75KW CAPACITY SOLAR (PV) PANEL MUSHROOM CONCEPT

CONTENT

Introduction

Marou village, located in lagi fiji, is a community that is embracing sustainability and innovation, the mushroom solar panels concept is a unique design that combines renewable energy, functionality, and aesthetics. This design is perfect for marou village and its benefits extend beyond just energy efficiency, The mushroom solar panels concept is a innovative design that combines sustainability, functionality, and aesthetics. the design features a large mushroom-shaped solar panel at the center, accompanied by four smaller mushroom-shape solar panels. The ground level of the mushroom has an electric box, and the solar panels have four support legs, including the small ones. This design is perfect for the marou village in lagi, fiji where sustainability and energy efficiency are crucial.

CHAPTER 01

75kw Solar Energy Mushroom Concept

Benefits of The Mushroom-shaped Solar Panels concept

1. Solar Power: The mushroom-shaped solar panels harness solar energy, providing a clean and renewable source of power.

2. Reduced Carbon footprint: By using solar energy the marou village can reduce its carbon footprint and contribute to a more sustainable environment.

Energy Efficiency.

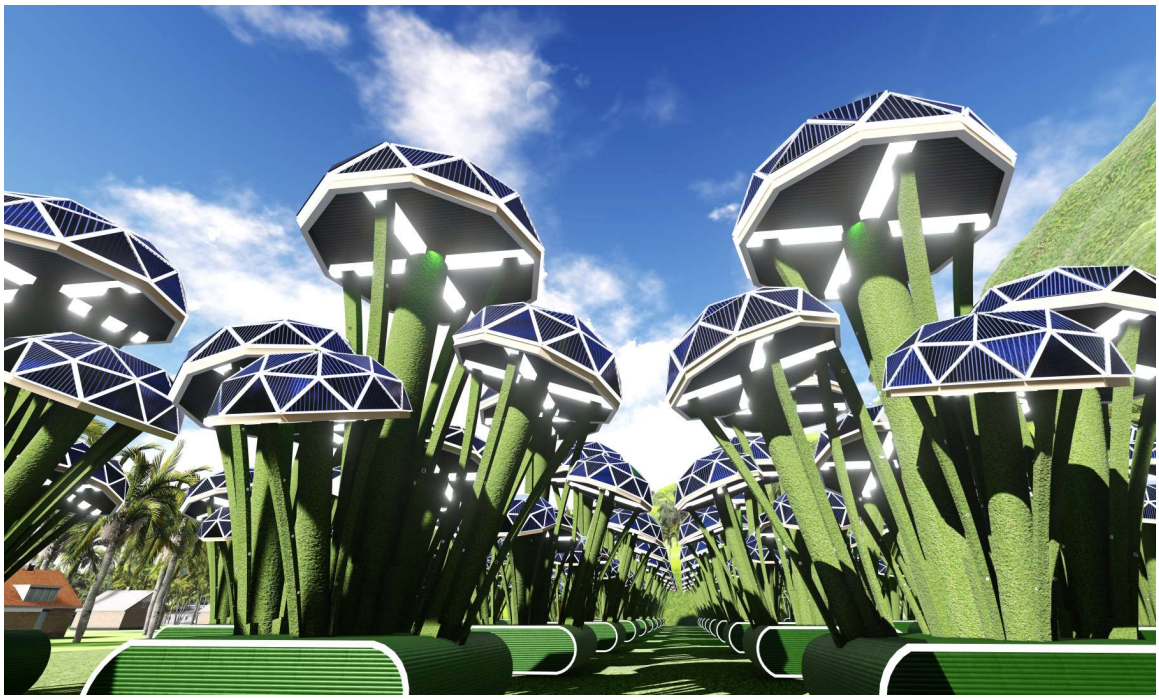
1. Efficient Energy Generation: The large mushroom-shape solar panels at the center generate a significant amount of energy, while the four smaller. panels provide additional energy.

2. Energy Storage: The electric box at the ground level of the mushroom can store excess energy generated during the day for use during the night or on cloudy days.

75kw Solar Energy Mushroom Concept

1. Increased energy Generation: Mushroom-shape solar panels generate more energy than traditional elevated solar panels.

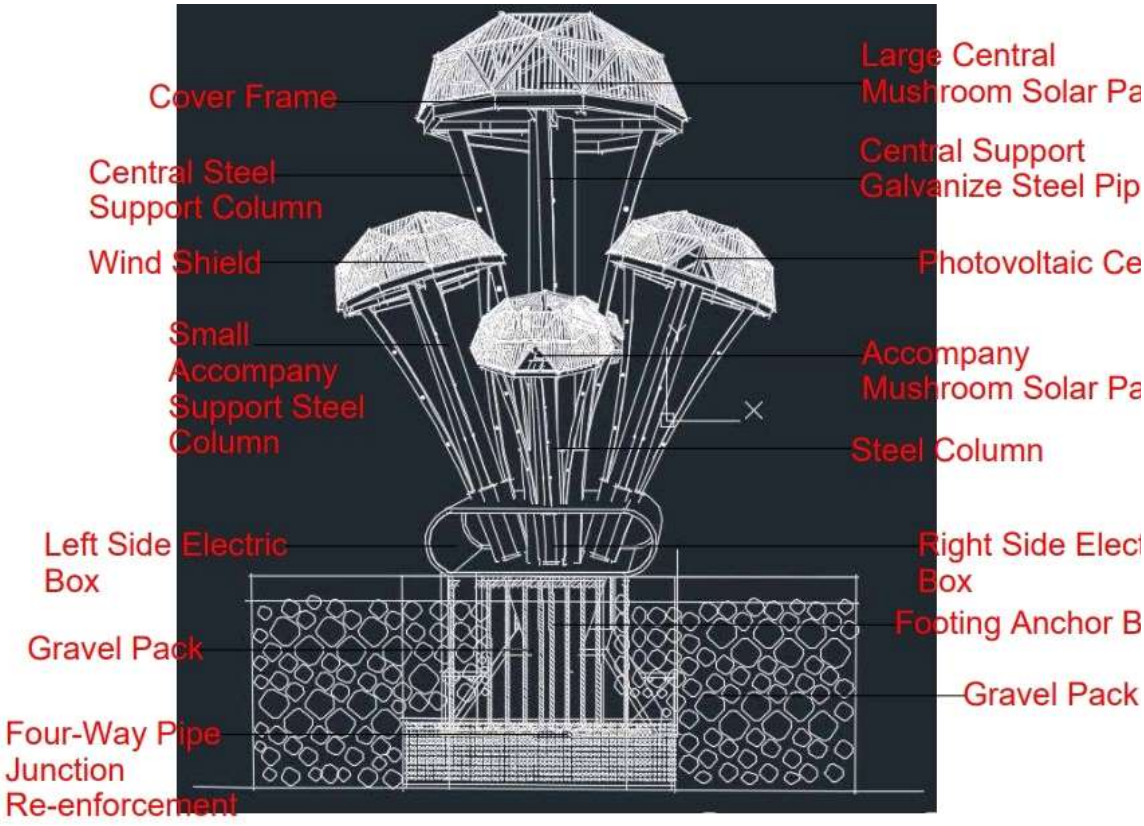
2. Improved Durability: Mushroom-shape solar panels are more durable than traditional solar panels. 3. Enhance Aesthetics: Mushroom-shape solar panels have a unique and visually appealing design.
4. Storm and Cyclones Resistance: Mushroom-shape solar panels are designed to withstand strong winds and cyclones.



