How many times have you heard, “Should we help other countries before our own?” or, “We have our own problems that need to be solved, why focus our efforts in developing countries?” This is a sensitive subject as can be seen in controversial articles over the years from Debate.org, The Huffington Post, and even The Economist. Nevertheless, I have found that synergy created from international-local research collaborations has the potential to produce innovative studies where both countries benefit from what the other has to contribute intellectually.

Currently, I am researching the natural biogeochemical mechanisms governing the arsenic pollution potential of well water. Although my study site is in the villages of Cambodia in Southeast Asia, my focus pertains to the United States as well. Arsenic is not just a problem in Southeast Asia, but rather, high levels have been documented in wells within my own backyard. According to a joint study between the University of North Carolina Superfund Research Program and the North Carolina Department of Health and Human Services, roughly 2,000 wells out of the 63,000 monitored throughout North Carolina had concentrations above the USEPA drinking water standard for arsenic (Sanders et al., 2012). These data only skim the surface of the tens of thousands of wells that are also impacted by lower concentrations of arsenic or those that may be threatened by contamination in the future within North Carolina and numerous other states around the country. Additionally, arsenic is just one of many trace-element contaminants (manganese, lead, mercury, and uranium to name a few) that are a concern in drinking water both internationally and within the U.S.

Dual Application of Research

Understanding the fundamental science behind the threats of arsenic pollution could help us create more realistic and widely transferable models for predicting potential arsenic contamination—anywhere. In our research, we focus on utilizing the chemical variability of our foreign field site, which serves as a natural laboratory, so that we can enhance scientific understanding of the controls on arsenic pollution—outcomes that might be more difficult to derive locally. Then, our results can be applied to models assessing at-risk sites here in the U.S. or other parts of the world. International research on different contaminants can play an important role in allowing us to better approach problems we face in the U.S.

Through my work, I have had the opportunity to provide clean water to impoverished villagers of Cambodia and speak out to Cambodian undergraduate students about the importance of studying environmental science and sustainability. Additionally, my work has instilled in me a growing passion for helping my local communities in need. I believe international research can spark young students’ passion for local outreach and innovative research at home. I encourage young scientists interested in international research to challenge themselves to find dual application behind their research, so we can strengthen science on a greater, more collaborative level. I think we can all agree, whether research is local or international, that all varieties of agricultural and environmental research are needed to improve our system of living, and we should continue encouraging collaboration here at home and abroad.

References


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