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REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION
FINANCING THE TRANSFORMATION OF AGRIFOOD SYSTEMS FOR FOOD SECURITY AND NUTRITION

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NEAR EAST AND NORTH AFRICA
REGIONAL OVERVIEW OF FOOD SECURITY AND NUTRITION

FINANCING THE TRANSFORMATION OF AGRIFOOD SYSTEMS FOR FOOD SECURITY AND NUTRITION

Food and Agriculture Organization of the United Nations | International Fund for Agricultural Development | United Nations Children's Fund | World Food Programme | World Health Organization | United Nations Economic and Social Commission for Western Asia

Cairo, 2024

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FOREWORD

The prevalence of undernourishment reached a new height in the Arab States in 2023 with 14 percent of their population (66.1 million people) facing hunger. Malnutrition, such as wasting, overweight among children, and obesity among adults, continues to be a high concern. The cost of a healthy diet has significantly increased in recent years, and almost one-third of the region's population could not afford a healthy diet in 2022.

The gloomy food security and malnutrition indicators highlight the intensification of major drivers of hunger, food insecurity and malnutrition in the region, such as conflict, climate extremes and variability and economic slowdowns and downturns, combined with growing inequalities and the unaffordability of healthy diets. These major drivers are not only increasing in frequency and intensity, but they are occurring more often in combination, resulting in record-high food-insecure people.

The region remains far from achieving the goal of ending hunger and all forms of malnutrition. In addition, it is facing the intensification of multiple major drivers of food insecurity and malnutrition. This calls for a complete transformation of agrifood systems that improve food security and nutrition, promote livelihoods, and protect the planet. For such a transformation, financing must be stepped up.

This report maps current financing for food security and nutrition in the Arab States and highlights the need to better use existing public resources and deploy additional funding to improve food security and nutrition and transform agrifood systems. Furthermore, it presents sources of capital and innovative financial instruments that help close the food security and nutrition funding gap.

Unfortunately, the region's food security and nutrition indicators are expected to deteriorate further in the near future due to conflicts in Gaza and the Sudan and persistent droughts in many parts of the region. This calls for further and more intensive cooperation among international partners to support regional Member States in achieving Sustainable Development Goal Targets 2.1 and 2.2.

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ABBREVIATIONS

AMS	aggregate measure of support
AoA	Agreement on Agriculture
AOI	Agricultural Orientation Index
BMI	body mass index
CoHD	cost of a healthy diet
DFI	development finance institution
FAO	Food and Agriculture Organization of the United Nations
FDI	foreign direct investment
FIES	Food Insecurity Experience Scale
FTS	Financial Tracking Service
GCC	Gulf Cooperation Council: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates
IFAD	International Fund for Agricultural Development
IFI	international financial institution
IPC/CH	Integrated Food Security Phase Classification/Cadre Harmonisé
LDC	least developed country
NENA	Near East and North Africa
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Office for Economic Co-operation and Development
PoU	prevalence of undernourishment
PPP	purchasing power parity
RNE FAO	FAO Regional Office for Near East and North Africa
SDG	Sustainable Development Goal
SPS	sanitary and phytosanitary
UMIC	upper-middle-income country
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WHA	World Health Assembly
WHO	World Health Organization
WTO	World Trade Organization

EXECUTIVE SUMMARY

The Arab region[1] continues to face serious food security and nutrition challenges and is increasingly from meeting Sustainable Development Goal (SDG) 2 of Zero Hunger. The prevalence of undernourishment reached a new height: 14 percent in 2023, meaning that there were 66.1 million hungry people in the Arab region. Moderate or severe food insecurity in the same year affected 39.4 percent of the Arab population (186.5 million individuals), a 1.1 percentage point increase from the previous year, and 15.4 percent of the population (72.7 million people) faced severe food insecurity in 2023.

Malnutrition continues to be an issue of high concern. In 2022, the prevalence of overweight among children under 5 years of age and among adults was around double the world average. From 2017 to 2022, the cost of a healthy diet increased by 28.2 percent, and almost one-third of the region's population could not afford a healthy diet in 2022.

Increased financing of sustainable agrifood systems is critical to meeting SDG Targets 2.1 and 2.2, which aim to end hunger, food insecurity and malnutrition in all its forms, as well as to support the implementation of the Paris Agreement adopted by the United Nations Climate Change Conference in 2015. Increased flows of investment and repurposed public support are two of the key drivers in the transformation of agrifood systems and can spread their positive impacts throughout agrifood, socioeconomic, and environmental systems. Increased financing is a crucial means of the implementation of SDGs.

This report adopts the new definition for financing food security and nutrition that was presented in *The State of Food Security and Nutrition in the World 2024*, which is comprised of core and extended definitions. The core definition includes the financing flows that support main determinants of food security and nutrition, while the extended definition also includes financing flows that contribute to addressing the major drivers of food insecurity and malnutrition. The report undertakes mapping the current financing of food security and nutrition. Based on its findings, the broader agriculture sector (agriculture, food, forestry, and fishing sectors) in Arab countries received USD 28.4 billion in financing in 2021, the majority of which was bank credit (USD 12.8 billion) and government expenditure (USD 10.4 billion), with a smaller part of development financing for food consumption (USD 4.9 billion) and a tiny share of foreign direct investment (USD 0.3 billion). This estimate of current financing does not include consumer spending and financial flows through food trade and retail, which benefit local agrifood systems. It also excludes government spending on social protection and health services, as not all of these expenditures relate to food security and nutrition. Arab agrifood systems will need to better target existing, as well as additional, financial resources for agrifood systems transformation that would improve food security and nutrition while safeguarding livelihoods and protecting the planet.

Increasing the current financing of sustainable agrifood systems will first require repurposing some existing support measures so that they more effectively and efficiently serve agrifood systems transformation and enable the consumption of more nutritious

1 This report covers the 22 Arab States: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen. The 22 Arab States include 19 (Near East and North Africa) NENA countries as well as three additional Arab states: Djibouti, Comoros and Somalia.

foods and more sustainable products/production methods. Domestic public funding also has the potential to unlock or catalyse private flows on investment to agrifood systems. This report presents how current public support measures can be repurposed along the value chain to transform regional agrifood systems to be more resilient, sustainable and inclusive and to make healthy diets more affordable.

While repurposing public support would offer better financial resource tailoring to the transformation of the Arab agrifood systems, it would still be insufficient for the regional agrifood systems to achieve food security while sustaining livelihoods, safeguarding human health, and protecting the well-being of the planet.

Therefore, unlocking a combination of investment capital and concessional capital that flows together through innovative financing mechanisms will be essential to provide the additional financial requirements for the necessary agrifood systems transformation.

This combination of investment capital and concessional capital flows forms a mutually positive synergy. The presence of concessional capital can mitigate the perceived risks inherent to many investment opportunities in the agrifood systems. It can also create new investment opportunities derived from results-based outcome payments. Concessional capital benefits from playing a catalytic role, where it is positioned to unlock investment capital flows, making it more impactful than conventional concessional grant funding in the absence of investment capital.

The introduction of investment capital from private sources in agrifood systems, which are a public good, must be implemented with intention, through comprehensive analysis, and involve aligning stakeholder objectives to ensure that the agrifood systems well-being is not compromised at the expense of profit motives.

Innovative financing mechanisms that can contribute to increasing funding to agrifood systems include various forms of capital guarantees, results-based financing initiatives, various forms of climate financing, debt swaps, advance market commitments and innovation incubators and accelerators.

This report outlines innovative financing mechanisms, discusses their risks and benefits, and illustrates them with real-world examples. It also discusses sources and typologies of investment capital and concessional capital in further detail.

These innovative approaches and financing instruments can be employed to close the financing gap to meet the SDGs' food security and nutrition targets, especially in countries affected by the major drivers of food insecurity and malnutrition and in need of increased financing. These instruments can be deployed, tailored to countries' ability to access financing, to implement the policies and investments that make up the six transformative pathways to build resilience against the major drivers.

Regulatory environments must enable the attraction of capital to innovative financing vehicles and should focus on creating a conducive environment for investment, addressing existing regulatory gaps, aligning with international standards and best practices, and being flexible enough to accommodate new and innovative financing schemes.

PART 1
STATISTICS AND TRENDS

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CHAPTER 1

SUSTAINABLE DEVELOPMENT TARGET 2.1: UNDERNOURISHMENT AND FOOD INSECURITY

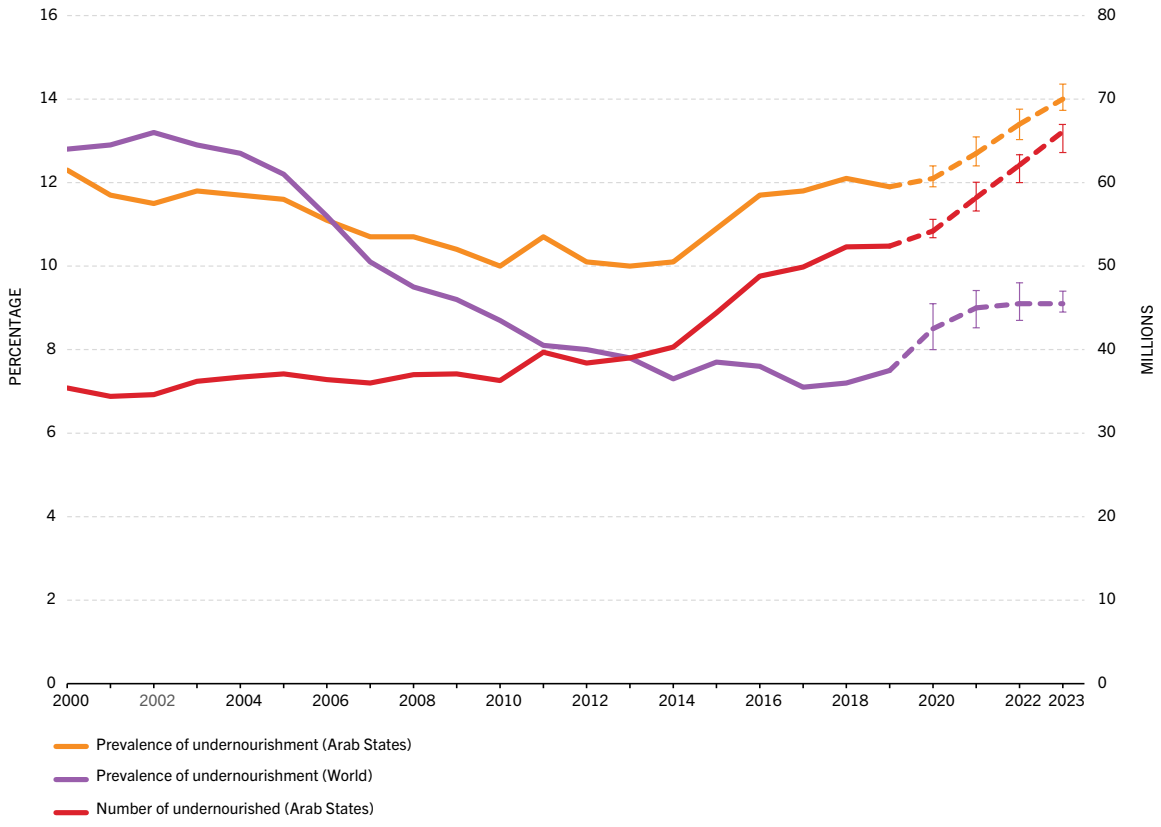
Key messages

- Undernourishment in the Arab States has reached a new height. The prevalence of undernourishment (PoU) increased by 0.6 percent in 2023 from the previous year and reached 14 percent. There were 66.1 million undernourished people in 2023, an increase of 4 million from 2022. PoU was the highest in low-income countries, reaching 31.1 percent, and Arab States least developed countries (LDCs) with 28.8 percent.
- The gap in undernourishment between countries affected by conflict and countries not affected by conflict in the region continued to increase in 2023 as the increasing number and magnitude of conflicts are significant drivers of food insecurity in the region. The PoU was four times higher in countries affected by conflict (26.4 percent) than in countries not affected by conflict (6.6 percent). Somalia had the highest PoU (51.3) percent, followed by Yemen (39.5 percent), the Syrian Arab Republic (34 percent), and the Comoros (16.9 percent).
- In 2023, moderate or severe food insecurity in the Arab region reached 39.4 percent (186.5 million individuals), a 1.1 percentage point increase from the previous year. 15.4 percent of the population (72.7 million people) faced severe food insecurity in 2023. Conflict-affected countries housed the largest share of severely food-insecure individuals in 2023, totalling 44.1 million people. Escalating conflicts in countries such as the Sudan and Palestine suggest a continuation of this upward trend. Low-income countries faced the highest rates, with 68.5 percent experiencing moderate or severe food insecurity.
- In Gaza, the conflict has resulted in an unprecedented death toll, destruction and mass displacement, combined with heavy restrictions on commercial goods, while humanitarian assistance faces extreme access constraints. The Integrated Food Security Phase Classification (IPC) acute food insecurity analysis from December 2023 highlighted an alarming risk of famine. By June 2024, the whole population of Gaza experienced high levels of food insecurity at Phase 3 (Crisis) or higher. Half of the Gaza Strip's population (1.11 million people) was expected to face catastrophic conditions (IPC Phase 5).

1.1 PREVALENCE OF UNDERNOURISHMENT

The Food and Agriculture Organization of the United Nations' (FAO) prevalence of undernourishment (PoU) indicator is derived from official country data on food supply, food consumption and dietary energy needs in the population considering demographic characteristics such as age, sex and levels of physical activity. Designed to capture a state of chronic energy deprivation, it does not reflect the short-lived effects of temporary crises or a temporarily inadequate intake of essential nutrients. FAO strives always to improve the accuracy of the PoU estimates by taking into account new information; the entire historical series is updated for each report. For this reason, only the current series of estimates should be used, including for values in past years (FAO, IFAD, UNICEF and WHO, 2024).

FIGURE 1
PREVALENCE OF UNDERNOURISHMENT IN THE WORLD AND THE ARAB STATES, AND THE NUMBER OF UNDERNOURISHED IN THE ARAB STATES



Note: The values for 2023 are projections based on nowcasts.

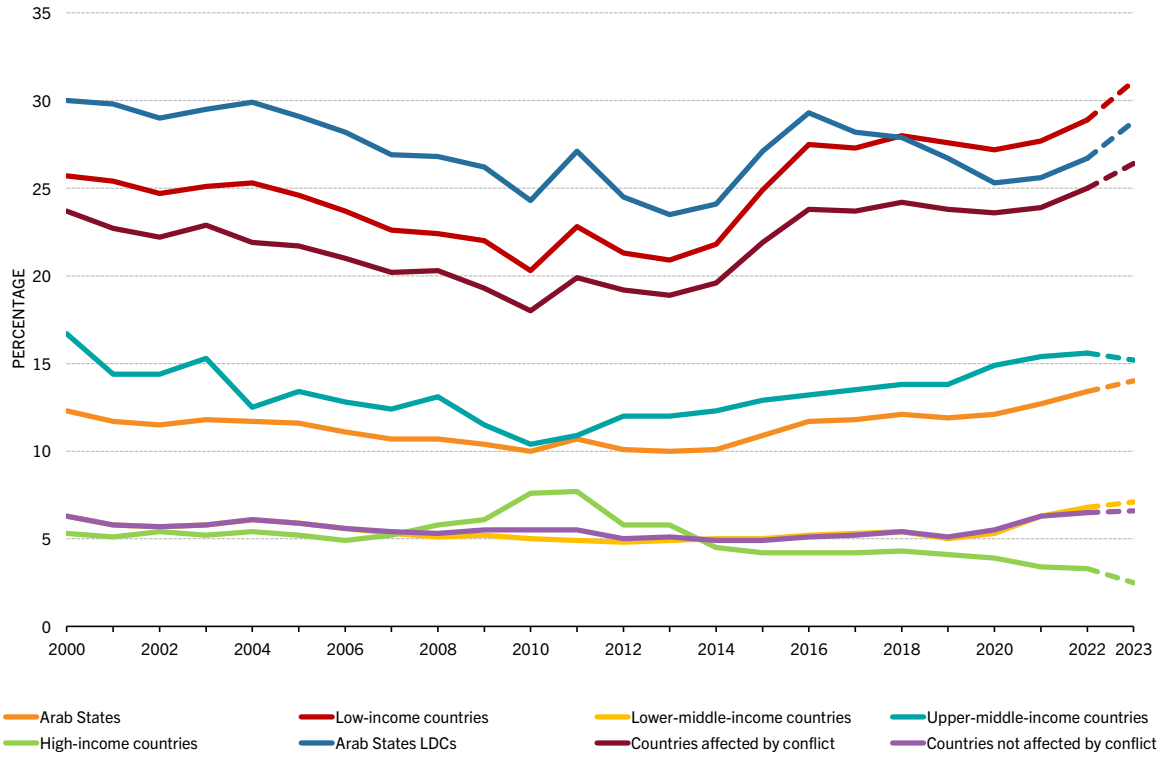
Source: Based on FAO. 2024. FAOSTAT: *Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig01

World hunger remained unchanged in 2023 from 9.1 percent in 2022. In other words, almost one out of ten of the world's inhabitants regularly go to bed hungry. Worryingly, however, undernourishment in the Arab States continued its growing trend (Figure 1, Table 1) and reached a new height, largely driven by the persistent impacts of conflicts, sharp deceleration in growth and inflationary pressures, climate change, and global supply chain shocks. The PoU increased by 0.6 percent in 2023 to reach 14 percent and the number of undernourished people 66.1 million in 2023, an increase of 4 million from the previous year.

FIGURE 2

PREVALENCE OF UNDERNOURISHMENT IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Note: The values for 2023 are projections based on nowcasts. Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

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In 2023, only high-income countries and upper-middle-income countries experienced a decline in their PoU. In 2023, the PoU was highest in low-income countries, reaching 31.1 percent, higher than the 28.9 percent for the year before. Arab States LDCs experienced an increase in PoU from 26.7 percent in 2022 to 28.8 percent in 2023 (Figure 2, Table 1).[2] Hunger was less prevalent in high-income countries (2.5 percent), and lower-middle-income countries (7.1 percent).

The increasing number and magnitude of conflicts are significant drivers of food insecurity in the region (see the analysis of major drivers of food insecurity and malnutrition in the region in Part II of this report). For this reason, the gap in undernourishment between countries affected by conflict and countries not affected by conflict in the region continued to increase in 2023; in fact, the PoU was four times higher in countries affected by conflict (26.4 percent) than in countries not affected by conflict (6.6 percent).

TABLE 1
PREVALENCE OF UNDERNOURISHMENT (PERCENT)

	2000	2010	2015	2019	2020	2022	2023
World	**12.8**	**8.7**	**7.7**	**7.5**	**8.5**	**9.1**	**9.1**
Arab States	12.3	10.0	10.9	11.9	12.1	13.4	14.0
Low-income countries	25.7	20.3	24.9	27.6	27.2	28.9	31.1
Lower-middle-income countries	6.3	5.0	5.0	5.0	5.3	6.8	7.1
Upper-middle-income countries	16.7	10.4	12.9	13.8	14.9	15.6	15.2
High-income countries	5.3	7.6	4.2	4.1	3.9	3.3	2.5
Arab States LDCs	30.0	24.3	27.1	26.7	25.3	26.7	28.8
Countries affected by conflict	23.7	18.0	21.9	23.8	23.6	25.0	26.4
Countries not affected by conflict	6.3	5.5	4.9	5.1	5.5	6.5	6.6

Note: The values for 2023 are projections based on nowcasts. Definitions of country groupings are contained in Annex IV.

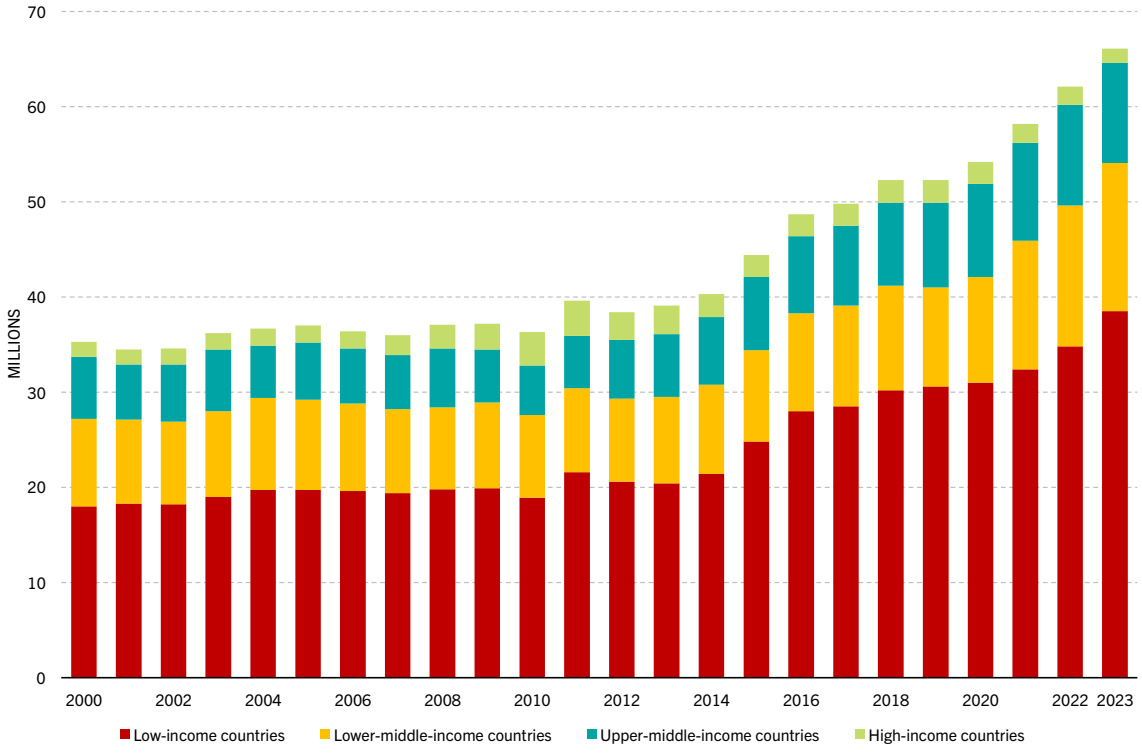
Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

Hunger in the Arab region reached its lowest level in 2010 and 2013, when 10 percent of the region's population suffered from hunger. Hunger rose by one-third from 2013 until 2023 (Figure 2), which can be explained via increases in hunger in upper-middle-income countries and lower-middle-income countries. Furthermore, there was a 39.7 and 22.6 percent increase in hunger across countries affected by conflict and Arab States LDCs from 2013 until 2023, respectively.

Due to conflicts, staple food price shocks in 2007–2008 and 2010–2011, and the socio-political instability caused by the Arab Spring, there was a sharp increase in PoU after 2013, especially in the Arab States LDCs, low-income countries, countries affected by conflict and upper-middle-income countries. The only exception where the PoU has decreased since 2013 is high-income countries, where the PoU decreased by over half its value. Recently, the COVID-19 pandemic, the war in Ukraine, the high food price inflation, the increasing debt burden and the slow real GDP growth in 2023 have been posing additional risks to food security.

2 Annex IV to this report contains the definitions for country groupings. Note that there are some overlaps for country groupings. For example, half of the low-income economies (namely, Somalia, the Sudan, and Yemen) are also part of the Arab States LDCs grouping (the Comoros, Djibouti, Mauritania, Somalia, the Sudan, and Yemen).

FIGURE 3
NUMBER OF PEOPLE UNDERNOURISHED IN THE ARAB STATES BY COUNTRY INCOME GROUP



Note: The values for 2023 are projections based on nowcasts. Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

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The number of undernourished people in the Arab States region reached 66.1 million in 2023, a 30.7 million person increase since the year 2000; this increase was largely driven by repeated substantial increases in the number of undernourished people in low-income countries (Figure 3, Table 2).

TABLE 2
NUMBER OF PEOPLE UNDERNOURISHED (MILLIONS)

	2000	2010	2015	2019	2020	2022	2023
World	**785.2**	**604.8**	**570.2**	**581.3**	**669.3**	**723.8**	**733.4**
Arab States	35.4	36.3	44.4	52.4	54.2	62.1	66.1
Low-income countries	18.0	18.9	24.8	30.6	31.0	34.8	38.5
Lower-middle-income countries	9.2	8.7	9.6	10.4	11.1	14.8	15.6
Upper-middle-income countries	6.5	5.2	7.7	8.9	9.8	10.6	10.5
High-income countries	1.6	3.5	2.3	2.4	2.3	1.9	1.5
Arab States LDCs	17.3	18.3	23.3	25.9	25.3	28.0	31.0
Countries affected by conflict	23.6	23.5	31.5	37.9	38.5	43.0	46.5
Countries not affected by conflict	11.7	12.8	12.9	14.5	15.8	19.2	19.6

Note: The values for 2023 are projections based on nowcasts. Definitions of country groupings are contained in Annex IV.

