# **Tolu Corner Sanctuary**

#### **Conceptual Narrative**

Our idea is called the Tolu Corner Sanctuary which is a futuristic, community-centered spa retreat designed to provide a wellness retreat to the local peoples that harmonizes with the rich natural landscape of Fiji, "Tolu," meaning "three" in Fijian, represents the core design principle: a triangular pyramid structure that correlates to the island's volcanic terrain, cultural symbolism, and spiritual harmony through geometry. The spa is divided into three interconnected experiences: a private pool wing, a meditation garden, and a private sauna wing. Each wing is placed at a corner of the triangle, guiding visitors through a healing journey rooted in elemental themes: water, earth, and heat. In the center lies the Heart Room which is a greenhouse-like oasis filled with local flora, filtered sunlight, and tranquility. This room is accessible to all visitors as a final or independent destination. The sanctuary is not merely a luxury space, but a community-integrated wellness center. In our building, we prioritize local craftsmanship and materials, utilizing bamboo structures, coral-based concrete, and natural fibers that bring cultural and natural aspects to the modern design. Furthermore, we would like to create walking paths and gentle slopes from nearby areas that connect the sanctuary with the surrounding land, encouraging casual visits and cultural connection. In terms of spatial layout, each room is shaped to match the geometric features of the triangular form. We hope that this contributes to developing a spiritual connection with the user. The private pools and saunas are built with triangular privacy nooks, while the central pyramid peaks into a glass-topped atrium, casting rays of natural light into the Heart Room below. This center becomes a living sculpture that blends convergence of sustainability, architecture, and spiritual reflection. The visitors are not just guests but adventurers that become part of a shared experience with nature. Whether resting in a warm sauna, floating along a lush lazy river, or sitting in stillness beneath a shaft of sun in the meditation atrium, every design decision invites pause and presence. Some other benefits of our project include mental and emotional wellness through immersive relaxation, environmental education by interacting with the natural scenery in our building, and community opportunity by offering jobs and partnerships with local artisans, engineers, and guides. Tolu Corner Sanctuary will be the world's first triangular indoor sanctuary, combining nature with futuristic technology to offer visitors a deeply spiritual experience.

## **Technical Narrative**

Tolu Corner Sanctuary uses simple and practical sustainable technologies that are easy to maintain and safe for the environment. The main energy source is a solar power system with about 2,075 square meters of solar panels arranged in triangle shapes around the building. These panels produce around 350,000 to 400,000 kilowatt-hours of electricity each year, which is enough to power all the lighting, heating, and water systems on-site. Rainwater collection is also important. Water runs off the pyramid's sloped surfaces and goes into underground filters. The system includes sand filters, UV light treatment, and aquaponic recycling to clean and reuse water for pools, showers, and a greenhouse. The system can collect over 800,000 liters of water each year, with large tanks storing extra water during the rainy season. Natural elements like sunlight, rain, and airflow help power and cool the building without needing complex systems. The outputs are electricity, clean water, and treated wastewater. The facility does not use risky or experimental technologies. Instead, it uses simple systems that can be taught to the local community. All the electronics and power equipment are kept in a separate triangle-shaped building that is locked and only accessible to trained workers for safety. The inside of the pyramid stays cool using natural air movement, window placement, and insulation from the ground, so it does not need air conditioning or heating systems.

## **Prototyping and Pilot Implementation Statement**

The prototyping process for Tolu Corner Sanctuary starts with building a small model using local and eco-friendly materials like bamboo, clay, and glass substitutes. Local architects, engineers, and community leaders will help review the model to make sure it works well and respects local culture. A test section of the pool wing will be built separately to try out the water systems, natural light, and energy use with small solar panels. Community feedback, especially about accessibility, cultural fit, and climate needs, will be gathered during this stage. We will work with local universities, trade schools, and community leaders to involve students and workers in the prototype. This gives people a chance to learn and ensures locals can take care of the site in the future. The full construction will happen in steps: first the main structure, then the water and power systems, followed by the inside rooms and nature features, and finally the greenhouse and outdoor areas. Each step will include public tours and workshops so people can see the progress and share ideas. This helps the project stay useful and also creates a stronger connection between the community and the space. There will also be design sessions where elders and cultural leaders help name rooms and add stories, making sure the sanctuary reflects local traditions and identity.

## **Operations and Maintenance Statement**

Tolu Corner Sanctuary will be run as a community-owned and co-managed space, with a team made up of both technical experts and trained local caretakers. A rotating operations team will handle daily tasks like guest services, energy checks, and cleaning. Maintenance is organized into three main areas: solar panels will be cleaned every two to four weeks and monitored through a dashboard; water systems like tanks, filters, and aquaponic beds will be checked every two weeks; and structural parts made from bamboo and coral-based materials will be treated seasonally and inspected every six months. Staff will go through training programs to get certified in managing and maintaining these systems. Instruction manuals in both Fijian and English will be available to make sure knowledge stays within the community. The spa will also work with local governments and green programs to offer internships and job opportunities, especially for young people interested in clean energy and eco-tourism. A local cooperative will manage the income, using profits for maintenance, staff pay, and village projects. To keep systems running well, the sanctuary will team up with regional renewable energy companies for audits and updates. Most tools and parts will be locally sourced or made with 3D printers using eco-friendly materials. The goal is for the sanctuary to be self-sufficient, but its real strength will come from the people who help run and shape it, making it a lasting part of the community.

## **Environmental Impact Assessment**

Tolu Corner Sanctuary is designed to have little impact on the environment and work in harmony with the land. The triangular shape of the building keeps its footprint small, allowing more natural land to be preserved compared to rectangular buildings of the same size. Materials like bamboo and local wood are used because they are renewable and biodegradable. Coral-based cement is used instead of high-emission alternatives, and glass substitutes prevent glare and help avoid bird collisions. The sanctuary is built along existing paths and avoids steep areas, which helps reduce the need for land clearing. Landscaping features native plants that need less water and attract local wildlife. The energy and water systems are fully off-grid, producing no emissions during use. Rainwater is collected to reduce runoff and soil erosion, and greywater is recycled to minimize waste. Some risks include over-tourism harming local habitats, stormwater overflow during heavy weather, and wear on materials that need to be disposed of properly. To manage these, visitor numbers will be limited, and the water system includes overflow tanks and emergency drainage. Waste will be recycled or composted. The sanctuary will also provide educational programs to teach visitors about its eco-friendly systems, turning it into a place to learn about environmental care.