

CONAPAC

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MINI-WATER TREATMENT PLANTS & EDUCATION WORKSHOPS AMAZON RIVER RAINFOREST IQUITOS, PERU - 2009

CONAPAC, a Peruvian non-profit, has environmental education as its vision and mission. In addition to the ongoing effort of the Adopt-A-School (AAS) program (now entering its 18th year supporting school children and teachers in the Amazon rainforest) the small staff at CONAPAC finds itself busy all year long with education workshops, community service projects for visiting guests, and small sustainable rural development projects in the villages which participate in the Adopt-A-School program. In the last two years, the demand for and implementation of clean drinking water systems has played a bigger part in CONAPAC's mission to improve the lives for those living in the communities in which we serve. There are 75 communities who annually participate in the Adopt-A-School program. Out of this total we have constructed seven mini-water treatment plants. The following information will tell you more about the system and the educational support we provide for the proper use of these clean water treatment plants.

- Water is the medium of transport for many parasites that cause children to become ill and malnourished. Almost all children in the villages along the Amazon and Napo Rivers consume water directly from rivers, streams and ponds. During low water season, the water supply in some villages becomes limited because sand bars form, separating them from the main flow of the rivers, which makes the available water even more contaminated.
- Mini water treatment plants can produce potable water for small villages and significantly improve the quality of life for the inhabitants who live there. Currently the ability to create clean, potable water from the river is limited to boiling it which involves burning rainforest trees as the villagers do not have other energy sources. The process of boiling enough drinking water for daily use is a large, complicated and messy job.
- CONAPAC's simple system to create mini water plants is made with parts readily available in the city of Iquitos. The four-stage filter system is assembled in the city and the balance of the parts is transported by boat (as there are no roads) to the community for final construction.
 - The system begins with two 1000 liter tanks, one placed on top of the other at roof level. Then water is pumped up from the river by a small, 5 hp gasoline engine. By gravity, the water settles through the two tanks. Aluminum polychloride is added to expedite separation and settling. Sodium hypochlorite is added before it is filtered to kill microorganisms and lime is added to adjust the pH. The water runs through a 3-stage filtration system consisting of sand, gravel, and activated carbon, then continues through a final cellulose bacteria filter where it takes out any remaining particles. A small amount of chlorine is added before human consumption. Five times a day, a total of 2,000 liters of clean water can be processed for use. This total capacity of 10,000 liters is enough to satisfy the daily needs of approximately 350-400 people.





- Before the water plant is inaugurated, CONAPAC hosts a two-day water workshop for the entire village. This educational workshop is critical to the village's understanding of why clean water is important and CONAPAC has determined it imperative prior to opening any new water plant.
- Through discussion, songs, dance, videos, PowerPoint presentations, and hands-on activities with microscopes, community members, both old and young,

are taught the causes of polluted water and the value of clean water for their health and the natural environment around them. Election of officers for the administration of the water plants and costs associated are discussed in an open, democratic format.

- At the end of each two-day workshop, each family attending receives a new, 16-liter bucket with lid and spigot to be used only for the clean water they will collect each day. Each child receives an individual plastic cup for their personal use with our logo and message printed on the side that says "clean water is good for your health".
- Once the plant is opened, each family is charged a small monthly fee for a daily bucket of water (approximately 75 cents). If a family is bigger or wants to use more water, they are charged a small extra fee per bucket. These fees are used to pay for the gasoline and oil, filters and chemicals necessary to correctly operate and maintain the system. Some enterprising villages are selling their excess water to surrounding inhabitants who do not have easy access to clean water.
- Currently CONAPAC has seven functioning mini-water treatment plants in various villages along the Amazon and Napo Rivers.



CONAPAC is grateful for the ongoing support of many donors through Amazon Amigos and especially First Unitarian Society of Minneapolis. With this year's donation from your church, we will be able to build a new water treatment plant and host the necessary water workshop. We have chosen the community of San Pedro de Mangua for this new water plant and expect construction to begin at the first of the year. San Pedro de Mangua is located some distance up the Napo River about 75 miles from Iquitos. The village of San Pedro de Mangua has 60 families with a total population of 398. They have a primary school with 62 students, a high school with 38 students and kindergarten with 12 children. As construction begins, photos will be taken and I will report on the progress and outcome of both the water plant and the water workshop.



Thank you, again, for your concern and support for those living in the Amazon rainforest of Perú. Please don't hesitate to contact me with your questions or concerns!

Sincere regards,

Sintia Smith Snyder
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