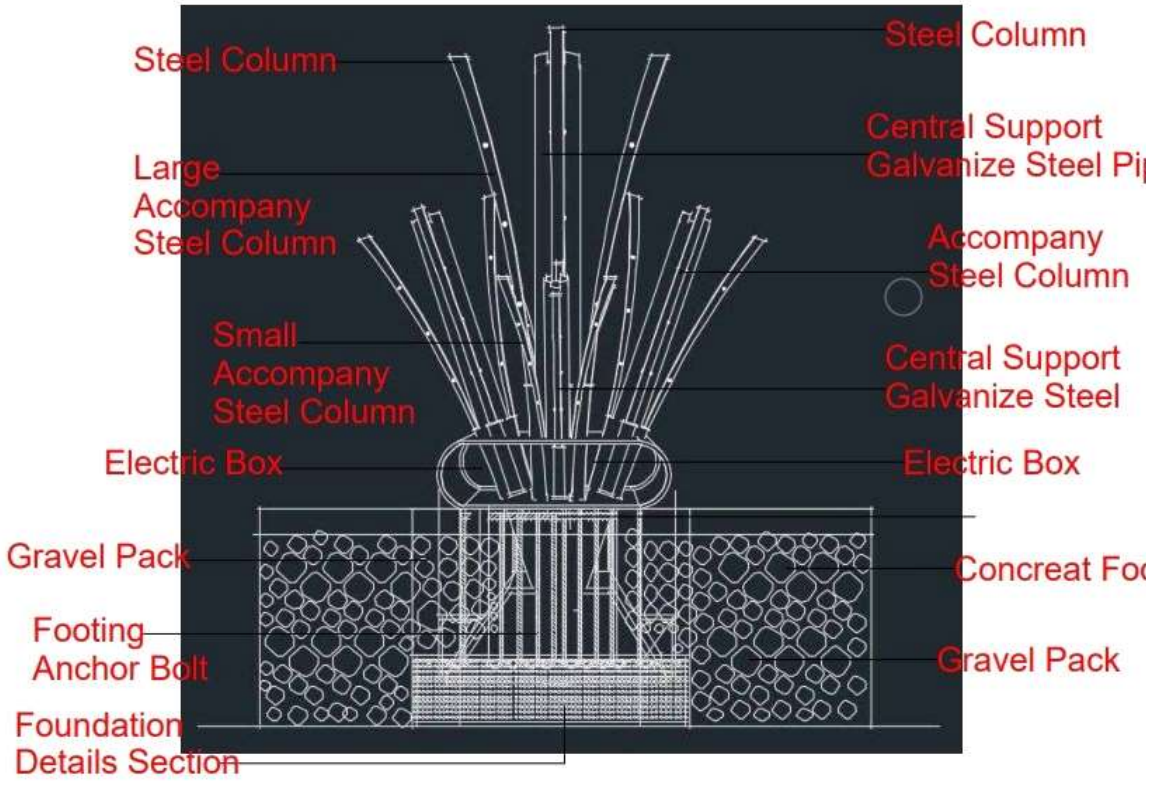
Technology Operation

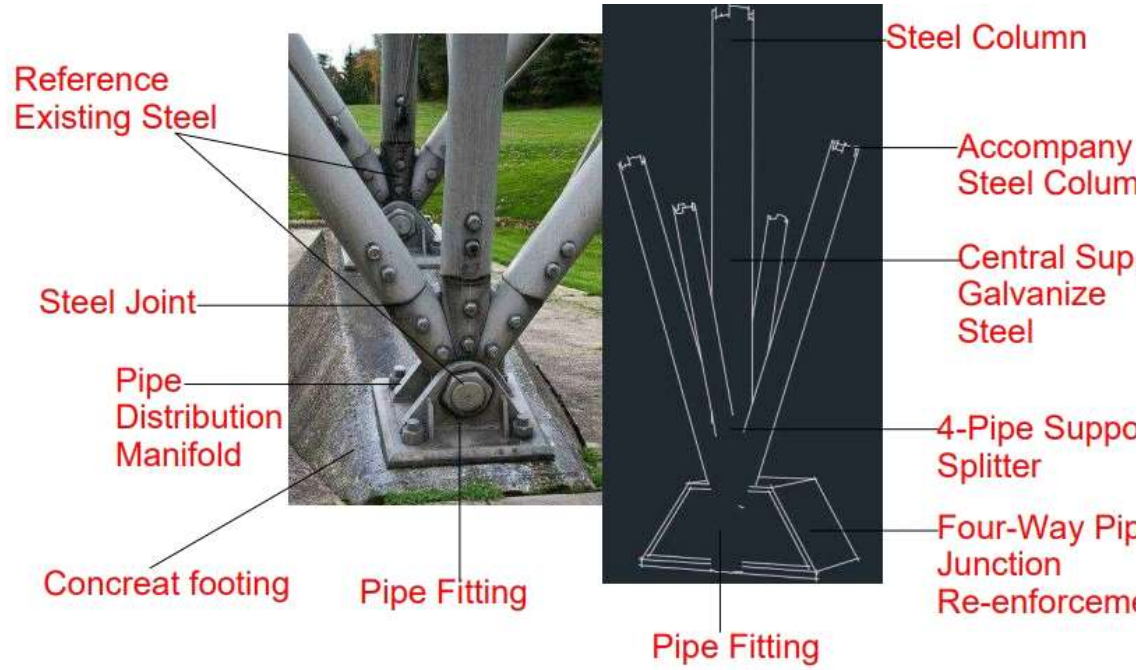
Water Pumping System

1. Solar Powered Pumps: The Mushroom solar panels concept can be used to power water pumps, providing a reliable and efficient source of water for drinking, irrigation, and other uses.
2. Water Storage: The electric box at the ground level of the mushroom can store excess energy generated during the day for use during the night or on cloudy days, ensuring a consistent water supply.
3. Mushroom Four Support Legs: The four support legs, including the small ones, provide stability and durability to the solar panels, ensuring they can withstand strong winds and harsh condition
4. Weather-Resistant Materials: The solar panels and support legs are made of weather-resistant materials ensuring they can withstand the elements and last for a long time.
5. Unique Design: The mushroom-shape solar panels provide a unique and visually appealing design that can enhance the beauty of marou village.
6. Integration with Nature: The design blends in with the natural surroundings creating a harmonious relationship between technology and nature.



