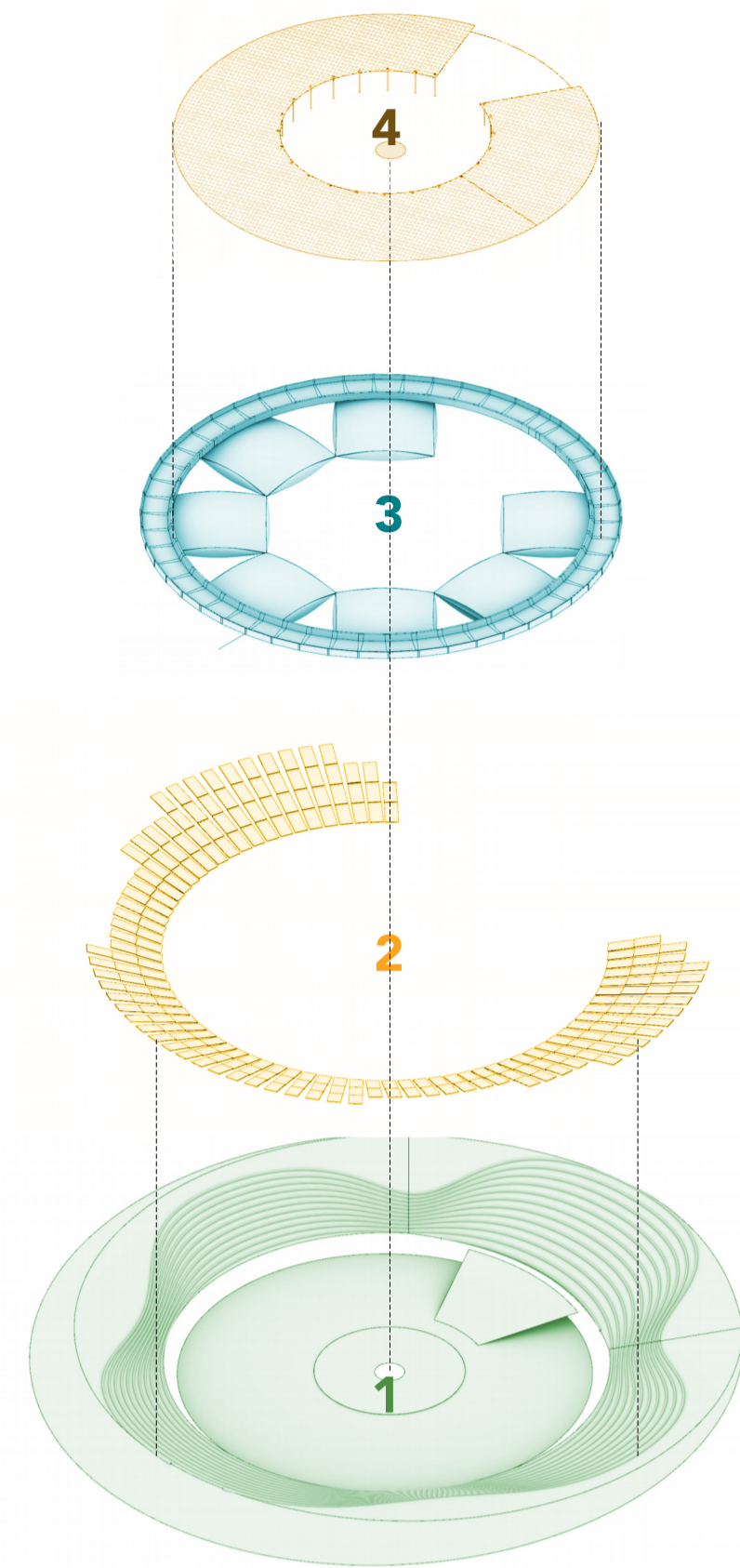
