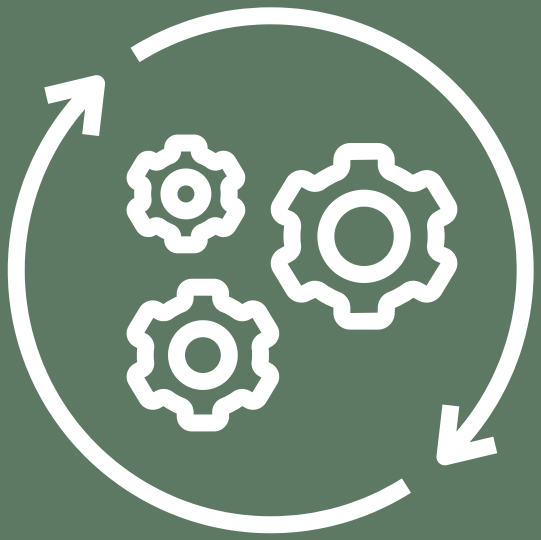
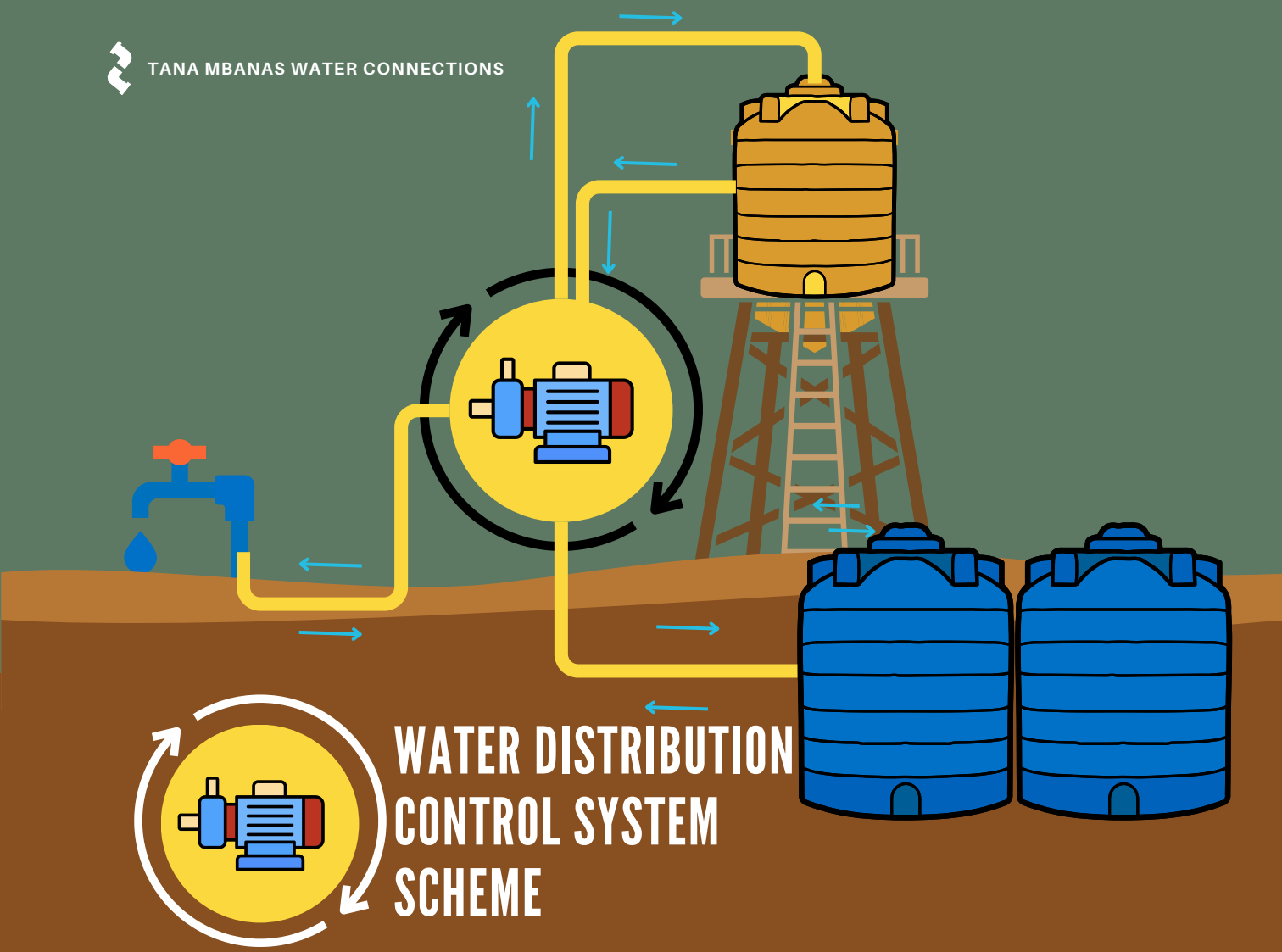
TANA MBANAS WATER CONNECTIONS



