Ocean's Embrace" is more than just an installation; it's a multifaceted, living system designed to harmonize with Fiji's natural landscape and culture, inspired by the resilient sea turtle. This project is envisioned as both a resource center and a community hub, combining advanced technologies and a deep respect for the environment. The design leverages sustainable materials: aluminum for the lightweight and recyclable dome structure, reinforced concrete for robust foundational supports, and a combination of specialized glass and photovoltaic solar panels for the hexagonal elements that make up the shimmering, semi-transparent surface of the dome.

Technically, the system boasts a rainwater collection area spanning approximately 140.25 square meters, designed to harvest around 202,000 liters of water annually. This water is then processed through a multi-stage filtration system utilizing mechanical, carbon, and UV sterilization processes, housed beneath the structure for efficient access and maintenance. The solar power system, covering about 54 square meters, is projected to generate around 65,700 kWh per year, providing a clean and renewable energy source. While limited, that covers 56 тыс.кВтч для потребления. To ensure consistent energy supply during extended periods of rainfall, a backup power system [Specify type of backup - optional] will be integrated. A network to store water and energy is also built into the design.

Five hexagonal supports hold up the dome and simultaneously serve as rainwater collection tanks. These also function to provide educational opportunities that would further enhance the experience of community members and visitors alike, helping to promote the idea of sustainable farming and hydroponics. The DWC system is integrated with the struts of the building.

"Ocean's Embrace" aims to achieve several co-benefits: not only providing clean water and renewable energy but also a vibrant community space, improved local food security through hydroponics, increased community resilience to climate change impacts, and a powerful symbol of sustainable development for the region. The design utilizes a modular structure for expansion purposes.

The design promotes community engagement and allows participation from community members at every stage. Local labor and resources would be prioritized, fostering economic benefits and strengthening local capacity. The project will create skilled professionals for the ongoing maintenance of the facility for years to come.

In terms of environmental impact, it is important to mitigate against, disturbance to the local ecosystems, visual impact to the environment, and pollution from the transportation of materials. In order to address these potential problems, regular monitoring of the local ecosystem will be conducted, and native plants will be incorporated for landscaping to blend with the pre-existing environment. Sourcing materials will be prioritized to the area.

The project is intended to serve as a valuable area, and act as a beautiful space for local members.