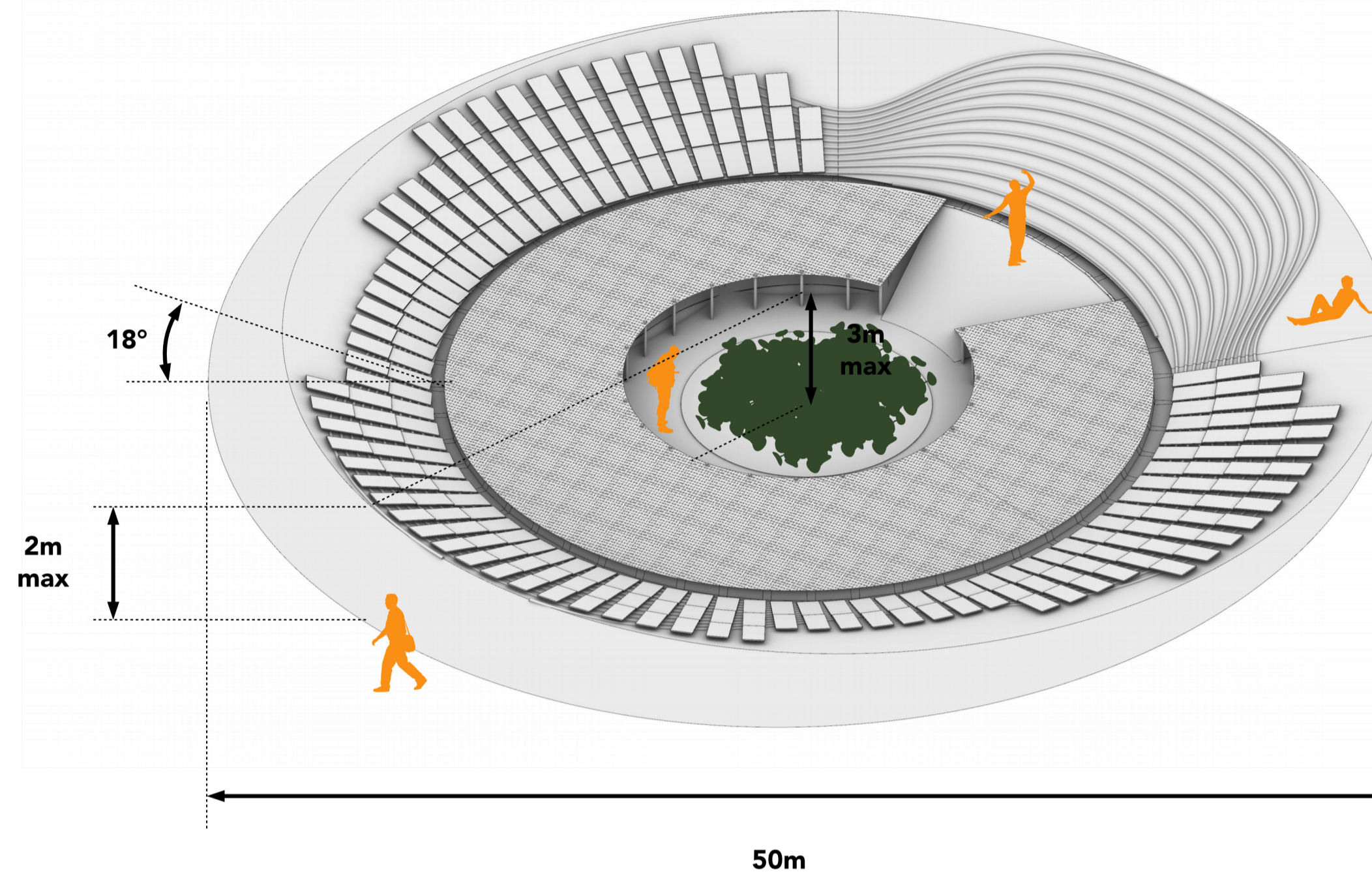


