

Tulane engineering students travel to Ghana for sanitation project

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The community of Sokode-Ando, Ghana, had a parade and closing ceremony for the Tulane Engineers Without Borders chapter before they returned home. (Photo provided by Tulane Engineers Without Borders)

This summer, a group of Tulane students traveled to Ghana to learn about toilets.

The group was with [Tulane's chapter of Engineers Without Borders \(EWB\)](#), an organization that partners engineers with communities around the world to work on projects that help meet basic needs. Of all the projects available, the students chose

a sanitation project to help a community in southern Ghana build compostable toilets and provide access to clean water.

“Sanitation projects are kind of overlooked within EWB, we’ve learned,” said Lily Baughman, the current president of Tulane’s EWB chapter and a master’s student studying materials science and engineering. “People don’t view building toilets as the most glamorous projects sometimes, but they can provide a lot of value.”

Tulane EWB partnered with an NGO called Humanity and Community Development Projects (HCDP) Ghana in the community of Sokode-Ando. This first trip was an assessment trip, where the students talked with local community members and their partner at HCDP to understand what is needed and feasible for this project.

“They had a welcoming ceremony for us that reminded us of a second line band,” said Baughman. The singing, dancing and parades made the Tulane students feel at home in this community from the moment they arrived.

“The community themselves were very welcoming to us, and they were so enthusiastic about helping with the project,” said Baughman.

Baughman stressed the importance of collaborating with and listening to the community members who will actually be using the facilities. “The best system is going to be a system that they like and one that works for them,” she said. “We don’t want to build something that they don’t want to use.”

Members of the team traveled around the community with a volunteer from HCDP Ghana acting as a translator for Ewe, the local language, so they could better understand the community’s wants, needs and potential sticking points.

The team is basing its design on composting toilets already in use in the nearby community of Dzita. Those facilities were implemented by Dream Big Ghana, an NGO that works in the area.

The composting toilets do not use water or any sewage or septic system. They instead empty into large chambers. Rather than flushing the toilet after its use, a person adds two scoops of sawdust into the chamber. The sawdust helps the biowaste decompose without odor.

“This design brings a lot more dignity to [the process],” Baughman said, compared to the pit latrines currently in use in the community.

Once the chamber is full, it is sealed for six months, then the mixture inside is brought to a processing facility. There, the biowaste is combined with food waste and processed over the course of three more months. The final product is a fertilizer that can be used by local farms.

Tulane EWB's work with the community of Sokode-Ando will go beyond the simple design and construction of facilities. The students will also share resources and help educate the community on sanitation and other public health concerns.

"That's another focus for our next trip, to bring educational materials," said Baughman. One of the hurdles facing the community is the need for more awareness of the specific dangers of contaminated water. This is part of the reason these sanitation facilities and clean water access are so necessary in the community.

Because of that, the group welcomes fellow students outside of engineering fields to join the chapter. Fundraising, public health education and water testing, among other things, fall outside the traditional realm of engineering but are essential to the success of the project.

Baughman encourages anyone interested to get involved with EWB. "It's been very fulfilling," she said, "[It's] a very exciting way to apply all the stuff I learned in undergrad to a project that is going to really help this community."

If you would like to get involved with Tulane Engineers Without Borders, either as a student or as a professional mentor, or to find out more about their current project, information can be found on their [website](#).



Tulane EWB joined members of HCDP Ghana and Sokode-Ando community representatives to assess composting toilet facilities in nearby Ho, Ghana. (Photo provided by Tulane Engineers Without Borders)