



AQUA CLARA INTERNATIONAL

WATER PURIFICATION

...in pursuit of H₂OPE

A QUARTERLY NEWSLETTER

ISSUE 4 2012

Water programs that empower communities. Effective. Simple. Local. Sustainable.

Dear Friends of Aqua Clara International,

Just as we are experiencing the annual seasonal transitions here in the Midwest, the past several months have seen a number of transitions take place at Aqua Clara.

After making their many contributions to the growth of ACI, Scott and Claire Rumpsa assumed new challenges at NURU, an NGO focusing on comprehensive community development. We continue to value all they accomplished for the families and communities that ACI serves. At the same time, we were delighted to welcome Paul Kaufman to our executive team. Paul's impressive international background, along with his passion, experience and insights promise to contribute significantly to the continued growth and success of all our programs, beginning with those in Kenya.

This summer we also welcomed Jon Bechtel to our team. Shortly after retiring from an amazing career at Gentex, where he was internationally recognized for his research and development achievements, Jon elected to join ACI and devote his considerable skills to our technology development endeavors. As well, Bob Kreuger retired from the successful engineering company he founded and now applies his considerable knowledge and skills to our laboratory and field work. This work continues to be led by Bob McDonald, who is back in full force after coping with a major multi-system illness and then progressing successfully through a hip-replacement procedure.

Our work in Kenya, Nicaragua, and other countries continues apace, and with our new hollow membrane technologies we are in the position to help more children, families and communities enjoy the benefits of daily access to clean water.

Your help makes this all possible. It goes without saying that we appreciate very much the interest, support and enthusiasm for our work that you and all the friends of Aqua Clara consistently express.

Harry



Note: Harry Knopke is the President of Aqua Clara, CEO of Safe Water Institute, and Chairman of the Board of Spectrum Health Hospitals. He is President Emeritus of Aquinas College.

OUR Mission:

is to continue our work aimed at bringing clean water and related daily living improvements to those in developing countries who live on less than \$2 per day.

TESTING & MONITORING



Jay VandenBrink spent 6 months working with AMOS, ACI Partner, in rural communities in Managua, Nicaragua. "Work-

ing in the Aqua Clara laboratory, I got my hands dirty plenty of times, but there's something about experiencing the filters first-hand in the communities that makes a difference. Sometimes we had to take a 2-hour hike just to find one filter. It's powerful to realize something you've worked on in the lab actually works in a home.

I have been involved in the extensive process of microbiology laboratory analysis examining the percentage of E-Coli and other fecal bacteria within filtered and source water. I have experienced the needs of these people first hand. To interview and hear the people tell you that they and their children are healthier and no longer have diarrhea or stomach problems is truly amazing. It is some of the most fulfilling work someone can do. When you know that their water comes from surface water that flows through cow-pie and horse dung, you know that you are making a difference in each one of their lives by bringing them clean water."

ACI SAM Units

Making cheap clean water available to those in need is our driving force. The original ACI technology was designed to provide, and today still provides, individual families with inexpensive clean water. And, local jobs are generated too. Today, in conjunction with this technology we've begun to generate larger volumes of cheap clean water to larger groups of people. By joining the old with the new, the combination permits us to serve larger groups of people -- those needs in schools, clinics, and in villages. This is our SAM (sand and membrane) program.

For the past several years Aqua Clara has been conducting design/development activities incorporating hollow membrane technology into new water filtration systems aimed at populations that live on less than \$2/day. We have developed three levels of systems that produce at least 2,000 liters/day of clean water that can serve larger institutions, villages, or families. Our beta site installation in May 2011 was Cap Hatien, Haiti. We installed a unit at a new children's home that will generate 2-3000 liters per day of bacteria-free water for the home. Our next installations included a unit in the village of Yalcoba, Yucatan, Mexico that serves the village; a unit in Kenya that provides upwards of 8,000 liters per day for a boarding school and surrounding village; and two units in the Leon, Nicaragua area, one at a ranch/conference center and the other at a school. Early testing is meeting all of our expectations, and we anticipate having governmental authentication of the quality of the water produced by each unit.

