

Food Security

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Overview

Food security is vital to the economic growth of any country. It is important for countries to create policies and plans that encourage various industries to innovate in order to provide nutritious food for its people as well as generate sustainable livelihoods, support people-centric rural development and protect the environment. This document aims to look at the challenges faced by UAE, a desert country with an arid climate, insufficient water and arable land and how it addresses the issue of food security to address the growing population and its rising consumption needs.

According to the [Food and Agriculture Organization of the United Nations](#), a country is considered to have achieved food security when it fulfills the following criteria:

- Sufficient amounts of quality food is available consistently through imports or domestic production
- Adequate access to and resources for nutritious food are available.

Globally, around 1.3 billion people, 17.2 percent of the population of the world, faced moderate levels of food insecurity with reduced regular access to nutritious and sufficient food.

While the UAE reduced the number of its [undernourished population](#) from an average of 4.1% in 2004-06 to 3% in 2017, it still has much to do in terms of achieving complete food security owing to its exposure to water scarcity, climate change, hot and arid climate.

Gaps and challenges

With around [9.2 percent of the world population](#) (or slightly more than 700 million people) facing severe levels of food insecurity in 2018, it is becoming necessary to create innovative methods to ensure food security. They have had to tackle issues relating to reductions in the quantity of food consumed to the extent that they have possibly experienced hunger.

The major difficulties faced by UAE in providing food security are natural. Shrinking freshwater resources, rising temperatures and land desertification are some of the major natural threats posed to the country.

UAE can be divided into mountainous areas in the northeast, sandy desert areas in interiors and marine and coastal areas on the west and east. The reduction in the availability of water resources, irrigation and arable land are constantly causing serious concerns for food security in the country over the years.

Countries and territories with water resources of less than 500 m³/inhabitant per year

Country	Internal renewable water resources/ inhabitant/year		Total renewable water resources/ inhabitant/year	
	1995	2005	1995	2005
	(m ³)			
Bahrain	7	6	206	160
Jordan	124	120	161	164
Kuwait	0	0	11	7
Occupied Palestinian Territory	310	219	320	226
Qatar	93	69	96	71
Saudi Arabia	134	98	134	98
Syrian Arab Republic	477	375	1 791	882
United Arab Emirates	79	33	79	33
Yemen	283	100	283	100

Source: Aqustat Survey by Food and Agriculture Organization, United Nations

Initiatives & Impact

“Our goal is clear: to build an economy that protects the environment and an environment that supports the growth of the economy.”

HIS HIGHNESS SHEIKH MOHAMMED BIN RASHID AL MAKTOUM
Vice President and Prime Minister of the United Arab Emirates
Ruler of Dubai

[Global Food Security Index \(GFSI\)](#) 2018 ranks UAE at 113th position in Natural Resources and Resilience. Despite this rank, UAE still features in the 4th position worldwide for Affordability of Food and within top 50 countries of the world for food quality, safety and availability. Overall, the Global Food Security Index ranks UAE in the 31st position worldwide.

The UAE government has setup various strategic goals to ensure food security that focus on:

- Relevant knowledge of the domestic consumption volume
- Monitoring the production capacity
- Maintaining the processing and nutritional needs.

The UAE has setup a number of legislative bodies to monitor and ensure that the goals of food security are achieved. Among them are:

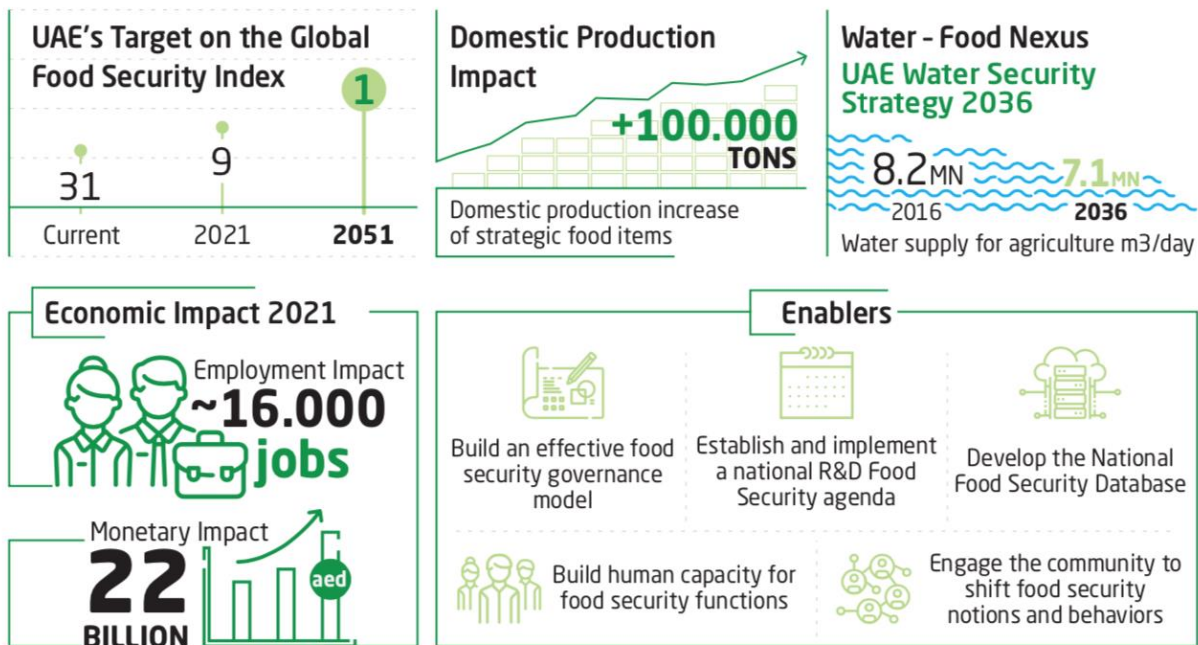
- [The Abu Dhabi Environment Agency](#)
- [Ministry of Climate Change and Environment](#)
- [Food Security Center Abu Dhabi](#)
- [Abu Dhabi Agriculture & Food Safety Authority.](#)

