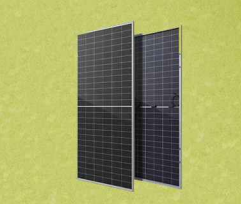
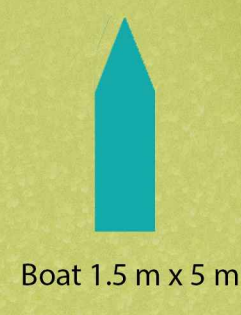
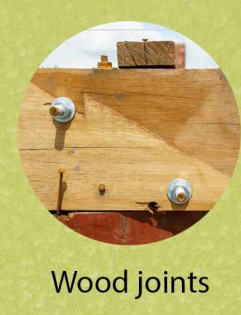
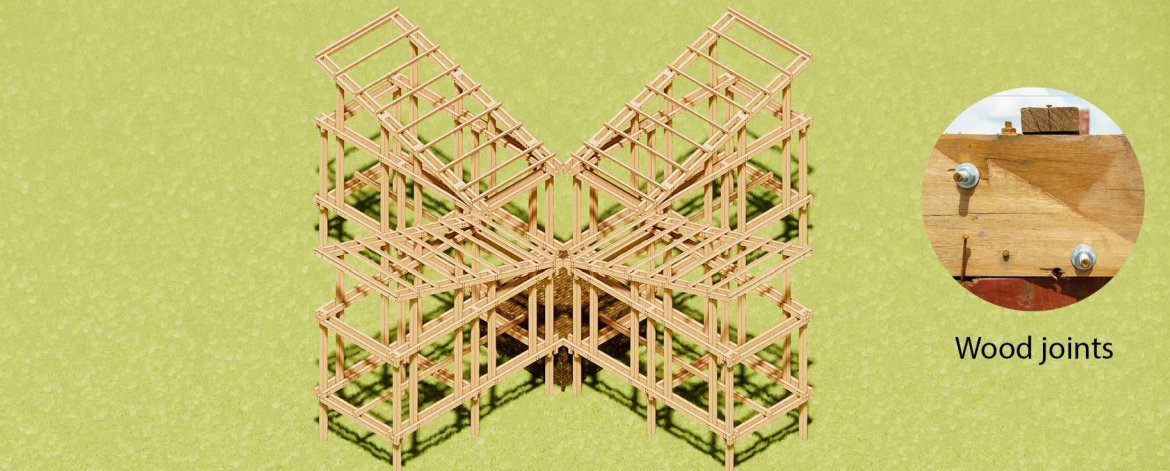
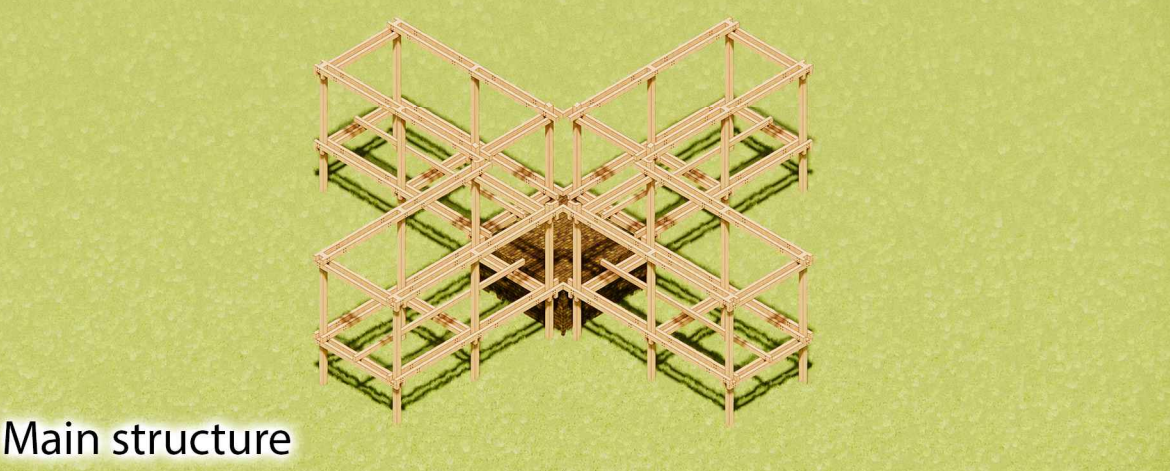
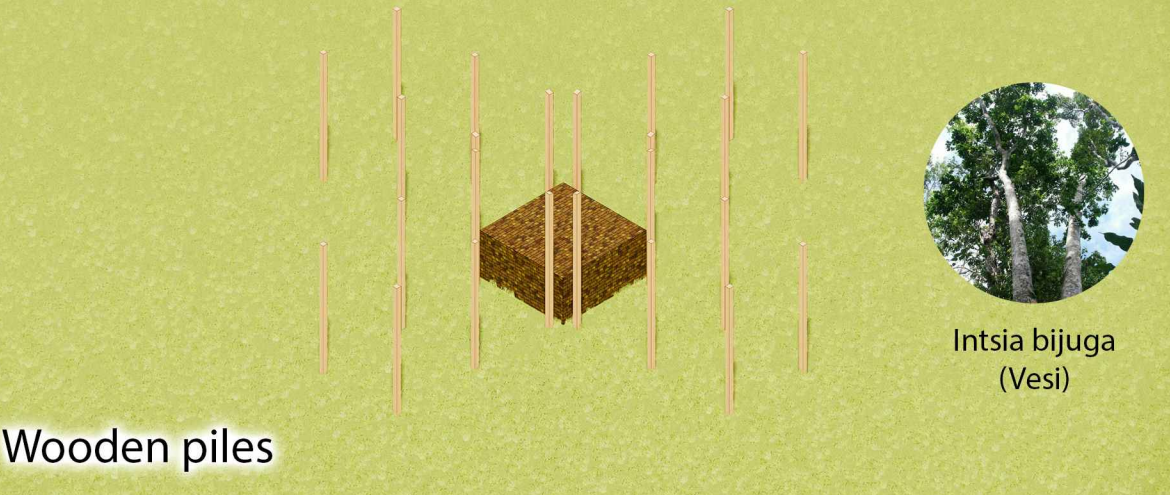


