

Ecuador Water Project Proposal



Submitted to:

Estes Valley Sunrise Rotary Club

**Kutsutkao Village, Achuar Territory, Pastaza Province Ecuador
Village Water Purification and Distribution Project - GG2572915**

By

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January, 2025

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1. Introduction

Lack of access to safe and adequate water supply and the health risks associated with water-related diseases are major public health problems in many developing countries. More than 700 million people, mostly living in developing countries, are without access to safe and adequate drinking water (WHO/UNICEF 2014).

Our proposed project is in Ecuador; specifically, the Achuar Territory, in the Pastaza Province, in the heart of the Ecuadorian rainforest. Ecuador is the seventh populous country in South America, and the majority of the population resides in the larger urban areas of the country. However, the territories of modern-day Ecuador are still home to a variety of isolated, Indigenous groups.



The sovereign state of Ecuador is a representative democratic republic and is considered a developing country. Ecuador is one of 17 mega-diverse countries in the world, and hosts many endemic plants and animals, such as those of the Galápagos Islands and the rainforest jungle. In recognition of its unique ecological heritage, Ecuador's new constitution of 2008 is the first in the world to recognize legally enforceable Rights of Nature, or ecosystem rights.

Jungle and rainforest traditional habitation and development with respect to water resources must be addressed by caring individuals and organizations to start alleviating water health issues and the ongoing degradation of water quality in the Amazon headwaters area.

little to no sanitation presents numerous rivers with human fecal have any type of situation in jungle life and getting water more challenging in plentiful, clean water is not. Even expecting clean water is unthinkable in jungle villages of the Ecuadorian rainforest in general. Thus, hundreds of people fall ill and suffer as a result of drinking contaminated water, with a majority being children. Common maladies in the Ecuadorian jungle villages include diarrheal issues, Hepatitis A, dysentery, cholera, and typhoid.



Villages within the Achuar Territory have facilities. Being located next to rivers, this health issues due to contamination of the matter. Neither do these Achuar villages community water purification. The living villages is therefore challenging. Water is supply for drinking and other activities is jungle villages. While the water supply is

Children in jungle villages are especially subject to be affected by waterborne diseases and often cannot attend The other serious social villages is that women and responsibility of fetching dwelling. Consequently, they in community life, and it



limited school opportunities. problem in these jungle children have the water from the river to their have less time to participate negatively affects the school

time of children. The rural community's economic income is based on agriculture and raising chickens, thus the community uses unprotected sources and rivers to obtain water for domestic use. The major source of drinking water supply of the Achuar's society is rivers and streams. These sources are shared by animals and humans alike, with the resulting health risk. Since the majority of jungle drinking water supplies are unprotected, they will be polluted with different anthropogenic agents that endanger the health of the community and affect the economy and every developmental activity. The problems are very serious for children and women since all activities in the household mostly depend on their efforts. Thus, river water purification and management are one of the keys means of providing clean and safe fresh water for the Achuar villages.

2. Project Description

The scope of this project is to provide a reliable, safe, potable water supply within the village of Kutsutkao. This village has no system for mechanically transporting water from the river to the village, and has no central, nor individual, purification systems.

The scope of this project would include Innovative Water Technologies (a Colorado based company) WallSpring Solar, and wind powered microbiological water purification system capable of producing up to 40,000 liters of water per day for up to and typically well exceeding ten years.



This system includes multiple pumps (with spares) to supply water to the filtering unit (run from a roof mounted solar/battery unit), a bottle buddy – a water bottle clean/sanitize/rinse station designed to be used with the WallSpring water purification system. The Bottle Buddy cleans, sanitizes, and rinses any size water bottle in seconds. Also included will be 100 collapsible 2.5-gallon water carriers for individual families.



The water from the filtration unit can either be “pressure on demand,” or clean water can be pumped to a storage tank with a level control switch to activate the purification unit/pump.

The WallSpring Solar has no consumables that need to be replaced periodically. It is relatively maintenance free, with only the occasional backwash required. These units have been installed in third world and indigenous locations in 38 different countries. Part of our installation would include training local women in the operation and maintenance of the unit. In remote African villages, more reliable than the men in system problem occur (which are Innovative Water Technologies is problem. These units have been Estes Valley Sunrise Rotary install and start up the unit and train done in 6 to 8 hours.



the women have proven to be much maintaining these units! Should a almost always very minor), available via internet to resolve the installed worldwide for over 20 years. members have been fully trained to the locals. Installation is typically

