Story by Jed Scheuermann

From Feb. 18-28, IAPMO Board of Directors member Jed Scheuermann participated in a 10-day humanitarian operation in the Dominican Republican and Haiti with a team from DELTA Ministries International (DMI) to aid recovery efforts around Port au Prince, epicenter of the devastating 7.0 magnitude January earthquake. The 10-person team set up a DMI base of operations in nearby Lilavois, a small village on the outskirts of Port au Prince, where a structurally sound home had been donated, but lacked potable water and electricity. The group also worked to bring a Lilavois medical clinic back online with safe potable water and electrical systems.

DMI (www.deltaministries.com) is a faith-based organization that mobilizes short-term teams on missions, often humanitarian in nature. Scheuermann previously teamed with DMI in October 2005 to help rebuild the Gulf Coast following Hurricane Katrina. A DMI assessment team was in Haiti days after the quake and Scheuermann got the call requesting his expertise the following weeks.

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The following is his first-person account of the inspirational mission he completed on behalf of the Haitian people.

At 4:53 p.m., Jan. 12, a massive 7.0 magnitude earthquake rocked Haiti. Like most earthquakes, no tangible warning hinted at the ominous force pent up beneath the ground. Most structures within a 30-mile radius of the epicenter at Léogâne were no match for the 30-40 second quake, a large majority crumbling entirely. The human toll: some 230,000 dead; 300,000 injured; one million homeless, significantly affecting 3.5 Million Haitians in all.

Sharing the island of Hispaniola with the Dominican Republic, Haiti is the poorest nation in the Western Hemisphere, with annual per capita income less than $340. United Nations (UN) peacekeepers support the current government since the 2004 ouster of President Jean-Bertrand Aristide. Haiti’s predicament is precarious. Already oppressive poverty, hunger and unsanitary conditions have escalated severely since the quake. Perceptible fear and hopelessness are painfully evident on the faces of the Haitian people.

In the immediate aftermath of the quake, Haitian leaders implored DELTA Ministries International to respond and within days of the catastrophe an assessment team was on the ground. This team forged a strong bond and formulated a multi-tiered plan incorporating immediate and long-term goals. Direct partnership maximizes effectiveness and financial stewardship. I was recruited due to my expertise in water systems and the fact that I had previously worked in Haiti in the aftermath of Hurricane Katrina.

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to my experience with Hurricane Katrina and plumbing knowledge vital to Haiti’s needs. Our medical and construction team arrived in Haiti less than five weeks after the quake.

Trou Sable (literally “sand hole”) is the most devastated quarter of Port au Prince. Precious few structures remain intact. Looking carefully at a one level building, I realized it was actually once a five story, now garishly arranged like a stack of pancakes. Some structures slid off foundations teetering on ruins or came to rest in the middle of streets or sidewalks. Pulverized small chunks and thick dust blanket everything. It seemed like I trekked into a chaotic jungle out of which no sense can possibly be made.

A stove rests on a roof. Power poles jut strangely into streets. Water mains lay precariously on the surface — some spewing water. Besides a damaged sign, no tangible evidence hints where a church and medical clinic stood. A school utterly destroyed — a few whole desks remain, but most are crushed into tiny splinters beyond recognition. And where are the children?

Amid mountains of rubble, more haunting thoughts occurred to me: How many perished right here? Are there still some of those not accounted for under my feet? In that tangled heap? Here? There? Not yet having an adequate response to these, bigger questions loomed: How do we begin to help people in this endless, absolute chaos? Can we bring hope?
Not surprisingly, the quake continues to affect Haiti. Survivors still wrestle with grief, injuries, despair … but perhaps none feel it as deeply as the many "new" orphans. While there I was grateful for the ability to communicate in French and I began to pick up Creole, as well. This opened a door into the hearts of the Haitian people, who were amazed people came from all over the globe to help them in their plight. Enduring three strong aftershocks, we experienced first-hand what Haitians have dealt with for many weeks. No wonder they are terrified! Our hosts begged us not to sleep indoors, so we too slept outside — hoping, praying that it would not rain.

In spite of a daunting task, we were determined to make a difference in Haiti. Our medical
personnel split into two groups. Half went into the heart of Port au Prince to Quesquiyas — a school that emerged as a center of operations for primary medical care and surgery. The rest went to Centre Hospitalier Communautaire de Lilavois, a small hospital/clinic in an outlying quarter. They did surgery, treated various illnesses, set broken bones and dispensed drugs. A startling observation revealed more than 90 percent of patients suffered from insomnia and dehydration/water-borne diseases. The latter were the basis of my involvement, since this is precisely what plumbers change.

Imagine a place where most wells are contaminated. Women and children spend their day hauling water, but ironically their labors yield the very thing causing their sickness. Picture a hospital that depends on hand-carried water brought in by bucket. My first day at Lilavois-Onze entailed attempting to understand an existing but incomplete piping system in the hospital. There was no running water or cistern. My goal was to leave at week’s end with a functioning water system, so I mapped out a plan and detailed materials list for this project.

