



Empowering Indigenous Futures: Sustainable WASH in the Amazon

Impact Report 2023

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Founder's Message



Another year in service to indigenous rainforest cultures has passed quickly. It is our great honor to advance a sustainable WASH (water, sanitation, hygiene) model that protects the rainforest and cares for people at the most basic human level. Our work is centered in the Manu Biosphere Reserve, a 1.7 million-hectare UNESCO World Heritage site, a global biodiversity hotspot, and one of the planet's most important protected tropical areas. We recognize the value of this forest and its contribution to global health and well-being, as well as the equal importance of the Indigenous people integral to its existence.

Historically, Indigenous people have proven to be great protectors of their territories. However, to take on leadership roles, they need urgent access to basic human services and education. Towards this goal we have partnered with indigenous communities in 2023 to achieve the following goals:

Rainforest Flow Impact Highlights 2023:

- **Shawi Project, Northern Peru:** Achieved a 93% reduction in waterborne diseases, with all families paying their water usage fees and ensuring safe water.
- **Huacaria Project, Manu Biosphere Reserve:** Built four eco-friendly home sanitation modules, completing Phase II of our home sanitation model, a first in the region.
- **Project Outreach:** Systematized our water and sanitation technologies and documented twenty years of technical information for future use.
- **Technical Training:** Initiated a technical water treatment manual for water committees to teach others and provided advanced training programs for twenty-four Indigenous water committee leaders in five communities to ensure project sustainability.
- **Global WASH Training and Research Center:** Collaborated with local municipalities, Purdue University School of Engineering, World Bank Rural WASH Community of Practice meetings, and submitted an engineering dossier to the Peruvian Housing Ministry.

Rainforest Flow has brought WASH to an estimated 4 out of 10 indigenous communities in Manu. Through this work our team has created a respected WASH model proven over the past twenty years. These advances are monumental for the people and the region and deserve to be shared and replicated in rainforest environments with Indigenous cultures across Peru's Amazon and throughout the Amazon basin.

Our vision is to scale our WASH model to serve tens of thousands more people in the Amazon. To achieve this, in 2023, we focused on collaborative partnerships to transition from a project-per-project model to a train-the-trainer model. While we continue providing ongoing technical training and health monitoring in our project communities, these communities are ready to share their knowledge and health advances with others. They are the most effective advocates for this critical work and are offering their villages as learning annexes in partnership with our Global WASH Training and Research Center to scale our success.

To achieve this vision, we are completing our teaching curriculum, technical manual, and engineering systemization. This will enable us to offer technical training workshops (both paid and scholarship) to in-country stakeholders, Indigenous leaders and communities, and university students. A key partnership with the Housing Ministry will pilot our technologies in Amazonian villages via the Global WASH Training and Research Center. By scaling up, we aim to enhance the health and resilience of rainforest communities across the Peruvian Amazon and beyond.

Rainforest Flow is leading a groundbreaking clean water effort that will help preserve the agency and cultural integrity of Indigenous people who are essential to responsible conservation practices and the health of the rainforest, an essential component to mitigating the impacts of climate change throughout the globe.

We extend our deepest gratitude to all our supporters. Your friendship and generosity is critical to the continuation of our work as we strive to expand our vision to creating a WASH model that will help many more communities in the coming years.

We hope you will continue to support our efforts to scale up our impact throughout the Amazon and bring essential services to more Indigenous communities.

With gratitude,



Nancy Santullo
Founder and Executive Director, Rainforest Flow



“Before, we didn’t have tap water. We would drink water from the streams. No place to wash our hands after we went to the bathroom. We’d have to suffer, carrying water from a long way away. We used to get lots of intestinal worms. Now that we have this water, we don’t get those kinds of illnesses. We drink this water and live well. This water is really delicious!”

~ Edy Shumarapague Coshante, high school student, Matsigenka Village of Yomybato.

Translated from Matsigenka to English by: Dr. Glenn Shepard, Jr.

Photo by: Dr. Glenn Shepard, Jr.

Vision

Rainforest Flow supports indigenous health and autonomy, preserving the rainforest for future generations. Our innovative WASH technologies aim to provide sustainable services to tens of thousands in rainforest communities. Through our Global Learning and Research Center, we promote indigenous health and cultural integrity globally.

Mission

We empower indigenous communities in the Peruvian Amazon with sustainable WASH infrastructure and technical training, fostering health and environmental stewardship in vital rainforest ecosystems.

