

# Aqua Clara Kenya

Effective ~ Simple ~ Affordable ~ Local

## Status Report

September 2014

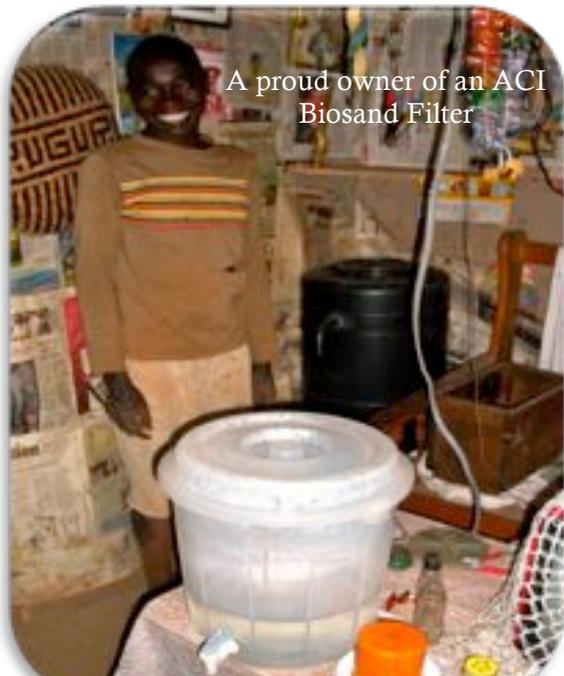
Sifting sand for the biosand filters



## Program Overview

ACI Kenya continues to live up to our mission by providing **Effective, Simple, Affordable, and Local** clean water solutions for people living in rural and urban areas. Over the past three years, we have successfully initiated programs that not only provide clean water to people living in rural areas, but also provide revenue for individuals and their families.

A proud owner of an ACI Biosand Filter



### The Biosand Filter Program:

After years of subsidizing the BSF Program in order to keep the filter affordable for people living in rural areas, we are now reaching our goal to make the program 100% self – sustainable. Our Kenyan staff conducted a thorough examination of pricing structure, and markets, and brought all of the manufacturing of the materials ‘in house.’ This allowed us to lower our overhead costs and guaranteed the quality of the materials for each installation. Several operations changes were also implemented allowing the entrepreneurs to focus solely on ‘sales’ and installations. In addition, we were able to purchase an old Land Rover, allowing us to deliver supplies to the necessary locations and do more marketing and promotions in rural areas. All of this has resulted in a higher profit margin for the entrepreneurs while still keeping the biosand filters affordable for people living in rural areas.



### **The Rain Water Harvesting Program:**

In 2013, we secured a PWX Grant for installation of Rain Water Harvesting (RWH) units. This grant provided the perfect platform for initiating the new RWH program in Kenya. The Programs Manager, gathered several skilled men in Kisii and in Eldoret to instruct on the planning and installation of RWH units. These men worked alongside the Programs Manager and slowly took over the installations to where they were implementing every installation on their own. They then invited all of the ACI Entrepreneurs for a RWH training session, training each of the entrepreneurs on how to sell RWH units to their neighbors and communities. The program was so successful that ACI is now being hired by other non-profits to install RWH units under their grants, providing revenue for both the ACI Installers and the ACI office.



A successful training for the local entrepreneurs who can now sell and install rain water harvesting systems.

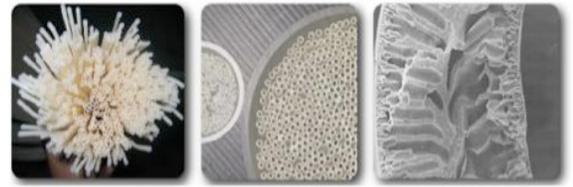
## The Hollow Membrane Filter Program:

With support from various grants, Aqua Clara was able to install several large Hollow Fiber units in both Kenya and Tanzania. In the pursuit of self sustainability, the Kenyan staff partnered with a local High School with access to spring water to install a large 'Clean Water Kiosk.' The school will provide the spring water for the ACI Kiosk, and the ACI Kiosk will then provide 2000 liters of clean drinking water for the students in the school, eliminating the need for the kitchen staff to boil their water. In return, the ACI Kiosk will be able to sell clean water to the surrounding community, and to homes and businesses in town providing jobs and revenue.

