

**2024**

# Spring Donor Report



**ISSUED APRIL 13TH, 2024**

## Context Committee, East Africa, Guatemala, and Local Program Updates



ENGINEERS WITHOUT BORDERS

UNIVERSITY OF MINNESOTA

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# THANK YOU

## A LETTER FROM OUR PRESIDENT

Dear EWB Community,

It is hard to put into words all of the amazing things our chapter has accomplished this last year, even more so the last four years that I have been involved with our chapter.

When students initially join EWB, it is often due to their interest in the work we do, persuasion from friends, or simply the allure of free food. However, I find the reasons that students stay in EWB to be even more intriguing. The work we do exposes students to the technical and not-so-technical aspects of engineering. Students find a community with their peers, and form friendships that go beyond weekly meetings. Through our work, they become more adept at facing challenges and persevering, and appreciating the joys even in difficult moments.

Throughout my tenure in EWB, I have witnessed a myriad of experiences – Project startups, wrap ups, and cancellations, and the return of project meetings in person after many years. Navigating the yearly change in students, subgroups, projects, and admin, and attending numerous recruitment events in the fall to encourage new students to join. Stopping to have fun and compete in kickball tournaments, walk in homecoming parades, and annual camping trips. In all of these moments, there is a clear sense of camaraderie among our students.

It was an amazing year to be the president of EWB-UMN, thanks to the collective hard work all our students and admin team put in. We had a new project assessment trip with a community in Guatemala, remotely implemented a borehole with the St. Pius School in Malawi, and continued to foster our relationships with our multiple local partnerships. Moreover, our fundraising, finance, and marketing efforts were extremely successful this year, and in the midst of it all, we were able to have numerous events, CC presentations, and construction seminars for students to have fun and learn hands-on skills.

It has been amazing to see students grow as a part of EWB over the years. We all start as nervous newbies, but adapt quickly to the EWB environment. Whether students join for only a semester or all 4 years, I think EWB leaves an undeniable impact. Speaking from my own experience, EWB has connected me to some of my best friends in college and has helped me grow as a person. Learning to appreciate the bigger picture of our projects beyond just the technical aspects has helped me learn there is no one correct solution to a project. I have become better at knowing it's okay to not know all the answers, and it's okay to ask for help. The lessons and skills I have learned from being a part of EWB will continue to guide me as I progress in life. I believe many of our students would share this sentiment.

I want to say thank you to all of our students, mentors, faculty advisors, both current and alumni, for all the work that you have done over the years. It has been such a joy to be a part of our chapter for my college experience, and to see all that we have been able to accomplish during that time. I wish you all the best, and I cannot wait to see what our chapter will accomplish in the future.

Thank you,



Hannah Ramshak

*President*

EWB-USA University of Minnesota



# Guatemala Program



Program Leads - Wesley Barnhart and Priscilla Bunday

## Current Project: Simajhuleu

The 3,500 residents of Simajhuleu in Comalapa, Guatemala regularly face challenges in accessing clean drinking water. Despite owning 3 freshwater springs capable of producing 80 liters of water per person per day, the existing water distribution delivers less than a quarter of this capacity. The chapter previously collaborated with the community in 2009 to install a rainwater harvesting system atop the local school, but with the community's subsequent growth, there is now a pressing need to expand their water distribution infrastructure.

During the assessment trip in January, the team discovered that there were numerous undetectable leaks in the current water distribution system. As a result, our upcoming project will involve resolving these issues to ensure that the community has sustainable access to safe, sufficient drinking water.

## Subgroups

This semester, the project is divided into 4 subgroups:

- **Water Quality:** This team is working on determining the chlorination needs for the community and strategies for protecting spring boxes from rainwater runoff.



# Guatemala Program

- **Pipelines:** The Pipelines subgroup is working on creating an EPANet model of the existing water system. They will be a key design subgroup and will determine what water meters will be implemented in January 2025. In addition, they will create a procedure for detecting and fixing leaks in the system.
- **AutoCAD:** The AutoCAD subgroup was combined with the Pipelines subgroup for the first half of the semester, and they are now working on spring box designs in AutoCAD. They will be creating the plan sets for implementation.
- **ArcGIS Surveying:** The ArcGIS Surveying subgroup has been central to ensuring an accurate understanding of the community needs and the physical layout of the community and system. They have been working on our ArcGIS model of the community and reviewing the demographic surveys conducted in-country to compile an overview of common needs and wants for the project. They also standardized the house naming convention to simplify implementation and design.



## Next Steps

In the coming months, the Guatemala project will focus on creating designs for the new spring boxes, installing water meters and water meter boxes, and developing a standardized procedure to help the community troubleshoot the system independently. The first implementation trip during the 2024-2025 winter break will focus on installing water meters at strategic valves within the system to track water loss across each community sector.



