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EGYPTIAN CHINESE UNIVERSITY
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EDUCATION NEW ERA

Mara - Mediterra

5th Project Meeting
24 - 27 Sept. 2024
Izmir - Türkiye

Safeguarding the livelihood of rural communities and the environment in the Mediterranean through Nature-based Solutions

Mara-Mediterra - Aquaponics

Prof. Rasha El Kholy
President of the Egyptian Chinese University

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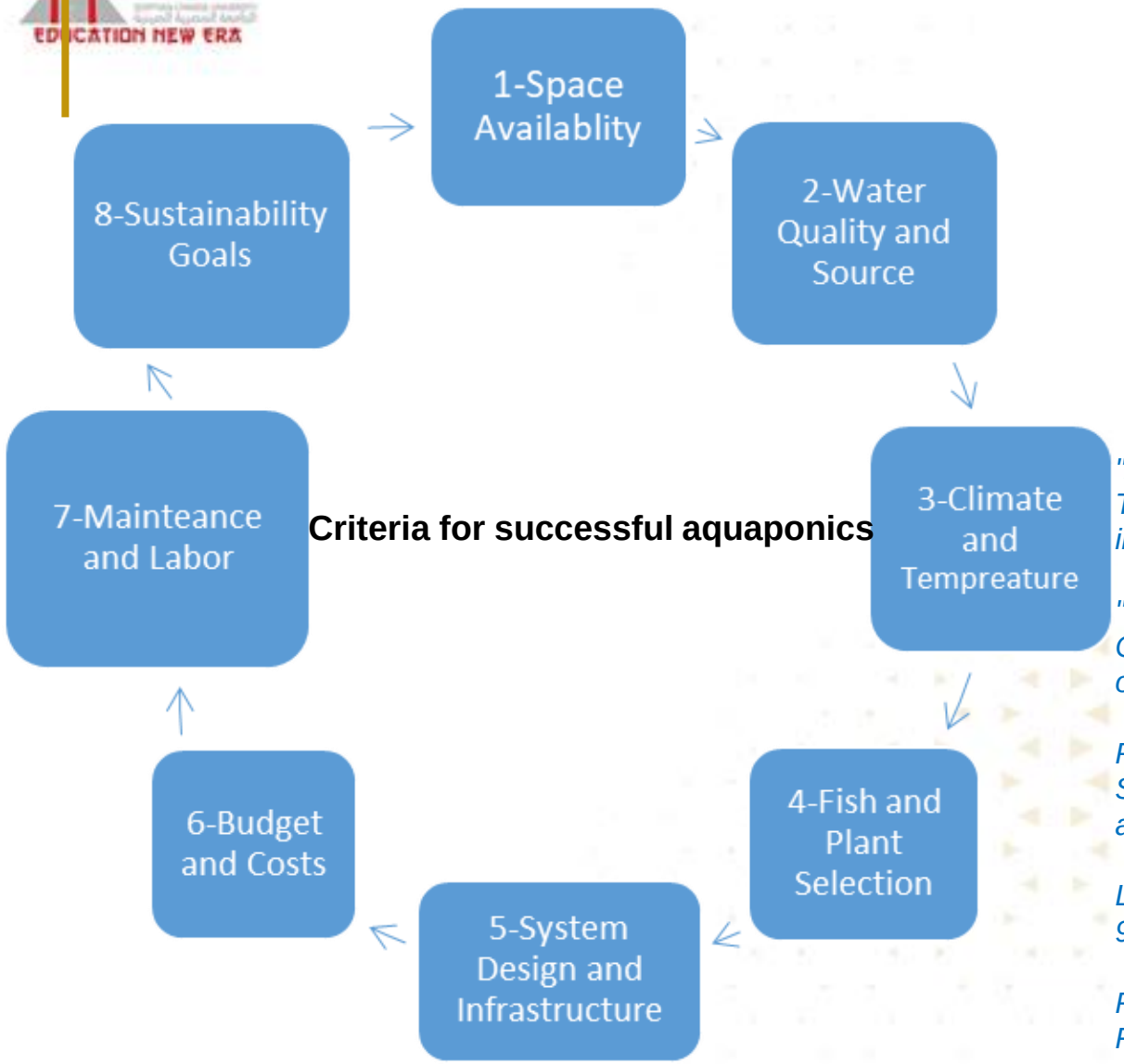


Key considerations for maximizing revenue from aquaponics:

1. Appropriate Scale and efficient design
2. High-Value /fast growth Species
3. Market Demand and Sales Channels
4. Operational Efficiency
5. Yield Optimization
6. Technology and Automation

"Aquaponics Food Production Systems: Combined Aquaculture and Hydroponic Production Technologies" edited by James E. Rakocy, William M. Cole, and others reflects on the increased resource use efficiency and reduced environmental impact of aquaponic.

"The Aquaponic Farmer: A Complete Guide to Growing Fish and Plants for Food and Profit" by Christine and Timothy R. M. Moebius Offers practical guidance on the setup and management of aquaponics systems and discusses their economic benefits and sustainability.

