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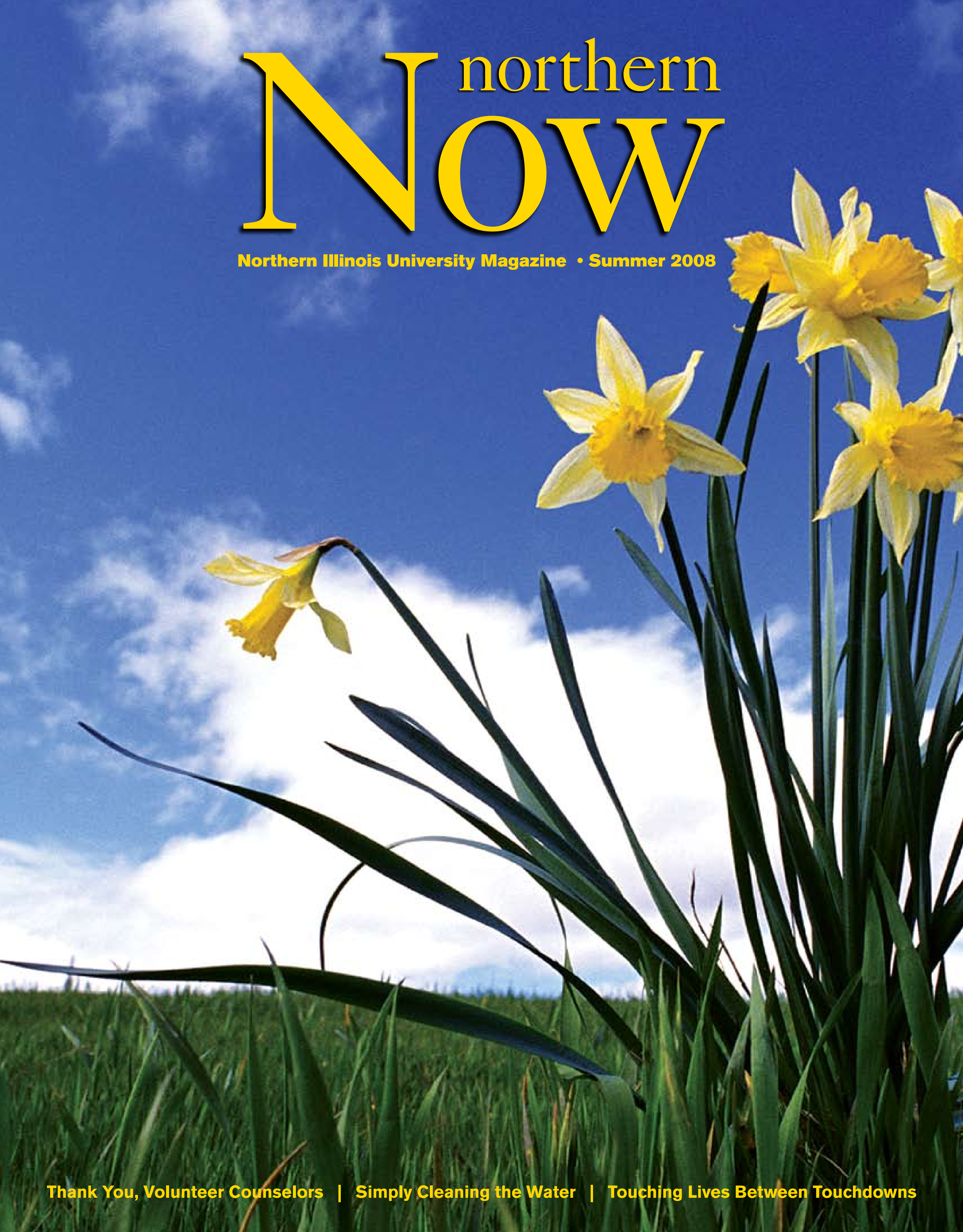
