EUROPEAN UNION

SPREP
Secretariat of the Pacific Regional Environment Programme

PacWastePlus
PACIFIC WASTE MANAGEMENT

This initiative is supported by **PacWastePlus**-a 85-month project funded by the European Union (**EU**) and implemented by the Secretariat of the Pacific Regional Environment Programme (**SPREP**) **to sustainably and cost effectively improve regional management of waste and pollution.**

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Case study
Introduction of Communal Compost Programme in Fiji

Overview

The Fiji PacWaste Plus project was delivered in partnership with the iTaukei Affairs Board to support waste management in 25 rural iTaukei villages across the nine provinces of Fiji.

The initiative aimed to improve the management of organic materials through the design and implementation of community-owned compost facilities to recover organic materials for local agricultural activities.

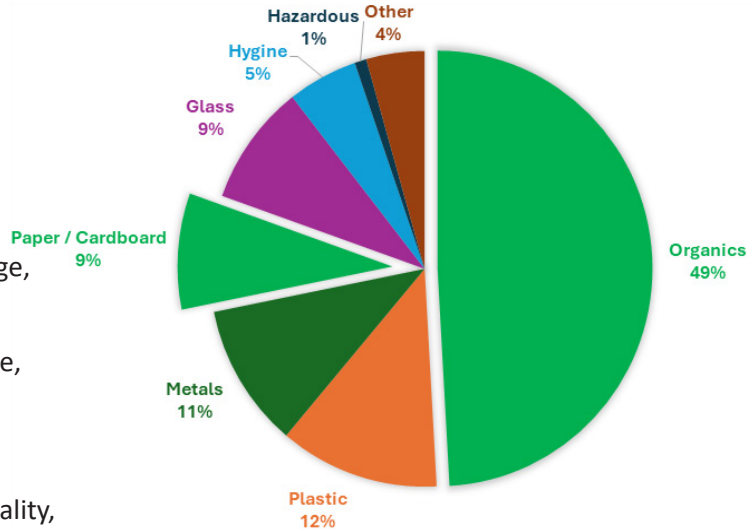
This case study provides an overview of key components of the project, such as community engagement, completion of waste audits, selection of infrastructure, training, and policy integration, and design of selected compost facilities.

Context and Rationale

In the absence of formal waste collection services, many iTaukei communities in Fiji have resorted to establishing small, unmanaged dumpsites to dispose of household waste.

Based on Village Waste Audits conducted in 2023, on average, almost 60% of the waste deposited at these sites is organic material, and paper / cardboard. When left untreated in dumpsites, organic materials produce methane gas, leachate, odours, and attracts pests and vermin.

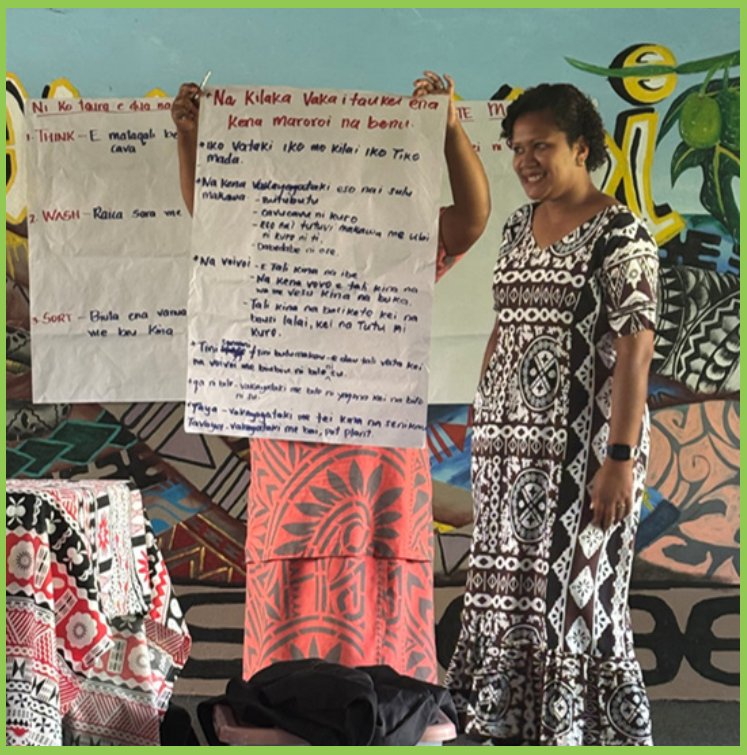
Diverting this organic material from dumpsites not only improves environmental and public health outcomes, but creates opportunities for composting and enhancing soil quality, delivering long-term benefits for both communities and the environment.



