

Achieving the Sustainable Development Goal in Eliminating Hunger, Achieving Food Security & Improved Nutrition, & Promoting Sustainable Agriculture in the Arab World: Reality, Challenges & Solutions

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Abstract: Nutrition and food are among the necessities of human existence; therefore, the second goal of sustainable development was devoted to finding lasting solutions to meet nutritional need. This research came to identify the reality of achieving the eradication of hunger, providing food security and improved nutrition, and promoting sustainable agriculture in the Arab world, with a focus on the overall challenges facing the Arab countries in achieving this goal.

The study found that only a few Arab countries are on the right track to get rid of hunger problems, and with the Covid-19 crisis, which negatively affected the economy in general and farmers and food production in particular the situation worsened. Hence, Arab countries must raise the level of financing and investment in the agricultural sector, shift towards more sustainable agricultural systems, improve the infrastructure of agricultural value chains, and use innovative technology to improve productivity and water use efficiency.

Keywords: Sustainable development; sustainable agriculture; food security; Arab world.

JEL classifications codes: O13 ; Q01.

I- Introduction:

During the last twenty years, as it has become a prerequisite for achieving justice in the distribution of wealth and income between different generations, sustainable development has captured the world's attention. Currently, the sustainability movement is developing new economic and agricultural means that are able to meet the present needs, as well as, provide self-sustainability in the long run, especially that the currently used means in environmental protection programs are no longer feasible.

And in order to address the growing demand for information on small geographic areas to monitor development goals and indicators at the local and community levels, the 2030 Agenda for Sustainable Development found geospatial information and earth observation key methods for tracking progress.

Nowadays, achieving the objectives of the second goal of sustainable development, which is to eradicate hunger, provide food security and improved nutrition, and promote sustainable agriculture, has become a more complex matter by virtue of the negative effects on farms and food production resulting from the outbreak of Covid 19. Knowing that food security in the Arab world was already fragile before the spread of the pandemic, but the latter has contributed to revealing its vulnerability.

The Arab region is highly dependent on food imports, which makes it susceptible to sudden fluctuations in global trade; plus in most Arab countries agricultural productivity is low, as agricultural practices are often unsustainable, which reduces the availability of food in the medium and long term. Moreover, the repercussions of the health crisis on food security have been exacerbated by pre-existing factors such as water scarcity, climate change, rapid population growth and increasing urbanization, along with the expansion of hunger and malnutrition before the pandemic due to the lack of food and the difficulty in obtaining and benefiting from it.

The question of the study:

From the above, the research came to answer the following question: What is the reality of achieving the goal of sustainable development in eliminating hunger, providing food security and improved nutrition, and

promoting sustainable agriculture in the Arab world? Moreover, what are the main challenges that face it?

Hypothesis:

In order to answer the posed problem, the following two hypotheses were formulated:

1. Achieving the second sustainable development goal in eradicating hunger is focused on promoting access to food for all.

2. The destruction of the production's infrastructure, plus the abandonment of agricultural land due to its damage or displacement of its population in the Arab world are considered the major challenges facing the achievement of the sustainable development goal of eliminating hunger and reducing malnutrition.

The Objectif of the study:

This research aims to:

- Clarify the concept of sustainable development and its goal in eradicating hunger, providing food security and improved nutrition, and promoting sustainable agriculture.
- Present the most important indicators that measure the reality of the second goal of sustainable development in the Arab world.
- Highlight the challenges facing the achievement of the second goal of sustainable development in the Arab world.
- Propose the appropriate solutions to meet the challenges to achieve the second goal of sustainable development in the Arab world.

Methodology:

In order to answer the main problem and reach the objectives of this research, we relied upon the descriptive analytical method, in addition to the case study method represented in the case of the Arab world.

II-Sustainable Development and its SecondGoal:

1- The Concept ofSustainable Development:

1.1. What is Sustainable Development?

Over the years, the concept of sustainable development has continued to evolve around the world, and several definitions have been developed for it. The most important and most prevalent of these definitions is the one that described it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (رشماوي، 2018، صفحة 16)

All definitions also agree that sustainable development is a "civilized change aims at upgrading society economically, socially, technologically and culturally, as well as employing all material, natural and human resources in order to achieve the public benefit." (ismail, 2015, p. 42)

Thus, sustainable development takes into account the right of future generations to the natural resources on the planet. It puts the basic needs of human beings in the first place, since one of its priorities is to meet one's needs for food, housing, clothing, the right to work, education, access to health services, and everything related to improving the quality of his/her material life And social development. Whilst it requires that, no one is allowed to take from the land more than he/she gives. (hassen, 2011, p. 4).

