

School and Community Water Pumping System

Chicorral, Guatemala

Project Cost

\$40,000

Chapter

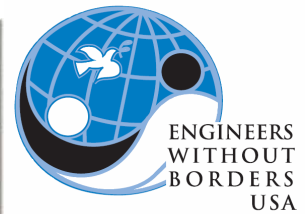
Johns Hopkins
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Background

Chicorral is a rural Guatemalan community located in the state of Totonicapan, north of Quetzaltenango. There is currently only one source of potable water in the community of Chicorral: a spring at the bottom of a ravine. The depth of the ravine is approximately seventy meters. The school children and women of the community must climb down the steep ravine to reach the spring. The children spend their recesses climbing down the ravine to fill their empty soda bottles. The women spend more than ½ hour each trip to retrieve household water. In spite of the efforts, individuals are not believed to get the widely-recommended 15 liters per person per day.



Community in Chicorral Laura Seraydarian



Engineers Without Borders USA (EWBUSA) is a non-profit organization established in 2000 to partner with developing communities worldwide in order to improve their quality of life. The Johns Hopkins University chapter (EWB-JHU), established in Spring 2005, seeks to fulfill these goals through the participation and partnership of students, professors, and professionals.

The Need

The community members of Chicorral have traditionally relied upon hand-carried water from the spring as their supply of potable water. Recent developmental work in the area and in the community has highlighted the need for better and more reliable access to water.

The EWB-USA Response

The team plans to use solar panels to generate enough energy to overcome the approximately seventy meters of distance from the bottom of the ravine to the outside of the school house as there is currently no electricity in Chicorral. Analysis on whether to use a piston or submersible pump, flexible tubing vs. PVC piping, and how exactly to build an encased area at the bottom to store water is being conducted. Calculated storage at the top is approximately 4,000 gallons (to provide each person 15 liters a day). The tank at the top will be plastic with an aggregate foundation or concrete.

Contact with the community is being established to ensure that there is some governing structure over the water pump. The community water pump committee is working closely with the school committee, since the pump will reside next to the schoolhouse. This will ensure that

the pump is properly cared for. We are also in contact with the local government, which is discussing joint funding.

Current Plans

EWB-JHU recently sent a small group of professional engineers and students to the community for an assessment trip in January and March 2008. These trip established a governing structure for the care of the pump and water tank. Measurements for the design of the tank were also taken. Placement of the tank and of the pump were discussed. The next trip is intended for August 2008, to pour concrete, set up tanks, and set up pipes. Following this trip, one more implementation will set up the solar panel system. The projected date for finishing implementation is in the spring to summer of 2009.

Additional Information

EWB-USA: <http://www.ewb-usa.org>

EWB-JHU: <http://ewb.jhu.edu>

Tax-deductible donations can be made via checks made out to "Johns Hopkins University" with "EWB-JHU Guatemala Project" in the memo line.

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