Project Components

A communal composting programme was developed which included a series of coordinated activities with local communities to ensure strong community buy-in and the long-term sustainability of the project:

1. Community Engagement and Capacity Building



The project facilitated training and consultations with 685 individuals across 25 communities to educate community members on waste segregation, impacts from waste disposed to environment, and benefits of composting. Communities were engaged in practical exercises including waste audits and the identification of suitable waste management solutions.

These sessions advocated for behaviour change, encouraging communities to adopt better waste management practices to safeguard the well-being of future generations.

Consultations provided insights into the specific challenges faced by each community, helping the project team tailor appropriate interventions to support the organic materials processing programme. Community preferences - such as whether to use compost or biogas - also informed the type of processing solution to be introduced.

Ensuring equitable sharing of benefits among all community members was identified as a key factor to avoid social tensions.

2. Waste Audit

Waste audits were conducted in all 25 communities to identify the types and volumes of organic materials generated at the village level.

These audits provided data to guide the selection of suitable organic processing methods, such as composting or biogas digestion.

The findings from the audits were shared with community members, sparking greater awareness and commitment to change. Many communities expressed a willingness to reduce waste generation by avoiding items like disposable diapers and plastic bags. This community-driven momentum informed the development of tailored Community Waste Management Plans, which were established in each community.

The data also served as a valuable resource for developing briefing materials for Ministers and Heads of Government, helping to secure high-level political support for the programme.

3. Infrastructure Development

Design

During community consultations, composting emerged as the most sustainable and relevant option for managing organic materials as all participating communities rely on local food production and agriculture.

A three-bay composting system was selected by all communities, as they were seen to be a practical and scalable method suited to local needs. The design included a roof and small water tanks to support water supply and help maintain optimal moisture levels in the compost piles during the wet and dry seasons.

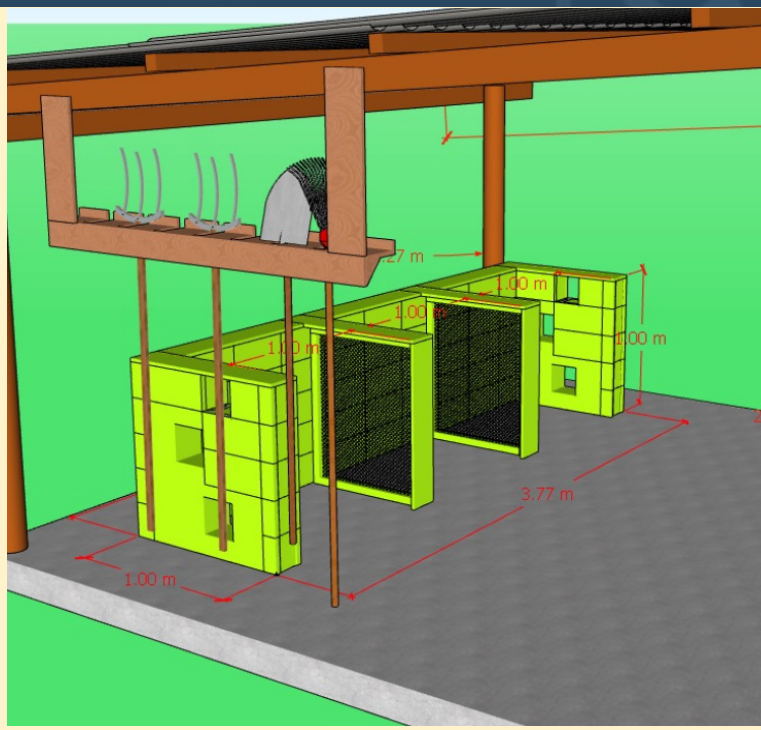
To support operations and ensure safety, each facility was equipped with tools such as wheelbarrows, shovels, machetes, PVC gloves, and gumboots.

Further details of designs are provided on Page 5.

Operations

The day-to-day management of the composting facilities were agreed by each community to be overseen by either the village Environment Management Committee or the local Youth Committee, ensuring strong community ownership and accountability.

The Provincial Conservation Officers (PCOs) from the Provincial Councils overseeing the 25 project sites will provide ongoing monitoring support to communities to ensure that the composting systems operate effectively and consistently.



4. Training and Technical Support

The project included a strong capacity-building component, providing training to community members on the fundamental principles of composting (microbe health and balance of air, water, and food), troubleshooting, facility maintenance, and compost monitoring, ensuring they can self-manage the system indefinitely.

