

# ENGINEERS WITHOUT BORDERS USA

## UNIVERSITY OF NEW HAMPSHIRE STUDENT CHAPTER

### “STUDENTS WITHOUT BORDERS”

#### Mission Statement:

*“Our mission is to encourage, support, and implement environmentally and economically sustainable technical projects in local and international communities, while developing globally responsible and knowledgeable students.”*



#### What Role Do Sponsors Play?

As a not-for-profit organization, sponsorship is vital to the success and sustainability of UNH EWB/SWB. The projects are highly technical and most are international, therefore associated costs are substantial and recurring. The group raises funds on a continuous basis, and all donations are directly applied to project costs. Generous support from sponsors makes UNH EWB/SWB projects possible and allows students to focus their time and effort on designing and implementing effective projects for communities in need.

Sponsors can also play a non-financial role, including:

- Offering professional consultation on projects
- Providing insight regarding long term planning and funding
- Staying in contact via social media and a bi-annual newsletter
- Helping run technical workshops for EWB students

**EWB- USA** is a non-profit humanitarian organization that supports sustainable engineering projects in developing nations, in areas including water supply, sanitation, energy, and more. With over 14,700 members working in 39 countries, EWB-USA has impacted more than 2.5 million lives around the world. Approved projects are community-driven and held to rigorous technical standards; designs must be approved by a board of professional engineers, and strict reporting is required throughout the project process.

**EWB-UNH** is a nationally recognized student chapter of Engineers Without Borders USA, and has EWB-USA approved projects in Uganda and Peru. The group also calls itself “Students Without Borders” (SWB) to attract UNH students from non-technical disciplines. Despite having two names, UNH EWB/SWB is a unified group that encourages students to collaborate across academic disciplines, using their different backgrounds and skills to complete projects as a team.



## OUR PROJECTS

### *San Pedro de Casta, Peru*

San Pedro de Casta, Peru is a town located at 10,300 feet in the Andes Mountains, about a three hour bus ride from the country's capital, Lima. The town is home to 1,200 residents who maintain a traditional agricultural way of life. The town also boasts proximity to a cultural heritage site, Marcahuasi, and hosts over 7,000 tourists per year. Presently, the town's drinking water supply is contaminated with E. coli, a threat to both townspeople and visitors' health. UNH EWB/SWB is committed to a program that will bring clean drinking water to San Pedro de Casta. The program envisions implementing simple and effective systems that can be maintained by the community. In 2014, UNH EWB/SWB installed about 1000 meters of buried pipeline, replacing compromised parts of the existing route. This enabled a higher quantity of water to reach the town, and ensured water will no longer be contaminated due to breaks in the pipe. After gathering data on a subsequent trip, UNH EWB/SWB decided to design and install a drip chlorination system that will significantly improve drinking water quality and safety by eliminating E. coli. UNH EWB/SWB plans to implement this system in May of



2016. The group has also determined that a slow sand filter will need to be added to the system; the filter will remove suspended solids which accumulate when an auxiliary aquedicy system is employed. The timeline for construction of the slow sand filter will be determined based on funding availability. Through this partnership, UNH EWB/SWB hopes the drinking water in San Pedro de Casta will be of a high drinkable quality, which will help decrease water-related illness and improve the overall health of the community.

### *Nutrition Program in San Pedro de Casta*



During UNH EWB/SWB's 2013 trip to Peru, the group used anthropometrics to assess the issue of malnutrition among the community's children. They lack protein, micro and macro nutrients, and an understanding of the dangers of processed foods and refined sugar.

UNH SWB/EWB has designed an educational program to educate the entire village on how to understand food labels and the importance of oral health and proper hygiene. Posters and brochures about daily eating guidelines have been created to hang in the school. The education program will teach about the potential diseases that can occur from malnutrition and provide resources to help prevent these health risks.

UNH SWB/EWB Nutrition team is looking to return to Peru in 2016 to begin assessing individual children's nutrition levels in order to track deficiencies and gain a better understanding of how to help in the future. A new initiative to integrate oral health into the nutrition program is also being explored through partnerships with local dentists.

