

WEFTA SPONSORED TRIP TO
CHIAPAS, MÉXICO



AGUA DE SANTIDAD – MIGUEL HIDALGO, RESERVA BIÓSFERA DE
MONTE AZUL

CHIAPAS, MÉXICO

TRIP REPORT

Related to Site Visits made by Ramón Lucero, Jr. and Justin Login
to the State of Chiapas, Mexico
November 6 – November 12, 2011

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Village: Miguel Hidalgo – Chiapas, México

Miguel Hidalgo is a Zapatista community with 150 homes and approximately 1,750 people. The community is organized similar to a development in the suburbs of any major US city, although it is in the middle of the jungle, with the best mode of transportation to arrive in the community being a small motorized boat (lancha) on the Rio Jatate. Each house is on a 50 square meter piece of property, divided in blocks and separated by areas which could be classified as roads.



Kees, Justin, Alfonso and Maestro José on “lancha” ride to Miguel Hidalgo

The water system improvement project in Miguel Hidalgo was in the middle of construction during our site visit. In order to bring water from the “manantial” (spring) to the proposed water storage tank location, approximately 1,600 meters of 2-inch and 2-1/2-inch PVC was installed through the jungle between the manantial and the community.

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Path to Manantial from the Community of Miguel Hidalgo

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Justin, Kees, Maestro José and Autoridades from the Miguel Hidalgo Community at Spring Catchment System

In order to capture the maximum flow of water from the spring, Maestro José and members from the community excavated the area and built a concrete spring catchment system. The result is approximately 50 gallons per minute as demonstrated by the following photo of a temporary waterline in the community.

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Miguel Hidalgo Children filling their “Cantaros” (Water Jugs) with Water

Prior to bringing the waterline into the community, the women and children gathered their water from an arroyo at the bottom of a steep bank near the community. Due to the heavy rains in the region, the water was often the color of chocolate milk and full of silt from the runoff. While the water system was not yet complete, water from the flowing pipe immediately brings some relief to the arduous task of hauling water up the muddy steep bank and provides potable water safe for drinking and cooking.

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Members of the community were greatly appreciative of the new water system, stating that water piped directly from the spring would immediately have a positive health effect on the infants and elderly and reduce the amount of hard work of bringing water from the arroyo.



Kees and the Women and Young Lad of Miguel Hidalgo with their Cantaros

Over the remaining month of November 2011 until the middle of February 2012, Maestro José and members from Miguel Hidalgo will be completing the water storage tank and the distribution system to bring water to an outdoor spigot in front of each home.

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Proposed Miguel Hidalgo Water Storage Tank Site

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Village: **Laguna Chum Cerro – Chiapas, Mexico**

Laguna Chum Cerro is a community divided by Zapatista and non-Zapatista families, which seem to get along well. There are approximately 20 families with a total population of approximately 200 people.

In 2010 approximately 2,520 meters of 2-inch waterline was installed from the manantial to the new water storage tank in the community. Distribution waterline was installed from the water storage tank to an outdoor yard hydrant in front of each home.



Laguna Chum Cerro Manantial Prior to Construction

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Laguna Chum Cerro Spring Catchment System Post Construction

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Ramón, Kees, and Village Lad at Laguna Chum Cerro Water Storage Tank

In 2011 construction of 15 latrines and outdoor showers were completed in the community of Laguna Chum Cerro. While construction of the concrete septic tanks was expensive due to the high cost of cement, labor and transportation of materials into the community, the combination of the new water system and the latrines offer a higher quality of life from a sanitary and health perspective.

[Read proposal on latrine construction here](#)

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Example of Interior Latrine Construction

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Example of Exterior Latrine and Shower Construction