Training to communities were complete using a train-the-trainer style. With initial training sessions conducted by a technical expert for officers from the Department of Environment and Municipal Councils. These trained officers then cascaded the knowledge to PCOs overseeing the 25 project sites. In turn, PCOs facilitated training sessions for the community committees responsible for managing the composting facilities.

5. Policy Integration

The project supported the development of Community Waste Management Plans across all 25 communities, designed to integrate composting practices into daily routines and ensure that waste management remains a long-term community priority.

At the policy level, additional support was extended to the Ministry of iTaukei Affairs through the introduction of a National Waste Management Policy. This policy provides a framework to improve waste management in iTaukei villages, particularly those without access to formal waste collection services.

To facilitate effective implementation, a model Waste Management By-Law was developed for adoption by Provincial Councils. This by-law outlines the responsibilities of the councils in delivering waste management services to iTaukei villages, strengthening local governance and accountability.

Outcomes and Impacts

TThrough the implementation of the PacWaste Plus project in Fiji, the following outcomes were achieved:

Community Empowerment

Capacity increased of 685 community members for waste management and composting, fostering a sense of ownership and responsibility, with an capacity of additional 165 community members increased on operation of the compost facilities. The 23 government staff responsible for ongoing monitoring of the programme had capacity increased on operation of compost facility.

Environmental Benefits

By diverting organic materials from community dumpsites, the project will reduce methane emissions and leachate to soil, contributing to improved environmental health.

Agricultural Improvement

The production and use of compost in each of the 25 communities will enhance soil quality, leading to better crop yields and supporting food security.

Policy Advancement

The development of Waste Management Action Plans has integrated composting into local governance, promoting sustainable waste management practices.

Resources

Factsheet
Establishing a Compost Facility in your Community

https://library.sprep.org/content/establishing-compost-facility-your-community

Video Animation
Establishing a Compost Facility in your Community

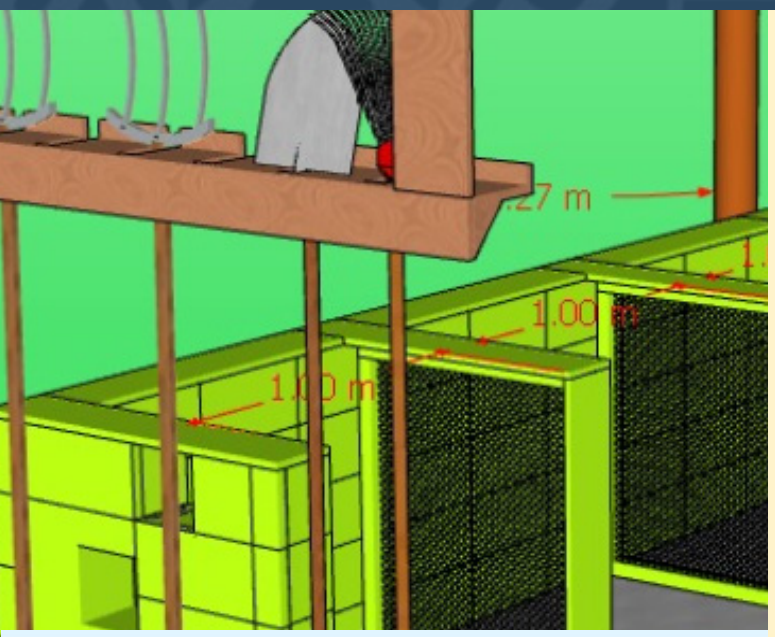
https://library.sprep.org/content/establishing-compost-facility-your-community

Framework Operation Procedure
Small Scale Community Bay/Pile Composting

https://library.sprep.org/content/small-scale-community-baypile-composting-your-facility-organics-processing-facility

Conclusion

The PacWastePlus Fiji Communal Organic Processing project is a successful model of community-led waste management. By empowering local communities with the knowledge, skills, and infrastructure to manage their organic materials, the project not only addresses environmental concerns but also enhances agricultural productivity and fosters sustainable development. Its approach offers valuable insights for similar initiatives across the Pacific region and beyond.



