



# ENGINEERS WITHOUT BORDERS USA BOSTON PROFESSIONAL CHAPTER



## SUMMER 2020 NEWSLETTER

*Engineers Without Borders was founded in 2002 with a simple goal: to help small communities in the developing world meet basic infrastructure needs by connecting them with engineers with experience in those areas.*

*The Boston Professional Chapter of EWB (EWB-BPC) was created in 2005 to further this mission. We are a group of people from many different professions (no, you do not have to be an engineer to get involved with EWB!). Together, we strive to make the Greater Boston area and the world a better, more sustainable place.*

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# COVID-19 Update:

The COVID-19 pandemic has affected every single one of our lives and has changed EWB-BPC's plans for our community development projects. EWB-USA HQ has issued a statement that travel will be prohibited through the end of 2020.

With an implementation trip for two of our projects scheduled for August 2020, we have had to reassess our plans. These plans are detailed in the following project updates. While COVID-19 brought much of the world to a halt, EWB-BPC continues to push forward to assist our partner communities in Tanzania. We hope that they, our members and their families continue to be safe and in good health.

## International Community Projects:

### Chamhawi Water Supply Project

The Chamhawi Water Supply project is moving right along, despite the setback from COVID-19. Chamhawi is a rural community in the Dodoma region of Tanzania, where the main source of water is a contaminated river. The original plan was to send a team to the community in August to oversee the drilling of a borehole and installation of a hand-pump. Due to COVID-19, EWB-BPC is moving forward with plans to implement remotely instead, as long as it is safe for the community. EWB-BPC has issued contract award documents to the selected borehole drilling contractor, Masochi Water Resources Exploration Company. This first phase of the project will involve drilling a well, testing its water quality to ensure that it is safe for consumption, and outfitting the borehole with a hand pump for immediate use.

Assessment for Phase Two, which includes the installation of a solar pump, panel and interim storage tank, will wait until we can be on the ground, hopefully in early 2021.

In preparation for its new water source, relevant community members of Chamhawi will undergo Community-Based Water Service Organization (CBWSO) training in July and August, so that when the well is drilled and operational, the community can immediately begin to manage the system and implement a sustainable operations plan.

EWB-BPC will continue to pursue fundraising with our partner, Trinity Episcopal Church in Canton, MA, to hopefully be in a position to move forward with Phase 2 once a viable well has been secured.



Pictured above are the community of Chamhawi representatives, Albert Galahena and James Senyegalo, pointing out the proposed well site to the selected borehole drilling contractor, represented by Madame Mcharo (middle).

### Mkutani Water Supply Project Phase 3

The topographical survey was completed in Spring 2019, but the design was put on hold due to lack of funding.

Now, we are excited to announce that the final design of the 4 km pipeline connecting the borehole to the community will be completed this month! Due to COVID-19 restrictions, we are exploring our options for remote implementation later in the year.





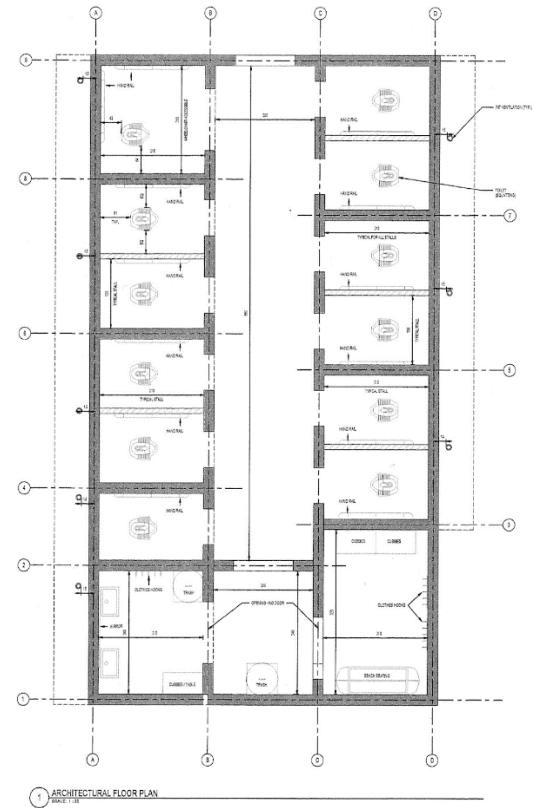
# International Community Projects:

## Mkutani School Girls' Latrine Project

The goal of this project is to provide a judgment-free and clean environment where the girls in the Mkutani primary school can safely go to the toilet and practice feminine hygiene. The pre-implementation trip report is nearly complete. The structural component of the report is in progress and EWB-BPC is working to incorporate a means of providing a consistent supply of water to the latrine block for washing hands, bodies and clothing.

