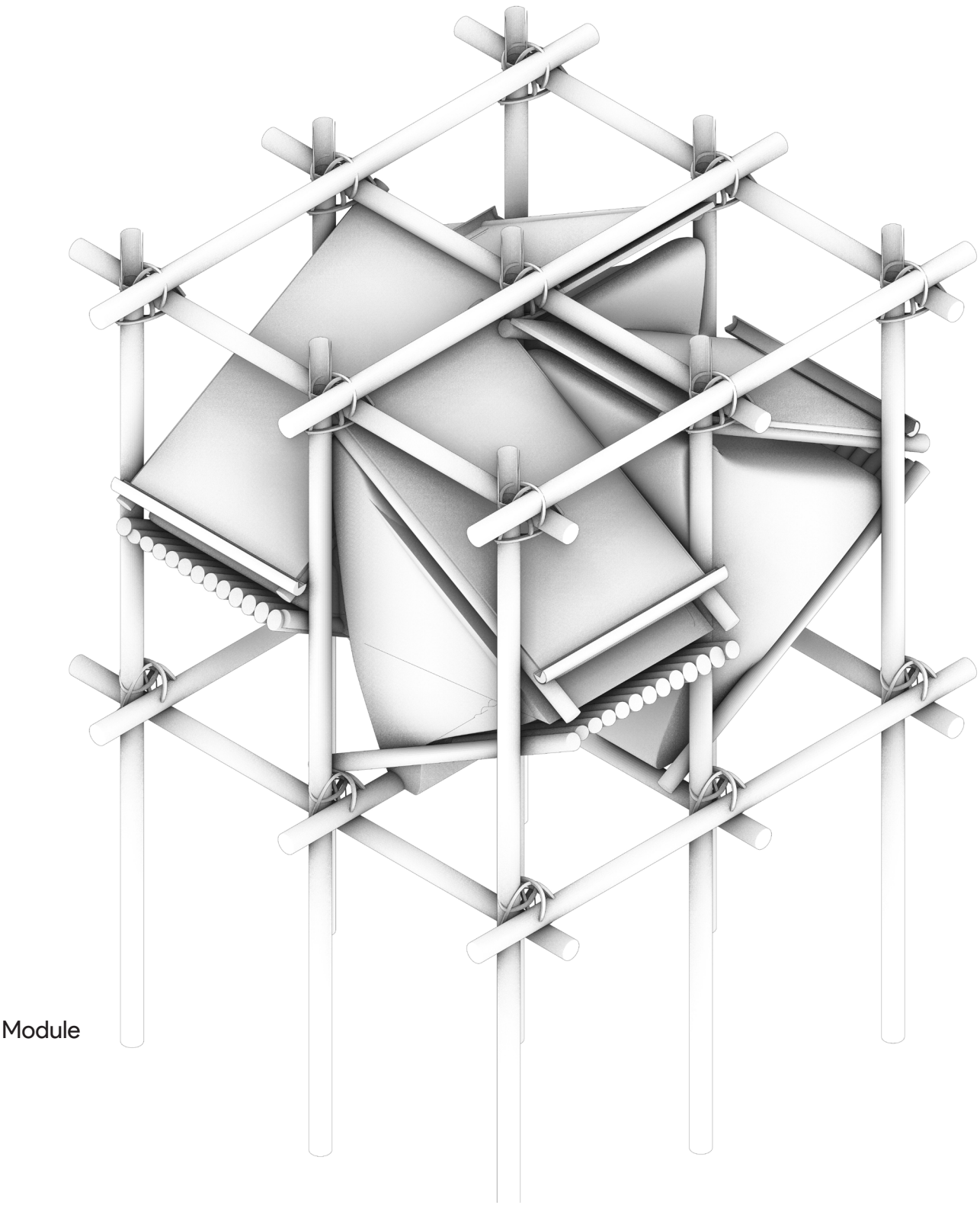