Commitments

Rainforest Flow commits to sustained impact through three to five years of ongoing technical training, health monitoring, and social impact studies. This approach ensures lasting success, documents health improvements, and integrates WASH infrastructure and hygiene practices into daily community life.



Water Committee Members, Village of Yombyato.

Program Model



Water Program

- Install water treatment plants and distribution lines.
- Upgrade existing water systems.
- Build sinks and greywater drains in homes.
- Train village committees for maintenance.
- Provide ongoing supervision and training.



Sanitation Program

- Construct eco-friendly bathrooms with biodigesters.
- Promote community ownership through outreach.
- Offer project supervision and training.



Health and Hygiene Program

- Conduct health assessments and monitoring.
- Provide hygiene education for families and school children.
- Train community Health Promoters for home visits.
- Partner with local health authorities for sustainability.

Sustainability and Ownership

- Engage families in all project activities.
- Equip committees with skills and income opportunities.
- Established village elected water and sanitation committees.
- Host outreach community meetings to share progress and foster ownership.

Accomplishments

Founding and Early Initiatives (2003-2006)

- **2000:** Founded by Nancy Santullo; established nonprofit in Peru.
- **2004:** Launched WASH Program in Huacaria; featured at UN World Environment Day.
- **2006:** Documented in PBS's "Planet H2O"; constructed eco-friendly bathrooms in Huacaria.

Program Expansion (2007-2013)

- **2007:** Children's healthy lifestyle paintings were showcased at the United Nations in collaboration with the Permanent Forum on Indigenous Issues.
- **2009:** WASH program initiated in Tayakome.
- **2010:** Built eco-friendly bathrooms in Tayakome; Launched Global WASH Training Program in Village of Shinvankoren with PlusPetro Peru.
- **2012:** Launched WASH program in Yomybato.
- **2013:** Received Austrian Energy Globe Award for sustainable initiatives.

Growth and Development (2014-2019)

- **2014:** Built school bathrooms in Yomybato.
- **2015:** Ongoing health monitoring and education in Tayakome and Yomybato.
- **2016:** Conducted social impact evaluation; facilitated WASH model outreach to Peruvian regional municipals and Health Ministries.
- **2017:** Constructed portable geomembrane water treatment plant in Huacaria.
- **2018:** Hosted WASH best practices 2-day workshop; piloted rainwater harvesting in Yomybato.
- **2019:** Built home rainwater harvesting model and in-home bathrooms in Huacaria; systematized 16 years of health data.

Recent Initiatives (2020-2022)

- **2020:** COVID-19 interventions in three villages; launched WASH project in Shintuya; built additional eco-friendly bathrooms in Huacaria.
- **2021:** Completed water project in Shintuya; remodeled sinks; continued health education in 4 project villages.
- **2022:** Established WASH project in Louis Terry; ongoing health education; developed programs in Palotoa; completed engineering dossier for Nuevo Porvenir.



"This water isn't like the water we used to drink. We didn't have a tap like this. Nancy built this. Now I have my own water tap. In the past, I would get sick all the time. Lots of diarrhea, illnesses and colds. Now there is not as much illness. Children don't get diarrhea very often. Now I drink safe water."

~ Marcos Shumarapague Mameria and his wife, Paulina Coshante Cashiri, father of six children, president of the water committee, community leader, Matsigenka Village of Yomybato.

Translated from Matsigenka to English by: Dr. Glenn Shepard, Jr.

Photo by: Dr. Glenn Shepard, Jr.



Water is the conduit that transforms health, self-esteem and brings dignity to communities.

2023 Impact

\$568,293 in Seven Communities: Our commitment to **Louis Terry, Huacaria, Shintuya, Yomybato, Tayakome, and Palotoa** resulted in a transformative impact, achieving measurable advancements in health, infrastructure, and community capacity.