The implementation of this project was planned to take place at the same time as the Chamhawi borehole drilling so that there would be a cross-pollination of necessary engineering disciplines present to help out with both implementations. However, with the new guidelines from EWB-USA, the new goal is to have in-person implementation in early 2021, to coincide with the Chamhawi Water Supply Phase Two assessment.

The drawing (right) of the 12 latrine block is in final revision after review by a structural engineer and the pre-trip report will be submitted to EWB-USA this month.



# Local Community Projects:

## Mashpee Wampanoag: The Community Food Project

A large number of Tribal Nations have developed food sovereignty initiatives on a number of Native American reservations in recent years. Restoring Native food systems is an immediate and fundamental need for the continued survival, and physical and spiritual wellbeing of Native peoples now and into the future.

Restoring the Indigenous food systems translates into support for Tribal self-determination, wellness, cultures, values, communities, economies, languages, families, and rebuilding of relationships with the land, water, plants and animals that sustain them.

These tribal efforts aim to restore a healthy diet to combat diseases such as obesity and diabetes, but they also fight generations of assaults on the health of tribal existence. According to the 2015-2016 First Nations Development Institute food sovereignty report, "local food-system control is foundational to reversing years of colonization aimed at the disintegration of cultural and traditional belief systems and dismantling of Native social and economic systems. If Native communities control local food systems, food can become a driver for cultural revitalization, improving community health and economic development."



As part of this effort, the Tribe has constructed two large hoop houses to grow native plants that have been traditionally used for medicine, food and spiritual needs.

In addition to ensuring survival of these sacred plants amidst the growing threats of climate change and advancement of invasive species in the natural landscape, this important project will also provide a source of physical, medicinal and spiritual nourishment for the Mashpee Tribal members who often lack access to these traditional plants in the natural environment.

The Mashpee Wampanoag Tribe has agreed to partner with Engineers Without Borders-Boston Professional Chapter in developing a pressurized irrigation system that meets the water demand of the newly constructed facility. The current operation consists of an existing 6-inch drilled well with a submersible pump and hydropneumatic tank, and a 2-inch main that is installed from the pump/tank system to a juncture, where currently hoses are installed to provide water supply to the facility. However, there is inadequate pressure and flow to deliver the water necessary to meet the irrigation needs. The Tribe seeks assistance in evaluating the capacity of the pump, tank, and pressure system and designing a new system that will meet the irrigation water demand for this important project.

EWB-BPC volunteers will work with Chuckie Green, the director of the Tribe's Natural Resources Department, and Donald Peters, the Director of the Title VI Nutritional Services Program, to evaluate the existing system. System components to be assessed include the pump capacity, static and pumping water level, hydropneumatic tank size and pressure settings, hydraulic losses from the tank to the food sovereignty facility, and system demand. Recommendations will likely entail relocation of the hydropneumatic tank to a higher elevation, adjustment of the pressure settings in the tank, and replacement of pipes with diameters adequate to meet the current demand.

If you are interested in being a part of the team or learning more about this project, please email Catarina Mendes at [localprograms@ewbboston.org](mailto:localprograms@ewbboston.org).



**One of two greenhouses at Maushop Farm, constructed by Donald Peters, Chuckie Green, Fred Spruill, Dale Oakley, Buddy Pocknett, Naomi Lopez Walker, Miles Peters, and Tony Perry**



**Members of EWB-BPC pictured with Chuckie Green, Dale Oakley, Donald Peters and Naomi Lopez Walker at Maushop Farm**



**Director of the Mashpee Wampanoag Tribe Natural Resources Department, Chuckie Green**

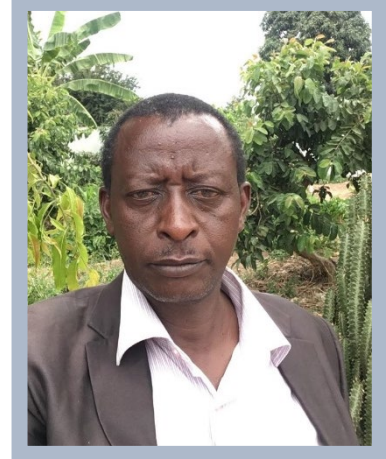


# Profile Spotlight : Semu Nassari

EWB-BPC has been very fortunate to have a committed liaison, Semu Nassari, who goes out of his way to help us complete development projects for rural Tanzanian communities.

