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Harvard student aims to improve health in Uganda with water filters

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Harvard University student Kathy Ku's first business idea came to her at 19 years old, as a volunteer at a health clinic in Uganda.

Residents there were plagued with a host of diarrheal diseases and parasites, and the culprit, she said, was dirty water.

"Civil war had ended there but clean water and water filters weren't at the top of the list of priorities," said Ku, now a senior at Harvard focusing on engineering sciences and molecular and cellular biology.

With a \$15,000 grant from the Harvard President's Challenge and a donated plot of land, Ku took a semester off in 2011 to build a ceramic water filter factory in Kumi, Uganda, with the goal of improving health.

Ku's business, nonprofit [SPOUTS of Water](#), has raised about \$50,000 to date and is looking to raise at least \$100,000 in the next few months to expand production and hire employees. The company is currently run by about a dozen volunteers and Harvard students.

Aside from producing cheap, simple and effective water filters, SPOUTS — which stands for Sustainable Point-of-Use Treatment and Storage — also aims to decrease dependence on water-related foreign aid and change the way people in developing countries think about water.

"We want people to really see water as a commodity that they should be investing in themselves," she said.

The company is working with third-party distributors to sell the water filters in grocery stores with a financing plan for residents. Ku said her filters cost half as much as imported filters from Kenya and Tanzania.

Still, paying for them would give residents a sense of ownership and teach them to value clean water, she said.

“A lot of times people are investing in a TV when they should really be investing in a water filter, and that’s really hurting the people of Uganda,” Ku said.

Statistics show that nearly 90 percent of deaths due to pneumonia and diarrhea occur in sub-Saharan Africa and South Asia, [according to a 2012 report by UNICEF](#). Diarrhea accounts for 11 percent of child deaths under age 5 across the world, according to the report.

SPOUTS' water filters are made from a combination of organic material and clay. They’re designed like flower pots, Ku said. A porous, ceramic pot in a 20-liter bucket traps bacterial contaminants as the water flows through, filtering about 95 to 98 percent of contaminants. The pot is coated with silver that gets rid of the remaining bacterial components and 99.9 percent of bacteria.

SPOUTS has already received interest from other developing countries about purchasing the ceramic water filters, Ku said.

“We know there is a demand for them,” she said. “As a startup, demand is usually the underlying factor of what drives your production process, and for us it’s great in the sense that we know there’s demand there.”