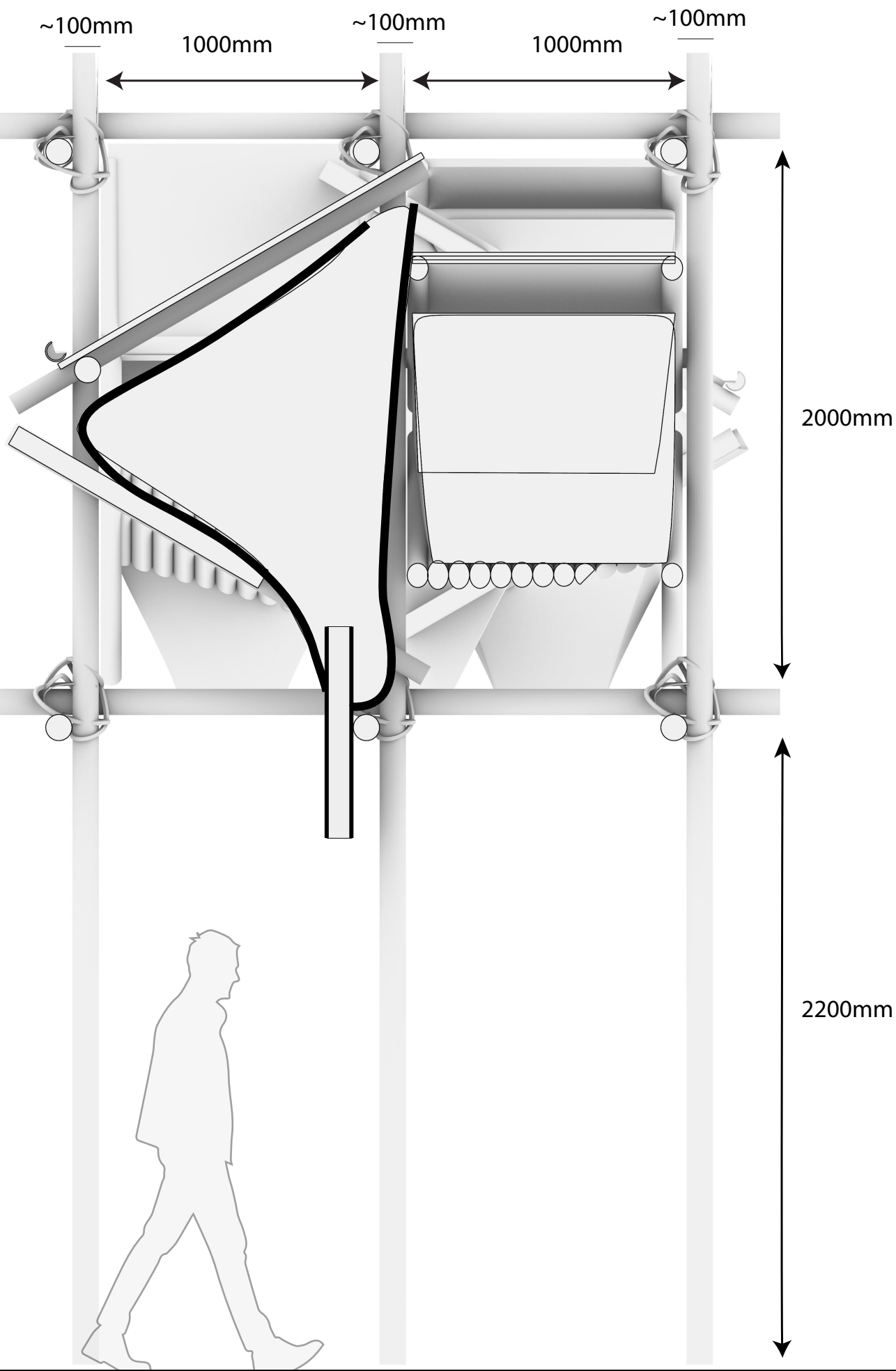