# KAVA\_LAGI FIJI 2025

Kalokalo\_Aqua\_Vernacular\_Adaptation



**Model:**  
JA Solar 600W  
Monocrystalline  
**Maximum Power:**  
600W  
**Power Warranty:**  
25 years  
**Estimated Efficiency:**  
2.4 to 3.6 kWh/day

**Main Base.**  
Blocks will be made using crushed coconut shells as the main raw material, which are extremely abundant in Marou. These will be mixed with cement and fine sand, and left to dry in the sun for at least 15 days.

**Wooden structure.**  
The module's structure will be built using Intsia bijuga wood, a species commonly found in the Fiji region and already sustainably harvested in plantations. Although specific timber species in Marou are not clearly identified, a system is proposed that integrates responsible resource use with a reforestation strategy, in line with the project's modular growth.

The same sustainable approach will be applied to the flooring, using Bambusa vulgaris, a fast-growing bamboo with low environmental impact — ideal for reducing the ecological footprint of the construction.

**Wood joints.**  
The wood structure's joining system is simple and easy to implement by the inhabitants of Marou. It involves the use of nuts and bolts, which will be among the few elements brought from Lautoka or Nadi (Viti Levu).

**Roofing sheet.**  
The roof structure was specifically designed with a single slope towards the center, to maximize solar energy capture throughout the year and also for water collection, which is stored in four 1000-liter tanks, located on the main base of the module.