Dukenzy, the hospital pharmacist and interim director, arranged for me to tour his neighborhood to better understand water issues that most Haitians face daily. There is no public water system. It is instantly obvious why their water sources are contaminated: the majority of wells are shallow, dug and uncased, yet in many cases the well head
Top Left: A woman prepares to get water from a shallow well with a bucket, as two boys look on.

Top Right: Most wells in Lilavois-Onze are open, shallow, dug and uncased wells like this one.

Above: People gather at a UNICEF distribution center in Port au Prince, where UNICEF provides potable water.

Far Left: One of three “good wells” in Lilavois-Onze provides fresh water.

Left: A typical open ditch sewer in Lilavois-Onze. No public piped sewers exist.

PHOTOS BY
JED SCHEUERMANN
Right: Jed Scheuermann studies available materials in order to figure out how to make something work.

Far Right: Mike Gallaway (DELTA Team) and Lucien haul a new cistern to the hospital roof.

Middle Right: Mike and Jed discuss a plumbing layout as Lucien watches.

Below: Jean Noél-Penem measures pipe for Jed to cut.

Bottom Right: Mike drills an overflow hole in the cistern.

PHOTOS COURTESY OF JED SCHEUERMANN

elevation is below an open sewer as little as eight feet away. (I observed no piped sewers.) Tragically this explained why our doctors encountered so much water-borne disease. It is truly heartbreaking to see the horrific effect that lack of potable water coupled with inadequate sanitation wreaks on people. There cannot possibly be a clearer illustration of how strong codes and standards save lives; or how our old motto, “The plumber protects the health of the nation,” is so, so true.

Getting construction materials was an adventure in its own right. What is readily available or affordable at home often does not even exist in places like Haiti. Creativity with open-mindedness is essential when building plumbing systems abroad. It brings back
memories of MacGyver, a fabled TV character who could do anything with seemingly nothing. Reginald and Mario, my two new Haitian friends, went with me to get our supplies. Between the three of us, we somehow managed to get what we needed — or enough creative alternatives to make something work. Now it was time to put a plumbing system together.

Nothing remotely resembling OSHA standards is even given a passing or distant thought in Haiti. Nevertheless, we worked carefully to avoid personal injury. Daytime temperatures approaching 100°F with oppressively high humidity made heat a constant concern. Much of my work occurred on the roof of the hospital, where there was no respite whatsoever from the blazing midday sun.

Mike (of the DELTA team) and two trusted Haitians helped me install the plumbing at Lilavois Hospital. Lucien stands scarcely 5-feet tall, yet is a giant of a man! He tirelessly hauled materials to the roof, helped with every difficult task and did so with an indomitable smile. Often he anticipated what I might need next and had it ready for me prior to asking. Always gracious, Lucien’s help was invaluable. Jean-Noël Penem, the security guard at Lilavois Hospital, was equally indispensable. At nearly 6-feet tall, he cast rather intimidating figure when we first met. Stern-featured and wearing a Miami-Dade Federal Security jacket, he pounded a baseball bat into his
I determined that we would be friends and so we were, as we worked and chatted together for many hours. As the week unfolded, I came to love Jean-Noël’s sincere warm smile. As we plumbed the Lilavois hospital, we taught one another Creole and English. During previous similar trips, one of my priorities has been fostering relationships with those to whom I came to help. Human kinship transcends culture and language. We can draw closer to one another. Haiti is no different.

One afternoon, a kite broke free of its string, crashing landing in the hospital compound. Anxious children’s voices from the other side of the wall wondered how they might get it back. Kite in hand, I poked my head above the wall, asking, “Have you lost a kite?” I suppose they were quite shocked to hear an obvious foreigner speaking Creole. As their faces lit up with broad smiles, I handed back their kite as a crowd gathered. Grabbing my camera, I headed over the wall. Dozens of photographs later I returned with a smile to my plumbing and watched their homemade kite continue to soar high above me as I worked.

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One wing of the hospital had some existing water piping. It took effort and careful sleuthing to determine exactly how the system had been “designed” originally. In light of the current power situation at Lilavois-Onze, it made sense to install a cistern on the roof, anchoring it above load-bearing columns and walls. A pump delivers water up the rooftop cistern when power is available. This way, they would have a functional gravity down-feed system that works most of the time even without electric power. Our team electrician Larry rewired the hospital, installing a generator...
transfer switch to facilitate the hospital running on a standby generator until grid power is restored. Hospital staff ensures the cistern is refilled every time the generator is fired up. Various plumbing fixtures and trim were set inside the building, including washrooms and the lab. Additional water supply and drainage piping completed the plumbing system in that wing of the hospital.

In front of the hospital, a hand-operated water-ram type pump was the sole source of water since its construction. Here, buckets of water were filled by hand and carried inside. Our efforts to re-plumb the building included dropping a new suction line for an electric-powered water pump and resealing the well head. When we finished the system we waited eagerly in anticipation to see if our calculations and design would actually work. They did indeed! The look on Dukenzy’s face, his radiant smile really tells the story of our success best. For the first time ever, Lilavois Hospital had running water! Lilavois Hospital is a bastion of hope in a land that so desperately needs it.

