

Community Water Supply and Sanitation Project Masicales, Honduras

Ann Campana Judge Foundation Project Report

Northlake Church of Christ, 1625 Cooledge Road, Tucker, GA 30084

Ron Hudson, 134 Birchwood Drive, Spring Creek, NV 89815, elkomanga@lycos.com

Introduction

On 25 March 2006, a ceremony was held inaugurating the completion of the water supply and sanitation project for the rural farming community of Masicales, Honduras. Masicales is somewhat isolated, being located high in the forested mountains of the southeastern part of the Department of Olancho and accessible only by a narrow unimproved road. The 280 inhabitants of this close-knit community live in simple homes constructed of rough cut wood or adobe brick with dirt floors. Prior to this project there was no community water system in Masicales. Most of the residents collected their drinking water from a shallow river polluted with pathogenic bacteria and parasites from fecal wastes. A few were fortunate enough to be living close to the Mission PrediSan medical clinic, which piped water from a nearby spring. Water quality tests of the spring water, however, showed that this water source was also contaminated with pathogenic bacteria. Sanitation in the community was another problem. While a few had primitive pit latrines, most in the community had no latrines.

The goals of the Masicales project were to provide for each home in the community 1) a source of safe chlorinated drinking water and 2) flushing latrines for proper sanitation.

Project Description

The community of Masicales now has an operating water supply system providing chlorinated water to 30 homes. The project was a collaborative effort involving residents of Masicales, the Northlake Church of Christ (www.northlake.org), and Mission PrediSan (www.predisan.org). The Masicales residents were responsible for providing all the unpaid unskilled labor, locally available raw materials, and the land for the water source and water system structures. Church of Christ members were responsible for fund raising, technical advice, and overall project management. Mission PrediSan, which is located in Honduras, administered all material purchases and contracts for shipping and skilled labor (plumber, mason, and field project manager



The water system operates by gravity flow. A small water-diversion dam was constructed on a stream about 0.9 miles up gradient of the town. The diverted water flows from the dam through a buried pipeline to a 5,000-gallon storage tank located on a



hill above the town. Granular chlorine is added as a water treatment from a hypochlorinator located on top of the main storage tank. The chlorinated water is piped from storage tank to a standpipe at each home through a buried distribution system.

To allow for population growth in the community, this system is designed to service up to 560 residents over its 20-year design life. As new people move into the community, the system can easily be expanded by adding new lines to the distribution system. There are currently ten new homes under construction in the community. Materials for water lines and latrines for the new construction have been purchased through this project. Water will not be connected, however, until the homes are occupied.



To improve sanitary conditions, one flushing latrine was constructed at each home as a prerequisite for connection to the water system. The latrine design basically consists of a toilet bowl, which is flushed by pouring in a bucket of water, connected to a closed concrete vault and a leach field.



To insure that this project is sustainable in the long term, the team held a series of meetings to educate the community on the importance of maintenance and why safe water and sanitation are important for good health. Project sustainability was also insured by establishing community ownership in the project. A sense of ownership was achieved by residents donating their labor for project construction, the formation of a water cooperative with an elected governing board to manage and maintain the system, and the collection of monthly maintenance fees from the residents. In addition, through a signed agreement with the community, Mission PrediSan will act as an "oversight authority" throughout the life of the water system.

Project Costs

Total costs paid for through donations to the Northlake Church of Christ were \$17,520. The following table shows how donations were spent:

Project Phase	Item	Costs (U.S. Dollars)
Water System	Materials & Shipping	\$8,600
	Honduran Skilled Labor (plumber, mason)	\$1,830
	Honduran Field Manager's Labor (Community Organizing & Construction Oversight)	\$2,000
	Honduran Field Manager's Travel Expenses	\$1,150
Latrines	Materials & Shipping	\$3,240
	Honduran Field Manager's Labor (Community Organizing & Construction Oversight)	\$500
	Honduran Field Manager's Travel Expenses	\$200
Total		\$17,520

The total above does not include the value of unpaid labor contributed by the Mission PrediSan, Church of Christ members, and the community. It also does not include the funds and materials contributed by the community. The value of all that the community contributed was estimated to be \$8,436. The following table shows how the community contributed:

Item	Value (U.S. Dollars)	
Estimated Value of the Community's Unpaid Labor	\$6,057	
Purchase of Land to Protect the Water Source	\$1,667	
Locally Available Materials (Purchased and Donated)	\$712	
Total		\$8,436

The grant from The Ann Campana Judge Foundation was in the amount of \$4,000. The other funds were donated by the Elko Desert Sunrise Rotary Club, a number of personal donations, and the following congregations: Battle Mountain Church of Christ, Butte Church of Christ, Elko Church of Christ, Linder Road Church of Christ, Martinsburg Church of Christ, Ephrata Church of Christ, Northlake Church of Christ, Oakey Boulevard Church of Christ, and the Rocky Mountain Church of Christ.

None of these funds were used to pay overhead expenses of the organizations involved or pay for the salary or travel expenses of any non-Honduran nationals. The funds were only used to pay for construction materials and the skilled labor and travel expenses of Honduran nationals. Some project funding has been set aside for the Honduran field manager to assist the community with problems that may occur with the water system during the first year of operation.

Lessons Learned

- It was very worthwhile to bring the water board and maintenance staff on an inspection of a neighboring community's water system to learn about potential problems and their solutions.
- To increase long term sustainability, it is important for the NGO partner based in country to act as ongoing "oversight authority" throughout the operational life of the water system. The oversight would include an annual audit to evaluate the water board's management performance, maintenance fee collection, chlorination practices, and system maintenance.
- Rural communities often have difficulty procuring chlorine. If it is difficult to obtain, communities will likely choose to do without chlorine. NGOs need to make viable plans concerning how a community will obtain chlorine. Since Mission PrediSan regularly sells medical supplies to the community's clinic, it was simple to add chlorine to the list of supplies.