Commitment to Long-Term Health Advances:

- **Five communities supported:** Louis Terry, Huacaria, Shintuya, Yomybato and Tayakome

Maintenance:

- **Two projects:** Louis Terry and Huacaria

Capacity Building:

- **Four communities engaged:** Louis Terry, Huacaria, Shintuya and Palotoa

Technical Training:

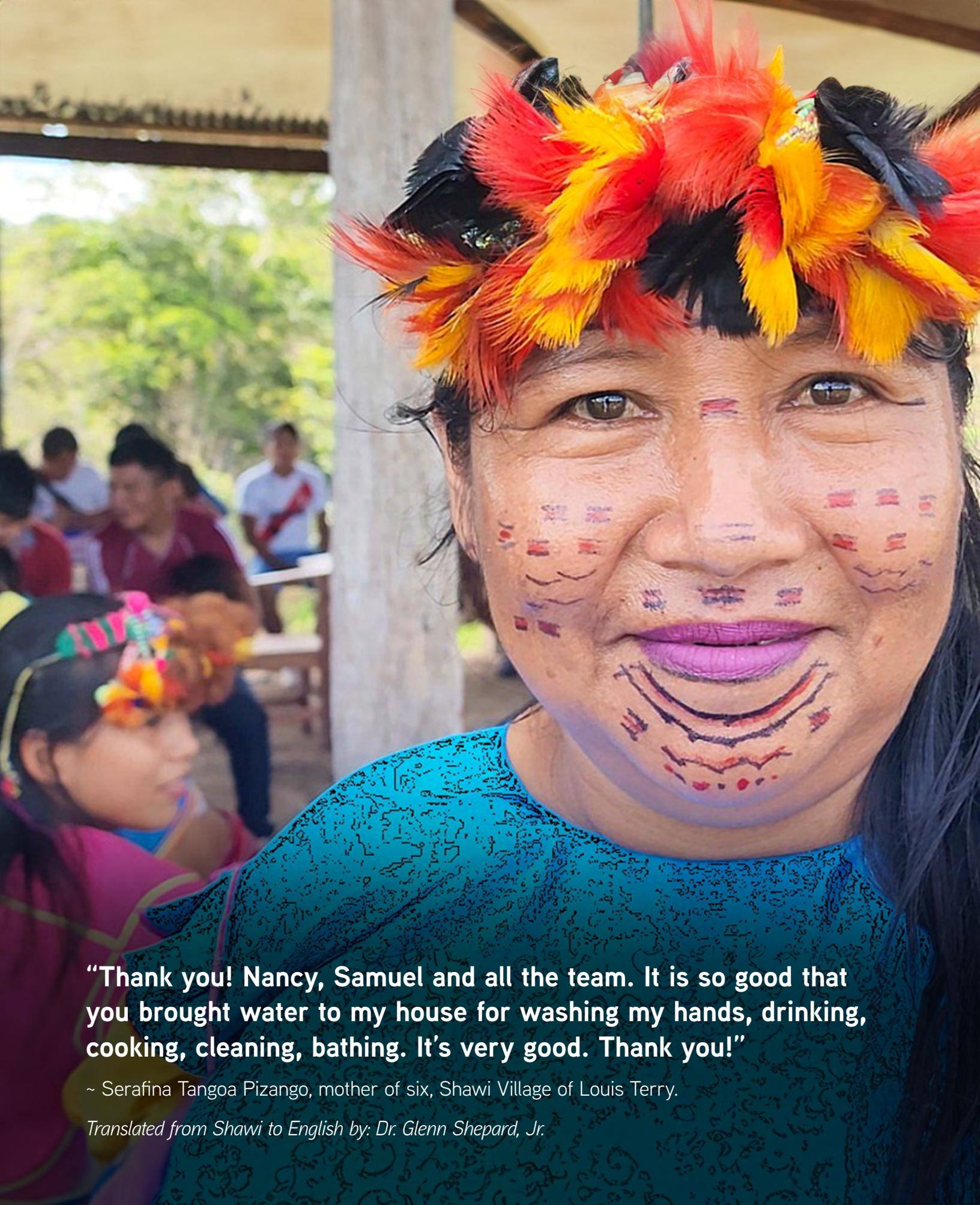
- **Five communities trained:** Louis Terry, Huacaria, Shintuya, Yomybato and Tayakome

Global WASH Training and Research Center:

- **One new model developed.**
- **One partnership established.**

We align with the United Nations Sustainable Development Goals and empower indigenous communities to become active stewards of an ecosystem vital to all.





“Thank you! Nancy, Samuel and all the team. It is so good that you brought water to my house for washing my hands, drinking, cooking, cleaning, bathing. It’s very good. Thank you!”

~ Serafina Tangoa Pizango, mother of six, Shawi Village of Louis Terry.

