

# LEAMIS International Ministries

## Project 10:42

Matthew 10:42

**Bringing Safe  
Drinking Water to the World**

## Fact Sheet

### The World Water Crisis:

Contaminated water is the **#1 cause of death** in developing countries.

Over a **billion** people today do not have access to safe drinking water.

“In the developing world, contaminated water accounts for **80% of all diseases** and claims the lives of **5 million children** a year.” (World Vision)

According to the World Health Organization and other agencies, more than **25,000 people die each day** as a result of contaminated water. That’s like a loaded 747 passenger jet crashing every 30 minutes around the clock.

**Every 6 seconds a child dies** from illness due to unsafe drinking water.

Less than 1% of the earth’s water is fresh water, and only about **one-third of this 1% is available for human use**. Unfortunately, almost all of this water is **contaminated**.

According to **USA Today**, “**More people die** each year from **unsafe water** than from all forms of violence, **including war**.”

Many of those who have access to wells do not have safe water because the wells are often contaminated by seeping surface water and pit latrines.

**Project 10:42** utilizes a chlorination unit invented by Duvon McGuire in conjunction with bio-sand filters. The bio-sand filter removes parasites that cause amoebic dysentery; the chlorination unit kills bacterial and viral contaminants.

- Project 10:42 works with indigenous pastors to help meet the need for safe drinking water in their communities.
- Project 10:42 helps bring water to people through the best means for their area. This includes such things as ram pumps, rope washer pumps, devising collections systems, and drilling wells.

- Local people learn how to build bio-sand filters to remove parasites and how to use a chlorination unit.
- Proper water storage techniques are taught.
- Pastors work together to develop outreach programs that will bring safe drinking water and the Water of Life to other communities.

## **Benefits of the Safe Water System**

- The bio-sand filtering system is constructed from materials readily available.
- Additional filter systems can be added as needed to accommodate the needs of the community.
- The McGuire Chlorination Unit can chlorinate up to 55 gallons (208) liters per minute.
- The chlorination unit is portable, weighing about 20 pounds, and can be easily transported to different locations within a village or community, or from community to community.
- The chlorination unit utilizes common table salt and is powered by a 12-volt car battery, making it ideal for locations where regular electricity is not available. The battery can be re-charged by solar power.
- The chlorination unit is environmentally friendly; it does not consume valuable or limited natural resources.
- The unit is easy to learn, is virtually maintenance free and has no moving parts.

## **Uses**

- Villages
- Clinics
- Hospitals
- Schools
- Churches
- Disaster Relief
- Orphanages
- Refugee Camps

## **How the Chlorination Unit Works**

The chlorination unit uses electricity (AC, battery, or solar), table salt, and water to create chlorine gas which kills the bacteria in the water.

The chlorinator generates chlorine gas by separating the salt (NaCl) into its components: Sodium (Na) and Chlorine (Cl). The chlorinator sorts the sodium ions from

the chlorine ions using the 12-Volt DC charge from a car battery or other source of direct current.

The chlorine that is produced in the chlorine generator is drawn into the water supply using a Venturi injector, providing the necessary chlorination of the water in the treatment tank. When the appropriate chlorine level is obtained (a few parts per million or milligrams per liter), the water is mixed with the chlorine for at least an hour to allow sufficient contact time to kill the pathogens.

## Cost

Depending on the size of the project, LEAMIS sends one to two people to assist with the installation of the system and to train the local people in the maintenance and use of the system.

Typical airfare for Africa or Myanmar – per person	2,200.00
Small filtration system	150.00
McGuire Chlorination Unit	500.00
<b>★ Total Cost</b>	<b>2,850.00</b>

**★ Note:** In order to be good stewards, LEAMIS tries to combine Project 10:42 with our short-term team trips. If that is not possible, we install units in multiple villages or communities.

## Current Need

LEAMIS is scheduled to install systems in three communities in March, and in November a large system (uses an 850 gallon tank and five 300 gallon tanks) in the Kibera slums on the outskirts of Nairobi, Kenya.

**This is a \$15,000 project.**

**Balance of Funds needed – \$4,500.00.**



