



DISTRIBUTIONS

PROGRAM UPDATE

UGANDA

By: Bella D'Ascoli
Uganda Design Lead

Despite the many difficulties that 2020 through 2021 brought to the world, the Uganda program has been steadily chugging along with the design of a gravity fed water distribution system in Nakyenyi, Uganda.

The Uganda program met online for the first part of 2021. Virtually, students had to navigate maintaining long-distance connections and combating burnout. While none of this was easy, the program began playing online games at the end of our meetings to allow members to decompress and connect with one another. When the Uganda program began meeting in-person in the fall, the program began to hold monthly bonding meetings. These meetings give students a break from the design work they do every other week and allow members to get to know each other.



Uganda Program Members Supervising the Drilling of a Borehole from the December 2019 Implementation Trip to Nakyenyi.

However, not everything is fun and games. In addition to staying connected online and in person, the Uganda program has been working hard to write a detailed design report for the distribution system. This extensive report contains everything there is to know about the system and the community it is intended to support. Almost every member of the Uganda program has contributed to this report in some way, whether it be with CAD drawings, technical writing, formatting, or research. This report was difficult to collaboratively create online, but the team pulled through. After almost a full year of writing and editing, the detailed design report is almost ready for approval by EWB-USA.

Not only did the program members have to maintain contact online within the US, we also had to connect with the in-country team in Uganda. Keeping in contact with the Nakyenyi community waterboard and the Uganda in-country office has been crucial for designing the distribution system. While this challenge is not unique to the Uganda program, our program additionally had to navigate changes in our partner non-governmental organization (NGO). EWB projects typically partner with an NGO to better connect with partner communities. In the fall of 2021, the CEO of our partner NGO, the Buddu Social Development Association (BUSODA), passed away unexpectedly. As BUSODA is a relatively small organization and the CEO was our primary point of contact, the CEO's passing represented a significant hurdle in communication. After much discussion with our in-country partners, the Uganda program decided that the best course of action was to allow the community Water Board to take on many responsibilities previously handled by BUSODA. The community of Nakyenyi now plays a larger role in sustaining the project momentum.

Additionally, the Uganda program is in the process of planning and setting up an implementation trip for the summer of 2022. Our program has been quickly applying for grants, finalizing CAD drawings, and creating cost estimates so that we are ready whenever it is safe to travel again in 2022. The challenges brought by 2021 have strengthened our program, and we look forward to the adventures that 2022 will bring!

PROGRAM UPDATE

PANAMA

By: Peter McKay
Panama Design Lead

Throughout 2021, the Panama program has been working hard to make progress remotely on the program's projects in La Pedregosa and Las Delicias. For the Las Delicias project, the spring semester was spent supervising the final construction of the water system over Whatsapp, as well as finalizing the Operations and Maintenance Manual to guide the community in system upkeep.

During the summer and fall semesters, a small-scale alternatives analysis was performed to address repairs to the Las Delicias system. Currently, the system includes a high-pressure above-ground bridge crossing by the distribution pipeline. Recent precipitation has caused frequent bridge flooding which washes away the concrete slabs covering the pipeline for protection, leaving the pipeline susceptible to damage. The return of masked in-person meetings on campus this semester has allowed the team to dive deeper into this issue, addressing it in a group setting that is conducive to creative problem-solving. The team selected a solution of bent rebar attached to the bridge to hold the plates in place. This design should be implemented either remotely by community members or during the next in-person implementation trip in 2022.



Photo from the Original Construction of the Above Ground Bridge Crossing from the March 2018 Implementation Trip.

For the La Pedregosa project, the team spent 2021 preparing for the remote implementation of a water well, which should begin in the next month. Due to the uncertainty associated with both drilling into unknown subsurface conditions and remote implementation in general, the team has gone above and beyond with

contract writing and implementation planning to be certain that the needs of the design and the community are met by the hired contractors. A final contract signing is anticipated in the coming weeks, but is contingent on repairs to the road into the community which will allow drilling machinery access. These road repairs have been initiated by the community and our partner NGO, Sustainable Harvest International. The repairs were partially funded by a settlement received by the community from a local wind farm company considered partially culpable for damage to the La Pedregosa water supply.



Picture of a La Pedregosa Community Meeting from the March 2020 Assessment Trip.