This winter we will be launching a pilot project in the state of Assam, India, where we will install four SAM units along with arsenic remediation filters in each of four schools in rural areas near Guwahati City, Assam, India. The schools do not have electricity, so "step pumps" will be included as part of the project to move water from shallow wells to holding tanks. These units will generate 1500-2000 liters per day of bacteria and arsenic free water for the children. Once the project has been completed and testing done, we expect to extend the program to other schools in the Assam state. This project represents collaboration between Rotary/Rotary International, Dow Chemical Company and Aqua Clara International.

Further projects are scheduled for Kenya, Panama, Costa Rica and the Dominican Republic.

Pictured is a SAM unit installation in Yucatan, Mexico that will generate 3,000 liters per day of clean water for local villagers and school children. The system required the construction of a filter house and a water line running from the local well to the filter house. It entails a 2,500 liter holding tank for contaminated water moved from the well, two 1,100 liter tanks, one for the sand filter that removes the turbidity, and one for the pre-treated water and three hollow membrane filters. This unit represents a collaboration between the Fifth Reformed Church, Grand Rapids, MI which has had a long -standing relationship with the mission in Yalcoba and Aqua Clara International.



Global Locations

ACI also partners with a variety of organizations to construct and install purifiers in countries and regions worldwide:

- | | | |
|--------------------|-------------|-------------------|
| ♦Kenya | ♦Panama | ♦South Africa |
| ♦Nicaragua | ♦Guatemala | ♦Ghana |
| ♦Yucatan Peninsula | ♦Bolivia | ♦Pakistan |
| ♦Chiapas | ♦Peru | ♦Afghanistan |
| ♦Oaxaca | ♦Haiti | ♦Thailand |
| ♦Leon, Chinandega | ♦Uganda | ♦Vietnam |
| ♦India | ♦Mozambique | ...and many MORE! |
| ♦Honduras | ♦Rwanda | |



Recommended Reading: Abundance

A note in passing. The Industrial Revolution introduced us to and has been driven by on-going sources of technology and resulting inventions. What sometimes started out as outlandish ideas often evolved into important drivers for change and resulted in the world around us.

The recent book "Abundance" provides a novel collection of new technologies -- some evolving into reality nowand some just now attracting investment. Thus, the world before us continues to change.....and a greater abundance of clean water is to be part of that world.

CONGRATULATIONS KATIE SPOTZ!!



Katie successfully set the new Guinness World Record Title for "Most people carrying water jugs on their heads"! She also was the largest individual donor for Aqua Clara in 2012 as she raised over \$100,000 in this program.

Schools for Water, the name of this fundraiser, organized 20 schools in the states to finance 20 schools in Kenya to gain access to safe drinking water. In June 2012 students gathered in Ohio and broke the world record. One of the schools involved in this program was Lakewood Elementary School in Holland. Above you see the official award, the children in Kenya getting water for their families, and the children in Ohio carrying the bottles on their heads.

Katie, an adventurer and safe water activist, has a heart of gold! Aqua Clara salutes this fabulous woman both for her skill and endurance, but also for her compassion for people and water. Previously, Katie Spatz broke records by being the youngest person to row solo across the Atlantic Ocean in 2010. I wonder what she will do next?

Kenya Update

Paul Kaufman just announced that thanks to the Schools for Water Grant from Katie Spatz and Fairmount Minerals, ACI Kenya has been able to expand its program and add 16 new schools and 16 new business entrepreneurs, bringing the grand total to 48 schools and businesses. Currently, ACI Kenya boasts over 2,000 Bio Sand filters installed this year and hopes to increase that number dramatically in 2013.

DONATE! REACH OUT AND TOUCH SOMEONE!

Thank you for your continued support – both spiritual and financial!

Aqua Clara is a tax exempt, non-profit organization, volunteer based.

Each dollar that you gives furthers our reach in the world.

Your gift is saving lives.

You may send a check to:

Aqua Clara International

88 Sun Ridge Dr, Holland, MI 49424

OR you can donate by credit card at our web site: www.aquaclara.org

Thank you for caring for the poorest of the poor who do not have clean water!



**Joyful
Kenya
Kids!**

Clean wateran on-going Journey (Bob McDonald & Ted Loudon)

2012 is the 200th anniversary of the first, abundant generation of clean water for large numbers of people. This discovery and that of the biological roots of disease have changed and is changing mankind's prospects for improved health.

Indeed, the technologies used in the construction and operation of bio-sand filters are direct derivatives of the original slow sand filter. This device made possible the generation of volumes of clean water; and that plus good sanitation and decent Public Health programs changed the world of Europe and the United States.

