Local Students Change Lives a Continent Away

Tanzania is one of the largest countries in Africa, but almost half of its 51.8 million people live on less than $1.90 per day and 54% of its rural areas lack access to water. Over 8,500 miles away, welding students at Arkansas State University Mid-South are doing something about it.

"A couple of months ago, I received a call from Ralph Williams, a retired FedEx employee," explained Ed Cook, lead faculty for the welding program at ASU Mid-South. "Mr. Williams told me about his mission in Tanzania called Sustain Ability, a program in Monduli Juu, a rural area of Tanzania with no water supply. People carry water from streams and ponds miles away. It's not clean water, but it's all they have."

"Bringing clean water to people looks different in each area of Tanzania," said Williams, who together with his wife, Twyla, is working on solutions for this part of Tanzania. "Water sources, terrain, and population all play a part in determining what technology is required to serve people, but there's a solution to everything."

Williams explained to Cook his plan to provide water filters for this rural Tanzanian area in a way that the local people could participate and sustain. "We found a design for building water filters, which can be built by local people with local materials. Shipping in filtration systems into this impoverished area isn't a sustainable option; it just makes them more dependent. We need something local people can make and afford. So teaching the people in this area how to build their own filters for themselves and their neighbors– that's a process they can sustain over time."

That's where Cook and his class comes into the picture. Williams explains, "You need a durable vessel for the bio-sand filter, and concrete is the perfect material. I needed a mold for pouring concrete bio-sand water filter vessels. I knew if I had the prototype of the mold, it would allow me to show the welders in Tanzania the finished product and how it should look and work."

During that phone call, Cook knew he had a project that would not only change lives in Tanzania, but would also change the lives of students attending classes in West Memphis. "What makes our program at ASU Mid-South so strong is that we teach students the real-world application of what they can make through welding. This opportunity not only teaches our students a practical function, but it also inspires them to recognize that this is a career where they can literally make a difference in this world."

During the course of spring semester, students constructed the mold using metal donated by the college, Plant Maintenance Services Corp. and Hino Motors. And not only did they learn practical welding skills, but they also learned life lessons.

"One of the reasons I joined the welding program was to become better in something, "said Detrick Beason, one of the welding students who worked on the filter. "When we made this water filter, it was very touching. I got a taste of what it's like to do something for someone else and help save lives."

"This class teaches you how to get out and make things in the real world," added project member Sarah Utley. "Making this bio-sand filter was a very rewarding task and I would do it again and again if it meant saving the lives of more people. Knowing you went out there and made something that will save lives of thousands who suffer from not having much of their own is an amazing feeling. I will remember it forever. This filter makes 55 gallons of clean drinking water a day. Just knowing what this thing does, and knowing I helped make it is so cool.

Not only does it make clean water but the part we made is a mold that is made to make many of these filters by pouring in concrete, and opening it up to take the concrete molds out. That is why we made sure to make it sturdy and ready for any beating it may take. I would like for it to be strong enough to make as many as they need."

"As a student at Arkansas State University in West Memphis, I began the welding fabrication course at the beginning of the 2016 school year and our primary project was to build a water filtration system. During the course we were taught how certain hand and power tools worked and more importantly how to fit parts and pieces together to build anything. Aside from learning how to operate a drill press or how to make sure something is perfectly square before moving forward with any project, our class learned something far more important: you may never know how important what you are building actually is, " added team member Chris Dowds.

"We were excited and extremely motivated to get this project right. We had the chance to use our unique trade to improve the lives of families half a world away! We took our time being sure every aspect of the project was completed to perfection. Now that we are finished I can hardly wait for the water filtration mold to be delivered to the people of Tanzania. This project has also motivated me to seek out situations in which I can use my welding skills to help others in similar dire conditions," offered Joey Cabay, another of the student-welders.

Now that the filtration mold has been completed, Williams and his wife plan to live in Tanzania while creating these water filters with families and schools around the area. "We will ship the mold to our place in Monduli Juu, Tanzania, and begin the training process for local welders to make these molds. With locally-made molds, we will hold classes for groups of people to build filters for themselves and their neighbors, and we will teach them how to maintain the filters and about sanitation. Eventually, all the building and training will be done by local Maasai people.

"This part of Tanzania will have clean water because of these students and Mr. Cook. They may never get to Monduli Juu to see how lives have changed, but I pray that these students will always know the difference they have made."

Cook added, “Welding work is usually behind-the-scenes work. If you think about it welding is involved in just about everything we touch – in the cars we drive, the bridges we cross, the buildings we live and work in. But even I never imagined being a welder could so directly affect change over eight thousand miles away.”

About ASU Mid-South Community College: ASU Mid-South offers degree and certificate programs to meet student and community needs. Program courses address general education knowledge as well as behaviors needed for good citizenship and successful careers. Goals and course objectives are listed in the colleges catalog under Academic Programs to inform students so that they can better relate their college studies to their personal educational and career goals.

About Sustain Ability, LLC: Sustain Ability is a non-profit corporation in Tanzania, working to empower poor people by teaching them skills with which they can better care for themselves and their families. Our current focus is on water-related technologies and on adult literacy.