

The Sustainable Food Security Challenge in the Arab World amid International Conflicts: A Case Study of the Gulf Cooperation Council Countries with a Focus on the United Arab Emirates



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Abstract:

According to recent data, the Arab food gap reached around \$35.3 billion in 2022, with grains being a major vulnerability, accounting for 47.8% of the total gap value. In 2022, Arab countries' grain imports amounted to \$20.8 billion, with wheat leading the list at just over \$9 billion.

In light of this context, this intervention seeks to illustrate the reality and challenges of Arab food security amid current international conflicts, using the Gulf Cooperation Council (GCC) countries as a model, with a specific focus on the United Arab Emirates. It aims to provide suggestions and solutions. These developments have led some to redefine national security beyond the traditional military concept. The food security challenge has redefined national security once again, highlighting the ability to provide sustainable and secure food as its essence. This foundation extends beyond national borders to encompass entire regions.

Keywords: Climate Change; Food Gap; Self-Sufficiency; Food Security; Sustainable Development 2030.

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Introduction:

The issue of food security, regardless of its historical nomenclature, has been a fundamental concern that has captured human thought and attention. With the advancement of civilization and continuous population growth, the importance of advanced, studied, planned, and strategic agricultural development emerged as a cornerstone of food security. Food security holds a significant and advanced position on the agendas of various countries worldwide, aiming to achieve self-sufficiency despite numerous challenges arising from escalating problems, crises, pandemics, and conflicts. By the year 2050, it will be necessary to provide adequate nourishment for 10 billion people, despite the impacts of climate change. To achieve this goal, it is imperative to reconsider our agricultural and food systems and support sustainable rural development.

Food security and production efficiency are among the most critical challenges facing the Arab world today. The need to provide safe, healthy, and nutrient-rich food for the population of the Arab region is increasing, given the growing population and the climatic changes affecting agricultural and livestock production. According to the Food and Agriculture Organization (FAO) data, the ten largest producers of primary agricultural crops in 2021 did not include any Arab country. Similarly, none of the top ten food-exporting countries globally were Arab, reflecting the negative impact on Arab food security. While numerous economic reports affirm that Arab countries have been facing a "food gap" for years, other reports reveal that the economic consequences of this gap amounted to approximately \$35.3 billion in 2020. Grains are a significant vulnerability for Arab countries, constituting "47.8% of the total value of that gap." Arab countries' grain imports reached \$20.8 billion in 2020, with wheat leading the list at over \$9 billion.

In light of this context, this intervention aims to illustrate the reality and challenges of Arab food security amid current international conflicts, using the Gulf Cooperation Council (GCC) countries as a model, with a specific focus on the United Arab Emirates. It aims to provide suggestions and solutions. These developments have led some to redefine national security beyond the traditional military concept. The food security challenge has redefined national security once again, highlighting the ability to provide sustainable and secure food as its essence. This foundation extends beyond national borders to encompass entire regions.

Study problem:

The problem of this study can be formulated in the following main question:

What is the current reality and challenges of food security in the Arab world amidst ongoing international conflicts? Gulf Cooperation Council (GCC) countries as a model, with a focus on the United Arab Emirates?.

Study importance:

The significance of this topic lies in its relevance to the current circumstances marked by the spread of the COVID-19 pandemic and the Ukrainian crisis. This study aims to provide a theoretical framework and analysis of information related to food security. It seeks to explore its role and importance in overcoming the food crisis faced by many countries. Additionally, it aims to understand the dimensions of food security and its importance, along with identifying the major challenges that Arab food security faces and exploring ways to achieve it amidst crises and disasters.

Study objectives:

This study aims to:

- Identify key obstacles hindering global food security.
- Identify the most important indicators used to measure global food security.
- Attempt to analyze the Arab Food Security Report and highlight the policies adopted to address or eliminate these obstacles to achieve international food security.

Study Structure:

- Different concepts related to food security.
- The implications of the COVID-19 pandemic on economic activities and its impact on food security.
- The global status of food security and nutrition.
- The evolution of Arab food security – Gulf Cooperation Council (GCC) countries.
- The experience of the United Arab Emirates in achieving food security The National Food Security Strategy 2051.

1. Different concepts related to food security

a. What do we mean by food security?