Rakocy, J.E., et al. (2006). "Update on Tilapia and Vegetable Production in the UVI Aquaponic System." Acta Horticulture, 700, 67-75, provides data on the efficiency and productivity of aquaponics systems, focusing on tilapia and vegetable production.

Love, D.C., et al. (2014). "An international survey of aquaponics practitioners." PLOS ONE, 9(7), e102662 sheds light on potential for sustainable.

FAO (Food and Agriculture Organization of the United Nations). (2014). "The State of World Fisheries and Aquaculture 2014.",Includes innovative aquaculture practices, including aquaponics, highlighting its benefits for sustainable fisheries and food security.

National Aquaponics Association (NAA). (2023) Provides facts, including economic, environmental, and social aspects.

High-revenue grown crops






Basil: (short growing cycle)
Peppers: (bell peppers and hot peppers)
Tomatoes: (heirloom cherry varieties)

Lettuce: (short growing cycle)
Cucumbers: (short growing cycle)
Parsley & Mint

Safe control of plant pests

Warm-Water Fish

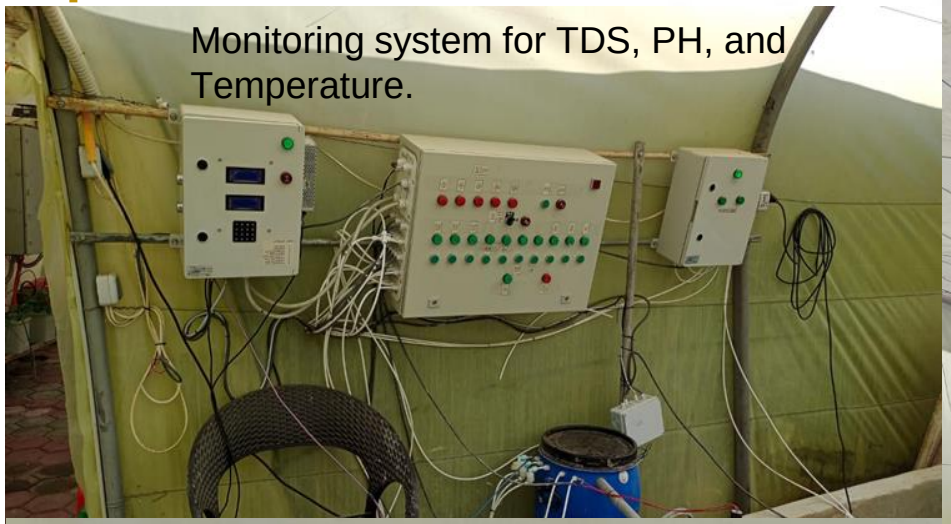




Maintaining ideal water temperature, pH, and oxygen levels to promote healthy growth
Nutritionally balanced feed to ensure optimal growth rates
Biosecurity measures to prevent diseases

Plant nutrition solution(A, B, and C).