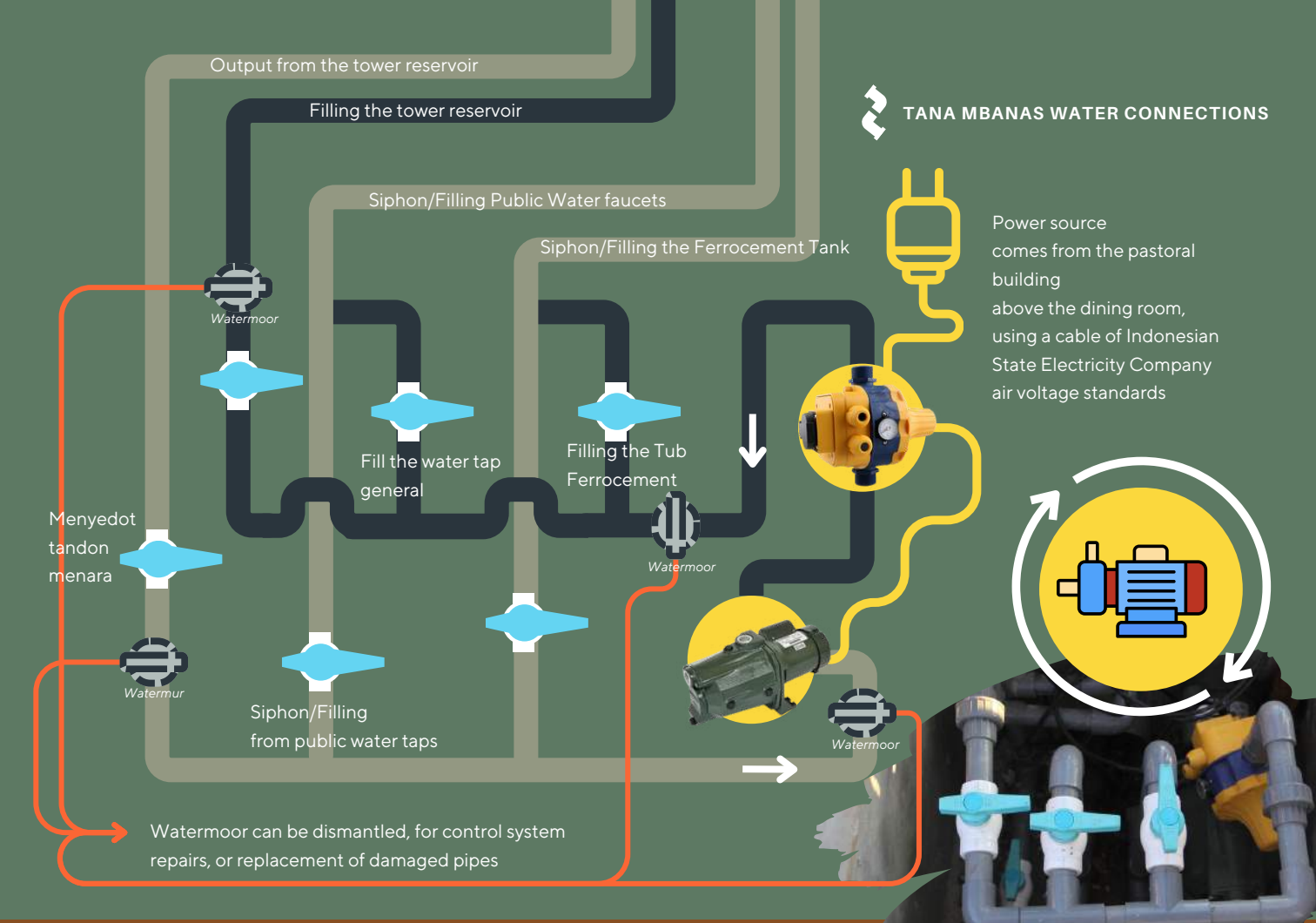
TANA MBANAS CLEAN WATER FACILITIES GUIDEBOOK