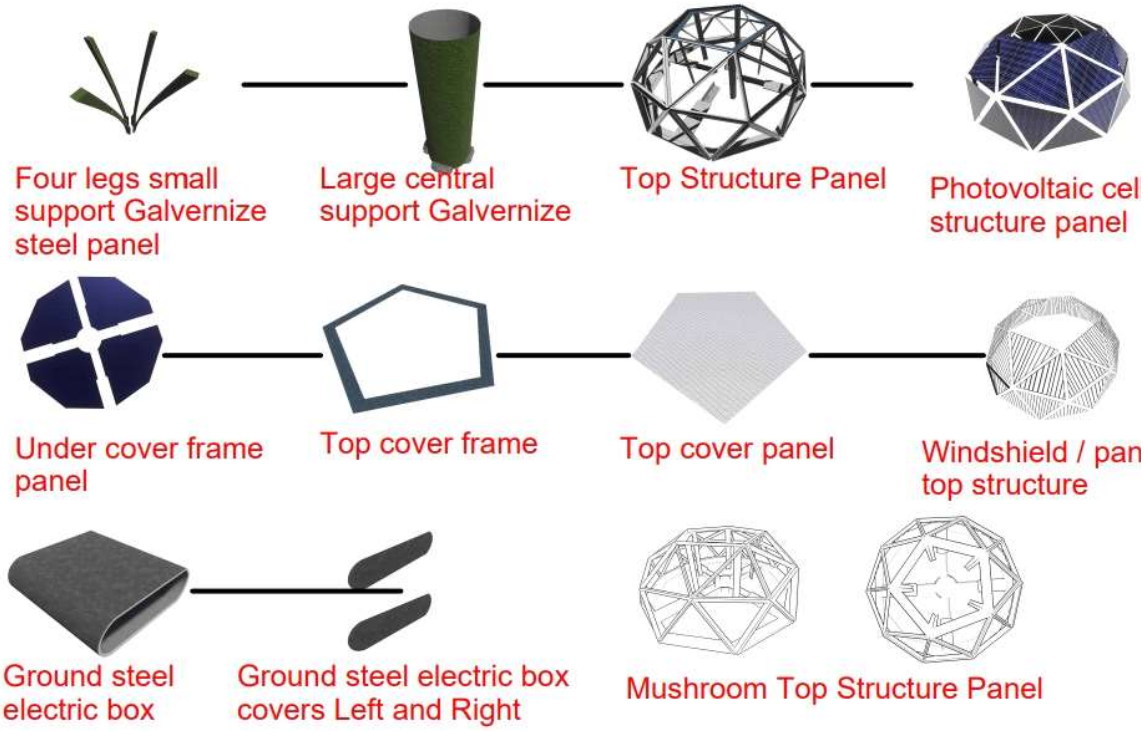
Scalability: The system is scalable, allowing for easy replication and implementation in other community and village



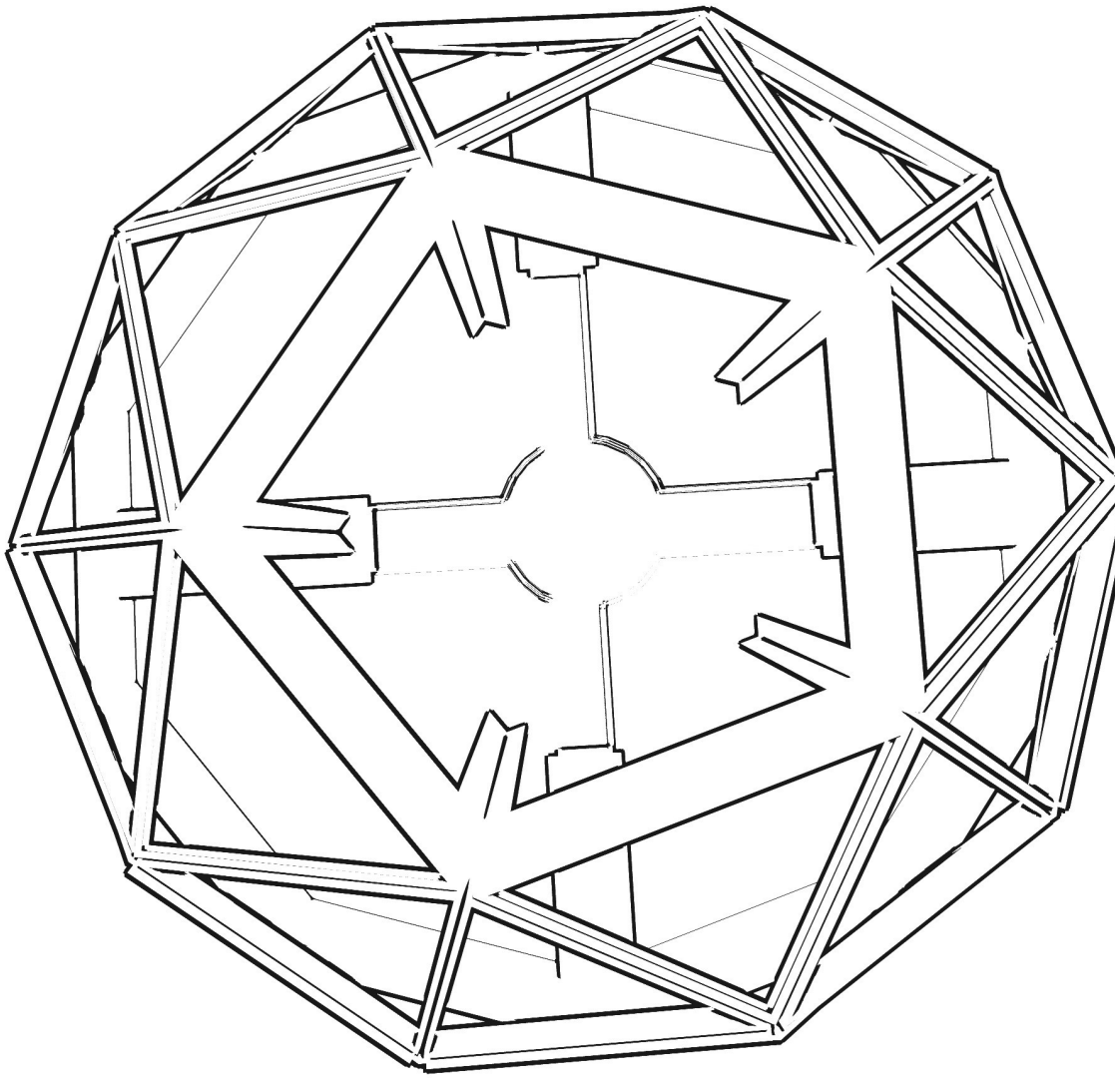


Benefits for Marou village

1. Protection from Coconut Damage: The steel cover protects the pv solar panels from coconut damage, which is a common problem in tropical regions.
2. Reduced Risk of power outages, The Steel cover reduces the risk of power outages, which can be caused by debris damaging the pv solar panels.
3. Improved Energy Security: The steel cover improves energy security for marou village by protecting the pv solar panels from extreme weather conditions.



Windshield



Innovation Solution *Windshield*

1. Unique Combination of Materials: The Combination of steel and pv solar panels provides a unique and innovative solution for protecting the panels from debris whichs windshield
2. Adaptation to local conditions: The design takes into coconut the local conditions in marou village, including the risk of coconut damage and extreme weather condition

Changing Lighting Colors From Monday, Tuesday, Wednesday, Friday, Satuday, and Sunday Every nights

Operative Implementation

1.Implementation: Marou village and other communities should consider implementation the mushroom solar panels concept to harness the benefits of solar energy.

