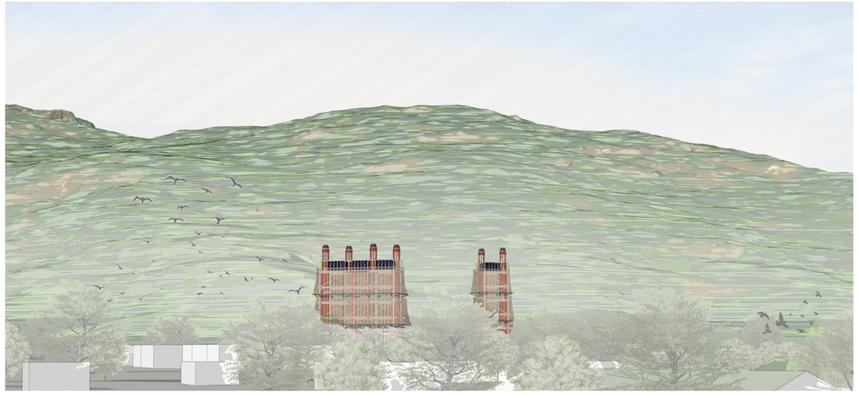


Mount of Energy of Marou

The existence of an energy is closely related to the ability of humans to capture and manage the surrounding energy to benefit the surroundings and especially for the long term of our existence. The location of a site is also a consideration in understanding what natural energy coexists and can be managed to make the energy useful for our surroundings.

Marou Village is located on Naviti Island as a part of Yasawa Island, and has diverse natural and energy potential, which is also because it is in an archipelago. Based on the data that has been collected for the site, it has a lot of potential. Besides sun energy, wind can also be an alternative solution in procuring renewable energy on Naviti Island.

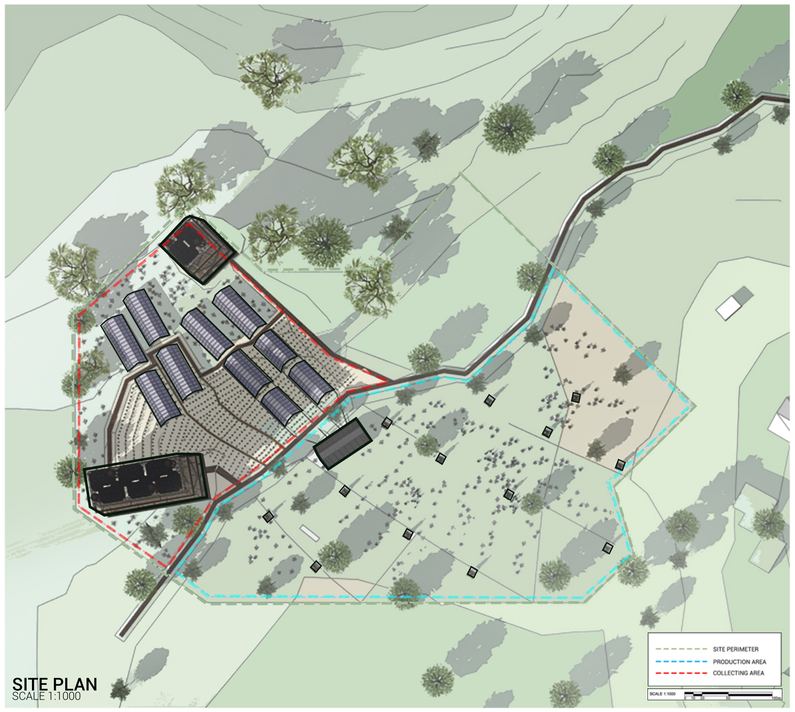
Energy is a very relevant need in Marou Village. There are mainly two biggest pressing needs in the village are reliable electricity and year-round access to fresh water. At the same time, new energies such as solar and wind power also come with considerable challenges, including aesthetics and land use. To make the community feel more ownership and kinship, the goal of the project is to integrate these new energies with local culture and materials to enhance the landscape as well as the village.

Designed with the intention of fully connecting all the dots, not only with the energy machine itself, but also with the people in the village. Local activities such as gatherings and traditional events are the main considerations in creating the space. A space that connects these activities with the energy machine simultaneously.

In this project, I try to put the intervention and the design at the highest elevation of the site. The reasons themselves are to maximize the potential of the tower, which includes a water tower that can function more optimally at the highest point. The rest of the site will be left as it is or planted with plants that support the working system of the energy machine itself.

There are two approaches regarding design intervention, which are for the people of Marou and, at the same time, design can become a staple sort of monument to represent Marous and celebrate renewable energy in Marou by design. The Tower represents the monument and is a visual representation of a new kind of energy in Marou. It consists of two kinds of tower which also represent Vatu Rua by giving the illusion of two mounts with the other one being bigger than the others.

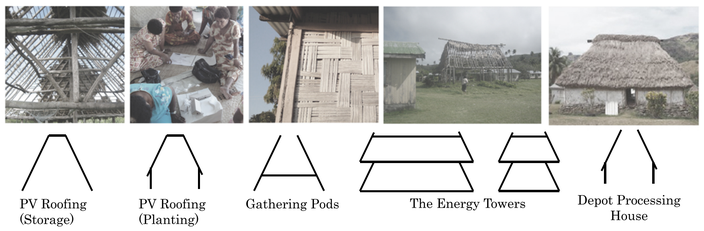
View of vita Rau from the site, where the placement of the tower is arranged so as not to block the view directly. At the same time, the shape of the tower mimics Vita Rau with the left mass being larger than the right mass.



Architectural Language

One of the design integrations carried out on the project is to equate the local design language with the intervention carried out, which will later become the basis for developing the entire design on this site. The language that can be found from the compilation images is the shape of the roof, which has a steep slope with a horizontal hump on top.

For the materials, it is not uncommon to see the use of bamboo materials either for the walls, wall finishing or roof structure. This analysis forms the basis for the development of a design that is integrated with flawless and familiar aspect



Renewable Energy

One of the problems in Marou Village is the availability of clean water that continues throughout the season, because until now the community has mostly used groundwater. The energy tower collects water through fog/wind harvest technology, where water is extracted from fog or wind passing through Naviti especially Marou's area.

Roof water tanks are also placed at the highest point of the tower to store clean water and also to distribute water by gravity to Marou Village without using electricity. At the highest point of the tower there is also a VAWT to capture wind at a higher point.

As the main part of generating electricity for the needs of the Marou community, PV Roofing Area is an array of PV panels shaped like a traditional Marou roof. Using a steel structure as its structural framework, this area is shaped like a roof so that the lower part can still be utilized by gaining optimal protection benefits from the sun and rain.

Gathering Pods are small gathering areas that can generate electrical energy and water. The electrical energy uses a VAWT Helix Shape which, with optimum wind, can produce 2.5kW, which can be an additional electrical input for people.

WIND ENERGY | SOLAR ENERGY | RAIN WATER STORAGE | FOG/WIND HARVESTING