

# AMAZON AMIGOS

Preserving the Rainforest — One Child at a Time



## Campaign Fact Sheet

# BRINGING CLEAN DRINKING WATER TO THE AMAZON

Amazon Amigos is a project of the TREE Foundation (a non-profit 501(c)3 corporation) and enables contributors to make a tax-deductible donation directly impacting the lives of Amazonian peoples through environmental and conservation education as well as sustainable community development projects. All proceeds of Amazon Amigos directly benefit Conservación de la Naturaleza Amazónica del Perú, A.C. (CONAPAC), a non-profit organization in Iquitos, Peru. CONAPAC's mission is to promote conservation of the rainforest through education of its stewards, the people who live along the Amazon and Napo Rivers in the upper Amazon basin of northern Peru. Following are questions and answers to provide background on the mini-water treatment plants supported by this clean water campaign and why their construction is a priority.

### HOW DOES MY CONTRIBUTION TO A WATER PURIFICATION PLANT HELP SAVE THE AMAZON RAINFOREST?

The rainforest and its people are inseparable. Your contribution to build water purification facilities is key to improving the health and well-being of Amazon children and families, who are the stewards of this extraordinary place in the upper Amazon basin of northern Peru.

Though river water is plentiful, it is not fit to drink, carrying parasites that cause a range of intestinal problems, diarrhea, malnutrition, and chronic illnesses especially in the young and very old. Yet nearly all inhabitants of this area rely on the river for their drinking water.

The river people of the Amazon have many challenges if they are to avoid the extensive rainforest destruction that has occurred in neighboring countries like Brazil. Chief among these is building infrastructure for clean drinking water, accompanied by education about health, the environment and sustainable methods of development.

### HOW DO AMAZONIANS CURRENTLY PURIFY THEIR WATER?

At present the ability to create clean, potable water from the river is limited to boiling it, which usually requires the burning rainforest trees as fuel. Boiling enough drinking water for daily use is not a solution that is environmentally sustainable.

### HOW DOES A WATER PURIFICATION PLANT WORK?

A simple, yet effective and economical technology is used. The mini-water plant uses two 1000 liter tanks, one placed on top

of the other at roof level and filled with river water by a small, 5 hp engine and pump. Aluminum Polychloride is added to the first water tank to speed the separation of silt and debris; cal (or lime) is added to balance the water's pH, and then a small amount of Sodium Hypochlorite is used to eliminate bacteria and other microbes. Through gravity (no electricity is needed), the water settles to the second tank, passing through a 4-stage filtration system of gravel, sand, and activated carbon followed by a final cellulose micro filter. A small amount of chlorine is added before human consumption.

### WHAT ASSURES THAT A WATER TREATMENT PLANT WILL BE MAINTAINED PROPERLY?

Maintenance requires the system to be periodically backwashed, tanks to be cleaned, and the micro filter changed on a quarterly basis. Further, the water is periodically tested. CONAPAC has teamed up with environmental engineering specialists from the University of Colorado at Boulder to provide independent evaluation and oversight for the village water systems.

### WHAT KIND OF TRAINING IS REQUIRED FOR A WATER PLANT TO BE SUCCESSFUL?

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, the causes of contaminated water and its health effects. 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. At the workshop each family receives a 16-liter water bucket with spigot for household use and each child receives their own individual drinking cup.

### **WHO MANAGES THE WATER PURIFICATION PLANT IN EACH VILLAGE?**

Officers for the administration of the water plants are democratically elected. Costs associated are discussed in an open forum during each water workshop.

### **ARE VILLAGERS ASKED TO INVEST IN THE PROJECT?**

Yes. Communities purchase a portion of the parts and provide the labor. Families, too, have an investment in the project and contribute about US\$1 per month for their allotment of one bucket of water per day. Fees pay for the fuel, chemicals and filter changes that are necessary to operate and maintain the water plant.



### **DOES A WATER PURIFICATION PLANT CREATE ENOUGH CLEAN WATER FOR AN ENTIRE VILLAGE?**

Daily production is up to 10,000 liters of water per day, enough for 350-400 people — slightly more than the population of an average community.

### **HOW MUCH DO MINI-WATER TREATMENT PLANTS COST?**

One project costs US\$6000 — US\$4200 for construction, plus US\$1800 for the water workshop, ongoing monitoring and testing, filters, transportation and project management.

### **ISN'T WATER TREATMENT THE KIND OF PROJECT THAT A LARGE AGENCY SHOULD PROVIDE?**

Unfortunately, development monies rarely reach this far into the jungle so this area is largely overlooked by international aid organizations. Even the Peruvian government has, in large measure, forgotten these river people and their impact on the future of the Amazon Rainforest.

### **HOW DID CONAPAC DECIDE TO BEGIN CONSTRUCTING WATER PURIFICATION PLANTS?**

Over the last 18 years, through the joint efforts of The Detroit Zoological Society and CONAPAC, the Adopt-a-School Program has provided school supplies and developed teacher and community workshops to improve the level of education in rural communities along the Amazon and Napo Rivers. In 2011, over 4,000 children and teachers in 96 schools in 57 river communities received educational materials as part of this program. The ongoing goodwill created by this program and other Service Projects organized by CONAPAC provided a network of community leaders to further expand development and assistance efforts.

In addition to education, the availability of potable water was seen as essential in building healthy, sustainable communities. In 2008, CONAPAC decided to expand its programs to include the installation of water purification plants. Today there are 21 water treatment plants in the villages along the Amazon and Napo Rivers.



### **WHY SHOULD I CARE ABOUT THE AMAZON RAINFOREST?**

As much as 20% of Earth's oxygen is produced by the Amazon rainforest. Because its vegetation continuously converts carbon dioxide to oxygen, it has been described as the "Lungs of our Planet." Also, there's more to know about the Amazon Rainforest as a source of life-saving drugs, biodiversity, and ethnodiversity.

### **WHAT IF THE AMAZON RAINFOREST WERE DESTROYED TOMORROW?**

In the past forty years, nearly 20% of the Amazon has been destroyed, and this rate of destruction may be accelerating. Today, global deforestation by burning accounts for 20-25% of worldwide carbon dioxide emissions and is a significant factor in climate change. If deforestation by burning is allowed to continue, each year more carbon dioxide is released into the atmosphere than generated by the all the world's cars, planes, ships, put together! The Amazon alone stores between 80 billion and 130 billion metric tons of carbon in its trees, which if lost to deforestation would emit about 50 times more carbon dioxide than the United States' total annual output! Stopping deforestation should be one of our top priorities.

### **PERU HAS EXPANSION OF RAINFOREST. WHY THE URGENCY?**

The time to introduce practical ideas of community and sustainable development is now. Peru has not yet suffered the devastating destruction of the rainforest as Brazil and other neighbors. However there are signs of compromise, as we see each year more and more logs floated on barges en route to lumber mills, more land being cleared along the rivers for cattle farms, and more meat of endangered species in the market place. By forging sustainable partnerships at the village level to counteract these pressures, the Peruvian Amazon stands a better chance of growing a sustainable economy and preserving its vital natural resources.

### **WHERE CAN I LEARN MORE?**

CONAPAC's yearly reports and further background information can be found at [www.conapac.org](http://www.conapac.org) and on the Amazon Amigos webpage at [www.amazonamigos.org](http://www.amazonamigos.org) or [www.treefoundation.org/amazonamigos.htm](http://www.treefoundation.org/amazonamigos.htm)