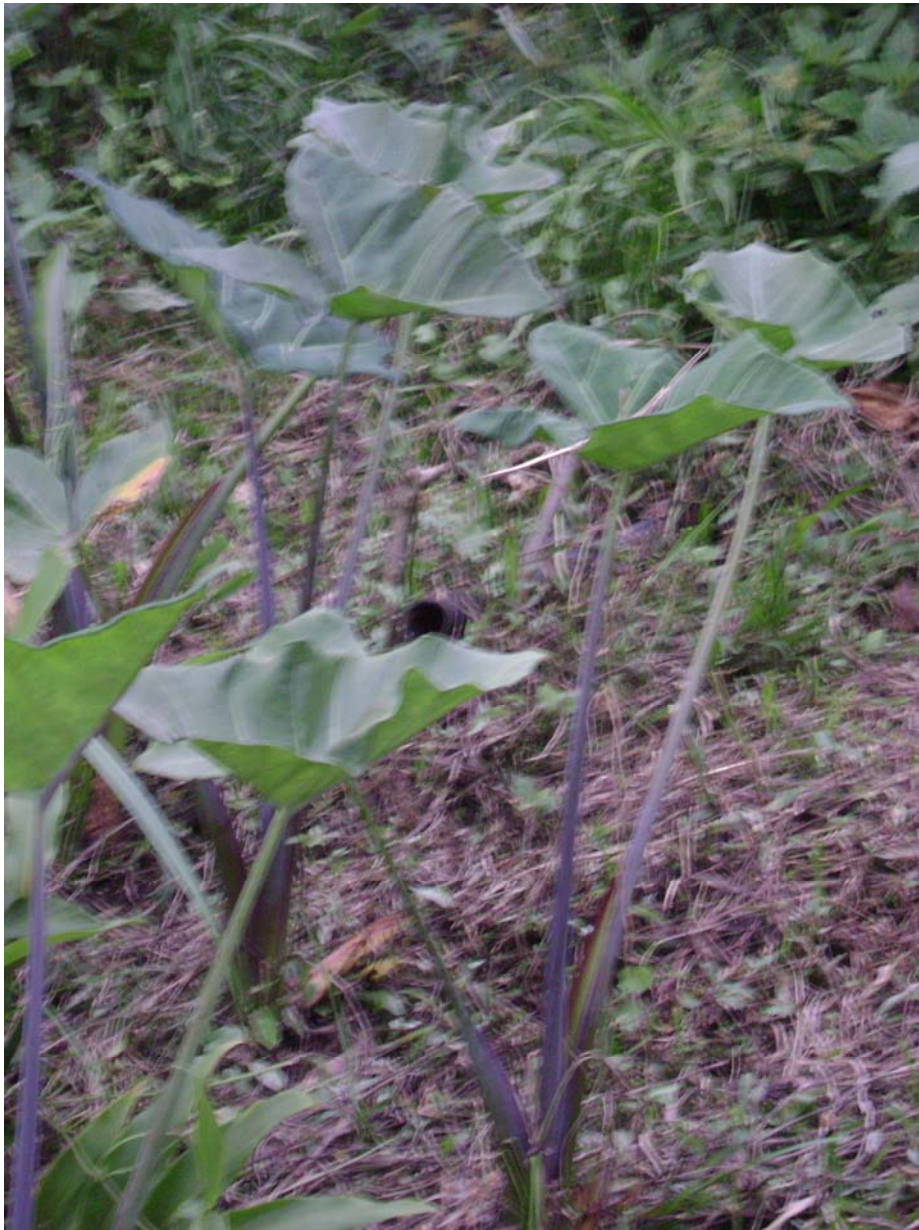
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Example of Interior Shower Construction

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While in the majority of cases the latrine and shower are constructed directly over the septic tank, one homeowner separated the latrine and shower building from the septic tank, eliminating the chance of odors into the latrine. In order to keep septic tanks pumping to a minimum the water from the showers is diverted past the septic tank to the septic tank discharge line. At this point both lines join together and water is discharged into an area of special plants that absorb the nutrients.



Septic Tank Discharge Line (Black Line can be seen in the middle of photo)

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Kees and Justin Standing in Septic Tank Discharge Area

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Each latrine, shower and septic tank costs approximately \$9,000 Mexican pesos or the equivalent of approximately \$631 U.S. dollars (based on currency conversion rates on November 25, 2011). While this cost is very reasonable to homeowners in the United States, obtaining funding to meet the large needs for the communities may be challenging. As an example, to complete construction of 150 latrines for the community of Miguel Hidalgo approximately \$95,000 would be needed. To offer a comparison, the new water system to serve the same number of households in Miguel Hidalgo cost approximately \$30,000 dollars.

The following ideas were generated during the trip to reduce the costs of building latrines:

- Build the septic tanks using cobble native to a particular area – in order to avoid ground water infiltration coat cobble with a water proof coating or cover cobble with a plastic or waterproof polymer.
- Build septic tanks large enough for multiple homes versus individual homes perhaps reducing the overall amount of concrete for a project.
- Build centralized but discrete communal latrines and showers to serve the entire community.

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Municipality: Altamirano – Chiapas, México

Hospital San Carlos

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Alameda County Medical Facility – Highland General Hospital – Department of Emergency Medicine

Hospital San Carlos:

Highland has an ongoing relationship through an international elective with Hospital San Carlos, a 60 bed hospital in rural Chiapas, Mexico in the town of Altamirano. The hospital provides adult medicine, pediatric and obstetrical care for predominantly indigenous communities. It has a well-stocked pharmacy, ultrasound, x-ray, an operating suite, and basic lab tests available on-site.

Since 1998, Doctors for Global Health has organized international physicians to help provide regular patient care at Hospital San Carlos. In-patient and outpatient services are dominated by pediatrics, obstetrics, and infectious disease. Approximately 1,000 patients are seen each month.



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[Read proposal for hospital improvements here](#)

Ramón

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Since my trip to Chiapas in January of 2009, there have been significant changes to the community of Laguna Chum Cerro. The women and children from the community are now getting their water from outdoor yard hydrants and in many cases faucets inside the home versus hauling water from a small running stream approximately half a mile from the community.

Over half the homes in the community have outdoor latrines and showers, improving the overall health and sanitation for the infants and elderly of the community. There is no longer a need of hiking the half mile to bathe or wash clothes in the river, as these activities can now be done in their homes.

The men from the communities of Benito Juarez Miramar and Laguna Chum Cerro were working extremely hard clearing the jungle between the community of Nueva Esperanza and their communities in order to bring electricity and a road into their communities. Work that will take approximately three months to clear over 13 kilometers (approximately eight miles) of jungle through knee high mud in some areas.

A labor compensated not with money but the fact that taking their ill to medical facilities will be much less arduous.