FAQ
Pentair Project Safewater-Colón

1. What is Project Safewater-Colón?

In order to help solve the world's clean water crisis, the Pentair Foundation initiated a multi-year, $4.7 million Project Safewater-Colón research program. The goal was to demonstrate that people in developing countries can be provided access to sustainable sources of safe drinking water and adequate sanitation facilities quickly and cost effectively. Our approach to Project Safewater-Colón is consistent with our environmental and business philosophy.

2. Why did Pentair fund the project?

More than one billion people around the world, most of them in developing nations, lack access to safe water. The result is that preventable waterborne diseases continue to be a leading cause of illness and death globally. Every day, approximately 25,000 people, mainly children in developing countries, die from preventable waterborne diseases, according to the World Health Organization.

Pentair believes that the world's safe drinking water crisis is solvable. The findings from Project Safewater-Colón can help address the United Nations' Millennium Development Goals. The U.N. Millennium Goal Number 7C calls for cutting in half the proportion of the world's population without sustainable access to safe drinking water and basic sanitation by 2015.

3. Where did Project Safewater-Colón take place?

Project Safewater-Colón took place in Colón, Honduras, where all of the region's 350,000 residents previously lived without clean water and many without proper sanitation facilities. Pentair partnered on-the-ground in Honduras with Water Missions International (WMI) to bring water treatment, sanitation and health education to those in need.

4. What did Project Safewater-Colón do?

Pentair's Project Safewater-Colón is a comprehensive program which funded the installation of more than 200 water treatment systems and more than 10,000 individual sanitation facilities in Colón, which serves approximately 75 percent of the region. Project Safewater-Colón also encompasses widespread community education programs to heighten awareness of the importance of safe, clean drinking water, and the connection between good hygiene practices and health.

Additionally, to ensure that safe, treated water continues to be available beyond Pentair's initial funding period, Project Safewater-Colón established a microenterprise business model, where the local community owns the water treatment systems and users pay their communities a nominal fee for potable water. The individual user fee is established by the local community to cover the ongoing operation and maintenance of their system. Once installed, the system costs less than 5 cents per person per day to operate.

Concurrently, an independent study on Project Safewater-Colón's health impact was led by Dr. Jeffery L. Deal, director of anthropology and water studies for the Center for Global Health, Medical University of South Carolina. The Project Safewater-Colón research program offers an objective study to evaluate and quantify the impact that water purification systems can have on peoples' health in a developing country. The research involved the participation and cooperation of the Honduran Department of Health.

5. What water treatment system was used for the project?

The treatment system used for Project Safewater-Colón is The Living Water Treatment System, a system that relies on filtration and chemical disinfection to produce safe drinking water. The system has been designed for use in tough environments, is ruggedly built, simple to operate, easily maintained, and when operated properly, will provide safe drinking water for many years. Highlights of the system include:

- Back-washable filters that eliminate the need for costly filter replacements
- Chemicals used to filter and disinfect that are common and reasonably priced in countries where the system is operated
- When using a diesel powered generator, operating cost is less than $3.00 per 1,000 gallons
- When operating on solar power the operating cost is less than $.75 per 1,000 gallons
- Treats 10 gallons of water per minute from raw water sources
- Provides daily water needs for 150-200 people every hour of operation

6. What was the methodology used for Project Safewater-Colón?

The methodology consisted of four critical project phases to create a self sustaining solution:

Phase 1: A thorough baseline assessment to identify key leaders in the community, fully understand the cultural paradigms of the community, determining the source and quality of the water to be treated and identifying the technology best suited to treat the water;

Phase 2: A rigorous community development program that includes health and hygiene education in addition to involving the community in the financing, construction, installation, operation and maintenance of the water treatment system;

Phase 3: Development of a sustainable micro-enterprise model to ensure continued focus on effective operation of the system; and

Phase 4: Ongoing monitoring of the treatment system operation but also monitoring and evaluation of improvements in the health and productivity of the community.

7. What is the equipment cost of the treatment systems?

Hardware and installation costs per water treatment unit range from $14,000 to $20,000. Each unit produces approximately 72,000 liters of treated water per day, which represents a cost of US$0.25 to US$0.50 per 3,000 liters of water.

8. Once installed, how much does the water treatment system cost to operate?

Once the water treatment systems are installed (e.g., excluding the cost of the equipment), it costs less than 5 cents per person per day to operate.

9. What were the results and outcome of Project Safewater-Colón?

Baseline testing, completed in 2007, identified and evaluated water sources in 613 communities in the district of Colón. The Project Safewater-Colón study measured the water quality in 100 percent of these water sources and found that high counts of coliform bacteria, indicative of fecal contamination, were present in every water source.

The Project Safewater-Colón study measured waterborne illness rates among three groups of participants:

1. The Control Group – *no water treatment system, no sanitary system and no community education programming;*
2. The Water Only Group – *water treatment system had been operational for one full year, no sanitary system and included community education programming; and*
3. The Water and Sanitation Group – *water treatment system had been operational for one full year, sanitary system had been completed and community education programming had been implemented.*

Final data compiled in 2010 demonstrated a significant difference between those who received access to treated water, sanitation and education, and those in the control group who did not. In fact, the results showed that only 4.5 percent of the water only group tested positive for parasites and 3.8 percent of the water and sanitation group tested positive for parasites, compared to 25.0 percent for the control group, an 80 percent improvement.

The results of Project Safewater-Colón show that for an approximate investment of only pennies a day, people can have access to safe drinking water in regions where they don't have it now.

10. What does Pentair hope to achieve as a result of Project Safewater-Colón?

The Pentair Foundation is making its findings publicly available for other organizations and municipalities interested in replicating its cost-effective model to bring clean, safe water to people in need. This information may be found at www.projectsafewater.com.

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