TANA MBANAS WATER CONNECTIONS



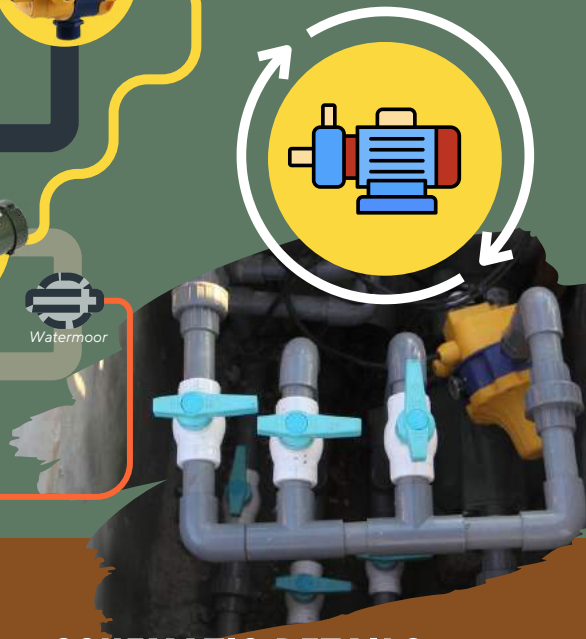
WATER DISTRIBUTION CONTROL SYSTEM SCHEME

Using a Semi Jet Pump water pump equipped with Automatic Pressure Control, Check faucet, and Ball faucet, it is possible for water to be sucked in and pushed in all directions.



TANA MBANAS WATER CONNECTIONS

Power source comes from the pastoral building above the dining room, using a cable of Indonesian State Electricity Company air voltage standards



Determine where the water will be sucked and filled; open one suction tap and one filler tap.

The pump must be in the on position to fill the tower reservoir; the pump may be turned off if the water source from the tower reservoir uses gravity.

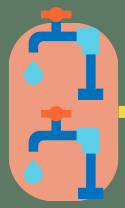
SCHEMATIC DETAILS OF CONTROL SYSTEM AND WATER DISTRIBUTION

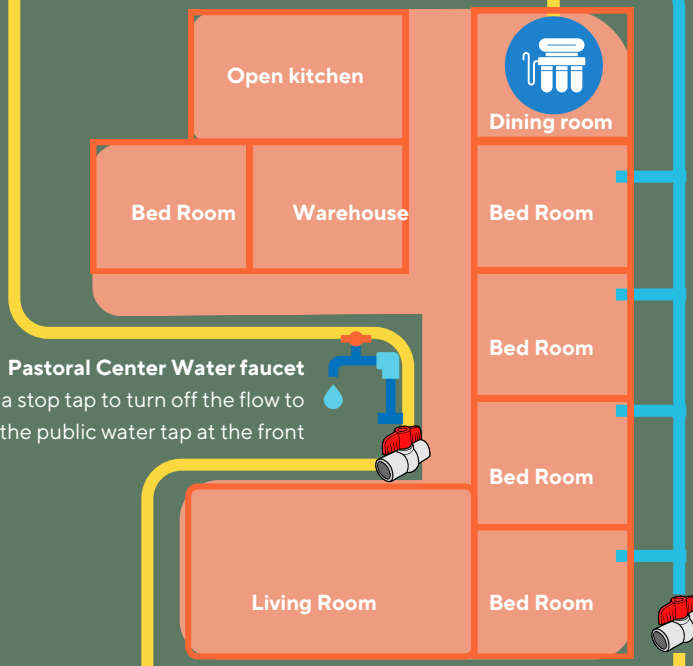
***Operating the pump with only one tap open can cause damage (burst) to the pipe.**