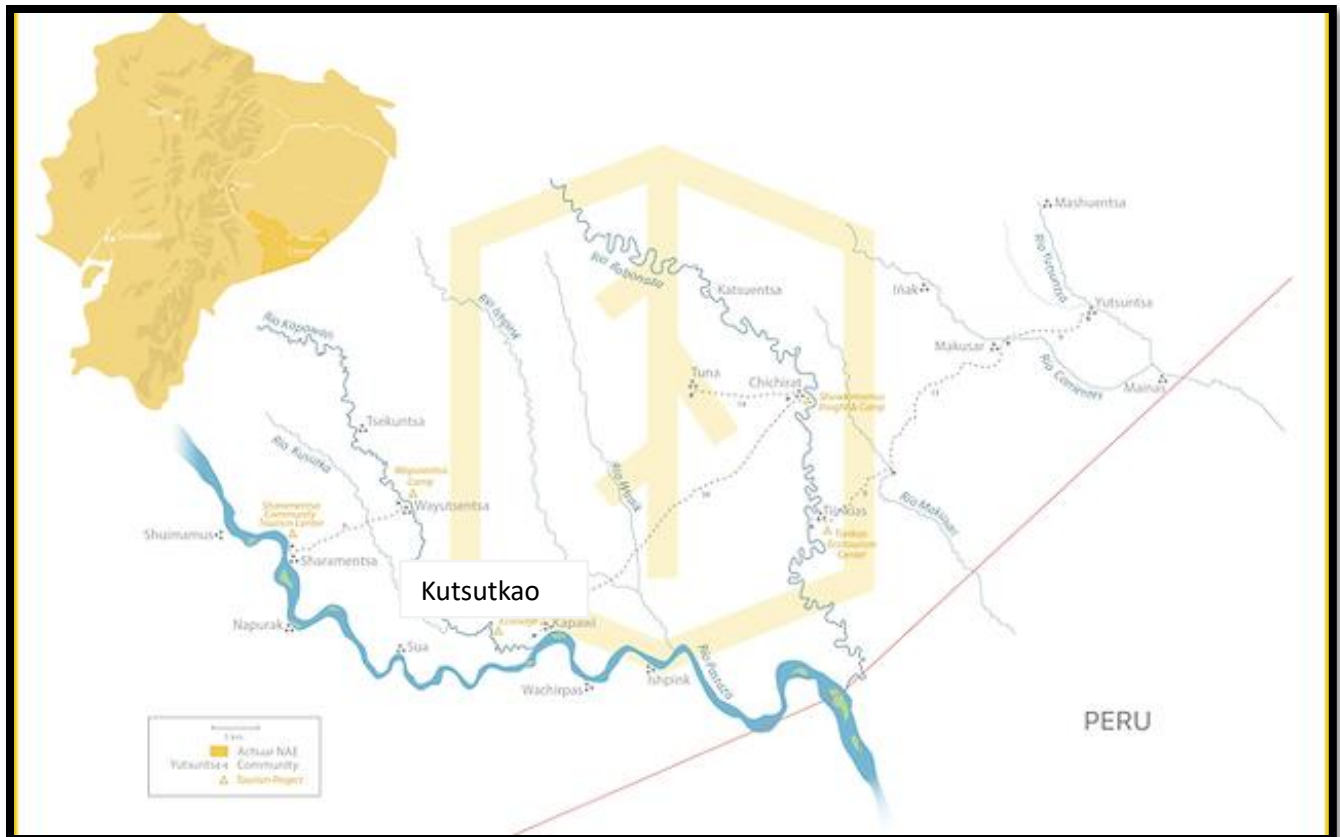
With Innovative Water Technologies, Estes Valley Sunrise Rotary is responsible for procurement, transportation to Kutsutkao, set up on site, and training. We have partnered with Club Rotario Pastaza Puyo, and Club Rotario Morona in the town of Macas, in the Province of Morona Santiago in Ecuador, to be an in-country support partners. Obviously, we will need some assistance in coordinating logistics in the country. We are also partnered with a Tucson based non-profit organization and two Ecuadorian non-governmental organizations which are discussed in Section 6, Collaborators.

3. Location and Description of the Project Area



The proposed project is in the Achuar village of Kutsutkao, in the Achuar Territory, Pastaza Province, Ecuador. The Achuar are 7,000 people, making up 64 communities or centers, in turn grouped into 10 Associations or groups of communities. In Ecuador, the Achuar territory lies in the southeastern portion of the country, bordering Peru. Totalling nearly two million acres, the Achuar territory occupies a large portion of Ecuador's jungled rainforest. The administrative center lies

in Puyo, the "first world" capitol of The Pastaza Province.



The Achuar people are guardians of the Amazon rainforest, embodying the delicate harmony between humans and nature. Their cultural identity, spiritual connection, and sustainable practices demonstrate the importance of indigenous knowledge in preserving one of the world's most precious ecosystems.