Vula Kaukaua

{energy moon}

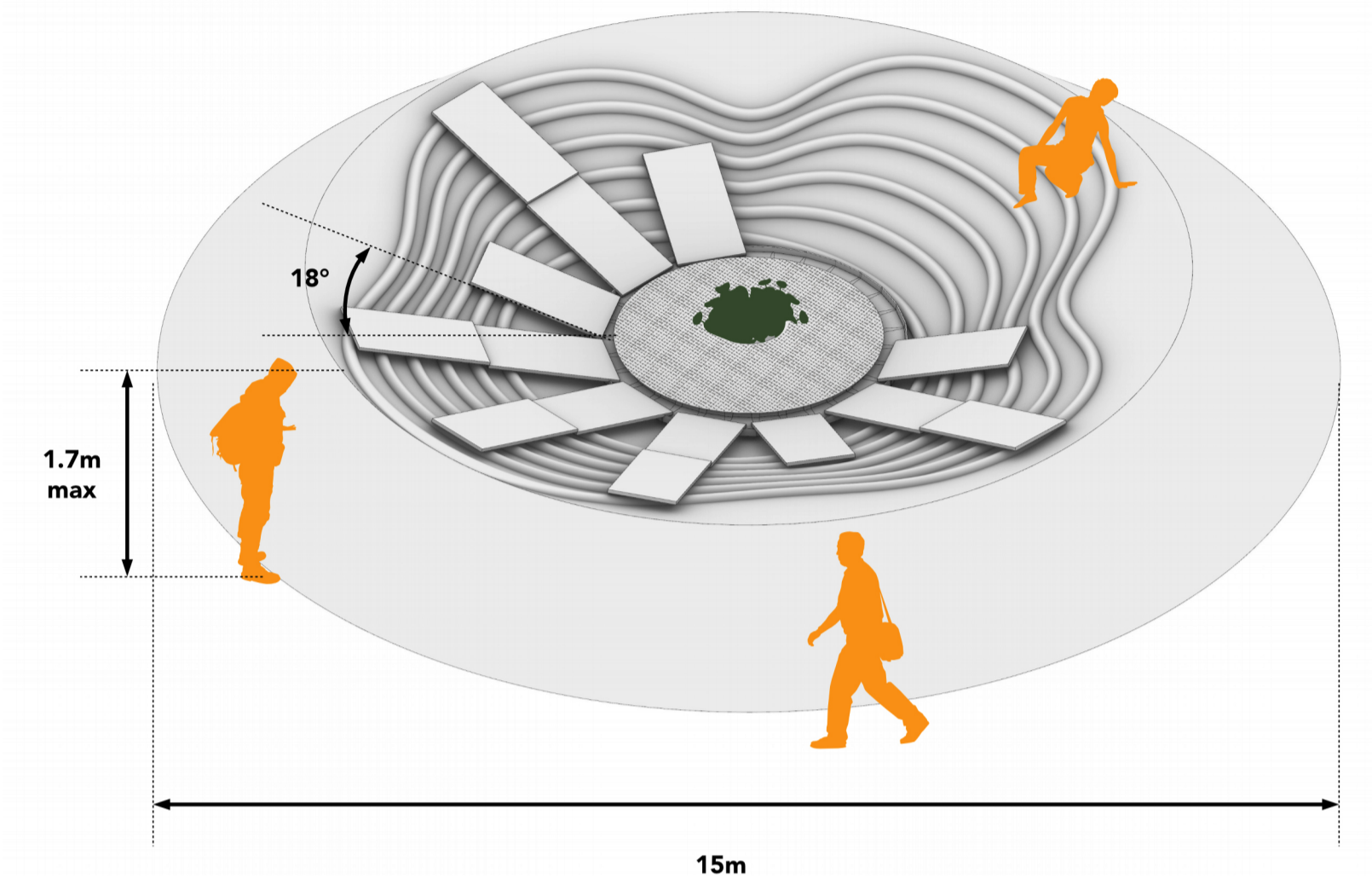


Exploded axonometric view



Full-scale design

{Electricity power : 77kW ~ around 80 000kWh/year / Water harvesting : 450m³}



Prototype design

{Electricity production : 5kW / Water harvest : 10m³}

1. BASE : topography work

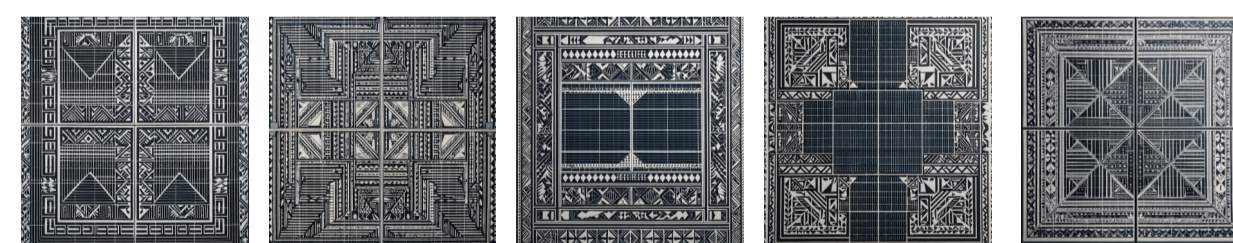
- Sculpt terrain with small digger to form a 18° slope and access ramp
 - Add local bamboo (*Schizostachyum glaucifolium*) half-trunks to make access steps and anchors for solar panels
 - Plant central kava garden with overflow drained downstream to the closest river
- Topography work will use local earth and soil to build adequate angle slopes to install the solar panels and water harvesting infrastructure.
- A small digger can be shipped on a small 4x14m barge during construction.