TANA MBANAS WATER CONNECTIONS

DISTRIBUTION CONTROL PUBLIC WATER TAPS AND PASTORATE BUILDING

Pump Control Room
Ensure the stop faucet to the public water is open. If a leak appears in the building's water facilities or public water taps, it can be turned off from here.





Stop the tap towards the Pastorate Building behind the kitchen and toilet
If the stop is turned off, but the stops at the front is open, the water will still flow but slowly, if it is opened, it will be more powerful.

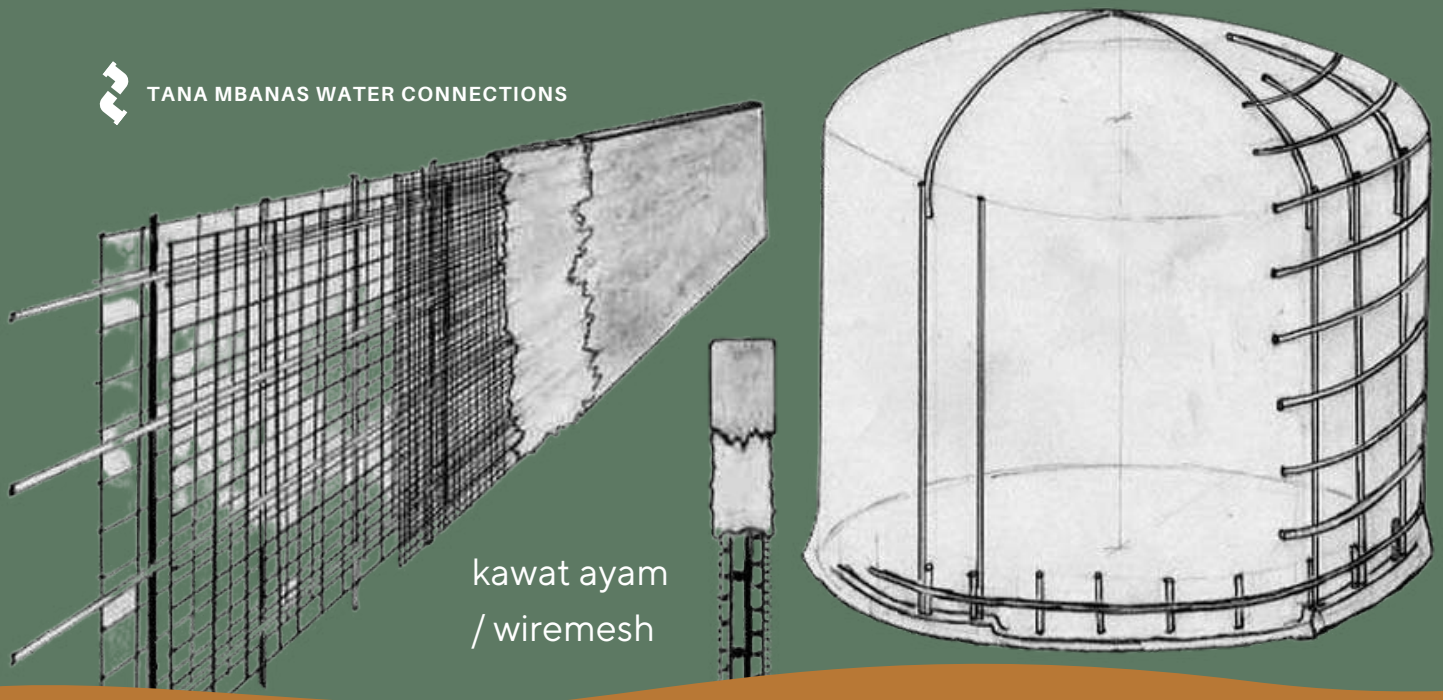
The control faucet for the bathroom can be turned off if there are no people or no church activities.

