



AQUA CLARA'S TECHNOLOGY

WATER PURIFICATION WORLDWIDE

EFFECTIVE.

AC technology is highly effective, creating clean, safe drinking water that meets W.H.O. standards in a process that utilizes no electricity and no moving parts.

SIMPLE.

AC technology is simple by design, ensuring manufacture and functionality in a variety of environments.

LOCAL KNOWLEDGE.

We transfer know-how [Pat. Pend.] to locals, empowering them to meet their community's needs. Their passion combined with their new skill then drives the project.

LOCAL MATERIALS.

AC technology is designed to be manufactured from locally available materials, keeping the cost low, and more importantly, enabling local self-sufficiency.

AFFORDABLE.

The purifier is manufactured from local materials that frequently cost less than the equivalent of \$12.

SUSTAINABLE.

The above elements combine to form a program that is locally sustainable.

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Aqua Clara devised its water purifier for local manufacture by local craftspeople (after basic training), utilizing simple tools from commonly and locally available materials. The process itself is designed to be simple, requiring no power and no moving parts, plus a functional lifespan of up to ten years. Because of these design goals, the purifier carries **no regular operating cost**, is **very inexpensive to construct** and is very appropriate for locations where it is needed most. Our most common unit is presently a **household-sized point of use purifier** (which produces up to 40 liters of safe drinking water daily), yet the process can be scaled up so that **larger units** can also be produced.

Aqua Clara purification technology is disseminated through training - local 'water teams' are trained in manufacture, installation, promotion, and simple maintenance. It is a program that continues its work after AC trainers leave, with local teams continuing construction, promotion and installation. AC provides (pro bono) training and support that allows **locally-driven programs** to **expand based on local resources**.

RESEARCHED

In 2005, Dr. Bob McDonald began by re-evaluating the fundamentals of the biochemistry & physics of sand filtration which, in turn, permitted the development of inexpensive, effective water filtration systems incorporating solid disinfectants. Viewed as a Chemical/Bio-chemical reactor, the AC water purifier provides improved water quality from a range of fecal polluted sources. From the basic knowledge base gained, the technology is scalable and permits the construction of water purifiers having a range of sizes and shapes.

PROVEN

In 2005 and 2006, the AC water purification process was extensively tested here in the U.S. After being **proven effective**, AC water purifier applications were launched in 2007 at two beta sites with units locally constructed and managed in Kenya and Mexico. These operations and units were proven effective under a variety of field conditions. The as-generated clean drinking water continued to meet **W.H.O. guidelines** (per the elimination of bacteria, parasites and turbidity from locally sourced surface waters). Field applications are growing; 3000+ units are operating in 15 countries to date.

SHARED

AC has continued to train interested groups in order to expand the numbers reached with this technology. **Training sessions** are held in the U.S. (other implementing groups are trained by AC staff) and abroad (in-country training sessions in our countries of focus). Our results so far have shown that the AC program is **highly adaptable** and remains effective in a variety of local situations. All new ideas for more **effective local implementation** are shared across this network.

IMPROVED

Engineering Development continues. The application of principles for the purification of bacterial species is not yet optimized. Improvements in both water quality and quantity are expected to follow from on-going development work; point of use units with enhanced performances are expected. By integrating our systems with complementary technologies we also anticipate providing hybrid reactor designs that will locally generate volumes of quality water that are consistent with the demands of medical clinics, schools and orphanages. And finally, AC is also working to design & develop units locally made that will eliminate heavy metals (e.g. arsenic, mercury, etc); unwanted ions (e.g. fluorides); and other harmful pollutants from drinking water.



The AC Water Purifier is a simple system that will produce **safe drinking water** meeting W.H.O. drinking water guidelines.



LOCAL WATER TEAMS

AC programs focus on training motivated groups as 'water teams' - groups that continue manufacturing, installing and promoting AC water purifiers in their communities long after our trainers leave.



LOCAL SAND AND GRAVEL

Local sand and gravel are separated into various sizes using simple sieves. The material is then washed before being used in an AC water purifier.



LOCAL MATERIALS

Rather than ship material, AC water purifiers are constructed from locally available containers and piping. This keeps the price down and economic activity local. These purifiers can be built from many different body styles; thus, they look different in each new location.



SAFE DRINKING WATER

An AC water purifier is constructed out of a container of at least 70 liters of volume. Such a purifier can produce up to 36 liters of safe drinking water daily. The technology is simple to scale, and larger units are produced where the need arises.

The AC Water Purifier is regularly constructed of material components of **minimal cost** (often under \$12).

Once built, a properly maintained unit has a projected **lifespan of up to 10 years**.

The only **maintenance** required is simple and infrequent (≈ 2 times per year).

And all economic activity - material purchases, labor, transport, etc. - directly **benefits the local economy**.

Aqua Clara is a faith based Christian organization. We seek to work with all organizations, both faith based and secular. We express our beliefs through our actions. We are committed to help reduce pain and suffering. We believe clean water is a critically important first step.

Aqua Clara is supported by a vast and growing network of allies in this mission - those that dedicate time, talent and/or financial support. If you'd like to work with us towards our goal, please contact us. www.aquaclara.org