# East Africa Program



Program Leads - Karolina Perry and Madelynn Mikkalson

## Current Project: Malawi

Our current project is with St. Pius Primary School, located in the Zomba district in Southern Malawi. The school currently faces significant sanitation and hygiene challenges with approximately 2,500 students and only 3 functioning latrine blocks. Initially, the school provided 9 restrooms for 1,400 female students and 7 for 1,200 male students. However, the aftermath of severe weather events, including heavy rains and the impact of Cyclone Freddy, damaged existing latrines. Consequently, the collapse of several facilities has left only 7 latrines for female students and 5 for male students. The Malawi Project aims to address these issues by designing and building new latrine blocks, and creating a water distribution system to provide readily available drinking water.



## Subgroups

The East Africa Project is divided into 3 specialized subgroups addressing infrastructure needs:

- **Water Tower & Tank:** This subgroup designs the water tower and tank infrastructure to ensure optimal water storage and distribution. They consider structural integrity (including resilience against environmental events like Cyclone Freddy), height requirements, and load variations.

# East Africa Program

- **Pump and Piping:** Focuses on designing the water distribution system throughout the school. They research piping materials and tap stand designs, and use EPANET modeling to optimize water pressure and ensure efficient delivery.
- **Sanitation:** This team tackles sanitation challenges by designing latrine blocks, crafting implementation schedules, and developing sanitation initiatives. These include soap-making education and a handwashing mural.
- **Future Community Search:** We may also be forming a new sub-group to lead the new community search and find a new project. They will be developing a decision matrix to help aid the selection process.



## Next Steps

The upcoming months will center around preparation for the August travel trip. This trip offers hands-on experience for both students and mentors, as they will travel to the community to implement the water distribution system and construction of the latrines. Additionally, they will gather PMEL data to ensure that our efforts align closely with the identified needs of the community. They will also assess the potential for expanding their work by establishing a partnership with a new community within the Zomba region.





# Local Program



Program Leads - Jade Murray and Sofia Gerasimchuk

## Current Project: Pilgrim Baptist Church

The Local Program has continued to develop its partnership with the Urban Farm and Garden Alliance (UFGA) through the ongoing project at the Pilgrim Baptist Church Community Garden. This past winter, the team continued designing accessible pathways, garden boxes, composting bins, and a rainwater catchment system. We are happy to announce that the implementation of these designs is currently underway and expected to finish by the end of May!

## Next Steps

The Local Program is currently in the process of selecting a new, long-term project. As our relationship with UFGA continues to grow, we are searching for new communities to engage with. In the past several weeks, we have met with a variety of organizations and community representatives, spanning from the Twin Cities and greater Minnesota Area, to Mississippi and Arizona to discuss possible partnerships. Collaboration with the Community Engineering Corps and the Minnesota EWB Professional Chapter has connected us to many communities and potential projects. We have also explored collaborating with the University of Minnesota - Duluth and University of Arizona EWB Chapters for this new project. We are working to determine a project that is the right fit for our group and have been weighing each project on the basis of the following criterion: technical level, availability of future funds, student interest, mentor access, and the potential project's workload carrying capacity.



# Context Committee

CC Leads - Conrad Rodriguez and Keezhan Hamasoor

## Who We Are

The purpose of the Context Committee is to bring discussion on the non-technical aspects of engineering and focus on the ethical, social, and political aspects. We started the year with our awareness presentation on how we need to be aware of our intentions vs. our impacts on the projects we implement, as well as what our purpose is as an organization.

## What We Do

We recently introduced a new idea in the Context Committee, which is CC blogs, where our members write blogs highlighting the non-technical aspects of STEM. Some topics covered in our blog include the impact of the interstate through the Rondo neighborhood, our intention vs our impact when working with communities, and the cultural experience a travel team member experienced during a project implementation, and more.

The Context Committee also has helped our travel team members better prepare for their implementation and assessment trip through special discussions about the cultural norms and traditions of the destination country, as well as hosting a debriefing session about the trip after they were back.



## Our Work

Recently, we presented insights to our EWB members on effective conflict management, delving into various conflict resolution styles. This involved analyzing conflict dynamics across diverse scenarios, undertaking a self-assessment quiz to identify individual conflict styles, and applying this new information to real-world scenarios.

The Context Committee is currently working on creating informational brochures to offer comprehensive project summaries. The objective is to provide both prospective and experienced members with a deeper understanding of our projects to enhance overall organizational awareness and the context of our operations.



# Other Initiatives

## Technical Seminars

This semester, we are hosting seminars on Pipelines, Concrete & Woodworking, Chlorination, and Topography. These sessions offer students valuable opportunities to practice technical and hands-on skills essential for our projects. Moreover, these seminars foster a collaborative environment, allowing students and mentors to strengthen their relationships and teamwork beyond typical project activities.



