



# PROJECT PRESENTATION



# SUMBA WATER CONNECTIONS

**Villages concerned**  
Mbatapuhu – District de Haharu  
Kawangu – District de Pandawai  
Province of East Nusa Tenggara, Indonesia

**Sustainable access to clean and safe water in rural areas of East Sumba**

## 2026

Project developed and implemented by Fair Future Foundation and Kawan Baik Indonesia

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# About Fair Future

**Fair Future Foundation is a Swiss humanitarian organisation that has been active in Indonesia for over seventeen years.**

It develops and implements **medical, social and environmental programs** for populations living in extremely isolated rural areas.

The foundation also works in the east of Sumba Island, where many communities **still lack access to clean water, electricity, or basic medical services.**

The foundation's programs are based on an **integrated approach to public health**, grounded in field data and close collaboration with local communities.

## Areas of intervention

*The actions of the Fair Future Foundation are organised around five main areas:*

- ➔ **Water and sanitation**  
Development of sustainable infrastructure for access to drinking water and improvement of community hygiene.
- ➔ **Health and medical care**  
Deployment of primary care programs in isolated villages through Kawan Sehat's network of community health workers.
- ➔ **Nutrition and food security**  
Prevention of malnutrition and improvement of families' food resilience.
- ➔ **Health education and prevention**  
Educational programs aimed at reducing preventable diseases and strengthening community health knowledge.
- ➔ **Sustainable Community Development**  
Strengthening local capacities so that communities can manage and maintain the infrastructure put in place.



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# Contexte

**The East Sumba region experiences a particularly dry climate, marked by a dry season that can last eight to nine months each year. In many rural villages, including Mbatapuhu in the Haharu district and Kawangu in the Pandawai district, access to safe drinking water remains extremely limited.**

In these isolated communities, water often comes from small natural rock cavities locally known as kullup, or from shallow wells. These sources are located far from homes, sometimes several kilometres away. It is not uncommon for families to walk **five to ten kilometres each day to collect a few tens of litres of water** for drinking, cooking, and washing.

In the vast majority of cases, **women and children are responsible for these journeys**, often several times a day. The hours spent fetching water reduce the time available for school, work, or family activities. In some areas, water must even be purchased from tanker trucks, representing a significant financial burden for families already living in severe poverty.

**The absence of reliable access to safe drinking water is also a major public health issue.** Waterborne infections, diarrheal diseases, skin infections, and various parasitic illnesses remain common in these regions where maintaining basic hygiene is difficult. Without sufficient water available, ensuring basic sanitary conditions becomes nearly impossible.

Paradoxically, during the rainy season, large volumes of water fall on these villages but **are mostly lost due to the absence of appropriate collection and storage systems**. Very few households have infrastructure capable of capturing and preserving this essential resource.

The **Sumba Water Connections program** proposes a simple, durable solution adapted to local realities. It relies on rainwater harvesting, basic filtration systems, and storage in ferrocement reservoirs **with a capacity of approximately 5,300 litres**.

These structures are robust, low-cost, and can be built with the active participation of local communities. They allow water to be stored during the rainy season **to secure supplies during the long dry months**.

In this phase of the program, **twelve complete water collection and storage systems** will be installed in priority villages. The objective is to improve access to safer water, reduce health risks, and **strengthen community resilience** to recurring water shortages.

Children sharing a healthy meal during community nutrition education activities supported by safe water access.



# Major problems

## A dry climate and a resource that is difficult to capture

In East Sumba, rainfall is concentrated in just a few months, followed by a long dry season that can last more than seven months. During this short wet period, heavy rains flood the villages. Lacking adequate infrastructure to capture and store this resource, much of this water quickly disappears through runoff or seepage.



## Lack of Collection and Storage Infrastructure

In most rural households, there are no systems capable of collecting and storing enough water. Families often rely on small containers or makeshift devices to gather rainwater. These solutions remain limited and do not support water conservation during the dry season.



## Limited Access to Safe Water Sources

When reserves are inadequate, families depend on poorly protected natural sources. Water is often gathered from rock cavities called kullups, small wells, or water points situated far from homes. In most cases, women and children walk several kilometres each day to collect water for their basic needs.



