House of the Children

Empowering a People Through Clean, Healthy Water

By Geoff Bilau

The moment her tireless efforts spouted the first bacteria and pathogen free water in the small rainforest village of Huacaria, Peru, Nancy Santullo didn't see a faucet. She saw an opportunity. She didn't view it as the culmination of her project, but merely the first step. Not only a cup of clean water, but a future brimming with new possibilities.

"One of our greatest achievements was, yes, that the water flowed pure, without health risk to the people," Santullo says, "but more so that the water really joined the hearts and minds of the people working together to achieve this improved health for themselves, their children and their community."

Clean, drinkable water is the most important necessity for human life, a reality Santullo readily embraces in its most literal sense. But through her grassroots nonprofit organization, House of the Children, she seeks to also promote the life affirming powers of water with every bit as much gusto.

"Water in of itself is not the magic pill, but the vehicle we use for self-empowerment," Santullo says. "It's practicing the daily hygiene that transforms the health of the people and empowers them, over time, to be the change they want for their lives. The water, in essence, keeps life flowing in a forward motion."

Santullo, a successful fashion and advertising photographer from Los Angeles, visited Peru in 1999 to satisfy a curiosity about the medicinal healing properties attributed to the region. Instead, she found a connection to the people that she didn't anticipate and a calling to help them in some fashion.

She returned three months later with small donations collected from family members to assist a group of homeless street children in the town of Cusco. Ultimately, her travels led her to Santa Rosa de Huacaria, a remote village in the Manu Rain Forest of Southeast Peru, about an eight-hour drive from Cusco. Of the rural village's approximately 160 indigenous residents, a third are children. And it was their enthusiasm to learn and spirit of life that inspired Santullo to devise ways to help them build on these strengths.

The population of Huacaria includes three indigenous groups: the Matsigenka, Wachipaeri and Quechua, each of whom speak different languages and maintain different cultural practices. The Matsigenka and Wachipaeri are Amazon natives, while the Quechua are recent migrants from the Andes Mountain region.

Photos courtesy of House of the Children

Nancy Santullo with the children of Huacaria. Their condition and future inspired Santullo to start House of the Children and build the water filtration system that now serves the Peruvian rainforest community.

Over a series of visits, Santullo began working with the village teacher, donating art supplies to encourage the children's creativity and teaching basic hygiene, something largely neglected in such villages and a frequent cause of poor health. Through this, Santullo recognized Huacaria's need for a source of clean water, as health problems resulting from drinking contaminated water frequently prevented the children from attending classes.

From this need, House of the Children was born. Enlisting the help of a small group of supporters, Santullo established the 501(c)(3) organization with a mission to "honor global cultures throughout the world by providing sustainable water, sanitation, health and education programs that raise the quality of life of children and adults in context to cultural and environmental needs." Santullo says the name alludes to a metaphoric home and the child within all of us.

"House of the Children is that structure which cares for life," she says. "I always say that what I do is disguised as water and sanitation, but what it's really about is awakening the hopes and desires of the people."

Photos courtesy of House of the Children

The village water committee loads the slow sand filter serving the central community. This is the first layer of 10-cm rock.

The village water committee completes the loading of the slow sand filter 1-cm stone and then fine sand.

A village water commitee member puts the finishing touches on the roughing filter comprised of 10-cm, 5-cm, and 1-cm stones.

HOTC enginering staff: L to R Moises Mera, sanitary engineer, Lima; Carleb Matos, Chaves project foreman; and Humphrey Blackburn, environmental engineer, slow sand filter expert.

The Slow Sand Filter

While researching methods for supplying this sustainable source of clean water, Santullo was put into contact with Humphrey Blackburn, president of Blue Future Filters and Blackburn and Associates, developers of low-tech but highly effective water treatment systems. Blackburn's earlier work in wholesale plumbing and heating had led him to participate in similar projects in Central America, prompting him to return to graduate school to study the engineering aspect of water treatment.

"It's not the most lucrative thing in the world, but it is certainly very rewarding and satisfying," he says.