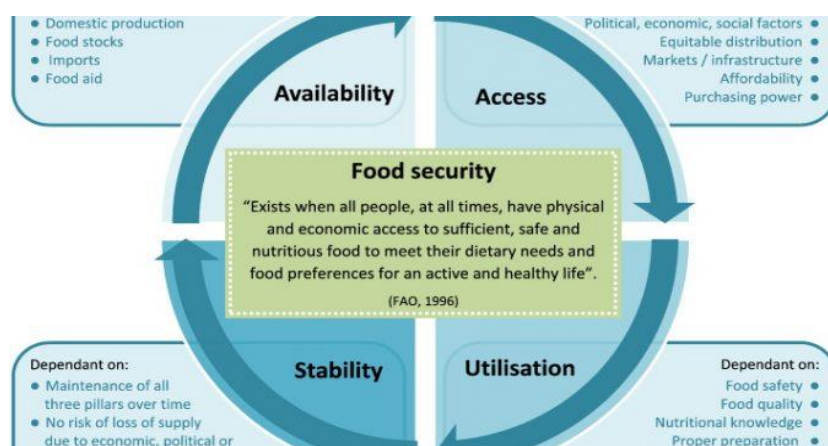
The term food security broadly refers to the production of food within a single country that meets or exceeds local demand. This is synonymous with complete self-sufficiency and is also known as self-food security. However, this broad absolute definition of food security is considered unrealistic, as it overlooks the potential for a country or entity to benefit from international trade based on specialization, division of labor, and exploiting relative advantages. According to the definition provided by the Food and Agriculture Organization (FAO), food security is defined as "ensuring that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life." At this level, it becomes evident that the qualitative aspect of food, in addition to the

quantitative aspect, is essential, along with the notion of continuity, which implies sustainability. This means that the issue is not just reactive responses to a crisis (Amin, 2022).

This definition outlines four pillars of food security, which are:

- The ability to obtain food financially, economically, and socially.
- The availability of food.
- The quality of products in terms of both health and nutrition.
- Consistency in the ability to access and the availability of food throughout the year, along with its quality.

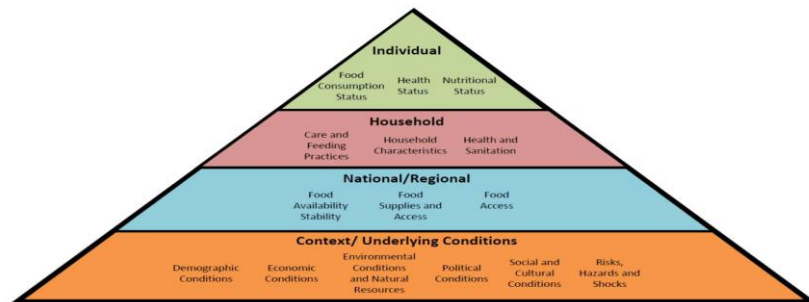
- **Figure 01: Components of Food Security**



Source: (Wagle, 2018)

At each level, food security is influenced by a wide range of factors, including general issues such as population size, economy, and environment, as well as more specific issues such as labor, access to water services, sanitation, availability and quality of healthcare services, and the impact of local and global events, shocks, risks, and the quality of logistical performance/infrastructure, among others (United Nations, 2022).

.Figure 02: Levels of Food Security



Source: (Gibson, 2012.p24)

b. Concepts Related to Food Security

Concept of Food Self-Sufficiency: Food self-sufficiency refers to the ability to achieve complete self-reliance on internal resources and capacities in producing all the dietary needs of the local community.

Food Safety: The world started to define relative food security from the mid-1980s due to the predominantly increased use of chemicals in modern agriculture. However, the increased agricultural productivity through this method raised many concerns among consumers, leading to discussions about a safer way to increase productivity for human health, such as alternative agriculture or organic farming. (AIDA, 2020.p55).

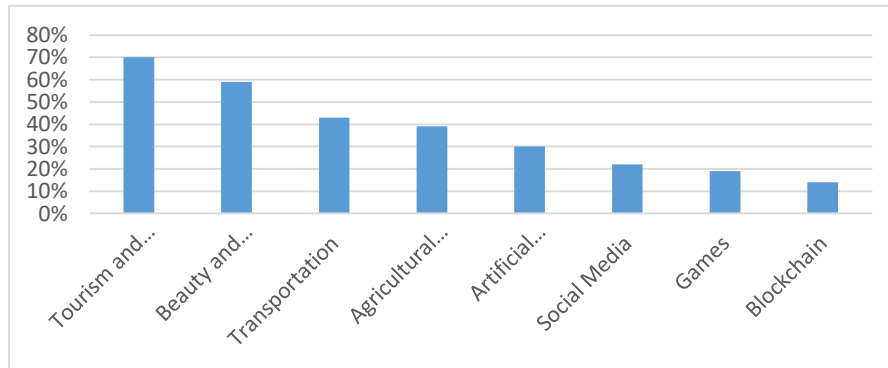
Organic Farming: Organic farming is a production system that avoids or excludes industrially manufactured fertilizers, pesticides, growth regulators, and animal feed additives.

Agricultural Intensification: Agricultural intensification is defined as increasing the yield from resource use. It is known that the limiting factors for agricultural expansion are land and water, so agricultural intensification is achieved by maximizing production per unit area of land or per cubic meter of water (Amine, 2022.p12).