A second installation was installed in the ACI office purifying the water harvested from the rain. This unit is designed as a demonstration unit for visitors and potential customers, as well as a training unit for the future ACI Hollow Fiber installers. The third unit was transported to Tanzania where ACI partnered with MAPED, a local Masai organization located near the Ruvu river in South Masailand. Maped has built a small school and community center, but had

no way to provide clean water to the students and community. With the help of ACI and another local mission group, Help for the Masai, rain water harvesting tanks were installed as well as one of the ACI Hollow Fiber filter units. The unit was placed outside of the school building allowing access to the clean water for the entire community as well as the students. Students and community members now fill the tank every day with water from the river providing clean water for all who need.

The first 120 household units were also introduced into Kenya, 70 of which were given to the ACI entrepreneurs and Health Promoters. The units were taken home and tested by the recipients, who then provided feedback on how we could improve the new product, prior to introducing them into the market.



### Hollow Fiber Ultra Filtration Systems

*Ultrafiltration is used in water filtration systems to remove bacteria, algae, cysts, parasites and microbial contaminants. The hollow fiber UF membranes are made from polymeric material and resemble straight lengths of noodles which are hollow on the inside.*

*On the surface are very tiny tightly controlled microscopic pores that range from 0.01 to 0.1 micron in size. The pores have the ability to stop the passage of particles, turbidity and pathogens such as bacteria, algae, cysts and parasites but allow water and natural, healthy essential minerals such as calcium, magnesium and potassium to flow through. The result is a consistent supply of high quality treated water.*

*By combining Sand, an ancient filtration technology, and the modern Hollow Membrane Technology, Aqua Clara filters are scalable and can now produce from 150 ltrs – 8000 ltrs of 99.999% bacteria free clean water a day.*

*If maintained properly, these filters should last between 3 - 10 years.*



School water kiosk already providing clean water to the community

The first 120 hollow fiber 'household' filters now in use



Clean drinking water for the Masai at the MAPED School

South Masailand, Tanzania



## Trainings and Partnerships:

ACI has focused on creating partnerships via training of other organizations. This allows us to extend our reach into other regions and provides income-generating revenue to offset our administration costs. We now have several partners in Kenya and other countries as well.

### Training for P.I.N.D. Nigeria Feb. 18 - 22



Classroom Session, Nigeria

Due to Hydrad's inability to economically ship biosand filters to Nigeria, PIND contacted ACI and requested ACI for training on building with local materials. So, in February, John Nywagwencha, the ACI Kenya Operations Manager, traveled to Nigeria and trained 13 people, including a representative from the Ministry of Water. PIND is now able to build their own biosand filters with local materials, and ACI Kenya continues to provide technical support for PIND in Nigeria.

### Training for Foothold International June 16 - 20



BSF explanation, Foothold

Foothold International works in Taveta, Kenya where people are using river water for their daily needs. They approached ACI in search of possible solutions which resulted in 6 day training. ACI Staff, John and Benson, set up the training for 6 of Foothold colleagues, including the local Health representative. Foothold now builds and installs their own filters for the people of Taveta,

### Training for FHG August 19 - 24



FHG Training graduates

Jim Wright, the founder of FHG, contacted ACI with the desire to train pastors to be able to build biosand filters for their respective communities. ACI set up a 6 day training for 20 pastors from Kenya and Uganda and successfully hosted the group at the ACI Kisii office. The pastors are now purchasing filters from ACI and installing them in their communities.

### Training for Burkina Faso September 23 - 28



Trainee interaction, Burkina Faso

Terry Link, a professor from Michigan State University, has been traveling to Burkina Faso for several years. Seeing the dire water situation there, he asked Hydrad to install biosand filters. However, due to the excessive shipping costs, Terry contacted ACI requesting we train his colleagues on how to build filters with locally available materials. John Nywagwencha and Sam Simmons from ACI Kenya, traveled to Burkina Faso and conducted a 6 day training to several local and government entities. Terry is now looking forward to introducing the new Hollow Fiber filters there as well.



