



Global  
Pediatric  
Alliance



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## What We Do

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### In Ecuador:

#### Water Quality Testing.

This year, in collaboration with [Amazon Partnerships Foundation](#), GPA has worked with 3 different indigenous communities in Ecuador to install rainwater catchment systems: tanks that collect, filter, and store fresh water for drinking and cooking. In July, GPA volunteer Leticia Rubalcava travelled to Napo Province to test the water from these systems for levels of microbes.

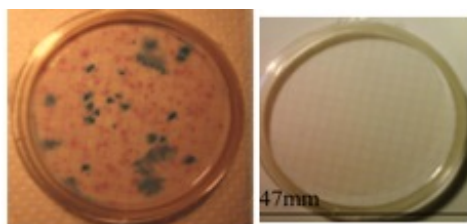
While rainwater catchment systems provide water that is much cleaner than river water, our small study over the summer revealed that even with periodic cleaning of the tanks, water collected from most catchment systems contained moderate to high levels of bacteria, including *e. coli*.

Rainwater can be contaminated in a number of ways: through dirty hands or supplies when cleaning the tanks, or if airborne dust settles on roofs and is washed into tanks.

In July 2009, we chose twenty-five households who had recently installed rainwater catchment systems as part of a Grassroots Health Partnerships Grant. Each tank was sampled 3 times each over the course of 3 weeks, and samples were analyzed under laboratory conditions using commercial water testing kits. Levels of bacteria varied among households but did not change significantly even after families reported cleaning.



Community members in San Pedro, Ecuador, hold up bags of bleach solution after a workshop about disinfecting water.



Two water samples from the same tank: the first shows total coliform (pink) and *e. coli* (blue) colonies after the tank was cleaned with soap; the second sample was free of bacteria after the tank was treated with bleach.

Fortunately, we found that treating the water from these tanks with a very dilute bleach solution (one drop of 5% bleach solution per liter of water) was sufficient to bring levels to both US EPA and Ecuadorian government drinking water standards. This level of chlorine is within the range commonly used to disinfect drinking water supplies in the United States. The chlorine solution is so effective in part because water from the catchment systems is already quite clean – as opposed to the murky river water which would require much more extensive

treatment to make it safe to consume.

Following the study, we conducted workshops in every community to explain our findings and demonstrate how to properly use the bleach solution to treat water without altering its taste. Each community was given a starter bag of the solution – enough to treat several tanks of water.

A full analysis of the water quality data is underway and will be presented by Leticia at the Society of Hispanic Professional Engineers conference in Washington, D.C., at the end of October.



Emergency vehicles of the Yajalón delegation of the Mexican Red Cross.

Now, GPA has formed an agreement with the Red Cross in the Yajalón region of Chiapas, allowing lay midwives to call upon their ambulances to transport mothers to the hospital if an emergency arises. Without the financial and logistical burden of arranging transportation, midwives can focus on making a proper diagnosis and families need not hesitate before giving consent – greatly increasing the chance of survival for mom and baby.

Many of these complications can also be prevented with proper prenatal care and highly skilled birth attendants. Since 2006, GPA has been training lay midwives – who attend about 80% of the births in this region – in the proper care of mothers before, during, and after childbirth, and in how to identify an emergency and make a timely referral.

Read about the history of the midwives group in our [archives](#) (Winter 2008, Spring 2009).

Check back for more updates on these and other GPA projects in Chiapas!

Read more about the history of our work in [Guatemala](#), [Ecuador](#), y [Mexico](#).

## In Chiapas:

### Lifesaving Ambulance Services

While the vast majority of normal births can be safely attended in the mothers' homes by midwives, from time to time an obstetric complication arises. Some of the most common causes of death during childbirth, such as hemorrhage and obstructed delivery, require surgery or anesthesia and must be performed by skilled practitioners in sterile conditions.

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