## Direct Consequences for the Health of Vulnerable Populations

When water is scarce or of poor quality, maintaining basic hygiene becomes challenging. Water used for drinking or cooking can be contaminated by bacteria or parasites. In such conditions, diarrheal diseases and intestinal infections are common, especially affecting children, pregnant women, the elderly, and those with chronic illnesses, with increased risks of dehydration and malnutrition.



# Main objectives

**Strengthening the resilience and autonomy of families and educational structures in priority rural areas of East Sumba by improving their access to clean and safe water.**

- 1 Establish suitable water storage infrastructure to increase the capacity of households to collect and store rainwater during the wet season.
- 2 Improve the efficiency of rainwater harvesting systems by installing more efficient gutters and simple filtration devices.
- 3 Strengthening the skills of local communities in drinking water management in order to ensure the maintenance, proper use and sustainability of the infrastructure put in place.

## Expected results

### Construction of 12 Ferrocement Tanks

Twelve ferrocement water tanks, each with a capacity of approximately 5,000 liters, will be constructed and put into operation to allow families and schools to safely collect and store rainwater, thus reducing dependence on unreliable water sources.



### Installation of 12 collection and filtration systems

Twelve complete rainwater harvesting systems will be installed, including gutters, filtration devices, and distribution pipes, to ensure efficient collection and a daily water supply for households and schools.



### Establishment of community water management committees

Community groups will be formed and trained to manage, maintain, and monitor the facilities, ensuring the system's sustainability and reliable long-term access to water for residents.



# Impact on public health

In many rural areas of East Sumba, limited access to clean water is a major contributing factor to the spread of preventable diseases.

Families often rely on unprotected water sources or on small natural cavities that are frequently **contaminated with bacteria, parasites, or organic matter**.

Under these conditions, diarrheal diseases, certain parasitic infections, and **various skin conditions remain common**, particularly affecting children and contributing to malnutrition and school absenteeism.

Access to stored and filtered water **reduces these health risks** by facilitating daily hygiene, food preparation, and improved sanitation in schools and homes.

Rainwater harvesting and storage infrastructure **is therefore a crucial public health intervention**, reducing exposure to waterborne infections and sustainably improving the living conditions of rural communities.

**Access to safe water is one of the fundamental determinants of public health**

## Impact of the Water Connections program



#WaterConnections

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FAIR FUTURE  
FOUNDATION

**80+**

**Ferrocement tanks constructed.**

Since the program's launch, more than 80 tanks (*ranging from 4,000 to 115,000 litres*) have been built in rural villages in Sumba.



#NutritionForAll

fairfuturefoundation.org

FAIR FUTURE  
FOUNDATION

**300,000+ litres**

**Annual water capacity secured.**

The collection and storage systems make it possible to secure several hundred thousand liters of water each year.



#CommunityEmpowerment

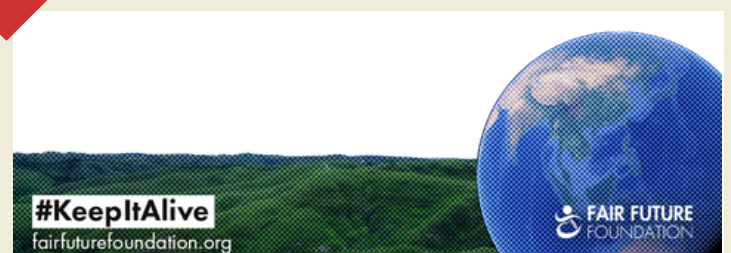
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FAIR FUTURE  
FOUNDATION

**25,000+ people**

**Direct access to clean water.**

Families and schools directly benefit from good access to water for drinking, cooking, and maintaining basic hygiene.



#KeepItAlive

fairfuturefoundation.org

FAIR FUTURE  
FOUNDATION

**10+ years**

**Observed operating time.**

The first systems installed continued to operate for several years thanks to the training provided to local communities.

# Sustainability and adaptation to local realities

Ferrocement reservoirs are a particularly suitable solution for rural areas facing limited access to water.

Their construction relies on simple techniques, locally available materials, and relatively easy maintenance.

Unlike some more complex infrastructure, these reservoirs can be maintained and repaired by the communities themselves, thereby strengthening the system's long-term sustainability. The establishment of community water management committees also ensures regular monitoring of the facilities, maintenance of the filtration systems, and collective management of this essential resource.