Born in Tanzania, Semu Mirau Nassari graduated with a Postgraduate Diploma in Environmental Planning and Management. As an entrepreneur, he manages a hardware store and a fabric shop in collaboration with his family. Additionally, he also maintains dairy cattle for the purpose of supplementing family nutrition while selling the surplus for revenue.





Apart from his entrepreneurial endeavors, Semu dedicates a lot of his time to providing consulting services for community development projects. He has 24 years of work experience with international and local NGOs assisting Rural Community Development Programs and social services. The focus of these projects include, but are not limited to: water supply, sanitation, hygiene, climate change, and socioeconomic improvements. Some of the organizations that Semu has worked with include the Evangelical Lutheran Church, Tanzania/Spain Red Cross society, and Adventist Development and Relief Aid Organization. His work as a country agent/liaison for EWB-BPC started years ago and he has helped other chapters as well, such as the EWB-Harvard and EWB-MIT student chapters.



Pictured, Semu Nassari

See below for some Q&A with Semu Nassari:

## What accomplishments are you particularly proud of in your work?

-  Community water supply sanitation and hygiene projects and the changes these have brought
-  Empowerment of communities for identification of problem solving projects using local resources and skills
-  Capacity building for participatory monitoring and evaluation
-  Environmental conservation and development projects

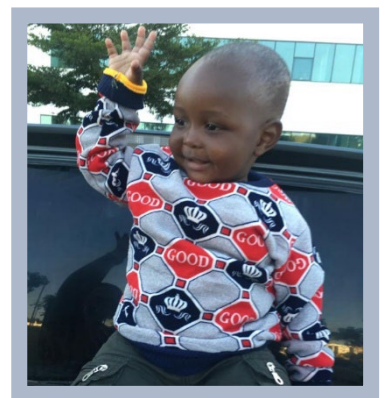
On a more personal level, I am fortunate for having a healthy and happy family, entrepreneurial skills for sustaining family, and prayer and worship.



Above, Semu is picture next to his family

## What do you believe community members in rural Tanzania need most to help improve their quality of life?

I believe appropriate technology that is simple, affordable, and compatible to the villager's environment is needed in all life facets of Tanzania's community. Public health education, entrepreneurship skills and project management, civil rights, and eco-development (poverty, environment and sustainable development) are all areas that are needed to help improve the quality of life for persons living in these rural villages.



Semu's first grandson, Anednego, who recently celebrated his 1st birthday

## Why do you enjoy working with EWB-BPC?

EWB's approach and the highly skilled, upbeat team is what I enjoy the most about working with the organization. I value how the organization focuses on putting the community in the driver's seat, and the team's proactiveness in delivering projects that strictly address the community's needs.

# Executive Committee Elections 2020:

Executive Committee elections will be held on September 16th! Elected and appointed positions that members can run for or be considered for are listed below. If you have any questions or interest, please feel free to reach out to the current officer.

- a) **President (Elected)** : The duties of the President shall be to conduct the operation and business of the Chapter with the elected officers and coordinate with EWB-USA HQ and relevant regional committees. The President shall see that all orders and resolutions of the Chapter are carried into effect.
- b) **Vice President (Elected)** : The duties of the Vice President shall be to perform the duties assigned to him or her by the President, to provide assistance in the operation and business of the Chapter. The Vice President shall, in the absence or disability of the President, perform the duties and exercise the powers of the President.
- c) **Secretary (Elected)** : The duties of the Secretary shall be the preparation of official minutes of all meetings of the Executive Committee and general meetings of the Membership; he or she shall be responsible for internal communication between the Chapter and membership. Additionally, the secretary shall assist in administrative management of all meetings of the Chapter.
- d) **Director of Development (Elected)** : The Director of Development is responsible for overseeing all activities pertaining to fundraising for the chapter. This includes, but is not limited to, fostering corporate relations, overseeing grant applications, and organizing fundraising activities.
- e) **Director of Communications (Elected)** : The Director of Communications is responsible for all external communications, including but not limited to, social media coordination, newsletter and bulletin preparation, and website management.
- f) **Membership Coordinator (Elected)** : The Membership Coordinator is responsible for managing and expanding EWB-BPC's membership base and for recruiting new members to the organization.
- g) **Treasurer (Appointed)** : The duties of the Treasurer shall be to receive, record, and account for income and to pay out, record, and account for all approved expenses of the Chapter; he or she shall be responsible for the accounts of the Chapter and subject to audit as prescribed in the Bylaws of EWB-USA. The Treasurer shall be responsible for providing written, monthly financial reports to the Executive Committee.
- h) **Local Program Manager (Appointed)** : The Local Program Manager is responsible for obtaining and organizing local projects relevant to EWB-BPC, community service events, or external training.

