



# Building partnerships for food and water security in Timor-Leste

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Report on activities in Timor-Leste  
February 2026

(SSS/2025/110) - Towards integrated water management solutions for water and food security in Timor-Leste



# Partners



## Project lead

### Permatil

Permatil is leading the way in water restoration and catchment management across Timor-Leste. With over 700 water sources now restored, 1000 communities across Timor-Leste have improved access to clean water for drinking, household use, food and livestock production. Permatil identified the need for integrated quantitative and qualitative data to support its permaculture-based spring restoration works, and is leading the on-ground implementation of activities and training across hydrology and social science streams, in collaboration with local groups, municipal government, UNTL, and UNSW technical advisors. They are administering Food and Water insecurity surveys; installing weirs and monitoring rainfall and groundwater resources in four locations, supporting activities to increase community understanding of hydrological processes affecting spring flow and water availability, and facilitating data sharing and community engagement to support informed local water management.

Ego Lemos (front left) with Permatil staff, survey enumerators, Greg leslie and Jacqui Webster



## Project support



### UNSW Global Water Institute

Within this project, members of the UNSW water community including Prof Greg Leslie, A/Prof Martin Andersen, A/Prof Fiona Johnson and A/Prof Chris Cvitanovic are supporting research activities into groundwater, hydrology and social science by providing advice, oversight and recommendations where needed. UNSW is also providing administrative support for the project.



### Universidade Nacional Timor Lorosa'e

A team of students from UNTL are mapping groundwater resources in Timor-Leste. They are led by Jovita Costa, lecturer in hydrology and hydrogeology. UNTL is playing an important role in field surveys, data collection, and mapping for the project.



### University of Technology Sydney

Professor Jacqui Webster (UTS WHO Collaborating Centre on Nursing, Midwifery and Health Development) convenes the FoodWISE Asia-Pacific Network and leads the UTS team supporting Permatil to use experiential measures to assess program impact and inform the scale-up of interventions to improve infant and child nutrition.



### FoodWISE Asia-Pacific Network

This project is part of the FoodWISE Asia Pacific Network – advancing shared action on food and water security.

## Project sponsor



### ACIAR

The project 'Towards integrated water management solutions for water and food security in Timor-Leste' is supported by the Australian Centre for International Agricultural Research.

# Collaborative engagement



The National Council for Food Security, Sovereignty and Nutrition in Timor-Leste acts as the central coordinating authority, bringing together government ministries and stakeholders to implement the National Policy for Food and Nutrition Security in Timor-Leste.



WorldFish's Timor-Leste country program works with the government, NGOs, private enterprises, and local communities to improve nutritional outcomes by boosting aquaculture and small-scale fisheries production. The program is harnessing the potential of aquatic foods to transform Timor's food systems to sustainably meet the nutritional needs of the country.



Agora Food studio is a youth-led social enterprise which bridges traditional knowledge with modern nutrition and supports research, innovation, and community engagement. It is dedicated to strengthening local food systems, enhancing digital capability, and celebrating cultural identity through food.



The Instituto de Geociências de Timor-Leste (IGTL) is a public institution in Timor-Leste. It is responsible for geological research, mapping, and prospecting of mineral, hydrocarbon, and groundwater resources, with a mission to explore and secure the nation's geological potential.

Participants at the partners workshop



Project partners visit Permatil site at Debun.



## Project background

With funding from ACIAR, the UNSW Global Water Institute is supporting Permatil Timor-Leste in its efforts to improve health and livelihoods in rural communities in Timor-Leste.

During phase 1 of the project, partners are beginning to better understand how rural communities can sustainably manage available water resources for improved food and water security. They are using a combination of social science and hydrological research to gain a better understanding of the issues faced, and to explore solutions that are practical, sustainable and fit for purpose. This work extends across six different municipalities and three different climate zones.

Members of the UNSW water community are working with the Permatil, the National University of Timor Lorosa'e, ACIAR, municipal governments and other partners to build research and technical capacity among local communities, while supporting community-led catchment management initiatives.

## Objectives of the visit

To connect partners, build closer relationships and better understand strengths, experiences and expectations

To better understand the needs of the local community

To see examples of successful Permatil projects in the community

To build the capacity of community members to evaluate the effectiveness of community land and water management practices

To workshop and prioritise additional ideas, initiatives and activities

To acknowledge and celebrate successes so far, and discuss lessons learnt.

