

At the core of a circular metabolic economy is the empowerment of communities as primary stakeholders, fostering a future grounded in regeneration. A key strategy for closing material cycles involves the local production and availability of primary construction materials-such as bamboo, palm, and native timbersupported by traditional knowledge systems and local expertise. This approach not only reclaims Indigenous and local knowledge but also trains a new generation in sustainable practices.

Another vital component of this regenerative cycle is the recovery and reintegration of existing materials on the island—an approach referred to as walking the land. This entails cataloguing available resources and assigning them renewed value. For instance, solar panels currently underused on existing structures can be repurposed, contributing additional utility within the community's evolving infrastructure system and social character. The diagrams below depict the proposed prototype to be constructed during the initial phase of the competition.

Prototype Floor Plan

Prototype Exploded Axonometric View









Prototype Joints Details

Prototype Construction Sequence

sterplan Phase 1 & Phase 2 - Overall Image of the Project









Floor and Stairs Deck:

Module Main Structure:



The floor system is constructed using Fijian Mahogany timber decking, a durable hardwood sustainably grown on the islands of Fii

Bamboo Celing:



The ceiling is crafted from small bamboo sticks, designed to highlight and celebrate the cultural essence of Marou Village. The intention is for these pieces to be created in collaboration with the local community.

Photovoltaic Panel



The photovoltaic panel is a standard 400-watt unit, measuring 195cm x 105cm, with a generation capacity ranging from 1.5 kWh to 2 kWh. It is mounted onto the rafters using a conventional



The roof's main structure is crafted from bamboo, connected to concrete footings as independent components. Each module includes three columns, along with a central double column reinforced by diagonal supports to enhance rigidity. Joints can be reinforced with steel connections. Roof Substructure:



The roof substructure is a flat bed constructed from exposed bamboo, finished with a weather-shield matte clear lacquer or a similar protective coating. It is designed to serve as the primary support for the roof thatch.

Stormwater Collection System:



The roof is designed to channel stormwater to a single collection point, where a downpipe is installed. This downpipe connects directly to a standard water tank with a capacity ranging from 1,000 liters to 14,000 liters depending on the typology. The overall form of the prototype is designed to allow wind to flow through its various openings from multiple directions.