

From Buckets to Rain Barrels

A joint initiative of Carleton University and the people of Longido, Tanzania

“From Buckets to Rain Barrels” is a collaborative initiative between Carleton University and the people of Longido District, Tanzania. The program was created to provide area residents with easier and more consistent access to clean water, while offering business, engineering and industrial design students from Carleton the opportunity to leverage classroom learning and collaborative teamwork to effect meaningful social change. Due to the extremely dry Savannah climate, water shortages and poor water quality are chronic issues in this part of Africa, leading to a host of health, social, environmental, and economic problems.

The project aims to develop innovative and practical water harvesting, storage and purification technologies by leveraging the expertise of students and faculty from Carleton’s Sprott School of Business and its Faculty of Engineering and Design. Engineering students develop the basic technology to collect, store and clean the water. Industrial design students focus on maximizing reliability and usability of the solutions developed. And business students ensure that the technology can be delivered in a manner that is economically feasible, develop promotional strategies to encourage adoption, and measure social return on investment. The entire process is done in consultation with the community being served, and is facilitated by a local NGO.



ROLLOUT

Each fall, students from the three academic areas come together to form interdisciplinary teams and take courses to (a) understand the need in Tanzania, (b) acquire the necessary technical knowledge, and (c) develop viable concepts and prototypes to address the need. Initial feedback on these designs is provided remotely by the NGO in Tanzania. Students and faculty then travel to Africa, where they present their prototypes to various stakeholders in Longido District, and use this feedback to assess and refine their solutions. Members of the local community are at the heart of these conversations, providing insights to guide next steps in the project. Projects are evaluated based on factors such as cultural acceptability, affordability, and environmental and social sustainability—students understand that solutions must be appropriate to the local context.

Each year, a new group of students builds on the work of the previous group, with the objective of improving the design, technical aspects, and economic sustainability of the various projects. The aim of the program is to provide solutions that make a real difference over the long-term, rather than just positive headlines. From Buckets to Rain Barrels has now been operating for three years, with teams travelling to Africa in early 2015, 2016 and again in 2017. This year’s teams departed on December 27, 2016 and returned on January 10, 2017.

BENEFITS

While the residents of Longido are the most direct beneficiaries, Carleton students also derive considerable value from this unique experience. It offers an opportunity to gain experience in cross-cultural issues, cross-disciplinary working relationships, and real-life problem solving, while improving their observation, empathy, and critical thinking skills. More generally, the project helps students to understand the complex interconnectedness of environmental, social, health, and political issues, while making a real difference in the lives of the people of Longido District.

Facebook: <https://www.facebook.com/FromBucketsToRainBarrels/>

Blog Post: <http://sprott.carleton.ca/2016/on-the-road-to-tanzania/>



Selling popcorn at Carleton's University Centre to raise money for the 2017 trip to Tanzania



Carleton students and faculty meet with the residents of the local community in Longido District



Carleton business and engineering students and faculty on the ground in Tanzania in January 2016



Ground work in Tanzania: Students collect feedback from residents regarding proposed solutions