Translated from Shawi to English by: Dr. Glenn Shepard, Jr.

Commitment to Long-Term Health Advances

Health Documentation and Education:

- Conducted multiple health documentation visits across communities, focusing on intestinal health through parasite and anemia testing.
- Distributed government-approved anti-parasite medication in partnership with ministry health personnel.
- Held hygiene educational workshops for mothers and schoolchildren to reinforce good daily hygiene and cleanliness practices.
- Ongoing analysis of longitudinal health data from the four Manu communities is underway, with plans to publish a major study for a high-impact public health journal.



(L) Health documentation (parasite and anemia testing) (R) Distribution of anti-parasite medicines



(L) The women of Louis Terry participated in a series of nutritional workshops that incorporated locally sourced fruits and vegetables, adding more variety to their meal planning. (R) Hygiene classes teach school children about the ongoing maintenance needed for their school sinks and bathrooms.



Summary of Health Monitoring (*communities impacted*):

Louis Terry:

- Monthly hygiene educational classes and house-to-house health monitoring visits
- Slow sand filtration removed 99.9% of the fecal bacteria from the water
- 93% decrease in prevalence of diarrheal disease over the first 18 months of implementation
- 43% reduction in intestinal parasite prevalence
- 73% reduction in the prevalence of multiple parasite infections over baseline values in 2022

Huacaria:

- Two health documentation visits and two hygiene workshops
- Slow sand filtration removed 99% of the bacteria, viruses and cysts from the water.
- 80-100% reduction of hygiene-related intestinal worms in 2023 over baseline values 2004
- Ongoing monitoring shows elevation of median blood hemoglobin levels over the past 20 years.
- After the resurgence of *Giardia* in prior 2 years, the 2023 study showed only 1 case, representing a 91% decrease over baseline prevalence in 2004.

Shintuya:

- Two health documentation visits and two hygiene workshops
- Slow sand filtration removed 99% of the bacteria, viruses, and cysts from the water.
- 70% reduction in overall prevalence of intestinal parasites in just 2 years
- Ongoing monitoring shows elevation of median blood hemoglobin levels over the past 4 years.
- Significant decrease of *Giardia* prevalence, the 2023 study showed only 3 cases, representing an 83% reduction over baseline prevalence in 2020.

Yomybato:

- Two health documentation visits and two hygiene educational classes
- Slow sand filtration removed 99% of the bacteria, viruses and cysts from the water
- Ongoing monitoring shows elevation of median blood hemoglobin levels over the past 12 years.
- Significant and sustained improvement in *Giardia* infection rates, 2023 study showed only 3 cases, representing a 97% decrease in prevalence over baseline values in 2012.

Tayakome:

- Two health documentation visits and two hygiene workshops
- Slow sand filtration removed 99% of the bacteria, viruses and cysts from the water
- 70-100% reduction of hygiene-related intestinal worms in 2023 over baseline values in 2009
- 73% reduction in *Ascaris* prevalence as compared to baseline values in 2009
- Ongoing monitoring shows elevation of median blood hemoglobin levels over the past 15 years.
- Despite the persistence of moderate *Giardia* prevalence in prior years, 2023 saw a significant reduction to only 1 case, representing a 96% decrease over baseline values in 2009.



“When I grew up, we had to collect our water from the stream, and we had fatal diarrhea, especially for the young children. Rainforest Flow changed everything for us, and the community feels grateful and strong for the water we have, and we are advancing well. Instead of children dying, they are being born healthy and strong. As the Chief of the community, these advances make me very happy.”

~ Mateo Vicente, Chief and Director of Education of Matsigenka Village of Yomybato.

Translated from Spanish to English by: Nancy Santullo.

Maintenance

Infrastructure and Water Systems:

- Conducted critical maintenance and upgrades to water capturing systems, bathroom facilities, and water treatment systems.
- Installed biodigesters waste management units and secured energy solutions for solar pump stations.
- Performed structural modifications to water systems to ensure stability and compliance with health requirements.

Key Projects:

Louis Terry:

- Maintained 22 home sinks, installed energy solutions, and conducted six supervision visits for water and sanitation infrastructure.



Huacaria:

- Built four home bathroom modules and modified chlorination systems.



(L) Construction of home bathroom modules in Huacaria have toilet, sink, shower, (R) outdoor utility sink for dishes and clothes washing, and eco-friendly biodigester for waste disposal.



