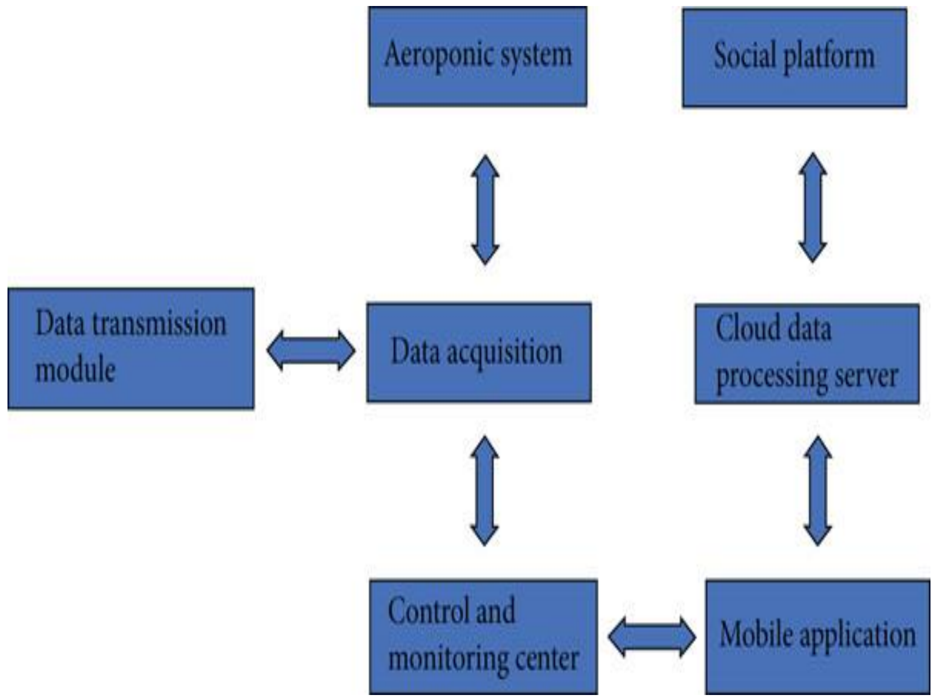
Innovating Agriculture Through Aeroponics and Smart Farming

Starting our journey, with farmers for farmers

Agenda

Business Core

- AeroGreen Africa is an agritech company focused on designing and implementing innovative smart greenhouse farming solutions using aeroponics, vertical farming to address water scarcity, food security, Labor theft, and environmental challenges in Africa, focusing on Morocco



Key Features:

- Aeroponic systems deliver nutrients via mist.
- IoT integration for real-time monitoring of Temperature, moisture, pest, crop growth, and more.
- Vertical farming for high-yield crop production.
- Focus on high-value crops like tomatoes and peppers.

Problem

Core Morocco/African Issues:

Water Scarcity

Agriculture consumes approximately 70% of Morocco's water resources, primarily due to irrigation practices in arid and semi-arid regions. (FAO, 2022).

Land Degradation

Shrinking arable land due to urbanization and climate change (World Bank, 2023).

Food Insecurity

Increase in population, dependence on imports and inefficient traditional farming methods(FAO, 2022).

Specifics to Morocco:

- Souss Massa region faces severe droughts
- Limited adoption of modern farming technologies

Solution/Necessity

Why AeroGreen Africa?

- **Timing**

  Increasing focus on sustainable development and food security through year round production.

- **Economic Viability**

  Farmers save up to 90% of water and achieve 20% higher yields.

- **Environmental Urgency**

  Combat drought, soil degradation, and sufficient food production to meet the increasing population demand

Aerogreen Africa

How is our Product Work?

• Technological Advancements

- Aeroponics use advancements in technology, leading to improved efficiency, productivity, and accessibility.

