

# Solar Leaf

## Weaving Light and Water

Solar Leaf is a modular, regenerative land art installation that integrates solar infrastructure with cultural and ecological sensitivity. The project proposes a 75 kW solar mini-grid composed of 41 palm-inspired tensegrity structures, each designed to harness renewable energy while embodying Fijian values of Vanua (land), Wai (water), and Bula (life).

Each structure features monocrystalline photovoltaic “leaves” that are biomimetically sloped to maximize solar exposure and efficiently channel rainwater into concealed reservoirs. This dual-function design supports both renewable energy generation and sustainable water harvesting—key priorities for resilient island communities. Constructed using locally sourced materials such as bamboo lattice frameworks, reclaimed palm fronds, and indigenous fiber-based tensile cables, the project reflects vernacular craftsmanship and the deep environmental stewardship inherent in traditional Fijian architecture. The structural system is engineered for pragmatic resilience, capable of withstanding cyclone-strength winds while maintaining minimal environmental impact.

The installation incorporates shared public spaces connected by organic pathways of compacted earth and natural stone, fostering community engagement, cultural expression, and environmental awareness. The interplay of sunlight and shadow beneath the elevated canopy creates a dynamic, immersive experience that evokes the natural rhythms of the Fijian rainforest.

