# LAINDATANG WATER CONNECTIONS 2024

## Providing Access to Clean Water for Rural Areas

kawan baik

FAIR FUTURE


limymaps laindatang

## INTRODUCTION

Laindatang Village is located in East Sumba Regency, East Nusa Tenggara Province, Indonesia. This village is located about 25 km from the city of Waingapu, the capital of East Sumba Regency. This village comprises 1 RW and 2 RTs, with a population of 151 people in 34 heads of families from the Laindatang Mbatakapidu Village hamlet.

For over two and a half years, the Fair Future Foundation has been actively involved in Laindata and Hambarita—two remote villages that do not have access to clean water, electricity, or health services.

We first intervened through the Zero Malaria program, offering extensive malaria prevention screening, treatment, and education. Next up is our Water Connection initiative, which involves building several 5,000-liter capacity water reservoirs, sanitation, and handwashing facilities at Laindatang school to support 78 children

## TODAY'S CONDITION

### limited access to clean water

To meet their need for clean water, the people of Lain come to use rainwater during the rainy season. Harvesting rainwater is stored in reservoirs, but some houses still don't have reservoirs, they maximize their small containers to harvest rainwater. In the dry season they usually take water from Kulub (an artificial water reservoir in a sunken rock) or buy tank water from a water supply company.

When ordering tengki water, access conditions are quite difficult, both in the rainy season and the dry season, not many companies are willing to deliver the water there. Often the tank water that arrives at the location is no longer full, because it spills when the vehicle is shaken on the way to the village of Laindata.

## MAIN PROBLEM

- **The distance from the house to the spring is very far**

  For some houses that do not have reservoirs, they only need to maximize the absorption springs which are quite far away, 3-5 km from the residents' houses.

- **There are no clean water facilities available at home**

  There are still residents' houses in Lain Datang that still don't have rainwater reservoirs so that this could be an alternative source of water for daily needs.

- **Poor Quality of Health**

  This limited access to clean water results in the quality of people's health decreasing and not being guaranteed, because people only focus on using water to eat and drink as little as possible.

# THE GOAL'S

## Ferrocement Water Tank and Rainwater Harvesting System

This project aims to build seven ferro-cement reservoirs with a capacity of 5,000 liters, equipped with a rainwater harvesting system with filtration to ensure the quality of the water stored is clean and safe for consumption. This system stores filtered rainwater as a water source, especially during water shortages in the dry season.

### 7 Units, 5000 Liter Ferrocement Water Storage

Ferrocement, as an effective technological innovation with economical materials and an easy work process, is a solution for water storage in rural areas. This project also involves citizen participation to transfer knowledge for sustainability.

### 7 Units, Rainwater harvesting system

The rainwater harvester created in this project is the installation of a rainwater gutter using a 4 inch paralon pipe connected to a water filter leading to a reservoir.

### 7 Units, Rainwater filtration system

The water filtration used is a simple or applied technology which consists of two stages

- The first stage is cutting the water channel and installing a filter with a mesh to block large impurities.
- The second stage channels the water into a large pipe containing a float ball which blocks the flow when full. This stage holds the dust and then directs clean water to the reservoir.

Laindatang Water Connections

# PROJECT DESIGN'S ILLUSTRATION

## TECHNICAL DRAWING OF RAINWATER FILTRATION

***Rainwater Harvesting Gutters***
*Covered with PVC to reduce roof waste*

***First Filter - Mesh Screen Filter***
*Prevents large debris such as leaves and stones from passing through*

*Floating ball*

*Overflow pipe*

***Second filter - Flush Diverter and Slow Drip Control***
*Inside is a vacuum ball that rises and closes the pipe gap to prevent dirt from rising. Finer debris, such as small pebbles and dust, are filtered out by this filter.*

*The tap on the gutter filter should be set to a slightly open position, perhaps 2%, to allow the dirt to flow out.*

*Dirt output*

**Control Box**
The control box is used to secure all incoming and outgoing water taps.

**Drainage Infiltration Hole**
When the ferrocement basin is complete, the water flows to the infiltration pit. When the infiltration pit is complete, the water fills the excavated pond and seeps back into the ground when the rain stops.