2. Implications of the COVID-19 Pandemic on Economic Activities and Its Impact on Food Security

Estimates of international institutions regarding the magnitude of losses to the global economy due to this crisis varied. Bloomberg estimated that the crisis led to losses of \$2.7 trillion, while the Asian Development Bank estimated losses ranging from \$77 billion to \$347 billion. (AOAD, 2020.p29).

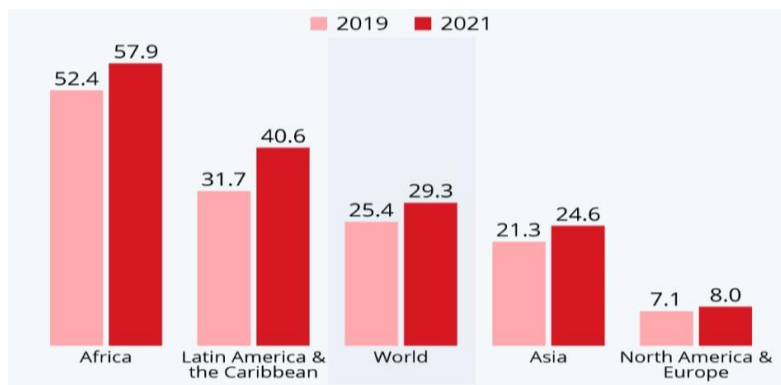
Figure 03: Level of Profit Decline in Specific Sectors during the Pandemic (2019-2020)



Source: (McCarthy, 2020)

The COVID-19 pandemic and the measures taken to combat it have had one of the most destructive impacts on food security and nutrition worldwide in recent times. It has had multiple effects on food systems and the channels through which food systems affect dietary patterns, including the ability to afford healthy dietary patterns. The number of people suffering from chronic hunger in the world, measured by the prevalence of undernutrition, increased to 161 million people in 2020. This is the largest increase recorded in one year in decades. Additionally, by the end of 2020, at least 155 million people suffered from acute food insecurity. (UNFAO, 2021).

Figure 04: COVID-19 Pandemic and Its Contribution to the Increase in Global Hunger

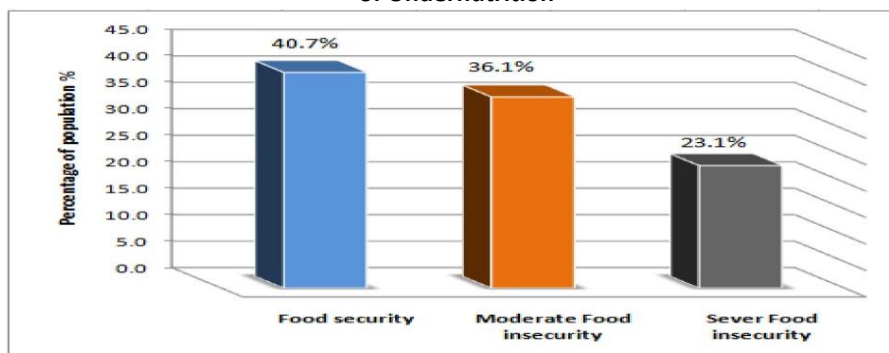


Source: (Armstrong, 2022)

The COVID-19 pandemic and the accompanying measures dealt a severe blow to global food security and nutrition in recent times. They had multiple effects on food systems and dietary patterns, including the ability to afford healthy dietary

patterns, food production-supporting systems, food supply chains, food environments, and consumer behavior.

Figure 05: Impact of COVID-19 Pandemic on Food Security through the Indicator of Undernutrition

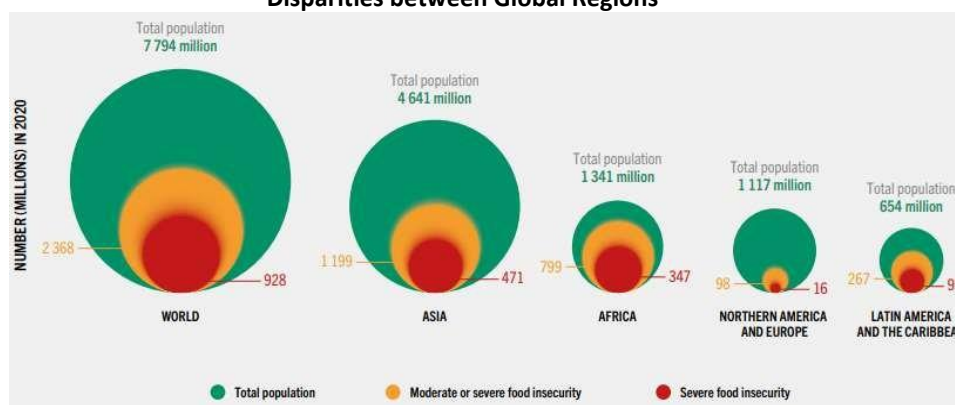


Source: (Elsahoryi, 2020.p45)

3. The Global Situation of Food Security and Nutrition

Since the Food and Agriculture Organization began collecting data on the prevalence of food insecurity in 2014, the rate of moderate or severe food insecurity has been slowly increasing on a global level. It rose from 22.6 percent in 2014 to 26.6 percent in 2019. In 2020, the year when the COVID-19 pandemic spread across the world, the situation further escalated (World Bank, 2022).

