**LAGI 2025 Fiji**

1. **Concept Narrative**

Our design draws inspiration from traditional Fijian textile patterns, especially the frangipani flower motif commonly found in local fabrics. This cultural reference shapes the architecture into three clusters resembling abstract frangipani flowers. Each cluster houses a tree-like structure of varying heights and sizes, forming shaded, open-air spaces underneath. These spaces are intended for flexible use—serving as venues for meditation, children’s workshops, and social gatherings.

The structure not only provides clean energy and water but also strengthens cultural identity, fosters community cohesion, and improves overall well-being. Shared land use is central to the design philosophy, creating a space that belongs to and benefits the entire community, enhancing both environmental and social resilience.

**Materials**:

Central trunk: Stainless steel

Petals: Carbon fiber (integrating solar panels and rainwater collection channels)

**Visitor & Community Experience**:
Visitors experience an immersive blend of culture and sustainability, while the local community gains a functional and symbolic landmark that supports everyday life and traditions.

**Co-benefits**:

Promotes community gatherings and cultural activities

Provides educational opportunities on sustainability

Improves local microclimate through shading and water retention

1. **Technical Narrative**

**Technologies Incorporated**:

Photovoltaic solar panels (integrated into carbon fiber petals)

Vertical-axis wind turbine (inside the central trunk)

Micro-hydro turbine (powered by stored rainwater)

These technologies were selected to ensure year-round energy production in a region with variable sunlight and weather conditions. Their combination provides system redundancy and reliability, ensuring resilience in the face of environmental challenges.

**Energy and Water Generation**:

Up to **82 kWh/day** of electricity from solar panels (under optimal conditions)

Approximately **643,000 liters/year** of harvested and filtered rainwater

Additional electricity from wind and micro-hydro turbines, especially during cloudy or rainy days

**System Inputs**:

Sunlight

Wind

Rainwater

**System Outputs**:

Clean electricity

Filtered, stored rainwater

Usable shaded public space for social and cultural activities

1. **Prototyping and Pilot Implementation Statement**

The prototyping process will begin with small-scale mock-ups. Key functional components such as the solar petals and rainwater filtration units will be tested under local weather conditions.

For the full-scale pilot, the team plans to collaborate closely with the Marou village community through workshops, design feedback sessions, and local labor engagement. This co-creation process ensures the installation is culturally appropriate, maintainable, and embraced by its users. Community members will participate in both the construction and early testing phases, helping tailor the system to their real needs and enhancing local ownership.

1. **Operations and Maintenance Statement**

The people of Marou will be the guardian and main stakeholder of the installations. They will fully engage technically in maintaining the operations of the solar, wind and rainwater harvesting system.

1. **Environmental Impact Assessment**

The environmental impact is very minimum as we have respected the built impact and land use efficiency of the site