Meanwhile, certain groups in the Panama program have been working on the future implementation phases of the La Pedregosa project. One design group spent the summer preparing for the construction of a reinforced concrete storage tank. They calculated the storage needs of the community and the structural constraints of the necessary tank, then drew out plans to be used for the implementation. Likewise, a design group in the fall semester has been dedicated to preparing designs for the third phase of the project: an electric pump and solar array. After completing their evaluation of the available solar power and power needs for the system throughout its lifespan, a preliminary model for the solar array will be prepared. This model will have the capacity to respond to new information as more is learned through well drilling implementation and future surveying activities.

As we have transitioned from over a year of virtual work on our projects to in-person meetings, we have been able to regain a greater sense of community (through events like Halloween cookie decorating, and our annual chapter-wide bootcamp) in the Panama program. As we have been able to work and communicate more efficiently, we have in turn taken big steps towards completing the Las Delicias and La Pedregosa projects this semester.

PROGRAM UPDATE

GUATEMALA

By: Thomas Cahill
Guatemala Program Director

The Guatemala program has seen great progress throughout the summer and fall of 2021. The village of Chuixil is now home to the newest school in the region, seated at roughly 5,200 ft above sea level. Remote implementation over the past year has led to great success in the complete construction of their three classroom school structure. The community could not be more excited to start using the new structure, and our team members are in the midst of working on our phase II bathroom and wastewater system plans.

Due to the Covid-19 pandemic, our team was unable to travel to the community to oversee initial foundation construction in 2019. With the great resilience of the community members, the in-country Guatemala office, and our members here in Boston, we were able to all work together to alter our initial plans and successfully follow through with remote implementation. Through virtual calls using WhatsApp and Google Meets, we were able to maintain contact with the Chuixil community throughout the height of the pandemic, ensuring safety and Covid-19 protocols were followed at all times as construction ensued. The three-classroom, office, and kitchen structure has been completed, and the windows and doors of the structure are set to go in this December. The Chuixil community hopes to open the school's doors to students very soon! With the completion of the structure came a firework celebration that our team members were able to see through videos sent from the community. This was only the first of two phases of the project in Chuixil, Guatemala. While remote construction has been ongoing for the past few months, our members have been hard at work delving into the phase II design plans for a bathroom structure and leach field system.

Phase II designs have been successfully coming together in the past few months, with hopes of remote implementation in early 2022. The bathroom structure will consist of three stalls and a separate hand wash station. The outlet of the bathroom as well as the hand washing station will be tied into our septic tank and leach field system to dissipate waste material into the ground. In September, our members were able to work with an in-country engineer to gather new elevation data after much of the site was leveled and regraded during the construction of the school. This allowed our members to layout the elements of our phase II construction plans, create drawings and CAD models, as well as complete calculation sets to ensure that the system will function properly.



The Finished School Building in Chuixil, Guatemala!

Despite the challenges of Covid-19 and continued travel restrictions, the resilience of the community members, the in-country EWB Guatemala office, our mentors and student members have allowed this project to continue with great success. After seeing the success of the school being built and keeping our ambitions high, we expect our phase II construction will go just as smoothly. As we begin to wrap up the plans for the second half of this project, the Guatemala program is working with the EWB in-country Guatemala office to take on a new structural project in a nearby region. With the hopes of travelling to Chuixil in late spring of 2022 to perform an evaluation of phase I and phase II construction, we additionally aspire to complete an assessment of a new community project. We are ecstatic about the completion of the phase I school structure, as this could not have been completed without the help of our dedicated current and past student members and mentors over the past few years. We know the success we have had with our partnership communities in Guatemala will only continue to grow as we work to complete this project in Chuixil and look towards working with another community in 2022.



Another Angle of the Finished School Building in Chuixil.

MEMBER SPOTLIGHT



Uganda Spotlight

Sam Hemphill is a third year environmental engineering student who has been an integral part of the Uganda program since she joined in fall 2018, in her freshman year. She joined EWB for the experiential community service opportunities provided by the program. She began her involvement with the alternatives analysis group, then worked her way up through the hydraulics group, and is now leading the construction group. In the construction group, Sam is working on getting estimates from contractors as well as working with other group leaders on our detailed design report. She continued to lead the construction group throughout the online meetings during the pandemic. What keeps drawing Sam back to EWB every semester are the people and the sense of community that it fosters. We are extremely lucky to have Sam in our program and can't wait for her to do more amazing things in the future!