By advocating for their rights and engaging in partnerships for conservation, the Achuar offer a beacon of hope for the future of the Amazon and the invaluable cultural heritage it sustains. As the world navigates the challenges of environmental degradation and cultural



erosion, the lessons learned from the Achuar's wisdom and resilience remind us of the urgency to protect our planet and respect the rights of indigenous communities.

4. Objective

The principal objective is to provide clean potable water to the people of Kutsutkao, alleviate the myriads of health issues associated with water related diseases, and minimize the social problems associated with the time-consuming task of water collection and treatment.

Another major objective of this project is to further empower the women of the village. It is the women who will be trained to operate and maintain the WallSpring water system and ensure the availability of fresh, clean water for the families of the village. This will be a very important element of the Achuar's daily life – one which the women will hold control, increasing their stature.

A third major objective of this project is to assist the village of Kutsutkao economically by facilitating the implementation of two other major projects both requiring the utilization of potable water: Eco-Tourism, and their MAANA Chicken project. By allowing Kutsutkao to implement these projects, they have an additional source of income for the Achuar people, making them far less inclined to open their land to the oil, mining, and timber industries. Consequently, this project will directly assist the Achuar in their endeavor to preserve their precious rainforest.

Eco Tourism - The Achuar are committed to maintaining their expert stewardship of the rainforest, taking a stand to preserve this invaluable resource on behalf of all life. They refuse to let humanity destroy itself. The Achuar made the courageous decision to reach out to the modern world that was threatening their very existence. Part of their vision for self, and rainforest, preservation includes bringing the “outside world” into their territory to better understand the importance and fragility of the rainforest, and to gain an awareness of the need to live a sustainable lifestyle that reduces the needs for the earth's resources in general, and the rainforest's resources specifically.



Maketai and Fundacion Mente, our partners, conduct numerous trips annually to the Achuar Territory and feel that is the best way to inspire support of the Achuar's mission to preserve their rich culture and the Amazon. These trips not only raise environmental awareness but also bring revenue to the villagers. Without a reliable source of potable water, hosting Eco-Tourists in a village is difficult to impossible.

MAANA Chicken Project – Several years ago Maketai and Fundacion Mente initiated a major project to introduce chickens into the villages to significantly supplement and improve the Achuar's nutritional diet. Until relatively recent times, the Achuar were a nomadic tribe, and thus often warring. This nomadic lifestyle was a necessity since they were living off the jungle: the natural found edible fruit and vegetation: bananas, papayas,

mangos, roots; and the wildlife: peccaries, monkeys, tapirs, fish, birds, and small game. Continual movement was necessary to ensure adequate supply of food.



In their domesticated villages of the recent past, the Achuar planted orchards of the vegetables and fruits that they previously collected naturally. But their diets still required protein, and hunting became more difficult as species were depleted in the village area, requiring men to venture further from their villages into a dangerous jungle. The introduction of chickens significantly reduced the demand for hunting. Species of native animals near the villages are increasing again. The chickens provide both eggs and meat. Eating chicken requires constant replenishment, which is currently done by flying hatchlings into the territory. Obviously, this is an expensive proposition.

The MAANA Chicken Project and our Kutsutkao Water Project are purposefully linked.



The Chicken Project will, for the first time, establish a major hatchery in Kutsutkao, which is centrally located in the territory on the Caapawari River. Hatchlings can then be transferred by boat to other villages. But a large-scale hatchery cannot happen without a reliable source of potable water. Contaminated water spreads disease in chickens just as readily as in children. Confined chickens in a hatchery environment require a reliable source of purified water. At 40,000 liters per day, our WallSpring purification system can easily handle the requirements of the villagers of Kutsutkao and the demands of the hatchery. Without our water project, there is no chicken

project.

No discussion of the objective of the project would be complete without a discussion of the total number of people benefiting from this project. Obviously, the lives of all residents of Kutsutkao, over 120 individuals, will be greatly enhanced by having potable water available in their village. But given its location on the Caapawari River, near two other principal villages of Wayusensa and Kapawi, fresh water will also be containerized and transported to them, increasing the total benefited to nearly 600 individuals.

Further benefit is derived from the fact that, without this project, Fundacion Mente's MAANA Chicken Project cannot move forward. Supplying hatchling chickens via river (versus flying them in) to a great many villages in the Achuar Territory will significantly benefit these villages, nearly 1,500 individuals) by saving them significant dollars to use on other basic necessities like travel for youth education, health care, and basic food commodity procurement.

5. Community Participation

This project could never proceed without strong community support, and the village is fully on board. From early planning of equipment requirements and location; to future assistance with installation, trenching, and equipment sheltering; and finally, to system operation and maintenance, the community members of Kutsutkao are involved at every step. Our principal points of Contact in Kutsutkao are:



Celestino Antik, Village President, BoD
Fernando Antik, Board of Director
Simon Santi, BoD Treasurer
Norma Palora Santi, Women's Group Leader

In the Province of Pastaza, there are five Achuar organizations: Arutam, Churuya, Makusar, ACAP (Association of Achuar Centers of Pastaza) and AAC (Achuar Association of Copataza). These organizations are all interested in and support this, and potential future projects.