Automated Systems:

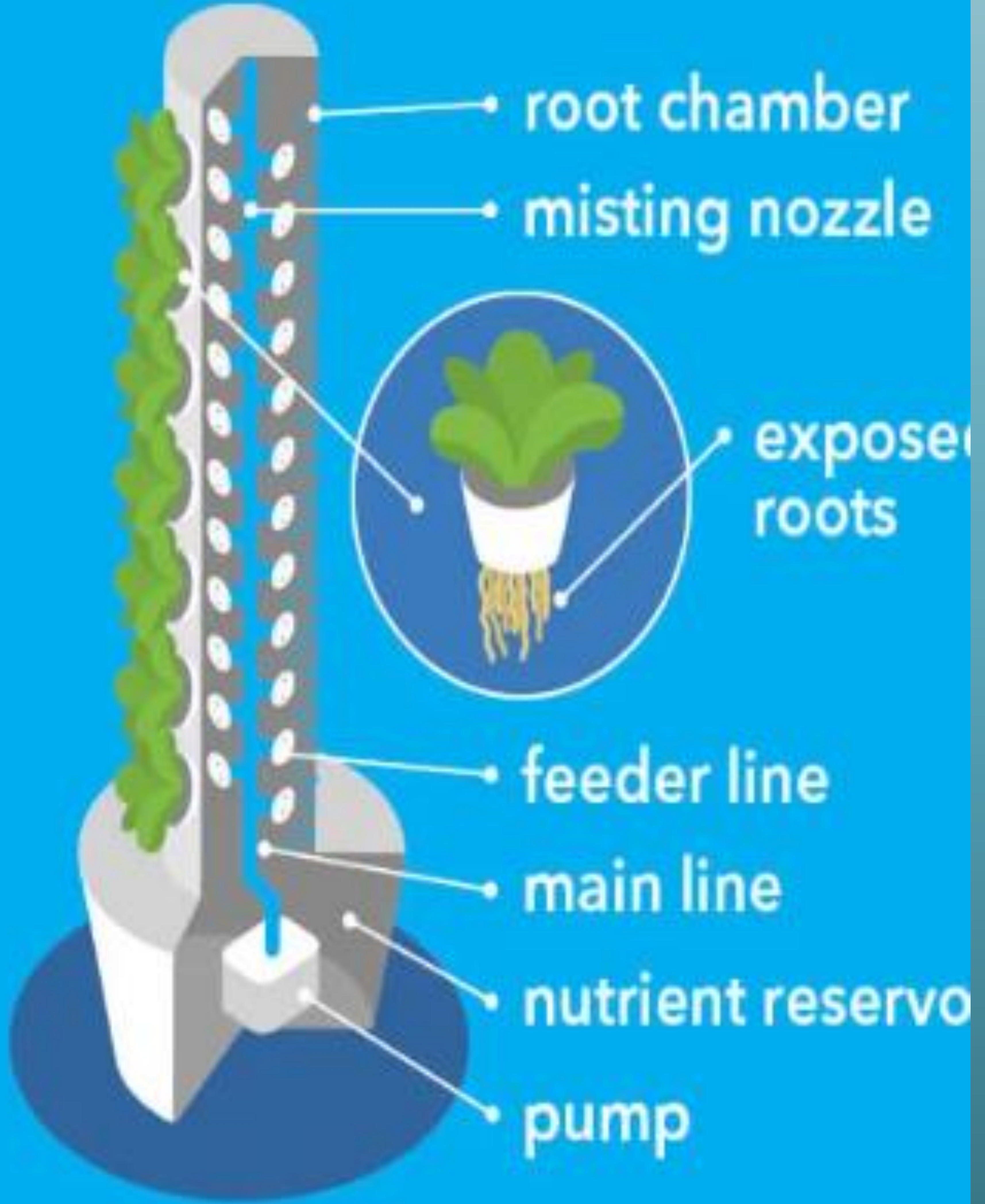
- Our System use Automation technologies, like sensors, actuators, and smart controllers, are being integrated into aeroponic systems. These systems can monitor and adjust environmental parameters, nutrient delivery, and misting cycles, optimizing plant growth and resource utilization.