Pastoral Center Water faucet
There is a stop tap to turn off the flow to the public water tap at the front

Stop faucets Around the Building and Potential Connection to the Well
Controls to increase the flow to each room of the pastorate building, and it is possible to receive water flow from a dug well if the well is standard.

Public Water faucet
The water flow is open if the previous route and the stop faucet are open, too, so the water use can be monitored, and there is no misuse.

TANA MBANAS WATER CONNECTIONS



RESERVOIR FERROCEMENT WATER TANK

Ferrocement is a reinforced concrete wall, thin with a continuous and dense layer of woven wire.
It becomes an appropriate technological innovation with economical materials and technical work systems that are relatively easy to build.

TANA MBANAS WATER CONNECTIONS

STEPS FOR MAKING A FERROCEMENT WATER RESERVOIR

CREATE THE FOUNDATION

This foundation uses stone and a cement-sand mixture to get a flat reservoir floor.

MAKE AN IRON FRAME

This iron frame consists of a floor frame in the form of a round net and reservoir poles, which are tied together.

INSTALLING A DRAIN

PVC pipes are installed on the foundation floor before building the mall.

INSTALLING THE MALL

Four malls will be arranged in a circle and will be nailed temporarily with the help of small pieces of wood as fasteners.

WRAPPING AROUND THE WIRE

1 mm white wire weighing 20 kg will be wrapped around the entire surface of the mall wall at a distance of approximately two adult fingers tied with tie wire.

OUTER PLASTER

Then the wall is covered with plaster mixed 1:3
(1 cement and three sifted sand).

TANA MBANAS WATER CONNECTIONS

STEPS FOR MAKING A FERROCEMENT WATER RESERVOIR

REMOVING THE MALL

Approximately 12 hours after the outer wall is covered with the mixture, the mall can be removed from the inside, the process of removing the mall requires caution because it can be damaged, or the wall can break

INTERNAL PLASTER

Internal plaster, with a 1:3 mixture

SOFT PLASTERING

This fine plaster using a mixture of cement and water is mandatory for the inside walls to close the wall pores tightly so they don't leak.

FAUCET PIPING

Once the wall is complete, the tap pipe can be installed, at the desired height

MAKE A COVER FRAME

The reservoir cover frame is made from bamboo because it is quite flexible so the reservoir cover will have a dome shape.

CEMENTING THE COVER

The cover is cemented by placing a layer of cement paper over the bamboo matting first.

TANA MBANAS WATER CONNECTIONS

RAINWATER HARVESTER AND FILTRATION

The Rain Water Harvesting (RWH) System is a groundwater conservation system that collects and utilizes rainwater to meet water needs.