*Tusen klep*


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# Laindatang Water Connections

| | |
|---|---|
| Project Code | : 600.006.14 |
| Project Coordinator | : Alex Wettstein |
| Field Assistant | : Alyuprayitno Umbu Makaborang |
| Technical Coordinator | : Primus Lede |
| Post Budget | : Water Connections |
| Duration | : 3 months |

| ACTIVITIES | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Code | Description of Activities | Unit Description | Unit | | Quantity | | | | Cost | | Notes / Remarks |
| | | | | | | | | | Unit Cost | Total Cost | |
| 1 | Ferrocement Tank Construction | | | | | | | | | | |
| 1.1 | Technical survey and coordination | | | | | | | | | | |
| 1.1.1 | Survey the location of each ferrocement tank point, harvester and rainwater filter | | | | | | | | | Rp3,123,750 | |
| 1.1.2 | Coordination with each community group to work together to build ferrocement tanks and harvesters and rainwater filters | | | | | | | | | Rp3,123,750 | |
| | Total Activity 1.1 | | | | | | | | | Rp6,247,500 | |
| 1.2 | Construction of ferrocement reservoir | | | | | | | | | | |
| 1.2.1 | Construction of ferrocement reservoir | | | | | | | | | Rp45,606,750 | |
| 1.2.2 | Mobilization of materials | | | | | | | | | Rp4,593,750 | |
| 1.2.3 | Construction of Ferrocement Tank | | | | | | | | | Rp126,910,000 | |
| 1.2.4 | Ferrocement Tank Finishing | | | | | | | | | Rp16,353,750 | |
| | Total Activity 1.2 | | | | | | | | | Rp193,464,250 | |
| 1.3 | Trial of ferrocement reservoir | | | | | | | | | | |
| | - Simultaneously with activity 1.2 | | | | | | | | | | |
| | Total Activity 1.3 | | | | | | | | | Rp0 | |
| | Total Activity 1 | | | | | | | | | Rp199,711,750 | |
| 2 | Making installation of rainwater harvester and filter | | | | | | | | | | |
| 2.1 | Making rainwater harvester | | | | | | | | | | |
| 2.1.1 | Rainwater harvester and rainwater filter material | | | | | | | | | Rp25,385,675 | |
| 2.1.2 | Mobilization of materials | | | | | | | | | Rp1,837,500 | |
| 2.1.3 | Installation of rainwater harvesters | | | | | | | | | Rp21,866,250 | |
| | Total Activities 2.1 | | | | | | | | | Rp49,089,425 | |
| 2.2 | Rainwater filters Installation | | | | | | | | | | |
| 2.2.1 | Rainwater filters installation | | | | | | | | | Rp8,575,000 | |
| | Total Activity 2.2 | | | | | | | | | Rp8,575,000 | |
| | Total Activities 2 | | | | | | | | | Rp57,664,425 | |
| 3 | Monitoring and Evaluation | | | | | | | | | | |
| 3.1 | Monitoring | | | | | | | | | Rp4,287,500 | |
| | Total Activity 3.1 | | | | | | | | | Rp4,287,500 | |
| 3.2 | Evaluation | | | | | | | | | Rp6,921,250 | |
| | Total Activity 3.2 | | | | | | | | | Rp6,921,250 | |
| | Total Activity 3 | | | | | | | | | Rp11,208,750 | |
| 4 | Project Operation | | | | | | | | | | |
| 4.1 | Travel cost | | | | | | | | | Rp10,290,000 | |
| | Total Activity 4.1 | | | | | | | | | Rp10,290,000 | |
| 4.2 | Accomodation Cost | | | | | | | | | Rp25,725,000 | |
| | Total Activity 4.2 | | | | | | | | | Rp25,725,000 | |
| | Total Activity 4 | | | | | | | | | Rp36,015,000 | |
| | TOTAL BUDGET | | | | | | | | | Rp304,599,925 | |

# The Sustainable Development Goals


## NO POVERTY

Construction of water facilities to improve quality of life, overcome inaccessibility due to poverty


## GOOD HEALTH AND WELL BEING

With the provision of clean water and healthy sanitation, a healthy lifestyle can be implemented in a sustainable manner


## CLEAN WATER AND SANITATION

Availability of access to clean and quality water that is not polluted, healthy sanitation with good waste treatment standards


## PARTNERSHIP FOR THE GOALS

Involving the Laindatang village community to form a clean water committee from and by residents, the goal is achieved and maintained together

# HELP THEM BECOME HEALTHIER AND SMARTER!

You can make an impact through this project; your contribution is your commitment to supporting us in providing basic healthcare access to communities in need.

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# Thank You