

\$25,000 grant

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EWB-MSU students to build rainwater containment project in Tanzania

A humanitarian engineering project to build a rainwater containment system at a school in Tanzania has received \$25,000 in support from the 2015 Ford College Community Challenge (Ford C3).

Engineers Without Borders (EWB) at Michigan State University is one of 10 student-led sustainability projects in this year's \$250,000 challenge, the Ford Motor Company Fund announced Oct. 7. Ford C3 recognizes colleges and universities for utilizing school resources and student participation to address an urgent community need under the theme: Building Sustainable Communities.

"Innovation and sustainability are two essential elements that will help strengthen communities and improve the quality of life for the people who call them home," said Mike Schmidt, director of Education and Community Development, Ford Motor Company Fund. "Education is how we open the door to a better world and inspire a new generation of engineers and entrepreneurs to lead us into a successful future."

EWB-MSU is working with a community in Buyuni, Tanzania, to design and build a rainwater collection system at an elementary school currently under construction about 30 kilometers outside of Dar es Salaam. The school, which is being built and will be run by the Salvatorian Sisters of Tanzania, is expected to grow to more than 500 students in the next few years.

The project leader is Zachary Graves, a mechanical engineering major from Lowell, Mich. He said rainwater will be collected in the roof gutter system to provide safe, clean water for the students and staff. The proposed design focuses on the collection, filtration, and storage of the water. When completed, the water will be used for drinking,

The system is expected to reduce the demand on the local water well and provide the safe and affordable drinking water during the dry season. Throughout the design process, EWB-MSU students will collaborate with professional engineers and MSU professors for design advice.

EWB-MSU has partnered with the Salvatorian Sisters and Solar-Circle, a non-profit organization in Lansing, on this project.

Four students from EWB-MSU and two professional mentors will travel to the African community in December for an assessment trip and to build relationships with the community. The results of this assessment will allow EWB-MSU to update the design of the rainwater catchment system to best meet the needs of the school. The group will return next summer to build the system and complete the project. With the help of the Ford Community Challenge Grant, the students have raised the funds needed to build the rainwater collection system. The students are raising funds to cover travel expenses for the upcoming trip.

Susan Masten, a professor of civil and environmental engineering at MSU, advises EWB-MSU.

The Ford C3 grants are part of more than \$1.7 million in new and ongoing global educational investments by Ford Fund, which contributes more than \$8 million annually in scholarships, grants and other initiatives. Ford Fund is the philanthropic arm of Ford Motor Company. Ford Fund this year also worked with the American Indian College Fund to run a C3 program with Tribal Colleges and Universities in the U.S. for the first time, while also continuing the Ford Historically Black Colleges and Universities (HBCU) Community Challenge. Ford C3 last year launched in Brazil and China, and expanded this year to include Ghana, Kenya, Morocco and South Africa.

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Campus Compact, a national higher education association dedicated to campus-based civic engagement, again partnered with Ford Fund in the U.S. to inform some 600 schools about this year's grant program.

EWB-MSU

MSU's chapter of EWB is a student organization that works to implement sustainable engineering designs in developing countries. They currently have international projects in El Salvador and Tanzania. They also host Alternative Spring Break projects and volunteer locally.

EWB-MSU President Stephanie Fierens, a senior in environmental engineering from Clarkston, Mich., said, "EWB is a great program because as students we get to engineer every stage of a project."

Graves said EWB helps him apply his engineering skills to solving problems. "I joined EWB my sophomore year and traveled to the national conference, which is when I knew that EWB was how I would make an impact and change people's lives."

EWB-MSU vice president Sarah Parsons, a mechanical engineering senior from Grand Ledge, said EWB gave her the opportunity to not only use the technical knowledge she has learned in the classroom, but also develop skills required to work in international development. "Our chapter has grown significantly over the past two years and I believe we can continue to make a lasting impact in these communities."

EWB-MSU member Brandon Kortum, an applied engineering sciences sophomore from Jackson, Wyo., said attending the EWB national conference last year gave him a passion to use his studies in practical ways. "Getting involved in the new project in Tanzania was the best possible way for me to do this. I have learned through the many hours of work with Sarah Parsons and Zac Graves that the best way to fuel this passion is to surround yourself with others who share your desire to change the world," Kortum added.

"Receiving this grant from Ford is a great reward for all of the effort EWB-MSU has already put into the project,"

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[Ford College Community Challenge](#)
[Communications contact: Patricia Mroczek](#)

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