2. Community Engagement: Communities should be engaged and educated on the benefits of the design to ensure its successful implementation

3. Monitoring and Maintenance: The design should be regularly monitored and maintained to ensure its optimal performance and

longevity

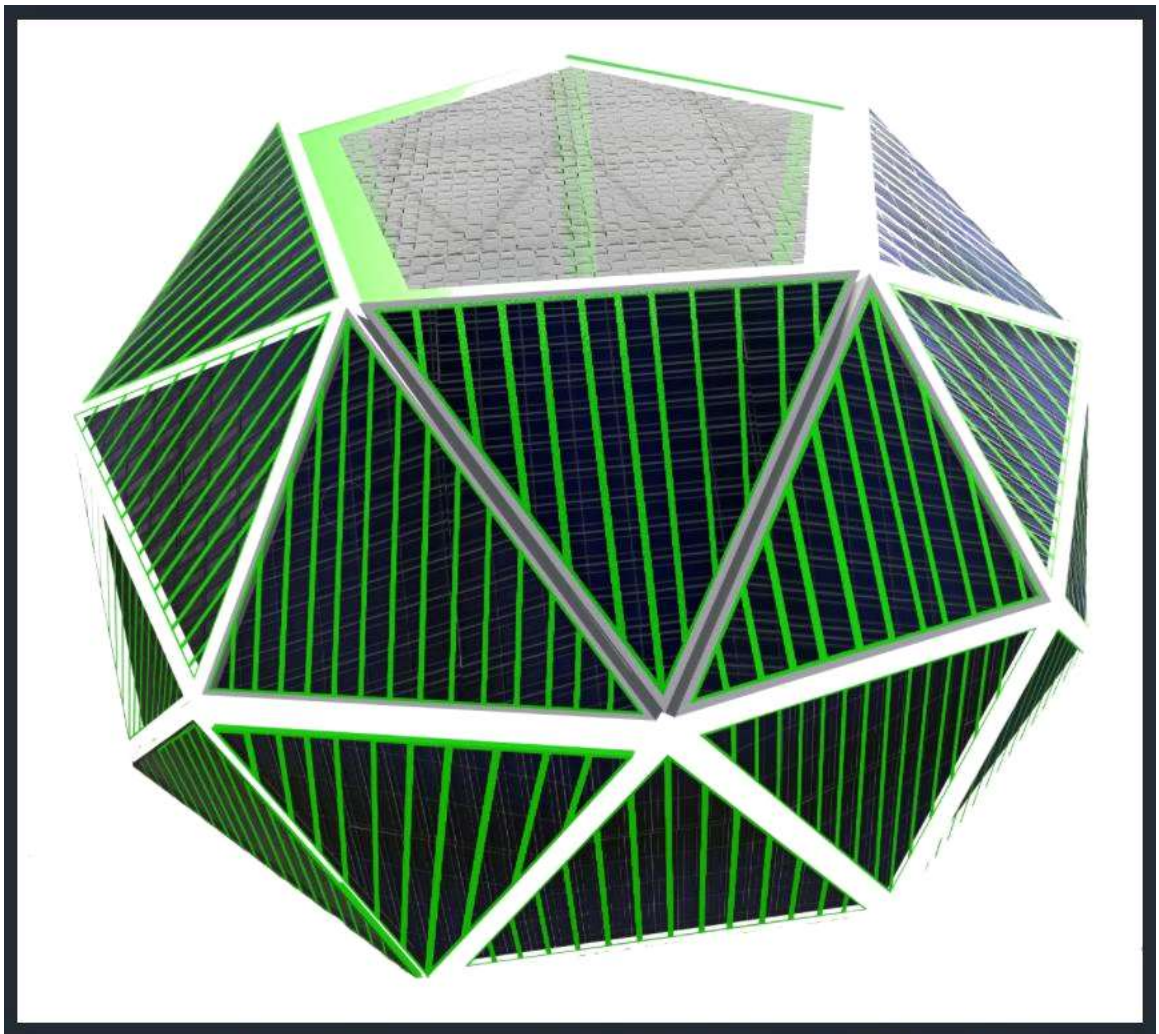
Future Developments

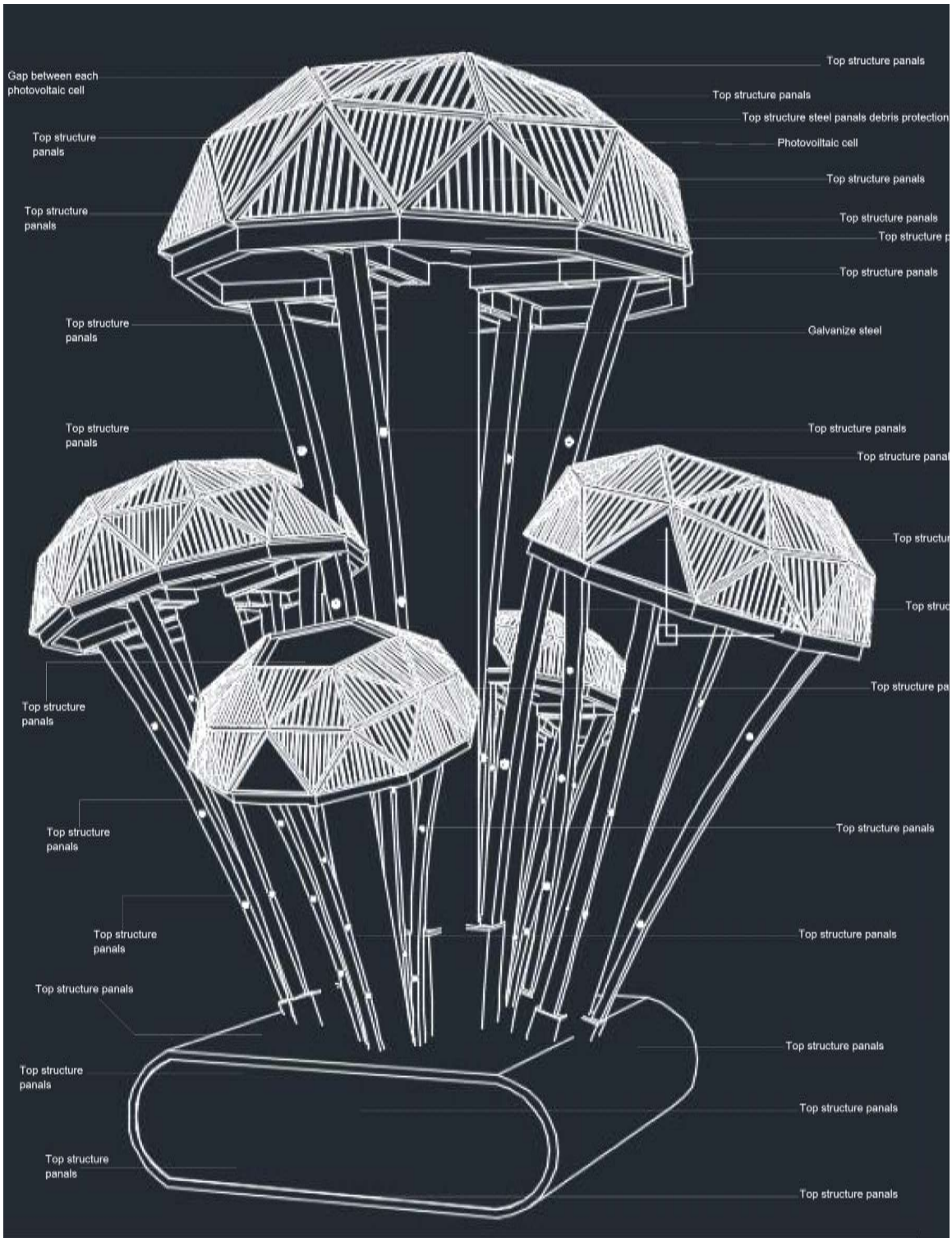
1. Expansion: the design can be expanded to the other communities and locations, promoting the use of solar energy and sustainability.