1.2. What are Sustainable Development's Dimensions?

Sustainable development has different dimensions, given that it is not based only on the environmental aspect, but also includes the economic and social aspects. As these dimensions are interconnected, overlapping and complementary, they should not be dealt with in isolation from each other, and all of them enshrine the principles and methods of sustainable development, in addition, each of these dimensions consists of a group of elements.

- ✓ The economic dimension: includes the current and future implications and indicators of economic activity on the society that consumes its products. Economic progress is often evaluated in terms of social welfare, and usually many economic policies seek to boost income, and search for efficient production, price stability and achieving a certain level of employment. Economic sustainability also seeks to maximize

the flow of income that can be generated at least to maintain a stock of assets (capital).The economic dimension includes the following aspects:

- The share of consumption of natural resources that should not decrease with time;
 - Reducing income inequality and reducing disparities between the rich and the poor.
- ✓ The social dimension: loads of the social elements of sustainable development can meet in the light of social and economic as well as environmental considerations; that exist in health issues and dealing with population places, or in examining the impact of development on lifestyles. Therefore, sustainable development requires the preservation of the natural, social and human capital that are needed by societies to generate income for sustainability.
- ✓ Environmental dimension:Sustainable development necessitates the protection of the needed natural resources to produce food and fuel, by shielding the soil, land use and fisheries.This dimension of sustainable development means achieving the economic well-being of the present and future generations while preserving the environment, protecting it from pollution and enabling it to provide a standard of living that continues to improve over time.It includes the following elements:
- Preserving water resources by reducing waste and constructing dams to store water and conserve groundwater.
 - Protect the climate from global warming.

It should be noted that in addition to the above, the political and cultural dimension has been added as extra dimensions to sustainable development.

The basic dimensions of sustainable development can be summarized in the following table:

Table 1. The basic dimensions of sustainable development

Economic Dimension	Social Dimension	Environmental Dimension
Sustainable Economic Growth	Distributive Equality	Ecosystems
Capital Efficiency	Social Mobility	Energy
Satisfaction of Basic Needs	Popular share	Biodiversity
Economic Justice	Cultural Diversification	Biological Productivity
	Corporate Sustainability	Adaptability

Source:(العابب، 2011/2010، صفحة 25)

1.3. What are Sustainable Development's Goals?

At the seventieth session of the United Nations General Assembly, member states adopted a new global development agenda called "Transforming Our World: The 2030 Agenda for Sustainable Development," which includes 17 goals to achieve sustainable development. (raed network, p. 2),it has 169 sub-objectives.

Those goals according to(The United Nations, n.d.)are as follows:

- Goal n° 01: No Poverty;
- Goal n° 02: Zero Hunger;
- Goal n° 03: Good Health and Well-being;
- Goal n° 04: Quality Education;
- Goal n° 05: Gender Equality;
- Goal n° 06: Clean Water and Sanitation;
- Goal n° 07: Affordable and Clean Energy;
- Goal n° 08: Decent Work and Economic Growth;
- Goal n° 09: Industry, Innovation and Infrastructure;
- Goal n° 10: Reduced Inequality;
- Goal n° 11: Sustainable Cities and Communities;
- Goal n° 12: Responsible Consumption and Production;
- Goal n° 13: Climate Action;
- Goal n° 14: Life Below Water;

- Goal n° 15: Life On Land;
- Goal n° 16: Peace, Justice, and Strong Institutions;
- Goal n° 17: Partnerships for the Goals.

2- The Second Goal of Sustainable Development:

Countries' dependence on food imports, which makes them vulnerable to fluctuations in global commerce and inequality in trade, not to mention the low agricultural productivity, plus the often-unsustainable agricultural practices, leads to a reduction in the availability of food at an affordable cost both in the medium and long term. In the other hand, water scarcity, climate change and increased urbanization play a major role in exacerbating this situation.