Figure 06: Variation and Distribution of Food Insecurity by Severity, Significant Disparities between Global Regions



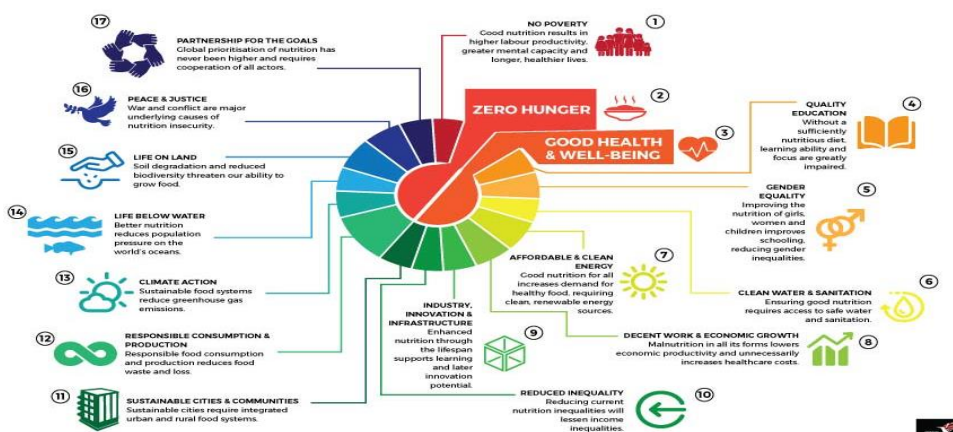
Source: (Rahimi, 2022.p56)

Around 40 percent of these individuals, approximately 11.9 percent of the global population or about 928 million people, experienced severe levels of food insecurity, indicating that they had run out of food. The increase in the prevalence of severe food insecurity between 2019 and 2020 also equaled the total increase

recorded between 2014 and 2019, where approximately 148 million additional people suffered from severe food insecurity in 2020.

Out of the 2.37 billion people suffering from food insecurity, half (1.2 billion) live in Asia, a third (799 million) in Africa, and 11 percent (267 million) in Latin America and the Caribbean. The figure also illustrates disparities in population distribution among regions based on the severity of food insecurity. Within regions, significant disparities in regional sub-levels of food insecurity exist. In Africa, for example, the rate of moderate or severe food insecurity increased significantly from 54.2 percent in 2019 to 68.3 percent in 2020 in the Western sub-region, surpassing the level recorded in the Eastern region (65.3 percent), where the increase was smaller. (World Bank, 2022).

Figure 07: Challenge to Achieve Global Nutrition Goals 2025-2030



Source: (UNFAO, 2021)

4. Evolution of Food Security in the Arab Region: Gulf Cooperation Council (GCC) Countries

a. Evolution of Food Security in the Arab Region

According to a report jointly issued by the United Nations Economic and Social Commission for Western Asia (ESCWA) and the United Nations Food and Agriculture Organization (FAO), titled "Arab Horizon 2030: Prospects for Enhancing Food Security in the Arab Region," the Arab world will continue to face the central challenge of food import dependency even beyond the year 2030 (ESCWA, 2020).

b. National Food Supply Sufficiency

National capacity to distribute food and efforts to expand agricultural and food production are measured through the Food Availability Index, which consists

of five indicators: Food Supply Sufficiency, Public Expenditure on Agricultural Research and Development, Agricultural Infrastructure, Agricultural Production Variability, and Risks of Political Instability (Timothy, 2011.p44).

The average Food Availability Index score in the Arab region in 2021, represented by fourteen countries, was approximately 54.6, which is lower than the global average estimated at around 56.7. The table indicates a decline in the index between 2020 and 2021 at both international and Arab levels. (ADAO , 2021.p12).

Table 01: Food Availability Index Scores in Arab Countries during the Period (2019-2021)

Countries	2019	2020	2021	Change between 2020 and 2021
Egypt	74,3	62,8	60	-4,5
Saudi Arabia	70,7	73	67,8	-7,1
Qatar	69,5	70,7	74,4	5,2
Kuwait	60	68,3	72,3	5,9
The UAE	66,8	66,5	71,3	7,2
Oman	63,9	59,1	57,3	-3
Bahrain	56,2	56,8	67,5	18,8
Tunisia	59,6	56,7	54	4,8
Algeria	59	55,7	58	4,1
Morocco	51,9	51,4	51,8	0,8
Jordan	51,7	48,2	55,2	14,5
Syria	42,4	41,3	30,1	-27,1
Sudan	37,5	30,8	31,6	2,6
Yemen	27,3	27,5	27,6	0,4
The Arab world	56,5	55,8	54,6	-2,2
the world	56,85	57,32	56,7	-1,1

Source: (AOAD, 2022.p55)

c. Food Accessibility

Arab countries import approximately 63.5% of their wheat needs, 75% of corn, which is a major component for livestock feed for red meat and poultry production, 55% of rice, 65% of sugar, and 55% of vegetable oils, according to the Arab Food Security Report issued by the Arab Organization for Agricultural Development.