Requirements : small barges, small excavator, motivated workforce, local earth and bamboo, lots of singing, good food and Kava celebrations !

2.ELECTRICITY : custom PV array

- 220 solar panels, 450m² total, producing 77kW power peak
 - Standard 1x2m monocrystalline solar panels with aluminum framing, 300~400W power
 - Aluminum frames are mounted on local bamboo supports
 - Glass face customization with contemporary Fijian motifs, designed by Fijian artists
 - A small battery rack will store excess electricity (Lithium Iron Phosphate)
- Solar panels are delivered by barge. The custom pattern is applied directly at the production factory.
- The customization of the panel glass plate is a good opportunity to anchor the project in the local contemporary culture. Artists from Fiji could apply to create the final design of the solar panel motifs, generative art could be a good lead.



Proposals for custom pattern engraved/printed glass face.

3.WATER : bladders array & gutter system

- 7 bladders able to store up to 450m³, full rainy season pluviometry falling on PV array
 - 7x7x1,3m bladder storing up to 65m³ per bladder with a 100kg empty weight (rolled)
 - Rainwater is collected by precast concrete gutter modules and filtered before entering the bladder
 - A second filtration with reverse osmosis can be added after the tap, a global distribution system could be added to supply directly Marou homes or outdoor kitchens
- The bladders can be delivered folded on a small barge. They are lightweight and able to store drinkable water with possibility to add upstream/downstream filtration .
- They are unfolded on previously flattened platforms covered with local compacted gravel.



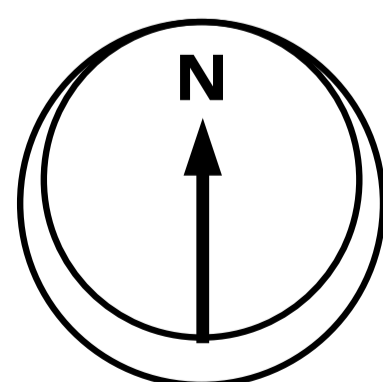
Folded bladder inflates to store water are effective storage solution for remote location

4.SHADE : Massi Tapa palm leaves weaving

- Protecting bladders from sunlight minimize bacterial growth and maximize lifespan
 - Involve local community with traditional know how with a significant addition to the project
 - Covered space for waterproof battery rack cases (Lithium Iron Phosphate low-cost, low maintenance batteries LFP)
- Marou and navity community artists and craftsman, together with Fiji Art Council and University involved with LAGI 2025, would develop and build the palm leaves weaved solar protections for the bladders.
- The design would focus on local traditional patterns, maybe revisited in a contemporary way for the project. This could be the opportunity to involve the Marou community and artists from Fiji to anchor the infrastructure in local culture.

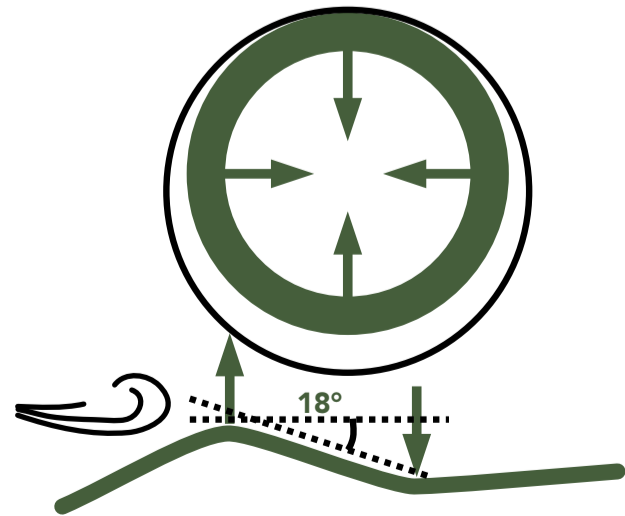


Traditional Massi Tapa patterns and local craftsmanship, using local natural materials (palm and coconut fibers). Possible contemporary reinterpretation by Fijian artists