As a result, the rates of hunger and undernourishment continue to rise, especially because of the outbreak of conflicts. Therefore, progress in achieving the second goal of the sustainable development depends on the employment of dedicated and organized investments in sustainable agriculture, besides the extent to which knowledge and technologies are used to increase the productivity of the agricultural sector, and conflicts ending. (ESCWA: Economic and Social Commission for Western Asia, 2020, p. 26) Decision makers must rationally use and manage water, land, technology, and other natural and human resources to produce enough food for all. In this context, it is necessary to raise the level of financing and investment in the agricultural sector in order to achieve the objectives under the relevant sustainable development goals.

Today, achieving the objectives of the second goal has become more complicated than before due to the repercussions of the Covid-19 crisis on the economic level in general and on farmers and food production in particular. Therefore, raising the level of financing and investment in the agricultural and food sector must be accomplished through governmental support and international cooperation; Great and special attention should also be given to small farmers and agricultural enterprises in order to improve productivity in food fabrication (Organisation of Islamic Cooperation, 2021, p. 10).

2.1. Indicators of the second goal of sustainable development:

Many children worldwide suffer from undernourishment, which makes them vulnerable to severe health problems that are primarily manifested in their physical and cognitive development, and this in turn is one of the impeding factors to achieving social and economic development.

The second development goal includes a number of objectives that would contribute significantly to mitigating or eliminating the consequences of hunger, by focusing on enhancing universal access to nutritious food, raising the level of productivity of food manufacturers, and implementing robust and sustainable agricultural practices, furthermore investing in research and technological development in the agriculture field. (Organisation of Islamic Cooperation, 2021, p. 20) The most important indicators of the second goal and everything related to it can be recapitulated in the following table:

Table 2. The Indicators of the 2nd goal of sustainable development

The indicator	Definition	Calculation Method	The objective
2.1.1 Prevalence rate of undernourishment	_____	_____	By 2030, eradicate hunger and ensure that everyone has enough safe and nutritious food throughout the year, especially the poor and vulnerable groups, including infants.
2.1.2 Prevalence rate of food insecurity	_____	_____	
2.2.1 Prevalence rate of stunted growth in children under five	Prevalence of developmental disabilities among children under five (height versus age > standard deviation from the mean child	Survey estimations are based on a standardized methodology using the World Health Organization's Child Growth Standards, While global and regional estimates are based on the	End all forms of malnutrition by 2030, including achieving internationally agreed targets on stunting and wasting in children under five; In addition to addressing the

	developmental standards) of the World Health Organization	methodology described by UNICEF, World Health Organization and World Bank	nutritional needs of adolescent girls, pregnant women and the elderly
2.2.2Prevalence rate of malnutrition among children under five, by type (wasting/overweight)	Prevalence of wasting and overweight among children under five (weight-for-height < +2 standard deviation from average of child growth)		
2.3.1The volume of production per unit of work according to the size categories of the agricultural /pastoral /forestry establishments	_____	_____	rise the agricultural productivity & small-scale food producers' returns, especially women, indigenous people, family farmers, pastoralists & fishers,
2.3.2Average income of small food producers by gender and indigenous status	_____	_____	&guaranteesecurity and equal access to land & other productive resources, inputs & financial services, along with access to markets and opportunities to create value, and access to non-agricultural employment opportunities by 2030
2.4.1Percentage of agricultural area devoted to productive and sustainable agriculture	_____	_____	Ensuring,by 2030, sustainable food production systems, implementing robust agricultural practices that increase productivity and yields, and help

			maintain ecosystems, & enhance resilience to climate change, droughts, floods & other natural disasters, & gradually improve the quality of Land & Soils
2.5.1 Number of plant and animal genetic resources for food and agriculture held in conservation facilities for long or medium -run	_____	_____	Preserving the genetic diversity of seeds, cultivated plants, domestic animals and related wild species, Including banks of diverse seeds and plants that are properly managed at the national, regional and international levels, ensuring access to them and the fair and equitable sharing of benefits arising from the use of genetic resources and related traditional knowledge as agreed internationally
2.5.2 Percentage of local breeds classified as vulnerable or non-vulnerable, or at an unknown level of extinction risk	The indicator shows the proportion of livestock breeds classified as vulnerable, non-vulnerable or at risk of extinction from an unknown danger at a particular time, as well as the trends of those percentages	(Number of local breeds classified as at risk of extinction / Number of local breeds) x 100	
2.a.1 Agricultural Orientation Index for Government Expenditures	It is known as the share of agriculture in government expenditures divided by the share of agriculture in GDP, where agriculture refers to farming, forestry, & fishing	(Share of agricultural activity in government spending / share of agriculture in GDP) where: The share of agricultural activity in government spending = agriculture / total government expenditures' share of agriculture in GDP	Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and animal and plant gene banks, in order to enhance agricultural productive capacity

