

# Closing the loop between agriculture and wastewater discharge: A novel technique for turning wastewater into fertiliser in the Pacific



## Key details

### Location

Tuvalu, Vanuatu

### Duration

Start May 2020

End May 2021

### Budget

AUD 232,000

### Commissioned organisation

Southern Cross University

### Partners

Southern Cross University, Australia

### Project Leader

Dr Douglas Tait, Southern Cross University

### Program

Water

### Project code

WAC/2019/135

nutrient-rich domestic wastewaters are discharged into groundwater and coastal lagoons where they degrade water quality and impact human health.

This project undertook a comparative, gender-balanced scoping study in two islands with contrasting socio-economic conditions, Tuvalu and Vanuatu. The project assessed the suitability and community acceptability of different waste streams and treatments in order to determine the feasibility and uptake of recovered wastewater nutrients for agriculture in the Pacific.

## Project outcomes

- Engaging with communities and key stakeholders in Vanuatu and Tuvalu agricultural communities to determine the need, appropriate scale (farm, community, region), available waste streams (pit, agricultural, septic, municipal), acceptability of products, challenges, and agricultural benefits of novel wastewater re-use and nutrient recovery facilities.
- Fostering collaborative relationships with the Live and Learn Pacific Network, the University of the South Pacific and relevant government departments in both countries to support communities in sustaining their environments.
- Determining the volume of potential waste sources and characterise wastes to test novel nutrient recovery wastewater treatment technologies which produces a stable, pathogen-free, organic fertiliser from agriculture and domestic wastewater.
- Engaging women in Pacific Island communities through supporting in-country female project officers.

## Overview

This project aimed to assess the potential to 'close the loop' in Pacific Island agriculture by converting domestic and agricultural wastewater into a stable, pathogen-free, organic fertiliser.

Agricultural communities throughout the Pacific Islands are reliant on expensive imported fertilisers. Ironically,