Strategies are set in place to ensure a sustainable environment in the future along with effective actions taken to combat the natural challenges faced due to water scarcity and desertification. Important among them are:

- [National Food Security Strategy 2051](#)
- [UAE Water Security Strategy 2036](#)
- [UAE Green Growth Strategy.](#)

National Food Security Strategy 2051

The [National Food Security Strategy 2051](#) aims to make UAE a world-leading hub in innovation-driven food security. The strategy aims to make UAE a hub for innovation-driven food safety globally.



Source: National Food Security Strategy Report

The UAE Water Security Strategy 2036

The UAE Water Security Strategy 2036 aims to ensure sustainability and continuous access to water during normal and emergency conditions. This way it will contribute to the prosperity and progress of society and sustaining the growth of the national economy. It targets at a set of KPIs that aims at a:

- 21% reduction in total demand for water resources
- 69% increase in water productivity
- Reduction of water scarcity to 3 degrees
- 95% increase in the reuse rate of treated wastewater.

The three strategic action programs of the UAE Water Security Strategy 2036 to address all high priority risks related to water consumption are:

- Water Demand Management Program
 - Promote environmental and economic sustainability in urban water consumption
 - Reduce the loss in the water network

- Rationalize individual consumption
- Reduce the demand for desalinated water
- Raise the efficiency of water use in agriculture
- Reduce pressure on groundwater used in agriculture.
- Water Supply Management Program
 - Provide future water needs sustainably
 - Increase the use of membrane desalination technologies
 - Increase use of renewable energy sources
 - Expand the use of treated wastewater
 - Promote water harvesting
 - Reduce groundwater extraction.
- Emergency Water Production and Distribution Program
 - Ensure effective prevention of water emergencies
 - Ensure immediate response to water emergencies.

[The UAE Green Growth Strategy](#)

Launched by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, in January 2012, the [UAE Green Growth Strategy](#) is a long-term national initiative to build the green economy of the UAE under the slogan 'A Green Economy for Sustainable Development'. Through this initiative, UAE shows commitment to lead the world in the area of sustainable development.

There are possible risks of food shortages and crises that may need to be tackled as weather events become extreme creating shortage in natural resources. The UAE Green Growth Strategy focuses on creating sustainable solutions to handle these issues.

In addition, there is the [Global Green Growth Institute](#) (GGGI) which supports and works with 28 member countries to create opportunities for innovation in agriculture and

mitigate risks of climate change to create an ecosystem that is replete with sustainable food production. UAE is one of the founding members of GGGI and plays an active role in sharing information and resources for green methods to be used in agri-food systems in the region.

Agriculture & Aquaculture

Agriculture is a huge challenge in UAE owing to its geographical location and the natural challenges faced by the country. The UAE continues to make outstanding efforts over the years to overcome these challenges. Strategies aimed at optimal utilization of the cultivated land and the quality of local produce enhanced by innovative practices and solutions such as hydroponics, organic farming and combination of aquaculture help UAE to achieve food diversity and security to an extent.

The Ministry of Climate Change and Environment has been constantly promoting projects in agricultural production by:

- Providing agricultural requirements like highly productive seeds, compound fertilizers, soil conditioners, organic seeds and farming supplies, equipment used for water testing and irrigation purposes.
- Raising awareness about adopting modern agricultural methods that preserve the country's water and soil resources.
- Introducing a number of modern technologies related to hydroponic farming, ensuring that the farmers keep up with the latest developments in hydroponic and organic farming methods
- Signing [strategic MOUs](#) to support local farming and production through:
 - The Khalifa Fund for Enterprise Development to support farmers and aquaculture projects
 - The Sharjah Foundation to support pioneering farmers, beekeepers and fishermen
 - The Mohammed Bin Rashid Establishment for SME Development to encourage entrepreneurship of farmers, beekeepers and fishermen

- ANHB General Trading Company to support and develop the honey-bee sector in the UAE
- Lulu Group International to promote the marketing of UAE agricultural products
- Union Cooperative Association for endorsement and promotion of the organic product range along with regulation of hydroponic products
- Majid Al Futtaim Hypermarkets LLC for the marketing of local agricultural products.