# The Breath of Maoui

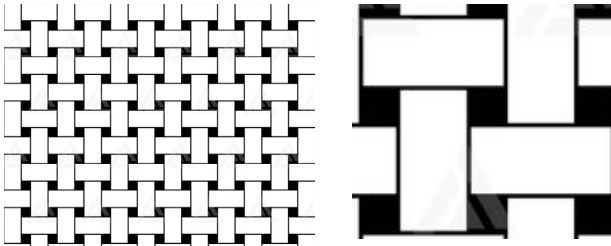
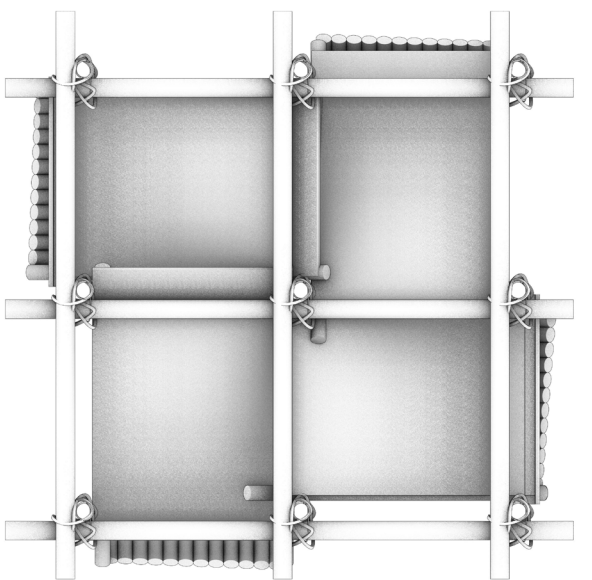
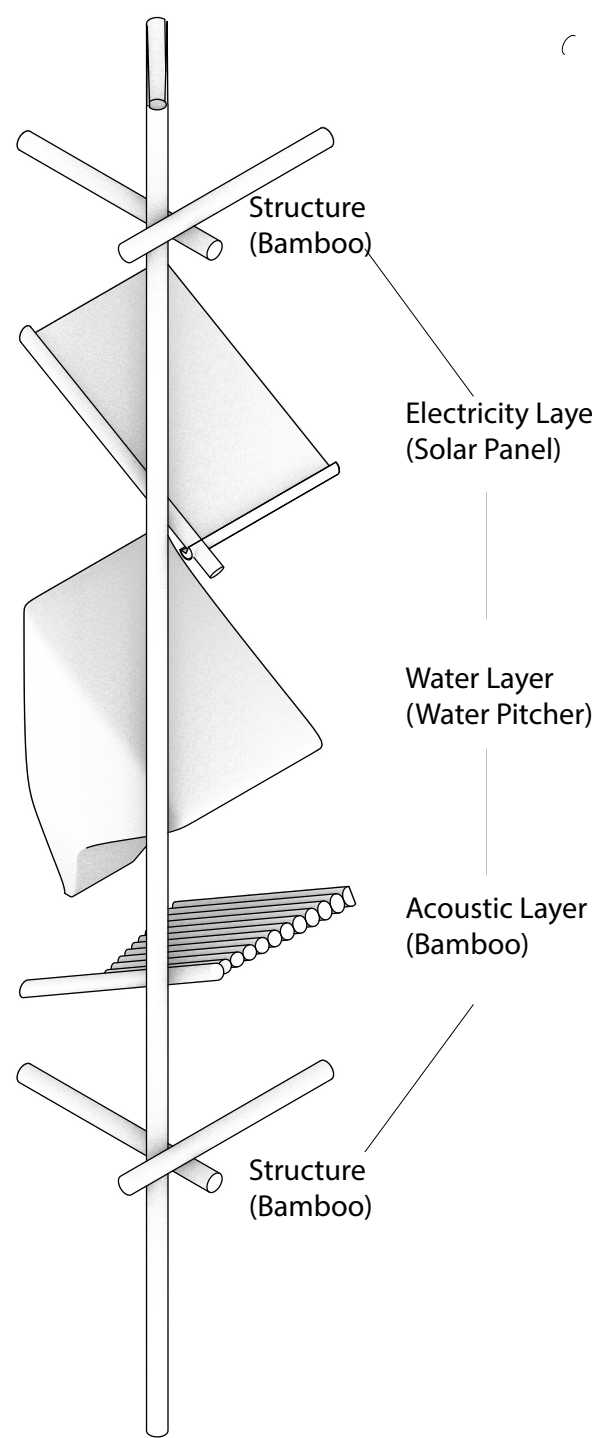


Module



Module Section

Module Part



## Modular Unit — Basket-Woven Microclimate

Each 2m × 2m module is inspired by the traditional basket weave pattern — a structural and symbolic language found across Pacific and South Asian cultures. Like a woven mat that binds community, the module's interlaced bamboo framework creates a flexible, breathable skin, distributing load while allowing light, air, and sound to pass through.

