

The Project: In More Detail

Background:

The magnitude of the health problems that can be directly attributed to the lack of clean water is almost beyond comprehension. In the forefront of these problems are chronic malnutrition and diarrhea, both of which contribute to stunted growth, poor attendance and performance in school age children and high rates of infant mortality.

According to UNICEF and the World Health Organization, More than 1.1 billion people in the world, or 1 in 6, lack access to safe drinking water. Over 3 million people (mostly children) die each year from water related illness, five times more than will die from HIV/AIDS.

The Purification System:

This water purification system was originally designed by a group of engineers and volunteers, whose goal was to develop a simple, effective, low cost unit, easily installed in remote locations. Since the first system went into service in Reynosa, Mexico in 1996, over 400 other installations have taken place in Mexico, Central and South America, Africa and Southeast Asia. The system purifies water in 300-gallon batches, and is ideal for institutional settings---clinics, churches, schools and orphanages.

The design of the system is a simple two-stage, batch treatment process with a capacity of 300 gallons per cycle; it takes about 60 minutes to process this amount of water. The main purification components are filtration and ozonation. The entire unit can be purchased for about \$3000.00 with ongoing

operational costs, including replacement parts around \$0.50 per 300 gallons of water.

The Process:

Normally an Initiating Partner (a North American Church or Group) will make contact and develop a relationship with an Operating Partner in a location where there is a demonstrated need for clean water. The IP and the OP conduct a survey to determine if an installation is feasible. The OP enters into a covenant with the IP to provide the items needed. The IP and the OP select a date when the items will be available and the IP returns on that date with the system and the required number of people to install the system and teach its operation the community of the OP.

Standard Clean Water System:

Purpose: Bacteriological disinfection; removal of chlorine-resistant organisms

Design: Batch treatment process, with an integrated bottling station

Capacity: Based on tank size; typically a 300-gallon tank

Process time: 300 gallons per hour at 5 gpm per batch

Key Methods: Filtration, microfiltration and ozone disinfection

Installation Cost: Hardware - \$2,700 - \$2,900

Operational costs, incl. replacement parts (excluding labor) per 100,000 gallons: One-half cent to one cent per gallon