10-11 February

## Food and Water Security Enumerator Training

It is important to understand the experiences of community members around food and water security to enable Nature-based Solutions that are fit-for-purpose. To help with this, Jacqui Webster from UTS ran a two-day session training community members to become enumerators in the Food Insecurity Experiences (FIES) Scale and Water Insecurity Experiences (WISE) Scale. These scales are survey tools that quantify how often, and to what extent, households encounter problems with the access, use, and reliability of water and food.

The key objective of the training was to build local capacity to undertake these in-person surveys within the community. 30 community members from different villages were selected as enumerators. Importantly, they come from the six municipalities in focus, so they are familiar with the local context, including issues related to water access and food security in those areas. These enumerators are members of youth groups involved in water and soil conservation initiatives and have been serving as local volunteer team members with Permatil. They understand the local languages in each municipality, which makes communication with community members easier and more effective.

The enumerator group was comprised of 20 women and 15 men. The training covered:

- Background on the ACIAR program and FoodWISE objectives
- The importance of measuring experiences and examples from other countries
- Survey objectives and design
- How to selecting participants and make introductions
- The importance of ethics and obtaining informed consent
- GIS co-ordinates
- Demographic questions and prompts
- Food and water security questions/ prompts
- Practicing and role play – adapting the translations where needed
- Kobotoolbox – registration, obtaining consent, conducting the survey, submitting the form



Prof Jacqui Webster

“

I was struck by how curious and capable the Permatil youth workers were. Focusing on the intent of the questions, practising in the field, and reflecting together in feedback sessions – over wonderful community-provided lunches – was central to the success of the training.”

- Jacqui Webster, UTS

“

My role in this survey is to conduct monitoring through KoboToolbox. If there are any errors in the form submissions, I immediately inform the enumerators so they can correct them. The purpose is to ensure that mistakes are corrected on-site before they leave the survey location, so they do not need to return later to fix the same form.

In addition, I process and further analyze the data collected through KoboToolbox by generating graphs and conducting analysis using Microsoft Excel.”



Fonzeca Mariano

- Fonzeca Mariano, Permatil

Low flow weir site at Fatuquero, Ermera. Pictured: Jovita Costa, Martin Anderson, Greg Leslie, Jack Lodge.



**12-13 February**

## **Food and Water Security Survey Pilot**

After the training, a pilot survey was completed to gather some initial responses, to provide enumerators with practical experience in survey implementation, and to identify and subsequently address any challenges experienced during the in-person survey process.

The two day pilot took place in villages within the Alieu, Ermera, Liquica and Dili-Atauro municipalities. Permatil has been working within the catchment areas where these villages are located, so they have existing knowledge of the areas and communities.

25 newly-trained enumerators worked in mixed pairs (one man with one woman) and demonstrated exemplary understanding of the importance of gender balance, collecting an even number of responses from men and women. Of the 64 surveys completed, 32 responses were from men and 32 were from women.

Lessons from the pilot were reviewed collectively, including feedback from community leaders. Fonzeca Mariano, who is the Permatil staff member leading the surveys, highlighted the importance of communicating the questions in different local dialects to ensure participant understanding.



Adelina Gomes Ximenes

“

This experience increased my capacity and my mindset through the activities that we carried out. This work is very important for helping communities and society, especially to respond to daily needs.

Through these activities we face the realities and problems of life, and we implement activities that help organise and support the community so that society can understand.”

- Adelina Gomes Ximenes, Enumerator, Ermera



Elizita de Araujo

“

All of the enumerators are very excited to participate in this project and get some new experience with the community in Timor-Leste.”

- Elizita de Araujo, Permatil



A survey enumerator discussed water and food security with members of the community.



A community discussion about installing equipment at water sources



Installation of low-flow weir to measure spring flow near Fatuquero, Ermera



16 February

## Ego Lemos appointed an Officer of the French Order of Agricultural Merit

Greg Leslie and Jacqui Webster were proud to be in attendance at the Presidential Palace in Timor-Leste to support Permatil Executive Director Ego Lemos as he was appointed an Officer of the French Order of Agricultural Merit.

This prestigious French ministerial order acknowledges and rewards exceptional services to agriculture, including farming, research and related industries. The ceremony highlighted Timor-Leste's growing reputation as a leader in linking community-led environmental stewardship with national development.

Ego Lemos with Fabien Penone, Ambassador of the French Republic to Indonesia, Timor-Leste and ASEAN. Image credit: Presidência da República Democrática de Timor-Leste (via Facebook)



“

Ego Lemos has dedicated his life to nurturing both the land and people of Timor-Leste. By empowering our youth with the tools of permaculture, he is not just teaching them to grow food; he is cultivating a future of resilience, sovereignty, and hope. This international recognition from France is a proud moment for all of Timor-Leste, affirming that our small nation can lead the world in sustainable practices.”