This weave logic extends through every layer:

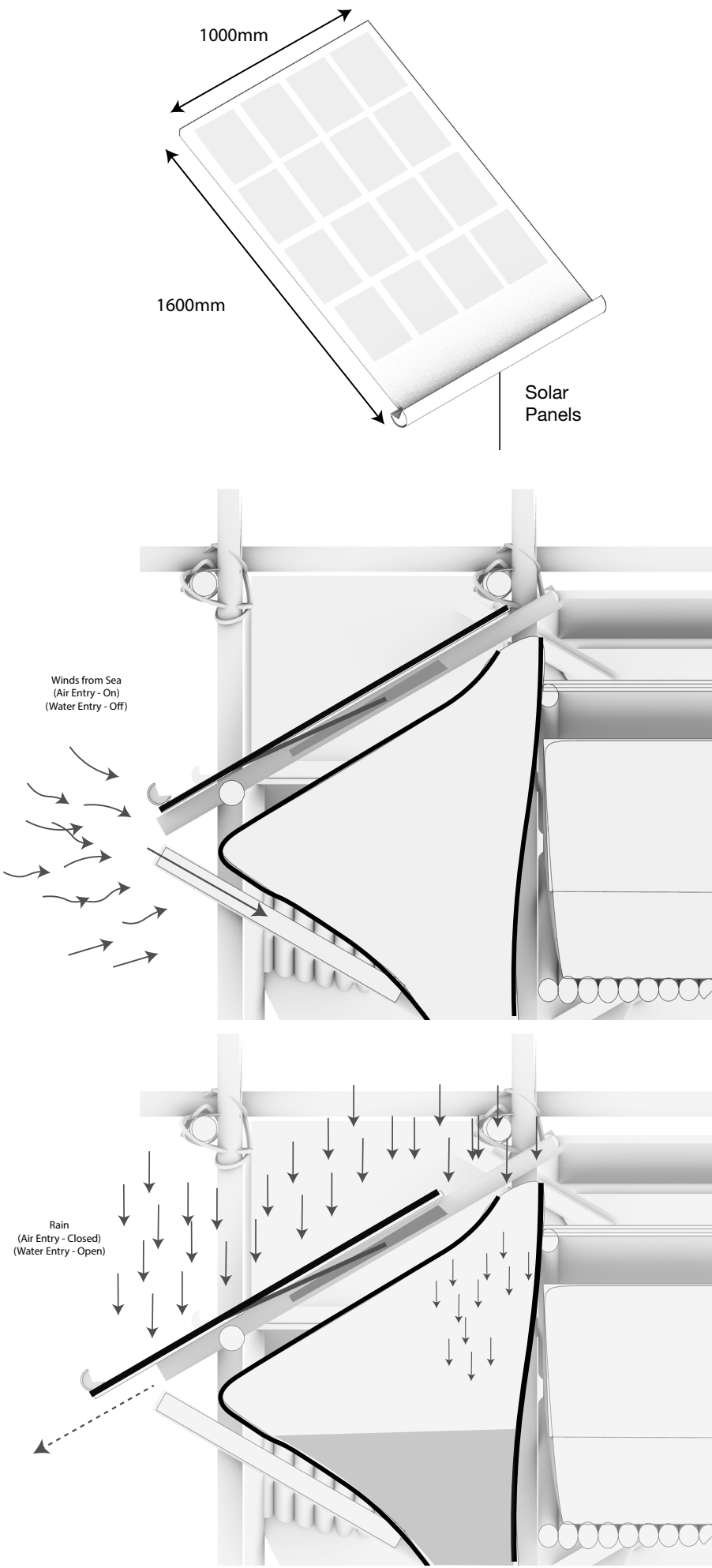
Solar panels are laid diagonally above like interlaced palm leaves, tilting for sun and rain.

Earthen pitchers nest into the center, like offerings within a woven bowl.

Wind flutes thread vertically below the pitchers, activating only when airflow finds its rhythm.