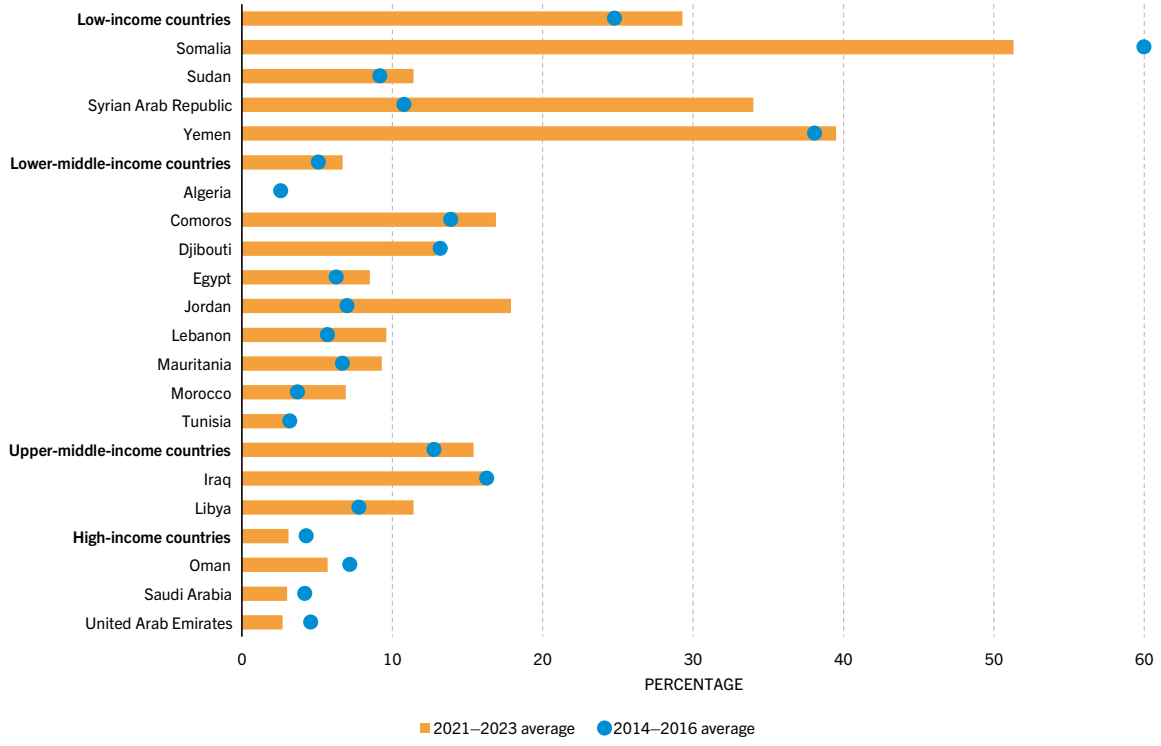
Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

Looking at the different subgroups of the Arab States (Table 2), 58.2 percent of the Arab population facing hunger resided in low-income countries in 2023. On the other hand, in the same year, only 2.3 percent of the Arab population facing hunger resided in high-income countries.

The number of hungry people in Arab States LDCs increased by 10.7 percent from 2022 to 2023, from 28 million to 31 million people (Table 2).

Highlighting the role of conflict in food insecurity, countries not affected by conflict displayed an increase of 2.1 percent between 2022 and 2023 (19.2 to 19.6 million people) while countries affected by conflict displayed an increase of 8.1 percent in the same period (43 to 46.5 million people).

FIGURE 4
PREVALENCE OF UNDERNOURISHMENT IN THE ARAB STATES BY COUNTRY INCOME GROUP AND COUNTRY



Notes: The 2021–2023 average values reflect 2023 projections that are based on nowcasts. The PoU was less than 2.5 percent for Algeria in 2021–2023. Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

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Data on PoU by country and country income groups portrays an image of high variance across the region (Figure 4). Somalia had the highest PoU among low-income countries, with a PoU of 51.3 percent between 2021–2023. The Syrian Arab Republic, Yemen and Somalia are all classified as low-income countries and have all been devastated by conflict, climate change, and high food prices. The Sudan is also classified as a low-income country; however, it exhibited a much lower PoU in 2021–2023 than the other countries (11.4 percent). At the same time, it is expected that this will change as the conflict in the country escalates, especially as it is now highlighted as one of the hunger hotspots of highest concern with regards to deteriorating acute food insecurity (WFP and FAO, 2024).[3] Unexpectedly, upper-middle-income countries suffered from higher rates of PoU than lower-middle-income countries in 2021–2023, which could be explained by the fact that two of the countries classified as upper-middle-income, Iraq (16.1 percent) and Libya (11.4 percent), suffer from persistent conflict and

3 Hunger hotspots and acute food insecurity refer to the indicator of the Integrated Food Security Phase Classification (IPC/CH). For more details see for example page 2 of FAO and WFP, 2024.

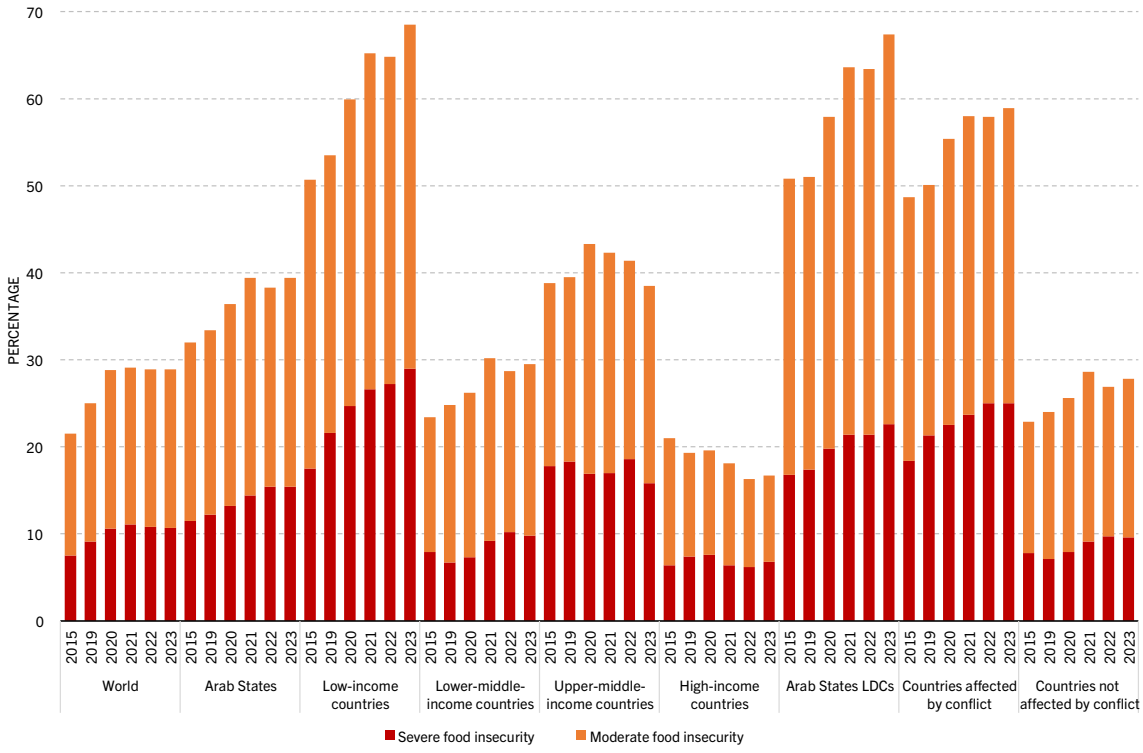
geopolitical instability. On the other hand, countries such as Egypt (8.5 percent), Morocco (6.9 percent) and Tunisia (3.2 percent), which boast relatively large agricultural capacities, are classified as lower-middle-income countries and have not been as plagued with internal instability in recent years. Unsurprisingly, high-income countries such as Oman (5.7 percent), Saudi Arabia (3 percent), and the United Arab Emirates (2.7 percent – the lowest in the region) exhibited the lowest PoU in 2021–2023; this is in no small part thanks to these countries benefitting from high oil export revenues and therefore much more stable economic positionings.

1.2 PREVALENCE OF FOOD INSECURITY BASED ON THE FOOD INSECURITY EXPERIENCE SCALE

The prevalence of moderate or severe food insecurity based on the Food Insecurity Experience Scale (FIES) is an estimate of the proportion of the population facing moderate or severe constraints on their ability to obtain sufficient food over the course of a year. People face moderate food insecurity when they are uncertain of their ability to obtain food and have been forced to reduce, at times over the year, the quality and/or quantity of food they consume due to lack of money or other resources. Severe food insecurity means that individuals have likely run out of food, experienced hunger and, at the most extreme, have gone for days without eating, putting their health and well-being at serious risk.

FIGURE 5

PREVALENCE OF FOOD INSECURITY IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.

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In 2023, moderate or severe food insecurity in the Arab region reached 39.4 percent, marking a 1.1 percentage points increase from the previous year. Interestingly, 2022 showed a 1.1 percentage points decrease from the preceding period, yet escalating conflicts in countries like the Sudan and Palestine suggest a likely continuation of this upward trend (Figure 5, Table 3). Compared to pre-COVID-19 levels with a prevalence of 33.4 percent in 2019, food insecurity increased by 4.9 percentage points in 2022 (to 38.3 percent).

TABLE 3.
PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY (PERCENT)

	SEVERE FOOD INSECURITY					MODERATE OR SEVERE FOOD INSECURITY				
	2015	2019	2020	2022	2023	2015	2019	2020	2022	2023
World	**7.5**	**9.1**	**10.6**	**10.8**	**10.7**	**21.5**	**25.0**	**28.8**	**28.9**	**28.9**
Arab States	11.5	12.2	13.2	15.4	15.4	32.0	33.4	36.4	38.3	39.4
Low-income countries	17.5	21.6	24.7	27.2	29.0	50.7	53.5	59.9	64.8	68.5
Lower-middle-income countries	7.9	6.7	7.3	10.2	9.8	23.4	24.8	26.2	28.7	29.5
Upper-middle-income countries	17.8	18.3	16.9	18.6	15.8	38.8	39.5	43.3	41.4	38.5
High-income countries	6.4	7.4	7.6	6.2	6.8	21.0	19.3	19.6	16.3	16.7
Arab States LDCs	16.8	17.4	19.8	21.4	22.6	50.8	51.0	57.9	63.4	67.4
Countries affected by conflict	18.4	21.3	22.5	25.0	25.0	48.7	50.1	55.4	57.9	58.9
Countries not affected by conflict	7.8	7.1	7.9	9.7	9.6	22.9	24.0	25.6	26.9	27.8

Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

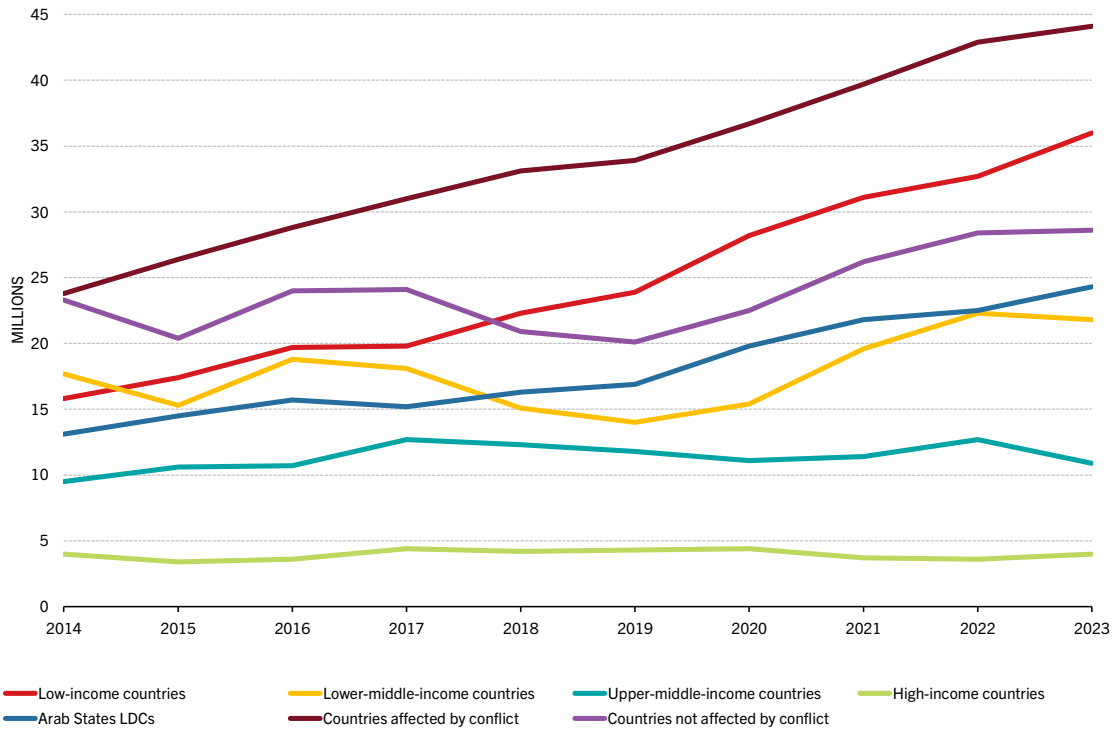
However, disparities become apparent when examining the data by subgroups. Low-income countries faced the highest rates, with 68.5 percent experiencing moderate or severe food insecurity in 2023, including 29.0 percent facing severe food insecurity, an alarming increase from 50.7 percent and 17.5 percent, respectively, in 2015. Lower-middle-income countries also witnessed a rise in moderate or severe food insecurity, climbing from 23.4 percent in 2015 to 29.5 percent in 2023. In contrast, upper-middle-income countries showed a slight decline in moderate or severe food insecurity from 38.8 percent in 2015 to 38.5 percent in 2023. High-income countries continued their downward trend from 21 percent in 2015 to 16.7 percent in 2023.

Arab States LDCs experienced a significant increase in food insecurity, rising from 50.8 percent in 2015 to 67.4 percent in 2023, with severe food insecurity increasing from 16.8 percent to 22.6 percent.

Countries affected by conflict reported a much higher prevalence of food insecurity in 2023 at 58.9 percent compared to countries not affected by conflict at 27.8 percent, highlighting a substantial gap of 31.1 percentage points between them.

FIGURE 6

NUMBER OF SEVERELY FOOD-INSECURE PEOPLE IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

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TABLE 4

NUMBER OF SEVERELY FOOD-INSECURE PEOPLE (MILLIONS)

	2015	2017	2019	2020	2022	2023
World	**554.1**	**613.0**	**706.1**	**827.9**	**861.7**	**864.1**
Arab States	46.8	55.1	54.0	59.1	71.4	72.7
Low-income countries	17.4	19.8	23.9	28.2	32.7	36.0
Lower-middle-income countries	15.3	18.1	14.0	15.4	22.3	21.8
Upper-middle-income countries	10.6	12.7	11.8	11.1	12.7	10.9
High-income countries	3.4	4.4	4.3	4.4	3.6	4.0
Arab States LDCs	14.5	15.2	16.9	19.8	22.5	24.3
Countries affected by conflict	26.4	31.0	33.9	36.7	42.9	44.1
Countries not affected by conflict	20.4	24.1	20.1	22.5	28.4	28.6

Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

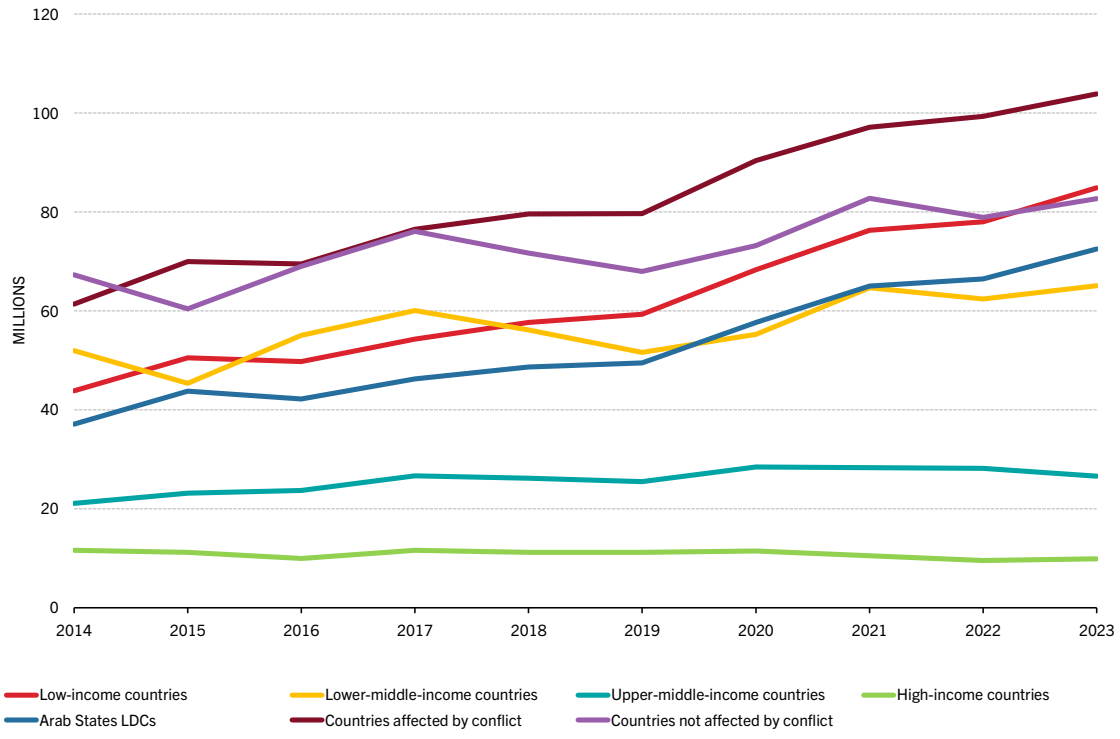
In 2023, within the Arab States, 72.7 million people faced severe food insecurity, constituting approximately 8.4 percent of the global total (Figure 6, Table 4). Compared to pre-COVID-19 levels in 2019, when 54 million people in the Arab States were severely food insecure, this number reveals a stark 34.6 percent increase by 2023, underscoring vulnerabilities in regional agrifood systems. Although global severe food insecurity also rose by 22.4 percent during this period, the Arab States experienced a notably higher rate, likely exacerbated by recent regional challenges.

Breaking down the data by subgroup, conflict-affected countries housed the largest share of severely food-insecure individuals in 2023, totaling 44.1 million people, which accounts for about 60.7 percent of the regional total. The only subgroups to see a decrease in severe food insecurity from 2022 to 2023 were lower-middle-income countries (from 22.3 to 21.8 percent) and upper-middle-income countries (from 12.7 to 10.9 percent). Surprisingly, high-income countries saw an increase from 3.6 million to 4 million people between 2022 and 2023.

Compared to 2015, the most significant increase in severe food insecurity occurred in low-income countries, rising by 18.6 million people (an increase of 106.9 percent). Upper-middle-income countries showed the smallest increase of 300 thousand people. Overall, the region saw a rise of 25.9 million severely food-insecure individuals during this period, marking a 55.3 percent increase.

FIGURE 7

NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

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TABLE 5
NUMBER OF MODERATELY OR SEVERELY FOOD-INSECURE PEOPLE (MILLIONS)

	2015	2017	2019	2020	2022	2023
World	**1 595.2**	**1 794.0**	**1 942.6**	**2 259.9**	**2 306.6**	**2 325.5**
Arab States	130.3	152.6	147.6	163.6	178.2	186.5
Low-income countries	50.5	54.3	59.3	68.3	78.0	84.9
Lower-middle-income countries	45.4	60.1	51.6	55.3	62.4	65.1
Upper-middle-income countries	23.2	26.7	25.5	28.5	28.2	26.6
High-income countries	11.2	11.6	11.2	11.5	9.6	9.9
Arab States LDCs	43.8	46.3	49.5	57.7	66.5	72.5
Countries affected by conflict	70.0	76.5	79.7	90.4	99.3	103.9
Countries not affected by conflict	60.4	76.1	68.0	73.2	78.9	82.7

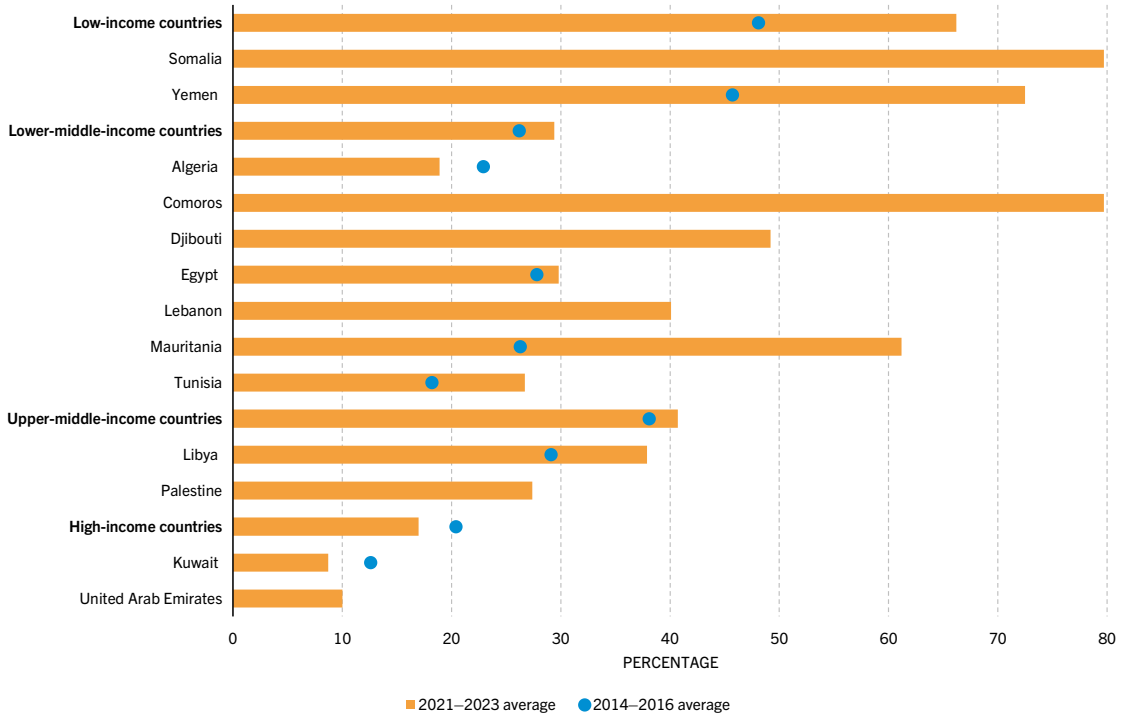
Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

In 2023, approximately 186.5 million individuals in the Arab States faced moderate or severe food insecurity, making up about 8 percent of the global total (2 325.5 million people). The significant increase from 147.6 million to 186.5 million people experiencing moderate or severe food insecurity in the Arab States between 2019 and 2023 – a rise of 38.9 million – highlighted a 26.4 percent increase, surpassing the global increase of 19.7 percent during the same period, emphasizing the COVID-19 pandemic's impact on regional agrifood systems, exacerbated by the effects of the war in Ukraine (Figure 7, Table 5), and, in general, the intensification of major drivers of food insecurity and nutrition, discussed in Part II of this report.

Throughout the years since 2015, countries affected by conflict consistently accounted for the highest share of the region's total number of moderately or severely food-insecure individuals, comprising 55.7 percent in 2023.

FIGURE 8
PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY IN THE ARAB STATES BY COUNTRY INCOME GROUP AND COUNTRY



Note: The estimate for Palestine reflects the situation before the conflict erupted at the end of 2023. Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

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The only two countries that reduced their prevalence of moderate or severe food insecurity between 2014–2016 and 2021–2023 were Algeria (from 22.9 to 18.9 percent) and Kuwait (from 12.6 to 8.7 percent); Kuwait was the country with the lowest prevalence in 2021–2023 (Figure 8). Among subregions, the high-income group was the only one to lower its prevalence, declining from 20.4 to 17 percent. Conversely, the low-income group saw the largest increase, rising from 48.1 to 66.2 percent, largely driven by Yemen's increase from 45.7 to 72.5 percent (Somalia did not report figures in 2014–2016). Within the lower-middle-income subgroup, the Comoros had the highest prevalence of moderate or severe food insecurity in 2021–2023 (79.7 percent). However, this subgroup also included countries like Algeria, Tunisia and Egypt which reported relatively lower rates (18.9, 26.7, and 29.8 percent, respectively). Due to data limitations, it is difficult to ascertain the trends in some countries in the region such as the Comoros, Djibouti, Lebanon, and the United Arab Emirates as these countries did not have prevalences reported for 2014–2016.

