



BUSINESS PLAN IN URBAN AGRICULTURE

Business name: Vertical fruit and vegetable garden

Entrepreneur's name: Renato Vasconcelos

Name of the enterprise (to be established): „Hortagno”



EXECUTIVE SUMMARY:

Hortagno is a company specializing in the cultivation of vegetables and fruits aiming to establish a network of (mini) vertical gardens in the city of Porto, ensuring quality and quantity production in limited spaces. Through an application, customers can select a package of vegetables harvested weekly/monthly or delivered to their door, all grown locally near them. The company ensures customers that the acquired vegetables are produced sustainably. Each vertical garden intends to serve as a distribution center within a radius of up to 5 km for city residents. Ideally, all deliveries from each garden are made by a bicycle courier.

1. Identification data of the enterprise (to be established)

Hortagno will be located in the vicinity of Porto and will leverage vertical gardens for cultivating fruits and vegetables. Renato Vasconcelos will be the manager.

2. Field of activity: NACE code(s)

(Agriculture, Forestry, and Fishing): 01.1.3 - Growing of vegetables, melons, roots, and tubers; 01.25 - Cultivation of other fruits (including nuts) on trees and shrubs; 01.19 - Other temporary crops.

3. Objectives

- Ensure local and sustainable production.
- Establish a network of mini-gardens in strategic points of the city to serve a large number of residents.
- Implement sustainable distribution (e.g., through bicycles).
- Enhance accessibility through a mobile/tablet application.
- Utilize abandoned spaces for urban agriculture projects.

4. Products/services

- Vegetables (cherry tomatoes, herbs, bell peppers, cucumber, squash, lettuce and leafy greens, beans, mushrooms)
- Fruits (strawberries, kiwi, figs, raspberries)
- Delivery service
- Online service through a mobile application

Production/service plan to be completed:

Nr. product	Product name	Year 1 quantity	Year 2 quantity	Year 3 quantity
1	Cherry tomatoes	15kg	30kg	60kg
2	Herbs	10kg	20kg	40kg
3	Bell peppers	10kg	20kg	40kg
4	Cucumber	15kg	20kg	40kg
5	Squash	10kg	20kg	40kg
6	Lettuce	30kg	60kg	120kg
7	Beans	10kg	20kg	40kg
8	Mushrooms	-	20kg	40kg
9	Strawberries	20kg	40kg	80kg
10	Kiwi	-	10kg	20kg
11	Figs	-	10kg	20kg
12	Raspberries	-	15kg	30kg
13	Delivery service	2400	4800	9600
14	Application (installation)	100	100	200

5. Machinery, equipment and tools

Manual Tools (gardening shears, watering cans, shovels); Automatic Irrigation Systems; Protective Equipment (gloves, goggles, masks); Plant Support Accessories (stakes); Organic Fertilizers; pH Meters; Soil; Pots; Vertical Structures.

6. Marketing and Sales

a) Potential suppliers to the company

No.	Name of materials supplier	Product	Quantity (per year)	Price per unit.	Value (Euro) per year
1	Agriloja	Fertilizers and soil	70kg	1-2€	150
2	Viveiros	Plant seeds	15kg	<1€	50
3	Leroy Merlin	Vertical structures	20	100€	2.000
4	Landlord	Rent	12 months	500€	6.000
5	EDP	Electricity	12 months	30€	360
6	Leroy Merlin	Manual tools	10	20€	200
7	Agriloja	Irrigation systems	1	400€	400
8	Leroy Merlin	Protective equipment	20	5€	100

b) Potential customers of the company

Nr.crt	Customer (Name and adress)	Value (Euro)	% of sales
1	Individual customers / citizens	60%	60%
2	Cafes / Restaurants / Schools	40%	40%
Total			100%



c) *Competitors*

- Local fairs and markets
- Small and medium-sized retail stores
- Organic and natural product stores

7. **Organization and management**

Business Management: Renato Vasconcelos

Organization: One farmer per space (first year: 1 space; 2nd year: 2 spaces; 3rd year: 4 spaces) + one delivery courier.



8. SWOT ANALYSIS

STRENGTHS +	WEAKNESSES -	INTERNAL FACTORS
<ol style="list-style-type: none"> 1. Sustainability 2. Quality 3. Innovation 4. Adaptation to Urban Spaces 5. Utilizing Empty Spaces 6. Healthy Eating 	<ol style="list-style-type: none"> 1. Initial Cost and Maintenance 2. Technical Knowledge 3. Dependency on Technology 4. Food Limitations (for example, potatoes are challenging to cultivate in vertical gardens) 	
OPPORTUNITIES +	THREATS -	EXTERNAL FACTORS
<ol style="list-style-type: none"> 1. Demand for Healthy Foods 2. Education and Awareness 3. Local Partnerships 	<ol style="list-style-type: none"> 1. Local Competition 2. Unstable Weather Conditions 3. Price and Cost Fluctuations 	

