



WaTER Works

A couple using their OU education
to improve quality of life
for residents of a remote village in Panama
finds their own enriched, as well.

BY ANNE BARAJAS HARP

When Erik and Alexis Medina thought of putting their University of Oklahoma degrees to work, they might never have imagined living for more than a year without electricity and hot water or that a small community in the remote countryside of Panama would steal their hearts.

But in the spring of 2018, Alexis was on the verge of finishing her OU environmental engineering degree with a minor in “Water and Sanitation for Health and Sustainable Development,” part of OU’s WaTER Center. Erik, a 2014 OU architecture graduate, was working at an Oklahoma City firm. The newlyweds were open to a world of possibilities.

“Erik had been thinking about the U.S. Peace Corps since high school,” Alexis says of her husband, who’d traveled to Zambia and much of Western Europe through three OU Education Abroad experiences. Alexis also developed a love of international travel during a WaTER Center trip to Cambodia to work with a non-profit.

OU’s WaTER (Water Technologies for Emerging Regions) Center is focused on advancing health, education and economic development through sustainable water and sanitation solutions for impoverished regions. Housed in the Gallogly College of Engineering, the center’s undergraduate minor attracts students with an interest in advancing those goals.

“Many of our students will go to work for NGOs [non-governmental organizations], the Peace Corps or governmental agencies such as the U.S. State Department,” says Jim Chamberlain, the WaTER Center’s interim director. He has taken students to Uganda, Cambodia and Ethiopia to address such issues as sanitation, hygiene and naturally occurring high fluoride and arsenic levels in drinking water.

“Alexis wanted to use her engineering skills for those in the greatest need,” he says.

Both Erik and Alexis applied and were accepted to the Peace Corps. “A lot of things had to line up, and they lined up perfectly,” Alexis says.

To ensure they could be assigned together, Erik accepted a volunteer position outside his profession with the Peace Corps’ Sustainable Agriculture Systems (SAS) program. Alexis was selected as a Peace Corps Water, Sanitation and Hygiene (WASH) volunteer.

The couple arrived in Panama in July 2018 and were immediately sent to separate communities for 10 weeks of training. Spanish language classes were held up to four hours a day, five days per week.

“I definitely came in with an upper hand in Spanish,” says Erik, who grew up speaking the language in his parents’ home. “But I still had days where I felt like I got verbally body-slammed.”

After the training, Erik and Alexis visited the home of a Peace Corps couple serving in Samboa, located in the isolated Indigenous reservation of Comarca Nābgu Bublé. Alexis was struck by the community’s hospitality and appreciation for the Peace Corps volunteers.

“If I have to bathe in a river, get stuck knee-deep in mud and endure any other hardships that come my way to have those kinds of deep relationships with people, I will,” Alexis wrote in a blog for family and supporters. “I’m going to put in all the effort I can offer.”

Alexis’ words came to fruition when the Medinas were assigned to San Isidro, a remote community in the “campo” of the Coclé province.

Their host family, the Castrejons, warmly welcomed the Medinas into their extended family, who lived together in a complex of small houses. They introduced the Medinas to San Isidro’s community of 130 residents and their new living quarters, a 300-square-foot house that included an outdoor shower area with a tarp curtain.

“If the wind blows hard enough, the tarp lifts up and everybody can see you in there,” Alexis admits. “You get used to that.”

The couple was supplied a satellite phone for emergencies, as San Isidro has no electricity or reliable cell phone service. To get supplies or make phone calls, they had to travel to the provincial capital of Penonomé. The 30-mile trip took three hours by chiva—a public transport with seats in the bed of a pickup truck surrounded by a cage to contain passengers as the driver navigated dirt roads that often turned into wheel-trapping mud or plunged across rivers without bridges.

“She’s tough,” Chamberlain says of Alexis. “She doesn’t give up and she’s very committed and passionate about helping people.”

One of biggest problems Alexis faced was not the rough

Left - Erik and Alexis Medina set out to use their OU degrees to help the people of Panama but gained so much more, including a new family and outlook on life.

terrain, but a language barrier.

“The Peace Corps tells you that for first three months, your job is just to get to know everyone and assess,” Alexis says. “Those first months were a struggle because I didn’t speak Spanish well. We couldn’t understand each other, and it was very stressful.”

Bonding with the children from the extended Castrejon family provided an unexpected communications breakthrough. When Erik and Alexis began teaching conversational English at the local school, which serves 90 students in first through eighth grade, the Castrejon house became a daily hub for the schoolchildren. Playing games, examining a world map or reading a collection of Spanish-language children’s books helped Alexis to improve her own skills.

“The kids would scatter out on the porch or ask to borrow our hammock, which proved it could hold up to five at once, including Alexis,” Erik says.