Structurally, the cross-laminated bamboo members use *Dendrocalamus asper* and *Bambusa vulgaris*, alternating in direction to resist torque and improve flexibility under wind loads. Spatially, this weaving opens up micro-voids within the module — enabling airflow and acoustic resonance without sacrificing strength.

Functionally, each module becomes a self-contained unit of generation, cooling, and sound. Culturally, it's a woven story of energy and ancestry, repeating across the land to form a breathable, musical, light-catching field.

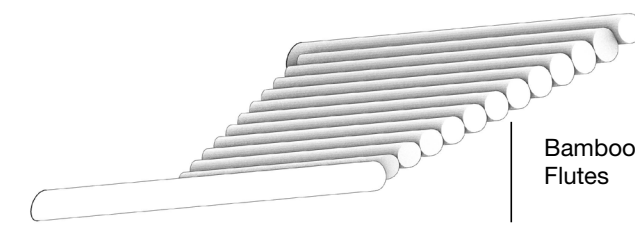


## Functional Solar Panels (1,000 units × 150W) — \$200,000

At the heart of the project's energy system is a field of 1,000 monocrystalline solar panels, each rated at 150 watts, producing a total of 150 kW—twice the required capacity. These panels are arranged across modular bamboo units in a way that mirrors the function of a human epiglottis: they open to the sun and air during clear days, and shift during rain to collect water, momentarily “closing the breath” to guide resources downward into earthen pitchers.

Each module hosts four panels, tilted for maximum solar capture and rainwater runoff, supported by a lightweight bamboo grid. Their surface doubles as canopy, shading device, and catchment plane, while the panels themselves form a responsive envelope that adapts to climate, protecting what lies beneath. The panel configuration is intentionally modest in wattage to allow fine-grained integration and low-tech maintainability, all while adhering to international standards and a 25-year performance life.

This solar array is not only a generator of clean power — it is a bioclimatic throat, regulating the island's breath, transforming light into life.