This approach fosters community ownership of the project and helps guarantee continued access to water well beyond the initial phase of the program.

## A solution adapted to the realities of Sumba

The climate of East Sumba is marked by a relatively short rainy season followed by several months of drought.

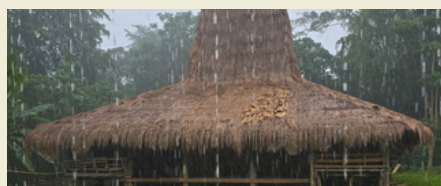
During this wet period, heavy rains flood the villages, but the water remains largely unused due to a lack of appropriate infrastructure.

Rainwater harvesting, filtration, and storage enable this seasonal resource to be converted into a usable reserve during the dry months.

The systems proposed in this project are based on simple, durable, and replicable technologies that can be implemented in many villages facing similar challenges.

This phased approach encourages the development of solutions tailored to local conditions while enhancing the resilience of communities against recurring water shortages.

## System principle



### Seasonal rainfall

Seasonal rainfall brings significant volumes of water for only a few months of the year.



### Collection and storage

Roofs, gutters and filters direct rainwater to ferrocement tanks where it is safely stored.



### Sustainable water access

Families have a safer water supply for drinking, cooking and maintaining hygiene during the dry months.

# Location and beneficiaries

**The selection of the two intervention areas for this phase of the program is based on several criteria:** Vulnerability to water scarcity, access to existing water sources, and the capacity of local communities to actively participate in the project.

Particular attention was also paid to villages where schools have limited access to clean water. Improving access to water benefits not only families' daily lives but also sanitary conditions in schools.

**In total, this project is expected to directly benefit several hundred people.**

**Mbatapuhu Village – Haharu District** 

**Intervention Allocation:** 10 ferrocement tanks and rainwater harvesting systems

- 1 unit installed at Kelompok Bermain Matawai Pandangu School, benefiting 30 students and 2 teachers
- 9 units installed in at least 30 households, benefiting approximately 200 community members

**Kawangu Village – Pandawai District** 

**Intervention Allocation:** 2 ferrocement tanks and rainwater harvesting systems

- 1 unit installed at KB Matawai Pandangu School, benefiting 39 students and 4 teachers
- 1 unit installed for at least 3 households, benefiting approximately 20 community members



For detailed information on the location of the reservoirs and the distribution of the planned facilities, please consult [the Google map by clicking on this link](#).



# Calendar and activities

The program will be implemented **over a six-month period**, using a phased approach to ensure technical readiness, strong community participation and the long-term viability of the system.



## Preparation and field study (March – April 2026)

### Activities:

- Verification of project locations and reservoir coordinates
- Coordination with village authorities and school officials
- Formation of beneficiary groups
- Finalisation of technical plans and work schedule

**Result:** Intervention sites are validated and beneficiary community groups are formed.



## Construction of 12 ferrocement tanks (April – July 2026)

### Activities:

- Construction of 12 ferrocement water storage tanks
- Structural work, finishing, and concrete curing phase
- Quality control, including leak and strength tests

**Result:** The 12 tanks are built and ready for use.



## Installation of 12 rainwater harvesting systems (April – July 2026)

### Activities:

- Installation of gutters, downpipes, and filtration systems
- Functional testing of the systems
- Verification of the proper operation of the collection and filtration systems

**Result:** The rainwater harvesting and filtration systems are installed and operational.



## Community Awareness and Water Management (July 2026)

### Activities:

- Training in filter maintenance and drinking water management
- Creation of community water management groups
- Establishment of simple rules for facility maintenance

**Result:** Communities have a local system for managing and maintaining infrastructure.



## Monitoring and Evaluation (August and September 2026)

### Activities:

- Technical monitoring of the installed facilities
- Documentation of activities and initial impact assessment
- Preparation and submission of the final report to partners

**Result:** The final project report is complete and the facilities have been fully verified.

# The name of the reservoirs

In the rural villages of East Sumba, the arrival of a water reservoir is more than just the construction of infrastructure.