2. Innovation: The design can be further innovated and improved to increase its efficiency and effectiveness.

3. Collaboration: Collaboration Between Communities

Color Changing Lights and Unique Feature 1. Color changing Lights: The Mushroom solar panels concept can be design to change colors, providing a unique and visually appealing feature that can enhance the beauty of marou village. 2. Six-Day Cycle: The design can be programmed to change Lighting colors every six days, providing a consistent and predictable pattern




Gap between each photovoltaic cell
Top structure panals
Top structure panals
Top structure steel panals debris protection
Top structure panals
Photovoiltaic cell
Top structure panals
Top structure panals
Top structure panals
Top structure panals
Top structure panals
Galvanize steel
Top structure panals
Top structure panals
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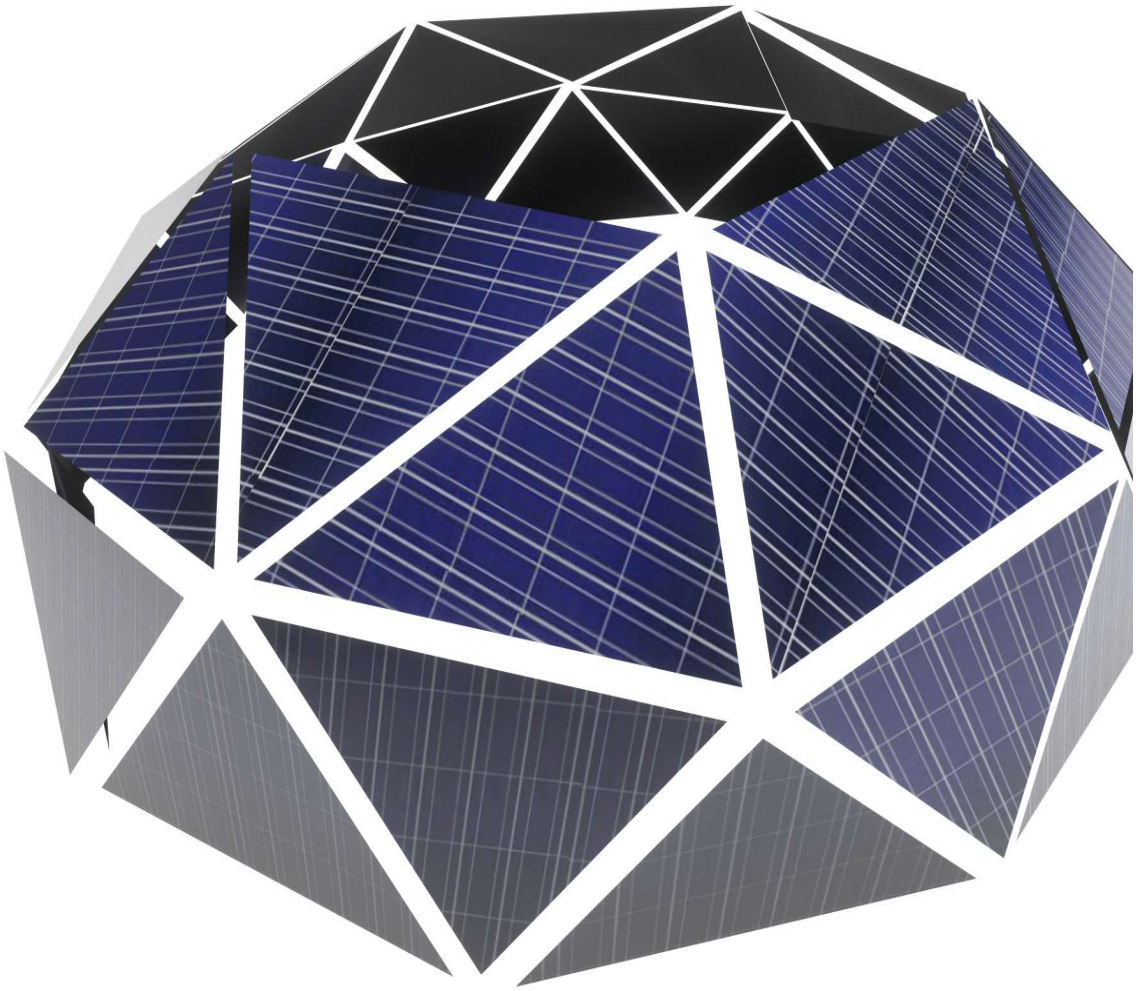
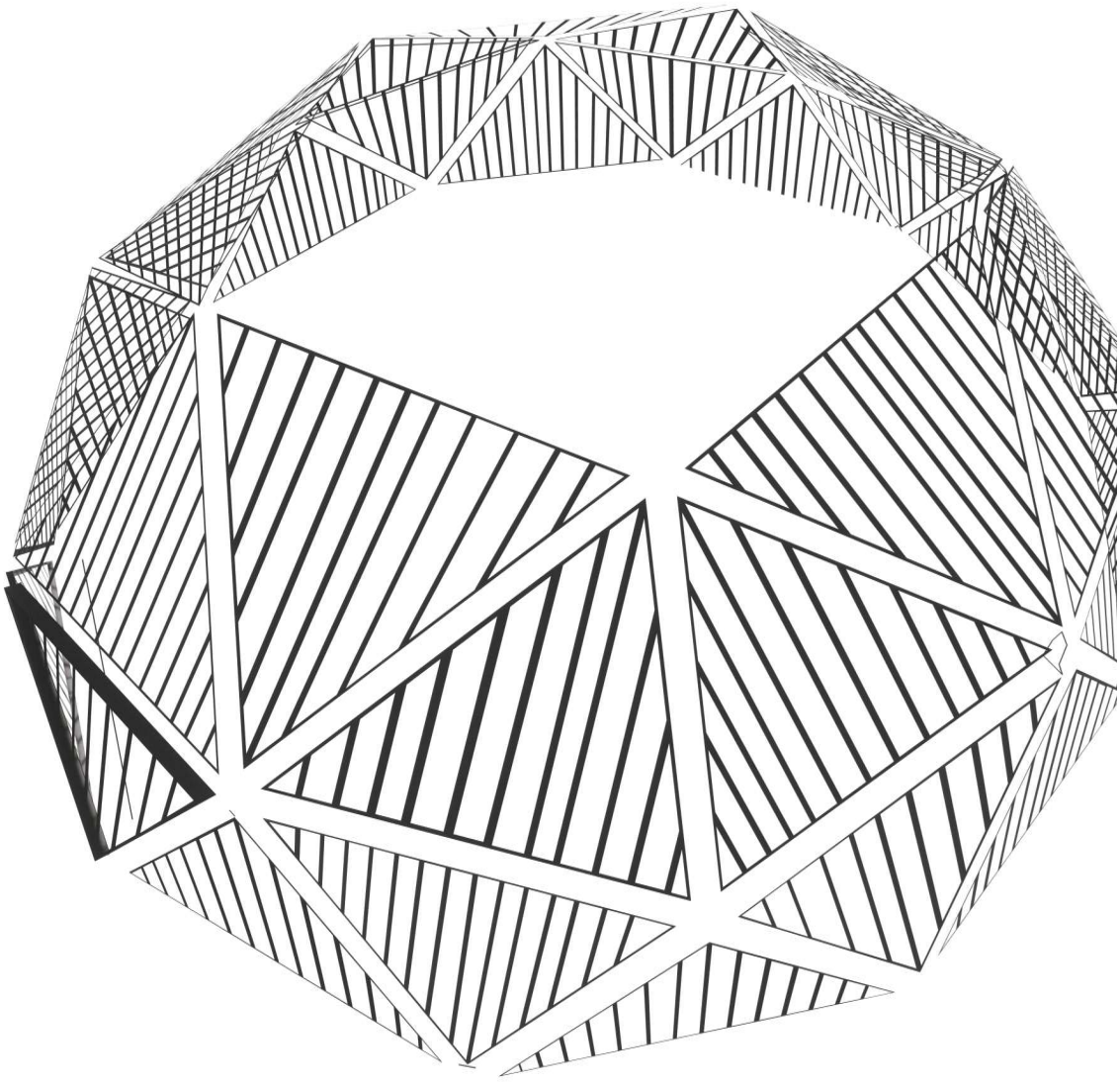
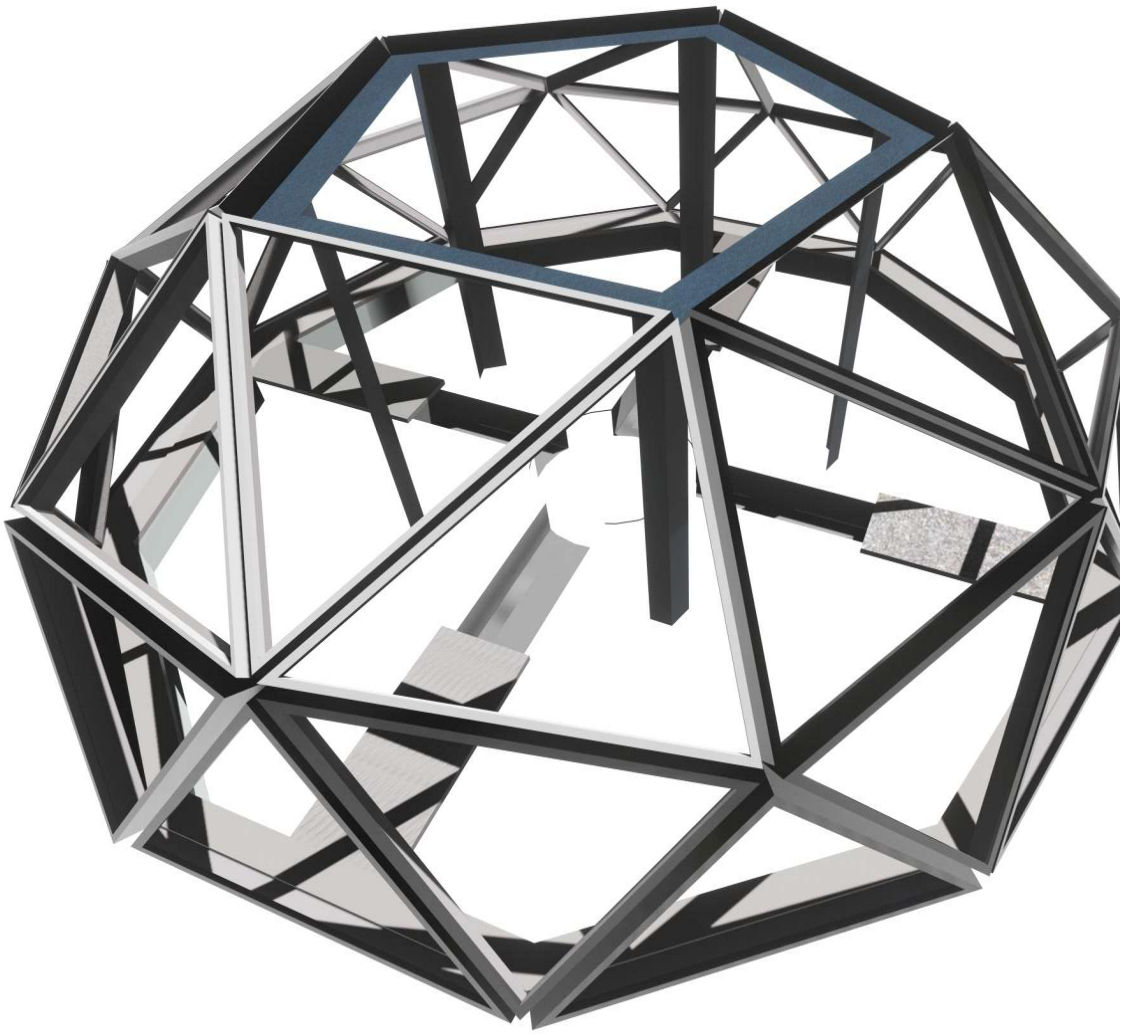
TOP MUSHROOM PV CELL



