Agronomic Science Foundation

The Pathway to Safe and Clean Water

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When Samuel Taylor Coleridge published *The Rime of the Ancient Mariner* in 1798, private companies were still supplying fresh water to various parts of London from the River Thames and the River Lea. By the mid-19th century when some of the most famous lines from that poem had become a popular quotation ("Water, water, every where, Nor any drop to drink"), a crisis point in the delivery of water had been reached because of frequent outbreaks of cholera arising from water pollution in those streams and others around the world.

In the United States, safe drinking water has become something that we have come to expect. We turn on the tap, and clean drinking water pours forth from the spigot. But even in the 21st century, people in other countries around the world are not so lucky. Because you are an agronomist, crop scientist, and/or soil scientist, you know how important water is to life—not only for the hydration of crops but for thirsty people as well.

Image courtesy of the SWEETLab at Portland State University

This quest for safe water offers the opportunity for new partnerships through the **Pathway Fund**, which was established by the Agronomic Science Foundation (ASF) earlier this year. Designed to encourage energized scientists and professionals to align with other groups that share the same passion, this initiative has already attracted such partners in other areas as the Peace Corps, the Bill & Melinda Gates Foundation, and the National Science Foundation.

Research indicates that nearly one billion people lack access to safe drinking water. Although international organizations address these problems by providing aid to rural villages in developing countries through education and technology, the programs usually rely on self-reporting. Stevens Water Monitoring Systems, Inc. has joined Portland State University's Sustainable Water, Energy, and Environmental Technologies Laboratory (SWEETLab) in developing a remote-monitoring system for instruments that will screen access to clean water without the positive bias that self reporting can produce, according to the lab's director, Dr. Evan A. Thomas.

In another collaboration—with Manna Energy Limited—SWEETLab is associated with the Carbon for Water program in Kenya. Vestergaard Frandsen contracted with Manna Energy Limited to design and implement the first carbon financed drinking water treatment program in the world. Through this program, nearly one million LifeStraw Family water filters have been installed in almost every household in the Western Province of Kenya. Each water filter delivers at least 18,000 liters of USEPA-quality drinking water, enough to supply a family of five with clean drinking water for three years.

Requiring no electricity or additional consumables beyond the unit itself, LifeStraw Family complies with the USEPA's "Guide Standard and Protocol for Testing Microbiological Water Purifiers" and provides treated water that is as good as or better than boiling for microbiological contamination. Similar projects are already ongoing in Rwanda, Indonesia, Haiti, and Mexico.

The Agronomic Science Foundation offers many volunteer opportunities through the **Gateway Fund**, **Golden Opportunities Scholars Institute**, and **Pathway Fund**. The initiatives outlined in this column—which are designed to improve water quality for people around the world—provide additional avenues. To find out more about options that might interest you, call me at 608-273-8095 or email me at abarton@sciencesocieties.org. To make a monetary donation online, visit www.a-s-f.org.