BOX 1

THE GLOBAL REPORT ON FOOD CRISES AND THE INTEGRATED FOOD SECURITY PHASE CLASSIFICATION/CADRE HARMONISÉ (IPC/CH)

During the preparation of this report, deepening humanitarian crises continued to seriously erode food security in many countries. To inform decision-makers about this evolving situation, the *Global Report on Food Crises* details the acute food insecurity in a set of countries currently exposed to food crisis situations.[i] Both *The State of Food Security and Nutrition in the World* and the *Global Report on Food Crises* are multipartnership efforts that provide international analyses of food security, but their objectives and geographical scope differ, as do the data and methodologies used for their analyses.

One important distinction is that, by reporting on SDG 2 indicators, *The State of Food Security and Nutrition in the World has the broad objective of monitoring chronic food insecurity* – defined as food insecurity that persists over time, largely due to structural causes – in all countries, on a regular basis. The focus of the *Global Report on Food Crises,* on the other hand, is on *acute food insecurity,* which refers to any manifestation of food insecurity at a specific point in time that is of a severity that threatens lives, livelihoods or both, regardless of the causes, context or duration. Analyses of acute food insecurity reported in the *Global Report on Food Crises* are based mainly on the Integrated Food Security Phase Classification/Cadre Harmonisé (IPC/CH), and they differ considerably from those that inform the SDG indicators.Since timeliness is of the essence in crisis situations, IPC/CH rapid assessments are conducted by local teams of analysts through a consultative process among the main food security partners in the country, including government counterparts, aimed at finding convergence among all pieces of sometimes partial available evidence, including data from official and non-official sources commonly collected and used by the international humanitarian community.

In Yemen, from October 2023 to February 2024, about 4.6 million people experienced high levels of Acute Food Insecurity (IPC[4] Phase 3 or above),[ii] with approximately 1.3 million classified in IPC Phase 4. Beyond conflict, food insecurity in Yemen is driven by high international food and fuel prices and the devaluation of the national currency. Similarly, in Somalia, from October to December 2023, approximately 4.3 million people faced severe acute food insecurity, classified as Crisis or worse (IPC Phase 3 or above).[iii] Among them, 3.3 million were categorized as Stressed (IPC Phase 3), and 1 million were in Emergency (IPC Phase 4). The primary drivers of food insecurity in Somalia are conflict, a high number of internally displaced people, and dependence on imported grains exacerbated by droughts.

In Gaza, the conflict has resulted in an unprecedented death toll, destruction and mass displacement, combined with heavy restrictions on commercial goods, while humanitarian assistance faces extreme access constraints.i As of 20 June 2024, the ongoing hostilities have reportedly caused more than 122 000 casualties within the Gaza Stripiv – more than 5 percent of the total population. The food security situation in Gaza continues to be catastrophic. According to the latest IPC analysis, the whole population of Gaza is experiencing high levels of food insecurity at Phase 3 (Crisis) or higher.v Half of the Gaza Strip's population (1.11 million people) is expected to face catastrophic conditions (IPC Phase 5), the most severe level in the IPC Acute Food Insecurity scale.

4 The Integrated Food Security Phase Classification (IPC) Acute Food Insecurity (AFI) and Cadre Harmonisé (CH) classification provides differentiation between different levels of severity of acute food insecurity, classifying units of analysis in five distinct phases: (1) Minimal/None, (2) Stressed, (3) Crisis, (4) Emergency, (5) Catastrophe/Famine.

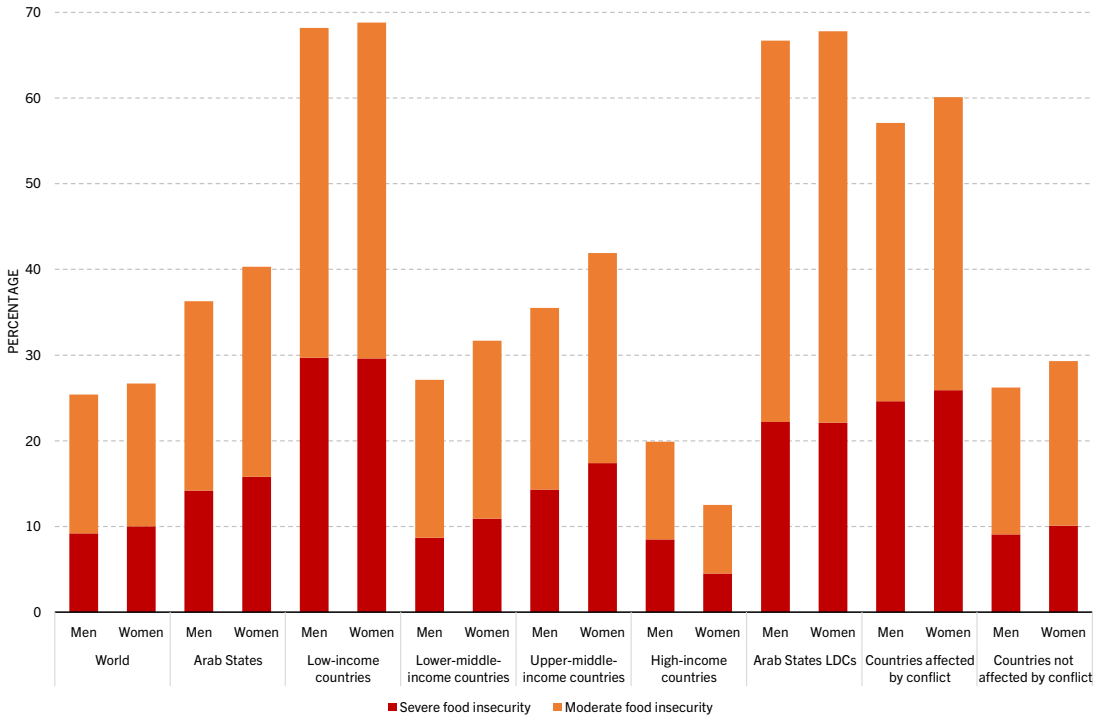
CONTINUED →

BOX 1 CONTINUED

The hostilities have caused widespread damage to assets and infrastructure indispensable to survival. As of 20 May 2024, 57.3 percent (8 660 ha) of all cropland has been damaged (FAO, 2024a).[vi] Home barns (537), broiler farms (484) and sheep farms (397) were the most damaged agricultural infrastructures.[vii] The conflict can also exacerbate already high food security needs in Lebanon and the Syrian Arab Republic.

Sources: [i] FSIN (Food Security Information Network). 2024. Middle East and North Africa. In: *Global Report on Food Crises 2024*. [This volume, Chapter 2]. https://www.fsinplatform.org/sites/default/files/resources/files/GRFC2024-country-PS.pdf; [ii] IPC (Integrated Food Security Phase Classification). 2024a. Yemen: Acute Food Insecurity Projection Update I October 2023 – February 2024 In: *IPC*. [Cited 6 July 2024]. https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Somalia_Acute_Food_Insecurity_Malnutrition_Aug_Dec2023_Snapshot.pdf; [iii] IPC. 2023. Acute Food Insecurity and Malnutrition Snapshot I August – December 2023. In: *IPC*. Cited 6 July 2024]. https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Somalia_Acute_Food_Insecurity_Malnutrition_Aug_Dec2023_Snapshot.pdf; [iv] WHO. 2024. Occupied Palestinian territory. In: *Health Cluster*. [Cited 6 July 2024]. https://healthcluster.who.int/countries-and-regions/occupied-palestinian-territory; [v] IPC. 2024b. *IPC Global Initiative – special snaphot-Gaza strip.* https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Gaza_Strip_Acute_Food_Insecurity_Feb_July2024_Special_Snapshot.pdf; [vi] FAO. 2024a. *Damage to cropland due to the conflict in the Gaza Strip as of 20 May 2024*. Rome. https://openknowledge.fao.org/handle/20.500.14283/cd1141en; [vii] FAO. 2024b. *Damage to agricultural infrastructure due to the conflict in the Gaza Strip as of 20 May 2024*. Rome. https://openknowledge.fao.org/handle/20.500.14283/cd1138en

FIGURE 9
PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY BY SEX (2023)



Notes: Definitions of country groupings are contained in Annex IV.

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In 2023, both globally and within the Arab region, the prevalence of food insecurity was notably higher among women (Figure 9, Table A-5). In the Arab region, the gender gap in moderate or severe food insecurity is 4.0 percentage points, in severe food insecurity it is 1.6 percentage points, with women being more food insecure than men. Looking at income classification, women are more food insecure than men in all regions, with the exception of high-income countries, where food insecurity is more widespread among men compared to women.

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CHAPTER 2

SUSTAINABLE DEVELOPMENT TARGET 2.2: MALNUTRITION

Key messages

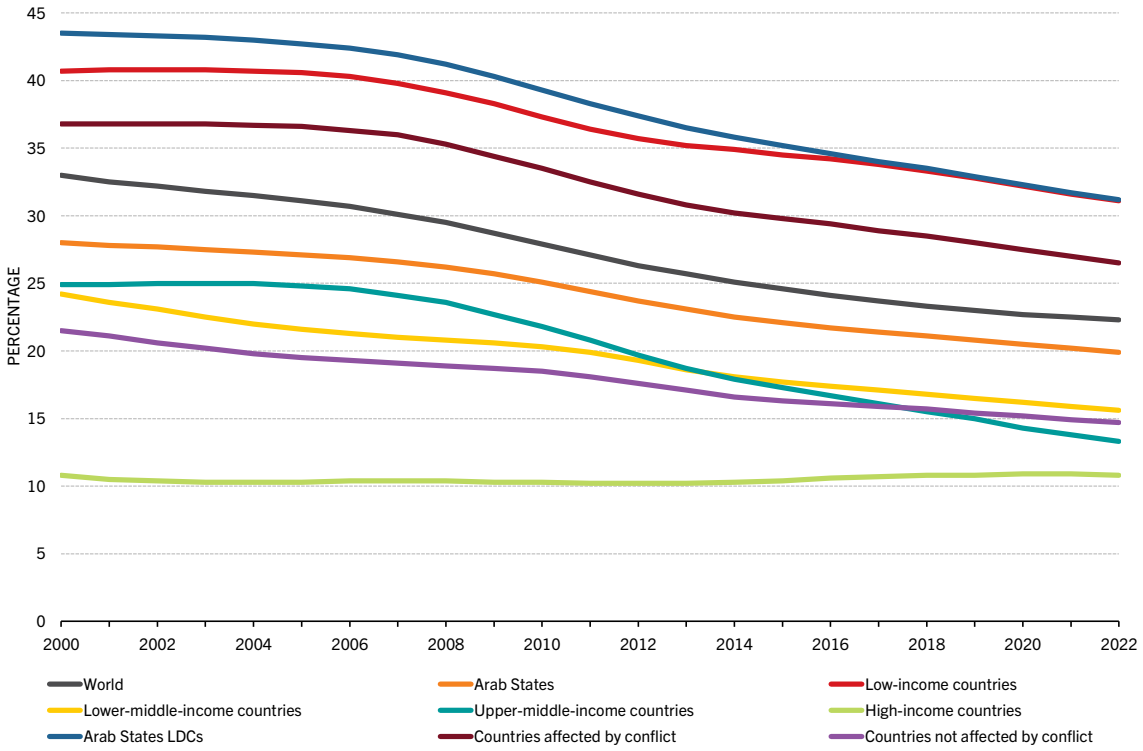
- In 2022, the prevalence of stunting in the Arab region was lower (19.9 percent) than the world average (22.3 percent), although the prevalence in Arab States LDCs was 31.2 percent. There has been a substantial improvement in the region in stunting, as it decreased from 28.0 percent in 2000 to 19.9 percent in 2022.
- The prevalence of wasting was higher in the Arab region (7.1 percent) than the world average (6.8 percent) in 2022. Low-income countries in the Arab region had the highest prevalence in 2022 (14.6 percent) compared to the other country income groups.
- In 2022, the prevalence of overweight among children under 5 years of age in the Arab region was 9.5 percent, almost the double of the world average (5.6 percent). In addition, overweight among children has increased by 8.0 percent since the beginning of this millennium.
- Out of the presented country income groups, lower-middle-income countries have the highest prevalence of overweight among children under 5 years of age (14.2 percent) in the Arab region. The three countries with the highest prevalence of overweight among children under 5 years of age in 2022 were Libya (28.7 percent), Tunisia (19 percent) and Egypt (18.8 percent).
- The prevalence of anaemia among women aged 15 to 49 years in 2019 was 33.2 percent in the Arab region, which was higher than the global average (29.9 percent). Anaemia among women was more pronounced in low-income countries (43.9 percent) compared to high-income countries in the Arab region (27.1 percent).

2.1 STUNTING AMONG CHILDREN UNDER 5 YEARS OF AGE

Stunting in the region was lower than the world average throughout the 2000–2022 period. In addition, the region has made significant improvements in reducing stunting in the last two decades. As a result, stunting has decreased from 28.0 percent in 2000 to 19.9 percent in 2022 (Figure 10, Table A-6).

FIGURE 10

PREVALENCE OF STUNTING AMONG CHILDREN UNDER 5 YEARS OF AGE IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023

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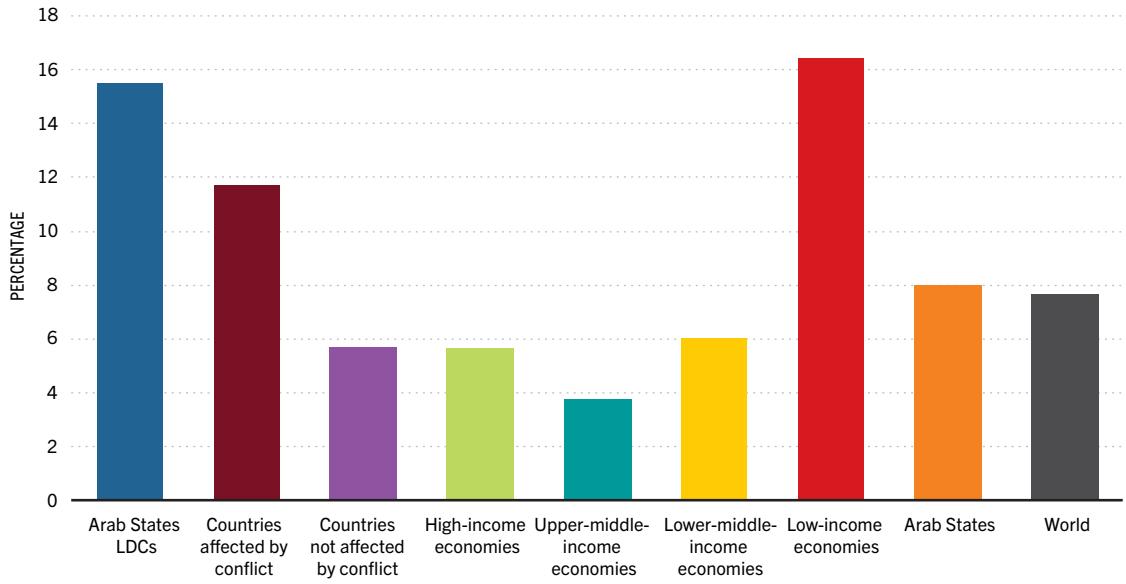
Arab States LDCs have had a consistently high prevalence of stunting, although the prevalence decreased notably during 2000–2022, falling from 43.5 percent to 31.2 percent (12.3 percentage points) (Table A-6).

The country income group with the consistently lowest prevalence of stunting is high-income countries, with a prevalence of 10.8 percent in 2022.

2.2 WASTING AMONG CHILDREN UNDER 5 YEARS OF AGE

Arab States had higher prevalence of wasting (7.1 percent) than the global average (6.8 percent) in 2022 (Figure 11, Table A-7), with low-income countries in the Arab region having the highest prevalence (14.6 percent) compared to the other country income groups. The prevalence of wasting in countries affected by conflict was more than double the prevalence in countries not affected by conflict (10.4 percent compared to 5 percent) in 2022.

FIGURE 11
PREVALENCE OF WASTING AMONG CHILDREN UNDER 5 YEARS OF AGE IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS (2022)



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023

Download: https://doi.org/10.4060/cd3550en-fig11

2.3 OVERWEIGHT AMONG CHILDREN UNDER 5 YEARS OF AGE

In 2022, the prevalence of overweight among children under 5 years of age in the Arab region was 9.5 percent, almost double the world average (5.6 percent) (Table 6). In addition, overweight among children under 5 years of age has increased by 8.0 percent since 2000. It is worth noting that high-income countries' figures have risen significantly, from 3.9 percent in 2000 to 9.5 percent in 2022.

Among the country income groups, the highest prevalence of overweight among children under 5 years of age has consistently been in the lower-middle-income countries. In 2022, lower-middle-income countries had a prevalence of 14.2 percent. The prevalence has remained consistently low in the Arab States LDCs since 2002, which had a prevalence of 2.4 percent in 2022.

TABLE 6
PREVALENCE OF OVERWEIGHT AMONG CHILDREN UNDER 5 YEARS OF AGE (PERCENT)

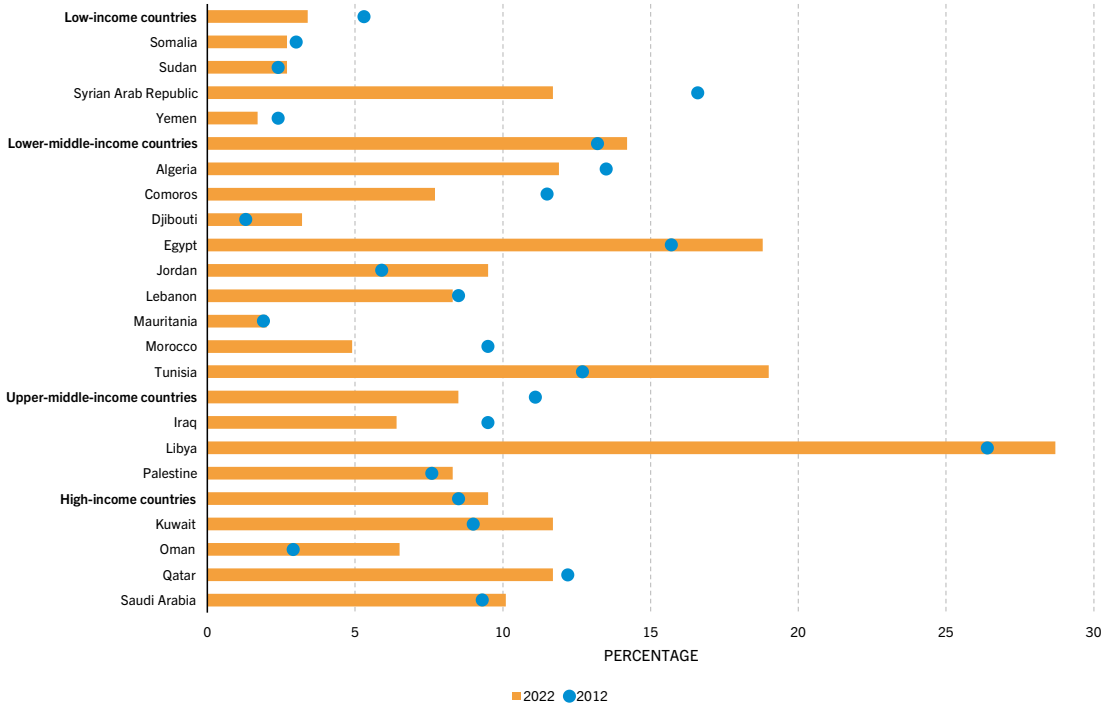
	2000	2005	2010	2012	2015	2020	2022
World	**5.3**	**5.6**	**5.5**	**5.5**	**5.5**	**5.6**	**5.6**
Arab States	8.8	10.5	10.3	10.0	9.6	9.4	9.5
Low-income countries	6.7	7.1	6.0	5.3	4.1	3.3	3.4
Lower-middle-income countries	11.3	13.7	13.5	13.2	13.0	13.7	14.2
Upper-middle-income countries	8.5	11.5	11.9	11.1	10.0	8.9	8.5
High-income countries	3.9	5.6	7.7	8.5	9.4	9.8	9.5
Arab States LDCs	4.2	4.0	2.8	2.5	2.3	2.3	2.4
Countries affected by conflict	7.3	8.5	7.7	7.0	5.9	4.9	4.8
Countries not affected by conflict	10.0	12.2	12.4	12.3	12.3	12.9	13.3

Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition.* New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023

FIGURE 12

PREVALENCE OF OVERWEIGHT AMONG CHILDREN UNDER 5 YEARS OF AGE IN THE ARAB STATES BY COUNTRY INCOME GROUP AND COUNTRY



Notes: Definitions of country groupings are contained in Annex IV.

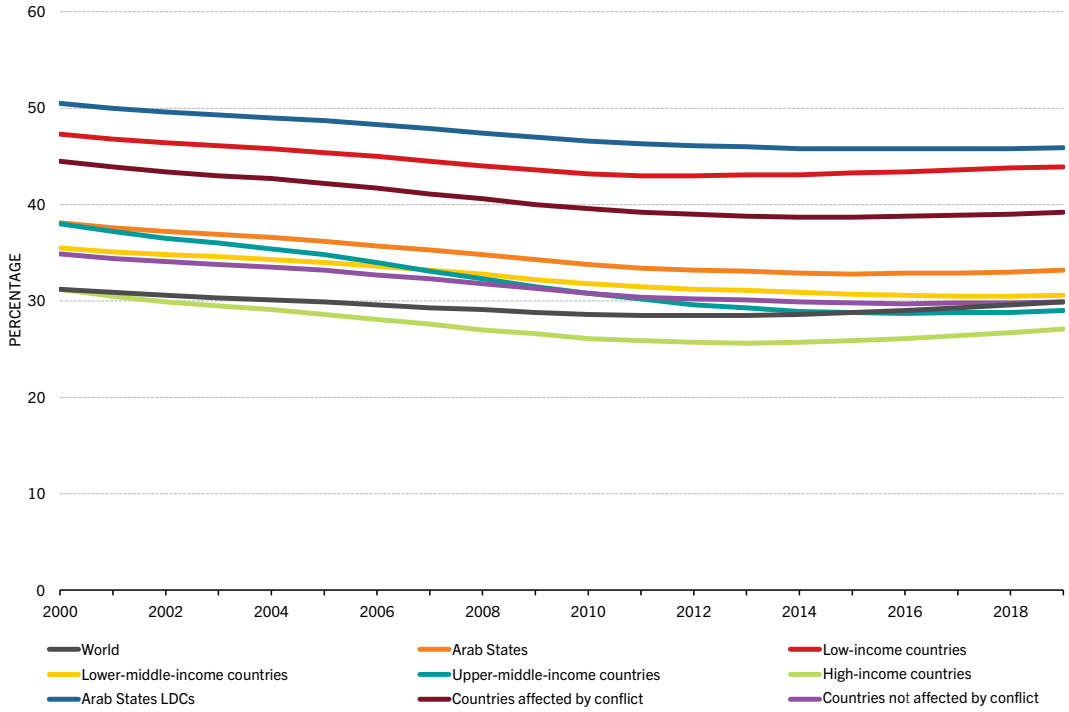
Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023

Download: https://doi.org/10.4060/cd3550en-fig12

The country with the highest prevalence of overweight among children under 5 years of age in 2022 was Libya, with a prevalence of 28.7 percent, almost 10 percentage points higher than the next two countries facing a high prevalence of child overweight, Tunisia (19 percent) and Egypt (18.8 percent) (Figure 12). The country with the lowest prevalence in 2022 was Yemen (1.7 percent). The country that was able to reduce its prevalence the most between 2012 and 2022 was the Syrian Arab Republic, which dropped by 4.9 percentage points from 16.6 percent to 11.7 percent. The country which saw its prevalence increase the most was Tunisia, which rose by 6.3 percentage points from 12.7 percent in 2012 to 19 percent in 2022.

2.4 ANAEMIA AMONG WOMEN AGED 15 TO 49 YEARS

FIGURE 13
PREVALENCE OF ANAEMIA AMONG WOMEN AGED 15 TO 49 YEARS IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Note: The estimates refer to women aged 15 to 49 years, including pregnant, non-pregnant women and lactating women and were adjusted for altitude and smoking. WHO defines anaemia in pregnant women as a haemoglobin concentration <110 g/L at sea level, and anaemia in non-pregnant women and lactating women as a haemoglobin concentration <120 g/L. Definitions of country groupings are contained in Annex IV.

Source: Based on WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children

Download: https://doi.org/10.4060/cd3550en-fig13

The prevalence of anaemia among women aged 15 to 49 years in 2019 was 33.2 percent in Arab States, which was higher than the global average (29.9 percent) (Figure 13, Table A-9). However, it is worth noting that, between 2000 and 2019, Arab States experienced a larger improvement in their anaemia prevalence estimates than the global average; Arab States fell by 4.9 percentage points from 38.1 percent to 33.2 percent, while the world fell by 1.3 percentage points from 38.1 to 33.2 percent.