6. Collaborators

Club Rotario Morona

Club Rotario Morona is located in Macas, Ecuador in the province of Morona Santiago. This province borders the Pastaza Province, our project location. We would not consider embarking on this project without the help and long-term relationship of a local Rotary club. They will be essential working with the people of Kutsutkao to ensure the long term viability and effectiveness of this project. Franklin Peñaranda serves as our point of contact.



Club Rotario Pastaza Puyo

We are very fortunate to be working with two Rotary Clubs very near our project location. The second club is Club Rotario Pastaza, located in Puyo, in the province of Pastaza. This is the province in which our project is located. They will also be essential working with the people of Kutsutkao to ensure the long term viability and effectiveness of this project. Puyo/Shell is the city from which all materials will be flown into the Achuar Territory.



Veronica Masson - Assistant DG - Pastaza Club in Puyo
Julio Guerra Massón – Past President of Pastaza Club in Puyo
Monica Orozco Molina - President of Pastaza Club in Puyo

Maketai

A U.S. non-profit based in Tucson, AZ, Maketai passionately supports the Achuar's vision regarding human community as being One Planet — One People. They join the Achuar in developing and delivering capacities, resources and programs that promote planetary cooperation and sustainability. They have listened to and responded to the Achuar request to unite the wisdom of their ancient ancestors with appropriate technology of the modern world. They support projects that deepen social justice, expand environmental awareness, and promote participatory actions among the Achuar, especially the women and young adults.



Fundacion Mente

Fundacion Mente is an Ecuadorian NGO established in 2009 by a team of experienced conservation and sustainable development professionals, with headquarters in Quito, Ecuador. Fundacion Mente promotes dialogue and cooperation between communities and allies willing to work for conservation and sustainable development.



Julián Larrea
Director



José Peas
Regional Coordinator



Celestino Antik
Local Coordinator

Achuar Nationality of Ecuador

The Achuar Nationality of Ecuador (NAE) is a self-sufficient and non-profit entity, founded to strengthen the identity, language, customs, worldview, and laws of the indigenous people of the Achuar ethnic group in Ecuador. Its objectives are to defend territorial integrity and plan its development. The NAE is the mother organization of the Achuar nationality.



Innovative Water Technologies (IWT)

Innovative Water Technologies is dedicated to researching and developing products for water treatment and purification around the world in commercial applications, humanitarian initiatives, and disaster relief efforts. IWT manufactures and distributes certified drinking water systems around the World. IWT customers internationally include NGOs, Rotary Clubs, schools, orphanages, disaster preparedness, emergency response, hospitals, clinics, military, relocation camps, refugee camps and even complete villages.



7. Site Visit/Assessment

A site visit was conducted April 27 – 28 2024 by Members of Host Rotary Clubs from Macas and Puyo to assess the feasibility and technical aspects of project:

- Discussed Needs and Priorities of Kutsutkao Residents
- Village Currently Using Raw, Contaminated Kapawari River Water – Numerous Gastroenterological Diseases Common
- Changed Water Catchment Site by One Kilometer to an Up -river Clear Water Stream

Principal Conclusions

- Village Authorities and People Fully Behind Project, Including Long Term Operation and Maintenance
- Identified No Roadblocks to Social, Economic, or Technical Feasibility of Study
- Opportunities and Challenges Identified that will Assist in Project Implementation and Community Involvement and Support
- Visit Insured Utilization and Integration of Existing Village Infrastructure

8. Project Cost Estimate

IWT currently has provided over 750 drinking water systems in 38 countries. They know the intricacies of operating in third world countries, and they have provided a guaranteed price for the equipment in their system:

WallSpring Unit	\$10,000
Batteries, 100 AH (4 each)	\$1,400
Solar Panels 200w (4 each)	\$1,800
Solar Control Box w/wiring harness (2 each)	\$1,500
Bottle Buddy Combo Unit	\$7,500
XL piping kit, valves meter	\$2,500
Roof Mount for Solar panels	\$900
Crate for International Shipping (2 each)	\$900
Standard water pump, 3-5 gpm (6 each)	\$1,380
Chlorinator Kit, Water Powered Chlorinator	\$1,600
Battery Hammer Drill Kit	\$300
100 2.5 Gallon Cube-Tainers with screw lids	\$300
Air Shipping to Ecuador	\$7,500
In Country Transportation	\$2,000
Contingency (Transportation Only)	<u>\$2,460</u>
 Total Project Cost	 \$42,040

References

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