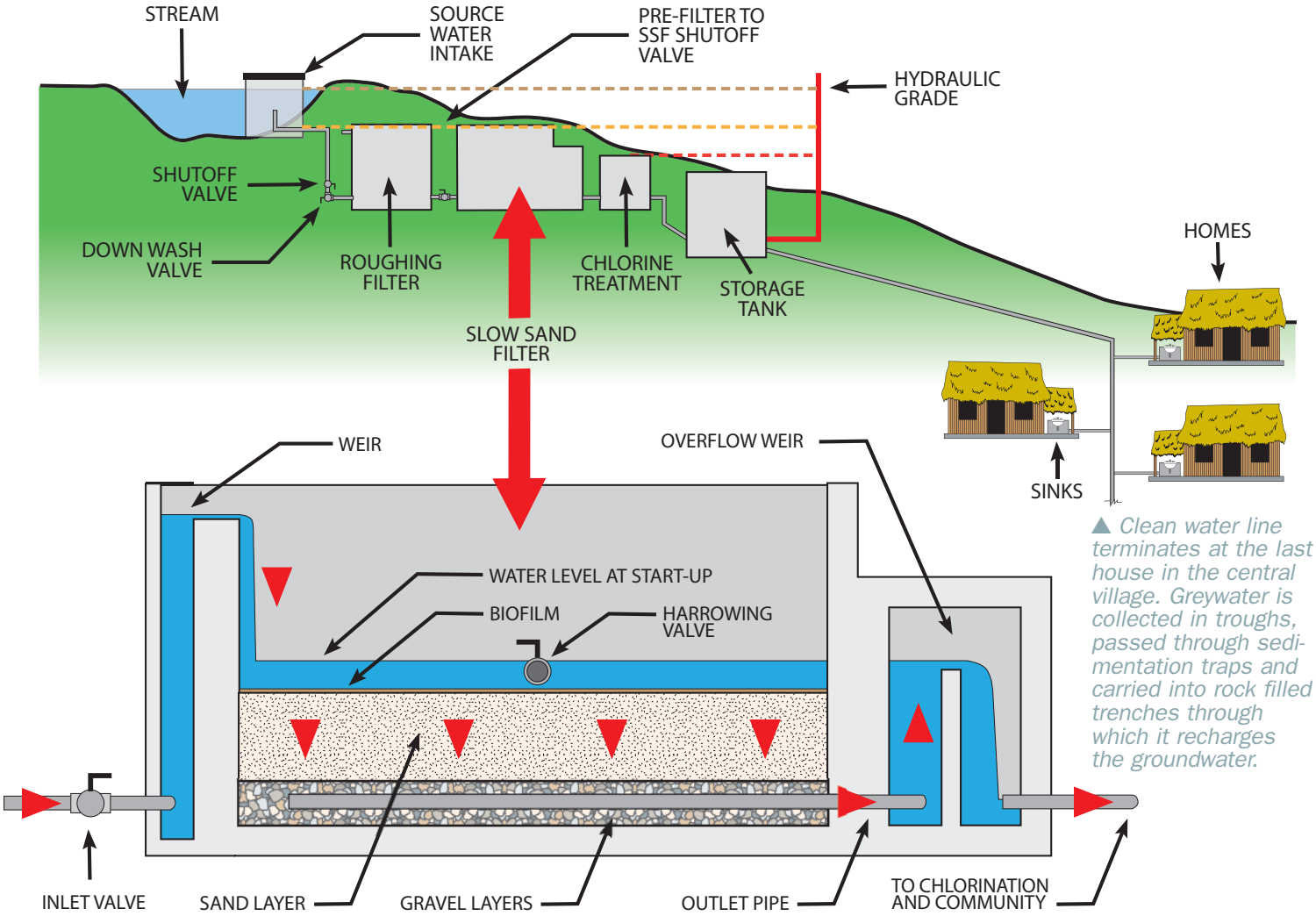
Blackburn met Santullo, who flew him down to Peru to see Huacaria for himself and confirm his initial belief that a slow sand filter was the best solution. Slow sand filters remove 99.99 percent of bacteria, viruses and other harmful pathogens from surface water and require no power because they use gravity feed hydraulics.

"They've been around for at least 200 years," Blackburn explains. "Unlike a swimming pool filter, this system is really biological in nature." A naturally occurring biological layer in the top two inches of sand lives off whatever passes through with the water, pulling out bacteria, parasites and algae that would otherwise make people sick.

Its sustainability, practical nature and limited financial requirement made the slow sand filter the obvious choice.

"It's a mix of modern technology with natural resources," Santullo says. "With that combination, the people receive the advantage of the modern without losing their connection to the natural. We honor their way of life while helping them make these changes for themselves."