		Total = agricultural added value / value of GDP	in developing countries, particularly in least developed countries
2.a.2 Total official flows (official development assistance plus other official flows) to the agricultural sector	Total official development assistance and other official flows of the agricultural sector abroad	Total official development assistance and other official flows to the agricultural sector abroad in million dollars	
2.b.1 Agricultural export subventions	_____	_____	Preventing restrictions on trade and correcting distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies, and all export measures of similar effect as mandated by the Doha Development Round
2.c.1 Food Price Paradoxes Index	This indicator determines the fluctuation between abnormally high or low prices, which occurs in food commodity prices over a certain period of time	<p>Step 1: Calculating two compound growth rates on a quarterly & annual basis</p> <p>Step 2: Calculate the weighted mean &S.D. for each of the compound growth rates. In the calculation process, time weights are used to ensure that the most recent price dynamics are not obscured by the past.</p> <p>Step 3: Determine price changes.</p>	Adopt measures to ensure the proper functioning of commodity and derivative markets, & facilitate access to timely market information, Including food reserves, to help reduce the extreme volatility of food

Source: Elaborated by the researchers relying on:

(ESCWA: Economic and Social Commission for Western Asia, 2020, pp. 32-35)
 (General authority for statistics ksa, 2020, pp. 9, 10)
 (ESCWA: Economic and Social Commission for Western Asia, 2021, p. 10)

III-The Second Goal of Sustainable Development in the Arab world:

1. An overview of the potential and the economy of the Arab world:

The area of the Arab world is 13.2 million km², with an estimated rate of 9.6% of the total area of the world. (صندوق النقد العربي، 2021، صفحة ج.) It occupies a distinct geographical position; it represents the connecting point between the three continents Asia, Africa and Europe. It also overlooks three main water surfaces: the Arabian Gulf, the Indian Ocean, the Arabian Sea, the Red Sea, the Mediterranean and its extension on the waters of the Atlantic Ocean.

The Arab world is rich in the diversity of its climatic regions, which leads to a diversity of the agricultural and theeconomic activities. It embodies a good geological arboretum for hydrocarbons, which explains its richness in oil and gas, as well as the production of phosphates, salts and various minerals. (السمك، 2018، الصفحات 16-17.)

It also has a population of 431 million, which is equivalent to 5.5% of the world's population. In 2020, the percentage of the labor force in the Arab world reached 139.8 million, and the unemployment rate was 12.7%. In the same year, the inflation rate increased to about 19.6%, compared to 5.4% in 2019, especially in Sudan, Lebanon, Libya, Syria and Yemen. (United Nations-ESCWA, 2021, p. 43)

By the end of 2020, and due to COVID-19 the stimulus packages amounted to \$235 billion, with the aim of mitigating the pandemic's economic and social effects, especially in light of low oil prices, high debt ratios, budget deficits and closures. Which greatly affected the agricultural and tourism sectors, the need for medical supplies and foodstuffs, and the conditions of instability experienced by many Arab countries. (صندوق النقد العربي، 2021، الصفحات 22-23)

The poverty rate in the Arab countries in 2019 reached 15.8%, and in 2021 it climbed to 26.94%. (صندوق النقد العربي، 2021، صفحة 43، 42.) In addition, due to the rising of commodity prices, rebounding demand and

disrupting supply chains, consumer inflation is expected to remain high, reaching 3.2% in 2022 and 3.4% in 2023.(United Nations-ESCWA, 2021, p. 43)

2. The reality of implementing the second goal of sustainable development in the Arab world:

The land resource is one of the most important determinants of food security for agricultural and livestock production. The rate of arable lands in the Arab world represents 16.4%; however, the cultivated area of it equals 34.1%. In addition, most of the Arab countries depend on rain-fed agriculture. The Arab water resources were estimated in 2019 at about 259.05 billion cubic meters per year, from rainwater, surface and ground water, desalinated water and treated water.