- By Bella D'Ascoli



Panama Spotlight

Richie Wiater is a third year civil engineering major who joined the Panama program last year during the height of quarantine. Since joining, he has been integral to the success of the program. As part of our borehole planning team, he has helped tremendously with research into well-drilling, cost estimating and technical drawing, and writing the report for the remote implementation planned for this winter.

This semester, Richie has stepped up into the role of group lead for our grants teams. Richie has consistently approached the role with enthusiasm, leading his group in grant writing and submission. Several grants applications have been completed under his guidance this semester. This December, EWB-USA NEU found out they won one of these grants: a \$5000 award from Pratt & Whitney! Beyond writing, this group has taken on a wide variety of fundraising tasks like poster making for our chapter's donor reception. Overall, Richie and the group go above and beyond to support the success of the program.

This September, Richie earned the role of Distributions Editor for the chapter, though we insist there was no collusion in selecting him for a member spotlight in this Distribution. Instead, he has earned that role and the spotlight by being consistently committed to the success of the program and a great teammate to work with every week. We believe Richie will continue to succeed as a leader in Engineers Without Borders in the coming years.

- By Peter McKay



Guatemala Spotlight

Jillian Brislin is a fifth-year civil engineering student and has been involved in the Guatemala program since January 2021. She joined EWB to help out with the structural design of the Chuixil school bathroom facility, and has been a leading member of the structural team. Jillian enjoys the opportunity "to apply what [she's] been learning in classes to a real project that will benefit others".

Since joining the project, Jillian has worked on structural calculations, such as determining loads, running analysis, and performing design checks. Her hard work and dedication has been important for the progress on the bathroom design. She often shows up early to meetings and stays late to continue working on the project. During weekly meetings, Jillian can be found teaching some of our new members how to use structural analysis software and perform calculations.

Jillian has been a major contributor to the Guatemala project. We are glad to have her in our program as she has been vital to the design work we have accomplished in the past year. Thank you for all of your hard work Jillian!

- By Claire Orkild

FINANCIAL UPDATE

By: Rachel Cohen
Vice President of Development

Now more than ever, fundraising is a critical part of the work that the Northeastern University Chapter of EWB-USA (EWB-USA NEU) does to support thriving infrastructure projects around the world. 95% of project costs are expected to be covered by EWB-USA NEU, which makes fundraising extremely important to maintain strong partnerships with the communities we work with. Our funding comes from three main sources: Corporate donations, personal donations, and grants.

Corporate partnerships are very important to EWB-USA NEU, and we are incredibly appreciative to all the companies that have supported us through the years. Students present to over 10 companies to update existing partners about new work on our projects each year, and are able to create connections with new corporations.

In any given calendar year, our personal donations rival the dollar amounts of our corporate donations, demonstrating how strong and varied our network of supporters is. Every December, the Year End Giving Campaign takes place, which is our end-of-the-year push for fundraising. This campaign allows us to reach our personal donors including family, friends, students, and alumni. Our goal for this year is to raise \$6,000 to support the upcoming travel many of our programs are planning in the next 6 months. The campaign is particularly important this year, because all three programs in EWB-USA NEU are planning trips to their partner communities in 2022, for the first time since the Covid-19 pandemic began in March of 2020.

Also for the first time in more than two years due to Covid-19, EWB-USA NEU held a reception on December 2nd to thank all of our donors and mentors. Events like this help to maintain relationships with current and past donors, recent alumni, and professionals who have provided technical assistance. The attendees enjoyed food, drinks, and trivia as each program provided an overview and update on each project.

In addition to our generous donors, EWB-USA NEU's work is supported by external grants that we search and apply for. Our programs have designated grant groups that are in charge of the

research and application to these funds. Students in these groups gain technical writing skills, expertise in the technical and financial details of our projects, and experience in professional communication. This fall, the Panama program has submitted two grant applications, and the Uganda and Guatemala Programs have worked diligently writing closeout reports for our previous successful applications. This December, the Panama program found out one of their submissions was a success! They received a \$5000 award from Pratt & Whitney. We hold chapter-wide finance meetings on a bi-weekly basis to work on fundraising together, and allow the grant groups to collaborate.

