

In 2010, the United Nations established access to safe drinking water as a human right; however, many areas around the globe still lack access. The interdisciplinary service learning course “Water Supply in Developing Countries” was established at Purdue University in 2012 to address the complex issue of water insecurity. This team has involved students from Agricultural Economics, Biology, Food Science, Nursing, and various Engineering disciplines working together to develop sustainable community-scale drinking water systems. As an introduction to global complex problem solving, these students engaged in interdisciplinary collaboration, project management, and intercultural communication. In partnership with Aqua Clara International and local residents, the team designed and built a drinking water treatment system at the Ana Julía Díaz Luna primary school in the rural community of Las Canas, Dominican Republic. In addition to the focus on a physical water system, the team collaborated with local educators to design and implement a water, sanitation, and hygiene (WASH) education program. Students guided development of sustainable economic strategies to utilize the system for generation of revenue to reinvest in the system and the community. Throughout this process, the team learned the importance of cultural influences, community involvement, and system monitoring. The observations and lessons learned from the completed stages of this project have been applied to improve the effectiveness and efficiency of subsequent interventions. By identifying key factors in implementing sustainable projects, one of the team’s goals is to outline an overarching framework for expanding water security in rural developing regions across the globe.