(L) Modification to home rainwater harvesting system with Louis Terry water committee members and, (R) new backup 350-watt batteries and a 5000-volt inverter to power solar pump during extended cloud coverage



The decrease in spring output was due to the extended dry season and climate change. Modifications were made to water capturing systems in the villages of Yomybato (L), and Shintuya (R) to secure water for over 600 people in the combined villages.



“When I was a young girl, we drank dirty stream water. We were sick, our hands were always dirty, and we had bad stomach problems. When clean water arrived that changed everything. We drink the water, washed our hands, and learned about bad bacteria in the water and the environment that make us sick.

I now have a new bathroom and shower at my home. We invested some of our own money, so we feel like it’s ours. I need to keep it clean for the health of my family. I guide my children how to take care of the water and teach them its value. With the projects of Rainforest Flow we are better, and now it’s up to us to take care.”

~ Jovita Palomino Solisonquehua, mother of three, Village of Huacaria.

Translated from Spanish to English by: Nancy Santullo.

Capacity Building

Community Engagement and Empowerment:

- Engaged with local leaders and community members through workshops and training sessions to build capacity in managing and maintaining WASH systems.
- Developed social baselines and conducted anthropological studies to better understand community needs and ensure culturally appropriate interventions.

Initiatives:

Louis Terry:

- Held an inaugural WASH system ceremony and conducted social-sanitary studies.

Huacaria and Shintuya:

- Conducted workshops for water and sanitation committees and ongoing social and sanitary studies.

Palotoa:

- Conducted additional topography study and updated the engineering dossier for comprehensive water access to all sectors of village.



(L) The inauguration ceremony of the Louis Terry WASH system celebrated the hard work of the villagers and the Rainforest Flow team with dancing, traditional food, chicha and masato, heartfelt testimonies, and plenty of clean water. (R) Health team gathering Social-Sanitary data in Shintuya.



“Rainforest Flow is the only organization that has brought projects with real and lasting benefits to the indigenous communities of Manu Park.”

~ Mauro Metaki, treasurer, Native Federation of Madre de Dios (FENAMAD), Village of Tayakome.

Translated from Spanish to English by: Dr. Glenn Shepard, Jr.



Technical Training

Advanced Training Programs:

- Provided advanced technical training to water and sanitation committees, equipping them with the skills needed to maintain and troubleshoot WASH infrastructure.
- Supervised water treatment systems which include: pre-filters and slow sand filters in five project villages, removing up to 99.98% of bacteria, viruses, and cysts from the water supply.
- Supervised the installation and maintenance of chlorine systems in Louis Terry and Huacaria.
- Implemented rain-the-trainer model to scale impact and ensure sustainability, including water and sanitation infrastructure systemization.

Highlights:

Louis Terry:

- Six advanced technical training workshops and technical supervision by experts, including Dr. Chad Jafvert, Environmental Engineer, Purdue University

Huacaria and Shintuya:

- Two advanced technical training workshops each

Yomybato and Tayakome:

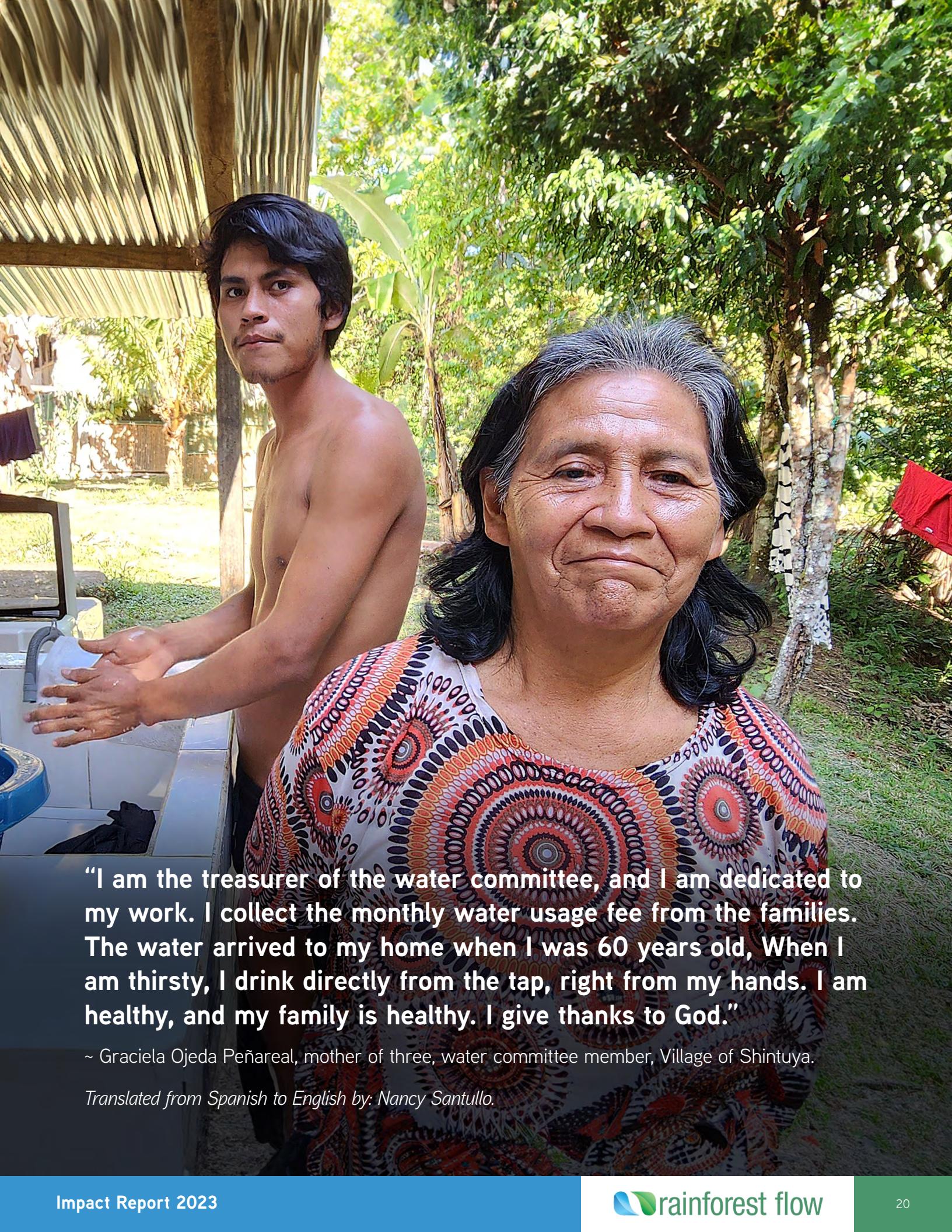
- Two advanced technical training workshops each



(L) Advanced technical training on chlorine disinfection for Shintuya Water Committee (R) International collaboration to strengthen our WASH initiatives with Peruvian Moises Mera and Javier Hernandez, Dr. Chad Jafvert, and Rainforest Flow Executive team. Photo credit: Dr. Glenn Shepard, Jr.



(L) Water committee members Herlinda and Emilio measure the flow rate on their slow sand filter in the Village of Huacaria. (R) Rider and Dennis from the Village of Louis Terry clean the slow sand filters and rake the top 8 cm of sand.



"I am the treasurer of the water committee, and I am dedicated to my work. I collect the monthly water usage fee from the families. The water arrived to my home when I was 60 years old, When I am thirsty, I drink directly from the tap, right from my hands. I am healthy, and my family is healthy. I give thanks to God."

~ Graciela Ojeda Peñareal, mother of three, water committee member, Village of Shintuya.

Translated from Spanish to English by: Nancy Santullo.

Global WASH Learning and Research Center

Strategic Initiatives:

- Transitioned to a train-the-trainer model to extend WASH services to 1,000 indigenous families.
- Held a day long WASH workshop for local and regional stakeholders in Village of Louis Terry.
- Submitted an engineering dossier to the Peruvian Housing Ministry for national approval of our WASH technology.
- Participated in project meetings in Norway with NORAD, The Norwegian Refugee Council, Norwegian Church Aid, Rainforest Foundation Norway, and Ministry of Climate and Environment to share our WASH model.