- Jose Ramos-Horta, President of Timor-Leste and Nobel Peace Laureate

## Site visit to Aldeia Lerolisa

Representatives from Permatil, ACIAR, UNSW and UNTL visited a Permatil water restoration site in Aldeia Lerolisa to review the progress of activities implemented through this project.

Located in the Suku Acumau in the sub-district of Remexio within the Aileu Municipality, the site has benefited from effective catchment management practices which have supported natural ecosystem recovery within two years. The visitors were shown trees that have been planted throughout the site for their ability to retain water, support biodiversity, provide food for wildlife, and deliver economic value.

Effective catchment interventions, such as terracing and constructing water retention ponds to slow the movement of rainwater and promote infiltration and water storage in the landscape, has supported natural regeneration. Sitting at a 1,280m elevation, the site is upstream from a school of 80 students, which now boasts a thriving garden from increased water availability. Due to Permatil's interventions, the water tank at the school is now consistently overflowing. Maun Ego posed for a photo at the site, demonstrating that the monument is now working by turning on the tap.

Project partners visit Permatil sites

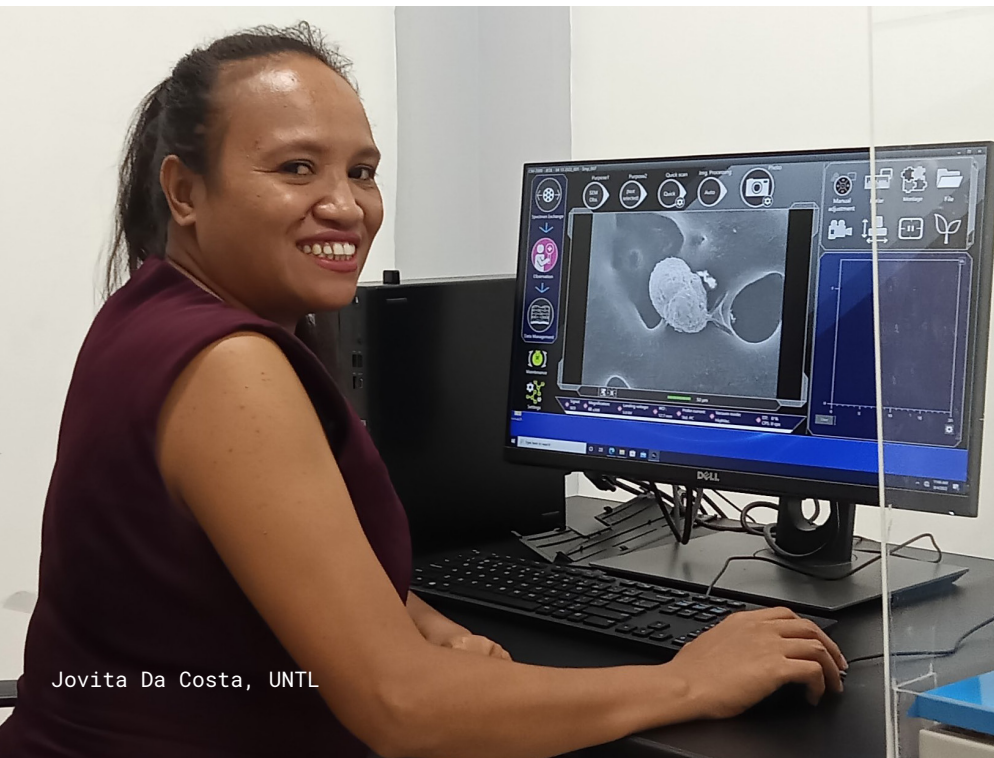


## Site visit to UNTL

Project partners from Permatil, ACIAR, UNSW and UTS also visited the Universidade Nacional Timor Lorosa'e (National University of Timor-Leste / UNTL) Faculty of Engineering Science and Technology in Hera.

The visit to the UNTL campus was an opportunity for partners to see UNTL's engineering facilities, including the Geology and Petroleum Department laboratory. The visit provided further insight into the important work Jovita Da Costa does, both as an educator and as a researcher at UNTL. Jovita is a Senior Lecturer teaching undergraduate courses in Hydrogeology, Petrology and Mineralogy, and currently holds the position of laboratory chief.