The prevalence of anaemia among women aged 15 to 49 years in Arab States LDCs was 45.9 percent in 2019. Among the country income groups, high-income countries have consistently had the lowest prevalence (27.1 percent). Every subgroup has witnessed a decrease in their respective prevalence between 2000 and 2022; the subgroup that saw the largest improvement was the upper-middle-income countries group, which saw its prevalence fall from 38 percent to 29 percent. The subgroup that experienced the lowest level of improvement was the low-income countries group, which fell by 3.4 percentage points from 47.3 to 43.9 percent.

CHAPTER 3
ADDITIONAL WORLD HEALTH ASSEMBLY NUTRITION INDICATORS

Key messages

- The prevalence of obesity among adults (18 years and older) in the Arab States was 32.1 percent in 2022, more than double the global prevalence of 15.8 percent. Upper-middle-income countries have the highest prevalence of adult obesity (33.8 percent) compared to the other country income groups.
- In addition, the increase in the prevalence of obesity is showing an alarming trend in Arab countries in all country income groups.
- In 2022, Egypt had the highest prevalence of adult obesity (44.3 percent), followed by Qatar (43.1 percent) and Kuwait (41.4 percent). Djibouti had the lowest prevalence (11.3 percent), in addition to Yemen (13.7 percent) and Somalia (14.6 percent).
- The prevalence of low birthweight was lower in the Arab States (13.3 percent) compared to the global average (14.7 percent) in 2020.
- This section assesses progress towards three additional World Health Assembly (WHA) endorsed global nutrition targets.

3.1 ADULT OBESITY

In the Arab States, the prevalence of obesity among adults 18 years and older was 32.1 percent in 2022, more than double the global prevalence of 15.8 percent (Table 7). Low-income countries have consistently been the country income group with the lowest prevalence of adult obesity during the period 2000–2022. High-income countries had the highest prevalence until 2014, when upper-middle-income countries surpassed them and have since remained the group of countries with the highest prevalence. Furthermore, the prevalence of obesity shows an increasing trend in the Arab States from 2000 to 2022.

TABLE 7

PREVALENCE OF OBESITY AMONG ADULTS 18 YEARS AND OLDER (PERCENT)

	2000	2005	2010	2012	2015	2020	2022
World	**8.7**	**10.1**	**11.5**	**12.1**	**13.1**	**14.9**	**15.8**
Arab States	19.6	22.7	25.7	26.8	28.5	31.1	32.1
Low-income countries	10.3	12.5	14.8	15.6	16.1	18.5	19.7
Lower-middle-income countries	20.4	23.6	26.6	27.8	29.6	32.6	33.8
Upper-middle-income countries	25.8	29.5	32.7	34.0	35.8	38.6	39.7
High-income countries	26.3	30.0	33.2	34.1	35.6	37.8	38.6
Arab States LDCs	6.2	7.9	9.8	10.6	11.9	14.5	15.7
Countries affected by conflict	15.2	17.9	20.3	21.3	22.5	25.1	26.2
Countries not affected by conflict	21.4	24.8	28.0	29.2	30.9	33.7	34.7

Notes: Definitions of country groupings are contained in Annex IV.

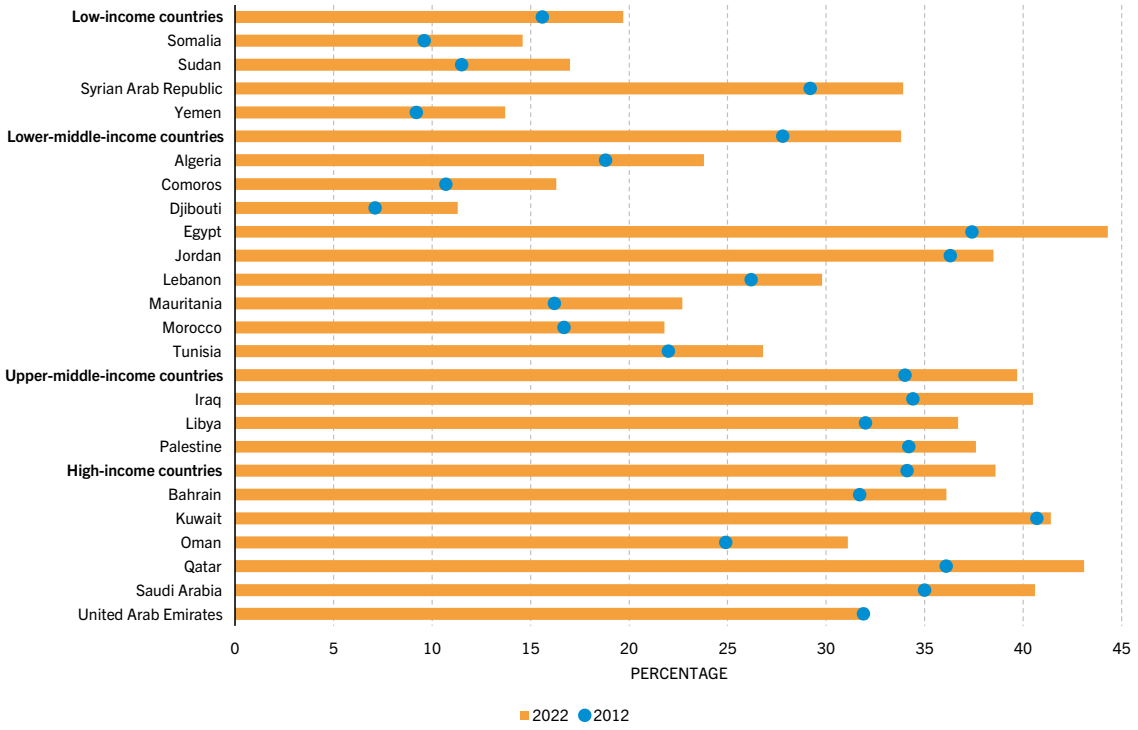
Source: Based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country.* [Accessed on 24 July 2024].
https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(age-standardized-estimate)-(-).

In 2022, Egypt had the highest prevalence of adult obesity (44.3 percent), followed by Qatar (43.1 percent), and Kuwait (41.4 percent). Djibouti had the lowest prevalence (11.3 percent), followed by Yemen (13.7 percent) and Somalia (14.6 percent) (Figure 14).

The prevalence of adult obesity is higher in 2022 compared to 2012 in every country (except for the United Arab Emirates). Qatar increased the most between 2012 and 2022, rising from 36.1 percent in 2012 to 43.1 percent in 2022; this was followed by Egypt in close second, rising from 37.4 percent in 2012 to 44.3 percent in 2022.

FIGURE 14

PREVALENCE OF OBESITY AMONG ADULTS 18 YEARS AND OLDER IN THE ARAB STATES BY COUNTRY INCOME GROUP AND COUNTRY



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024]. https://apps.who.int/gho/data/node.main.A900A?lang=en. Licence: CC-BY-4.0.

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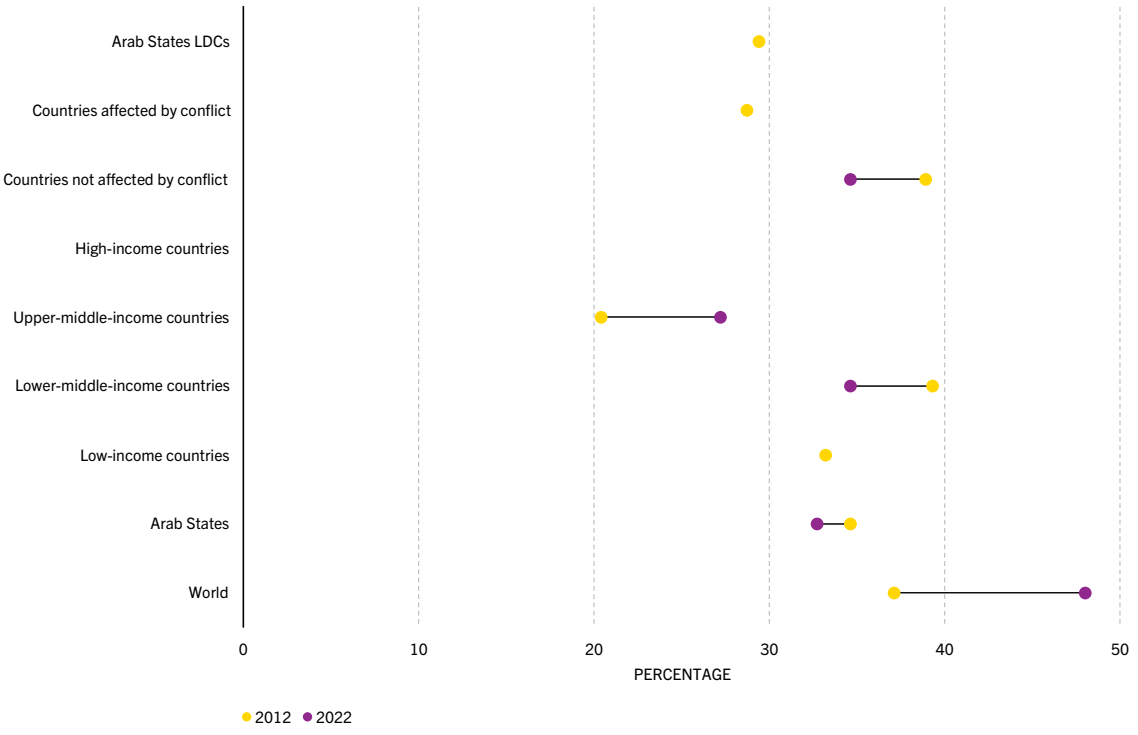
3.2 PREVALENCE OF EXCLUSIVE BREASTFEEDING DURING THE FIRST SIX MONTHS OF LIFE

The Arab States are far behind the global average and the WHO target for exclusive breastfeeding among infants aged 0–5 months. In 2022, the Arab States had an exclusive breastfeeding rate of 32.7 percent, compared to the global 48 percent (Figure 15, Table A-11). While the global figure rose markedly from 37.1 percent in 2012 to 48 percent in 2022, Arab States witnessed their figures drop from 34.6 percent to 32.7 percent in the same period.

FIGURE 15
PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS 0–5 MONTHS OF AGE IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Values for high-income countries in 2012 and for low-income countries, high-income countries, countries affected by conflict and Arab States LDCs in 2022 are not calculated due to low country and population coverage. Definitions of country groupings are contained in Annex IV.

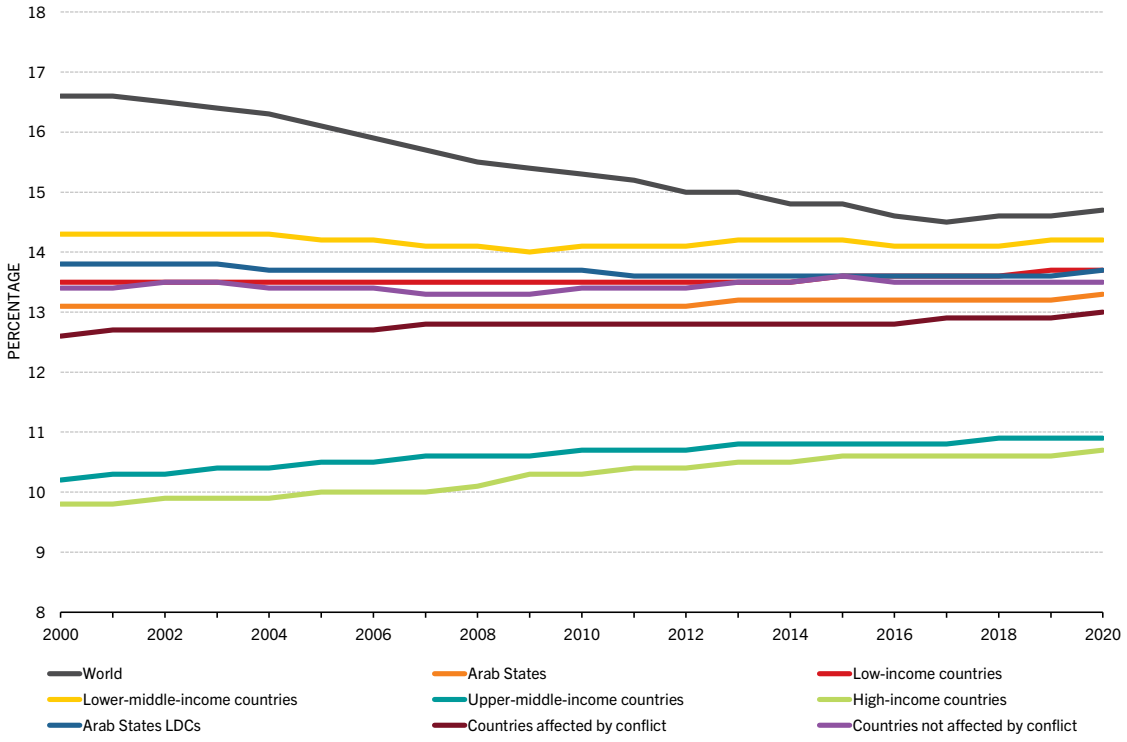
Source: Based on UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

Download: https://doi.org/10.4060/cd3550en-fig15

3.3 PREVALENCE OF LOW BIRTHWEIGHT

The prevalence of low birthweight was lower in the Arab States (13.3 percent) than the global average (14.7 percent) in 2020 (Figure 16, Table A-12). The prevalence of low birthweight has remained relatively unchanged in the Arab States since the year 2000 at around 13 percent. Amongst the various country income groups, lower-middle-income countries had the highest prevalence of low birthweight in 2020 (14.2 percent) and high-income countries had the lowest prevalence (10.7 percent) in 2020.

FIGURE 16
PREVALENCE OF LOW BIRTHWEIGHT IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.
Source: UNICEF and WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight
Download: https://doi.org/10.4060/cd3550en-fig16

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CHAPTER 4

UPDATES TO THE COST AND AFFORDABILITY OF A HEALTHY DIET

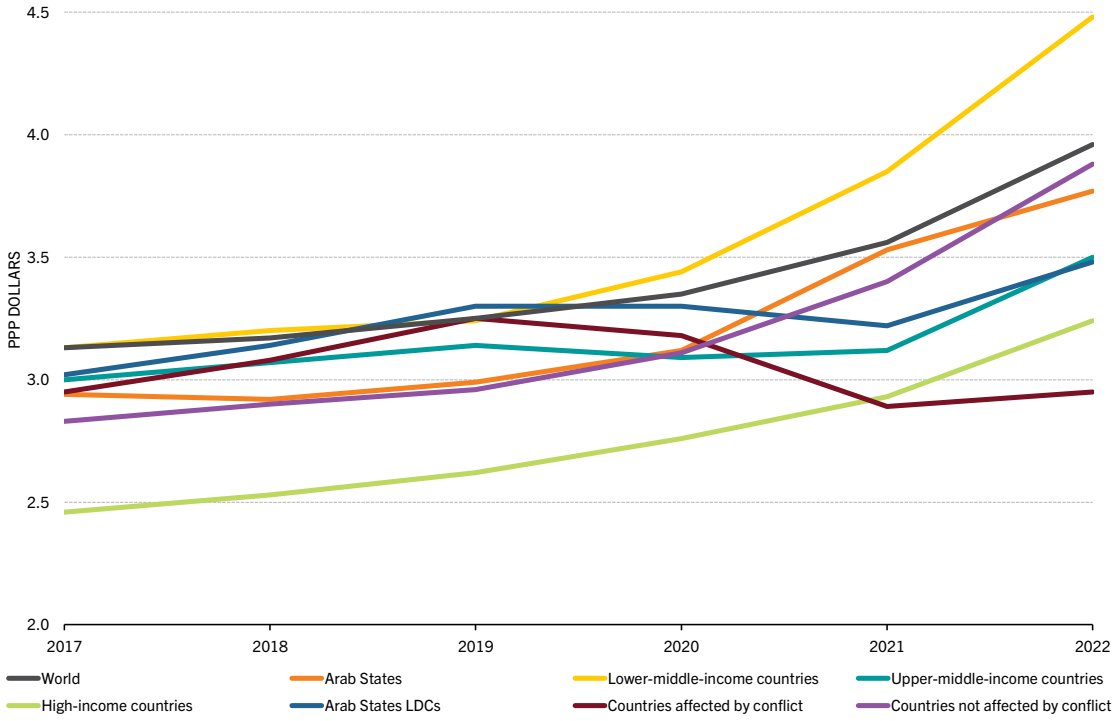
Key messages

- The cost of a healthy diet in the Arab States was 3.77 PPP (purchasing power parity) dollars per person per day in 2022, up by 6.8 percent from the year before. Since 2017, the cost of a healthy diet has increased by 28.2 percent.
- In 2022, 151.3 million people, almost one-third of the region's population (32.6 percent) could not afford a healthy diet in the Arab States. The subgroup with the highest share of its population unable to afford a healthy diet in 2022 was the group of countries affected by conflict (41.2 percent) and the Arab States LDCs (36.4 percent).
- Despite the continuously growing cost of a healthy diet in recent years, there was a significant decrease in the number of people unable to afford a healthy diet between 2020 and 2021, followed by a slight increase in 2022. The 2020–2021 decrease might be partly attributed to the expansion of access to social protection in the COVID-19 pandemic response across the region.

The cost of a healthy diet (CoHD) indicator provides national-level estimates of the cost of acquiring the cheapest possible healthy diet in a country, defined as a diet comprising a variety of locally available foods that meet energy and nutritional requirements (see Annex II: Indicators definitions). In this report, new food price data and methodological improvements have resulted in updated cost estimates and more accurate estimates of the affordability of a healthy diet, leading to a revision of the entire series of both sets of indicators up to 2022 (See *The State of Food Security and Nutrition 2024*, page 23 and Supplementary material to its Chapter 2).

FIGURE 17

COST OF A HEALTHY DIET IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig17

TABLE 8

COST OF A HEALTHY DIET (PPP INTERNATIONAL DOLLARS)

	2017	2018	2019	2020	2021	2022
World	**3.13**	**3.17**	**3.25**	**3.35**	**3.56**	**3.96**
Arab States	2.94	2.92	2.99	3.12	3.53	3.77
Low-income countries	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Lower-middle-income countries	3.13	3.20	3.24	3.44	3.85	4.48
Upper-middle-income countries	3.00	3.07	3.14	3.09	3.12	3.50
High-income countries	2.46	2.53	2.62	2.76	2.93	3.24
Arab States LDCs	3.02	3.14	3.30	3.30	3.22	3.48
Countries affected by conflict	2.95	3.08	3.25	3.18	2.89	2.95
Countries not affected by conflict	2.83	2.90	2.96	3.11	3.40	3.88

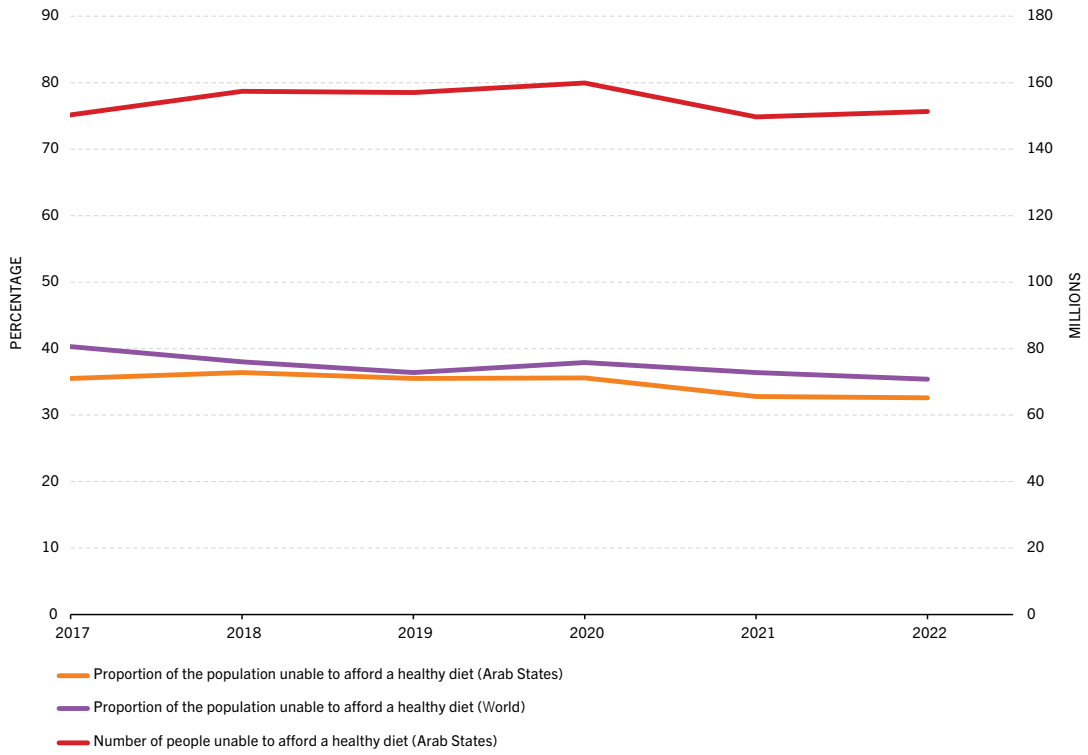
Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

The cost of a healthy diet (CoHD) in the Arab States was 3.77 PPP (purchasing power parity) dollars per person per day in 2022, up by 6.8 percent from the year before and only 0.19 PPP dollars below the global average (Figure 17, Table 8). Lower-middle-income countries had the highest cost of a healthy diet in 2022, which was 4.48 PPP dollars. The subgroup with the lowest cost was the group of countries affected by conflict, at 2.95 PPP dollars; on an income level, high-income countries had the lowest cost, with 3.24 PPP dollars. The CoHD in Arab States increased by 6.8 percent between 2021 and 2022 (3.53 PPP dollars to 3.77 PPP dollars), which was lower than the world increase of 11.2 percent for the same period (3.56 PPP dollars to 3.96 PPP dollars). The subgroup which experienced the largest increase between 2021 and 2022 was the lower-middle-income countries group, which increased from 3.85 PPP dollars to 4.48 PPP dollars (16.4 percent increase). The only subgroup which did not see a significant change between 2017 and 2022 was the group of countries affected by conflict, which sat at 2.95 PPP dollars in both years. High-income countries have traditionally had the lowest CoHD on average, which was the case until 2021, when they began to experience higher costs (2.93 PPP dollars in high-income countries to 2.89 PPP dollars in countries affected by conflict).

FIGURE 18

PROPORTION OF THE POPULATION UNABLE TO AFFORD A HEALTHY DIET IN THE WORLD AND THE ARAB STATES, AND THE NUMBER OF PEOPLE UNABLE TO AFFORD A HEALTHY DIET IN THE ARAB STATES



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

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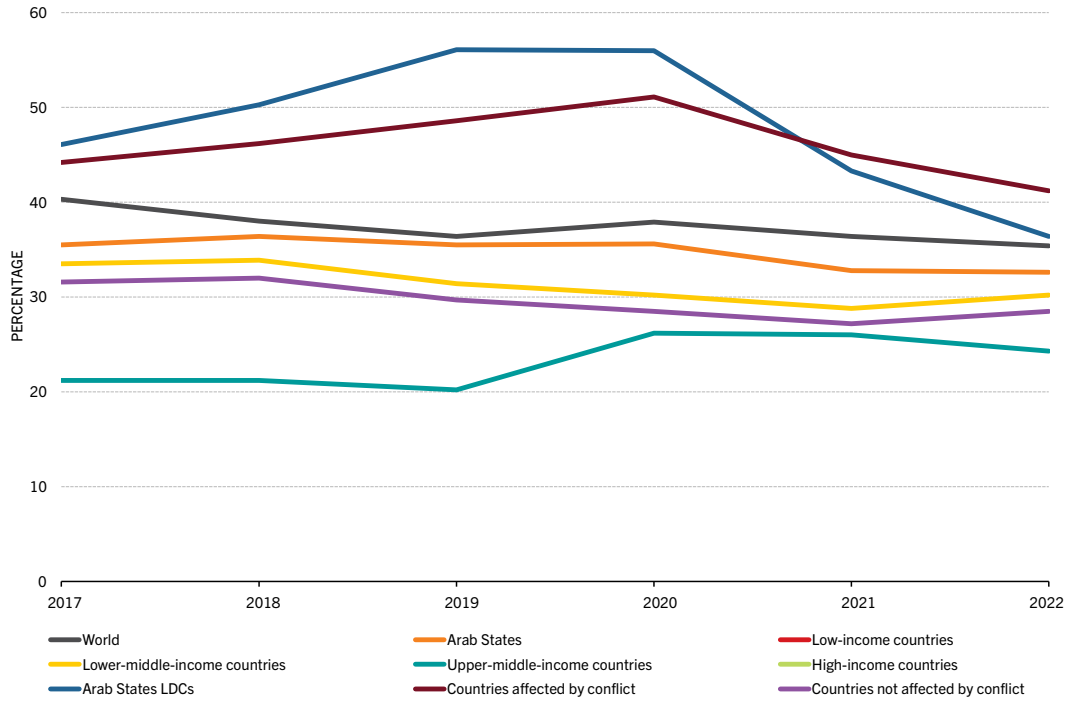
In 2022, 151.3 million people in the Arab States could not afford a healthy diet, corresponding to 32.6 percent of the region's population, which is slightly lower than the global average of 35.4 percent (Figure 18, Table A-13). There is a significant decrease in the proportion and number of the population unable to afford a healthy diet between 2020 and 2021, falling from 35.6 percent (159.9 million people) to 32.8 percent (149.7 million people). This might be, at least partly, attributed to the expansion of access to social protection in the COVID-19 pandemic response across the region (ILO, 2021).