World Bank statistics for 2021 show that the average annual growth rate of per capita income in the Arab region was negative in 2019 and 2020, but improved to about 1.6% in 2021.

Table 02: Per Capita Share of Agricultural Gross Domestic Product during the Period 2021-2015 in Current US Dollars

	2015	2016	2017	2018	2019	2020	2021
Saudi Arabia	553,2	545,6	622,8	519,16	550,3	568,1	578,4
Algeria	493,4	478,8	492,9	487,55	477,1	475,5	480,1
Morocco	429,7	457,8	399,5	400,44	429	419,9	416.4
The UAE	289,9	303,8	310,6	315,09	330,8	340,9	349,2

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Mauritania	323,6	327,1	258,6	321,76	303,4	283,9	282
Egypt	393,1	374,7	232,8	280,17	333,5	285,4	299,7
Kuwait	234,6	211,4	218,5	149,33	221,5	216,7	225,9
Tunisia	382	303,1	311,8	363,12	235,6	201,5	266,7
Iraq	195	178,5	170,9	140,22	181,3	174,1	175,3
Yemen	170,9	167,8	158,3	152,58	165,7	161,9	160,1
Qatar	106	112,7	121,8	120,69	113,5	118,2	121,7
Bahrain	70,1	73,5	77	69,38	83,1	86,4	86,8
Syria	75,7	60,1	74,4	199,39	70,9	70,6	70,8
Somalia	61,9	63	65,5	54,73	63,5	64,6	60,9
Djibouti	33,8	38,5	38,4	38,54	34,5	35,7	36,2
The Arab world	373,9	336,3	286,7	291,09	332,3	306,1	309,8
the world	402,2	403,4	424,6	445	410,1	416,8	424

Source: (AOAD, 2022.p55)

d. Malnutrition

The global estimate of malnourished individuals reached approximately 925 million people in 2020. In Arab countries, malnutrition is linked to various factors that have impacted nutritional conditions, such as price increases, natural disasters, and instability. In recent years, hunger and malnutrition have increased in many Arab countries facing instability, unfavorable natural conditions, drought waves, and increased desertification. Malnutrition in the Arab world can be monitored through rates of undernutrition.

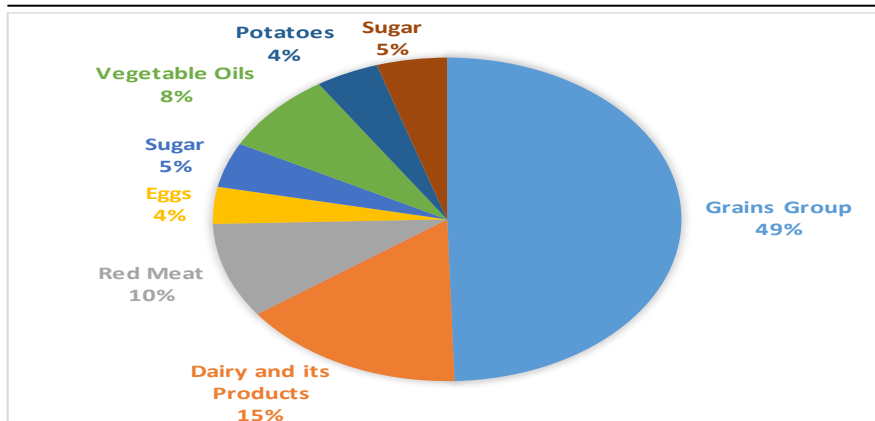
Table 03: Malnutrition and the Hunger Index in Some Arab Countries (2011-2021)

Countries	The proportion of the population undernourished		Hunger index (0-100)			change in the hunger index since 2009
	2011-2013	2018-2021	2012	2020	2021	
Jordan	8	8,4	8,5	8,3	8,3	-2,5
Tunisia	3,1	2,4	7	6	6	-4,3
Algeria	3,5	2,6	8,9	6,9	6,9	-7,6
Djibouti	20,9	16,3	35,4	27,4	2,4	-16,9
Saudi Arabia	5,1	3,9	8,2	6,8	6,8	-4,2
Somalia	77,6	62,2	65,1	50,8	50,8	-7,3
Iraq	36,8	37,2	27,5	22,8	22,8	-1,1
Egypt	5,1	5	15,2	12,5	12,5	-3,8
Mauritania	7,1	8,5	23,6	22,6	22,6	-9,3
Yemen	31,8	45,8	38,8	38,4	38,4	4,1