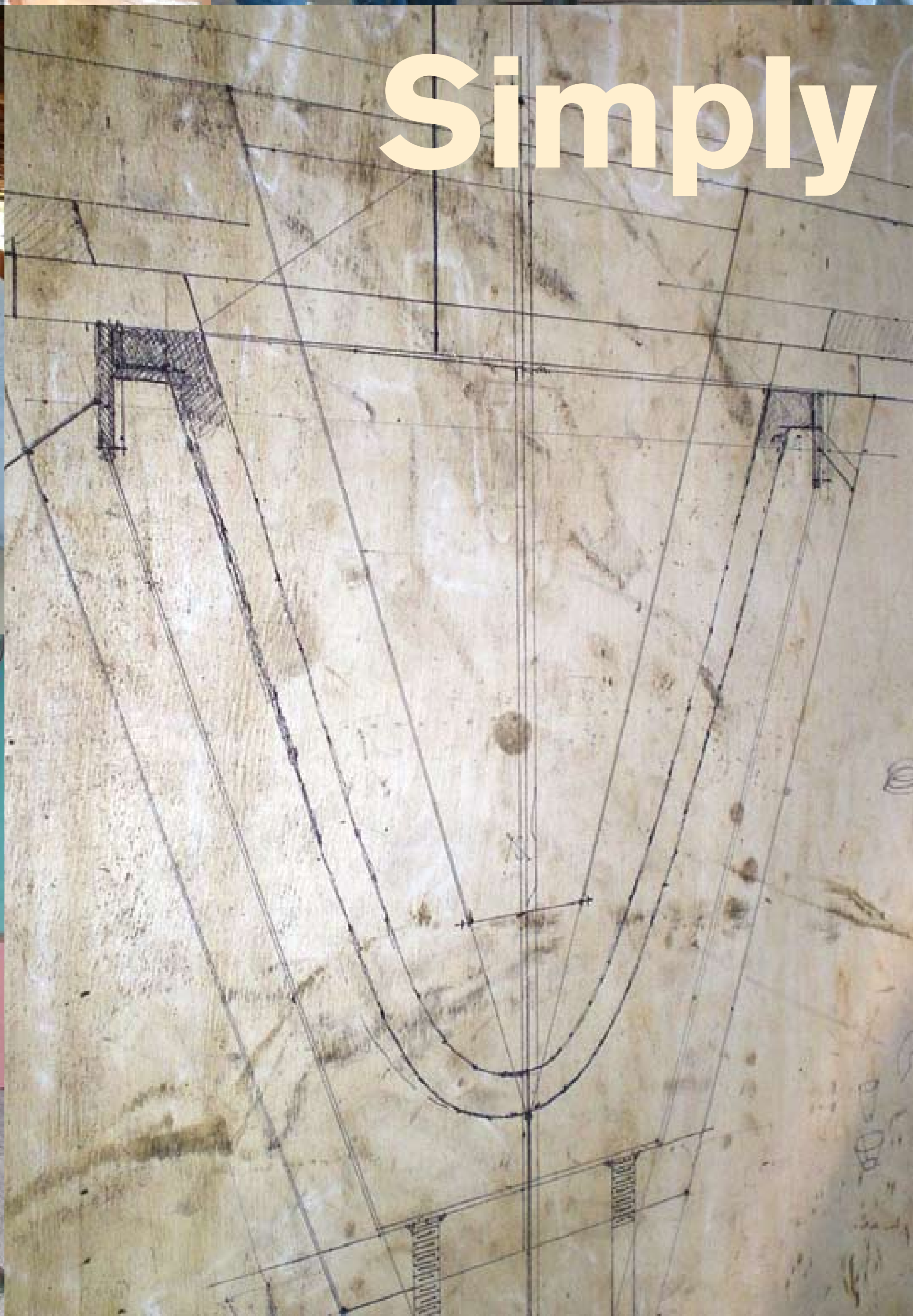
Northern Illinois University Magazine • Summer 2008



