



Winnovators 2023

Timor-Leste Solve Water Challenge



The Challenge



Timor-Leste is located in the far corner of Southeast Asia, and is one of Australia's closest neighbours. People live across varying terrain, from high mountains in central areas, to low-lying coastal areas.

Around 70% of the population live in rural areas where access to quality health services is challenging.

People in Timor-Leste are feeling the impacts of climate change on a daily basis and, in Timor-leste, climate change means water change.

The Challenge: Design a holistic approach to ensure that communities facing sea level rise and salination of groundwater, have access to year round water.



Background



In Timor-Leste, rainfall has become more erratic, dry seasons are becoming longer, sea levels are rising, and rivers are drying up, making it harder and harder for people to feed their families. Weather fluctuations are resulting in crop damages or failures.

Sea level rise is threatening coastal areas, specifically Dili (the capital), which is only a few metres above sea level. Landslides, storms and floods are damaging infrastructure and contaminating groundwater and surface water.

Health and well-being are at risk due to the increasingly prevalence of water-borne diseases.



Background



In coastal areas of municipalities such as Liquiçá and Manufahi, where WaterAid is working, communities are struggling to collect enough water for their needs.

The majority of domestic water supplies are fed by mountain spring sources from high altitude shallow aquifers, which are vulnerable to reduced source replenishment with changing rainfall patterns.

What's more, coastal groundwater is becoming increasingly salinated as sea levels rise and in many coastal urban areas intensive household septic tank use makes groundwater highly contaminated.



WaterAid/ Tariq Hawari

What is the Challenge?



Design and develop a holistic solution to help ensure that coastal communities in Timor-Leste can access safe drinking water all year round.

While some investments are being made in desalination and feasibility studies are underway for a dam to supply water for the capital city Dili, existing water treatment plants are falling into disrepair. People don't have the necessary skills, funds, or access to spare parts to manage and maintain them, or a stable supply of electricity to run them.

WaterAid is already looking at new and innovative ways to monitor water sources so that communities can use water tank storage level data to inform how water resources are used and allocated among communities. However, as the climate crisis continues to escalate, there is a real concern that there will not be enough water available to meet people's daily needs.

Additional Background



The water security problem also extends to people's behaviours. Most people value "fresh" flowing water from the ground, which creates extremely low interest in rainwater, and behaviors of leaving taps running longer than necessary are widespread.

There are very low rates of household and community water treatment, and a reluctance to add chemicals to water tanks (such as chlorine) as it is considered a poison and to have bad taste.

Water is often stored in unsafe and open containers within the household, and treatment is limited to boiling, which contributes to localised deforestation, disturbing the catchment area, causing erosion and impacting both groundwater recharge and runoff water quality.



WaterAid/ Tariq Hawari

Additional Background



Particularly in Liquiçá, there are sea salt production and manufacturing facilities.

This might be opportunity to explore the technology they're using and the possibility to merge this with the water desalination as their side production.

Bottle and gallon drinking water are widely used particularly in all main towns.



Additional Background



Current issues with desalination:

- High investment for desalination technology that the Timor-Leste government is often reluctant to invest in.
- The water yield production from the desalination plant source is often small in comparison to other sources and treatment plants.
- There is limited access to latest and low cost desalination technology.
- Operation and monitoring systems and water asset management by the government and operators in general is challenging, this includes the desalination plant they have.



What do we have to submit?



A solution in the form of **one or more** of the following:

- 1,000 word report (including appendices)
- A3 poster/board
- 5-minute video
- 10-slide PowerPoint

Final submissions are due **Friday 25 August**.



What can we win?



- Best Water Solve
- Best Sanitation & Hygiene Solve
- Best Fund

If your team excels in all three aspects of **Solve**, **Fund** and **Learn**:

- Global Overall Winner



What are next steps?

- Contact the Winnovators team at WaterAid with questions – we're here to help auswinnovators@wateraid.org.au
- Get ready for the kick-off webinar with the WaterAid team from Timor-Leste on April 20th at 12pm AEST.
- Remember to post! We want to see what brilliant things you're coming up with!
- See the **Submissions Examples** for Solve and Fund on the resource library.
- Start preparing your fundraising pitch for your seed funding, due May 12th.



Thank You