FIGURE 19

PROPORTION OF THE POPULATION UNABLE TO AFFORD A HEALTHY DIET IN THE ARAB STATES BY COUNTRY INCOME GROUP, CONFLICT STATUS AND LEAST DEVELOPED COUNTRY STATUS



Notes: Definitions of country groupings are contained in Annex IV.

Source: Based on FAO. 2024. FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

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In 2022, 2.8 billion people were unable to afford a healthy diet in the world, of which 151.3 million resided in the Arab States, representing 5.4 percent of the global population (Table A-13). The subgroup with the highest share of its population unable to afford a healthy diet in 2022 was the group of countries affected by conflict, with 41.2 percent, while countries not affected by conflict had the lowest share (28.5 percent).

The number of people in the Arab region unable to afford a healthy diet fell by almost 10 million between 2020 and 2021, before increasing by around 1.5 million in 2022. The declining trend is driven mainly by the Arab States LDCs. The data indicate that, despite the increases in costs of healthy diets since 2018 (Figure 17), the number of people unable to afford a healthy diet in the region is improving. Despite this improvement, recent regional shocks caused by the war in Ukraine and the recent Red Sea crisis could in the future undermine this current amelioration by increasing food import costs.

PART 2

FINANCING THE TRANSFORMATION OF AGRIFOOD SYSTEMS FOR FOOD SECURITY AND NUTRITION

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INTRODUCTION TO PART 2

FOOD SECURITY AND NUTRITION CHALLENGES IN THE ARAB REGION

As presented in Part I of this report, the Arab region continues to face challenges with food security and nutrition. The prevalence of undernourishment (PoU) is further and further away from meeting Sustainable Development Goal (SDG) 2 of Zero Hunger, reaching a new height in 2023. In 2023, moderate or severe food insecurity in the Arab region also increased from the previous year. In addition, since 2017, the cost of a healthy diet has increased by 28.2 percent and in 2022, almost one-third of the region's population could not afford a healthy diet. Malnutrition continues to be an issue of high concern. For example, in 2022, the prevalence of overweight among children under 5 years of age and among adults over 18 years was around double the world average.

However, the region, as well as its food security and nutrition challenges, is diverse to a great extent. Non oil exporting countries, especially least developed countries (LDCs), and countries affected by conflict have higher prevalences of undernourishment and food insecurity, and higher rates of their population are unable to afford healthy diets. The increase of international oil and commodity prices negatively influence their economic and fiscal situation, and the poverty and food insecurity of their populations. Wealthier oil-exporter Gulf Cooperation Council (GCC) countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates have low prevalences of hunger and food insecurity. However, they face other challenges, such as high rates of adult obesity.

Conflicts, climate extremes and vulnerability, scarcity of natural resources, and economic downturns are the major drivers of food insecurity in the region, coupled with the challenges of a growing population and deepening inequalities (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). Due to high import dependency and limited food production capacities, the region is susceptible to changes in international food prices. Regional food production is limited due to scarcity of fertile land and water, impacts of climate variability and the increased frequency of extreme weather events (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023).

Peaks in international food commodity prices in 2022 fuelled high domestic food price inflation throughout the region, especially in non-oil exporting countries, despite the presence of consumption subsidies in many countries in the region. At the end of 2023, regional average food price inflation was higher in the Arab region than in any other region in the world (FAO, 2023a). Due to subsidies on staple foods, high international food commodity prices put pressure on states' budgets by increasing food import bills and on national currencies, increasing indebtedness and further limiting the fiscal space of oil-importing countries.[5]

5 According to the World Bank, among oil-importing economies in the Middle East and North Africa (MENA) region, the median country experienced a net increase of almost 10 percentage points in the debt-to-GDP ratio between 2019 and 2023 as rising commodity prices and subdued growth contributed to persistent fiscal deficits among MENA oil importers. https://openknowledge.worldbank.org/server/api/core/bitstreams/0441b490-2581-4ae6-915d-ec814976331e/content. (MENA country coverage of the World Bank is somewhat different compared to the Arab/NENA countries coverage of this report. The scope of the World Bank's MENA region covers the following countries: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates, West Bank and Gaza, Yemen).

These challenges have been compounded by the effects of the COVID-19 pandemic, which has worsened regional vulnerabilities and socioeconomic inequalities. The war in Ukraine has had negative economic and trade repercussions on the Arab region, due to its high dependence on imports of wheat and other commodities from the Black Sea region and due to further increases in prices of internationally traded commodities (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). Attacks on the commercial shipping in the Red Sea since late 2023 have caused further trade route disruptions in the region.

Conflicts in the region have also been negatively impacting food security and nutrition. These include the hostilities in Gaza and Lebanon, and their escalation over the broader region; the Yemen civil war and the Sudan civil war and their associated impacts on food security and risk of famine; the conflicts in the Syrian Arab Republic and Somalia; the past wars with lingering conflicts in Libya and Iraq, and the protracted economic crisis in Lebanon.

Neither food security nor nutrition challenges should be addressed in isolation, as both challenges exist not only within vast and complex agrifood systems but also within the same country or the same household. Food insecurity can influence nutritional status by affecting access to food and food choice decisions in a variety of ways that may influence diet quality. This may lead not only to undernourishment but also to various forms of malnutrition, including micronutrient deficiencies and increased overweight and obesity. Solutions to agrifood systems challenges require holistic solutions.

SYSTEMIC CHANGE IS REQUIRED TO ADDRESS FOOD SECURITY AND NUTRITION CHALLENGES

As the Arab region on average remains far from achieving both SDG 2.1 – ending hunger and ensuring universal access to safe and nutritious food – and 2.2 – ending all forms of malnutrition – while facing multiple major drivers of food insecurity and malnutrition (including conflict, climate variability and extremes and economic slowdowns and downturns), and structural inequalities, a complete transformation of agrifood systems is necessary. Through this transformation, the agrifood system must become more resilient to increasing shocks and stresses (FAO, 2021). The agrifood system must also address the major drivers of food insecurity and malnutrition and ensure access to affordable healthy diets for all, environmentally and sustainably, in an equitable, inclusive manner (FAO, IFAD, UNICEF, WFP and WHO, 2021) that safeguards livelihoods.

As stated in *The State of Food Security and Nutrition in the World 2024*:

> Agrifood systems encompass the entire range of actors, and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products. They comprise all food products that originate from crop and livestock production, forestry, fisheries and aquaculture, as well as the broader economic, societal and natural environments in which these diverse production systems are embedded (FAO, IFAD, UNICEF, WFP and WHO, 2024, p. 219).

These agrifood systems encompass both agricultural and food systems, focusing on both food and nonfood agricultural products, with clear overlaps. In addition, the 2021 edition of *The State of Food Security and Nutrition in the World* highlights the importance of adopting a systems lens when addressing food security or nutrition challenges since agrifood systems are central to: 1) the quantity, quality, diversity and nutritional content of the foods available for consumption; 2) sustaining the livelihoods of millions of people around the world; 3) human health in a variety of ways; and 4) our planet's well-being (FAO, IFAD, UNICEF, WFP and WHO, 2021).

The sustainable development goals lay out the framing of sustainable agrifood systems as systems that deliver food security and nutrition for all in such a way that the economic, social and environmental bases to generate food security and nutrition for future generations are not compromised. A sustainable agrifood system is required to be profitable throughout (economic sustainability); have broad-based benefits for society (social sustainability); and have a positive, or at least a neutral impact on the natural environment (environmental sustainability) (FAO, IFAD, UNICEF, WFP and WHO, 2021).

FINANCING THE TRANSFORMATION OF AGRIFOOD SYSTEMS FOR FOOD SECURITY AND NUTRITION

A comprehensive agrifood systems transformation approach is only possible with sufficient financial resources. Financing provides funds for the public and the private sector to engage in economic activities, make purchases or carry out investment (FAO, IFAD, UNICEF, WFP and WHO, 2024). Investment is one of the key drivers in the transformation of agrifood systems, which, if activated, can spread its positive impacts throughout agrifood, socioeconomic, and environmental systems, thanks to its multiple systemic linkages and feedback effects (FAO, 2022a). However, as presented in Section 5, the Arab region's food and agriculture sector broadly receives less funding than the world average.

Repurposing existing food and agricultural expenditures is a better way to tap into existing public financing. This and also further increasing financing in sustainable agrifood systems are critical to realizing the ambitions of the 2030 Agenda and the Paris Agreement. Mobilizing additional financial resources for developing countries is an important means of implementing the SDGs (see the specific targets under SDG 17).[6] Increased financial resources can also foster decent rural employment and green jobs, particularly for women and youths, and income generation. In addition, under SDG 2, Target 2.A calls for increased investment through enhanced international cooperation in rural infrastructure, agricultural research and extension services, and technology development and plant and livestock gene banks to enhance agricultural productive capacity, particularly in low-income countries (Gadhok *et al.,* 2020).

Agriculture is far behind other sectors in terms of attracting the investment necessary to achieve the SDGs (UNCTAD, 2023). However, there are resources to address this financing gap – pointing to the repurposing of agricultural subsidies, the improvement of private sector investments and official development assistance (ODA) flows, a scaling-up of climate financing tailoring loss, damage financing and targeted debt relief efforts (Van Nieuwkoop, 2024).

6 See UNDESA for targets and indicators.

As a comprehensive agrifood systems transformation approach can ultimately be hampered by insufficient financial resources, the 36th Session of the FAO Regional Conference for the Near East, which took place in Baghdad in 2022, recommended that FAO support Members in mobilizing resources and investments and building strong human capital; enhance its focus and work on supporting Members to use trade, investment and technology as enablers for agrifood systems transformation, and to achieve food security, improve nutrition, and enable the consumption of healthy diets for all (FAO, 2022b). In 2023, FAO participated as a strategic partner of the United Nations Conference on Trade and Development (UNCTAD) in organizing the World Investment Forum with a separate track on agrifood systems transformation (Box 2).

BOX 2

FAO PARTICIPATION AT THE WORLD INVESTMENT FORUM (16 TO 20 OCTOBER 2023 IN ABU DHABI)

FAO participated in the World Investment Forum 2023; this was the first year FAO participated as a strategic partner of United Nations Conference on Trade and Development (UNCTAD) in organizing the World Investment Forum from 16 to 20 October 2023 in Abu Dhabi, which provided an outstanding opportunity to draw attention to and raise awareness on the crucial impact of increasing sustainable investment in agrifood systems. FAO organized nine sessions ("FAO Track") in the forum under the theme "Investing in Transforming Agrifood Systems" (FAO, 2023a).[7]

The discussions highlighted the importance of local food production for regional food security and redirecting finance toward food production. However, they also pointed out the financial challenges facing indebted developing countries. The solution lies in employing innovative financial approaches and nurturing mutually advantageous partnerships between those possessing financial resources and those lacking them.

Source: FAO. 2023a. *Food Policy Monitoring in the Near East and North Africa Region*. 4th Quarter 2023 | Bulletin. Cairo.

7 See the focus section of the Food Policy Monitoring Bulletin in the Near East and North Africa region, FAO, 2023 4th quarter issue.

Section 5 of Part II of this report analyses the financial and investment flows that the Arab region's agrifood systems receive, paying special attention to those oriented to food security and nutrition. However, due data limitations, the analysis is actually focused on two areas:

- When it is possible, this report adopts the proposal of a new definition for financing for food security and nutrition in *The State of Food Security and Nutrition in the World 2024*, which includes a core and an extended definition. The core definition includes financing flows supporting the main determinants of food security and nutrition. The extended definition, on the other hand, also incorporates financial flows that address the major drivers of food insecurity and malnutrition. This definition is fully applied in Section 5.3.3.
- As data to apply the new definition of financing for food security and nutrition exist only for some of the financing flows, and it is not possible to estimate how much financing the broader agrifood systems receive, in all other parts of Section 5 data of financing flows for the food and agriculture sector are used.

To map existing financial resources in the region, develop frameworks and enable policies for increased financing and improved financial targeting, it is essential to understand the major drivers of food insecurity and malnutrition in it (Subsection 5.2). Subsection 5.3 presents the mapping of some major existing financing flows for food security and nutrition in the region, such as government spending, international development funding, private bank credits and foreign direct investments.

Existing public support for agrifood systems can be reformed and repurposed to deploy funding more efficiently for healthier, more sustainable, equitable and efficient agrifood systems that can contribute to ending hunger, food insecurity and malnutrition in all its forms. These public support reforms are discussed in Section 6 of this report. This section discusses the conceptual framework for such repurposing (Section 6.1). Furthermore, it discusses in detail which support measures could be repurposed (Section 6.2, such as input, water use and output subsidies, market price support and fiscal subsidies to consumers) and which subsidies should be further enhanced (Section 6.3, such as research and development, extension services, investment in infrastructure, social protection measures and decoupled payments).

Although public support reform would be positive, it would only utilize a small portion of the capital required to transform the Arab agrifood systems. Investment capital aligned to social and environmental outcomes could help address the required agrifood systems transformation capital gap. This investment capital is discussed in Section 7.1.1. The inherent investment risks in Arab agrifood systems make flows of investment more challenging to unlock, but concessional capital can mitigate investment risk and create new investment opportunities. The application of concessional capital to facilitate investment is discussed in Section 7.1.4. The confluence of investment capital and concessional capital takes the form of innovative finance mechanisms. Examples of innovative finance mechanisms are discussed in Section 7.2. Bringing together actors to launch innovative finance mechanisms can be cumbersome; it can take time and require coordination and resources. Recommendations and next steps for the mobilization of resources to close the funding gap for transforming agrifood systems to improve food security and nutrition are outlined in Section 8.

CHAPTER 5
CURRENT AGRIFOOD SYSTEMS FINANCING FOR FOOD SECURITY AND NUTRITION

Financing is the process of providing funds for the public and private sectors to engage in economic activities, make purchases, or carry out investments (FAO, IFAD, UNICEF, WFP and WHO, 2024). For the United Nations Food Systems Summit 2021, the financing of agrifood systems transformation to achieve SDG 2 was defined as "a variety of financial resources, including funds 'internal' to food systems (consumer food expenditures and outlays by agrifood actors) and 'external' funds (international development flows, public budgets, banking systems, and capital" (Díaz-Bonilla, 2021, p.2). Based on this concept, the International Food Policy Research Institute (IFPRI) defined that global, national and local [agri]food systems operate on six main financial flows, namely: 1) public financing through fiscal policies, 2) funds allocated through official development assistance, 3) financing through the banking systems, 4) investment flows from capital markets, 5) consumer spending, and 6) financial flows through food trade and retail (IFPRI, 2022).

5.1 A NEW DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION

Following the foundations of financing for development laid at the 2002 Monterrey Consensus and the 2015 Addis Ababa Financing for Development Conference, *The State of Food Security and Nutrition in the World 2024* proposed a definition of financing for food security and nutrition that is rooted in a conceptual understanding of the definition and determinants of food security and nutrition, the interconnected nature of food security and nutrition, and the major drivers of hunger, food insecurity and all forms of malnutrition. According to this definition, financing for food security and nutrition refers to the process of providing or obtaining financial resources to ensure that all people, at all times, have stable, 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, and to suitable caring and feeding practices, and access to health, water and sanitation services to ensure continued adequate nutritional status. Such financial resources may be provided by one or a combination of four financing sources: 1) public domestic, 2) public foreign, 3) private domestic, and 4) private foreign. Each of the different financing sources deploys a range of financial instruments to finance short-term and long-term interventions on a commercial or concessionary basis (e.g. grants or loans below markets rates).[8] Additionally, it covers expenditures and investments that aim to ensure that all individuals are protected against short-term or long-term instability in food security and nutrition, caused by various climatic, economic, social, commercial and political factors.

8 *The State of Food Security and Nutrition in the World 2024* explains these four sources in more detail on pages 29–30.

Table 9 presents a summary matrix of the different financing flows by source that are used for financing food security and nutrition, and Box 3 a short definition of financial terminology.

TABLE 9
MATRIX OF THE DIFFERENT FINANCING FLOWS BY SOURCE

SOURCE OF FINANCING	DOMESTIC	FOREIGN
Public	Public spending Public development banks (state banks)	Official development assistance Other official flows
Private	Domestic private sector investment and spending	Multinational corporations' investments and spending Foreign direct investment Cross-border remittances

Note: The table is simplified to only show examples of different financing flows that belong exclusively to each source of financing. There are other financing flows that are common to more than one source of financing.

Source: FAO, IFAD, UNICEF, WFP and WHO. 2024. *The State of Food Security and Nutrition in the World 2024 – Financing to end hunger, food insecurity and malnutrition in all its forms*. Rome. https://doi.org/10.4060/cd1254en

BOX 3
BRIEF DEFINITION OF THE FINANCE TERMS USED IN THIS REPORT

These definitions are taken from *The State of Food Security and Nutrition in the World 2024* (p. 30–31), which has the same focus topic as this report: financing agrifood systems transformation.

Blended finance. The strategic use of development or concessional finance for the mobilization of additional finance, usually commercial private finance, towards sustainable development.

Capital markets. Capital markets represent a subset of financial markets that specifically deal with the buying and selling of equity and debt securities.

Debt. A debt arrangement gives the borrowing party permission to borrow money under the condition that it must pay back the sum later, usually with interest.

Domestic private investments (DPI). A measure of the amount of money that domestic businesses invest within their own country. It can be represented with the accounting equation: non-residential investment + residential investment + change in inventories.

Equity. Equity is an ownership stake in an asset less the amount of all liabilities on that asset.

Export credits. Export credit refers to financing or credit facilities that are extended to exporters to enable them to sell goods and services in overseas markets.

Financing. Financing is the process of providing funds for the public and the private sector to engage in economic activities, make purchases, or carry out investments. The funds may or may not be provided conditional upon a certain return (interests, dividends and so on) and/or reimbursement (of debt principal).

CONTINUED →

BOX 3 CONTINUED

Foreign direct investment (FDI). Foreign direct investment is made by a private entity resident in one economy into an enterprise resident in another.

Funding. In the strictest sense, funding is the provision of funds without the requirement of return or reimbursement. In a broad sense, it is any provision of funds, similar to financing, that may or may not involve an expectation of return or repayment.

Insurance. Insurance is a contract, represented by a policy, in which a policyholder receives financial protection or reimbursement against losses from an insurance company.

International portfolio investment (IPI). A type of investment that consists of securities and other financial assets held by investors in another country.

Investments. Investments are the commitment of current financial resources to achieve higher gains in the future.

Official development assistance (ODA). Official development assistance is government aid designed to promote the economic development and welfare of developing countries which meet a minimum grant element requirement.

Other official flows (OOF). These are official sector transactions that do not meet ODA criteria.

Securities. Security refers to a fungible, negotiable financial instrument that holds some type of monetary value.

Private financing. Private financing is the process of obtaining or raising funds by private sector entities to support various activities or investments.

Private domestic financing. Private foreign financing is the process of obtaining funds from foreign or international private investors and lenders.

Private foreign financing. Private foreign financing is the process of obtaining funds from foreign or international private investors and lenders.

Public financing. Public financing is the process of obtaining or raising funds by public sector entities (domestic and foreign governments, international organizations).

Public domestic financing. The process through which governments raise and allocate funds to finance public expenditures, mostly through taxes and loans.

Remittances. Remittances are funds sent by people who are living and working abroad back to their home countries.

Securities. A security is a fungible, negotiable financial instrument that represents some type of financial value, usually in the form of a stock, bond or option.

Source: FAO, IFAD, UNICEF, WFP and WHO. 2024. *The State of Food Security and Nutrition in the World 2024 – Financing to end hunger, food insecurity and malnutrition in all its forms.* Rome. https://doi.org/10.4060/cd1254en

The State of Food Security and Nutrition in the World 2024 thus defines a core and an extended definition of financing for food security and nutrition. The core definition includes financing flows that support efforts that address the main determinants of food security and nutrition, including the four dimensions of food security: food availability, economic and physical access to food, food utilization and stability over time.

Food availability "addresses whether or not food is actually or potentially physically present, including aspects of production, food reserves, markets and transportation, and wild foods" (FAO, IFAD, UNICEF, WFP and WHO, 2024, p. 222). Food access relates to the sufficient physical and economic access to food. "Poverty, and power imbalances in global food supply chains, both of which affect access and purchasing power, are drivers of food insecurity and malnutrition (see the extended definition)" (FAO, IFAD, UNICEF, WFP and WHO, 2024, p. 63). Food security is also determined by food utilization, or an individual's ability to utilize the calories and nutrients in the food they consume.

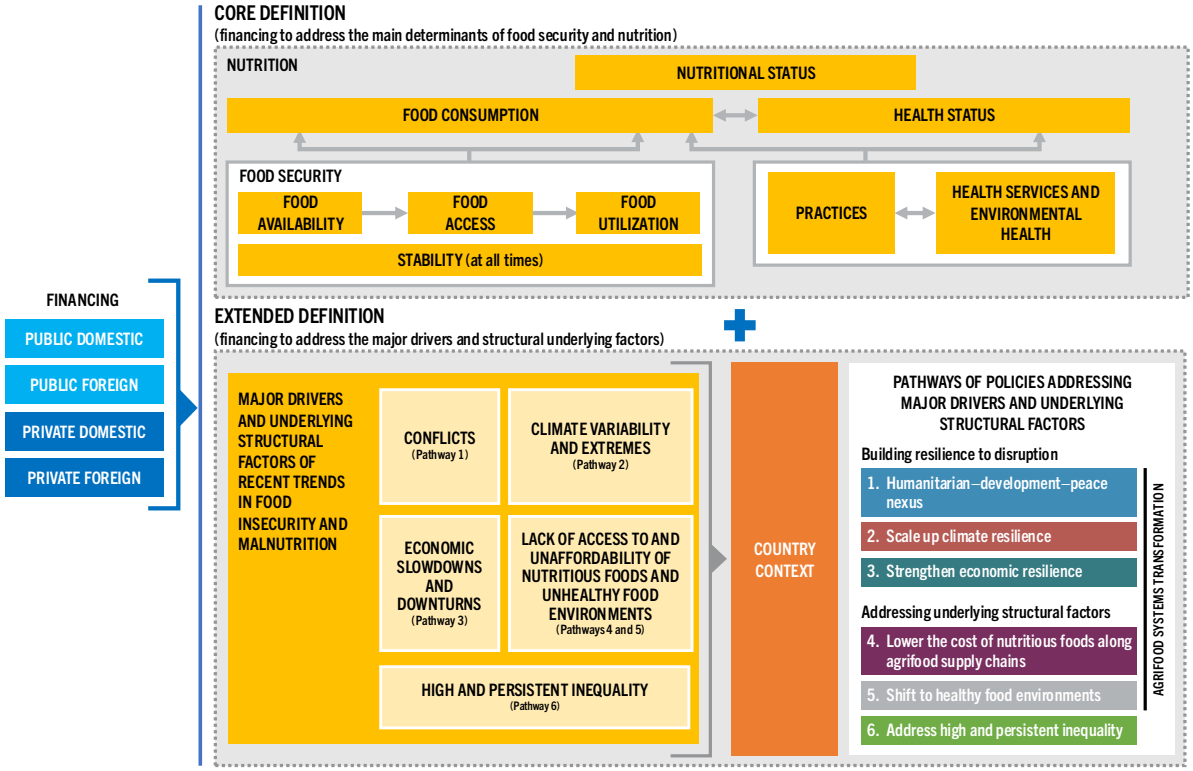
The State of Food Security and Nutrition in the World 2024 states:

> If food is available and households have adequate access to it, the next question is whether households are maximizing the consumption of nutritious foods to meet their dietary needs. Sufficient energy and nutrient intake by individuals are the result of good care and feeding practices, food preparation, dietary diversity and intra-household distribution of food, and access to clean water, sanitation, and health care. Combined with good biological utilization of food consumed, this determines the nutritional status of individuals (FAO, IFAD, UNICEF, WFP and WHO, 2024, p. 222).

Stability refers to the condition in which availability, access and utilization are provided at all times (FAO, IFAD, UNICEF, WFP and WHO, 2024). Alongside the four dimensions of food security, the definition also includes financing flows that support the determinants of health status: caring and feeding practices, health services, and environmental health (Figure 20).