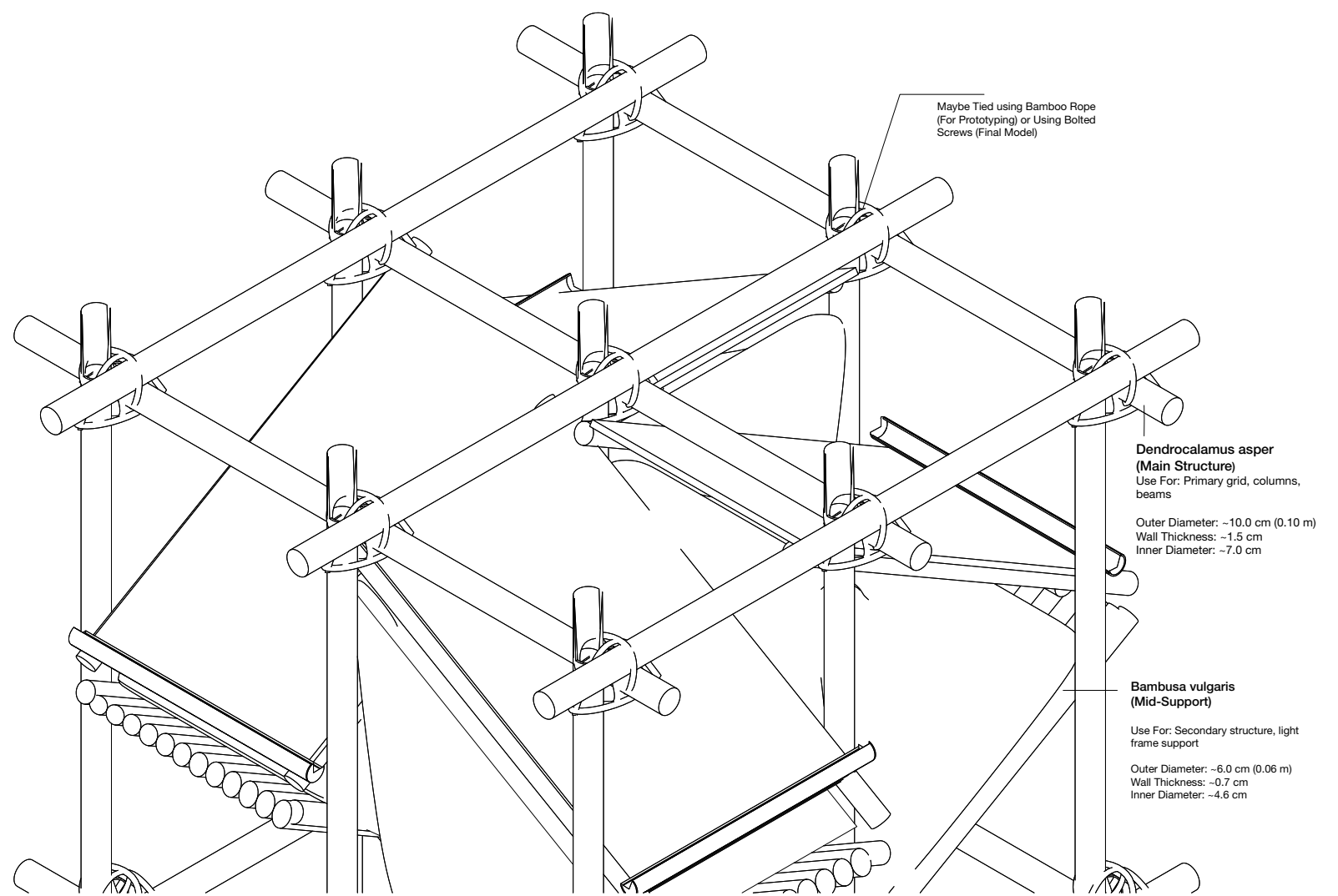


## Bamboo Flutes (Wind-Activated Pipes)

Integrated into each module are 5–6 vertically mounted bamboo flutes, tuned to resonate at different frequencies when wind passes through. These pipes act as passive instruments, transforming the ocean breeze into a shifting soundscape. Their spacing and height variation create a field of tones — from low hums to high whistles — echoing the voices of the island.

Inspired by the throat's natural acoustics, the system behaves like a sonic epiglottis: when the solar panels open (in dry weather), air flows freely, activating the flutes; during rain, the panels shift to close off wind flow and redirect water to the pitchers. This dual behavior allows the structure to choose between sound and water — just as the body chooses between breathing and drinking.

The flutes serve not only as musical elements but as cultural bridges, referencing traditional Fijian and South Asian wind instruments, and inviting interaction through sound.