## *Cet-Kana, Uganda*

UNH EWB/SWB has worked with the village of Lukodi, Uganda for five years, and maintains a strong partnership with the community. A non-profit located in the village, ChildVoice International, provides EWB/SWB students who travel to Uganda with food, a place to stay, local tips, and guidance. UNH EWB/SWB recently completed a two-phase potable water project in Lukodi which required two assessment trips, two implementation trips, and a monitoring trip. The project involved testing and disinfecting 12 contaminated boreholes in the community which serve as the main source of water for village residents. Fences were also constructed around three boreholes to prevent roaming livestock



from contaminating the ground water with feces. In an effort to reduce malfunctions, each borehole caretaker was provided with training and an informational card explaining how to maintain the borehole pumps. During the monitoring trip in January 2015, the wells were retested for fecal and total coliform contamination; two of the 12 wells tested positive for total coliforms and only one tested positive for fecal contamination. UNH EWB/SWB was able to obtain permission from the designated borehole caretaker to disinfect the more popular of these two wells. Monitoring will be completed as a part of every returning trip to Uganda to ensure the longevity of the project and its positive impact on the community.

Also during the January 2015 trip, the nearby village of Cet-Kana signed a statement of interest indicating their desire to work together with UNH EWB/SWB. Cet-Kana residents currently travel up to 6km multiple times a day to obtain water at the nearest borehole, so UNH EWB/SWB is planning on protecting a viable spring in a more isolated part of the village. UNH EWB/SWB traveled to Cet-Kana in August, 2015 on an assessment trip to gather data and prepare for the construction of the spring-box at this site. The spring-box will create a safe, more convenient water source for the village, making a difference in the daily lives of residents and improving the overall health of the community. UNH EWB/SWB plans to travel back to the community of Cet-Kana in May 2016 to start the implementation of the spring box.

## *Domestic Project: Mashpee Wampanoag Tribe*

UNH EWB/SWB recently reached out to several Native American Tribes in the New England area, seeking a partnership which would allow students to work with a more local community on an engineering project. UNH EWB/SWB was able to travel to Mashpee, MA on March 28<sup>th</sup>, 2015 to meet with the Wampanoag Tribe, whose main goals are economic security & food sovereignty. The tribe plans to construct an oyster treatment and distribution center to complement their current oyster farm, which doubles as an award-winning nitrogen reduction initiative in Popponeset Bay. They have asked UNH EWB/SWB to design on-site storm water management infrastructure for the distribution center, with the goal of protecting nearby water sources from site runoff.



## ALLOCATION OF FUNDS

Every dime of UNH SWB/EWB sponsorship money goes directly toward the group's projects. The trip costs normally break down into two categories:

- Travel and Lodging Costs:
  - Airfare
  - Lodging & Food
  - Rental Vehicles/Taxis/Drivers
  - Required Immunizations
  - Visa/Exit Fees
  - Group Activity- 1 day
- Project Costs:
  - EWB- USA HQ Program Fees
  - Testing/Lab Supplies
  - Building Materials
  - Machine Rental for Building
  - Labor Costs
  - Maintenance Supplies



**\*Detailed budgets are outlined on the next page.**

All other costs associated with UNH EWB/SWB (chapter events, conferences, etc.) are covered by fundraising and/or grants. Our sponsor funds are used as described above; however, if a sponsor wishes to support a specific project or effort, UNH SWB/EWB will ensure that those funds are allocated in a proper manner. The group takes sponsors' support very seriously, and financial accountability and organization are top priorities.

NOTE: Because our Domestic Project is brand new, it is not included in the sponsorship funding plan until the funding requirement and additional details are known. This being said, the same principle applies to any sponsor looking to support this cause solely.



**Peru Assessment Trip\_January 2015**

5 Group Members

<b>Total Cost</b>	<b>\$7,477</b>
<b><u>TRAVEL/LODGING COST</u></b>	<b><u>\$6,678</u></b>
<b>Travel</b>	<b>\$5955</b>
<i>Airfare</i>	<i>\$5,300</i>
<i>Drivers, Exit Fees/ Visas, Gas</i>	<i>\$638</i>
<i>Taxi</i>	<i>\$17</i>
<b>Food &amp; Lodging</b>	<b>\$644</b>
<b>Group Activity (Marcahuasi Excursion)</b>	<b>\$79</b>
<b><u>PROJECT COST</u></b>	<b><u>\$799</u></b>
<b>Project Materials &amp; Equipment</b>	<b>\$194</b>
<i>Radio</i>	<i>\$52</i>
<i>Sim Card w/ minutes</i>	<i>\$12</i>
<i>Lab Supplies</i>	<i>\$71</i>
<i>Sodimac (Pipe Fitting and Misc. Hardware supplies)</i>	<i>\$59</i>
<b>EWB-USA HQ</b>	<b>\$605</b>
<i>Program Quality Assurance</i>	<i>\$2000</i>
<i>Less EWB-USA HQ Subsidy</i>	<i>-\$1395</i>