RAINWATER FILTRATION

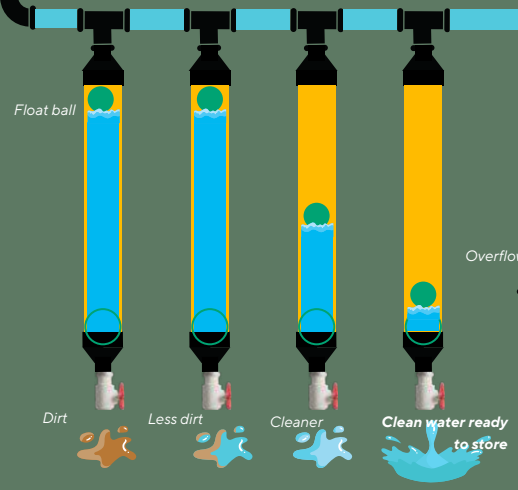
TANA MBANAS WATER CONNECTIONS

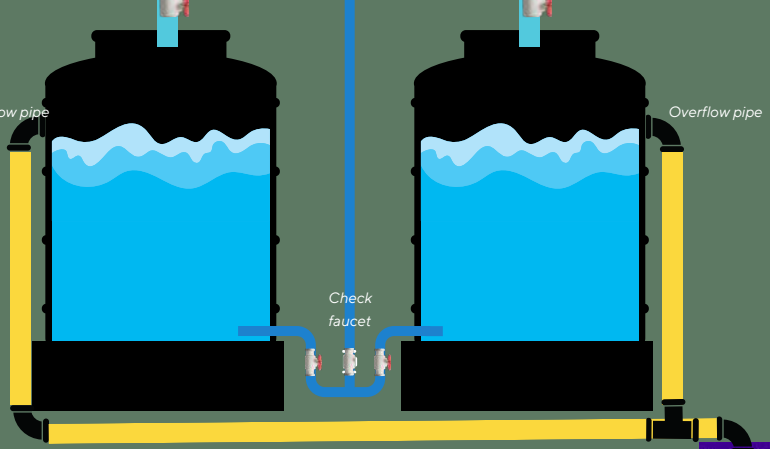
Rain Harvester Gutters use closed PVC, reducing the presence of rubbish from the roof

First Filter - Wiremesh Screen Filter
Inhibits the flow of large dirt, such as leaves, stones, and other rubbish

Drinking Water Filter
Through the distribution pipe, the water flows to the Reverse Osmosis Filter, with the output of ready-to-drink mineral water.

Control Room
Water is sucked through a pump in the control house to the tower reservoir

