
The Green Roof Evolution

Business Plan



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Problem

Currently, there are multiple global challenges including the ongoing pandemic, climate change, rising prices and international tensions. These issues exacerbate the inequalities concerning global food security. Unfortunately, Mauritius, an island, is most vulnerable to these effects and food and nutrition insecurity persist. To tackle these challenges, communities are increasingly encouraged to favour local resources, promote local production, and implement sustainable agricultural practices and initiatives to help create a resilient future for the benefit of current and future generations.

With tourism making up most of Mauritius' GDP, the COVID-19 pandemic has led to decreased budgets and widespread unemployment. Cyclones have led to massive agricultural losses, resulting in overall losses of income and the destruction of food that would be derived from agricultural crops. There is also not enough land in Mauritius for agriculture, making use of unused rooftop space would be game-changing for the food industry

Solution

Rooftop gardens provide a source of fresh produce for its residents, a better diet, and substantial budgetary savings for households. Vegetated surfaces have important properties for sound insulation and noise reduction. Green roofs provide major incentives for buildings to reduce noise. Making use of unused spaces, for instance, the rooftops, which are abundant in many colleges and universities, can contribute to developing an eco-friendly environment. This proposal aims at giving the limelight to The Green Roof Evolution.

There are a lot of areas covered by flat roofs and roof terraces in Mauritius that could be converted into rooftop gardens. This project will reduce Mauritius' Ecological Footprint (EF) by reduction of pollution and noise, the absorption of CO_2 emissions and control of the Urban Heat Island (UHI) effects. This solution will not only reduce the expense of heating and cooling but at the same time improve urban air quality. It will contribute to biodiversity in the urban environment, achieve more sustainable conditions, including those necessary for the production of food and improve the overall quality of urban life. The rooftop garden will produce food above supermarkets, restaurants and tertiary institutions.

The garden will also make one's house more appealing and higher in value should one consider selling it in the future. This project also leads an education initiative on the sustainability and affordability of autonomous food production.

Soil-less Cultivation

The soil-less cultivation process uses self-watering containers that are portable and adaptable for any area. The containers are constructed from recycled materials and are simple to build. Other recycled items like tires, storage bins and many other day-to-day items that hold water without leaking could be used. The containers are watered by rain, either by direct rainfall or simple irrigation systems. The roots stay moist but must be periodically aired to prevent ruined crops. Produce like tomatoes, coriander, flowers, pepper, spinach, lettuce and other leafy crops thrive in these environments and take little space to grow.

Advantages of the Green Roof Project

1. The garden offers free, organically grown fresh food for consumption and some for produce.
2. The green vegetation will ensure that there is a reduction in carbon emissions. They contribute to reducing and filtering polluted air particles and gases, not only through the plants and the photosynthesis process but also by deposition in the growing space.
3. Rooftop gardens can become anything from a lawn space for a relaxation area to growing organic crops for consumption in the home. This significantly adds value to your property.
4. Green roofs protect the underlying roof covering, they extend the life of the existing roof fabric by up to 200%. A green roof protects the roof membrane from climatic extremes and physical abuse, thereby greatly increasing the roof's life expectancy.
5. Buildings with rooftop gardens are cooler in the summer and offer year-round. They improve the thermal resistance of the roof assembly throughout the year, especially in summer months, by helping to reduce cooling costs and saving fuel.
6. They offer sound insulation. Reduced noise levels from typical extensive green roofs reduce reflective sound by up to 3 dB and improve sound insulation by up to 8 dB
7. Green roofs enhance individual discovery and freedom; self-confidence, autonomy, emotional strength, problem resolution; and having a purpose in life.
8. The garden will create jobs for the unemployed while stimulating the economy and promoting an environmentally friendly practice.
9. With rooftop gardens, there are no deer, rabbits, or other non-flying pests to worry about.

Why Green Roof Evolution?

- We offer seedlings, fertilizer and ready-made home grow kits, so anybody who wants to have a garden for produce can have one set up immediately on their rooftop.
- We believe one might have excess produce from the garden that they may want to sell. Since we have ready-market we come as middlemen and sell the fresh food produce for them to the identified market. This includes early transportation and storage to avoid early spoilage of fresh produce.
- We offer regular maintenance and monitoring of the rooftop gardens in order to make sure that the rooftop gardens are constantly maintained.

Organization Responsibilities

- Green Roof Evolution (GRE) is the implementing organisation and will provide project management and administration for the project.
- GRE will work on a day to day with its partners to provide the necessary guidance of details such as labour, training and M&E tools.
- Aside from that, GRE will coordinate and link the customers to consumers in the food market to ensure the consumer's requirements are met. They will provide accounting and finance management for the food products sold.
- GRE will also explore strategic partnerships with the local government and other partners and will engage in planning, human resource, and local stakeholder management.
- GRE will also provide networking services among the gardeners and run training programs for the youth to provide potential gardeners with resources, networks, training, and mentorship in their local community

Potential Market

Our target market is hospitals that need fresh produce for their patients., tertiary institutions with internal housing to provide fresh produce for their students and staff and local residents that want vegetables from their own garden and they could sell to other neighbours and other consumers.

Revenue will also be generated through the sale of produce to some of the restaurants. We will be targeting restaurants of a very specific niche. Initial market research suggests a strong interest in fresh, local, organic produce and supporting rooftop job creation through food purchases.

Rooftop Garden Budget

TITLE	ITEMS	QUANTITY	UNIT COST(MUR)	TOTAL COST(MUR)
Roof Protection	20 litres waterproof paint stripe for roof projection	10	4500	45,000
Dark Plastic	120 metres of dark plastic	120	60	7,200
Dyed green net	450 metres of 50% dyed green net	450	65	29,250
Balau wood for the roof	650ft of Balau wood	650	5,125	81,250
Plastic bots	20 packets of 100 plastic bots	20	250	5,000
Earth soil for planting	3 lorries of earth soil	3	12,000	36,000
Balau wood for seed rack and greenhouse	350ft of Balau wood	350	125	43,750
Screws	3kg of screws	3	200	600
Glue	5 boxes of glue	5	1800	9,000
Seed trays	800 trays	800	35	28,000
Compost	40 bags of 70 lt	40	650	26,000
Seeds	20 variety of seeds	20	750	15,000
Tank of water	220 lt tank	1	12,000	12,000
Watering equipment	4 watering cans	4	750	3,000
			TOTAL:	Rs.341 050

Timeline of Operation

The timeline of the project is 2 months, starting with the signing of partnership agreements and ending with the acquisition of new design parameters. Key activities and milestones include the drafting and signing of agreements with the partner organizations involved in the project, this is expected to be complete by the end of week 1 from the start of the project.

An evaluation of the rooftop space will then be carried out to implement minor changes based on feedback and insights obtained from the customer and us. Once the space is evaluated the stakeholders will finalize working agreements for the project. This activity will begin in week 2 and is expected to be completed by the end of week 2. Also in month 1, gardeners will be hired and acquainted with the rooftop space to be worked on, in preparation for the planting of seedlings.

The next activity will be the procurement of all raw materials required to set up the garden. This is anticipated to be complete by the end of month 1. Planting and gardening will commence in month 2 as materials begin to arrive and are expected to be complete by the fourth week.

The final activity will be monitoring and evaluating the garden's progress. The owners of the garden will also be trained on how to water and take care of the garden. and supplied with user manuals and tutorials. This will be completed by the end of month 2.