



MBINUDITA

WATER

RESERVOIR

WATER RESERVOIRS AND
RAINWATER HARVESTERS FOR
THE COMMUNITY
JUNE 2021

BACKGROUND

▶ LIMITED WATER ACCESS

Water is one of the natural resources very often hard to obtain, in Mbinudita Village (Preparation Village). Usually, residents have to walk 1.5-3 kilometres to the springs or harvest dew from the excavations of the cliff walls.

▶ WATER RESOURCE MANAGEMENT (FIELD STUDY)

The construction of these water reservoirs purpose to be used as a learning move for the residents. In the future, they will be able to build another reservoir independently. By inviting experts in the field of applied technology to share the knowledge.

▶ PILOT PROJECT

Local villagers are prepared to be able to build reservoirs independently, the first reservoir will be an example that can be applied by themselves.



TEAM SUPPORT

NICKO BOLHUY

Born in Benjina-Maluku, devoted himself as an instructor for Clean Water Management in East Sumba. He learns the water conservation management dan appropriate technology in Access Life Bali. He is actively involved in helping the community get clean water with his knowledge. He used innovations, utilizing materials and equipment that were available and inexpensive. He is ready to bring it on the solution to provide the water needs in Sumba.



MBUHANG LUNGGI HALI (BAPAK RINTO)

Mbuhang Lunggi Hali or better known as Bapak Rinto is one of the community leaders who participated in this project. He is responsible for the construction site of the Mbinudita RT 03 water reservoir facility. The dissemination, building, until water distribution processes are currently under his responsibility. In addition, he will help rebuild water reservoirs if other residents ask for help. The whole process has been followed by Mr Rinto carefully. His hands are strong and agile, making the process of making this water reservoir faster. Sure, with the help of other citizens who are under his command.



PROCESS

The total duration of building the Mbinudita water reservoir we spend is 4 days. This is including the process of drying the cement wall. The tank construction involved 4 to 8 residents in a neighbourhood.

SCOPING/SURVEY

AGREEMENT WITH RESIDENTS

MATERIAL PROCUREMENT

CONSTRUCTION OF WATER RESERVOIR

WATER HARVESTER INSTALLATION

WATER RESERVOIR FILLING





WATER RESERVOIR CONSTRUCTION

The construction process of a water reservoir is simple, easy to find materials and replicate. It is carried out independently by residents accompanied by experts in the applied field. Everyone was involved, parents, youths and children were participated and took part in the whole part of activities. They learn the concepts and techniques to practice in the field.



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WATER RESERVOIR CONSTRUCTION



TECHNICAL INTRODUCTION

This technical introduction is explained by the expert. Nicko describes the theory simply, showing each step through pictures from his phone. Using the local language it is easy to understand by them.



SITE PREPARATION

The site has been mutually agreed upon, they start to make ground levelling. We use simple equipment, hoe, spade and crowbar to remove large stones. Everything is done in a participatory manner by the residents, with great enthusiasm.



BASE FRAME CONSTRUCTION

After levelling the ground, then the main axis point is determined which will be the centre point of the reservoir base. From the centre point, a base frame with a radius of 16 circles is made, which is tied with a round tie wire. The wire ties are repeated until the last large circle.

PEMBUATAN **TANDON**



WALL MOULDING

We used 4 mm thickness plywood, wood plank, wood rib and nail. Make a 2-meter high tubular reservoir pattern by dividing it into 5 parts. Then installed vertically, it connected with wooden pegs as a pattern to wrap the swivel wire and concrete iron as the mainframe.



FRAME CONSTRUCTION

The mainframe must be assembled with wire wrapped tightly around the entire surface of the reservoir wall. The space between wires is approximately 2 cm.



HARDENING CONCRETE WALL

After the entire wall is covered with wireframes and concrete, then close the reservoir walls with a mixture of cement, sand and water. The thickness of this wall is approximately 8 cm, polished from the outside first and then from the inside after the reservoir wall is removed.

PEMBUATAN **TANDON**



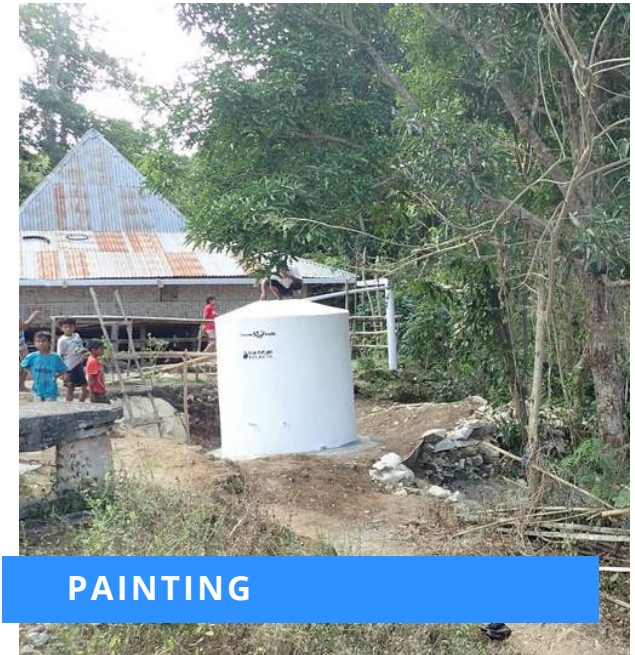
WATER TANK LID

The lid is made after the reservoir body dries and is ready to use because it must be closed when the entire inner walls dry and ensure that it is not leaking. Make a hole with approximately 40cm diameter for pipe from the gutter or the pipe from the water tank and cleaning purposes.