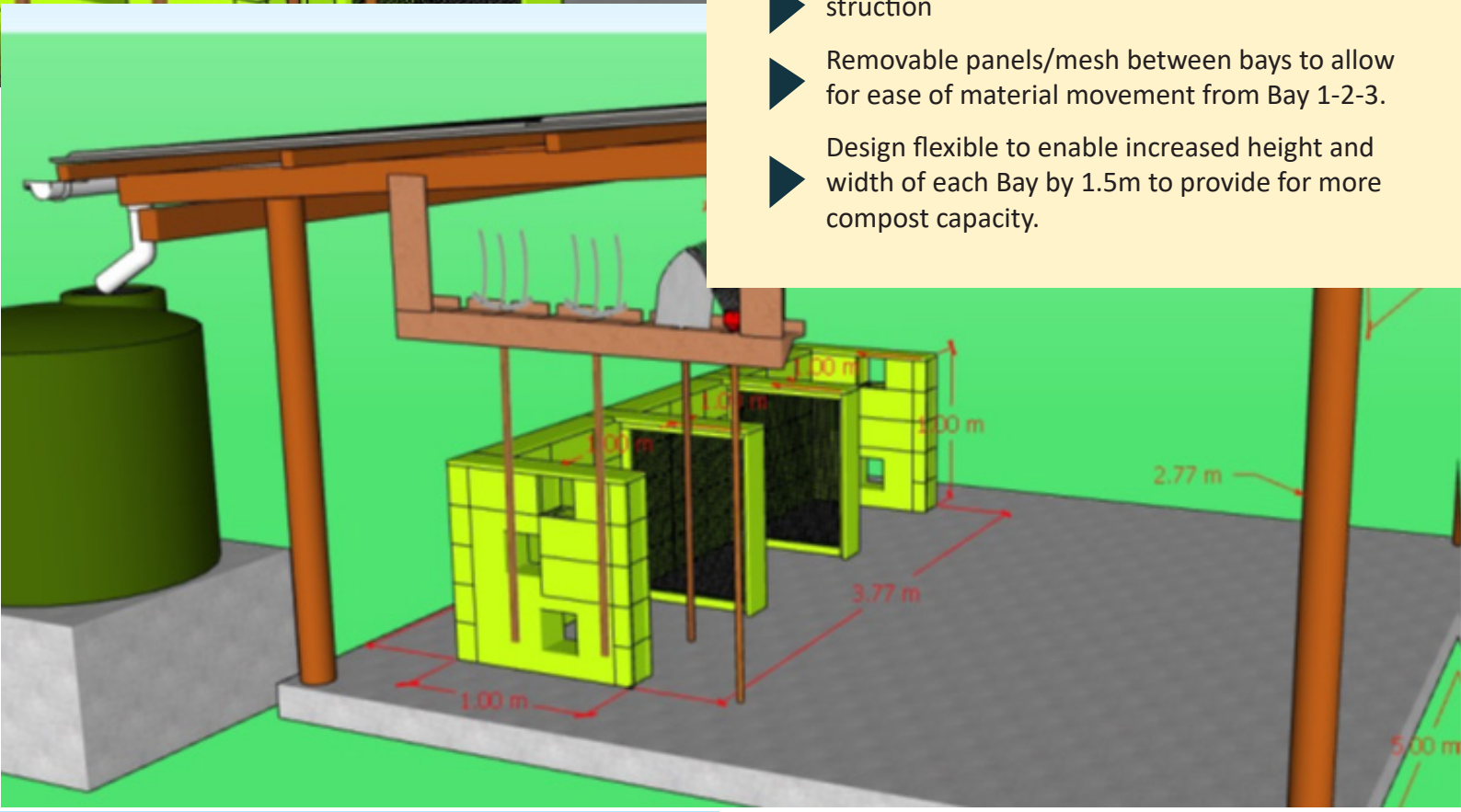
Project Design

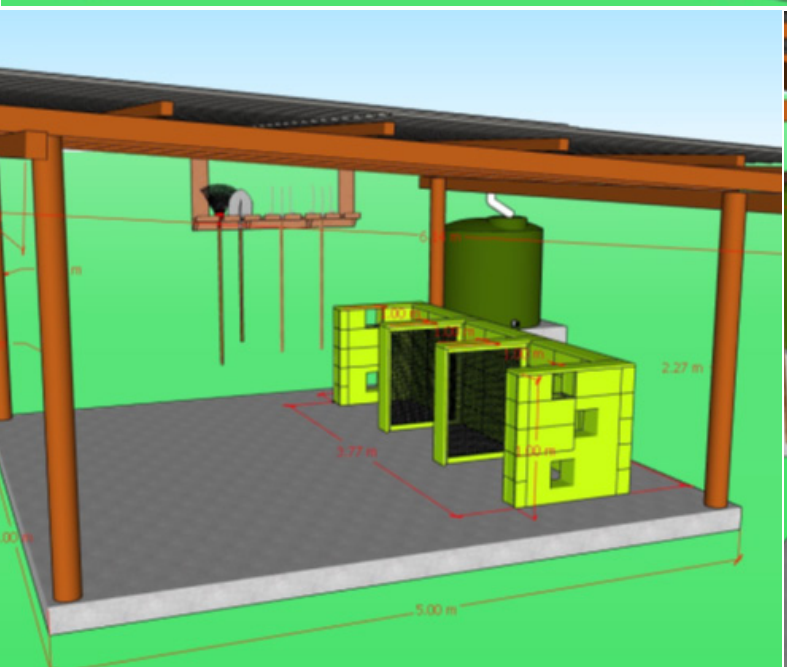
Designs

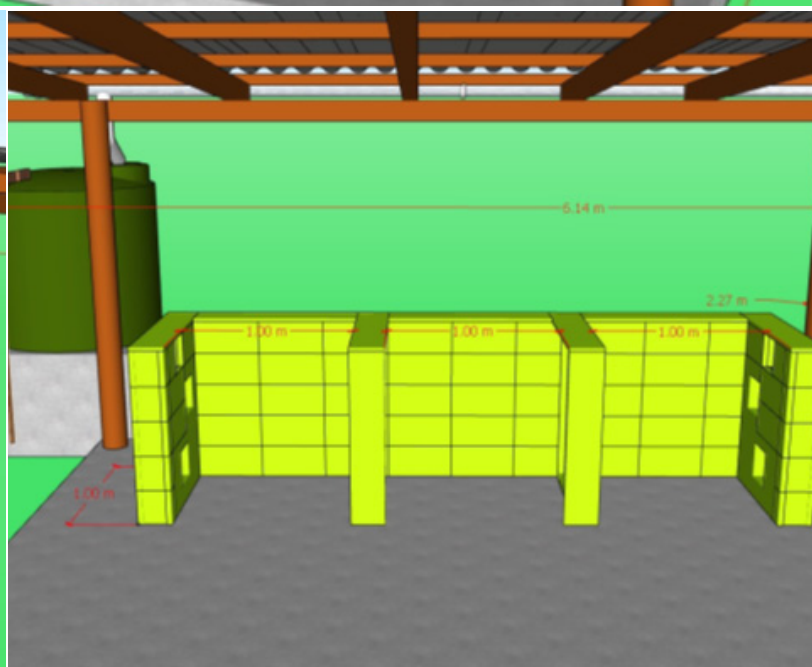
The construction of the Fiji compost facilities used the following designs. Construction of each facility, including delivery and labour was $5,000 USD.

Details

- 3-bay composting system with shed including 500L water tank and hanging tool storage.
- Concrete floor and concrete block/timber construction
- Removable panels/mesh between bays to allow for ease of material movement from Bay 1-2-3.
- Design flexible to enable increased height and width of each Bay by 1.5m to provide for more compost capacity.







Summary of Estimated Material Quantities

Material	Quantity	Details
Concrete slab	2.5m³	5m × 5m × 0.1m thickness
Posts	15.6m	• 100×100mm vertical support • 6 posts, Estimated average length per post = 2.6m
Beams & Rafters	55m	• 100×50mm main roof support • 4–6 rafters per side (8–12 total), each 3m • 3 purlins (running across the rafters, 5m each)
Purlins & Bracing	13–16m	• 75×50mm • Roof sheet support & lateral stability
Fascia/Trim	5–8m	• 150×25mm • Roof edges & finish
Tool Rack	3m	• 50×50mm • Small framing
Concrete blocks (for compost bays)	78 blocks*	3 compost bays with walls and partitions Area = 5.77m²: • Back Wall 3.77m x 1m = 3.77m² • Side Walls - Each: 1m x 1m (x2) = 2m² * Assuming standard block size of 390mm × 190mm (face area)
Cement mortar/plaster	0.3–0.5m³	Blockwork bonding and surface finish
Corrugated roofing sheets	30–32m²	Including overhangs and roof slope
Wire mesh (for partitions)	2m²	1m × 1m per partitions, 2 partitions total
Timber to frame partitions	8m	25 × 100mm
Rainwater tank	500 litres	0.5m³ plastic/HDPE tank
PVC piping & guttering	4–6m	Rainwater collection from roof to tank
Hardware & fasteners	Nails, screws, hinges, brackets	Small quantity


NAKITA


BIOENERGY