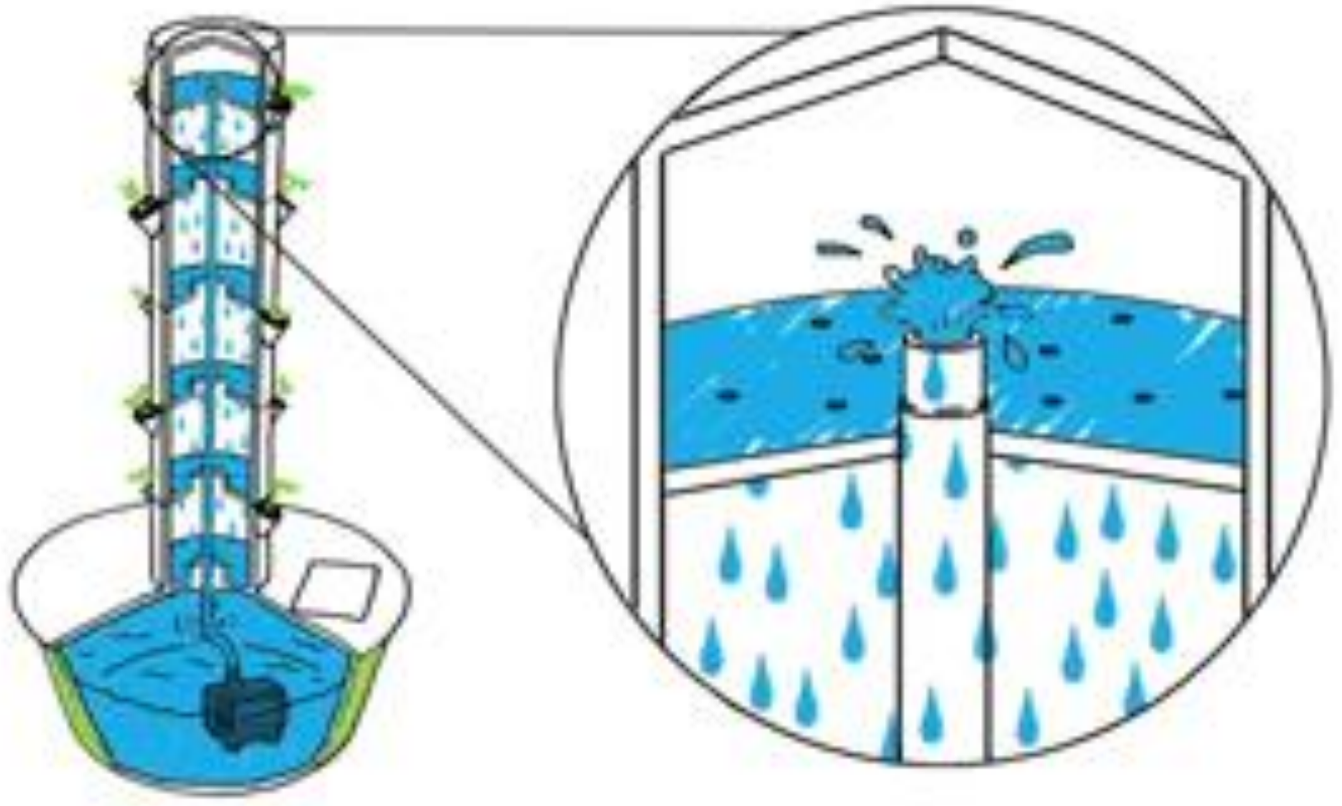
Remote Monitoring and Control:

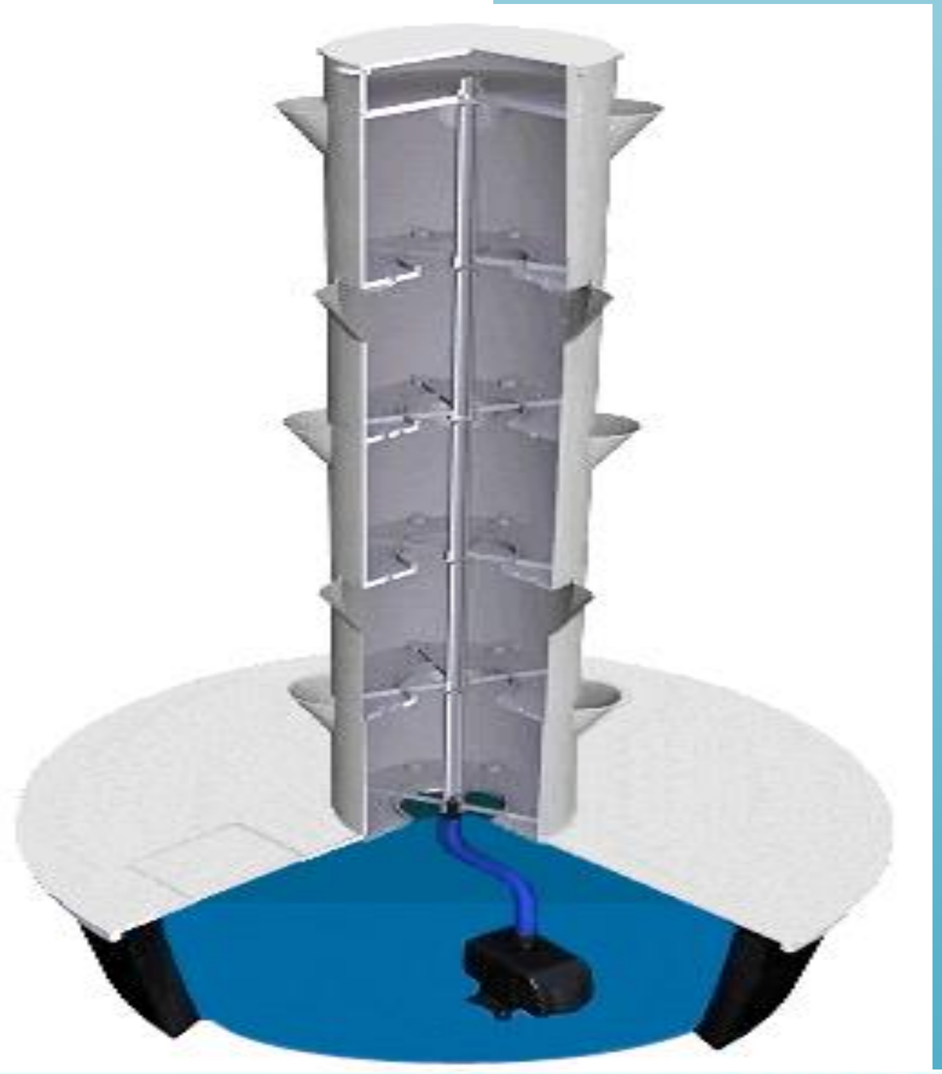
- With the help of IoT (Internet of Things) and cloud-based technologies, aeroponic systems can be remotely monitored and controlled.
- Growers can access real-time data, receive alerts, and make adjustments from anywhere, enhancing convenience and precision in cultivation.

