**LAGI 2025 – FIJI**

**WOVEN COLLECTIVE**

1. **Concept narrative**

The project materializes the natural watershed northwest of the Village of Marou by inscribing fifty 12-meter-diameter cylindrical wells into the earth. These wells are filled with crushed stone to slow excessive water runoff through temporary storage and to promote direct groundwater recharge. The watershed is further articulated by a network of local gullies that guide water toward the stone-filled cylinders. This system culminates in a singular, 40-meter-diameter well at the base of the hill, also filled with crushed stone, which naturally filters water into a series of subterranean cistern vaults. The stone is intended to be sourced from nearby quarries, such as Saru in Lautoka, and the collected water is available for domestic use or can be gradually released into the ground when not needed.

At the surface, the top of each well—defined as a circle flush with the surrounding grade—provides the framework for a field of 8-meter-tall pyramidal forms that visually register the movement of water along the watershed. Each four-sided pyramid begins as a regular square footprint inscribed within its corresponding circle. The forms are then uniquely distorted according to two environmental criteria: solar orientation and prevailing wind direction. Because each pyramid occupies a distinct location on the site, every form is uniquely adjusted—producing a family of geometries that are formally related yet individually distinct. Each is truncated at the top to allow daylight to enter the interior while still offering protective shade.

The pyramids are constructed from locally sourced rosawa dimensional lumber harvested in accordance with Fiji’s Forest Harvesting Code of Practice, which outlines sustainable logging methods. Their exteriors are wrapped in hand-woven coconut palm crafted by the local community. The woven layer is elevated slightly over two meters above the ground to allow for human entry and cross-ventilation, creating shaded spaces that remain open and breathable. Each pyramid also supports six photovoltaic (PV) modules, contributing to a collective array that meets the project’s total energy demands.

The resulting character of these truncated pyramids is one of collective identity—each structure individually unique, yet part of a coherent whole. Their orientation into the wind echoes the posture of local seabirds such as shearwaters and albatrosses, which lean into prevailing winds to maintain control in flight and avoid being blown inland. Like these birds, the pyramids register the site’s natural forces through calibrated form.

Together, these elements define a recognizable place—what might be understood as a “woven collective”—a gathering of objects made from familiar materials and textures that invite communal use. Set within a clearing shaped for gardening, farming, and rest, the site becomes both a space of ecological repair and human connection, where water is absorbed into the land and shade provides relief beneath a canopy of woven craft.

1. **Technical Narrative**

While providing a common “figure” at one corner of each pyramid, the PV panels are standard crystalline silicon flat modules—widely used for their proven efficiency, durability, and cost-effectiveness. Readily available from numerous manufacturers, they offer a reliable and scalable solution for on-site renewable energy generation.

Each pyramid is fitted with (6) 1.0 x 1.5 meter panels arranged in two columns and oriented for optimal solar exposure. With each panel rated at 250 W, every pyramid contributes 1.5 kW to the collective array. Based on a total system capacity of 75 kW, a derate factor of 0.8, and an average solar availability of 5 peak sun hours per day, the estimated annual energy production is as follows:

75 kW × 0.8 (derate factor) × 5 hours/day = 300 kWh/day
300 kWh/day × 365 days/year = 109,500 kWh/year

The 50 deep wells located at the base of the pyramids, as detailed in the Concept Narrative, each have a capacity of 75 m³. These wells are designed to slow excessive water runoff throughout the watershed and facilitate gradual, direct groundwater recharge. At the lowest point of the site, a larger, final well serves as a filtered cistern, providing water for domestic use by the Village of Marou. The total capacities are as follows:

Small Wells: 75 m³ × 50 = 3,750 m³
Large Well: 4,000 m³

The 50 deep wells located at the base of the pyramids, as described in the Concept Narrative, each have a capacity of 75 m3. These wells are designed to slow excessive water flow across the watershed and support gradual, direct groundwater recharge. At the bottom of the site, a final, larger well functions as a filtered cistern, intended to store water for domestic use by the Village of Marou. The total capacities are as follows:

Small Wells: 75 m3 × 50 = 3,750 m3
Large Well: 4,000 m3

1. **Prototyping and Pilot Implementation Statement**

All major materials are locally sourced, and, except for the PV panels, labor is meant to unite community in crafting the project—from earth moving to harvesting, milling, and of rosawa dimensional lumber, to erecting the pyramid frame, to the creation and installation of the hand-woven coconut palm shading layer. As such, we would rely on local recommendations for means and methods and make any modifications that would align with local crafts, fabrication, and construction. We would be active participants along with members of a local team that would collectively create and implement the prototype.

All major materials are locally sourced, and—with the exception of the PV panels which are readily available as a product—the project is designed to be a collective effort, engaging the community in all phases of construction. From earthwork to the harvesting and milling of rosawa dimensional lumber, to the assembly of the pyramid frames and the creation and installation of the hand-woven coconut palm shading layer, each step invites local participation. We intend to rely on local recommendations for means and methods, making adjustments that honor and align with regional crafts, fabrication techniques, and construction practices. Our team would work alongside local collaborators as active participants in the final design, prototyping, and realization of the project.

1. **Operations and Maintenance Statement**

Operations are kept minimal because the project is essentially passive. Repairs to wood frames and weaving are local traditions and would be supported and maintained when necessary, by local craftspeople. The PV array would require a typical routine and long-term maintenance and care by a local qualified technician. These tasks would include visual inspections, cleaning of panels, inverter replacement, monitoring of system performance, and periodic electrical checks.

1. **Environmental Impact Statement**

We believe that our approach—an extension of the natural watershed that mimics patterns of flow and filtration—will help mitigate any negative impacts that gardening or farming might have on the land and its surrounding habitat. In collaboration with community experts, we are eager to explore design modifications that further support local ecosystems. This process, however, must be grounded in direct dialogue with local stakeholders rather than relying solely on external research. We are hopeful for the opportunity to engage in that exchange and to shape the project in ways that are ecologically responsive and locally informed.