## Meet our Executive Committee !!!



**President,**  
Roisin Floyd-O'Sullivan



**Secretary,**  
Bruce Jacobs, PE, PhD



**Director of Development,**  
Alyssa Stavola



**Director of Communications,**  
Isabel Pires



**Tanzania Program Manager,**  
Barbara Piper



**Chamhawi Water Supply Project Lead,**  
Mike Stover



**Local Program Manager,**  
Catarina Mendes



**Membership Coordinator,**  
Maria Franko



**Treasurer,**  
Charles Conley

# Member Experience: Gin & Tonic

Ryan Barrett, Energy & Technology Team Co-Lead

In 2017, I was in Tanzania, working on a project with EWB-BPC. We were converting a well from a petrol generator-powered pump to a solar-powered pump. After one of the first days of being in the dry heat, I desperately NEEDED a gin & tonic. I could not pay attention to any conversation for the whole ride back to the hotel, located in the capital city of Dodoma. My mind was busy painting a vivid picture of an ice-cold glass covered in condensation, with Bombay and bubbly-bitter tonic perfectly mixed and the ice dancing elegantly in the glass.

We get to the hotel; I throw my bags in my room and meet my co-volunteers at the bar. We wasted no time.

When the bartender arrived, I enthusiastically placed my order, only to be met with a confused look from the bartender (cue record scratch). I understand that I may have been a bit too excited for a G&T, but the bartender then replied: “a what?”. “A gin and tonic” I said again, now questioning myself. Her look didn’t change, but she walked away, then came back a minute later with a bottle of tonic. “This?” she said. “And Gin” I replied. Still confused, we went back and forth for a bit, making very little progress towards obtaining my liquid salvation.

Eventually, she left again, this time came back with an adorable little bottle of gin, asked “this?”. I nodded, and she left again. I was now confused, with two bottles: one of tonic, one of gin. I decided to make do and mix them myself. This type of interaction, highlighting a culture different than my own, continued beyond ordering drinks and into the project itself. We struggled to find parts and materials that we believed we needed. This made solving the various problems we ran into very difficult.

I was so used to rigid engineering because of the tools I had back home. I had grown accustomed to the approach of “problem A requires solution B, so let’s design solution B to the problem”. But now I had to take a totally different approach. I struggled to figure out how to do exactly that until I met a man running a shop that sold tools and hardware. During the project we had determined that we needed a seemingly simple pipe reducer. After a long day of similar back-and-forth sessions with several shops, we walked by that first shop again and the owner stopped to ask us if we were able to find what we were looking for. We told him no, then he asked us “well what are you trying to do with this piece?”. I told him that I was connecting a gauge to an existing pipeline and then he said, “I can make that, why didn’t you say what you needed before?”. “I did.” I replied. He then told me, “You said you needed a reducer, how am I to know what you need the reducer for? But now I know you need to connect the gauge to the pipe. Come back tomorrow”.

That’s when it hit me: I needed to stop and think about what my solution was solving rather than thinking about the solution itself. Like the shop owner said, I didn’t need a pipe reducer, I needed to connect a gauge to a pipeline. I didn’t need a G&T, I needed something refreshing. The next day we visited the shop and he had a piece made that was two different couplers welded together, he didn’t charge us any extra money for that. The part worked great.

It seems very obvious in hindsight but jumping straight to a solution is something I see all of the time in my professional experience. I still catch myself doing it occasionally. With this mindset change, I’ve been able to save myself and others countless hours of fruitlessly putting effort into a solution when our problem was not 100% defined.

The next time I was at the bar, I applied my lesson and instead of starting with my G&T, I asked “what’s a good refreshing drink?”. The Serengeti Lager that got recommended was much better than that G&T. Thank you to the shop owner and to the Bartender.