While on campus, the visitors also had the opportunity to meet the Dean of the Faculty of Engineering Science and Technology, Dr Ruben Jeronimo Freitas.



Jovita Da Costa, UNTL

It's exciting to bring the expertise from the UNTL Faculty of Engineering Science and Technology to this ACIAR project, working closely with colleagues from Permatil and UNSW"

- Jovita Da Costa, UNTL



17 February

## ACIAR Partner Workshop

The ACIAR Partner Workshop provided an opportunity for all partners to come together in-person to discuss the project status and begin co-designing the next phase.

After the key partners provided updates, participants split into smaller groups to discuss and workshop potential next steps. Joining representatives from ACIAR, Permatil, UNSW, UTS and UNTL were representatives from four additional organisations interested in contributing to the project: CONSSAN-TL, WorldFish, Agora Food Studio and IGTL.

### Themes discussed

- Importance of community ownership and leadership
- Climate resilience and empowerment of women
- Importance of knowledge and data-sharing to strengthen efforts
- Water as infrastructure to enable opportunities for development
- Wild foods as a pathway to improved food and water security while preserving cultural knowledge
- Education as a critical pathway to impact, including through schools

“

To protect our water is to protect our food, and to protect our food is to protect our people.”

- Paula Torres, Agora Food Studio



Paula Torres, Director, Timor-Leste Food Lab, Agora Food Studio

# Sites in focus

Permatil and partners are working across six different municipalities and three different climate zones.

The municipality maps below demonstrate where Permatil has worked previously, and where work is being completed as part of this project.

The sites pinpointed on this map demonstrate where v-notch weirs have been installed to measure water flow, as well as where community surveys are being completed.

**Legend**

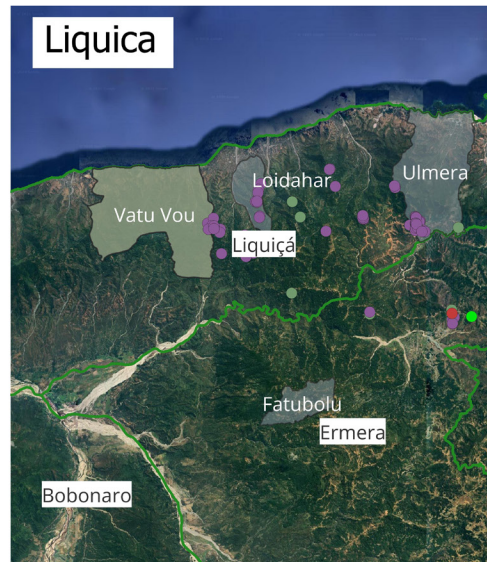
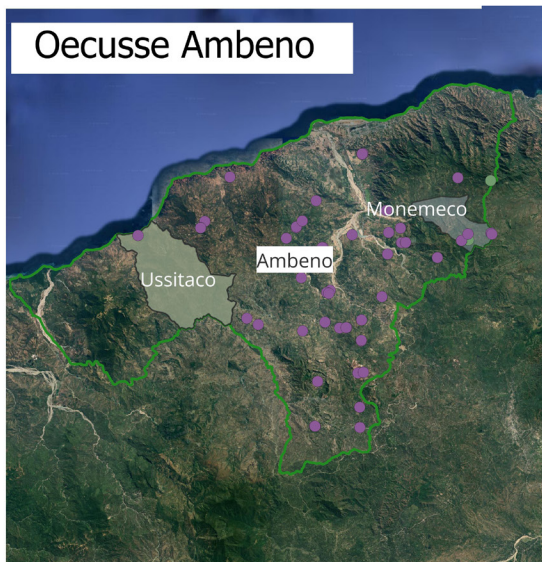
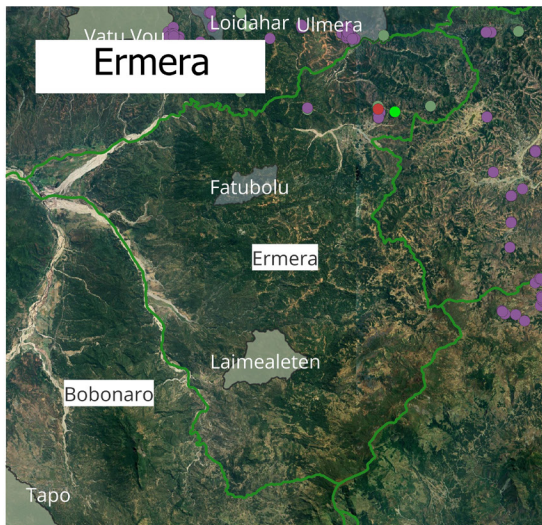
- Municipality
- Recorded Sites of Conservation work
- Remote Sensing Sites Original

**Survey Locations**

- Control Sites
- Past work sites

**V-Notch Weirs**

- Implementation Site
- Control Site



## What's next?

Participants concluded that the combination of survey training and piloting, site visits and the stakeholder workshop had substantially deepened shared understanding of how food and water security challenges intersect in Timor Leste, and where more integrated, practical solutions are possible.