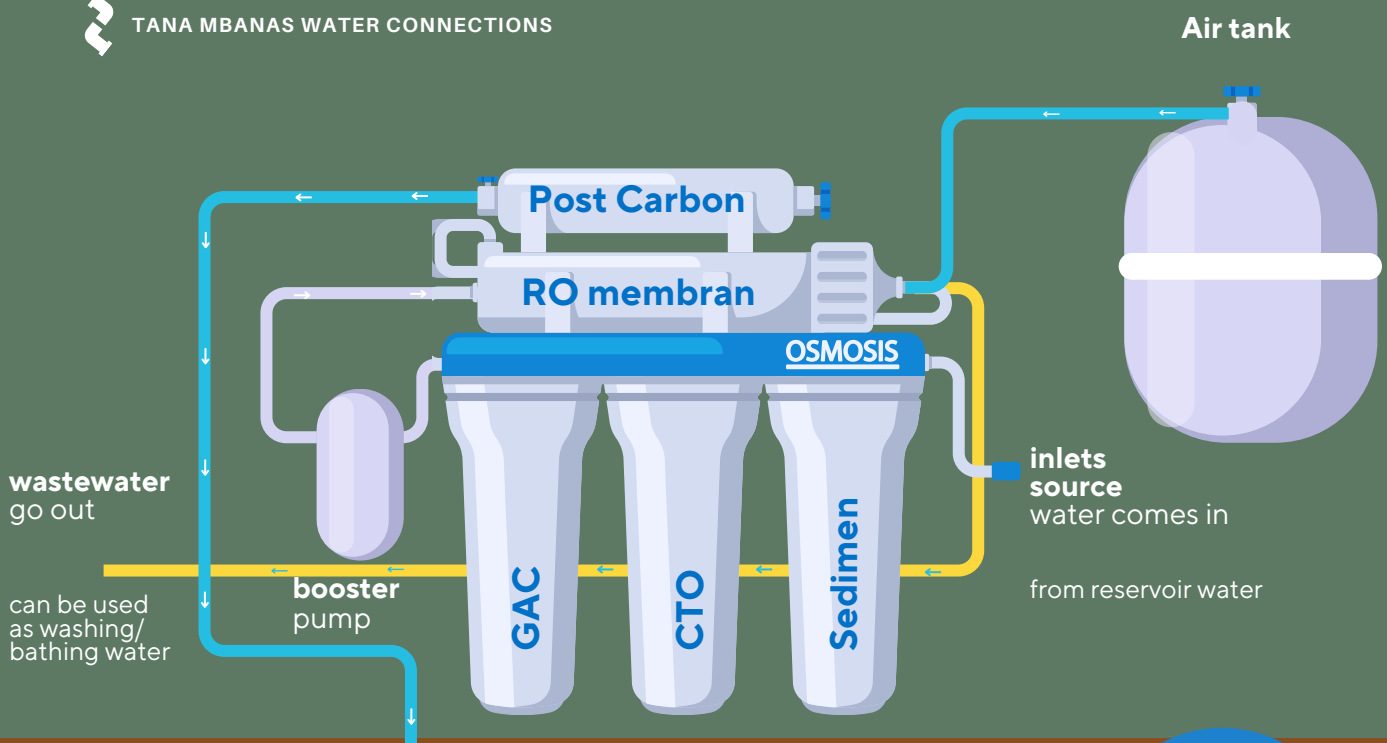




Second Filter -
Flush Diverter & Slow Drip Flow Control
Inside, a hollow ball will rise and close the pipe gap so that dirt cannot rise. This filter filters finer dirt, such as small gravel and dust.

Drain Infiltration Hole
If the ferrocement tank is filled, the water is channeled to the absorption hole. If the infiltration hole is filled, the water will fill the dug pond and seep back in after the rain stops.

TANA MBANAS WATER CONNECTIONS



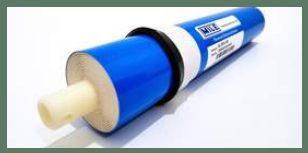
DRINKING WATER FILTER REVERSE OSMOSIS

Reverse osmosis (RO) filters are water filtration systems that use pressure to separate particles, molecules, and ions from water through a semi-permeable membrane. In the context of RO, water is forced through a membrane that only allows water molecules to pass through. At the same time, contaminants, such as minerals, heavy metals, and chemicals, are retained and removed. The result is water that is cleaner and free from most contaminants. This process is known as reverse osmosis because it directs the flow of water from areas of high concentration to areas of low concentration, going against the natural direction of osmosis.

Benefits of RO (Reverse Osmosis) Water Filters:

- Better Water Taste and Appearance: Improves drinking water quality.
- Removal of Harmful Contaminants: Effectively removes heavy metals, pesticides, and harmful substances.
- Chlorine and Lead Reduction: Reduces chlorine and lead levels in water.
- Safe Drinking Water: Ensure drinking water meets safety standards.
- Microorganism Removal: Removes bacteria, viruses, and protozoa.
- Long-Term Cost Savings: Reduce filter and water purifier costs.
- Easy Installation: Quickly installs on the faucet for simple use.
- Low Maintenance: The filter only needs to be cleaned when clogged.

Remember, RO water filters can remove some minerals, and the environmental impact of waste needs to be considered.

	Detail Foto Item	Harga Penggantian Part
1. SEDIMENT FILTER Sediment Spun PP 5 Micron (STAGE 1 FILTER) filters large particles such as dirt, mud, sand, and dust.		
2. CTO (Chlorine Taste Odor) Carbon Block Filter Cartridge - STAGE 2/3 FILTER) It has two functions: 10-micron sediment and activated carbon, absorbing odors, colors, unpleasant tastes, organic chemicals, and chlorine in advanced stages.		50 - 70 ribu 1 set 3 pcs Sedimen, CTO, GAC
3. UDF Coconut Carbon Granular Filter Cartridge (GAC) (STAGE 2/3 FILTER) absorbs odors, colors, unpleasant tastes, organic chemicals, and residual chlorine.		150 - 300 ribu /pcs Membran RO
4. The 100gpd RO membrane (STAGE 4 FILTER) is used as the core (heart) of the under-sink RO machine.		
5. Post Carbon (STAGE 5 FILTER) provides a better taste of the water produced with the RO machine.		20-50 ribu /pcs Post Carbon

TANA MBANAS
WATER CONNECTIONS

Donation by :

LUCAS SETIADI

Field Implementation Team:

kawanbaik

Monitoring Advisor

FAIR FUTURE

MORE INFO:

kawanbaikindonesia.org

+62 818-0220-0818

SCAN HERE

TO SEE THE PROJECT MAP