The forests of the Arab countries present 0.94% of the forest area in the world, in some Arab countries, such as Morocco and Sudan; the forestland covers 1/3 of the forage needs. While pastures in the region represent about 11.45% of the world's pastures, where in 2019 livestock was estimated at 8.74% and fisheries accounted for 3.1% of the world's total livestock, and global fish production respectively. (المنظمة العربية للتنمية الزراعية، 2019، الصفحات (14-9)

The food security index for the Arab countries can be presented in the following table, according to the Global Food Security Index (GFSI) for 2021 by The (Economist Impact, n.d.), which was measured across a group of 113 countries in the world, including 14 Arab countries (for which statistics are available). The index is a dynamic quantitative and qualitative benchmark model built of 58 indicators that measure the drivers of food security in the world, taking into account food affordability, availability, quality and safety, natural resources and resilience. According to this index, Qatar ranked first in the Arab world and (24) globally, while Yemen ranked last in the Arab world and penultimate globally.

Table 3. Performance of countries based on their 2021 food security score

Country	Overall score	Affordability	Availability	Quality and Safety	Natural Resources and Resilience
Qatar	73.6	83.8	74.4	83.5	43.4
Kuwait	72.2	80.1	72.3	86.4	43.0
United Arab Emirates	71.0	75.9	71.3	88.8	43.6
Oman	70.0	88.8	57.3	83.8	45.2
Bahrain	68.5	79.2	67.5	79.9	39.1
Saudi Arabia	68.1	75.0	67.8	79.8	44.3
Turkey	65.1	67.6	61.6	75.8	56.4
Jordan	64.6	80.4	55.2	63.5	54.2
Algeria	63.9	77.9	58.0	62.0	50.7
Tunisia	62.7	74.4	54.0	72.1	47.6
Morocco	62.5	75.1	51.8	72.3	49.0
Egypt	60.8	66.5	60.0	60.7	52.0
Syria	37.8	34.0	30.1	53.2	43.3
Yemen	35.7	30.2	27.6	37.4	42.1

Source:(Economist Impact, 2021)

According to (United Nations Economic and Social Commission for Western Asia (ESCWA), 2021, p. 7), the Arab region is “on the right track” to achieve 29 of the 169 SDG, and “in progress” in 31 goals. However, the path of progress in each goal may change as more data becomes available to provide accurate measures, as availability of data remains a major concern in the region, whilst many indicators are still not available even in advanced statistical systems. Also almost half of the indicators are not available in most Arab countries, and this hinders policymaking. Thus, greater investment in improving data quality is critical to the full implementation of the 2030 Agenda in the region.

Two-thirds of people who suffer from hunger and high levels of undernourishment live in conflict-affected countries due to the destruction of production infrastructure, disruption of food value chains and the abandonment of agricultural land because of its damage or displacement of its population.(ESCWA: Economic and Social Commission for Western Asia, 2020, p. 26).The number of people suffering from hunger in the Arab

region increased to reach 51.4 million people in 2019, i.e., 12.2% of the population of the region, and 30% of the region's population, or 137 million people did not have continuous access to sufficient, safe and nutritious food.(FAO, IFAD, UNICEF, WFP, WHO and ESCWA, 2021)

3. The challenges facing the implementation of the second goal of sustainable development in the Arab world and the required solutions:

3.1. The Challenges:

Amongst the most important challenges, facing the world, and the Arab countries in particular in attaining the goal of eliminating hunger and achieving food security, the following:

- The increase in the poor, vulnerable groups, refugees, displaced persons and IDPs,(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 4)in addition to inequality in income distribution, productive assets and basic services such as health and education.(ESCWA, 2021, pp. 4-5)According to the "FAO", the high rate of income inequality is located in 26 African countries and 5 countries in Asia.(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 78)
- Lack of job opportunities, especially for women who support households, as women working in the informal sectors in the Arab region represent 60% of the workforce, (ESCWA: Economic and Social Commission for Western Asia, 2018, pp. 29-30)as well as marginalization of vulnerable groups and people with special needs.(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 4)Crises also affect the labor force, for example Covid-19, which led to a shortage of labor because of restricting the movement of people, which negatively affected the cultivated areas, production and harvest. المنظمة العربية للزراعة، 2020، صفحة 2)
- Conflicts, for instance, about 16 million Yemenis suffer from food insecurity,and two million of their children are in need of treatment for acute malnutrition(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 4).
- The effects of economic cycles, especially during slowdown and economic downturn or in the wake of conflicts and climate-related disasters.(ESCWA, 2021, pp. 4-5). According to the "FAO", the countries of Africa, Asia, Latin America and the Caribbean recorded the highest

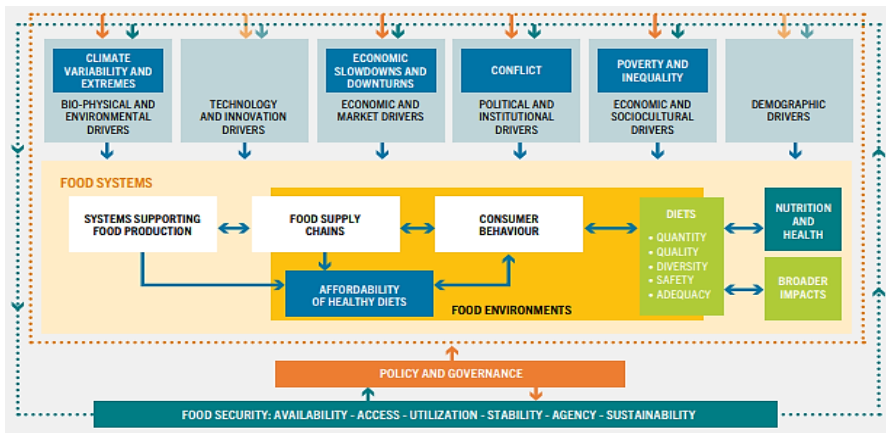
increase in the prevalence of undernourishment between 2017 and 2019, where the only region in which this prevalence increased due to economic downturn, extreme weather conditions and conflicts, is Africa.(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 78)

- Global and local economic challenges, for instance, the pandemic and its resultant closures have made it difficult to access wholesale, retail and raw materials markets. Small enterprises in the agri-food sector were also affected by supply and demand shocks, which led to higher production costs and lower revenues.(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 4)
- The pandemic also caused a decrease in the countries' strategic stocks because of excessive withdrawals without compensation. (المنظمة العربية للزراعة، 2020، صفحة 2)
- The impact of the decline in energy prices in the global market on the oil-exporting Arab countries, which leads to their inability to secure their consumption needs with the required efficiency if food prices rise to high levels.(المنظمة العربية للزراعة، 2020، صفحة 2)
- Lack of interest in the agricultural sector and its financing, and the failure of research and extension policies in it, As well as the weak use of technology and modern agricultural support services, in addition to the problems of agricultural marketing.(اتحاد الغرف العربية، 2018، صفحة 6)
- Climate change risks, water shortages and unresolved water shortages, lack of adaptation measures, protection of land and water resources, and complacency in pursuit of sustainable energy use and production, all of this affect food security.(ESCWA: Economic and Social Commission for Western Asia, 2018, pp. 29-30)

Consequently, and according to (FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 53), food security is undermined due to biological, material, environmental, social, cultural, demographic, technology and innovation motives, plus other motives that are related to economy and markets, and everything related to politics and institutions.

So the drivers of recent trends in food security and nutrition, have multiple impacts along food systems, including food environments, which affects the dimensions of food security, The following figure illustrates all the above.