The process helped strengthen relationships and highlighted the value of grounding technical and policy responses in community experience. There was a strong, shared commitment to build on this foundation by supporting community-led initiatives, scaling promising approaches, and improving coordination across organisations. Participants emphasised the importance of aligning objectives, activities, and monitoring frameworks to enable more coherent action on food and water security over the coming years.

In terms of next steps, Permatil will complete the food and water security surveys in March, with plans to reconvene in June to provide detailed feedback to communities and to collectively consider a coherent longer-term action plan informed by the survey findings.

“

When partners come together, the project benefits from increased communication, strengthened ties and better cooperation, resulting in participation and productivity.”

- Elizita de Araujo  
Permatil





A device being installed at a water source in Fatuquero, Ermera

# Acknowledgements

Special thanks go to the following individuals for facilitating essential aspects of this visit.

## Permatil

- Ego Lemos
- Fonzeca Mariano
- Elizita de Araujo
- Alberto Pinto
- Januario Marques

## ACIAR Timor-Leste

- Luis Almeida
- Maria Oliveira

## UNSW Global Water Institute

- Genevieve Poblete



Celeste Pinto, Genevieve Poblete and Maria Guterres at the Partner workshop

## Survey enumerators

- Moise Gomes
- Benjamin da Silva
- Victor F. Aleixo
- Luciano Rosario Florindo
- Adelina Gomes Ximenes
- Natalia F. Da Cruz
- Gustirando Ato
- Francisco de Assis Ximenes
- Maria Rosa Gomes
- Jacinto Babo
- Zagues Maria de Castro
- Mariano Guterres
- Augusta T. Siqui
- Jawira suni
- Armandina Pereira
- Febriana de Jesus
- Sergio Jacinto de Jesus
- Joanita Bete I. Dos Santos
- Lucas Pinto
- Ana Domingas de Araujo
- Emerenciana Pinto
- Deonisia D. C. Ramos Guterres
- Joao Paulino A. Tilman
- Fonzeca Mariano
- Agostinho Quefi.
- Elizita de Araujo
- Rosantino Andrade
- Celeste Francisca Pinto
- Abilio da Costa
- Conchita S.P Gusmao
- Sabino Henrique
- Revel L. Araujo

## Workshop participants

- Dr Todd Sanderson, Research Program Manager, Social Systems, Policy and Economics, ACIAR
- Dr Nicholas Hogarth, Research Program Manager, Forestry, ACIAR
- Dr Jennifer Blair, Research Program Manager, Fisheries, ACIAR
- Mr Luis Almeida, Country Manager Timor-Leste, ACIAR
- Ms Maria Oliveira, Assistant Country Manager Timor-Leste, ACIAR
- Mr Ego Lemos, Executive Director, Permatil
- Mr Fonzeca Mariano, Staff, Permatil
- Ms Jovita Costa, Lecturer, UNTL
- Prof Jacqui Webster
- Professor WHO Collaborating Centre, UTS
- Prof Greg Leslie, Director, UNSW Global Water Institute
- Prof Dan Robinson, Professor, UNSW Arts Design & Architecture
- Dr Ginger Poblete, Project Officer, UNSW Global Water Institute
- Dr Jack Lodge, Country Impact Coordinator, UNSW Faculty of Engineering
- Dr Maria Odete Guterres, Timor-Leste Nutrition and Food Security Focal Point and Technical Advisor to the Vice Prime Minister
- Dr Gianna Bonis Profumo, Scientist, Nutrition and Inclusive Food Systems, WorldFish
- Mr Mario Pereira, Country Representative, WorldFish Timor-Leste
- Ms Paula Torres, Director, Timor-Leste Food Lab - Agora Food Studio
- Ms Ana Viviana, Head Chef of Agora Food Studio
- Dr Carlos Miraldo Ordens, Groundwater Technical Advisor, IGTL
- Ms Ana Carolina Oliveira, Consultant, University of Sydney
- Ms Celeste Francesca Pinto Interpreter