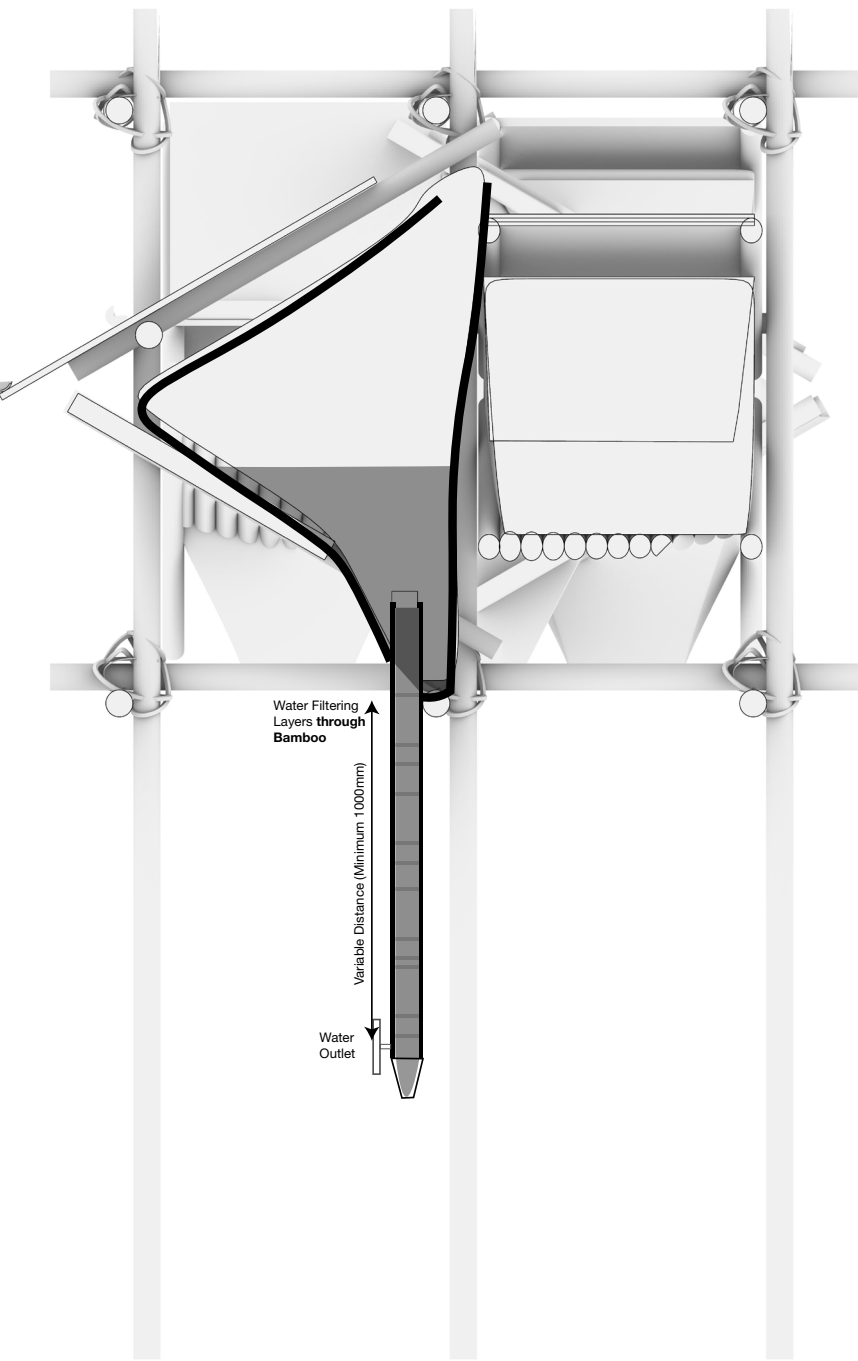
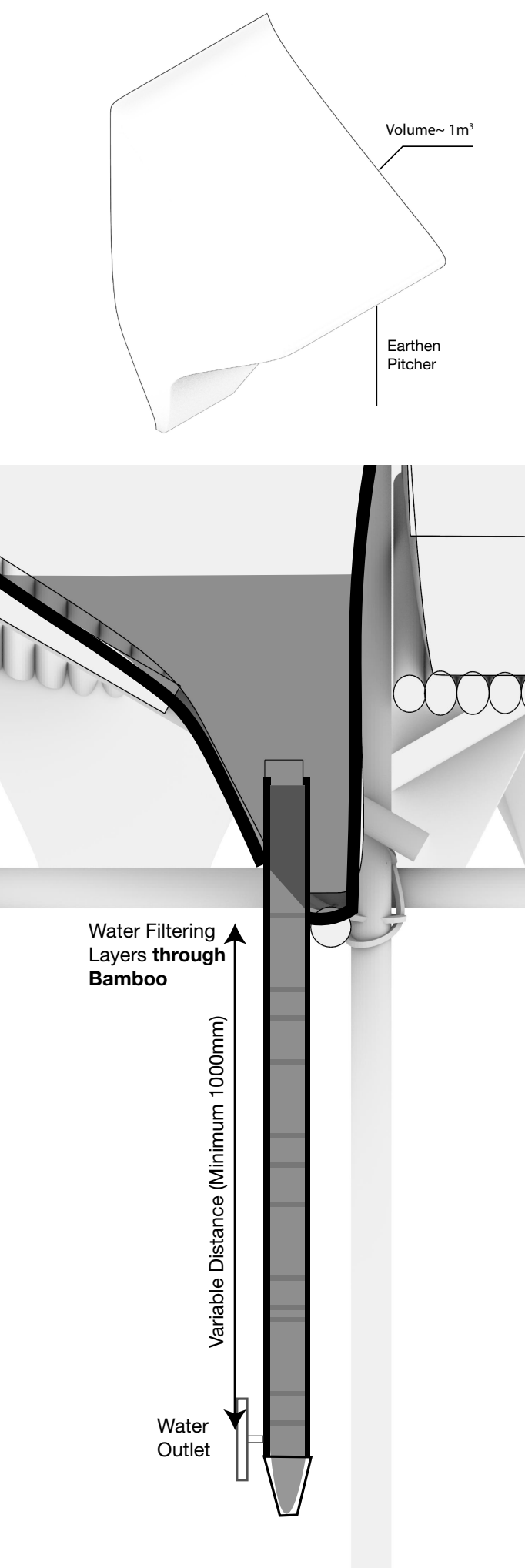
## Bamboo Structure — Woven Framework of Resilience (\$90,000 USD)

