre cloud forest sanctuary in Xalapa; organized by the faculty and staff at INECOL. There is evidence of significant levels of water pollution from city and cattle ranching operations. An initial assessment of the wetland site was made over the course of the trip. Water quality, plant measurements, and soil properties were analyzed along with pressed plants and recorded bird calls for professional analyzing. The data collected will be used to create a viable solution for alleviating the water contamination in this area. One possible solution is the implementation of an adjacent constructed wetland.

Mycofiltration is a relatively new idea that has been proposed...

Composting Toilet in the works for Amberations

Over the past year, a group of engineering students have been working closely with the owner of Amberations in Marietta, New York. Amberations is a non-profit organization with over 50 acres of land, dedicated to the support of mental health for people of all ages through interaction with the natural environment. Last spring, this group of students marked trails at Amberations and used surveying equipment to make a trail map for the property. Currently, they are designing a composting toilet for Amberations which will be handicap accessible and abide by all ADA specifications. A composting toilet is a system which contains and processes excrement, toilet paper and carbon additive (leaf litter, ash and/or wood chips). The system relies on unsaturated conditions where aerobic, or air requiring bacteria and fungi break down the waste to create compost. The compost will be used in various gardens around the property. The design will be implemented in the spring with the help of the SUNY-ESF Green Construction Group.

Surveying in the Local Community

During last spring’s Engineers with Appetites fundraising dinner, our chapter auctioned off a personal property drawing using surveying equipment. Over the last month, a small group of students ranging in experience levels from Freshmen to Seniors have visited the winner’s property and have completed the fieldwork. The project has given older chapter members a valuable opportunity to utilize skills learned in our engineering curriculum while also allowing underclassmen the opportunity to learn some surveying prior to taking the course. We are currently in the process of analyzing the data and creating the drawing. The surveying project has been an excellent hands on activity in our local community and we can’t wait to produce the finished drawing for our silent auction winners.
**EBB Northeast Regional Conference**

From Nov. 16 to Nov. 18, 22 chapter members attended the annual Engineers Without Borders Northeast Regional Conference, hosted by the University of Pennsylvania in Philadelphia, PA. Featured keynote speakers ranged from Cathy Leslie, the executive director of EWB-USA to Howard Neukrug, the Commissioner for the Philadelphia Water Department. There were a number of breakout sessions discussing EWB-USA policy, other chapter’s projects and professionals working alongside EWB. One of our very own members, TJ Decker, also presented a breakout session on a new course offered at ESF, Appropriate Technologies for Developing Countries. Our chapter also submitted a poster on our current project in Honduras. The poster was critiqued by professionals in the engineering field, along with students from other EWB chapters. Overall, the conference was a great success filled with meeting professionals and other EWB chapters, learning about other chapters projects, EWB-USA and the resources it offers. The weekend concluded with a trip to the Rocky Statue and running up the famous “Rocky steps.”

**Burritos Without Borders**

On Monday, October 29th, the first of many Burritos Without Borders fundraising events was held. Our goal; to raise money to complete the piping of our gravity fed water filtration system throughout our community in Buena Vista, Honduras. Alto Cinco and Moe’s generously provided us with chicken, beans, rice, chips, and salsa. ESF students and faculty came together in Nifkin lounge to create their own burrito, wrapped by EWB’s very own expert burrito assemblers. The event was a great success, with food running out in three hours and raising nearly $500 in profit. Keep an eye out for our next delicious fundraiser!

**Honduras cont.**

obtain the funds needed to buy the rest of the pipeline. Our hopes are to finish the project within the next couple of months, and in the spring of 2013 travel to Buena Vista to see how the project is working, and celebrate with our long-lasting partners and friends we’ve made.

**Peru Cont.**

Specifically, the pico hydro generators because they can be constructed with low-cost, often recycled materials that are easily accessible in developing countries. They can also provide diverted water that could be treated with biosand filters, a secondary objective of the project. The technologies are fairly straightforward, allowing local community members to learn how to build, use and maintain the systems well into the future. The project is still in the planning phases and is in need of significant funding to ensure its success. We have received generous support from Samuel Redfield: designer of the pico-hydro system in use, Brian Hettler: an ESF grad and EWB alumni, The Amazon Conservation Team, and Amanda Barnett: past SUNY-ESF EWB president.

**Mexico cont.**

as a solution for the removal of nutrient pollutants from waste water. It uses fungal mycelium as a biological filter in order to eliminate pathogens, sequester nutrients and impede water flow. The proposed question is whether the nitrous oxide released from the mycelium is substantial, so much so that it would actually be counterproductive to use this method for restoration purposes. Research by ESF graduate student Russel Daniels paired with Professor Dulce Blasquez will give insight as to whether mycofiltration is a viable option for water filtration and which species, if any to select should a mycofiltration set up be introduced.

**Barnett visits community**