## Marketing Meeting

The Marketing Team is comprised of the Fundraising and Creative Teams. The Creative Team creates all physical and digital media and runs our social media and websites. This year, we worked on projects such as merchandise, business cards, and donor reports.

This year, the Fundraising Team focused on connecting with donors and finding different funding streams ranging from University to Rotary grants.



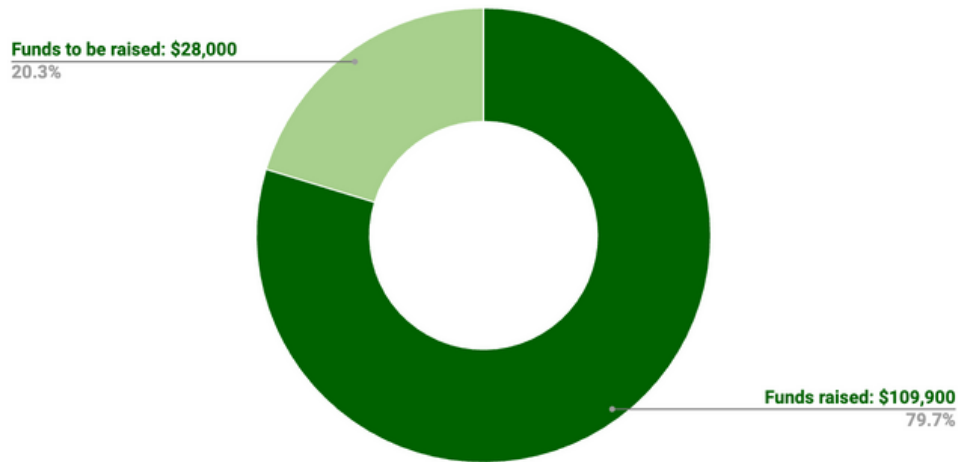
## Member Engagement

We started off this semester with various recruitment activities, ranging from the Spring activity fair to our general meeting. Our members have also participated in community-building events, such as a cabin camping trips, Habitat 4 Humanity volunteering events, study nights, and Giant Jenga!

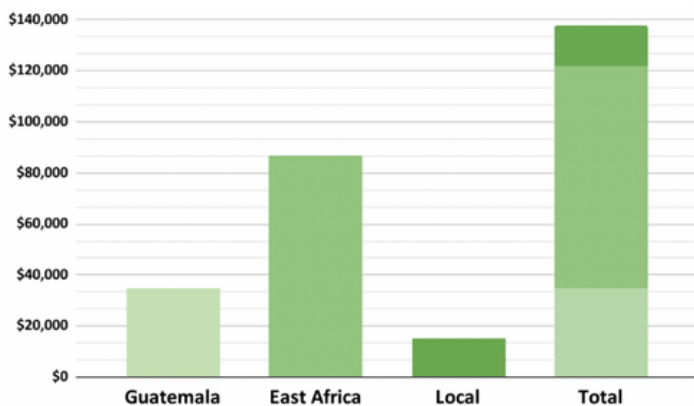


# Financial Update

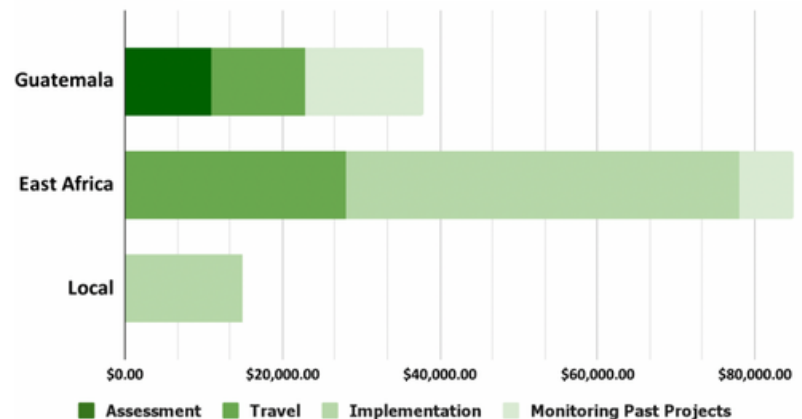
**Total 2023-2024 Budget: \$137,125**



## Cost Projection: 2023-2024



## Detailed Cost Projection: 2023-2024



Out of the \$109,900 that have been raised, \$36,000 was obtained from donor contributions during Give to the Max Day and \$29,000 was obtained from the Student Service Fee (SSF). SSF is a pool of funding for clubs in the University. Clubs can apply for this funding and it can be used for operational and event expenses. The remainder of the funds are from external and university grants.

The remaining \$28,000 will be raised by applying for grants such as the College of Science and Engineering (CSE) Spring Small Grant, Rotary contributions, MN Concrete Council grant, and the National Council of Examiners for Engineering and Surveying (NCEES) grant.

The cost projection for this year is detailed above.