Source: (Food Policy Research Institute, 2022)

Figure 08: Contribution Percentage of Major Commodity Groups to the Arab Food Gap in 2021

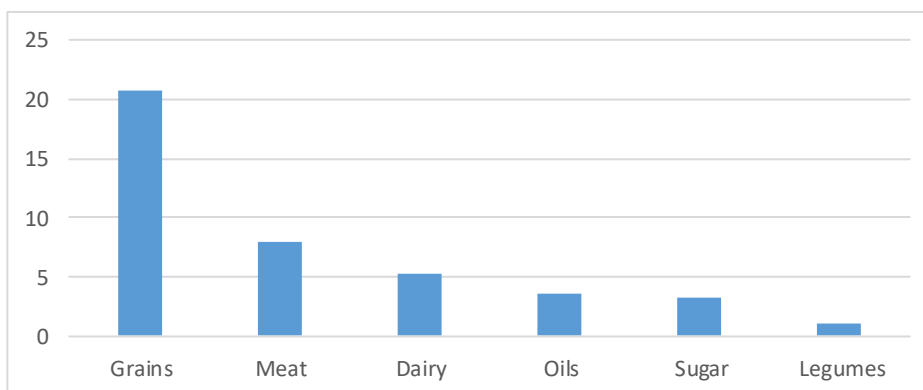
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Source: (AOAD, 2022)

According to Figure 9, the average total value of the deficit in essential food commodities in Arab countries is approximately \$42 billion USD. The food grain gap is about \$20.8 billion USD, which is the highest among other food commodities. Meanwhile, the meat deficit is around \$8 billion USD. On the other hand, Arab countries face a total deficit in pulses valued at \$1.1 billion USD, in sugar at \$3.2 billion USD, and in oils and dairy products at \$3.6 and \$5.3 billion USD respectively.

Figure 9: Value of the Food Gap in Basic Commodities in the Arab World (billion USD)



Source: (AOAD, 2022)

Table 04: Food Security Indicators in the Arab World during the Years 2020-2021

Index	The Arab world		
	2019	2020	2021
General index	61,4	60,4	60,6

Availability of food	56,5	55,8	54,6
Access to food	67,6	66,9	67,9
Food security and safety	68	69,5	68
Natural resources and resilience	50,9	42,1	48,7

Source: (AOAD, 2022)

e. Food Security Situation in the Gulf Cooperation Council (GCC) Countries

These countries heavily rely on global markets to meet their basic food needs, importing around 12% of these requirements. This is to address the widening gap between production and consumption.

Table 05: Development of Food Imports' Value for GCC Countries 2010-2020

	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	Total
2010	0,7	2,3	2,1	1,3	16,8	3,6	25,8
2011	0,8	2,5	2,1	1,3	17,9	3,8	27,5
2012	0,8	2,7	2,3	1,4	19	4,1	27,2
2013	0,9	3	2,4	1,6	20,3	4,4	29,5
2014	1	3,4	2,9	1,9	21,7	5,1	33,7
2015	1,1	3,6	3,3	2,1	24,5	5,5	36,3
2016	1,2	3,9	3,1	2,3	27,2	6,1	39,6
2017	1,3	4,2	3,5	2,5	29	6,6	42,6
2018	1,4	4,6	4,9	2,8	30,9	7,2	45,9
2019	1,5	4,9	4,3	3,1	33	7,8	49,35
2020	1,6	5,3	4,8	3,3	35,2	8,4	53,1

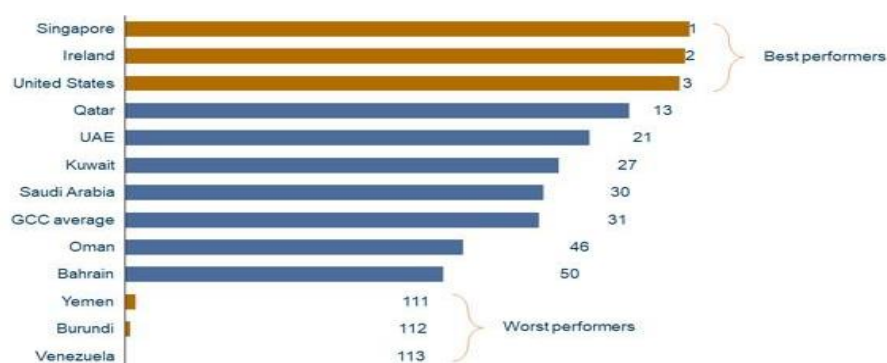
Source: (Ibrahim, 2021)

The table shows an increase in the cost of food imports in GCC countries from \$25.8 billion in 2010 to \$53.1 billion in 2020. These numbers are likely to rise further due to the continuous population growth in the region. According to a report by the United Nations Economic and Social Commission for Western Asia (ESCWA) and the Food and Agriculture Organization of the United Nations (FAO) titled "Arab Horizon 2030: Prospects for Enhancing Food Security in the Arab Region," dependence on food imports will remain a central challenge for the Arab world even after 2030.