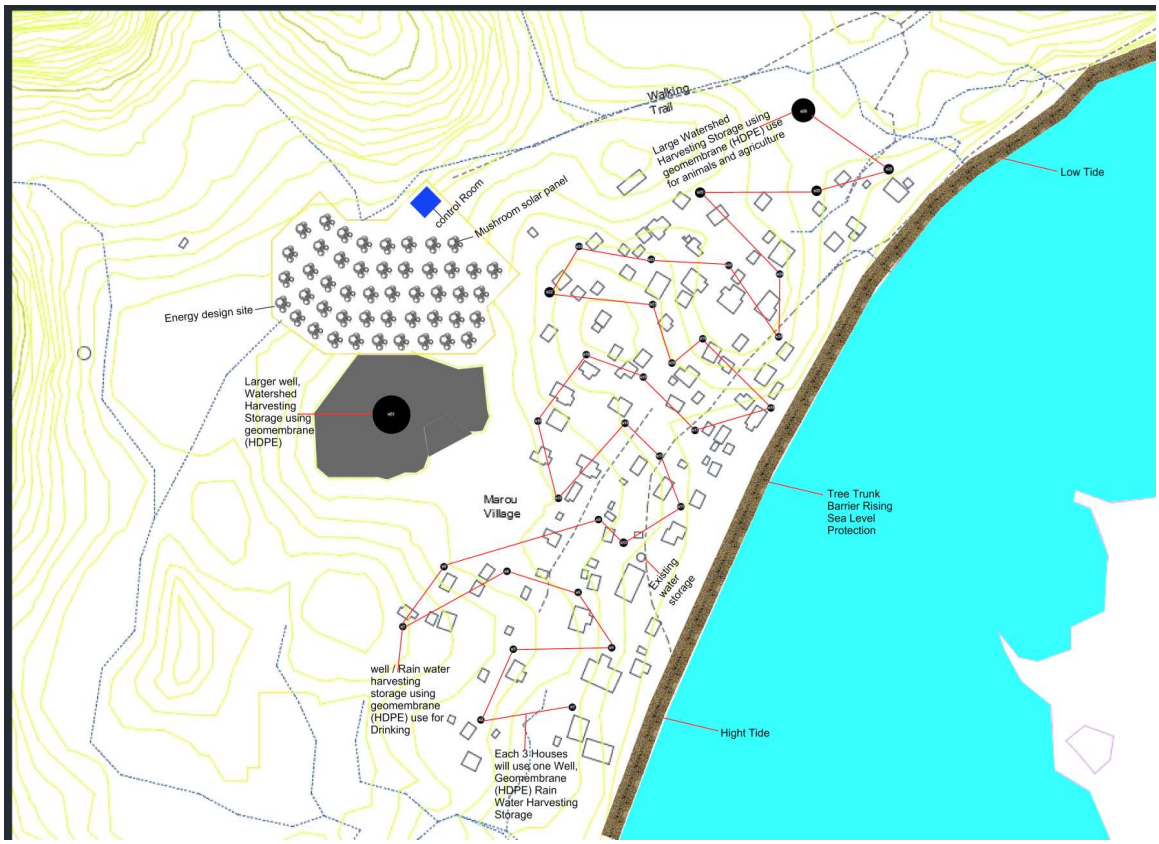


. ***WINSHIELD***



TOP MUSHROOM PANEL

FOUR LEGS MUSHROOM SUPPORT


Walking Trail
Large Watershed Harvesting Storage using geomembrane (HDPE) use for animals and agriculture
Low Tide
control Room
Mushroom solar panel
Energy design site
Larger well, Watershed Harvesting Storage using geomembrane (HDPE)
Marou Village
Tree Trunk Barrier Rising Sea Level Protection
Existing water storage
well / Rain water harvesting storage using geomembrane (HDPE) use for Drinking
Hight Tide
Each 3 Houses will use one Well, Geomembrane (HDPE) Rain Water Harvesting Storage

Rain Water Harvesting Storage Using (Geomembrane HDPE) As Well As Well Storage

CHAPTER 02

Introduction

Rain Water Harvesting Storage (RWH) is a simple and effective Method of collecting and storing rainwater for various uses, Including drinking, irrigation, and washing. In Marou village,fiji, RWH can provide a reliable source of clean water, reducing dependence on wells and other water sources. This note focuses on the design and implementation of a rainwater harvesting and storage system using geomembrane HDPE and pipes to protect sagging storage, as well as well protection, Marou village is a coastal community that relies heavily on wells as a primary source of water. However, the village's water source are vulnerable to salt water contamination, which can render the water undrinkable and unsuitable for irrigation. The village experiences a rainy season, which provides an opportunity to harvest and store rain water for use during the dry season. The Proposed method involves using an underground storage made from geomembrane HDPE resembling a well to harvest and store rainwater for use during the dry season. This approach is designed to address the water scarcity issues faced by villages, particularly in regions with limited access to clean water.

Technology: Operative Implementation

1. Quality stranth: Geomembrane HDPE is a durable materials that can withstand harsh weather conditions.
2. Flexibility: Geomembrane HDPE is a flexible materials that can be used in a variety of applications.
3. Resistant to corrosion: Geomembrane HDPE is resistant to corrosion, reducing maintenance costs.
4. Easy to install: Geomembrane HDPE is easy to install, reducing labor costs.

Operational Benefits

1. Reduced maintenance: Geomembrane HDPE requires law maintenance reducing labor costs
2. Easy to Clean: Geomembrane HDPE is easy to clean, reducing maintenance cost.
3. Reduced risk of contamination: Geomembrane HDPE reduces the risk of contamination improving water quality

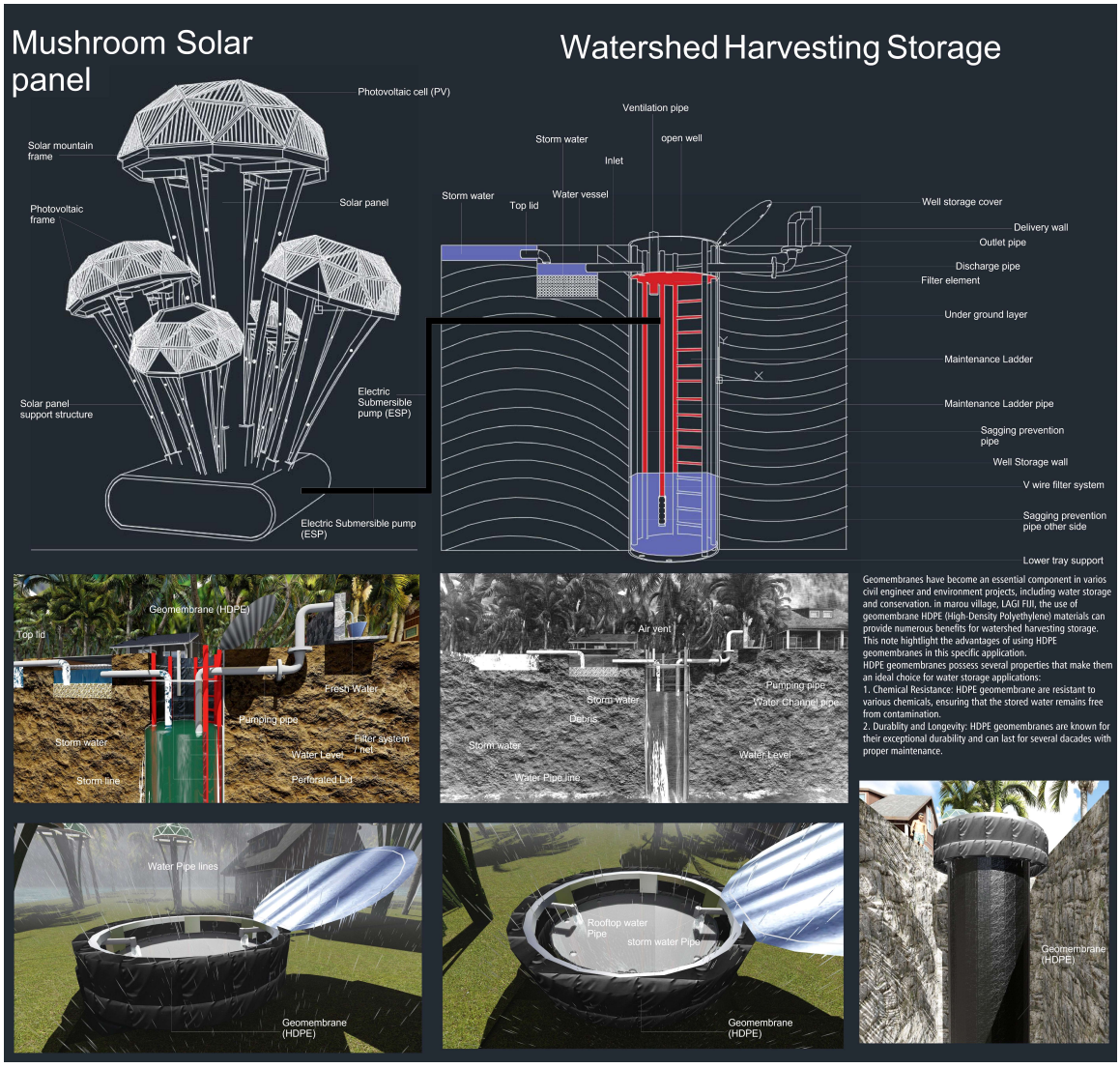
4. Improved water quality: Geomembrane HDPE Improves water quality by reducing the risk of contamination.
5. Increased storage capacity: Geomembrane HDPE can be used to increase storage capacity.

Cost Effective and Maintenance:

1. Cost-Effective: Geomembrane-based systems can be more cost-effective Than Traditional concreat or steel storage tanks.