The structural foundation of The Breath of Maoui is formed by an interlaced grid of bamboo, designed to carry environmental performance and cultural meaning in equal measure. With a total budget of \$90,000 USD, this system is entirely built from locally-sourced, renewable materials, ensuring low embodied energy and full community constructability.

The structure employs two primary bamboo species:

- *Dendrocalamus asper* — used for primary load-bearing columns and beams due to its strength, thickness, and long span capability.
- *Bambusa vulgaris* — used for secondary supports, lateral ties, and lightweight infill to enable flexibility, bracing, and dynamic shadow play.

Each 2m × 2m module forms part of a larger woven mat-like grid. The structural logic mimics traditional basket-weaving techniques, where horizontal and vertical members interlock across multiple planes, resisting wind uplift and distributing weight evenly across the system. This woven method gives both aesthetic continuity and structural resilience to each of the six modular blocks.

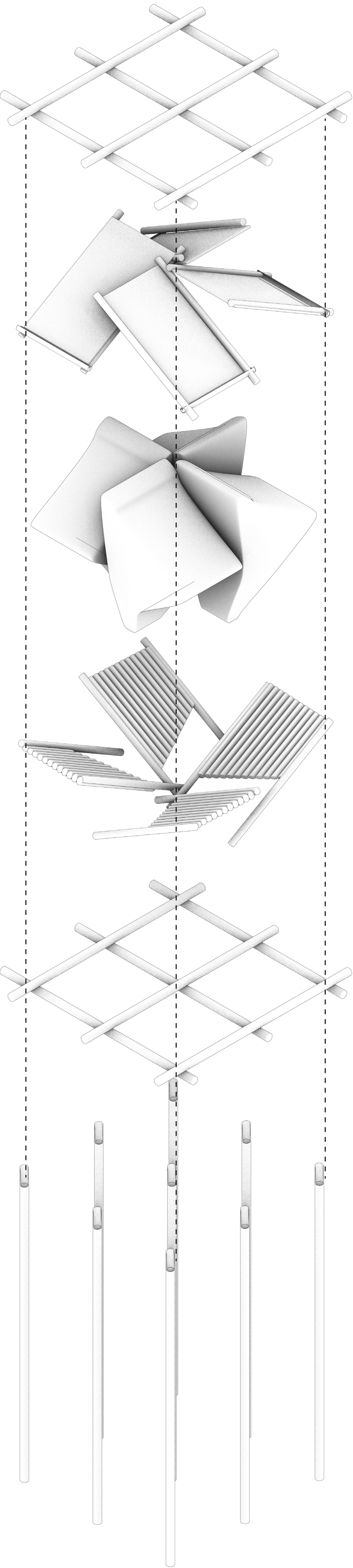


## Earthen Pitchers (2,400 units) — \$240,000

Each module holds four earthen pitchers positioned beneath the solar canopy, functioning as both cooling lungs and water collectors. Made from locally sourced clay, these vessels receive rainwater channeled from tilted solar panels and slowly cool it through passive evaporative exchange.

Just as the epiglottis regulates breath and water, the system closes its wind flutes during rainfall, diverting flow to the pitchers—mimicking the human throat's selective mechanism. In dry conditions, airflow passes freely through, allowing ambient wind to circulate and cool the space below.

Beyond function, the pitchers serve as ritual cores, anchoring the modules in material heritage, tactility, and sensory presence—cooling the ground, humidifying the air, and symbolizing the island's cyclical relationship with water.



Bamboo Grid Structure

Solar Panel with Bamboo Lip

Earthen Pitchers

Bamboo Flutes

Bamboo Grid Structure

Bamboo Columns