

Water Supply for Drinking and Sanitation

Suncallo, Bolivia located at: S 15 ° 39.158, W 69 ° 00.101 Elevation: 3,962m

Project Cost

Phase 1 - \$9,975

Phase 2 - \$6,591

Phase 3 - \$15,650

Funds Needed

Phase 1 - Completed

Phase 2 - \$6,591

Phase 3 - \$15,650

To Learn more about this project:

EWB-COS Website: www.ewbcos.org

Contact: Matt.Grimes@ewbcos.org



Colorado Springs Professionals

Background



Derek Phipps with Aymara Girls

The Aymara Indian culture pre-dates the Inca Empire and is geographically located in the Titicaca Highlands of Bolivia and Peru. Although some modernization has occurred in Suncallo, the lives of these rural people still reflect the ancient ways of their ancestors.

A purely agrarian society, the inhabitants of Suncallo survive primarily through sheep ranching and subsistence farming of potato and beans. The rugged Andean mountain land has been farmed and grazed for centuries creating significant challenges for agricultural production and natural resource management.

Members of the EWB - Colorado Springs Professional chapter (EWB-COS) along with Cadets from the EWB - Air Force Academy Student chapter (EWB-AFA) travelled to Suncallo in May 2009. The site assessment trip allowed us to initiate a relationship with the community, as we collected engineering data to more accurately define the scope of the project.

The Need

Suncallo community leaders identified their top priorities as increasing the capacity of the present drinking water system in order to provide service to the entire community, and developing a solution



Inspecting a Water Source

for community sanitation. There is presently only a single latrine inside a small brick building located near the school. Obviously, this single sanitation facility is inadequate for a community of 55 families.

The EWB-USA Response

EWB teams, guided by community leaders, inspected the proposed water sources and walked the proposed route of a new pipeline/aqueduct system, taking GPS coordinate data to develop topographic maps. Team members examined the two main spring-fed water sources, took water samples, measured intake flow rates, and examined the existing condition of the PVC pipeline and its structural support across wide ravines. Agriculture and irrigation techniques were also documented, with soil samples collected and analyzed.

Moving Forward

Phase 2 of the project will address the immediate needs of repairing and stabilizing the gravity-fed water delivery system.

Improvements will be made to the spring intakes to prevent the ingestion of foreign matter and a pipeline suspension system will be constructed for the two ravine crossings. At present, the pipe is supported by "sticks" as it crosses the ravine.



Existing Pipe Support

A water storage tank will eventually need to be constructed to provide a reliable source of water for household use. The preliminary site survey work for this effort and for the sanitation facilities will be accomplished during Phase 2.

Phase 3 will provide construction of the water storage tank and possibly several community latrines. Further analysis will determine whether improvements to the existing system will meet the community needs or if additional water sources will have to be developed and piped back to the community.