



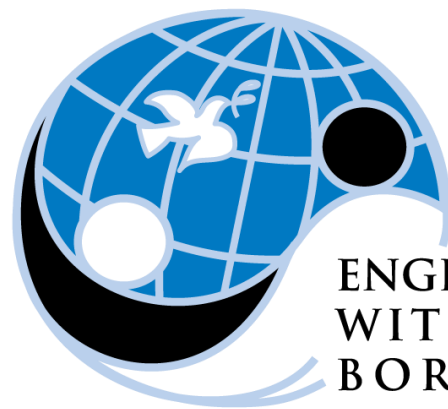
Engineers Without Borders

Iowa State University

Summer 2020 Newsletter

History

In 2013, the Iowa State Chapter of Engineers Without Borders was paired with Ullo, a community in Northern Ghana. Since then, EWB-ISU has sent travel teams to Ullo for a couple of weeks during the Summer and Winter Break to assess the community's needs, monitor current projects, and implement new projects. Ultimately, we concluded that a water distribution system for the boarding high school in Ullo was the best option. A team in the Winter of 2017-'18 determined the best source of water, and the Winter 2018-'19 team completed the implementation of the system. In addition to monitoring the system, new projects have started in Ullo, including cookstoves, a clinic, shea-nut, and an agriculture and irrigation project.



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Our Current Projects

Clinic

The Clinic Project is one of our newest and largest projects. Our goal is to build a new clinic and improve healthcare for the people of Ullo and surrounding communities as well. Currently, the clinic in Ullo consists of five rooms across two buildings. The first phase of the clinic project consists of eleven rooms, with later phases adding around twenty more. This clinic is expected to serve 10,000-20,000 people. The Ghanaian government, the Ullo community, and the district have all expressed support for this project, and the government has committed to staff and furnish the new clinic.

Water Monitoring 2.0

In 2018 we implemented a water distribution system at the Ullo Senior High School. The system provides water to over one thousand students at the school. Already it has shown to have a positive effect on the students and the community. The water distribution provides them with safe drinking water and reduces the time spent each day traveling to collect water. As we are in the monitoring phase for the water distribution project, we are looking for ways we can improve upon the system so that it is functioning to the highest of its abilities and will continue to meet the community's needs.

Kitchen and Household Stoves

Ullo's existing stoves are inefficient in firewood consumption and produce a lot of smoke. We are working to design more efficient household and kitchen stoves to better the quality of life for cooks and lessen the environmental impact. Designs for the stove have been made and we hope in our next travel trip to implement and test the designs.

Rainwater Catchment and Irrigation

We are designing and installing a rainwater catchment and drip irrigation system for the school garden in Ullo senior high school. The rainwater catchment system will collect water during the rainy season to later be used for agricultural purposes. This project will both provide a means of crop production during the dry season and act as an educational tool for the Ullo Senior High School agriculture department. We plan to implement the rainwater catchment system during our next travel trip.

Ullo-Shea

The Ullo-Shea project is another one of our newer projects. The collection and selling of shea nuts are a large source of income for the women of Ullo. Currently, due to inefficient drying and storing methods, the shea nuts are not reaching their selling potential. We are working with the women of Ullo to develop methods to help extend the production period for shea nuts to help these women improve their business.

Domestic Project

A small team of EWB members has been working with the Ames community to find a local project for the club to get involved with. The domestic project is currently focused on building charging stations for the Food at First food pantry in Ames. These stations will allow Ames community members who may have difficulty accessing reliable power outlets to charge their electronic devices. Designs have been made and the charging stations will be built once we are back on campus!

Shea Nut Project Updates

With the help of Self Help International, an Iowa based NGO operating in Ghana, we were able to help give the Ullo community 450 Purdue Improved Crop Storage (PICS) bags, 7 tarps, and moisture meters. A PICS bag has two liners fitted inside a woven sack, and they can help the community to improve shea nut storage without using chemicals to control insect pests. The shea nuts were previously being stored openly in empty classrooms and in women's homes, using inadequate bags, totes, and piles. This allowed for molds, insects, and small rodents to destroy a significant portion the nuts and decrease their end-weight value. The new PICS bags and tarps can be used for the next five years to extend the production season for shea nuts so they can continue to be made into shea butter and sold long past the growing season. We will continue monitor the performance and impact of the new materials.



The tarps and bags arrived in Ullo!



Shea nuts were previously stored in open piles in classrooms.



Working Remotely

We have continued to foster our relationship with KNUST (Kwame Nkrumah University of Science and Technology). Our travel team and the KNUST team has begun introductions virtually. Going forward, we have planned virtual meetings, fun virtual activities and of course collaborating with projects in the Ullo community! Our Water System Team worked on engineering solutions for our pump controls and our chlorination system, and our Agriculture Team worked on designs for the rainwater collection system at Ullo Senior High School. We plan to implement these designs and systems in Ullo through remote work at the end of the Fall semester. We plan to sponsor two Ullo Senior High School graduates to help complete this implementation as well.



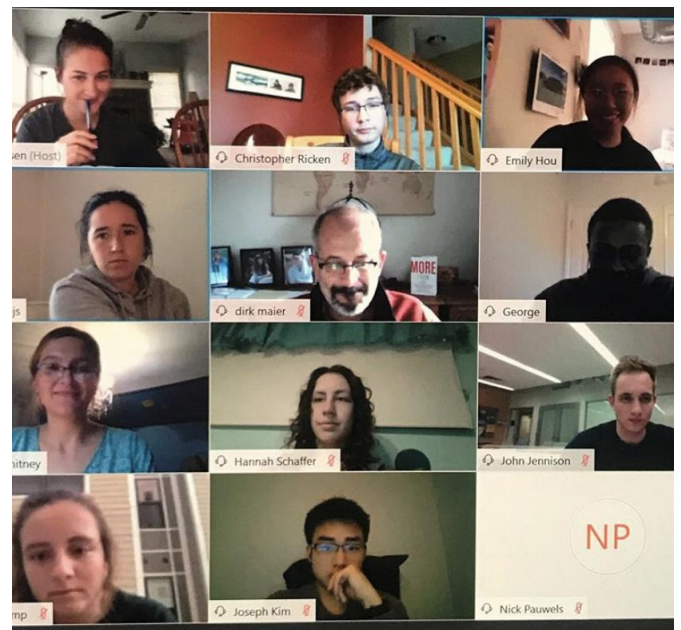
COVID Relief in Ullo

With the help of Self Help International, we are organizing an effort to help the Ullo community acquire necessary PPE. We are sending designs as well as material for the masks to be made by Ullo-based seamstresses, and we are planning to have hand sanitizer sent as well. So far there have been no confirmed cases of COVID-19 in the Ullo community. However, the community is preparing a room in the clinic to serve as a medical laboratory to prepare them for any outbreak.



Fall 2020 Plan

Club members have continued to meet virtually throughout the summer, though WebEx and other mediums to continue work on the club's various projects. This Fall we have decided to do hybrid meetings, where club members can decide to attend in-person meetings or tune in virtually to participate. Each team has their own classroom to meet every Wednesday, and general meetings are being held once a month in a lecture hall to provide sufficient room for social distancing. Masks are required at every event. The club is doing everything it can to make sure members are safe and we can continue to progress in our projects.





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