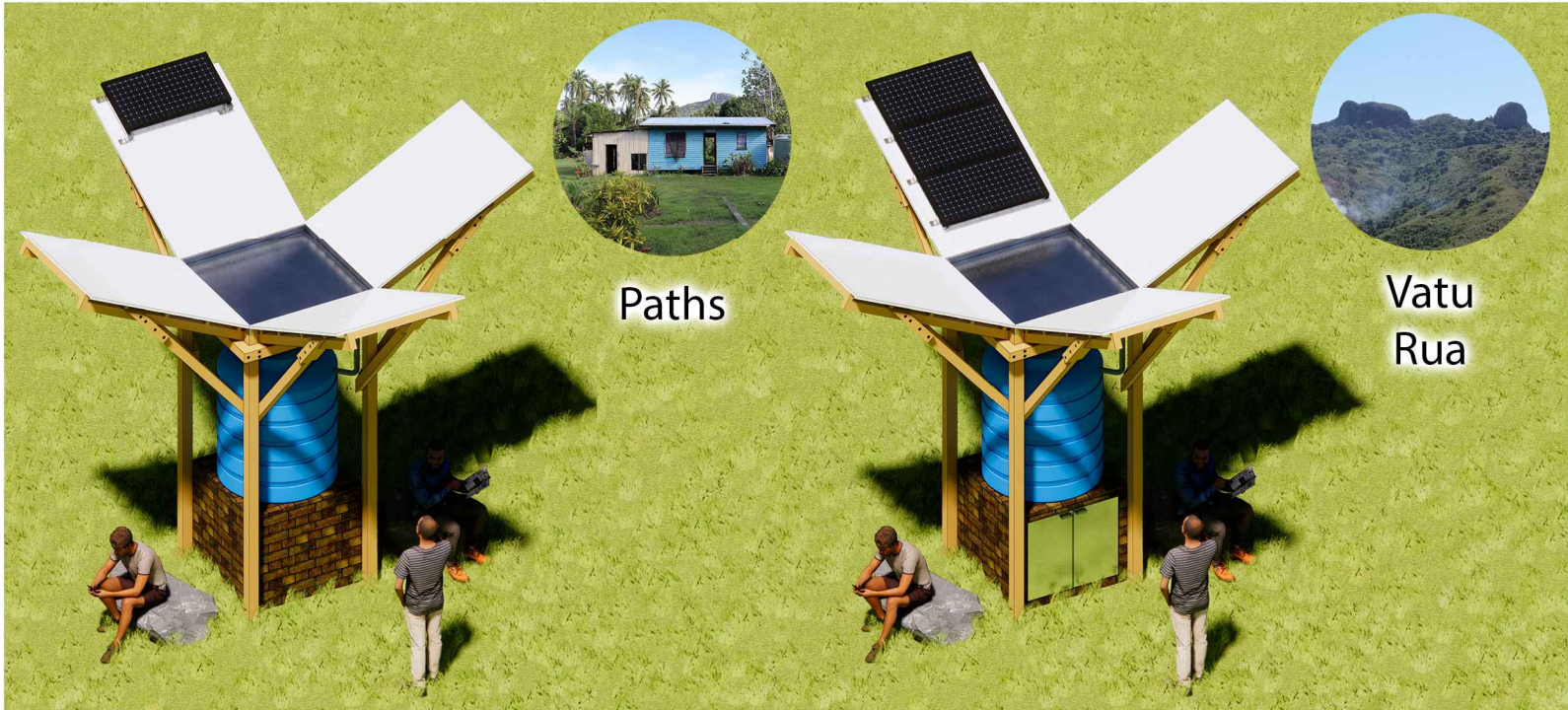
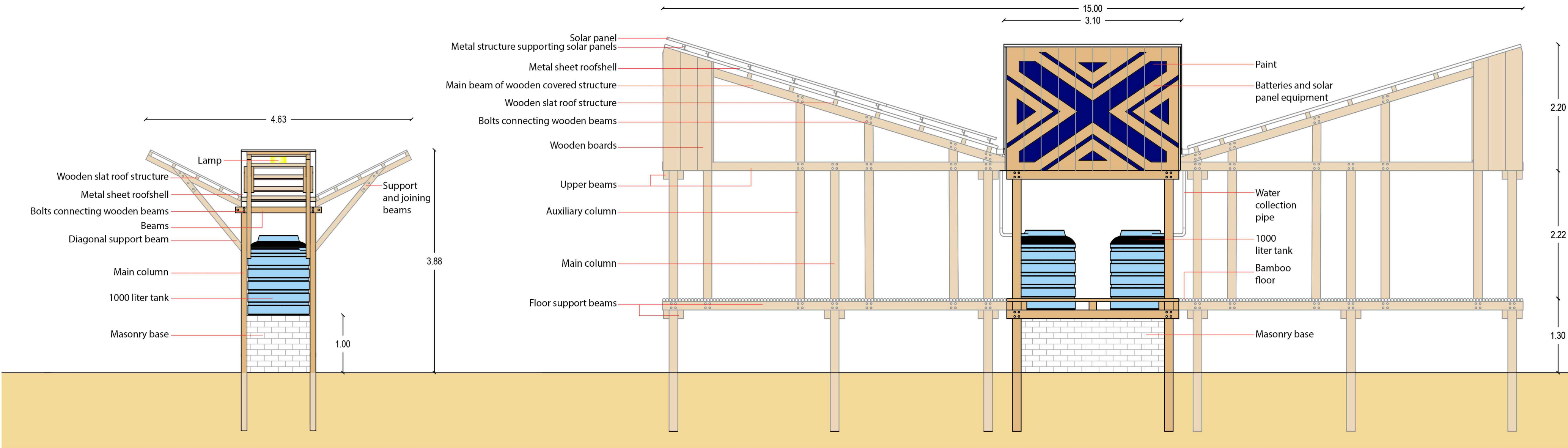
**Materials brought by boat.**  
In the 1.5mx 5.0 m boat, only the following will need to be brought: cement, water tanks, roofing sheets, nuts, bolts, solar panels, batteries, and complementary elements, significantly reducing transportation costs.

**Solar Panels.**  
The inclination and orientation of the solar panels were designed to achieve the highest solar radiation and, therefore, greater energy production. We considered it important to use solar panels only in areas of the roof where they would be efficient and not cause shading. Therefore, only the roof facing north has nine panels, with an inclination of 17°, which is the most ideal throughout the year in Marou Village.

The batteries and other storage equipment are located in a protected area on the mezzanine.