Fig.1. Impacts of various drivers are transmitted throughout food systems, undermining food security and nutrition



Source:(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 53)

3.2. Solutions to meet the second goal of sustainable development in the Arab world:

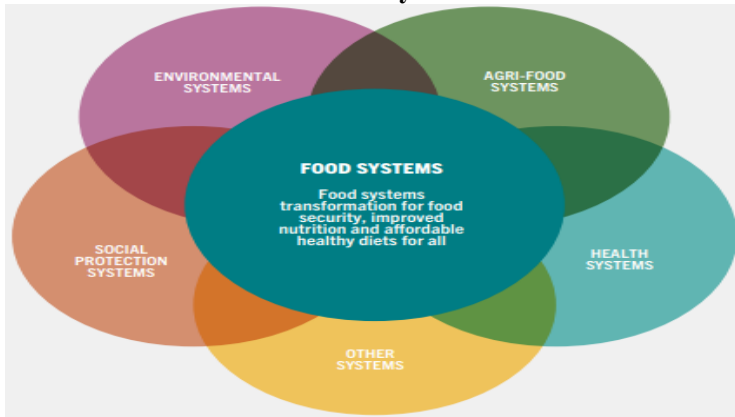
(ESCWA: Economic and Social Commission for Western Asia, 2020, p. 31)&(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 88), have presented the following solutions to meet the challenges of the second goal of sustainable development:

- Shift towards more sustainable farming systems, improve agricultural value chain infrastructure, and use innovative technology to improve productivity and water use efficiency.
- Investing in the development and transformation of rural areas, especially with regard to women, youth, small farmers and indigenous people.
- Improving diets and supporting the shift towards healthy consumption patterns.
- Capacity building through knowledge and technology transfer and scaling up to enhance climate resilience.
- Strengthening the capacity of the Arab region in trade negotiations, unifying and sharing information on food trade between Arab countries,

and finding ways to simplify logistical and legal procedures to enhance intra-regional trade.

- Combining humanitarian and development goals to support sustainable agriculture and peace building in conflict-affected areas.

Fig.2.Ensuring coherence & complementarity among agri-food, environmental, health, social protection & other systems for food security



Source:(FAO, IFAD, UNICEF, WFP and WHO, 2021, p. 111)

Conclusion:

Among the most important SDG for third world countries, is the second goal, which aims to eradicate hunger, provide food security. This research came to examine the reality of achieving this goal by the Arab countries collectively, and to identify the overall challenges they face in achieving it, on the basis that if problems are identified, the process of finding and implementing solutions will be facilitated. The study reached the following results:

- The number of hungry people in the Arab region is increasing, and most of the undernourished live in rural areas, despite their dependence on agriculture for their income.
- With regard to global health goals related to nutrition, only seven Arab countries are on the right track regarding wasting, and three countries are tackling the problems of stunting or overweight in children, whereas no

Arab country is addressing the problem of the prevalence of anemia among women and children.

- Progress in achieving SDG, related to food security, depends on dedicated and structured investments in sustainable agriculture, and on the extent to which knowledge and technologies are used to increase the productivity of the agricultural sector. Regional cooperation also is considered as an essential element to enhance the implementation of a common plan for improving global trade governance.
- Today, achieving the objectives of the 2nd goal has become more complex than before, due to the repercussions of the Covid-19 crisis on the economic level in general and on farmers and food production in particular. Moreover, because of the pandemic, humanitarian aid to refugees and internally displaced people has decreased, so they still suffer from food insecurity. In addition, the closure of educational institutions led to the suspension of school feeding programs in many countries of the region; in which children of disadvantaged families sometimes depend on school food as the main daily meal.
- Food security faces risks from climate change, water shortages and unresolved water, lack of adaptation measures, protection of land and water resources, complacency in pursuit of sustainable energy use and production, and high rates of urbanization.
- Achieving sustainable food security and improving nutrition can be achieved through the contribution of the concerted efforts, the participation of all parties, as well as the combination of environmental, agricultural, social, health, educational, industrial, energy, economic, commercial, marketing, technological, financial and legal systems, plus the provision of political management and other systems. Subsequently, everyone can obtain healthy and affordable diets.

Recommendations:

Eventually, the research recommends the following:

- In order to achieve the objectives under the relevant sustainable development goals, it is necessary to shift towards more sustainable agricultural systems, improve the infrastructure of agricultural value chains,

use innovative technology to improve productivity and water use efficiency, and raise the level of financing and investment in the agricultural sector, through government support and international cooperation.

- Investments should also be made in the development and transformation of rural areas, especially the latter indigenous peoples who have experience, knowledge and competence in the secrets of farming in the ancient ways passed down from their ancestors.
- Orientation towards capacity building through knowledge and technology transfer, and increased investment in improving the quality of data and indicators to facilitate the full implementation of the 2030 Agenda in the region.

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