Expansion of Commercial Applications

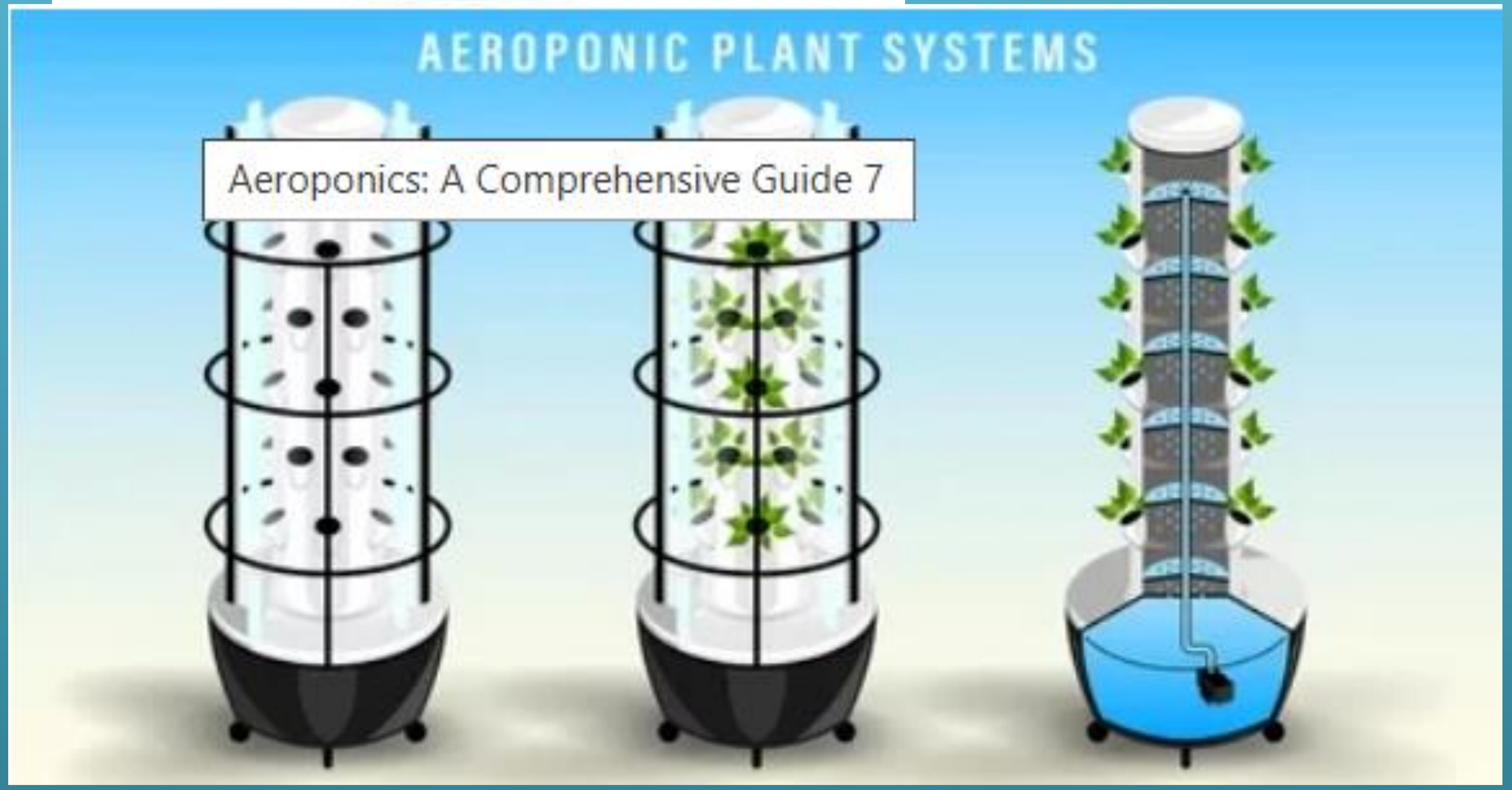
- Aeroponic systems are already being deployed in various settings, including indoor farms, research institutions, and vertical farming facilities.







- Aeroponic systems offer several advantages over other hydroponic techniques.
- The increased oxygen levels in the root zone promote faster growth rates and encourage the development of healthier, more robust plants.
- The absence of soil also minimizes the risk of soil-borne diseases and allows for easier monitoring and management of plant health.



1. Initial Infrastructure

Item	Cost (USD)	Cost (MAD)
Greenhouse	$6,830	68,870
Watering System Housing	$434	4,376
Sub-total	**$7,264**	**73,246**

2. Aeroponics Module

Item	Cost (USD)	Cost (MAD)
Seed Boxes	$2,409	24,282
Watering System	$1,474	14,864
Labor	$897	9,046
Drainage System	$499	5,034
Sub-total	**$5,279**	**53,226**

3. Equipment

Item	Cost (USD)	Cost (MAD)
E.C. Meter	$233	2,350
pH Meter	$233	2,350
Sprinkler Pump	$134	1,354
Thermometer	$17	175
Sub-total	**$617**	**6,229**