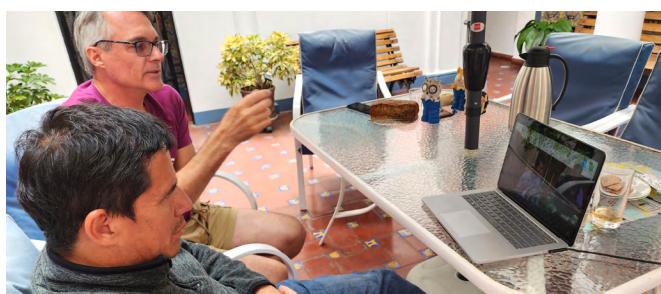
Development Projects:

- Initiated Phase I of the design for a water treatment system manual.
- Implementing a WASH workshop curriculum for indigenous leaders and international participants.
- Established a partnership with Manu Learning Center to host WASH workshops.



(L) WASH workshop in Louis Terry for local communities and municipal and healthy ministry leaders

(R) Met with the mayor and councilman of Shucush-Yacu to develop a partnership to bring WASH to more people in the Loreto region, in Northern Peru.



(L) Anthropology Director Glenn Shepard and curriculum expert Carlos Arevalo developing courses at the Global Training and Research Center. (R) Glenn visits the Kayapó health district in Pará, Brazil, to discuss future collaborations on indigenous water and health.



(L) Glenn Shepard presented Rainforest Flow's tech and health results at the Goeldi Museum seminar in Belém, Brazil, November 2023. (R) The team also shared our WASH model with Rainforest Foundation Norway Peru directors.

Future Plans

Rainforest Flow is committed to expanding our impact and continuing our mission to improve health, resilience, and sustainability in rainforest communities. Our future plans include:

Expand	Global WASH Training and Research Center to provide national and international training workshops for indigenous communities, Federations, and Latin American stakeholders
Strengthen	Vocational training programs for sustainable livelihoods
Implement	WASH programs to two indigenous communities
Grow	National and international partnerships with universities, NGOs, Peruvian Ministries, World Bank and other in-country stakeholders



"I don't understand the work the municipal government is doing here, and to me it seems to be in vain. I have seen Nancy's work in Huacaria and other communities in Manu, and I know it's real. We are waiting for Nancy to bring us a water project. Thank you, Nancy."

~ Ruben Semperi, community leader, Matsigenka Village of Palotoa

Translated from Spanish to English by: Nancy Santullo.

Financial Summary

In 2023, Rainforest Flow managed its finances to efficiently maximize the impact of our programs. Below is a summary of our financials, including how funds were allocated:

Assets	
Total Current Assets	\$245,225
Total Fixed Assets	\$4,917
Total Assets	\$250,142

Liabilities and Equity	
Total Current Liabilities	\$5,482
Total Equity	\$244,660
Total Liabilities and Equity	\$250,142

Revenue	
Contributions - Donations Direct Public Support (15%)	\$93,916
Grants Received (85%)	\$542,744
Total Revenue	\$636,660

Expenses	
Programs (81%)	\$568,293
Management and General (12%)	\$84,068
Fundraising (7%)	\$51,069
Total Expenses	\$703,430