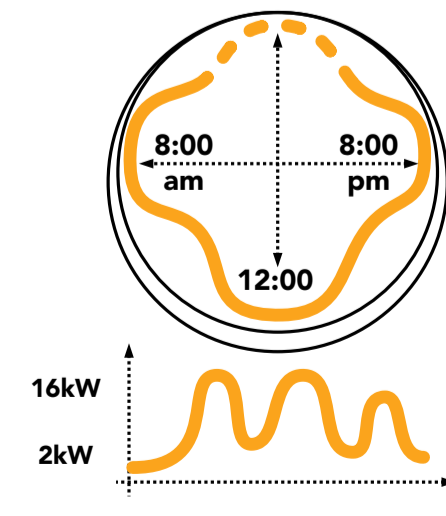
1 - ORIENT

moon to north, facing the equator to maximize energy harvest



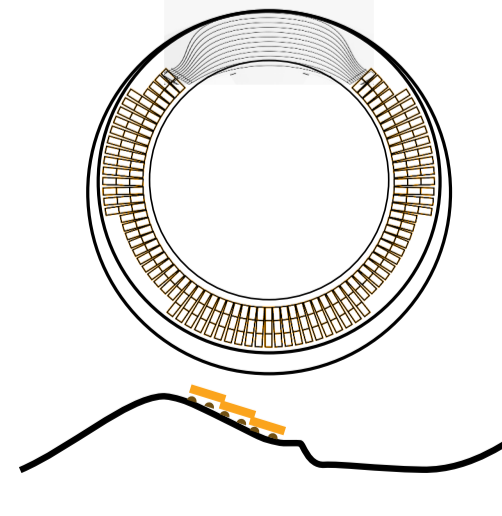
2 - SHAPE

the terrain to create a 18° angle and protect moon from storms



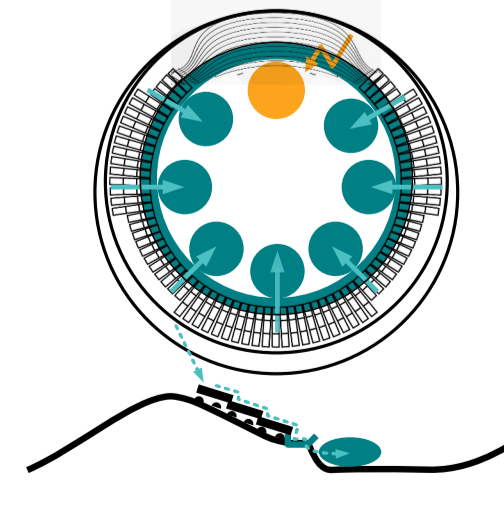
3 - OPTIMIZE

solar panels and battery storage according to Marou village average hourly consumption



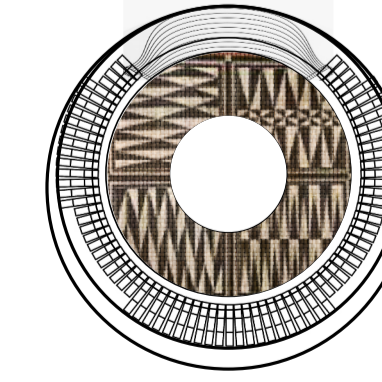
4 - COVER

the slopped terrain with standard photovoltaic ,anchored on bamboo trunks



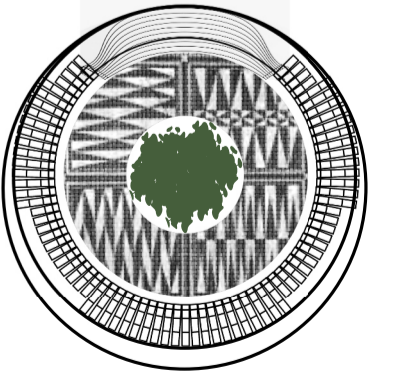
5 - COLLECT & STORE

water in soft bladders array & electricity to the local grid and/or basic battery racks



6 - PROTECT

bladders are protected by Massi Tapa sun covers to limit bacterial growth in the stored water



7 - ENJOY

a central social place to gather around a Kava planted garden