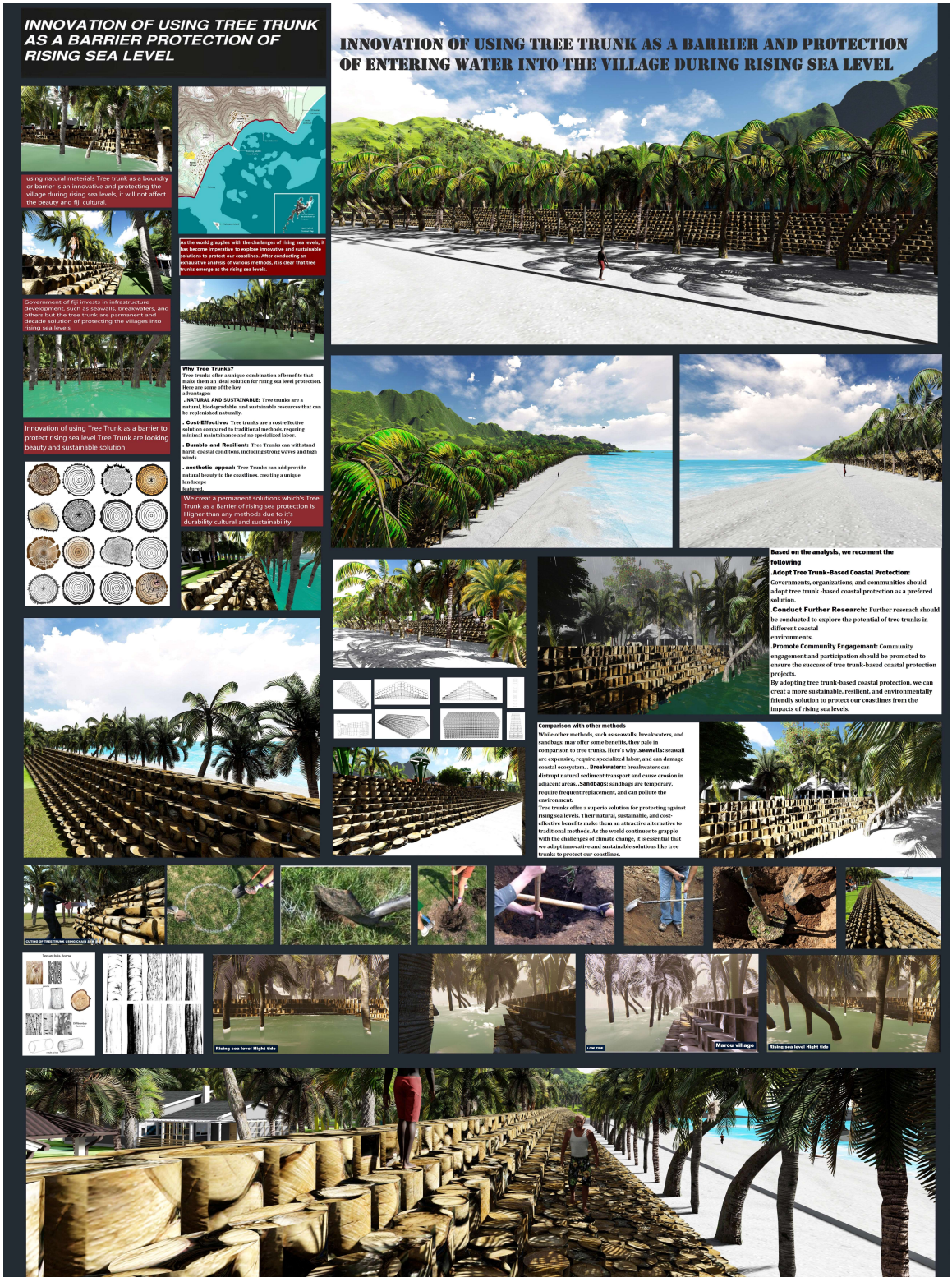
2. Durability: Geomembranes are resistant to punctures, tears, and UV degradation, ensuring a long lifespan for the storage system.
3. Water Storage: Geomembrane-lined storage systems can collect and store significant amounts of rainwater, reducing the relience on Normal ground water or municipal water supplies.
4. Low Maintenance: Geomembrane HDPE requires minimal maintenance. reducing the risk of contamination and ensuring a relieble water supply.
5. Flexible: Geomembrane HDPE is flexible, allowing it to be customized to fit the specific needs of the village.

Watershed Harvesting Storage Using Geomembrane HDPE



Watershed Harvesting Storage Using Geomembrane HDPE

Watershed Harvesting Storage Using Geomembrane (HDPE) Exactly Thesame Technical Material Geomembrane (HDPE) Like Rainwater Harvesting Storage


INNOVATION OF USING TREE TRUNK AS A BARRIER PROTECTION OF RISING SEA LEVEL
using natural materials Tree trunk as a boundry or barrier is an innovative and protecting the village during rising sea levels, it will not affect the beauty and fiji cultural.
As the world grapples with the challenges of rising sea levels, it has become imperative to explore innovative and sustainable solutions to protect our coastlines. After conducting an exhaustive analysis of various methods, it is clear that tree trunks emerge as the rising sea levels.
Government of fiji invests in infrastructure development, such as seawalls, breakwaters, and others but the tree trunk are parmanent and decade solution of protecting the villages into rising sea levels
Why Tree Trunks?
Tree trunks offer a unique combination of benefits that make them an ideal solution for rising sea level protection. Here are some of the key advantages:
. NATURAL AND SUSTAINABLE: Tree trunks are a natural, biodegradable, and sustainable resources that can be replenished naturally.
. Cost-Effective: Tree trunks are a cost-effective solution compared to traditional methods, requring minimal maintainance and no specialized labor.
. Durable and Resilient: Tree Trunks can withstand harsh coastal conditions, including strong waves and high winds.
. aesthetic appeal: Tree Trunks can add provide natural beauty to the coastlines, creating a unique landscape featured.
Innovation of using Tree Trunk as a barrier to protect rising sea level Tree Trunk are looking beauty and sustainable solution
We creat a permanent solutions which's Tree Trunk as a Barrier of rising sea protection is Higher than any methods due to it's durability cultural and sustainability
INNOVATION OF USING TREE TRUNK AS A BARRIER AND PROTECTION OF ENTERING WATER INTO THE VILLAGE DURING RISING SEA LEVEL
Based on the analysis, we recoment the following
.Adopt Tree Trunk-Based Coastal Protection: Governments, organizations, and communities should adopt tree trunk-based coastal protection as a prefered solution.
.Conduct Further Research: Further reserach should be conducted to explore the potential of tree trunks in different coastal environments.
.Promote Community Engagemant: Community engagement and participation should be promoted to ensure the success of tree trunk-based coastal protection projects.
By adopting tree trunk-based coastal protection, we can creat a more sustainable, resilient, and environmentally friendly solution to protect our coastlines from the impacts of rising sea levels.
Comparison with other methods
While other methods, such as seawalls, breakwaters, and sandbags, may offer some benefits, they pale in comparison to tree trunks. Here's why .seawalls: seawall are expensive, require specialized labor, and can damage coastal ecosystem. . Breakwaters: breakwaters can distrupt natural sediment transport and cause eroion in adjacent areas. .Sandbags: sandbags are temporary, require frequent replacement, and can pollute the environment.
Tree trunks offer a superio solution for protecting against rising sea levels. Their natural, sustainable, and cost-effective benefits make them an attractive alternative to traditional methods. As the world continues to grapple with the challenges of climate change, it is essential that we adopt innovative and sustainable solutions like tree trunks to protect our coastlines.
Rising sea level Hight tide
Marou village
Rising sea level Hight tide