WATER FAUCET INSTALLATION

Install two faucets with a size of 1/2 dim in the reservoir. Faucets are provided so they can take water alternately. Meanwhile, another faucet at the bottom is used to drain the reservoir water.



PAINTING

The dry tank is then painted white according to the agreement of the residents, so it looks clean and eye-catching.

CONSTRUCTION OF RAINWATER HARVESTING INSTALLATION

The rainwater harvester installation is installed on the roof of Mr Rinto's house. A stilt house with iron sheetings roof covering an area of 120 square meters, fitted with gutters on two connecting sides. If it rains heavily, the roof of Mr Rinto's house can harvest rainwater that fills the 6500-litre water reservoir in approximately 3 hours.

This installation is carried out by residents with the help of expert supervision. Calculate the slope and size of the pipe to determine the duration of filling the water reservoir.



CLEAN WATER SOURCES



RAIN WATER

During the dry season, residents agreed to collect money to buy tank water from a private company to fill the reservoir. The price per 5000-litre tank is Rp. 250,000. This quantity can meet household needs for 1 week.

Mbinudita has a longer duration of rain than other sub-districts or villages. This is the right choice to make rainwater a source of clean water.

Another thing, the vast savanna around Mbinudita also produces dew. Dew fell on the roof of the house on stilts and collected through gutters installed on both sides of Mr Rinto's house.



WATER TANK REFILL



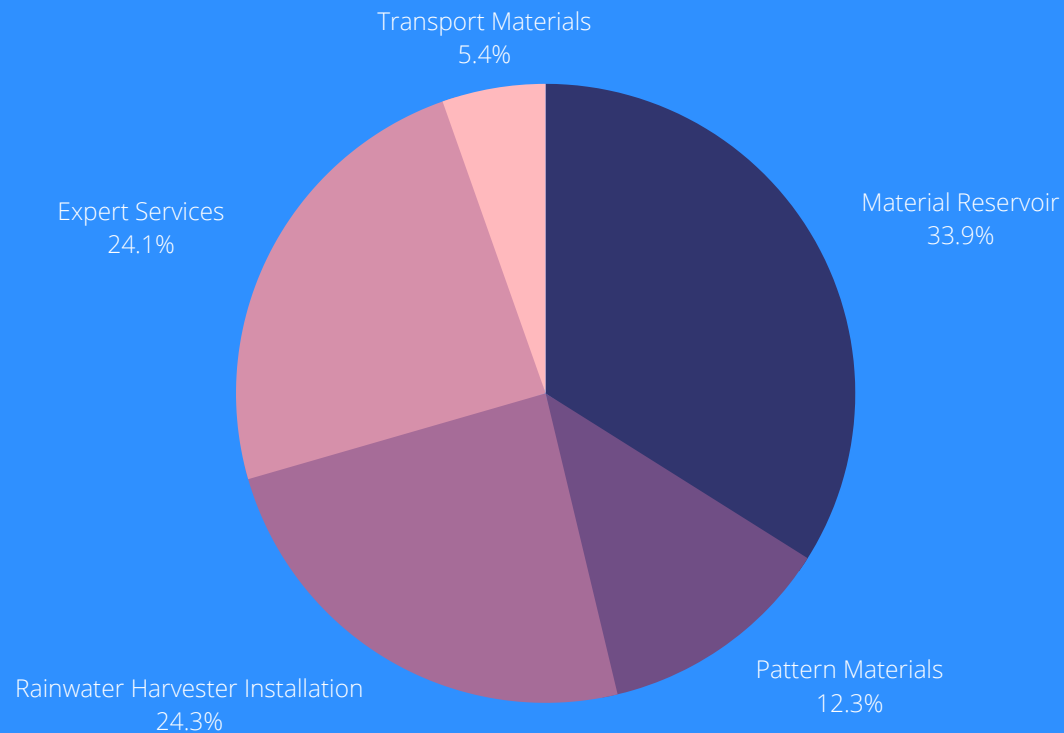
THANK YOU

Currently, residents of RT 03 Mbinudita have a water reservoir. The reservoir is used to store rainwater and refill water. For cleaning purposes, cooking, to watering vegetables. Since their reservoir is filled, now they start gardening around the yard. The availability of clean water is expected to improve their health.

Commitment with residents in maintaining and caring for water reservoirs for the common good.

Thank you Kawan Baik Indonesia and the Fair Future Foundation for bringing water to the Mbinudita community.

LAPORAN PEMBIAYAAN



33.5% The largest part of this cost is for material from the reservoir. The other costs are as follows:

1	Material Reservoir	RP3,525,000
2	Pattern Materials	RP1,280,000
3	Rainwater Harvester Installation	RP2,520,000
4	Expert Fees	RP2,500,000
5	Transport Materials	RP561,000
6	Consumption	RP132,000

TOTAL

Rp 10,518,000

The entire funding for the Mbinudita water reservoir was funded by the Fair Future Foundation in the Mbinudita grand proposal, a proposal on community development in Mbinudita.

This fund aims to improve the standard of living of the Mbinudita community, in the context of clean water supply. Clean water is one of the main keys to welfare and health for the community.

ACKNOWLEDGEMENTS

Below is a list of the names of those who committed to this project:

Those in charge of **concept and coordination** - Gogon & Annisa Yuniar

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Our Partner from **Partner Organizations** - Alexandre Wettstein

Our colleagues from the **Local Community** - Mbinudita Residents, Nicko Bolhuy, Primus Lede, Nofi Kristanti Ndruru, Mr Rinto and Mama Rinto.



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WE THANK YOU FOR YOUR
ONGOING SUPPORT OF
OUR PROGRAMS