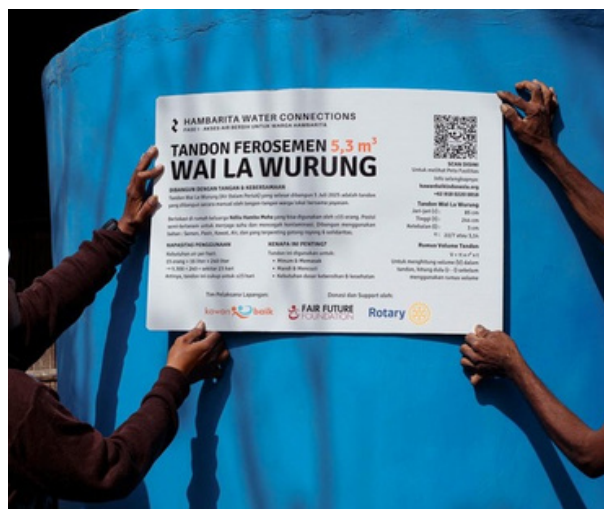
For families, it is often their first stable access to water in their daily lives. This means fewer kilometres to travel, improved hygiene, safer food, and more time for school or family activities.

For this reason, each reservoir is given a name. This name is chosen in consultation with the villagers and often reflects a simple yet essential idea: life, solidarity, hope, or the protection of the community.

Naming these reservoirs gives them an identity. They become a landmark for families and a tangible symbol of access to water in the village.

## The reservoirs of the Sumba Water Connections 2026 program

- Matawai Panamu - Water of Remembrance
- Matawai Pingu - Water of Knowledge
- Matawai La Paraingu - Village Water
- Matawai Pataku - Drawn Water
- Matawai Pa Aki - Dug Water
- Matawai Ma Torung - Strong Water
- Matawai La Omang - Forest Spring
- Matawai Pamonggu - Water of Hope
- Matawai La Woka - Garden Water
- Matawai Ma Langga - Good Water
- Luri Mahamu - The Good Life
- Kahaungu - United



Each reservoir built under the program is equipped with an identification panel installed directly on the structure.

This panel indicates the reservoir's name, its technical specifications, and the organisations involved in its construction. It allows residents to clearly identify the installation, strengthens their sense of community ownership, and documents the project's tangible impact in each village.

**HAMBARITA WATER CONNECTIONS**  
PHASE I - ACCESS TO CLEAN WATER FOR THE HAMBARITA COMMUNITY

**FEROCEMENT TANK 5,3 m<sup>3</sup>**  
**WAI PA LURI WANGU**

**BUILT BY HAND & TOGETHERNESS**  
The Wai Pa Luri Wangu (Water for Life) Ferrocement Tank, which was completed on August 6, 2025, is a water tank that was built manually by the hands of local residents together with the foundation.

Located in the **Huhu Tanggu Mara** family home, this house can accommodate ±15 people. It was built using cement, sand, wire, water, and most importantly, mutual cooperation and solidarity.

**USAGE CAPACITY**  
Daily water necessities:  
15 people × 16 liters = 240 liters  
→ 5.300 ÷ 240 = around 23 days  
This means that this tank is sufficient for ±23 days.

**WHY IS THIS IMPORTANT?**  
This tank is used for:  
• Drinking & Cooking  
• Bathing & Washing  
• Basic Hygiene & Health Needs

**Tank Volume Formula**  
 $V = \pi \times r^2 \times h$   
To calculate the volume (V) in the tank, first find (r - l) before using the volume formula for ±23 days.

Field Implementation Team: **kawan baik** **FAIR FUTURE FOUNDATION** **Rotary**

Donations and Support by: **FAIR FUTURE FOUNDATION** **Rotary**

**HAMBARITA WATER CONNECTIONS**  
PHASE I - ACCESS TO CLEAN WATER FOR THE HAMBARITA COMMUNITY

**FEROCEMENT TANK 5,3 m<sup>3</sup>**  
**WAI LA PADANG**

**BUILT BY HAND & TOGETHERNESS**  
The Wai La Padang (Water in the Field) Ferrocement Tank, which was completed on August 7, 2025, is a water tank that was built manually by the hands of local residents, including its foundations.

Located in the home of **Jhani Mbulu Manggal** family, this house can accommodate ±15 people. It was built using cement, sand, wire, water, and most importantly, mutual cooperation and solidarity.