Thank You, Volunteer Counselors | Simply Cleaning the Water | Touching Lives Between Touchdowns

Simply



By Donna Marie Pocius, ’79, M.A. ’93

NIU art professor travels the world on a mission to create healthy lives

cleaning the water

Lisa Ballantine learned about art in associate professor Manuel “Manny” Hernandez’s classes. But she feels she is making a bigger impact with her ceramics talent after working alongside the Northern Illinois University art professor in the Dominican Republic. There, Hernandez taught Ballantine and locals how to make ceramic water filters and more.

“I learned how to build a kiln, how to make filters and how to make a press,” Ballantine says. Since 2007, more than 6,000 ceramic water filters are giving some 30,000 Dominican Republic residents access to clean water.

Ballantine is director of FilterPure, a nonprofit foundation that works in developing countries to facilitate production of ceramic water filter systems that eliminate turbidity and micro bacteria by nearly 100 percent. “I may never be a great ceramic artist, but I can make a difference in lives of people with drinking water,” she adds.

One may say the ceramic water filters are simply amazing—there are numerous benefits associated with these filters that resemble garden pots. The manufacturing process involves renewable resources and offers local people jobs. Women and children are free from making daily lengthy treks to dirty rivers for water, and people are in better health.

“Kids don’t have stomach pain. They eat better, have more energy and are growing. And we wouldn’t have the program without Manny. He is my mentor and my hero. The change he has made in water around the world is huge,” Ballantine notes.

Hernandez: NIU ‘ambassador’

Indeed. Hernandez has helped people in more than a dozen countries transform dire water situations into refreshing water for drinking at home. He was most recently in the Dominican Republic, Honduras, Tanzania and along the Texas/Mexico border in collaboration with Texas A&M University. He has also done work in Cambodia, Cuba, Ecuador, Guatemala, Haiti, Indonesia, Iraq, Mauritania, Mexico, Myanmar, Nicaragua, Peru and Uganda.

His job: to assess an area and decide whether it is possible to make ceramic water filters there. He finds a site near clay and teaches people how to mix it and build machines and kilns of his own design.

After Hurricane Mitch ravaged Honduras and Nicaragua in 1998, Hernandez began the services with other members of Potters for Peace, a U.S.-based nonprofit organization devoted to socially responsible development and grass roots accompaniment among potters. But he has been on his own since 2006, approaching projects as a technical consultant in what he calls a “different way.”

“The whole objective is to get clean, potable water into the countries where I am working. If you saw the water these people drink, it would make you sick. Another objective is to reduce their reliance on wood and address the deforestation issue,” says Hernandez, who personally accepts no fee for the services. He is fulfilling research requirements and interested

Professor Manuel “Manny” Hernandez (upper left) brings his expertise as a ceramist, industrial designer and educator to help residents in developing countries learn how to produce ceramic water filter systems to create clean, potable drinking water. Housed in five-gallon buckets for easy use, the ceramic filters have proven to be 99.9 percent effective in killing bacteria in water.

in "my insurance for the hereafter," he adds with a laugh, paraphrasing a line from the film, *Lilies of the Field.*

Hernandez brings experience as a ceramist, industrial designer and educator to the world's water woes. He grew up in Aurora, Illinois, the son of Mexican parents, and worked as an industrial designer for various Chicago studios after graduating from the University of Illinois. At NIU, he earned a master of fine arts degree in ceramics and worked as a lecturer and assistant professor before becoming associate professor.

Rescue Task Force, a nonprofit organization that provides humanitarian aid worldwide, primarily in remote, isolated regions, tapped Hernandez's expertise in Honduras in April 2007. Says Gary Becks, RTF president and founder, "I think Manny shouldn't be referred to as 'professor,' but as 'ambassador.' He represents the university all over the world."

Nongovernmental organizations such as RTF or Ballantine's FilterPure secure funds (a project cost ranges from $6,000 to $25,000) and pay Hernandez's way and lodging, which is nothing fancy, to be sure. For example, he reached the Miskito Coast with Becks after a commercial flight and travel in a Honduras bush plane, landing on a tiny dirt strip. They continued on by boat for more than four hours before finally reaching the jungle villages.

Here, people scrape the scum off parasitic and worm-infested water with their hands before bringing it home to drink.

Brown water

More than one billion people worldwide lack access to safe drinking water, according to the Centers for Disease Control and Prevention. About 1.6 million die from diarrheal disease each year. The problem is prevalent among children under age five.