FIGURE 20

A CONCEPTUAL DIAGRAM OF THE NEW DEFINITION OF FINANCING FOR FOOD SECURITY AND NUTRITION – FOR ENDING HUNGER AND FOOD INSECURITY (SDG TARGET 2.1) AND ALL FORMS OF MALNUTRITION (SDG TARGET 2.2)



Source: FAO, IFAD, UNICEF, WFP and WHO. 2024. *The State of Food Security and Nutrition in the World 2024 – Financing to end hunger, food insecurity and malnutrition in all its forms*. Rome. https://doi.org/10.4060/cd1254en

Download: https://doi.org/10.4060/cd3550en-fig20

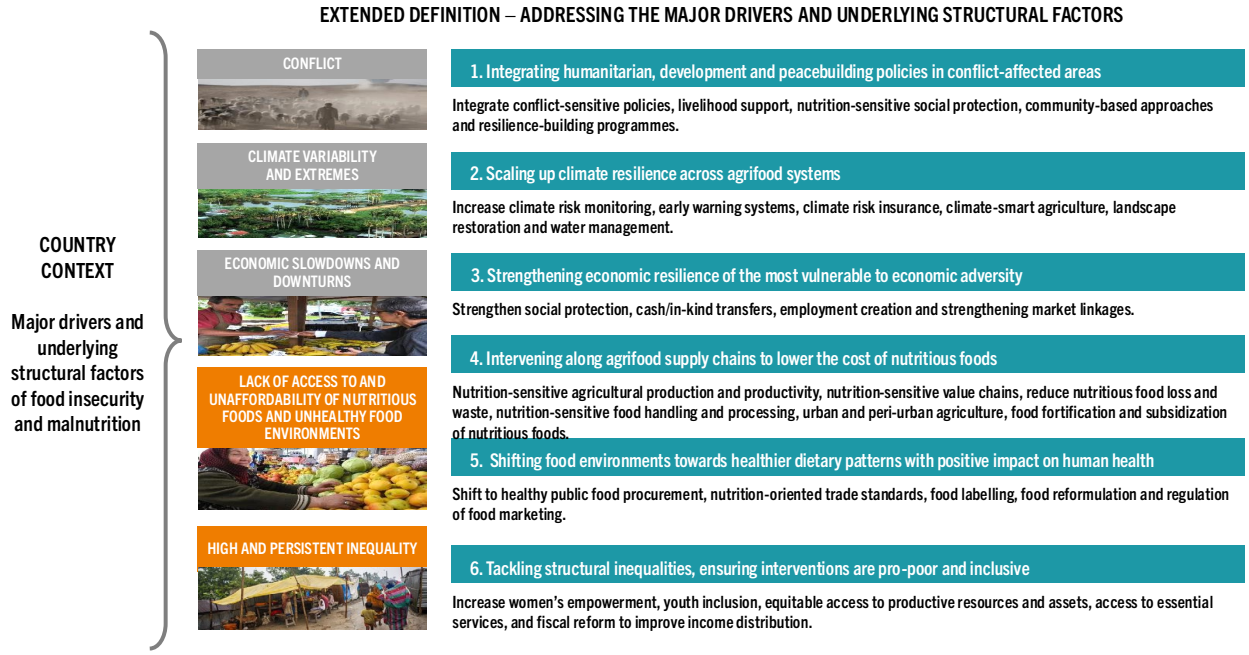
The extended definition builds on the core definition, including financing flows that contribute to addressing the major drivers and underlying structural factors behind recent increases in food insecurity and malnutrition (FAO, IFAD, UNICEF, WFP and WHO, 2024). The extended definition covers financing that builds resilience against the disruptions in agrifood systems that major drivers (conflict, climate variability and extremes, and economic slowdowns and downturns) create and addresses the persisting underlying structural factors (lack of access to and unaffordability of nutritious foods and unhealthy food environments, and high and persistent inequality) (FAO, IFAD, UNICEF, WFP and WHO, 2021).

5.2 MAJOR DRIVERS OF FOOD INSECURITY AND MALNUTRITION IN ARAB STATES

As indicated above, to map existing financial resources in the region, particularly the ones related to the extended definition of financing for food security and nutrition, and to develop frameworks and enabling policies for increased financing and improved financial targeting, it is important to understand the major drivers of food insecurity and malnutrition in the region.

The State of Food Security and Nutrition in the World in its 2021 edition explores how major drivers of food insecurity and malnutrition (conflict, climate variability and extremes, economic slowdown and downturns, in addition to underlying structural factors such as the lack of access to and unaffordability of nutritious foods, unhealthy food environments and high and persistent inequality, which are detailed in Section 5.2) can be addressed and details the required policy actions that are needed along six identified pathways (FAO, IFAD, UNICEF, WFP and WHO, 2021). Each of the six transformative pathways leads to the implementation of policies, investments and legislation to build resilience to each of the major drivers (Figure 21).

FIGURE 21
ADDRESSING THE MAJOR DRIVERS AND UNDERLYING STRUCTURAL FACTORS



Source: FAO, IFAD, UNICEF, WFP and WHO. 2024. *The State of Food Security and Nutrition in the World 2024 – Financing to end hunger, food insecurity and malnutrition in all its forms*. Rome. https://doi.org/10.4060/cd1254en

Download: https://doi.org/10.4060/cd3550en-fig21

1. **Pathway 1:** Integrating humanitarian, development and peacebuilding policies in conflict-affected areas

   Promoting conflict-sensitive policies; fostering peacebuilding efforts linked to livelihood support; implementing nutrition-sensitive social protection and food production and supply programmes; supporting functioning and resilient food supply chains; adopting community-based approaches in post-conflict policies.

2. **Pathway 2:** Scaling up climate resilience across agrifood systems

   Reducing climate-related risks; adapting to climate change; adopting climate risk monitoring and early warning systems; supporting climate risk insurance; promoting improved access to and management of natural productive assets (e.g. landscape restoration, water management); implementing climate-smart interventions.

3. **Pathway 3:** Strengthening economic resilience of the most vulnerable to economic adversity

   Strengthening agrifood productivity and market linkages along the food supply chain; curbing rises in food prices and excessive price volatility; boosting decent job creation; expanding social protection schemes and school feeding programmes.

4. **Pathway 4:** Intervening along agrifood supply chains to lower the cost of nutritious foods

   Increasing investments for nutrition-sensitive agricultural production and productivity; increasing efficiency of nutritious food value chains; reducing nutritious food loss and waste; promoting food biofortification; enacting mandatory food fortification; improving rural roads and infrastructure (e.g. nutritious food storage facilities).

5. **Pathway 5:** Shifting food environments towards healthier dietary patterns with positive impact on human health

   Strengthening food environments (e.g. supporting healthy public food procurement and services); changing consumer behaviour to include sustainability considerations (e.g. improving trade standards with a nutrition-oriented lens, taxing energy-dense foods, introducing legislation on food marketing, food labelling and food reformulation, eliminating industrially produced trans fats).

6. **Pathway 6:** Tackling structural inequalities, ensuring interventions are pro-poor and inclusive

   Empowering populations in situations of vulnerability and marginalization; reducing gender inequalities by supporting women's economic activities and the equitable distribution of resources; promoting the inclusion of women, youth and other populations in situations of marginalization; guaranteeing access to essential services; and implementing fiscal reforms to reduce income inequality.

The State of Food Security and Nutrition in the World 2024 presents a global analysis of countries affected by the major drivers. In the analysis, two criteria are used for a country to be categorized as being affected by a driver: 1) evidence of the occurrence of an event related to the driver in a country (the occurrence of a conflict, a climate extreme, or an economic downturn); and 2) evidence of vulnerability to the impacts of major drivers (see Supplementary material to Chapter 3, Table S3.5 for methodologies and data sources of FAO, IFAD, UNICEF, WFP and WHO, 2024).

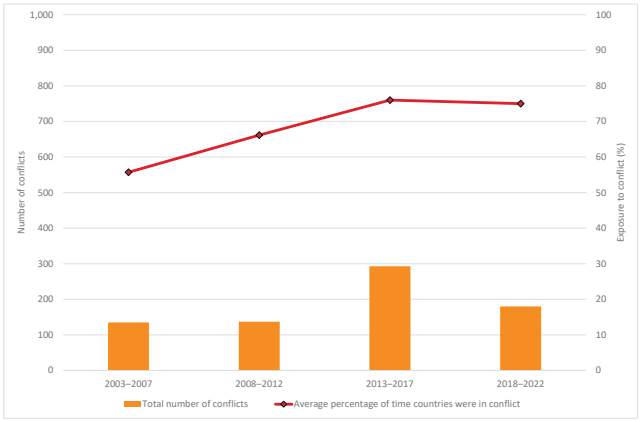
Recent editions of *The State of Food Security and Nutrition in the World* have repeatedly highlighted the intensification of the major drivers behind rising hunger, food insecurity and malnutrition: conflict, climate variability and extremes and economic slowdowns and downturns, combined with growing inequalities and the unaffordability of healthy diets (FAO, IFAD, UNICEF, WFP and WHO, 2017, 2018, 2019, 2020). These major drivers are not only increasing in frequency and intensity, but they are occurring more often in combination in countries, resulting in even greater numbers of hungry and food-insecure people (FAO, IFAD, UNICEF, WFP and WHO, 2021). Drivers that are external to agrifood systems (e.g. conflict, climate extremes) and those that are internal to agrifood systems (e.g. low productivity and inadequate supply of nutritious foods, notably fruits and vegetables) are pushing up the cost of nutritious foods, increasing the unaffordability of healthy diets (FAO, IFAD, UNICEF, WFP and WHO, 2021, 2023). As presented in Part I (Section 4) of this report, the cost of a healthy diet has increased by almost one third since 2017. Arab countries, which are highly dependent on primary commodities for import show sharp increases in hunger during global price shocks and economic downturns (FAO, IFAD, UNICEF, WFP and WHO, 2019). For example, the number of undernourished people increased by 18.5 percent in the region from the pre-COVID-19 period (2019) to 2022 due to the economic shocks caused by the pandemic and then by the increase in international commodity prices in the post-COVID-19 period economic recovery. The further increase of global commodity prices due to the war in Ukraine, the deteriorating indebtedness of non-oil exporting countries and the setback in the economic recovery pushed further up the number of undernourished people in 2022 (by 6.4 percent from 2021 to 2022) as presented in Section 1 in this report. Depending on the major driver or combination of drivers affecting food insecurity in a country, it will require a portfolio of policies across six transformative pathways, as outlined in Figure 21, and in detail in *The State of Food Security and Nutrition in the World 2021*.

This subsection of this report presents a regional analysis of how countries in the region are affected by the major drivers of food insecurity and nutrition. This analysis helps countries to frame interventions and implement policies, investments and legislation to build resilience to the major drivers along one or more of the six transformative pathways (see Figure 21). The evidence of the role that major drivers have had in the recent trends of hunger, food insecurity and malnutrition creates the case for mobilizing financing flows to build resilience against them; otherwise, meeting goals 2.1 and 2.2 of SDG 2 will hardly be achievable. Therefore, the extended definition of financing presented in Subsection 5.1 builds on the core definition of financing but goes beyond the eradication of hunger, food insecurity and all forms of malnutrition to also address the major drivers of food insecurity and malnutrition and thus enables improved financial targeting. While some countries might be affected by a single driver, most countries where food insecurity has increased have been usually affected by a combination of drivers.

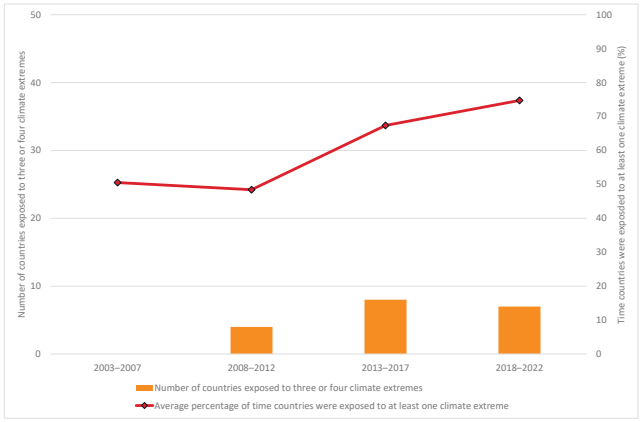
FIGURE 22

THE INCREASING FREQUENCY AND INTENSITY OF MAJOR DRIVERS AND INCOME INEQUALITY IN ARAB COUNTRIES

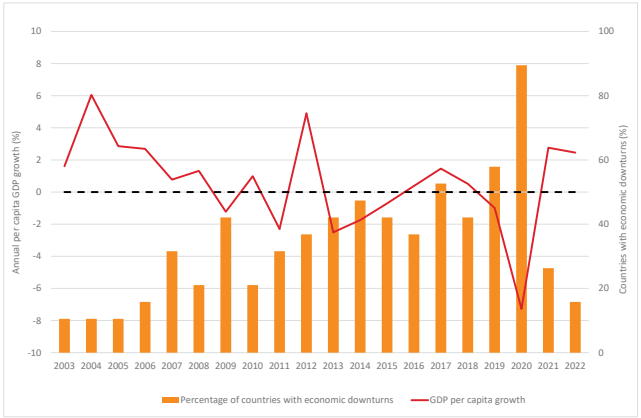
22 A) CONFLICTS: THE TOTAL NUMBER OF CONFLICTS IS INCREASING, 2003–2022



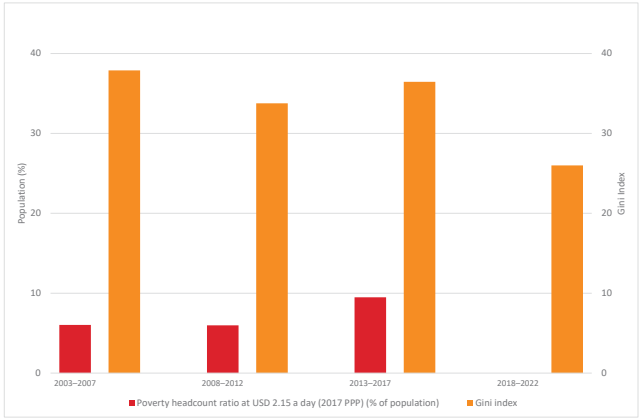
22 B) CLIMATE EXTREMES: THE PERCENTAGE OF TIME COUNTRIES ARE EXPOSED TO CLIMATE EXTREMES IS INCREASING, 2003–2022



22 C) ECONOMIC DOWNTURNS: SEVERAL COUNTRIES EXPERIENCE DOWNTURNS AND DRAMATIC SWINGS IN ECONOMIC GROWTH, 2003–2022



22 D) INCOME INEQUALITY IS SLIGHTLY DECLINING BUT REMAINS HIGH, 2003–2022

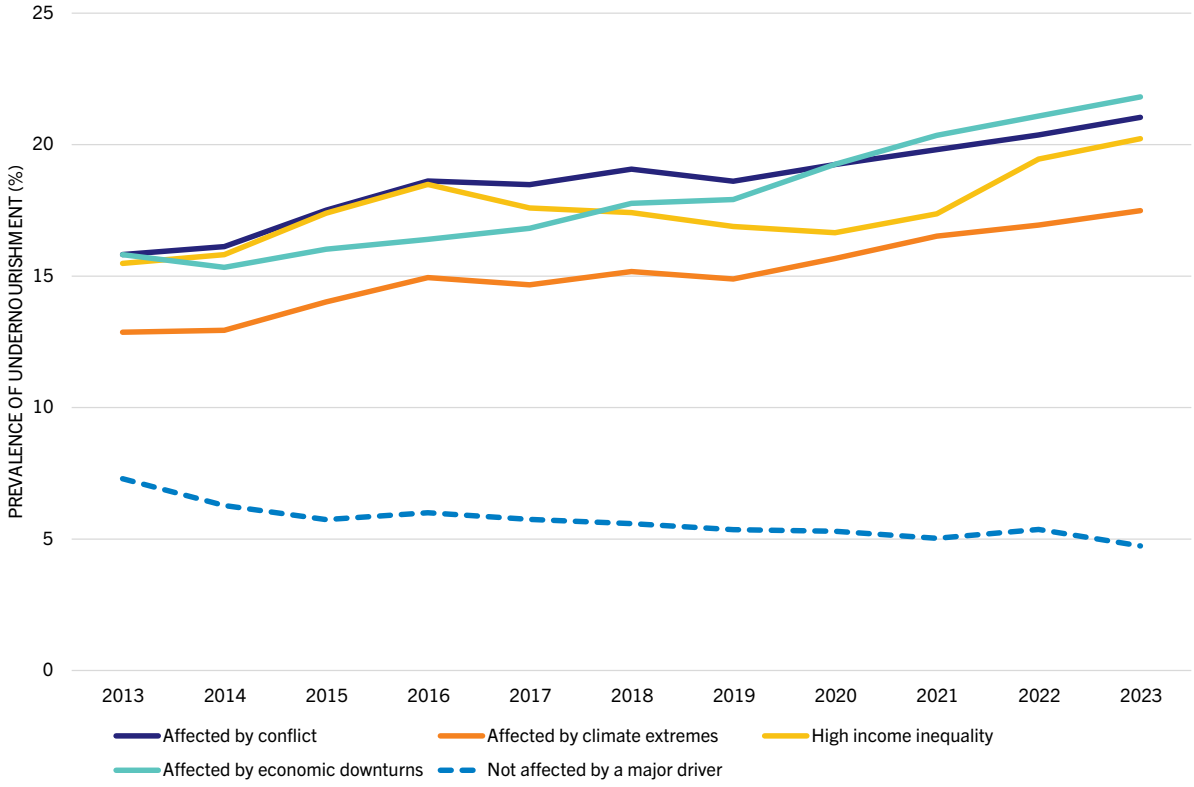


Notes: GDP = gross domestic product; PPP = purchasing power parity. All figures refer to Arab countries. Figure 22 A shows the total number of conflicts in each of the five-year subperiods that were caused by internal or intrastate conflict (bars), and the average percentage of years in each subperiod countries were exposed to conflict (line). Figure 22 B shows the number of countries that experienced at least three different types of climate extremes (heat spell, flood, drought, storm) in each of the five-year subperiods (bars), and the average percentage of years in each subperiod countries were exposed to at least one climate extreme (line). Figure 22 C shows the rate of GDP per capita growth (left axis) and the percentage of countries that experience an economic downturn in a specific year between the period from 2003 to 2022 (right axis). Figure 22 D shows the average percentage of the population living below the poverty line of USD 2.15 a day (bars) and the average level of income inequality by five-year subperiod (bars). Data on poverty headcount for the FAO Regional Office for Near East and North Africa (RNE) countries are not available for the 2018–2022 period. For further details, and for full methodology and full list of data sources, see Table S3.5 in the Supplementary material to Chapter 3 of *The State of Food Security and Nutrition in the World 2024*.

Source: Authors' (FAO) own elaboration.

Download: https://doi.org/10.4060/cd3550en-fig22

FIGURE 23
THE PREVALENCE OF UNDERNOURISHMENT HAS STEADILY INCREASED SINCE 2013 IN COUNTRIES AFFECTED BY MAJOR DRIVERS



Note: Categories are not mutually exclusive, as a country can be affected by more than one major driver and/or face high income inequality. Countries not affected by major drivers are those not affected by conflict, climate extremes or economic downturns. PoU estimates are unweighted. The analysis is shown for 19 countries of the Arab region with available PoU information. Methodology and data sources are in table S3.5 of the Supplementary material of 2024 edition of *The State and Food Security and Nutrition in the World*, except for countries affected by conflict which are defined by the FAO Regional Office for Near East and North Africa (RNE).

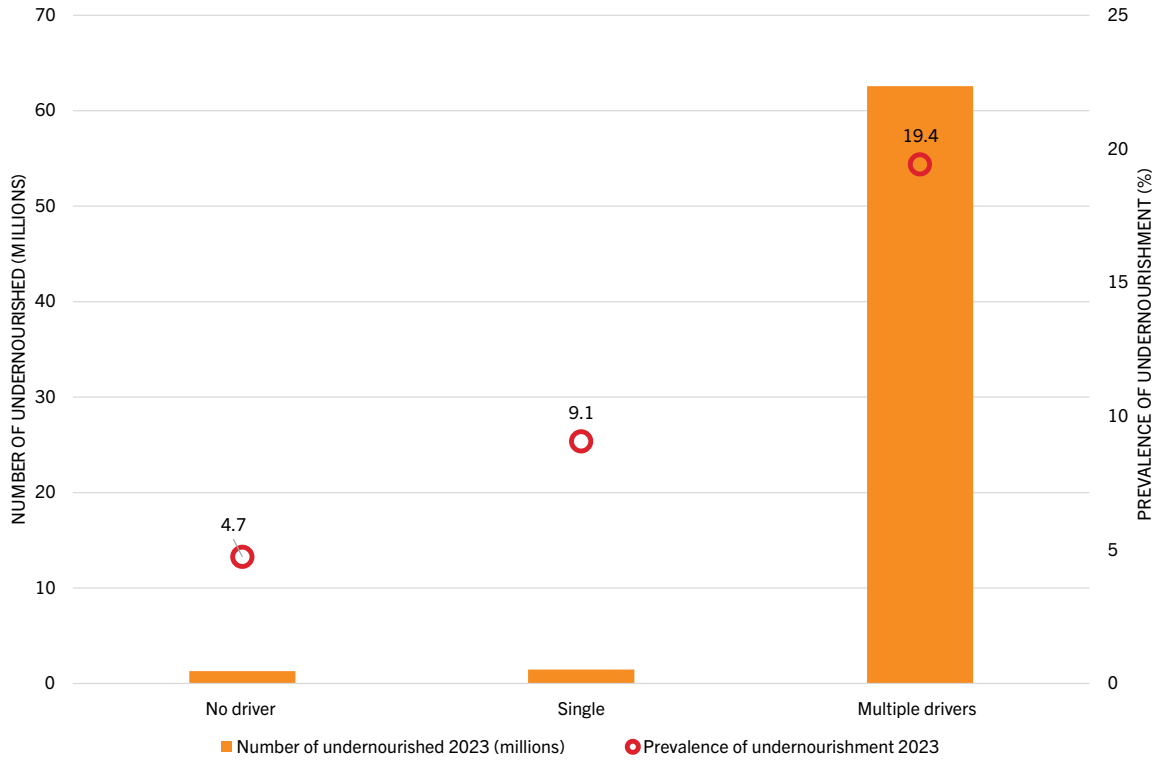
Source: Authors' (FAO) own elaboration.

Download: https://doi.org/10.4060/cd3550en-fig23

The PoU between countries affected by conflict, economic downturns or climate extremes and those unaffected has widened over time (Figure 23). The most frequent major driver of food insecurity and malnutrition affecting countries in the region is conflict, followed by economic downturns, inequalities and climate extremes (Figure 22, panels A to D).

FIGURE 24

COMPOUNDING EFFECT OF MULTIPLE DRIVERS RESULTS IN HIGHER LEVELS OF FOOD INSECURITY

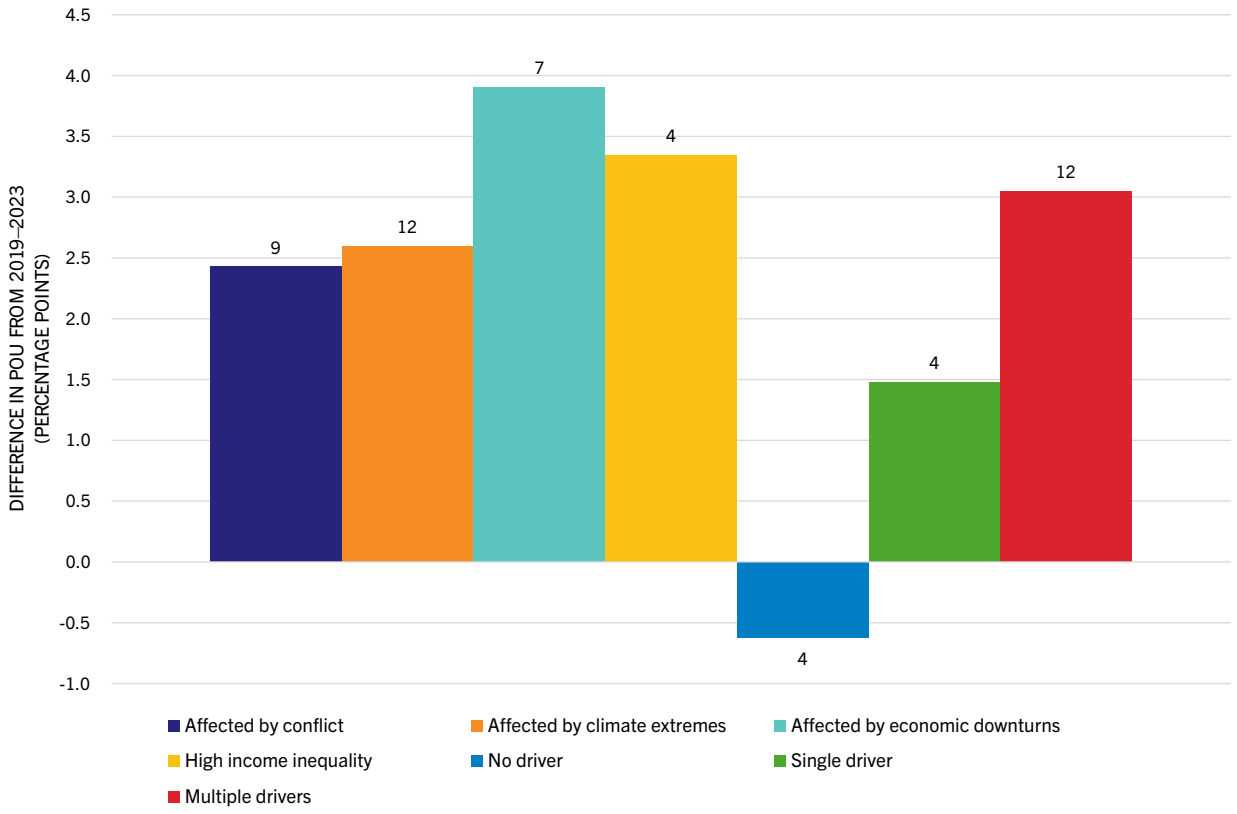


Notes: Figure shows the total number of undernourished people (bars) and the average prevalence of undernourishment (PoU) (circles) in 2023. The analysis is for 19 countries exposed to no driver, a single driver or multiple drivers. Only conflict, climate extremes and economic downturns are considered. See Table S3.5 in Supplementary materials of the 2024 edition of *The State and Food Security and Nutrition in the World* for definitions and methodology of countries affected by multiple drivers, except for countries affected by conflict, which are defined by RNE.