To mark this condition, we've prepared a teaching document termed "Clean Water- an on-going Journey". This document describes the historical events and the basic biological aspects that are at the foundation of modern societal health operationsand the resulting increase in mankind's life expectancy. Too, within this body of knowledge lie the answers for those areas of our world and people that lack-- but need-- clean water.

Clean Water
A Progressive Journey

Dr. Robert McDonald
Dr. Ted Loudon

AQUA CLARA INTERNATIONAL



TOURS FOR SERVICE

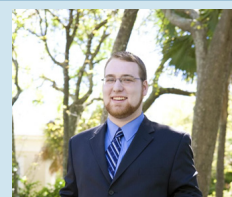
ACI hosts working group tours to Nicaragua and other locations. A youth group from Stevensville Methodist Church went to Nicaragua - 8 teens and 5 adults - to construct and install 100 water purifiers in the villages of Goyena and El Tonque for a week last summer. In all, they brought clean water to 1,000 people, including more than 800 children.

ACI staff under the direction of Mario Benevides, Country Manager, had prepared the communities to receive the purifiers by educating them, asking for "sweat equity" and family agreement to the terms of caring and preserving their water purifiers. By the time the youth group arrived, the families had spent many hours cleaning the sand and gravel. The youth group drilled 30,000 holes, made 500 cuts of pvc, and then entered the homes in teams and installed the 100 purifiers. Above you see Pastor Gordie blessing the purifier that is installed in a family home.

Our lives were changed during that week. We were all touched by the simplicity of the village life, the hard work it took to just survive, and were awed that the children, who had so little, had so much joy and laughter! We now have more gratitude for the abundance we have of all that is truly important in life.

For more information on Tours for Service, contact Deanne Hoeksema (dhoeksema@aquaclara.org) or Marcia Buck (mbuck@aquaclara.org)

In honor of Joe Neuzerling! Amazing story!



Gary Thomas is running his first Ironman this spring to honor his nephew, Joe Neuzerling who had the biggest heart and believed in giving back to those in need. He traveled on a few mission trips to help provide clean drinking water in Nicaragua. The project near to his heart was helping children with clean water.

Joe passed away in a plane crash on September 15, 2011. It has been a year, and family and friends still struggle accepting that he is not with them physically. "Mentally I can still hear his deep laugh", Gary says, "and the warmth he brought the people he touched in his life."

Gary, Uncle of Joe, is raising funds through Ironman Foundation to support Aqua Clara International - to help communities in developing countries in need of clean water solutions. Gary's first Ironman will be Florida on November 5. As Gary puts it, he says "at this very moment I have 29 days, 22 hours, 57 minutes until I start my first full Ironman." He has been planning this for 14 months and he says that he cannot get there fast enough. Gary says "I hope to finish in under 13 hours, but who knows if that is realistic or not. I've never been challenged like this before, and I'm excited to see how I respond to the lows and highs of the day. I know that there will be lows and that's where I will hopefully think of other people who have influenced me....I'm truly blessed to do Ironman, Florida with the love of family, friends and complete strangers that support the crazy goal!"

Let's give him encouragement as he counts down the days - you can contact him and let him know that you are rooting for him on behalf of Aqua Clara - <http://Ironman.Kintera.org/aquaclara/gogtgo>. Steve's motto is: Success doesn't come to you, you go to it. (Marva Collins)

Staff: not pictured Bob Johnson, Technical Advisor; Bob Krueger, Senior Project Engineer; John Judge, Research, Technical Advisor
Front row, left to right: Deanne Hoeksema, Project Manager, Nicaragua; Jon Bechtel, Senior Design Engineer; Paul Kaufman, Director, East Africa; Harry Knopke, President

Back Row, left to right: Marcia Buck, Director Program Operations; Ted Loudon, Director, Technology; Dale Spencer, Director of Training; Bob McDonald, Founder, Chairman of the Board

Holland Staff works to bring clean water to developing countries - 2 of these 11 people receive stipends; the remaining 9 are all volunteers. The greatest reward for this staff is not monetary, but to make a difference in people's lives that are in need.

ACI 2012 HOLLAND STAFF



In an effort to be good citizens, Aqua Clara is moving toward sending E-News Flash which will appear in your email.

Please be sure that we have your email address. You can send it to: mbuck@aquaclara.org.