Joe Schmitt, a Honduras Medical Mission Bakerstown (HMMB) volunteer, has seen first-hand the effects of unsafe water. After partnering with Hernandez, he was on a mission last year to distribute water filters to Village of San Francisco residents. HMMB is a mission project of the First Presbyterian Church of Bakerstown, Pennsylvania, which coordinates local humanitarian efforts with the Gerizim Church located in the Honduran capital of Tegucigalpa.

Schmitt recalls one occasion when a volunteer was holding a three-year-old local girl. "And the child was acting like she had a cold. She sneezed, and it looked like mucous coming out of her nose. But it was a worm, and it would fit over the palm of your hand. And to think that now they can put dirty water in the filter and get drinking water on the other side."

Manny Hernandez begins the process of building a kiln with villagers in the African nation of Mauritania.

How the filter works

The ceramic water filter is made from clay and combustible material such as sawdust or rice husks. Hernandez's approach calls for it to be submerged in colloidal silver for about 20 seconds. Research suggests that the silver has a 99.9 percent effectiveness rate in killing bacteria in the water.

A doctor at RTF's Uhsan medical clinic reported a 90 percent decrease in diarrhea patients within six months after distribution of water filters.

The finished filter weighs about eight pounds, has a round bottom and fits perfectly inside a five-gallon plastic container with a spigot. A cloth can be held over the filter to catch large sediments as the water is poured. People keep the ceramic water filter on a stand inside the home and maintain it by scrubbing it with a brush every three months.

"They put the water in this filter, and it filters water for them. They are saving on wood, because they are not boiling water. And when you set up the shop, you make a little enterprise for someone to make a living on," Hernandez explains.

Green manufacturing

Speaking of setting up shop, Hernandez's first step in any foreign land is familiar: find a potter. When Hernandez finds a potter, he knows clay is available, as well. In the Village of San Francisco, Honduras, he met Maximo, who comes from a family of ceramics artisans. But in the isolated jungle villages he visited with Becks, no potters or clay were discovered. So, filters were shipped instead.

Hernandez teaches Maximo and others, often using a notebook to communicate. He makes precise drawings of equipment necessary to support a ceramic water filter factory: molds, press machine, kiln and an alternative fuel injector source. Cement molds are mounted to what Hernandez calls a "user-friendly" filter press. It's built by the team from salvaged metal.

"So everything is right there," Hernandez explains. "All this is appropriate technology. You use what you can get and sometimes go to the junk yard and find it." Electricity, of course, may not be so easy to find. So the press machines are designed by Hernandez to be operated by hand.

A kiln is a water filter factory must-have, as it fires the filters and ensures their effectiveness. Often a kiln is already owned by the local potter. But for Hernandez, no ordinary kiln will do. He has become renowned for a kiln design named in Spanish for him.

The "Mani kiln" is built from local bricks, has a simple flat-top roof and is energy-efficient, reducing potters' reliance on wood as a primary source of fuel by 40 to 50 percent. It holds about 40 filters and fires to 1,650 degrees Fahrenheit.

Hernandez conceived an alternative fuel injector system to work in harmony with the kiln. The machine blows sawdust, a combustible, into the kiln. Therefore, it speeds the firing process and further reduces reliance on wood. With the sawdust machine, filters need to be fired in the kiln about six hours as compared to eight without it.

"The ceramic water filter creates a micro-industry within the community that could produce a lot of filters for a large area. It creates jobs within the community," Hernandez notes.

Student builds 'Mani kiln'

Karen Rosenbloom, '06, recalled waking up in the Dominican Republic to Hernandez's shouts about coffee being ready. She was there in the fall of 2006, helping FilterPure and Hernandez get a water filter project running.

Mani kiln, Tanzania

"Manny is super-motivated. He woke us up early saying, 'Let's get coffee, let's get going and finish late,'" says Rosenbloom, who earned six graduate credits for the service. She is an art teacher at Stillman Valley School, in Monroe Center, Illinois, and wanted to travel to another country and serve others while also using her ceramics skills. Her assignment was to build a "Mani kiln" with two local bricklayers. The need for the water filters and kiln were obvious to her.