During the 2015 January assessment trip to Peru, UNH EWB/SWB determined the feasibility of types of drinking water treatment systems in San Pedro de Casta. A flow meter was installed directly into the town's drinking water supply line, and the town's water was tested for contaminants, particularly fecal coliforms. The travel team took a day to explore Marcahuasi to gain a better understanding of local culture, improving UNH EWB/SWB's ability to work with the community.

**Uganda Implementation Trip\_January 2014**

5 Group Members

<b>Total Cost</b>	<b>\$17,198</b>
<b><u>TRAVEL/LODGING COST</u></b>	<b><u>\$15,810</u></b>
<b>Travel</b>	<b>\$14,122</b>
<i>Airfare</i>	<i>\$11,291</i>
<i>Drivers/ Taxis</i>	<i>\$1,276</i>
<i>Gas</i>	<i>\$1,255</i>
<i>Exit Fees/ Visas</i>	<i>\$300</i>
<b>Food &amp; Lodging</b>	<b>\$1,688</b>
<b><u>PROJECT COST</u></b>	<b><u>\$1,388</u></b>
<b>Labor</b>	<b>\$600</b>
<i>Translator</i>	<i>\$600</i>
<b>Project Materials &amp; Equipment</b>	<b>\$788</b>
<i>Nails</i>	<i>\$30</i>
<i>Barbed Wire</i>	<i>\$49</i>
<i>Bleach</i>	<i>\$29</i>
<i>Water Quality Test Kit</i>	<i>\$184</i>
<i>Misc.</i>	<i>\$496</i>
<b>EWB-USA HQ</b>	<b>\$0</b>
<i>Program Quality Assurance</i>	<i>\$1500</i>
<i>Less EWB-USA HQ Subsidy</i>	<i>-\$1500</i>

During the 2014 January Implementation trip to Uganda, UNH EWB/SWB tested and disinfected wells, taught the local people how to perform monthly maintenance on their pumps, and helped villagers build fences to keep animals away from the wells. Students also partnered with the local water committee to support their efforts in bringing safe, reliable drinking water to the community.

# SPONSORSHIP CATEGORIES

## Corporate Sponsors

Businesses looking sponsor SWB/EWB

Corporate Gold: \$5,000 + a year

Corporate Silver: \$1,000- \$4,999 a year

Corporate Support: Under \$999 a year, including our non-funding sponsors

## Private Sponsors

Individuals looking to sponsor SWB/EWB

Private Gold: \$2500 + a year

Private Silver: \$500-\$2,499 a year

Private Support: Under \$499 a year, including our non-funding sponsors

### Gold Levels:

Recognized on:

- SWB/EWB T-shirts
- All SWB/EWB presentations
- Sponsor's Page of website

Will receive Bi-annual report

### Silver Levels:

Recognized on:

- Sponsor's Page of Website

Will receive Bi-annual report

### Support Levels:

Will receive Bi-annual report



EWB-UNH respects sponsor privacy, and keeps donation and personal information private.  
Any sponsor looking to be kept anonymous will have their rights respected.

## Contact:

Sponsorship Inquiries: [corporatesponsorship.unhewb@gmail.com](mailto:corporatesponsorship.unhewb@gmail.com)

All Other Inquiries: [unhewb@gmail.com](mailto:unhewb@gmail.com)

## 2015 Executive Board

President: Paige Balcom

Vice President: Allison Wood

Uganda Project Leads: Ashley Filion, Nicolette Niemiec

Peru Projects Leads: Katie Rocci, Joanna Lewis

Peru Nutrition Project Lead: Charolette Chico

CFO: Andrew DeMeo

Secretary: Meghan White

Sponsorship Chair: Torey Brooks

Grants Chair: Alex Chase

Social Media Chair: Renee Loeffel

Recruitment Chair: Becca Kammerer