Each KAVA module (9 panels) produces approximately 32.4 kW, so it would only be necessary to repeat the module 3 times to exceed 75 kW. The 6 KAVA modules (54 panels) produce between 129.6 kWh and 194.4 kWh per day.

Amount of water collected: 24,000 liters.



**Water collector, lamp and energy storage.**  
Palmera is a system that collects water and generates energy using JJN Bifacial 400 W, 12V, 10BB Monocrystalline solar panels.

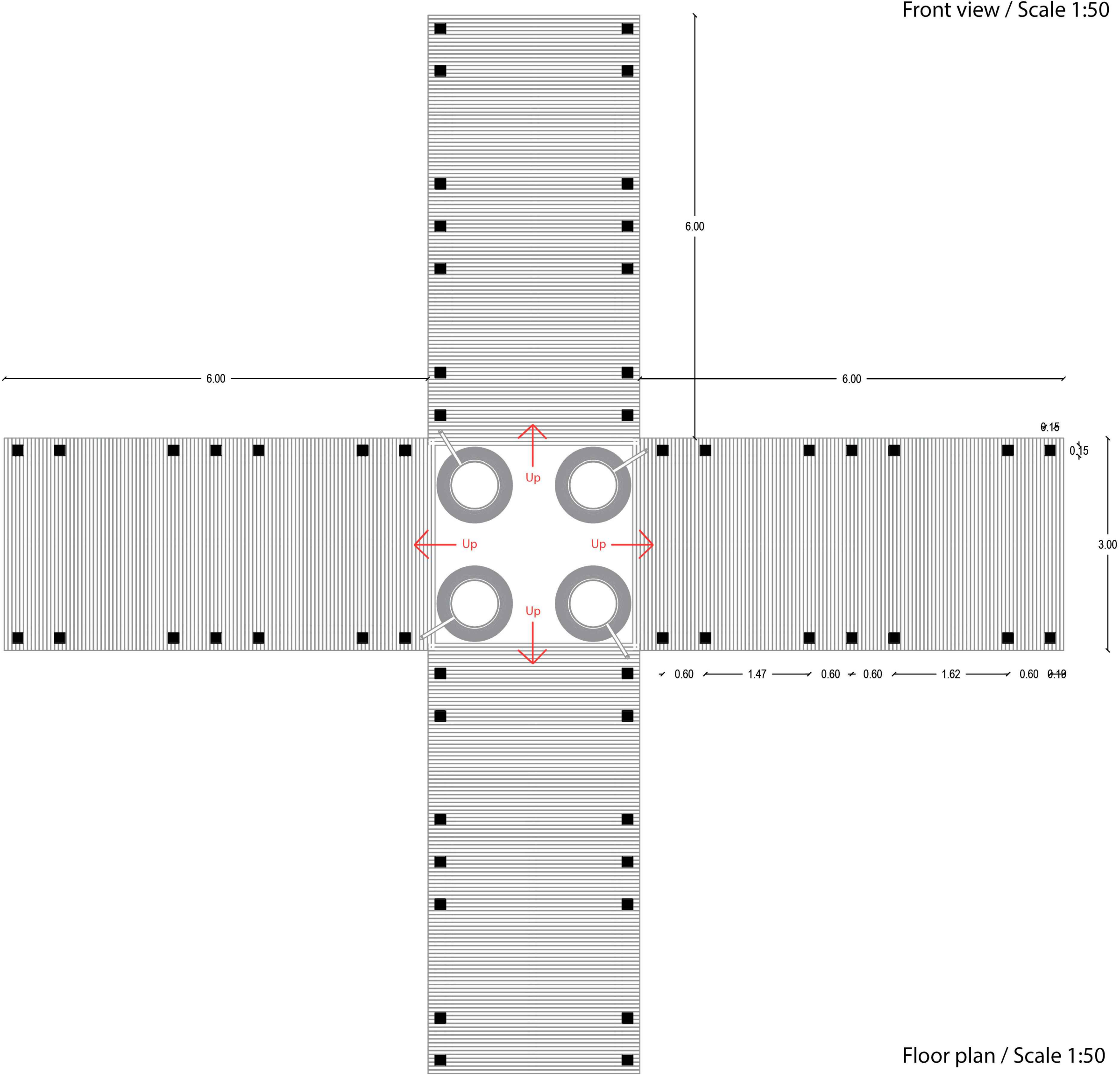
The model located along the pathways features a single solar panel. The batteries are installed beneath the cover to protect them from potential flooding and generate approximately 1.7 kWh/day.

In Vatu Rua, the system includes three solar panels, and the batteries are housed at the base, reaching a production of 5.1 kWh/day.

The water collection tank has a capacity of 1,000 liters. Total water 22,000 liters.



Closed module / Painted wooden boards



Teaching, Museum, Sleep, others.

Drink Kava