"It was a polluted area, and we went down to the river, and it smelled. I saw people bathing in it, and I knew up the bank people were going to the bathroom in it," she says. But, adds Rosenbloom, the hard work paid off. "When the kiln was done, a woman came and put her arms around me. It feels very rewarding to know that a community sees hope for a healthier future."

Hope in Tanzania

In the East African nation of Tanzania, Hernandez not only built equipment for the ceramic water filter, but basic supplies like a hammer mill and clay mixer, too.

"And that is not such an easy task in a Third World country, especially one as poor as Tanzania. So that was really critical," notes Tracy Hawkins, the director of the Sing'isi Pottery Project, a nonprofit organization committed to bringing resources and training to Tanzanians to revitalize their pottery trade. "If you don't have someone to bring you the knowledge you are kind of boxed in. There is no way to get knowledge. Manny is a fantastic teacher."

Hernandez beams about another project. While staying with a local family, he observed how a woman named Stella sat in a cloud of smoke on a rock outdoors making chapatis—similar to Mexican tortillas—one at a time over a fire.

So he built an efficient wood-burning stove inside the home, complete with a chimney to pass the smoke and enough space for Stella to cook a few chapatis simultaneously as well as side dishes.

"Stella can see clearly now," he says, as he looks at a photograph, sent to him by the woman; she is standing at her new stove and cooking in clean, indoor air.

Life-changing art

Rich Holly, associate dean of NIU's College of Visual and Performing Arts, recognizes Hernandez for applying ceramic arts to life-changing functions. He estimates the associate professor's contributions have already touched tens of thousands of people throughout the world.

"To have something that comes from arts that is life-saving, I can't imagine a bigger purpose," Holly says. "Manny is totally committed to NIU principles of public service and social justice. He is a strong role model for students."

As for his plans, Hernandez intends to do more in developing countries and continue a key project, in its beginning phase, in Texas. A disc filter, about four inches in diameter, is planned as well. Hernandez envisions it being paired with four-inch PVC pipe (available in developing countries) and being useful in emergencies.

Hernandez modestly calls himself "a drop in the bucket," motivated to change social situations and traditions for the better where he can. "You can see the people—how happy they are and so grateful. They don't get sick anymore. They feel a lot better," he says. "That's my payment." Ⓝ

Donna Marie Pocius, a freelance writer, holds journalism degrees from NIU. Her writing appears in national magazines, metropolitan newspapers and on e-zines. Contact her at donnamarie@dcwis.com.

Getting involved is easy...

Address water problems by drinking tap water instead of water marketed in plastic bottles, advises NIU associate professor Manuel Hernandez.

"What concerns me is drinking water out of plastic water bottles," he says, adding that many bottled water brands actually come from the same source as public tap water and are sold back to the public at thousands of times the cost. Plastic bottles also require massive amounts of fossil fuels to manufacture and transport. Billions of these bottles wind up in landfills every year and take forever to decompose. He encourages people to buy a bottle made specifically for transporting water "to fill it for work and school."

Hernandez also suggests that students may consider joining the Peace Corps. "You can get paid for what you are doing; it builds character and you are working in a developing country helping people less fortunate than us who need help."

To learn more about the organizations cited in this feature, visit:

www.aguapure.com.do
www.singisipottery.org
www.purewaterforall.org
www.rescuetaskforce.org
www.hmmb.org
http://coe.tamu.edu/~bscarpenter/tamuiwfpindex.html.
www.tamuwaterproject.wordpress.com
www.pottersforpeace.org
www.thinkoutsidethebottle.org

February 14 Student Scholarship Fund

Northern Illinois University has established a scholarship fund to honor the memory of the students who lost their lives in the February 14 tragedy.

The February 14 Student Scholarship Fund will receive gifts through the NIU Foundation for the general scholarship fund and work through the NIU Scholarship Committee to distribute scholarships to deserving students in the name of those who lost their lives.

For more information call 1-877-GIV2NIU (1-877-448-2648) or go to www.niufoundation.org.

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