Source: Authors' (FAO) own elaboration.

Download: https://doi.org/10.4060/cd3550en-fig24

FIGURE 25
CHANGE IN THE PREVALENCE OF UNDERNOURISHMENT BETWEEN 2019 AND 2023 BY TYPE OF DRIVER



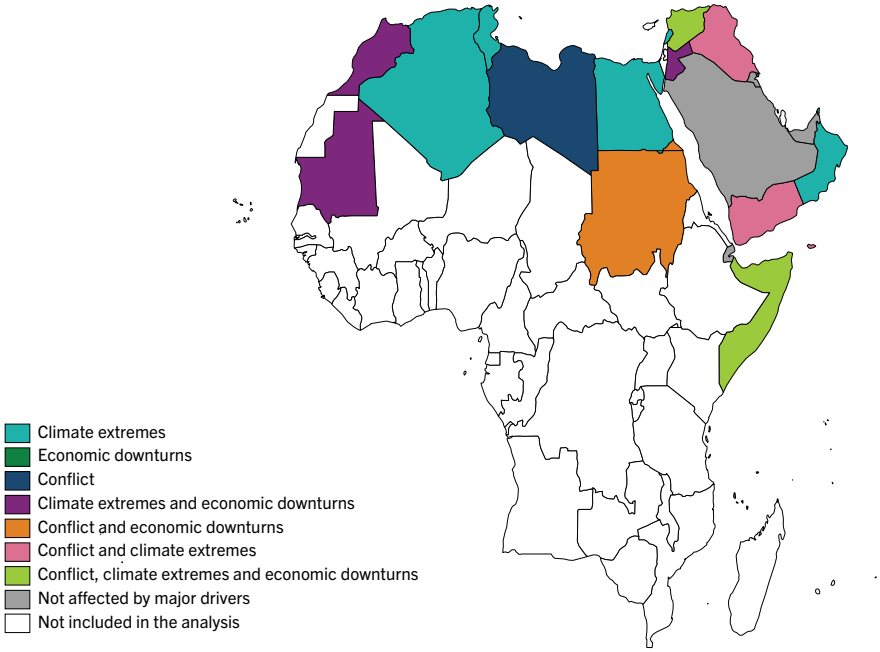
Notes: The figure shows the difference in the PoU, measured in percentage points, from 2019 to 2023 for countries affected by conflict, climate extremes and economic downturns, and for countries with high income inequality. Categories are not mutually exclusive, as a country can be affected by more than one driver and also face high income inequality. The figure also shows the difference in the PoU by different combinations of drivers (no driver, single driver, multiple drivers), excluding high income inequality. The number at the top of each bar refers to the number of countries in that category. The analysis is shown for 19 countries of the NENA region with available PoU information. See Table S3.5 in Supplementary materials of *The State and Food Security and Nutrition in the World* 2024 for definitions and methodology, except for countries affected by conflict, which are defined by RNE.

Source: Authors' (FAO) own elaboration.

Download: https://doi.org/10.4060/cd3550en-fig25

The compounding effect of multiple drivers results in higher levels of food insecurity (Figure 25). There is a significant difference in food insecurity based on whether a country is affected by one or more major drivers or not in 2019–2023. Countries affected by multiple drivers saw the most significant increase in PoU between 2019 and 2023, with countries affected by economic downturns facing the highest increase.

FIGURE 26
COUNTRIES BY COMBINATION OF MAJOR DRIVERS OF FOOD INSECURITY AND MALNUTRITION, 2013–2022



Notes: The map shows the 19 RNE countries with information on prevalence of undernourishment that are affected by different combinations of major drivers (conflict, climate extremes and economic downturns). See Table S3.5 of Supplementary materials of the 2024 edition of *The State and Food Security and Nutrition in the World* for definitions and methodology of countries affected by multiple drivers, except for countries affected by conflict, which are defined by RNE.

Source: Authors' (FAO) own elaboration.

Download: https://doi.org/10.4060/cd3550en-fig26

Figure 26 presents the major drivers or combinations of them affecting the region's countries. Some countries are affected by one major driver, others by a combination of them. Climate extremes affect most of the regional countries, either as a single cause of food insecurity and malnutrition or in combination with other factors, such as conflict or economic downturns.

5.3 CURRENT LEVEL OF FINANCING

Section 5 of this report covers financing flows that are in principle aimed at ensuring food security and nutrition and strengthening resilience to the major drivers of food insecurity. It estimates the different elements of the financing matrix presented in Table 13, including public and private, domestic and foreign sources of financing, for achieving SDG Targets 2.1 and 2.2.

However, data to apply the new definition of financing for food security and nutrition exist only for some of the financing flows; hence, it is not possible to make precise estimations of how much financing is available in the region to fight food insecurity and malnutrition.[9] Neither is it possible to estimate how much financing the broader agrifood systems receive.

9 This is precisely the reason why *The State of Food Security and Nutrition 2024* report calls for universal adoption and transparency in the use of a standardized approach for operationalizing the new definition of financing for food security and nutrition in its mapping and application to financial data (for example, see page 69).

Analysis of financial flows in this subsection covers the following[10]:

a. domestic support provided to agriculture (public financing through fiscal policies), government spending on social protection and health services;

b. official development assistance (ODA) and other official flows (OOF);

c. financing through the banking systems; and

d. foreign direct investments (FDI), the foreign portion of investment flows from capital markets.

The sectorial coverage of financial flows analysed is partial, and they often do not cover even the narrower, core definition of financing for food security and nutrition presented in Section 5.1. Firstly, data for financing for food security and nutrition are not available for all financial flows. Secondly, even if available, data are not always easily accessible for all flows. For example, data on government spending might be available, but for this report, it was not possible to apply the methodology presented in *The State of Food Security and Nutrition 2024 report.* Nevertheless, the application of that methodology can be explored in the future.

The sectorial coverage of data on financial flows in this section is as follows: Data on government spending is presented for agriculture, forestry and fishing, social protection and health services; data on private bank credits covers the agriculture, forestry and fisheries sector. Thus, these sectoral estimates do not match exactly the core definition of financing for food security and nutrition, not to mention the extended definition. On the other hand, even if still not comprehensive, there are enough data to present a detailed analysis of development flows (official development assistance [ODA] and other official flows, [OOF]) based on both the core and extended definition of financing for food security and nutrition.

5.3.1 Government spending on agriculture, forestry and fishing

This subsection analyses government expenditure in the agriculture, forestry and fishing (AFF) sectors.[11] Food and agricultural-specific expenditures are among the components of public finance that can most directly influence food security and nutrition outcomes (FAO, IFAD, UNICEF, WFP and WHO, 2024). Public spending that can affect food security and nutrition outcomes may also be channelled through sectors such as health (e.g. food fortification), education (e.g. school feeding programmes), and social protection expenditures. Due to the lack of comparable data on broader government spending on food security and nutrition, the following analysis first focuses on government expenditures in the AFF sectors.

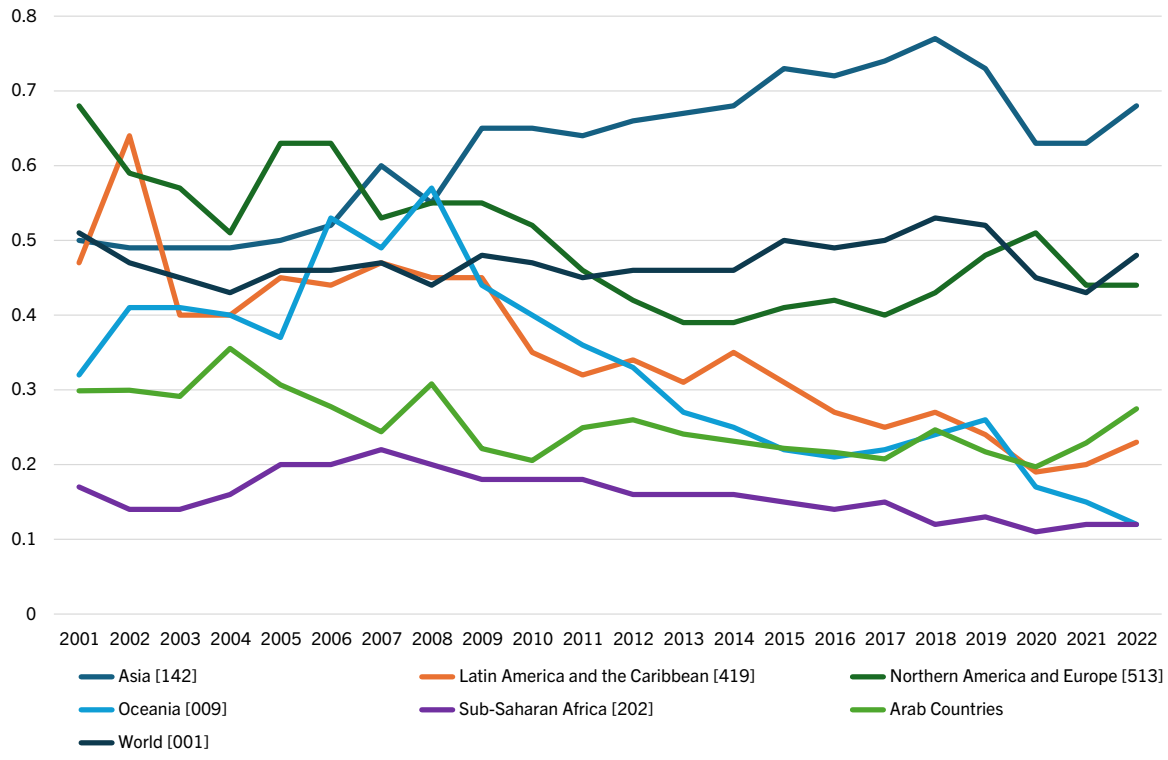
Figure 27 compares Arab countries to other regions of the world with the Agriculture Orientation Index (AOI). The AOI is a ratio of government expenditures in agriculture

10 Mapping of domestic support provided to agriculture, financing through the banking systems, and foreign direct investments was undertaken by RNE for the FAO Regional Conference for the Near East, Thirty-seventh Session, in the document titled "Financing to end hunger for today and tomorrow (SDG 2)" NERC/24/INF/19 - Financing to end hunger for today and tomorrow (SDG 2)" (FAO, 2023c), and the methodology for calculating those flows are contained in that document. Analysing government spending on social protection and health services is based on the ILO World Social Protection Database. ODA and OOF flows presented are based on data from the OECD Creditor Reporting System (CRS) and the AidData database (see further information on this in the footnotes in Subsection 5.3.3.)

11 Data presented on government expenditure refer to Core Areas of Government Functions Relevant to the Agriculture Sector based on the Classification of Functions of Government (COFOG) as outlined in the IMF's Government Finance Statistics Manual, 2001 (IMF, 2001). For further details see FAOSTAT.

relative to the economic value derived from agriculture (excluding other financing, such as private financing or ODA in agriculture). Agriculture in the index refers to the agriculture, forestry, fishing and hunting sector. A value lower than one means the agriculture sector receives a lower share of government spending relative to its economic value.

FIGURE 27
AGRICULTURE ORIENTATION INDEX IN DIFFERENT WORLD REGIONS



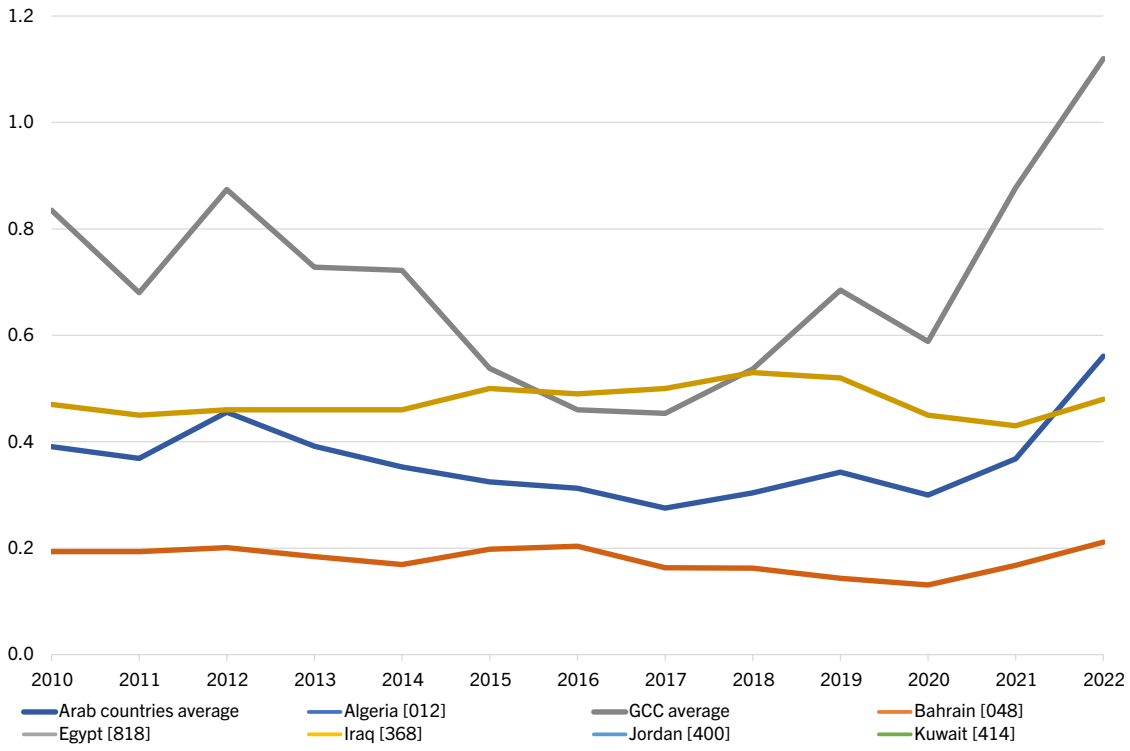
Note: Asia includes Arab countries in Western Asia.

Source: FAO. 2024. FAOSTAT: SDG Indicators, 2.a.1 Agriculture orientation index for government expenditures. [Accessed on 6 July 2024]. https://www.fao.org/faostat/en/#data/SDGB. Licence: CC-BY-4.0.; and FAO ESS division (for Arab countries).

Download: https://doi.org/10.4060/cd3550en-fig27

In Arab countries, in general, government spending on agriculture (compared to agriculture share of GDP) had been the second lowest after sub-Saharan Africa almost until 2020 (Figure 27). Water scarcity and limited availability of arable land are hindrances to agricultural production in the Arab region and the drivers of the region's dependency on food imports (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). In 2021 and 2022 there was a significant increase in the AOI. In 2022, AOI in Arab Countries (0.27) increased into the middle range among regions but was still almost half of the world average (0.48). The government spending increase since 2020 might indicate government efforts after the COVID-19 pandemic to improve food security and nutrition by reducing vulnerability and increasing the resilience of agrifood systems to external shocks. The effect of climate variability and extremes (increasing frequency and magnitude of extreme weather events, such as drought) also necessitates scaling up climate change adaptation measures.

FIGURE 28
AGRICULTURE ORIENTATION INDEX FOR GOVERNMENT EXPENDITURES IN ARAB COUNTRIES, 2010–2022



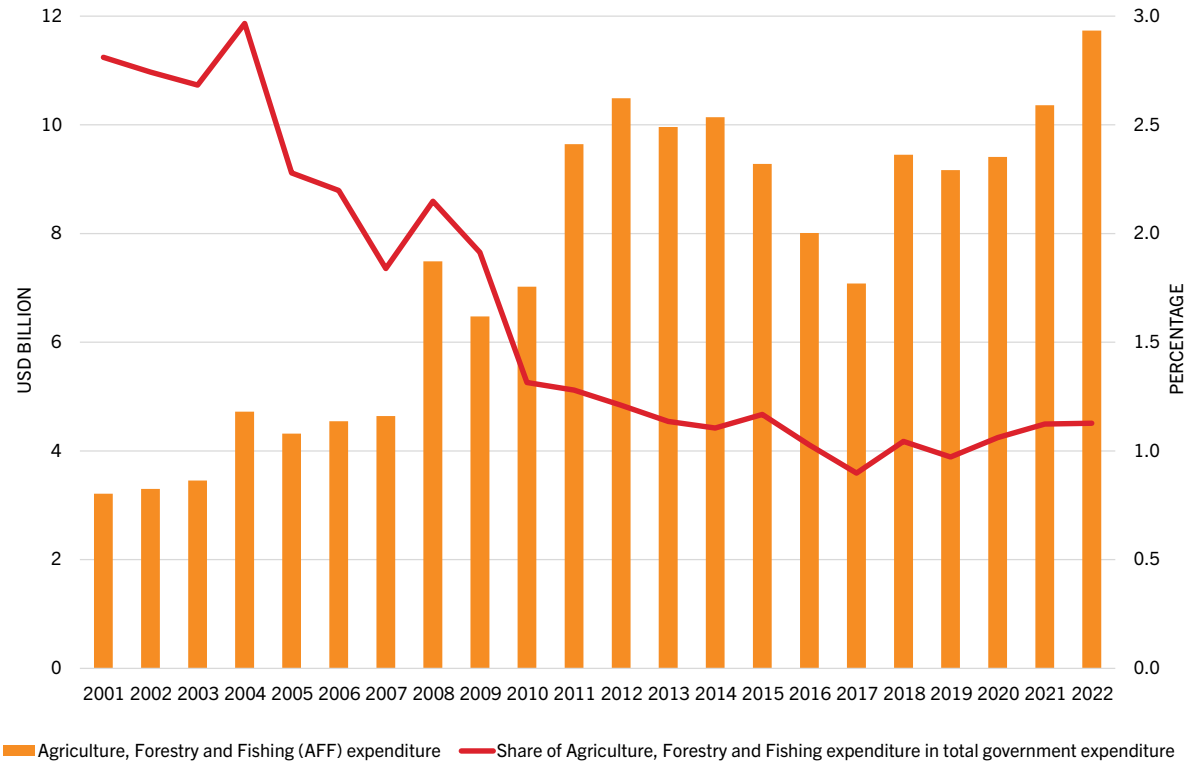
Note: GCC = Gulf Cooperation Council: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates countries.

Source: FAO. 2024. FAO SDG Indicators Data Portal. [Accessed on 6 July 2024]. https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/2a1---agriculture-orientation-index-for-government-expenditures/en. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig28

The Agriculture Orientation Index (AOI) in non-GCC countries stagnated from 2010 to 2022, with some increase in 2021–2022 (Figure 28). In the Gulf Cooperation Council (GCC) countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates, AOI was, in most cases, above the world average and has shown a sharp increase since 2020. It is worth underlining that in GCC countries, the low share of agriculture in GDP inflates the AOI.

FIGURE 29
SHARE OF AGRICULTURE, FORESTRY AND FISHING IN TOTAL GOVERNMENT EXPENDITURE IN THE ARAB REGION

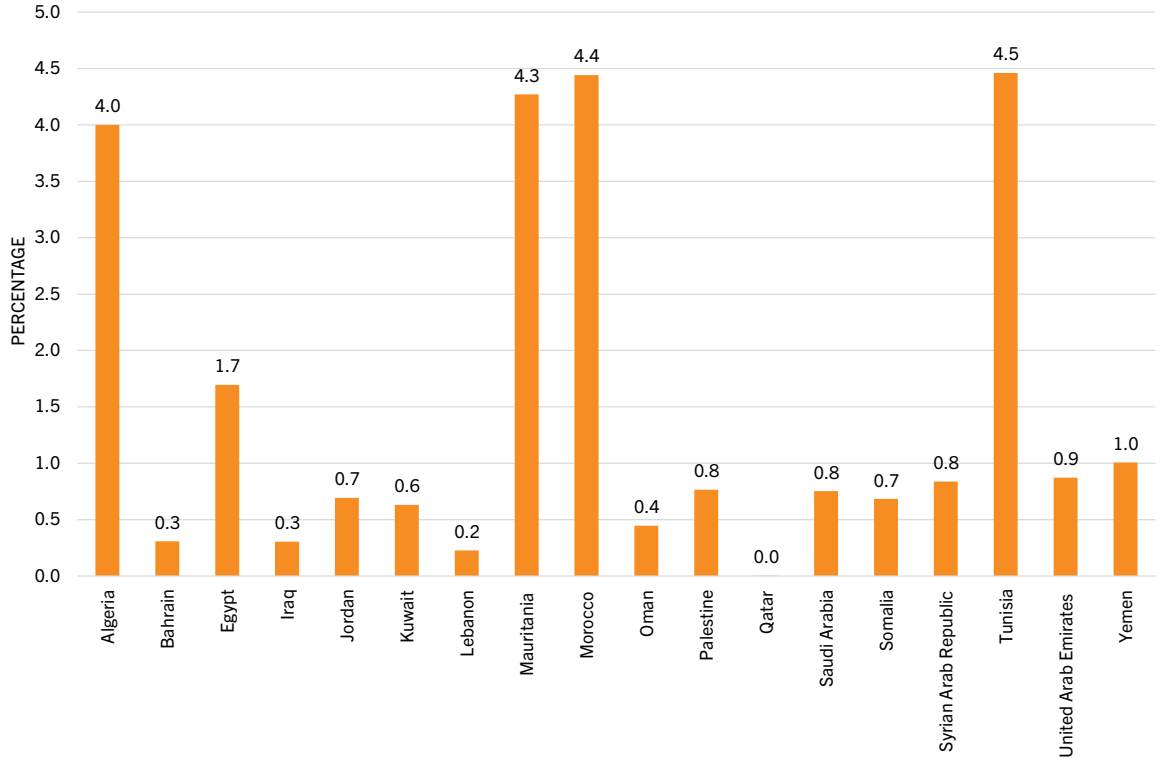


Source: FAO. 2024. FAOSTAT: Government expenditure. [Accessed on 6 July 2024]. https://www.fao.org/faostat/en/#data/IG. Licence: CC-BY-4.0.; and FAO ESS division (for Arab countries).

Download: https://doi.org/10.4060/cd3550en-fig29

Although government expenditure on agriculture, forestry and fishing increased almost fourfold (by 365 percent) between 2001 and 2022 in nominal terms, the share of agriculture, forestry and fishing expenditures in total government expenditures show a decreasing trend; it has more than halved in the same period (Figure 29). In 2021, the broader agriculture sector received USD 10.4 billion domestic government expenditure (FAO, 2024a).