Without doubt, our DELTA team’s accomplishments, and mine in the plumbing of a hospital, were made possible by the generosity and vision of many others. I am deeply indebted to The IAPMO Group and Executive Director Russ Chaney’s advocacy, and to my colleagues on the Board of Directors, in particular President Bob Siemsen and Vice President Dan Daniels. Their financial partnership and encouraging support made dreams become reality in Haiti. Countless others, too, are part of all the meaningful things that happened on this mission. My heartfelt “thanks” are inadequate in the scope of how many partnered in making Haiti a better place today — and most importantly shared in renewing hope.

A question I’m often asked since my return is “How does Haiti’s quake devastation compare with Katrina’s destruction?” Katrina damaged many more square miles, but Haiti’s catastrophe seems greater. One cannot underestimate the individual suffering of those who lost their lives or possessions during Hurricane Katrina’s onslaught in 2005, yet Haiti suffered those same losses on a far greater scale. The death toll is sobering.

Top: A street produce market scene in Port au Prince – notice the man standing with crutches in the foreground, an amputee, likely as a result of the earthquake.

PHOTO BY JED SCHEUERMANN

Above: A woman seeks refuge from the heat of the midday sun in a makeshift tent in Lilavois 11.

PHOTO BY GREG WOODMAN
Daily I saw people with casts or missing limbs, struggling to merely survive. Haiti was a place that was at best much more “difficult” to begin with even before their disaster struck. It is true that such natural calamities are no respecter of person and affect everyone in their path. Most developed countries may be better equipped to deal with the aftermath of such events due to vastly greater resources. Many nations responded to Haiti’s need and are still working there to improve the situation.

It will require many years to fully address Haiti’s needs since many of their people’s concerns stem from long before that fateful day in January when a mighty earthquake broke their world. We’ve begun that task and the work that remains is less today than when we first started.

Memories of Haiti will always stir me. Eerie images indelibly etched in my mind sometimes haunt my sleep: A man missing a leg that I saw at a local market. There’s the young woman whose desperate eyes appeared to have lost all hope. A man getting his shoes shined sitting on a chair among endless, towering mountains of rubble. I still hear orphans singing their beautiful greeting song to me in Creole, French and English. It causes me to ponder how blessed I am and thus I find myself both obliged and privileged to serve others — this time in Haiti.

In route to Haiti via the Dominican Republic, I investigated a water treatment project in Santa Domingo, D.R. Since poor quality municipal water is available only Tuesdays and Saturdays for a few hours, most people buy expensive bottled or purified water. Agua Bendicion, an extension of a local church understanding this need and seeing a niche, embarked on an ambitious undertaking — build a small water treatment facility.

Agua Bendicion processes public water by filtration, softening, chlorination and sterilization (UV, reverse osmosis and ozonation). This creates jobs in plant operations, for lab technicians and in sales. Lab techs constantly verify water quality and the Dominican health department certifies their operations routinely. Capable of producing 120,000 gallons every month, they provide free high-quality pure water to local churches, schools, police and fire departments.

Water is sold to the public at a discount — below the typical cost of commercially available bottled water — but proceeds keep
Agua Bendicion’s facility running. Profits are reinvested in their community, most visibly as scholarships at an on-site private school. Approximately 70 children from the church and 360 neighborhood children gain access to free education because of the guiding philosophy of Agua Bendicion. Their community need-driven business model strives to be relevant, cost-effective and sustainable. By every measure they have been proven to be so. As a result, four additional treatment facilities have been built in other areas based upon the success of their first effort.

Interestingly enough, their operation is also very “green!” Water (backwash, etc.) often discarded in softening and reverse-osmosis processes is recaptured and piped to a dedicated piping system serving water closets,
urinals and irrigation uses only. In doing so, their buildings are provided with a daily water supply without dependence on an unreliable, inferior quality public source.

This simple yet compelling model can be easily replicated. Given Haiti’s desperate water issues, it provides an ideal place to do so. Experts proven in this field should over time undertake initial construction and operations. Based on the Dominican model, it is conceivable that Haitians could be adequately trained with guidance under proper supervision, eventually assuming leadership over the entire operation.
Top Left: The Agua Bendicion water treatment building with rooftop cistern containing low-quality municipal water prior to treatment.

Left: Inside the chapel at the school funded by Agua Bendicion.

Middle Left: Pump for reclaimed water from treatment operations that serves water closets, urinals and irrigation purposes at the school.

Below: Grade 1 classroom at the school funded by Agua Bendicion.

Bottom: Portion of the school and playground.

PHOTOS BY JED SCHEUERMANN

To see more of Jed Scheuermann’s and Greg Woodman’s photos from Haiti and the Dominican Republic, visit IAPMO’s Flickr photo page at www.flickr.com/photos/iapmo.