Board of Directors



Samuel Schwan
President



Stephen Levit
Secretary



Nancy Santullo
Founder & Treasurer

Our Team



Dr. Glenn Shepard, Jr.
Medical Anthropologist
and Ethnobotanist



Caleb Matos Chavez
Project Supervisor
& Hydraulics Expert



Edgar Florez Gil
Administrator
& Logistics Coordinator



Dr. Miguel Cabada
Infectious Diseases
Specialist

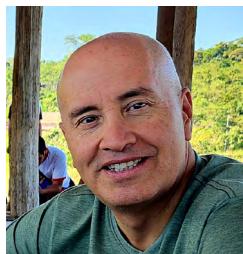


Moses Mera Berrios
Sanitary Engineer

Advisory Board



Dr. Douglas W. Yu
Ecologist



Javier Hernandez Campanella
Sanitary Engineer



Charles Hamilton James
National Geographic
Fellow and Wildlife Filmmaker



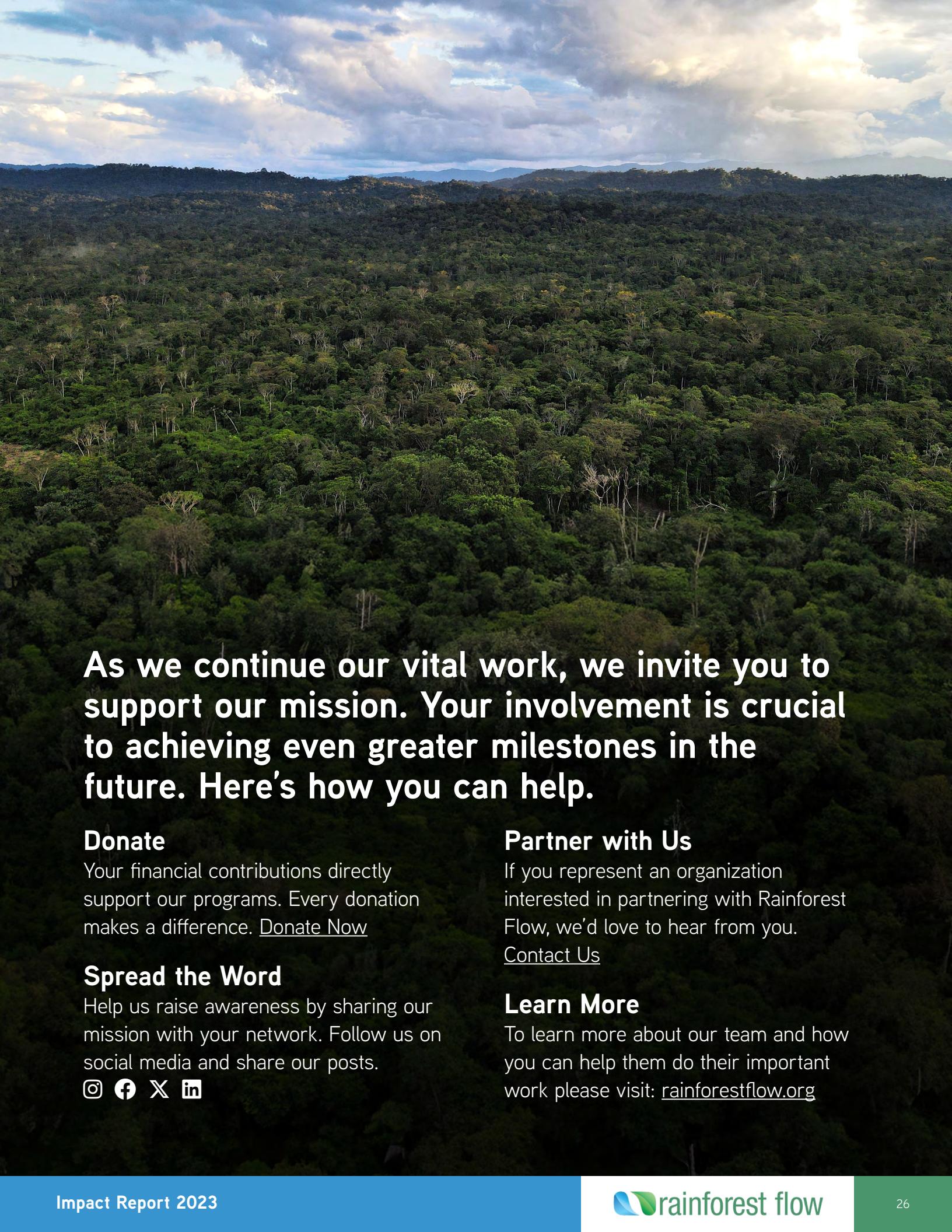
William Yotive
Education Expert



Vanessa J. Tobin
WASH Expert



Gunnar K. Nilsen
Finance and Engineering Expert



As we continue our vital work, we invite you to support our mission. Your involvement is crucial to achieving even greater milestones in the future. Here's how you can help.

Donate

Your financial contributions directly support our programs. Every donation makes a difference. [Donate Now](#)

Spread the Word

Help us raise awareness by sharing our mission with your network. Follow us on social media and share our posts.



Partner with Us

If you represent an organization interested in partnering with Rainforest Flow, we'd love to hear from you. [Contact Us](#)

Learn More

To learn more about our team and how you can help them do their important work please visit: [rainforestflow.org](#)

To ensure the Manu Biosphere Reserve's survival, it needs an active, healthy, educated, and culturally strong indigenous population to take on stewardship roles. The children are our best long-term hope, and clean water is essential for healthy indigenous communities.



Thank You

All of us at Rainforest Flow extend our heartfelt gratitude to our partners, donors and supporters. Your commitment and generosity have made a profound impact on our communities, the success of our programs, and the preservation of the rainforest and her people integral to its existence. Together, we are creating lasting change and improving lives. Thank you for being an essential part of our journey.



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