The Medinas utilized their new Spanish-speaking skills at town hall meetings, discussing community priorities in agriculture and water and sanitation with San Isidro resi-

Daily reading of children’s books in Spanish became the starting point for a small library building that OU architecture graduate Erik designed for the community.



dents who voted on projects for Erik and Alexis’ first year of service.

Erik’s goals included helping local plantain and coffee growers find resources and learn sustainable practices rather than slash-and-burn agriculture. “My goal is to aim high, but remember to be realistic,” he wrote in their blog. “If even one person gets motivated to plant one tree, I’ve done my job.”

Alexis’ project was to improve two local aqueduct systems. “It’s satisfying to start to use the engineering skills I’ve acquired, but what I’m most excited about doing in my community is loving and empowering the people.

“I want them, especially the kiddos, to have self confidence that they can be whatever they want,” she wrote. “Life is hard, and if you think no one believes in you it’s even harder. At the end of the two years, if just one person knows that there are people and the God of the universe rooting for them, then I think Erik and I have done well.”

Until then, Alex had two spring-fed water systems to tackle. She worked closely with existing community water committees and used both her Peace Corps and OU WaTER

“The pipes were old and a jumbled mess with moss and algae growing inside,” Alexis Medina says of the two water projects she led in San Isidro.



Center training.

“All of the community had running water, but the quality was very poor,” she says. “After a major rainstorm, it would look like chocolate milk was coming out of your faucet.” Contaminated water was used by many for drinking and cooking, and parasites and bacterial infections were common.

Alexis coordinated a team of community volunteers to take on design, digging and construction. “The pipes were old and a jumbled mess with moss and algae growing inside,” she says. Over many months, the team laid new pipe and built a large water tank using cement blocks. The group also replaced leaky catchment boxes during an intensive process of laying stones and pouring concrete to capture flowing spring water. Alexis added the innovation of removable tops and clean-out valves to help avoid contamination.

“I think my OU degree and all the classes and training we did within the WaTER minor were super helpful,” she says. “During Peace Corps training, I realized I already

knew much of the technology.”

Erik’s projects thrived, as well. He gained an advocate and friend in Segundo Martinez, a local coffee grower. The two worked on ways to double the size of Martinez’s small operation while demonstrating horticultural advancements to the community.

Erik also devised the idea for a small library in San Isidro and approached the community’s teachers, who’d noticed an improvement in reading skills since the Medinas arrived a year earlier.

“Once the teachers saw what was happening, the parents understood that there would be a benefit to having their own library,” Erik says. He found a source for book donations, obtained a small grant and used his architecture training to modify a plan for an eight-by-eight stucco structure built from eco bricks—plastic water bottles filled with plastic trash. Building materials arrived in mid-March 2020, the same time Alexis was starting her final water project.

“And then one night we got a call on our satellite phone that we were going to evacuate,” Alexis says. “They said,

Erik and Alexis Medina cross a river en route to Pontón, where their host family keeps cattle on untouched jungle land.



‘You need to be out at first light on the first truck you can get.’ ” The Peace Corps was recalling volunteers around the globe due to COVID-19.

“We ran to people’s houses late at night, waking them up and making them come give us hugs as we were all in tears,” she says. “It was so hard telling them we had to leave and we didn’t know when we would be able to come back. A year and a half may seem like a short amount of time, but our Panamanian family is truly our family.”

“It wasn’t until we left our community that we realized, ‘This is it. We’re not going to be able to come back with the Peace Corps,’ ” Erik says.

Nearly a year later, the Medinas have opened a new chapter. Erik recently became a construction site manager for Habitat for Humanity in Seattle and Alexis is exploring engineering opportunities in river and habitat restoration. They say their Peace Corps experience has given them relationships they will always treasure and a new outlook on a slower, simpler existence that once seemed so alien.

Alexis’ experience has inspired other OU engineering stu-

dents, as well. Heath Orcutt, an environmental engineering senior at the WaTER Center, hopes to work for an NGO someday. “She went through the same program and learned the same things I have and was able to improve a community just because she had the will and desire. It’s really amazing to see what people can do.”

“I miss it,” Erik says. “I tell people in San Isidro, ‘You guys have an amazing part of life that we don’t get to experience.’ I got to live that temporarily and it was really eye-opening.”

“For every hard day, there is going to be a great day that makes you forget about the hard times,” Alexis agrees. “You get to experience just a tiny bit of what their life is, and you grow in ways that you didn’t know you could.”

“I’ve never encountered more generous people. We were constantly being gifted food or whole chickens. It was really surprising how comfortable we got living so differently. After a while, it was like, ‘Oh, yeah, we don’t have hot water. I forget about that.’”

Anne Barajas Harp is associate editor of Sooner Magazine.

Alexis Medina oversees while a volunteer smooths concrete for the spring catchment box she helped design using skills she learned both from the Peace Corps and OU’s WaTER Center, complete with the innovation of a removable top and clean-out valves.