Blackburn supervised the installation, by the people of Huacaria, of two filter systems, one serving the central community of the Matsigenka and Wachipaeri and another



▲ *Clean water line terminates at the last house in the central village. Greywater is collected in troughs, passed through sedimentation traps and carried into rock filled trenches through which it recharges the groundwater.*

▲ *The filter and water delivery system for the central community rely solely on gravity. The water flows downhill from the intake structure to a roughing filter that removes debris and large particles. From there it moves to the slow sand filter, which removes harmful bacteria and pathogens. Chlorine is then added to meet government standards. Clean water is then stored until accessed through a tap at one of the 13 sinks in the central village. Every home has a stone utility sink with underwater greywater drain. There are also bathrooms, with an environmentally friendly septic system, and a utility sink at the schoolhouse.*

serving the Quechua. The water is collected from nearby streams through an infiltration gallery for the former and a shallow well structure for the latter.

In the central community, the water travels through 210 meters of PVC pipe, through a roughing filter and into the slow sand filter. Total piping from the source to all homes in the central community is 1,119 meters. The water travels 70 meters from the source and uses 1,130 meters of pipe to serve the Quechua community. There are 13 taps in the central community and five in the Quechua. The slow sand filter in the central community is capable of producing 14,400 gallons per day (gpd), but normally operates at a slower rate. The Quechua system is rated for 1,800 gpd.

Photo courtesy of House of the Children

HOTC Sanitary Engineer Moises Mera, supervises the construction of the septic system. This system naturally decomposes waste without chemicals or handling of the waste. The end result fertilizer.

Photos courtesy of House of the Children

Primary school children practice hygiene daily at the village schoolhouse.

Primary school children conduct bacterilogical testing of the water supply.

Water committee member Patti Condor, 18, conducts monthly bacterilogial anaylsis of the water with a portable HACH lab.

Pumped Up For Peace

Around the same time Blackburn joined the project, Santullo met Donna Goodman, now Climate Change and Environmental Health and Education program advisor for Unicef. They met at the United Nations, where Goodman previously chaired an NGO committee on sustainable development using water as the nexus between sustainability and peace. Santullo was looking for partners to assist House of the Children. Their goals complemented each other perfectly.

"Nan's approach to really building on the capacity of the people and involving them in every step, I really believe is the way to go," Goodman says. "So many water projects fail after a number of years. Something like 50 percent of these types of development projects failed in the '90s."

Goodman began an educational campaign through the U.N.'s Cyberschoolbus program titled "Pumped Up for Peace," with the purpose of rallying teachers and students in industrialized nations to become interested and involved in world water issues. She made Santullo's project in Huacaria the first beneficiary. Classrooms that participated in the project learned about clean water challenges and conducted fundraising campaigns to help fund House of the Children's efforts.

"(Santullo) has an amazing determination, drive and commitment," says Goodman, a member of the House of the Children board of directors. "She was a fashion photographer and she gave up her career to go and work with these people. I can't say enough about the approach that Nan's taken of great personal sacrifices to serve the needs of other people."

A Work In Progress

The key to House of the Children, according to Santullo is not only a functioning clean water source — it's the building of a community that values, maintains and benefits together from its existence in their village. Santullo's mission wasn't accomplished when someone turned on the tap.

"If you build it without the cooperation of the people, they never really believe that the water is actally safe." Santullo says. "The education portion is the most crucial and what is lacking most on a global scale. It doesn't take just one year; it takes many years."

From the beginning, Santullo brought in medical anthropologists who spoke the native language of Matsigenka, a health educator and other indigenous experts to help her both gain the trust of the people of Huacaria and implement the kind of training and activities that would help them take ownership of the water and the better future it promises.

"Native life is much different from ours," she says. "They work long and hard in their gardens each day, and have traditionally had little relationship or attachment to physical

objects like utility sinks, tanks and permanent structures like we do in the developed world. Theirs is a connection to the land, so it's a process to get them to care for these foreign new objects."

Which brings Santullo back to her contention that House of the Children is much less about clean water than it is about the betterment of self and your condition in the world.

"This has really always been a teaching project," she says. "What you're doing is teaching people to achieve their goal and not leave it in midstream. The thing about social change is you don't really see the fruits in the totality for generations. This is a long-term effort. There are many cultural obstacles, road bumps along the way. But what's great about our work is that we are there to lend them a hand when they fall and encourage them to get back up and continue on."

For more information about House of the Children projects, direct your Web browser to these sites:

www.houseofthechildren.org
http://cyberschoolbus.un.org/pufp/peru/about.asp
www.slowsandfilter.com
www.bluefuturefilters.com

Photos courtesy of House of the Children

The village women practice the proper cleaning necessary to maintain sanitary conditions in and around the sinks.

A Matsigenka mother and her healthy baby. In three years, chronic diarrhea has decreased by 45 percent.