9. Business Model Canva



Business Model Canvas

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
<p>Suppliers of Inputs: Partnerships for acquiring seeds, substrates, and inputs.</p> <p>Restaurants and Establishments: Supply agreements and collaborations.</p> <p>Educational Organizations: Partnerships for workshops and educational programs.</p>	<p>Cultivation and Maintenance: Planting, care, and harvesting of plants.</p> <p>Inventory Management: Stock control and product replenishment.</p> <p>Marketing and Education: Promotion of products and educational events.</p>	<p>Fresh and Sustainable Products: Offering fresh vegetables, herbs, and fruits sustainably cultivated in urban spaces.</p> <p>Convenience and Local Access: Local supply of fresh food, saving time and transportation for consumers.</p> <p>Innovation and Awareness: Introduction of modern vertical cultivation practices, contributing to sustainability awareness.</p>	<p>Personalized Service: Assistance and guidance to customers on products, cultivation, and sustainable practices.</p> <p>Feedback and Engagement: Establishing a continuous relationship with customers for feedback and service improvement.</p>	<p>Customers:</p> <p>Urban Residences: Consumers in urban areas with limited space for traditional gardening.</p> <p>Restaurants and Cafés: Establishments seeking fresh, local ingredients for their dishes.</p> <p>Schools and Educational Institutions: Interested in educational programs on sustainable agriculture.</p>
	Key Resources	Channels		
	<p>Cultivation Infrastructure: Physical structure for vertical gardens.</p> <p>Technology and Equipment: Irrigation systems, lighting, and tools.</p> <p>Specialized Knowledge: Expertise in vertical</p>	<p>Direct Sales: Selling at own outlets or local markets.</p> <p>Partnerships with Establishments: Supply agreements with restaurants, cafes, and schools.</p>		



	cultivation and sustainable practices.		Online Presence: Sales through a website or e-commerce platform.	
Cost Structure		Revenue Streams		
<p>Costs of Production: Inputs, maintenance, water, energy.</p> <p>Operating Expenses: Rent, salaries, marketing, transportation.</p> <p>Technology Costs: Maintenance of equipment and systems.</p>		<p>Sale of Products: Main revenue from the sale of fresh vegetables, herbs, and fruits.</p> <p>Workshops and Lectures: Additional revenue generation through educational events on sustainable agriculture.</p>		

10. Business GANTT chart

WEEK START DATE	WEEK 1							WEEK 2							WEEK 3							WEEK 4							
	23/10/2023							30/10/2023							06/11/2023							13/11/2023							
	23	24	25	26	27	28	29	30	31	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	
ATIVITY	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	
HORTAGNO																													
Task 1: Location Identification and Competitor Research																													
Task 2: Plant Selection and Cost Analysis																													
Task 3: Study on Vertical Structures																													
Task 4: Purchase of Machinery, Equipment, and Tools																													
Task 5: Delivery of Machinery/Equipment																													
Task 6: Space Preparation (vertical structure assembly)																													
Task 7: Purchase of Inputs (seeds, soil, fertilizers)																													
Task 8: Testing of Irrigation and Lighting Installations																													

11. Financial projections

a) *Expenses/Costs*: Installation Cost (Rent), Vertical Garden (Initial Costs), Maintenance, Equipment and Tools, Seed and Soil Materials, Fertilizers, Soil Preparation, Human Resources and Personnel, Insurance, Accounting, Consultancy, Product Distribution, Marketing and Advertising, Licensing, Utilities (Electricity, Phone, Water, Sewage, Heating), General and Administrative Expenses, Bank Fees, Taxes - Entity or Corporate.

b) *Income*:

- euros-

Profit & Loss Projection	Year 1	Year 2	Year 3
Income			
Projected Sales (Production*Price)	12.000	20.000	28.000
Grants and other income	18.000	18.000	18.000
Total Income	30.000	38.000	46.000
Expenses/costs			
Annual setup and removal	1.500	1.500	1.500
Total repairs and maintenance	3.000	3.000	3.000
Equipment and Tools	4.500	4.500	4.500
Seed & Soil Materials	2.400	3.000	4.000
Human Resources & Personnel	7.000	14.000	14.000
Sales and Distribution	1.500	1.500	1.500
Marketing and Advertising	1.100	500	500
Utilities	3.000	3.000	3.000
Administrative	3.000	3.000	3.000
Taxes	3.000	3.600	3.600
Total expenses/ costs	30.000	37.600	37.000
Net Profit (Loss) = Total Income- Total expenses	0	400	7.600

12. Sustainability of the project and impact on the area/people

This project aims to utilize empty or abandoned spaces in urban areas, repurposing them into small cultivation areas that provide for the surrounding citizens, with distribution facilitated through electric bicycles. Sustainability is highlighted as the Hortagno's strongest point.



13. The project financing:

Bank Loans and Government Incentives (subsidies or incentive programs for sustainable agricultural initiatives).

14. Risks

Climate Risks; Contamination and Quality Issues; High Maintenance Costs; Market Acceptance; Local Competition; Regulation and Licensing; Lack of Funding.