Middle East & Africa Desert Farming Market, By Technique (Greenhouse, Hydroponics, Nano clay, Hydrogels, Others), By Crop Type (Dates, Alfalfa, Eggplant, Peppers, Tomatoes, Melon, Others), By Country, Competition Forecast & Opportunities, 2028.

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Report description:

Middle East & Africa desert farming market was valued at USD 63.06 million in 2021 and is predicted to grow at a CAGR of 5.71% through 2028. This is attributed to the rapid change in the climatic conditions in the region. Besides, the growing demand for food security is expected to augment the growth of the desert farming market in the forthcoming years. Desert farming helps to improve food security by producing crops in areas that are vulnerable to droughts and other weather-related events. This helps to reduce the impact of food shortages in the region. Moreover, there are other factors that are bolstering the growth of the desert farming market, such as growing water scarcity, growing technological advancements, increasing support from the government, and others. Desert farming is an agricultural technique that involves the cultivation of crops in arid regions that were previously considered unsuitable for agriculture. In the Middle East and Africa, where large areas of land are covered by deserts, desert farming has become an increasingly important method of food production.

Growing Water Scarcity to Increase the Adoption of Desert Framing

Rising water scarcity across the region is one of the main factors bolstering the growth of the Middle East & Africa desert farming market. The Middle East and Africa region is one of the driest and most water-stressed areas in the world. The population in the region is growing rapidly, and with it, the demand for water for domestic, industrial, and agricultural purposes is also on the rise. However, the region has limited freshwater resources, with only about 1% of the world's total water resources available for its use. This has led to overexploitation of groundwater and surface water sources, leading to the depletion of aquifers and rivers and causing serious environmental problems such as land subsidence and saltwater intrusion. According to the World Resources Institute, in 2019, 12 of the 17 most water-stressed countries in the world were in the Middle East and North Africa (MENA) region. The region is facing severe water shortages, due to which conventional agriculture practices are not practiced, as they require a

significant amount of water. Therefore, some the desert farming techniques, such as drip irrigation, mulching, and others, are used to conserve water, control soil erosion, and increase productivity.

Technological Advancement to Boost the Desert Farming Market

Advances in technology have made it possible to grow crops in harsh desert environments. The growing technological advancements are expected to fuel the growth of the desert farming market in the upcoming years. Advancements such as drip irrigation, soil moisture sensors, shade netting, and others are making it possible to reduce the food shortage in the regions. Also, these advancements are consistently being evolved to maintain their purpose of increasing and improving the outputs of the agricultural sector in the region meanwhile utilizing lesser energy and more sustainable methods of agriculture. Modern technologies have also been introduced to enhance the efficiency and sustainability of desert farming with time. For example, drip irrigation systems, which use a network of tubes and emitters to deliver water directly to the plant roots, are more efficient than traditional irrigation methods and reduce water loss through evaporation. In addition, hydroponic systems, which grow plants in nutrient-rich water instead of soil, are used to grow crops in areas that have poor soil quality or high salinity. Solar-powered desalination plants have also been developed to provide fresh water for irrigation in areas with no access to groundwater. Tal-Ya, an Israeli agricultural technology solution company, created a distinctive, patented polypropylene membrane system that covers the root system of the plant, guiding water and fertilizer to the root while shielding the surrounding soil from weeds and adverse weather, hence lowering the chance of wastage of both water and fertilizer. Liquid Nano Clay (LNC), another relatively contemporary technique, has recently been employed in Emirati desert farms. By combining water and clay nanoparticles with sand particles, a process known as LNC coats sand with a thin layer of clay. Sand particles cannot effectively retain water because they are loose, but this treatment enables them to do so. In its trial run in the Emirati farms, LNC reduced water use without the use of any chemicals by more than 50%. International technology like this offers hope for farming in Saudi Arabia and other water-scarce regions that are mostly dependent on food imports.