Automated Control and IoT

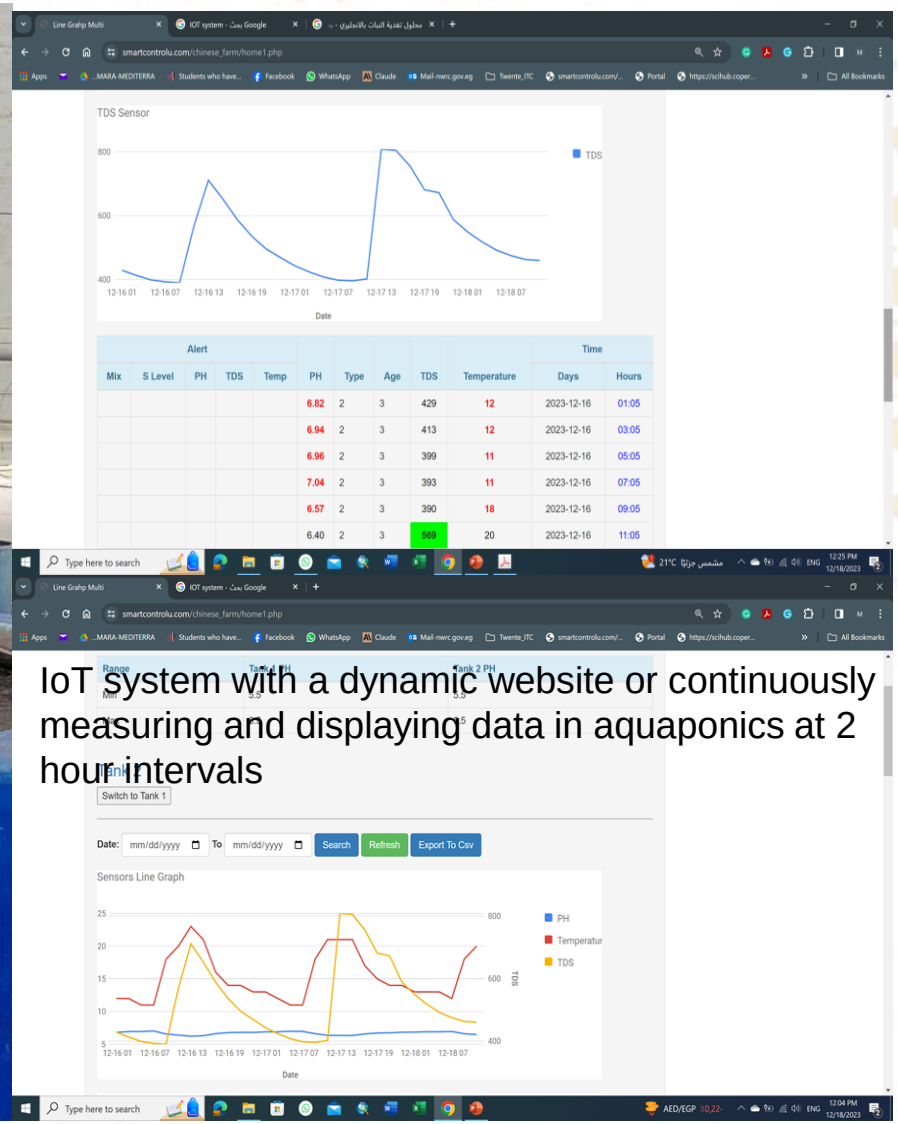


Monitoring system for TDS, PH, and Temperature.

Control units and pump system to add the Plant nutrition solution(A, B, and C).

Control units and pump system to add the solution (PH Up and PH Down) for tank 1 and tank 2

Control units and automated Fish feeding system



IoT system with a dynamic website or continuously measuring and displaying data in aquaponics at 2 hour intervals

Viability

Market Understanding

Operational Planning

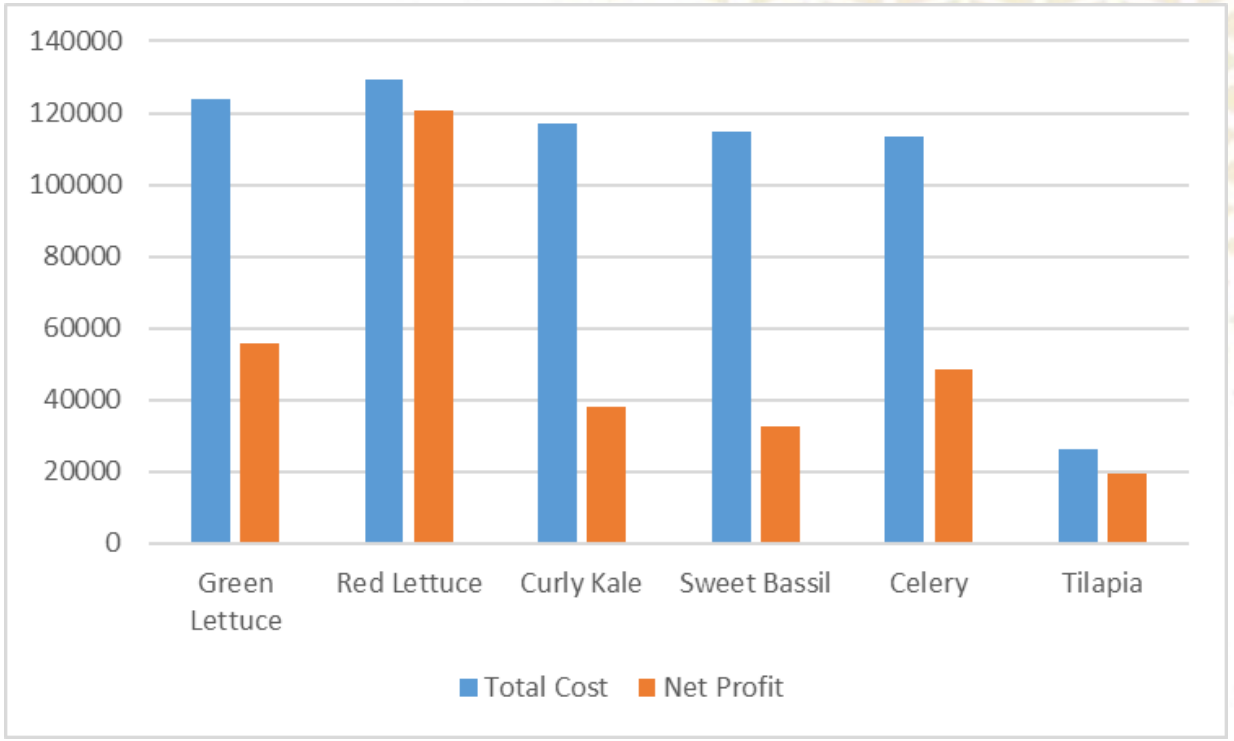
Risk Management

Sustainability

Attracting Investors

Growth Potential

Performance Measurement



Pay back periods from 1.65 yr to 3.2 yr according to crop selection

Starting the 5th round of seedling and planting
Starting the 4th round of safe control of plant pests
Starting the 3rd round of fish farming

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Thank You

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