**USAGE CAPACITY**  
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# TECHNICAL DIAGRAM

## RAINWATER HARVESTING AND FILTRATION



Rainwater harvesting gutter system



Metal sieve filtration system



Flow control system for optimal filtration

## FERRO-CIMENT



Water distribution and outlet control unit



Drainage via infiltration well



Ferro-cement tank – 5,300 L



Clean Water Center

A **simple and sustainable solution** for regions facing water scarcity.



**Easy to build, replicate, and maintain** by local communities.

Rainwater harvesting and filtration **secure the water supply.**

A crucial factor for **public health and disease prevention.**





## Project budget

This section presents the estimated costs required to implement the Sumba Water Connections program.

These costs include materials and the construction of ferrocement reservoirs, the installation of rainwater harvesting and filtration systems, community training activities, project monitoring and evaluation, and the essential logistical support for its implementation.

	Description	Cost (IDR)	Cost (CHF)
1	Construction of 12 ferrocement tanks	IDR 354,200,000	CHF 16'241.-
2	Installation of 12 rainwater harvesting and filtration systems	IDR 142,100,000	CHF 6'516.-
3	Community training and the establishment of water management groups	IDR 16,200,000	CHF 743.-
4	Technical monitoring and evaluation of the project	IDR 20,600,000	CHF 945.-
5	Project coordination and operations	IDR 35,200,000	CHF 1,614.-
	<b>Total cost</b>	<b>IDR 568,300,000</b>	<b>CHF 26.059.-</b>

Exchange rate used for this estimate (7 March 2026): 1 CHF ≈ IDR 21,810



Ce projet permettra d'assurer un accès durable à l'eau potable pour plusieurs centaines d'habitants de plusieurs villages de l'est de Sumba, où la pénurie d'eau demeure un problème majeur de santé publique.

# Publications and field analyses

For several years, Fair Future Foundation has been documenting its actions and the health realities observed in the rural areas of Sumba.

These reports and analyses present the projects carried out in the field as well as the public health determinants related to access to water, medical care and disease prevention in isolated communities.

## Annual activity report - published annually in accordance with Swiss legislation on foundations.

The Fair Future Foundation's 2025 annual report presents the programs carried out during the year: access to water, primary healthcare, disease prevention, solar energy, and humanitarian logistics in rural areas of Sumba. It offers a clear overview of the actions undertaken, the results achieved, and the health and social impact of the projects. [Read the report here.](#)

## Hambarita Water Reservoirs Report

A detailed report on the construction of ferrocement water reservoirs in the village of Hambarita and their impact on access to water and sanitation in rural communities. [Read the report here.](#)

## Unmatched Laidatang Rainwater Reservoir

Technical and operational presentation of one of the largest rainwater harvesting reservoirs built by the Fair Future Foundation in East Sumba. [Read this article](#)

## Climate Change and Health

Analysis of the links between climate change, prolonged drought, and public health in rural areas of Indonesia. [Read this analysis](#)

## Preventable Deaths Are Geographic

Why many diseases become deadly in isolated areas simply because of distance and lack of infrastructure. [Read this article](#)

## Health Without Infrastructure Is Fiction

A reflection on the importance of basic infrastructure, such as water, energy, and logistics, for making healthcare systems truly functional. [Read this article](#)

## Antibiotics Without Laboratories

Why the lack of laboratories and diagnostic facilities complicates the appropriate use of antibiotics in rural areas. [Read this article](#)

## Hidden Cost of Delay in Rural Medicine

Analysis of the medical consequences of travel time to a healthcare facility in remote areas. [Read this article](#)

## Logistics Is Medicine

How transport, roads, and logistics determine actual access to treatment in rural areas. [Read this article](#)



Access to clean water remains one of the most pressing challenges for many rural communities in Sumba.

Each reservoir built represents much more than just infrastructure. It means fewer hours spent walking to fetch water, improved sanitation, and more time for school, work, and family life.

By supporting this program, you are directly contributing to improving the health, hygiene, and living conditions of families in these remote areas.

We invite you to join this initiative and actively participate in developing sustainable solutions for access to water.

Thank you very much.



### Fair Future Foundation Board

- Maxime Capelli
- Chloé Dubrit
- Michèle Rey
- Alexandre Wettstein
- Elisa Wettstein



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