Based on the information provided and the available data, an updated cost breakdown for establishing an aeroponics system in unit in a greenhouse focusing on a unit

Grand Total

Total Cost	USD	MAD
Overall	$15,718	132,701

Aeroponics System Maintenance Costs (Annual

Item	Estimated Cost (USD)	Estimated Cost (MAD)
Electricity (Pumps, Lights, etc.)	$500	5,041
Nutrients & Fertilizers	$250	2,521
Replacement of Components		
- Watering system parts	$120	1,210
- Drainage system parts	$80	808
- Sensors (E.C. meter, pH meter, etc.)	$150	1,512
Labor for Maintenance	$300	3,024
Cleaning Supplies	$100	1,008
Unexpected Repairs	$200	2,016
Miscellaneous Expenses	$100	1,008

| Total Annual Maintenance Cost | $1,800 | 18,148 |

Target Market

Primary Audience

- Large-scale farmers in urban and peri-urban regions.

Targeted business partners

- Agribusiness investors and cooperatives.
- Agritech Companies, Holland Greentech
- UM6P
- Ministry of Agriculture and Fisheries in Morocco

Target Regions:

- Starting in Morocco (Souss Massa), expanding across Africa.

Sustainability

Long-Term Benefits:

Reduces reliance on imported crops, ensuring food security and increasing export capacity

Promotes sustainable water management in agriculture.

Year-round crop production in controlled environment, Providing more space for open field crops e.g cereals

Environmental Impact:

Mitigates greenhouse gas emissions and reduces soil degradation

Supports urban greening and reduces water consumption and carbon sequestration

Channels

Direct Marketing

Customers will be reached via direct marketing

Branded Partnerships

- Agribusiness investors and cooperatives.

Market/Industry

Market Size

Global controlled-environment agriculture market growing at a CAGR of 12%.

Broad Market TAM: $25,000 x 1,000 farms = $25 million annually.
•Beachhead Market TAM: $25,000 x 400 farms = $10 million annually.

Competitive Advantage

Scalability of aeroponics tailored to Morocco's and Africa's climatic and food insecurity challenges.

Scalable for urban farms and large agribusiness operations.

Future Outlook

Vision:

- Expansion to additional African countries (e.g. Nigeria, Chad).

AI-powered aeroponic systems for enhanced precision.

- AeroGreen training centers for educating farmers.

Goals (5 Years):

Capture 20% of Morocco's urban farming market.

- Pilot projects in 3 African nations.

- Achieve $25M annual revenue.

Problem

The problem of water scarcity, soil degradation.

Existing Alternatives

Traditional greenhouse farming, Hydroponics system, Aquaponics

Solution

These problems can be solved by introducing Aeroponics farming system in green house

Key Metrics

- Increase in crop productivity.
- Number of farmers adopting the technology.
- Water conservation rate

Unique Value Proposition

Aeroponics system providing nutrient-rich mist directly to plant

High Level Concept

1.Water Efficiency: Saves up to 90% of water. 2.Higher Yields: Accelerates plant growth and improves crop quality.

Unfair Advantage

Despite the competition we are focused on sustainable farming via water conservation which is a challenge and pain point of customers till date.

Channels

Customers will be reached via direct marketing

Customer Segments

Visualizing personas with the alignment of other end users within the market segment.

Early Adopters

Innovative tech savvy entrepreneurs focused on sustainability, high value crops and efficient eco friendly farming

Cost Structure

•System Cost: Approx $50,000- $100,000 per unit, including installations. Units Needed: Average farm requires 5 units, totaling $250,000 for a 15 meters square area of Greenhouse.

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Revenue Streams

Focusing on partnerships with aeroponics systems manufacturer, leasing of aeroponics system, maintenance.
Broad Market TAM: $25,000 x 1,000 farms = $25 million annually.
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Aerogreen Africa

Aerogreen Africa, We empowers farmers to incorporate technologies in farming.

THANK YOU

MEET TEAM

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Constance CHISA

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