Despite the natural constraints and negative consequences of the COVID-19 pandemic, GCC countries have demonstrated significant capability and high efficiency in addressing food security challenges. According to the Global Food Security Index developed by the Economic Intelligence Unit, GCC countries rank 31st globally. This index provides an in-depth analysis of how the key pillars of food

security, including food availability, affordability, quality, and safety, affect food security on a global scale. GCC countries are among the highest ranked globally and have maintained their positions for several years.

Figure 10: Ranking of GCC Countries According to the Global Food Security Index 2019



Source : (GPCA, 2021)

The economic support packages provided by GCC governments to the agricultural sector have resulted in diverse agricultural successes and the achievement of some self-sufficiency in products such as tomatoes, cucumbers, and potatoes. Meanwhile, sustainable agricultural development plans continue to be implemented for the coming years. For instance, Qatar has allocated an annual support of 70 million Qatari riyals as part of a five-year plan to encourage agricultural, animal, and fish production.

Similarly, other GCC countries have adopted agricultural support policies by allocating support packages to the agricultural sector in line with governmental efforts to mitigate the economic impacts of the COVID-19 pandemic, ensure the continuity of agricultural activities, and contribute to maintaining food supply chains and the abundance of agricultural products.

The State of Kuwait has proposed the establishment of a regional food security network for the six GCC countries to ensure sufficient food supply, meet food needs, and address food shortages during times of crises.

5. The Experience of the United Arab Emirates in Achieving Food Security: "National Food Security Strategy 2051"

Because food security has become a crucial issue, countries must strive to achieve self-sufficiency in food production. The Cabinet of the United Arab Emirates announced the appointment of a Minister of State for Food and Water Security to conduct research, develop plans, and implement modern technologies in this field. Thus, the UAE takes the lead in considering food security, being the first country to appoint a Minister of State for Food and Water Security.

a. National Food Security Strategy 2051

In 2018, the UAE government launched the National Food Security Strategy during the second session of the Annual Meetings of the UAE Government - 2018. The strategy aims to develop a comprehensive national system based on enabling sustainable food production. It identifies the components of the national food basket, which includes 18 main food items, based on three key criteria:

- Understanding the volume of local consumption for essential products.
- Capacity for production and manufacturing.
- Nutritional needs.

The strategy encompasses 38 major short-term and long-term initiatives within the vision of 2051, along with a 2021 action plan. It operates through five strategic directions focusing on:

- Facilitating global food trade.
- Diversifying food import sources.
- Establishing alternative supply plans, including three to five sources for each major food category.

Key Objectives Include:

- To make the UAE the world's best in the Global Food Security Index by 2051 and among the top 10 countries by 2021.
- Developing sustainable local production empowered by technology across the entire value chain and integrating smart techniques in food production.
- Activating initiatives to enhance research and development capabilities in the food sector.
- Developing a program for aquaculture.
- Streamlining business practices within the agricultural production sector, facilitating agricultural contracting procedures, and supporting financing systems for agricultural and food activities.
- Aligning local agricultural fees with international counterparts to enhance local production.
- Encouraging consumption of fresh local products.
- Reducing food loss and waste through an integrated system to reduce food waste within supply chains.
- Establishing multiple food banks across the country.
- Ensuring food safety and improving nutritional systems.
- Creating training programs focused on national food safety, enhancing safety and prevention measures in commercial food activities.

b. Establishment of the Emirates Food Security Council

The Cabinet approved the formation of the Emirates Food Security Council to enhance the governance system of food security across various entities in the

country and achieve the goals of the National Food Security Strategy. The scope of the council's work includes:

- Overseeing the implementation of the strategy's plans and objectives.
- Reviewing legislation related to food before federal approval.
- Proposing systems, legislation, and policies to enhance the country's food security.
- Setting the investment agenda for the food system within and outside the country.
- Studying risks related to global challenges' impact on food security, such as climate change, drought, and political stability of food-exporting countries.
- Developing comprehensive and diverse supply initiatives for food products, including logistics, infrastructure, competitiveness, quality, export, import, and database development.
- Providing periodic reports to the Cabinet detailing progress, initiatives, and projects supporting the council's objectives.
- Monitoring the Global Food Security Index and identifying programs to help the UAE become one of the top ten countries by 2021 and the first in the index by 2051.

c. National Sustainable Agriculture System

On June 28, 2020, the Cabinet launched the National Sustainable Agriculture System. Its goals are to increase self-sufficiency in targeted agricultural crops by an annual rate of 5%, improve farm economic performance by 10% annually, increase the workforce in the sector by 5% annually, and reduce water usage in production units by 15% annually.