Hands on session, FHG



Sifting sand, Taveta



School launch, ACI Kenya

# Total Numbers for Kenya

Activity	Unit Numbers	Approx. # of people impacted	Comments
Approx. # of people trained	66 2000	66 2000	Entrepreneurs Community Members Sensitized
# of Businesses Launched	66	330	Entrepreneurs and their Families
Current # of Community Health Promoters (CHP's)	29	145	Community Health Promoters working with ACI
Current # of Community Development Entrepreneurs (CDE's)	40	200	Entrepreneurs with successful businesses
Current # of Schools	44	22,000	Receiving Health & Hygiene clubs via Health Promoters
Total Biosand Installations tracked and monitored	3252	16,260	Family and School filter installations
Total Hand Washing Stations	357	10,710	Classroom / School installations
Total Safe Water Storage Containers	1642	8210	Family and School installations
Total Household Hollow Fiber Filters	120	600	Family installations
Total Facility Hollow Fiber Filters	7	5500	1 Ekerubo School Kiosk 1 NAPS School Kiosk 1 Nyamira Hospital 1 Heritage Childrens Home 1 ACI office installation 1 Kisii Town hospital 1 Rigoma Primary School
Total # of Trainings	8	10 6 15 20 69 15 4 5	PIND Nigeria Foothold Int. Taveta, Kenya Youth NGO, Burkina Faso FHG, Kenya / Uganda CDE / CHP Training, Rigoma Rain Water Harvesting Training, Rigoma Eldoret Regional Area Coordinators, Eldoret SCOPE RWH Training
Current Partnerships	6	unknown	Kenyan Dairy (CBO managing the Ekerubo filter) Foothold International, Taveta FHG, Kenya and Uganda Education Partnerships Africa (EPA) Drink Local Drink Tap (Uganda) Reformed Church of America (RCA)
Rain Water Harvesting	36 Schools	18.000	ACI Partner Schools in Kisii and Eldoret

# 2014 Program Goals

The ACI Kenya Staff are now extremely competent and capable of providing a number of services to our local and international community. 2014 will be focused on marketing Aqua Clara to National and International entities.

Aqua Clara has also received a number of requests to replicate the program in both Tanzania and Uganda. ACI will pursue a program in Tanzania initially, then move into Uganda.



## 1. Implementation of Hollow Fiber Filter (HF)

Aqua Clara will now have the capability to open several new markets including urban areas which will allow us to expand our reach exponentially.

- Hollow Fiber Household units – ACI plans to manufacture and distribute 500 + units to the local entrepreneurs. These will open up new markets for the entrepreneurs and be sold for a small profit to help cover operating costs.
- Hollow Fiber Facility Units – ACI now has an agreement with the regional government to install the Facility Filters into regional hospitals, schools, and clinics. In addition, the existing water kiosk in Kisii will begin marketing clean water refills for homes and businesses.

## 2. A local Water Resource and Training Center

- ACI will design and prepare marketing materials for the launch of the new Hollow Fiber filters. National and International organizations will be invited.
- International and National organizations will be targeted for the sale of large numbers of Household and Facility units to be used and distributed within their organizations and programs.
- Local businesses will be approached on shelving and selling the Household HF filters.
- A delivery and distribution system will be set up,

utilizing existing motorcycle taxis, providing jobs and all using a cashless payment system via Mpesa to receive and deliver funds.

- ACI will market the sale of biosand filters to other International Organizations working in Kenya. Many of these organizations receive grants to implement biosand filters, and use excessive amounts of resources to implement the programs. Aqua Clara will become a ‘subcontractor’ for these organizations
- ACI will market its ability to train other organizations on the construction and installation of the biosand filter. These skills can be passed along easily to other organizations who desire to implement a similar program

## 3. Open Aqua Clara Tanzania / Uganda

As Aqua Clara strives to grow into all of East Africa, it is therefore vital to have personnel on the ground to continue supporting the existing programs, and to initiate new ones.

- The ACI East African Director will move his family to Tanzania to initiate the program there. From Tanzania, the Director will be able to manage and support the Kenyan program, investigate possible program sites and potential partners in Uganda, and initiate programs in Tanzania.
- ACI will partner with Help for the Masai (HFTM) to initiate its programs in Tanzania. Under the umbrella of HFTM, ACI can function within Tanzania until it is able to register as a separate entity.
- ACI will use an existing organizations to initiate program activities in order to ensure appropriate monitoring, evaluation, and follow up.
- ACI will register its own offices in compliance with Tanzanian law.



Above: 6000L Facility model  
Left: 100L Cateteria model

# Conclusion

Aqua Clara Kenya has now become a recognized leader in providing local solutions to local water issues in Kenya. Thousands of people have benefited from the filtration technology, improved health, capacity building, and revenue generating opportunities. Not only are we impacting Kenyans, but our programs have been so successful, that we are now being asked to train others in Kenya, East Africa, and around the continent. All of this could not have happened without the generous support of foundations and donors and are excited about the potential opportunities as we continue to grow with our partner organizations.