Growing Demand for Food Security to Promote the Practice of Desert Farming

The growing demand for food security in the region is expected to bolster the growth of the Middle East & Africa desert farming market in the forthcoming years. Desert farming allows the production of food in regions where conventional farming is not possible. This can help to increase food availability and reduce food insecurity. For instance, the Sahel region of Africa, which is one of the driest and most arid regions in the world, has adopted agroforestry techniques, which involve planting trees alongside crops to improve soil fertility, conserve water, and provide shade. The use of drought-resistant crops, such as millet, sorghum, and cowpeas, has also helped farmers produce food in a challenging environment. In recent years, the governments of the Middle East and Africa have recognized the potential of desert farming and have launched initiatives to support this innovative agricultural practice. For example, in Saudi Arabia, the government has launched the King Abdullah Initiative for Agricultural Investment Abroad, which aims to invest in agricultural projects in other countries to ensure food security for its citizens. The initiative has invested in several desert farming projects, including one in Sudan that uses innovative technologies such as drip irrigation and solar-powered desalination to grow crops in the desert. Thus, growing initiatives to minimize the dependency of the country on the import of food supply are expected to boost the market of Middle East & Africa desert farming in the upcoming years.

Increasing Government Support to Enhance the Market of Desert Farming

In recent years, many governments in the Middle East and North Africa (MENA) region have recognized the potential of desert farming to improve food security, reduce water consumption, and promote sustainable development. Various initiatives, such as increasing investments in research and development activities by the government, financial support to farmers, the introduction of policies to support desert farming, and others, are expected to strengthen the growth of the market in the upcoming years. For instance, in 2020, the Jordanian government launched a new initiative to support small farmers in adopting water-saving techniques, such as drip irrigation, to improve water efficiency in desert regions.

In Egypt, the government has launched the Toshka Project, which aims to reclaim desert land and turn it into arable land for agriculture. The project involves the construction of a canal to bring water from the Nile River to the desert, as well as the use of advanced irrigation techniques and the cultivation of crops that are adapted to the arid environment.

The United Arab Emirates has also invested in desert farming initiatives, such as the Masdar Institute of Science and Technology's pilot project, which uses renewable energy to power a seawater greenhouse in the desert. The greenhouse uses a combination of

solar energy and seawater to grow crops, making it a sustainable and efficient way to cultivate food in arid regions.

The government of Qatar has also launched the Qatar National Food Security Programme, which aims to achieve food security by 2030 through various initiatives, including investing in desert farming. The program includes the establishment of a research center for desert farming and the promotion of innovative agricultural technologies that are adapted to the arid climate.

These government initiatives have been successful in promoting and supporting desert farming as a means of achieving food security in the Middle East and Africa. Desert farming has the potential to transform arid and semi-arid regions into productive agricultural areas, providing a sustainable solution to the challenges of water scarcity and food insecurity, thus bolstering the growth of the market in the forecast period.

Recent Developments

• In 2020, Morocco launched a new program to support small farmers in adopting sustainable agriculture practices, including desert farming techniques.

• In 2020, the Saudi Arabian government announced plans to invest in new agricultural technologies, including hydroponic farming and vertical farming, to increase food production in arid regions.

• In 2020, the United Arab Emirates launched the "Green Emirates" initiative to promote sustainable agriculture practices and reduce the country's dependence on imported food.

Market Segmentation

The Middle East & Africa desert farming market is segmented on the basis of technique, crop type, competitional landscape, and country analysis. Based on technique, the market is further fragmented into greenhouse, hydroponics, nano clay, hydrogels, and others. Based on crop type, the market is segmented into dates, alfalfa, eggplant, peppers, tomatoes, melon, and others. In terms of countries, the market is segmented into Saudi Arabia, United Arab Emirates, Israel, Algeria, Egypt, and Oman.

Company Profile

Some of the leading companies in the Middle East & Africa desert farming market include, Pure Harvest Smart Farms, Desert Agriculture, Desert Control Middle East LLC, Edama Organic Solutions, Red Sea Farms, Al Dahra Holding LLC, and Netafim Ltd.

Report Scope:

In this report, Middle East & Africa desert farming market has been segmented into the following categories, in addition to the industry trends, which have also been detailed below:

• Middle East & Africa Desert Farming Market, By Technique:
- o Greenhouse
- o Hydroponics
- o Nano clay
- o Hydrogels
- o Others

• Middle East & Africa Desert Farming Market, By Crop Type:
- o Dates
- o Alfalfa
- o Eggplant
- o Peppers
- o Tomatoes
- o Melon
- o Others

• Middle East & Africa Desert farming Market, By Country:
- o Israel
- o UAE
- o Saudi Arabia
- o Algeria
- o Egypt
- o Oman

Competitive Landscape
Company Profiles: Detailed analysis of the major companies present in Middle East & Africa desert farming market.
Available Customizations:
With the given market data, TechSci Research offers customization according to a company's specific needs. The following customization options are available for the report:
Company Information
• Detailed analysis and profiling of additional market players (up to five).

Table of Contents:

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