d. Dubai Food Stock Status Platform

In June 2020, Sheikh Mansour bin Mohammed bin Rashid Al Maktoum, the Chairman of Dubai's Crisis and Disaster Management Committee, launched the Dubai Food Stock Status Platform. This platform leverages artificial intelligence and data analytics to quickly assess five crucial food security indicators: supply, stock availability, local production, consumption, and prices for essential commodities in the emirate.

e. Fish Farming Pulse Guide 2020

The Fish Farming Pulse Guide 2020 highlights consumption patterns in the local and global markets, production specifications regarding quality, quantity, and prices, and provides insights for successful investments in aquaculture projects across the UAE's emirates. It also examines the supply and demand system for fish products in the UAE based on current estimates, including consumers' preferences and average prices in various fish markets.

f. Emirates Food Bank

Established in January 2017 as a non-profit organization, the Emirates Food Bank collects surplus food from hotels, restaurants, supermarkets, farms, and more, distributing it to those in need within and outside the UAE through collaboration with local and international humanitarian and charitable institutions. The Emirates Food Bank forms an integrated humanitarian, social, economic, and cultural system for feeding people on local, regional, and global levels.

g. Strategic Stockpiling of Food Commodities in Emergencies and Crises

This initiative aims to regulate the strategic stockpiling of food items in the UAE during emergencies, crises, and disasters, ensuring food sustainability.

h. Food Research Platform

The UAE's Food Security Office launched the Food Research Platform to engage experts in eight promising research areas, sharing their latest findings and publications. The platform aims to meet the diverse needs of stakeholders regarding data and information related to sustainable food production and food security in the UAE.

Priority Research Areas (Food Security Office, 2022):

- **Biotechnology in Agriculture:** A collection of tools including traditional farming methods.
- **Agricultural Waste Recycling:** Involves using soil as sites for processing organic and water waste.
- **Alternative Foods:** Healthy alternatives to conventionally produced food.
- **Energy and Bioresources:** Renewable energy produced from bioresources, including natural sources.
- **Food Supply Chain Technology:** Utilizing technology to enhance product and information exchange within the food supply chain.
- **Internet of Things in Agriculture:** Applying information and communication technology in agriculture for field monitoring and automated irrigation systems.
- **New Agricultural Methods:** Employing current technologies to develop new farming techniques.
- **Robotics:** Using robots and drones in agriculture for weed control, pollination, seed dispersal, harvesting, environmental monitoring, and soil analysis.

i. Accelerators for Agricultural Technology Adoption

With the aim of accelerating the adoption of modern agricultural technologies, the Food and Water Security Office, in collaboration with the UAE Government Accelerators Program, launched 10 innovative initiatives in food security, including:

- Modern Agriculture Financing Framework
- Agricultural Loan Guarantee Program and Supply Chain

- Agricultural Facility Construction Standards
- Unified Agricultural License
- General Food Security Data Framework
- Food Security Data Platform
- Standard Specifications for Fish Farming
- Fish Feed Factory
- Fish Farming Atlas

j. Global Food Security Index

The index is based on three key criteria related to food security: affordability, availability of food, and food quality and safety. The index evaluated 113 countries worldwide. The National Food Security Strategy aims to elevate the UAE's ranking to be among the top 10 countries in the world in the Global Food Security Index by 2021. The UAE has progressed from 31st place in 2018 to 21st place in 2019. This significant advancement reflects the government's efforts to establish the UAE as a global leader in innovative food security.

6. Conclusion

The issue of Arab food security is a matter of Arab life and should not be left to changing circumstances or external factors to dictate. It is essential to strive earnestly to ensure a sustainable Arab food security, with the agricultural sector as its fundamental foundation. This sector serves as a vital avenue for achieving this security, as well as a significant source of income and employment opportunities.

Today, we are in great need of following the footsteps of Prophet Joseph - peace be upon him - by establishing a strong Arab cooperative plan in the agricultural sector, at the very least. This requires a comprehensive and integrated perspective among all Arab nations, aimed at expanding the productive work base, improving productivity, securing food reserves, and optimizing consumption. As an initial step, this requires the development of the capacities and potentials of joint Arab institutions working in the agricultural sector, coupled with the enhancement and coordination of agricultural policies. This encompasses supporting production requirements, agricultural investment, aiding small-scale farmers, improving their productivity, providing necessary small-scale financing, activating marketing, commercial, and regulatory policies, including preferential grain import contracts, price monitoring, and ensuring food security at the household level through food assistance.

Furthermore, promoting a culture of self-reliance and self-sufficiency in essential food commodities is crucial. This can be achieved through joint Arab agricultural projects for the production of strategic food commodities, establishing a strategic

reserve of these commodities, implementing a system for its execution and management, executing long-term programs to enhance the working productivity of small-scale farmers, developing and raising awareness about water usage, providing advisory services, and fostering scientific, technological, and research advancements. All of these steps are pathways towards creating and enhancing Arab economic integration in agriculture, and subsequently achieving the desired Arab economic integration overall.

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