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Food & Agri-Business Specialists

The Growth of Hydroponics in the GCC

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Introduction

Hydroponics is essentially a soil-less method of growing crops, which uses 90% less water than conventional agriculture. Given the water-scarcity issues in the Middle East, it is clear why hydroponics is a good fit for the region. As Arab nations place increasing emphasis on self-sufficiency, investments in hydroponic farming are increasing.

Suitability to the Middle East

Given that the climate in arid countries is largely unsuitable for crop cultivation, food imports account for 90% of the food consumed in the GCC. The cost of these imports into the region is expected to total $53.1 billion in 2020. Due to this reliance on imports, vulnerabilities exist in terms of market supply shocks and price spikes, such as those experienced during the COVID-19 outbreak. For this reason, the volume of foreign land acquisitions and domestic hydroponic farms are increasing dramatically. Hydroponic farming is also very appropriate given water scarcity issues. Meanwhile making use of land in and around urban centres means low food miles and a guarantee of fresh produce to the consumer. Adoption of hydroponics has been significant in the UAE, where over 200 farms now exist. Thanks to these farms, locally grown produce accounted for 20% of total fruit and vegetable sales in the UAE in 2018.

Advantages and Challenges

Although there are undoubtedly many advantages to hydroponic farming, it is not without its challenges.

Some of the advantages include:

- No soils required
- Efficient use of space and location
- Recirculation and conservation of water
- Effective use of nutrients
- Hydroponically grown plants mature up to 25% faster and produce up to 30% more than traditionally farmed plants
- Temperature, humidity, light intensification and the composition of air can all be controlled
- No weeds and fewer pests and diseases, meaning reduced usage of pesticides

Challenges associated with hydroponic operations may be:

- Very large initial costs associated with establishing operations, with lengthy payback periods
- As the plants are all on the same nutrient reservoir, diseases and pests can spread through farms rapidly
- Back-up power sources are required in case of outages, as plants can dry out quickly and fluctuations in nutrient and pH levels can damage plants

Quick read

- Due Diligence is the investigation of a target by a buyer evaluating historic record & future potential
- Meaningful DD means evaluating the whole supply chain in which the target is embedded
- Commercial & Technical Due Diligence provides deeper insights into future performance
- DD identifies key risks, supports valuation process and identifies issues
- A high failure rate in acquisitions meeting value makes DD vital in minimising bad outcomes
- Outputs from DD include deal value and Go/ No Go decision
- Advantages of TDD include informed decisions & improved negotiating position
- Sound CDD means having sector experts deployed on the ground

- High electricity usage and costs
- Large and tall crops may not be suitable to indoor farming operations

Although some of these obstacles can be problematic, the advantages of hydroponic farming in the GCC far outweigh the challenges, with ample availability of land, capital and reliable power required for successful hydroponic operations.

Expert in this Insight

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Conclusion

Hydroponics, the soil-less method of growing crops, is becoming increasingly important in Middle East countries. These nations suffer from water scarcity and because they import so much of their food, are vulnerable, if they do not develop their own domestic crops. Hydroponic farming has proved an elegant solution, with crops growing more efficiently than in typical agricultural conditions, while also using 90% less water than conventional agriculture. Despite initial costs, need for back-up power sources, high electricity costs and potential disease spread, the advantages of hydroponics outweigh these challenges.

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