In the coming spring semester, EWB-USA NEU will begin our corporate presentation cycle, keep a steady pace on grant writing, and continue looking for new ways to raise money through fundraising events. We have historically partnered with nearby businesses such as Chatime and Panera, which we will be looking to do again. Generally, these partnerships consist of EWB-USA NEU receiving a percentage of the revenue the restaurant earns within a certain window of time. They are mutually beneficial partnerships because EWB-USA NEU advertises the business so they receive more customers while receiving some of those proceeds.

None of the fundraising we do would be possible without our amazing donors, teams of students, and mentors. I'd like to especially thank the students involved in our finance committee and grant groups who take the time to understand the development aspects of EWB and put in the effort to make our projects financially feasible.



Photo of the EWB-USA NEU Donor Reception on December 2nd, 2021.

INTERNAL EVENTS

By: Rotem Leshed
Director of Internal Events



Pictures of EWB-USA NEU Members at the Charles River Kayaking Event (a.k.a. EWBoat).

Through an initiative to strengthen the connection between our members, EWB-USA NEU has organized social and professional events to be attended by members from all three programs. This past summer, as students were starting to move back to Boston, EWB-USA NEU decided to host a fun and safe activity for everyone to meet in person for the first time in a long time - kayaking on the Charles River! At this time, all of our technical meetings were still virtual, but many of the pandemic restrictions were lifted. Members were able to reconnect with Boston and EWB friends, as many students had moved away for over a year. Members from the Panama, Guatemala, and Uganda Programs joined together on the water and we all had a great time!

As the Fall Semester was ramping up with in-person meetings and new members, the annual EWB Bootcamp was held once again. Bootcamp is an all-day event for new members to learn from experienced members about each phase of the EWB project process. These phases include partnering with a community, assessment phases, design phases, implementation, monitoring, and evaluation. Members also worked in small groups on design activities led by more experienced members. These activities follow a theoretical project and allow members to use their problem solving skills in order to more easily understand their own chapters' projects. Overall, Bootcamp 2021 was a success!

Next semester, we are planning on organizing a few more events outside of our weekly working meetings. We are excited for: EWBike - a biking trip to the Arnold Arboretum and EWBlades - ice skating in the North End! These events further create a strong bond between our members and therefore allows us to be comfortable working together when implementing our EWB-USA NEU chapter projects.

Thank you to our Professional Mentors!



Left: Bill Clunie — Uganda



Ron Burns — Guatemala



Brandon Hornak — Panama

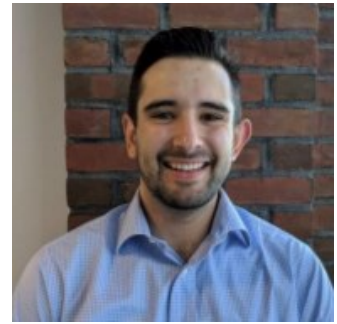
Right: Helena Hollauer — Panama & Uganda



Mike Sanders — Panama



Emily Korot — Guatemala & Panama



Zach Lozon — Guatemala

EWB-USA NEU OFFICERS

President	William Kovarik	Guatemala Program Director	Claire Orkild
VP of Administration	Rosa Delgado	Guatemala Design Lead	Thomas Cahill
VP of Development	Rachel Cohen	PR and Recruitment	Tracy Qiu
Treasurer	Michael Stamm	Webmaster	Jason Olszewski
University Representative	Ben Lanava	Technical Director	Nick Muellers
Secretary	Leah Ragosta	EWB-USA Liaison	Beatrice Pforr
Uganda Program Director	Isabella Olivia	Director of Internal Events	Rotem Leshed
Uganda Design Lead	Bella D'Ascoli	Director of External Events	Isaac Wolberg
Panama Program Director	Roy Golan	Distributions Editor	Richie Wiater
Panama Design Lead	Peter McKay		

Thank you to all of our supporters, big and small!

Gold Sponsors (5000+)

Roberta Ferriani and Timothy McGrath

Richard and Kathleen Scranton



Silver Sponsors (2500+)

The Dean Scranton Fund

Susan Botticello

Heather and Thomas Ford

The Crowley Family Charitable Trust



Bronze Sponsors (1000+)

Andrew and Eileen Franko

Zach Pierce

Alfred F. Anderson



And so many more!

How to Donate

Please consult the information below on how to donate. All donations are tax deductible.

Online:

<http://www.ewbneu.org/donate/>

Mail:

EWB-USA NEU
400 Snell Engineering Center
330 Huntington Avenue
Boston, MA 02115

Checks made payable to EWB-USA NEU