A joint effort between the Abu Dhabi Food Security Center along with [Alliance Members](#) such as the Abu Dhabi Farmers Service Centre, Abu Dhabi Fund for Development and other members have contributed to a strengthened public-private partnership in tackling issues relating to food security along with an aim of an enhanced sense of corporate responsibility.

Aquaculture involves cultivating freshwater and saltwater organisms under controlled conditions. It is in contrast with commercial fishing, which is the harvesting of wild fish. UAE has shown constant interest in marine resources and the preservation of its natural habitats. Aquaculture is currently one of the pillars of economic, social and environmental development worldwide as it plays a pivotal role in achieving self-sufficiency and meeting human protein needs at lower costs in a relatively shorter period than other animal protein products. [According to FAO](#), aquaculture products represent around 50% of global fish consumption in 2018.

Aquaculture in UAE has always been an area of interest with establishment of the Marine Environment Research Department in the early 1980s to promote food security and sustainable marine development in the UAE. The Sheikh Khalifa Marine Research Center, established in 2014, consists of several facilities including an integrated closed hatchery with state-of-the-art technologies used globally with a capacity of 10 million fingerlings of local fish annually. This achievement will play a major role in the development and promotion of aquaculture technology in the UAE and the region.

The country's aquaculture industry is still in its initial stages with a total production of 1,239.7 tons in 2016. UAE has formulated an [integrated regulatory framework for the aquaculture sector](#) in the form of a detailed manual which includes the most important aspects of the law such as the general conditions for aquaculture farms, occupational health and safety requirements in aquaculture farms and aquaculture products' quality and safety framework. The framework is expected to contribute to achieving the objectives of the sector and strengthening the aquaculture industry to create new investment opportunities.

In line with achieving the SDG 2 of achieving food security, the Khalifa Fund for Enterprise Development launched the [Ziraai programme](#) which focused on providing training and marketing services to support and encourage citizens to consider investing in and developing the agricultural sector.

In an effort to secure food supplies and safeguard against market fluctuations, the government also has been investing not only in agriculture projects abroad but also inviting investors to innovate agricultural practices in UAE by announcing a 100% ownership for foreign investments in UAE for agriculture.

The UAE Food Bank

The [Mohammed Bin Rashid Al Maktoum Global Initiatives](#) (MBRGI) launched the [UAE Food Bank](#), a non-profit charitable organization in 2017. The UAE Food Bank aims to create a solid process which will ensure that the excess fresh food from hotels, restaurants and supermarkets will be efficiently and hygienically collected, stored and distributed to the needy. This will vastly reduce the food wastage which currently amounts to AED 13 billion annually in the UAE. Monitored by the Dubai Municipality, UAE Food Bank also works with a network of local, regional and international humanitarian organizations to ensure that the food is received by the needy.

Global Initiatives & Impact

To take action after the 2007-2008 food price crisis, UAE began to buy/lease land abroad, mainly in east Africa, in order to sidestep embargoes placed by traditional exporters. Implemented through support of private agri-businesses and direct government contracts, these measures ensured supply in crisis situations and increased food supply by giving access to food production bases.

UAE has teamed with the [FAO](#) to help the development of rural women in Liberia. The UAE is funding USD 4 million to provide improved and sustainable poultry and vegetable production.

Food aid plays an important role for UAE. Since 2015, UAE has allocated \$1.74 billion for food aid. Contributions made to Egypt have resulted in creation of wheat silos making an impact in lowering the food costs in Egypt and add to its ability in storing wheat and preventing waste.

Around AED 1.74 billion was contributed as a commodity aid supporting food aid and food security programs in Yemen, in response to the [United Nations 2018 Yemen Humanitarian Response Plan](#) (YHRP).

Conclusion

The UAE is making great strides towards achieving food security and ensuring a sustainable agriculture sector despite the various natural challenges it faces. It is the primary goal of the UAE to ensure easy access to healthy, nutritious and safe food to all its citizens and residents.

The various measures taken by the government with a long-term vision of creating a sustainable environment for the future generations strengthen the commitment of the UAE's leadership in food security.

*“The goals are clear, the road is paved and the clock ticks; there is no place for hesitation.
There are many who talk, we accomplish.”*

HIS HIGHNESS SHEIKH MOHAMMED BIN RASHID AL MAKTOUM
Vice President and Prime Minister of the United Arab Emirates
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