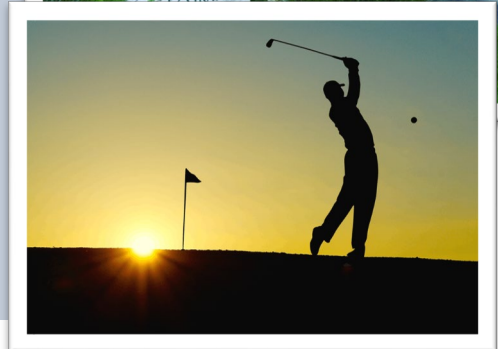


# Upcoming Events:

## Tee Off for Tanzania

Tee Off for Tanzania is a 9-hole par 3 golf tournament to raise money for our Tanzania community development projects. The golf tournament will be held on Friday, October 2nd from 4-6pm at Stone Meadow Golf in Lexington. We will play 'scramble style' which means we will play the best ball hit on your team after each swing, to create a more forgiving golf game. We will host a small reception at the end with dinner and a raffle. There are also golf clubs available to rent. If you would like to golf please email [development@ewbboston.org](mailto:development@ewbboston.org). You can register with up to three other players to either complete a foursome or be matched with other players.

If you think your company would be interested in sponsoring this event or sending players, please let us know! Due to COVID restrictions and to ensure the safety of our guests spaces are very limited, so reserve your spot soon!



## Missing Maps - Tanzania Session

In an effort to stay connected and continue making a change during the current pandemic, our chapter will virtually host a Missing Maps Mapathon on September 29th. It is an opportunity to socialize and work to make a difference from the comfort of your own home.

The Missing Maps project aims to map the most vulnerable places in the world (affected by humanitarian crises: disease epidemics, conflict, natural disasters, poverty, environmental crises). Building on the Humanitarian OpenStreetMap Team's disaster preparedness projects, the Missing Maps tasks facilitate pre-emptive mapping of priority countries to better facilitate disaster response, medical activities and resource allocation when crises occur.

More information about the event will be shared on our future Bulletins and Social Media. Stay tuned!

To learn more about Missing Maps, please visit: <http://www.missingmaps.org/>



**MISSING  
MAPS**

## On Tap For Tanzania

We have postponed our On Tap for Tanzania fundraising event until we are confident that there will be no risk to our members.

We understand that there is still a lot of uncertainty surrounding the COVID-19 pandemic and we will continue to monitor the current situation, keeping our members and attendees updated as we get closer. When we are able to hold the event, there will be beverages available for purchase from our venue, Turtle Swamp Brewing (beer, cider, and wine), food from a local West African Restaurant, and a raffle at the Roslindale Substation & Turtle Swamp Beer Garden.

To purchase tickets and understand how your contribution can make a difference, please visit our website <https://support.ewb-usa.org/OnTapForTanzania>





# Get Involved



Here are a few tips on what to do if you are new to EWB-BPC or if you want to be more involved:

- ▶ Join our Slack channel! We use Slack for project and fundraising discussions, in addition to general announcements and meeting reminders. It is the easiest way to stay up to date on EWB-BPC activities. Email [president@ewbboston.org](mailto:president@ewbboston.org) if you would like to be added.
- ▶ Join our mailing list! You can subscribe to our mailing list via our website, on the “Subscribe” page. This will ensure that you will receive our monthly bulletins that are sent out on the 1st of each month. Email bulletins include monthly up-to-date project information, groups that need assistance and EWB-BPC meeting/event information.
- ▶ Come to our meetings! If you are not on our Slack or mailing list, our meeting information is listed on the calendar located in the “Events” page of our website.
- ▶ Set up your own fundraising page to help us complete our projects! This will be a personal page where you can gather donations- or we have team donation pages, which you can find in the “Donate” page of our website. Contact [development@ewbboston.org](mailto:development@ewbboston.org) if you are interested in creating a personal fundraising page.



Interested in becoming a sponsor?! Email [development@ewbboston.org](mailto:development@ewbboston.org) for more information.

## BRONZE

\$200+

- Logo or name on signage at fundraising events, in newsletter and on website

## SILVER

\$500+

- Presentation at company event
- Logo or name on signage at fundraising events, in newsletter and on website

## GOLD

\$1000+

- Three tickets to On Tap
- Pictures of travel team in Tanzania wearing your logo
- Presentation at company event
- Logo or name on signage at fundraising events, in newsletter and on website

## PLATINUM

\$5000+

- Short video made in Tanzania OR logo displayed on cups at annual On Tap for Tanzania event
- Six tickets to On Tap
- Pictures of travel team in Tanzania wearing your logo
- Presentation at company event
- Logo or name on signage at fundraising events, in newsletter and on website