FIGURE 30
THE SHARE OF AGRICULTURE, FORESTRY AND FISHING EXPENDITURES IN TOTAL GOVERNMENT EXPENDITURES (PERCENT) IN ARAB COUNTRIES (2022)



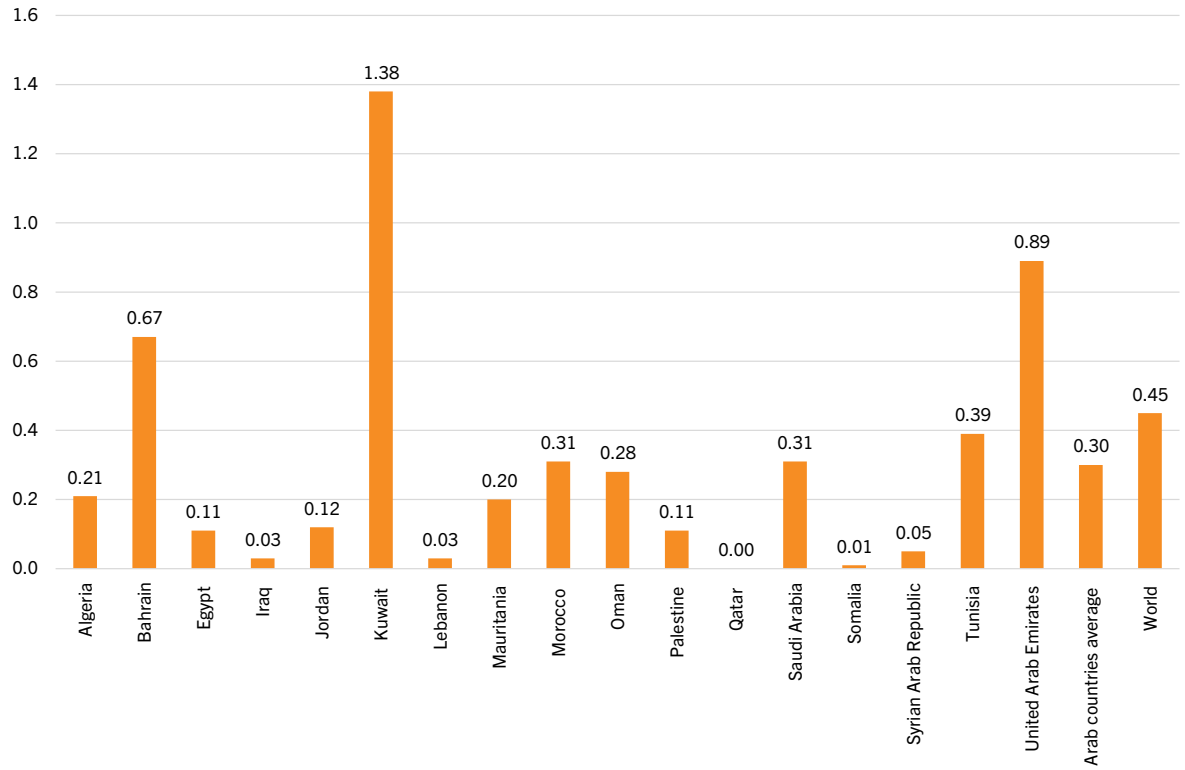
Note: No data is available for the Comoros, Djibouti, Libya, and the Sudan.

Source: FAO. 2024. FAOSTAT: Government expenditure. [Accessed on 6 July 2024]. https://www.fao.org/faostat/en/#data/IG. Licence: CC-BY-4.0.; and FAO ESS division (for Arab countries).

Download: https://doi.org/10.4060/cd3550en-fig30

Looking at the share of agriculture, forestry and fishing expenditures in total government expenditures (Figure 30), Tunisia (4.46 percent), Morocco (4.44 percent) and Mauritania (4.27 percent) spent the highest amount on agriculture in their state budgets.

FIGURE 31
AGRICULTURE ORIENTATION INDEX FOR GOVERNMENT EXPENDITURES IN ARAB COUNTRIES, 2020



Source: FAO. 2024. FAO SDG Indicators Data Portal. [Accessed on 6 July 2024]. https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/2a1---agriculture-orientation-index-for-government-expenditures/en. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig31

In the case of the GCC countries, the low share of agriculture in GDP inflates the AOI and shows relatively high levels (average GCC AOI is 0.64) (Figure 31). In Algeria, Egypt, Mauritania, Morocco, Somalia, and Tunisia where the agriculture value added share of GDP is higher than 10 percent (11.4 percent, 11.0 percent, 19.2 percent, 10.7 percent, 52.3 percent and 10.1 percent in 2022, respectively), the AOI is lower than the global average (0.45).

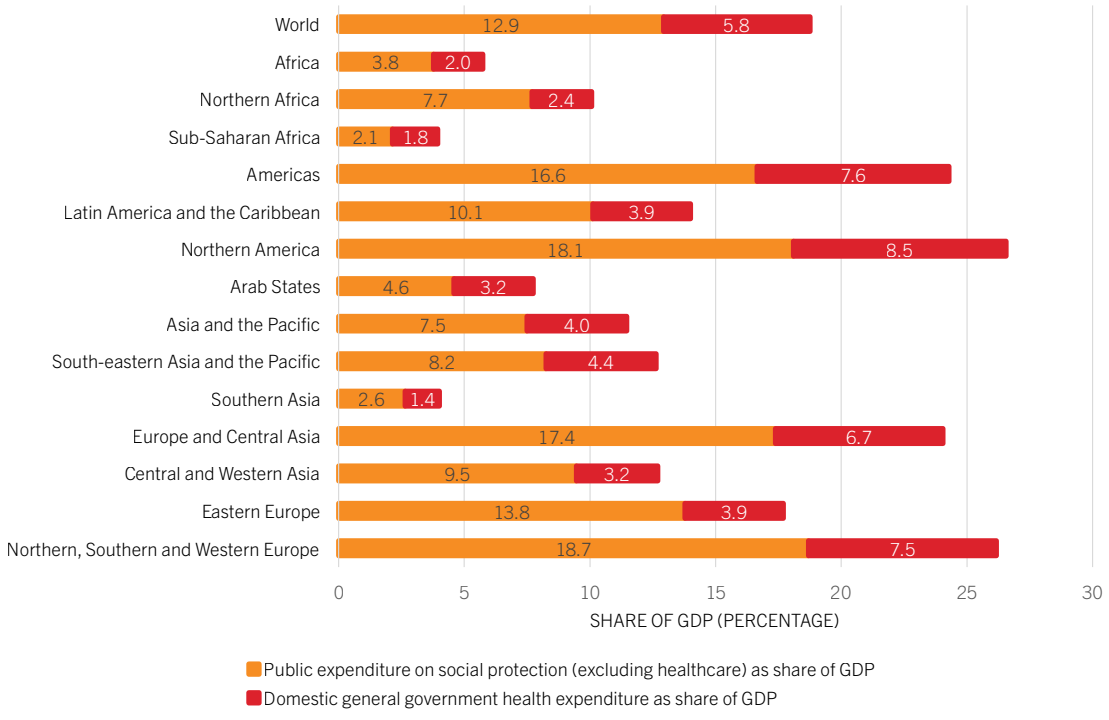
5.3.2 Public social protection and health expenditures

Social protection can be an effective tool for achieving food security and nutrition. The most compelling evidence regards the role that social protection plays in supporting people's access to food, in particular resulting in the consumption of more and/or higher-quality food. Programmes also contribute to improving household livelihoods and food availability by, for example, allowing investments in new productive assets, improving agricultural assets such as land and enhancing access to inputs or markets or credit. Programmes also contribute to improving human capital by enhancing health and education outcomes, and nutrition outcomes have been improved by social protection programmes in many countries. There is also evidence that social protection contributes

to improved utilization of food, such as in conditional cash transfers, school feeding and public work programmes, and supplementary feeding. Food utilization is concerned with improving the nutritional adequacy of food. Positive nutritional outcomes can be encouraged by the better utilization of food and improvements in ancillary areas, such as drinking water, hygiene, sanitation, child care practices and health care. Illness and disease, for instance, can reduce the absorption of nutrients. Access to clean drinking water; adequate sanitation; advice on child care (such as good feeding practices); basic health care, and illness treatment and prevention, including immunization and related information and education campaigns, all determine nutritional status indirectly through the link with health (Slater, Holmes and Mathers, 2014).

FIGURE 32

PUBLIC SOCIAL PROTECTION EXPENDITURE (EXCLUDING HEALTH), PERCENTAGE OF GDP, 2020 OR LATEST AVAILABLE YEAR, AND DOMESTIC GENERAL GOVERNMENT HEALTH EXPENDITURE, PERCENTAGE OF GDP, 2018, BY REGION AND COUNTRY INCOME LEVEL



Note: GDP = gross domestic product. Global and regional aggregates are weighted by GDP.

Source: ILO (International Labour Organization). 2024. World Social Protection Database 2020-2022. [Accessed on 6 July 2024]. https://www.social-protection.org/gimi/Media.action;jsessionid=ninKPlayai_BikQed0OjU6RZkf8GLhqvG5oWnkpN5I7pEADj_FI4!-1635723311?id=18427. Based on the SSI; WHO, IMF; national sources.

Download: https://doi.org/10.4060/cd3550en-fig32

The public expenditure on social protection[12] (excluding health care) and the domestic general government health expenditure as a percentage of GDP in the Arab world (4.6 percent and 3.2 percent, respectively) and Northern Africa (7.7 percent and 2.4 percent) was much lower than the world average (12.9 percent and 5.8 percent, respectively) (Figure 32).

5.3.3 International development funding flows for food security and nutrition

For estimating the international development funding flows at the regional level, the core and extended definitions of financing for food security and nutrition introduced at the beginning of this section were applied to international development funding flows at the global level for ODA and OOF (both defined in Box 3) for the 2017 to 2021 period, with data from the Organization for Economic Co-operation and Development (OECD) Creditor Reporting System (CRS)[13] and the AidData database (AidData, 2024) where feasible. ODA is the main source of financing for development aid. ODA grants to agriculture and food security comprise one of the significant sources of development finance to achieve SDG 2 (Perera *et al.,* 2023).

Less than a third of development flows in the region target food security and nutrition.

TABLE 10

OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR ALL AID SECTORS AND FOR FOOD SECURITY AND NUTRITION IN THE ARAB REGION (BILLION USD, GROWTH RATE IN PERCENT)

	2017	2018	2019	2020	2021	AVERAGE	CORRESPONDENCE TO FIGURES AND DATA SHARED FOR CHAP. 4
ODA and OOF for all aid sectors	44	49	47	48	54	48	Fig 0.1 + Aiddata ODA
Growth rate (%)		12	-5	3	13	6	
ODA and OOF for food security and nutrition (core and extended definition)	12	12	14	14	12	13	Fig 1.2 ODA+OOF weighted
Growth rate (%)		0	11	2	-15	-1	
ODA and OOF for food security and nutrition (core definition)	8	7	8	9	7	8	Fig 1.2 Core weighted
Growth rate (%)		-4	16	7	-25	-2	
ODA and OOF for food security and nutrition – food consumption (core definition)	6	6	7	7	5	6	Fig 1.3 + Fig 1.4 food consumption weighted

12 "Social protection systems have a central role to play in supporting people of working age and their families in coping with the financial consequences of life events, in finding and sustaining decent and productive employment, and in facilitating their effective access to healthcare and other services. This includes in particular income security in the event of unemployment, employment injury, disability, sickness or maternity, as well as when earnings are insufficient" (ILO, 2021a, p. 103).

13 The following main databases were used for ODA and OOF: the OECD's Credit Reporting System (CRS) database, which tracks humanitarian and development ODA and OOF from DAC (Development Assistance Committee) countries and multilateral organizations (as well as from several further countries, such as Türkiye and the Russian Federation, that do not belong to DAC or indeed to OECD but nonetheless report into this database); and, for China, the AidData database, developed by an international network of researchers based on publicly available information. This tool covers only the period from 2000 to 2017 (for project approval, with implementation until 2021). Other official flows (OOF) from this source were not used for this analysis, due to the difficulty of determining the extent of their development assistance purpose. The methodology is described in the Supplementary material to Chapter 4 of *The State of Food Security and Nutrition 2024* (p. 238). Official development assistance (ODA) flows to countries and territories on the DAC List of ODA Recipients and to multilateral development institutions are:

i. provided by official agencies, including state and local governments, or by their executive agencies; and
ii. concessional (i.e. grants and soft loans) and administered with the promotion of the economic development and welfare of developing countries as the main objective. See OECD, 2023b.

	2017	2018	2019	2020	2021	AVERAGE	CORRESPONDENCE TO FIGURES AND DATA SHARED FOR CHAP. 4
Growth rate (%)		-6	20	6	-32	-3	
ODA and OOF for food security and nutrition – health status (core definition)	2	2	2	2	2	2	Fig 1.3 + Fig 1.4 health status weighted
Growth rate (%)		2	0	15	0	4	
ODA and OOF for food security and nutrition – drivers of food insecurity and malnutrition (extended definition)	5	5	5	5	5	5	Fig 1.3 + Fig 1.4 extended def weighted
Growth rate (%)		6	4	-7	3	1	
ODA for food security and nutrition (core and extended definition)	11	11	12	12	11	11	Fig 1.1 ODA weighted
Growth rate (%)		-1	12	5	-14	0	
ODA for food security and nutrition (core definition)	7	6	7	8	6	7	Fig 1.3 Food consumption + health status weighted
Growth rate (%)		-8	17	12	-26	-1	
ODA for food security and nutrition – food consumption (core definition)	5	5	6	7	5	5	Fig 1.3 food consumption weighted
Growth rate (%)		-8	19	11	-31	-2	
ODA for food security and nutrition – health status (core definition)	1	1	1	2	1	1	Fig 1.3 health status weighted
Growth rate (%)		-7	9	12	-7	2	
ODA for food security and nutrition – drivers of food insecurity and malnutrition (extended definition)	4	4	5	4	5	4	Fig 1.3 extended def weighted
Growth rate (%)		9	4	-6	9	4	

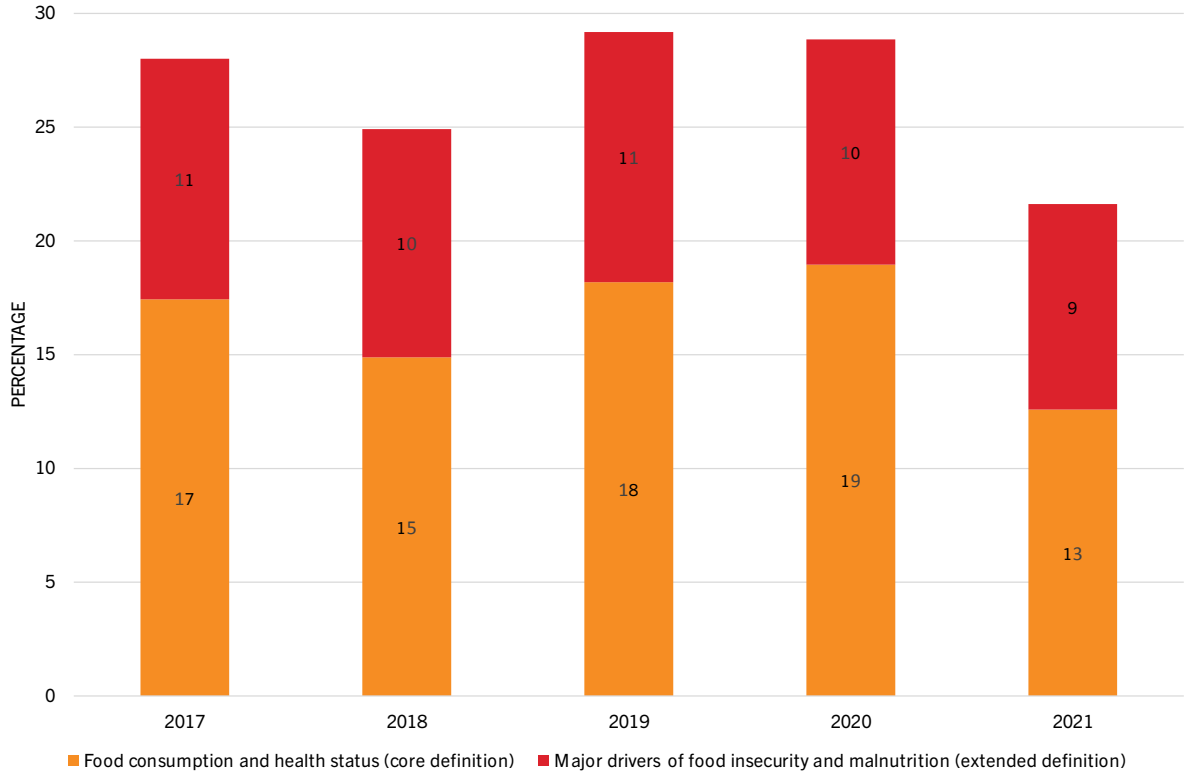
Notes: ODA = Official domestic assistance. OOF = Other official flows. ODA flows included from the AidData database represent little more than 5 percent of total ODA flows, on average, during the period. OOF tallied in the AidData database are not included due to the difficulty of estimating the portion of these flows that presents development aid characteristics. ODA and OOF for food security and nutrition result from applying the core and extended definitions of financing for food security and nutrition.

Sources: FAO based on the application of the methodology in the *The State of Food Security and Nutrition 2024.* Supplementary material to Chapter 4 S4.3 to data from OECD (Office of Economic Co-operation and Development). 2024. OECD Data Explorer. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

Food security and nutrition flows per the core and extended definitions were not a priority for donors during the 2017–2021 period, with a significant decrease (-1 percent, on average, in the 2017–2021 period) compared to the growth of the flows to all aid sectors (6 percent, on average, in the same period). Over the same period, less than one-third (27.1 percent) of ODA and OOF flows for all aid sectors in Arab countries was allocated to food security and nutrition. This share is higher than the global average (23.1 percent) for the same period (FAO, IFAD, UNICEF, WFP and WHO, 2024). During the second year of the COVID-19 pandemic there was a substantial contraction in ODA and OOF flows to the region (-15 percent of ODA and OOF related to food security and nutrition versus 13 percent of increase, on average, of all ODA and OOF) (Table 10). Global ODA and OOF flows for all aid sectors amounted to USD 54 billion in 2021. 22.2 percent of these flows (USD 12 billion) were targeted towards food security and nutrition in 2021, of which the majority (USD 11 billion or 91.7 percent) corresponds to ODA (Table 10).

Development funds for food consumption, health and drivers of food insecurity and malnutrition.

FIGURE 33
FOOD SECURITY AND NUTRITION'S SHARE IN GLOBAL OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) (PERCENTAGE) IN THE ARAB REGION



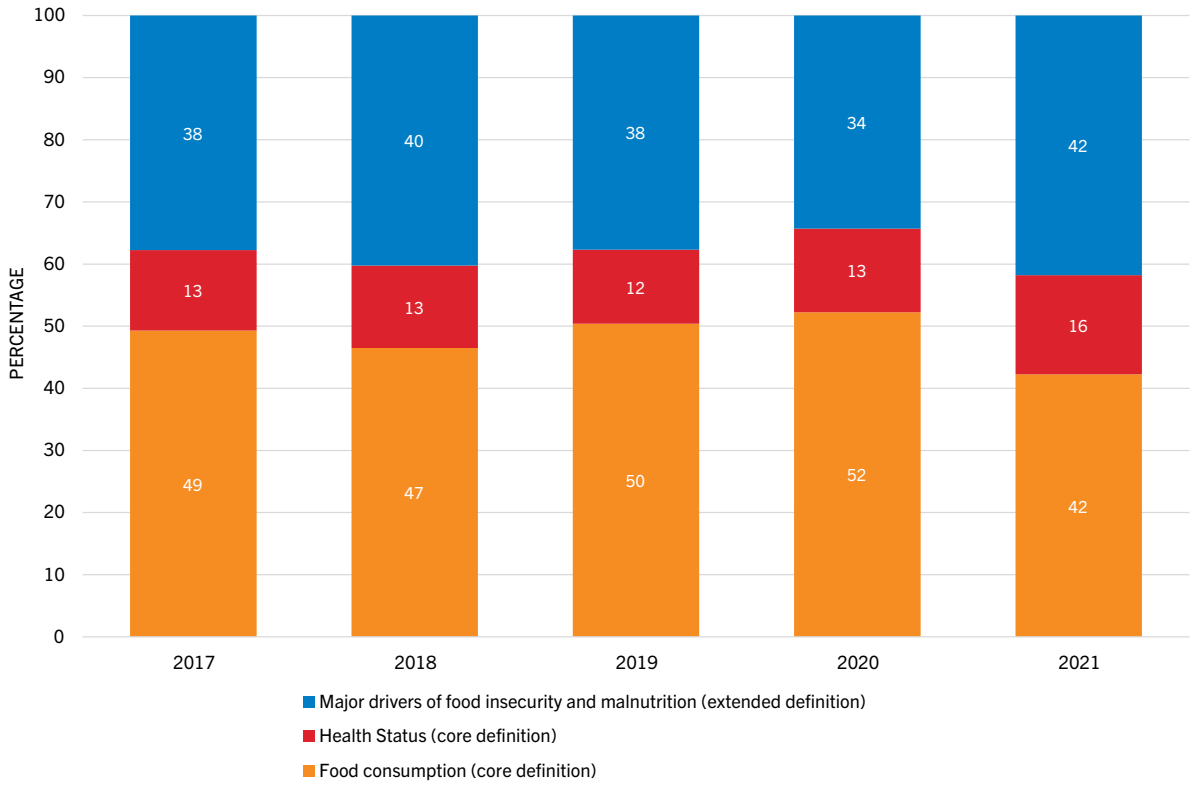
Note: Figures used are included in Table 10.

Sources: FAO based on the application of the methodology in *The State of Food Security and Nutrition 2024.* Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. OECD Data Explorer. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets.

Download: https://doi.org/10.4060/cd3550en-fig33

Flows for food security and nutrition are primarily for food consumption and health (core definition, on average 16.4 percent of total aid flows in 2017–21), and the rest are to address the drivers of food insecurity and malnutrition (extended definition, on average 10.1 percent of total aid flows) (Figure 33). The composition of the flows for food security and nutrition was the highest in 2019 and 2020 in the same period, 29 percent for both periods.

FIGURE 34
COMPOSITION OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR FOOD SECURITY AND NUTRITION IN ARAB COUNTRIES, 2017–2021



Note: Figures used are included in Table 10.

Sources: FAO based on the application of the methodology in *The State of Food Security and Nutrition 2024*. Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. OECD Data Explorer. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets.

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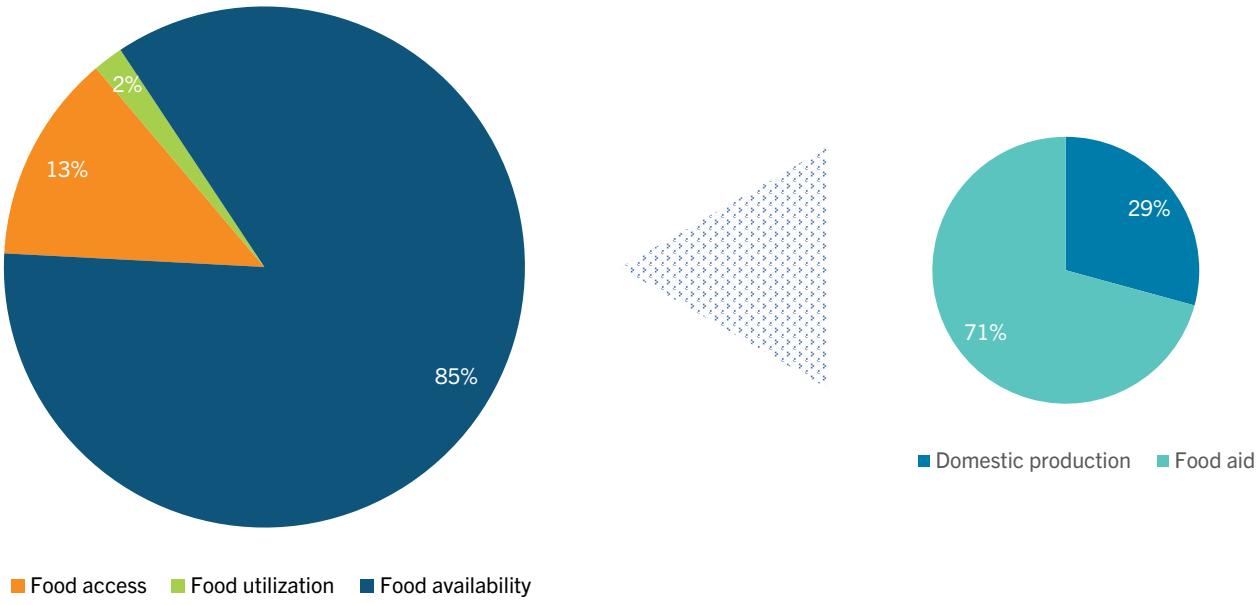
The composition of the flows for food security and nutrition is generally very stable over time (Figure 34). Food consumption (core definition), health status (core definition), and drivers of food insecurity and malnutrition (extended definition) received on average 48.1 percent, 13.5 percent, and 38.4 percent of the official development assistance (ODA) and other official flows (OOF) for food security and nutrition in the region in 2017–2021. However, there is a 10-percentage-point decline in ODA and OOF for food consumption from 2020 to 2021, due to which the share of spending on health status and the major drivers of food insecurity and malnutrition increased, to the point that the share of ODA and OOF directed to food consumption and to the major drivers show the same level in 2021, 42 percent.

ODA and OOF flows into food consumption (core definition), health status (core definition) and major drivers of food insecurity and malnutrition (extended definition) might be further decomposed. Firstly, food consumption might be divided into food availability, food access and food utilization.

FIGURE 35
COMPOSITION OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR FOOD CONSUMPTION IN ARAB COUNTRIES (ANNUAL AVERAGE, 2017–2021)



Note: Annual average flows for food consumption, health and drivers of food insecurity and malnutrition are included in Table 10.

Sources: FAO based on the application of the methodology explained in *The State of Food Security and Nutrition 2024.* Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. OECD Data Explorer. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

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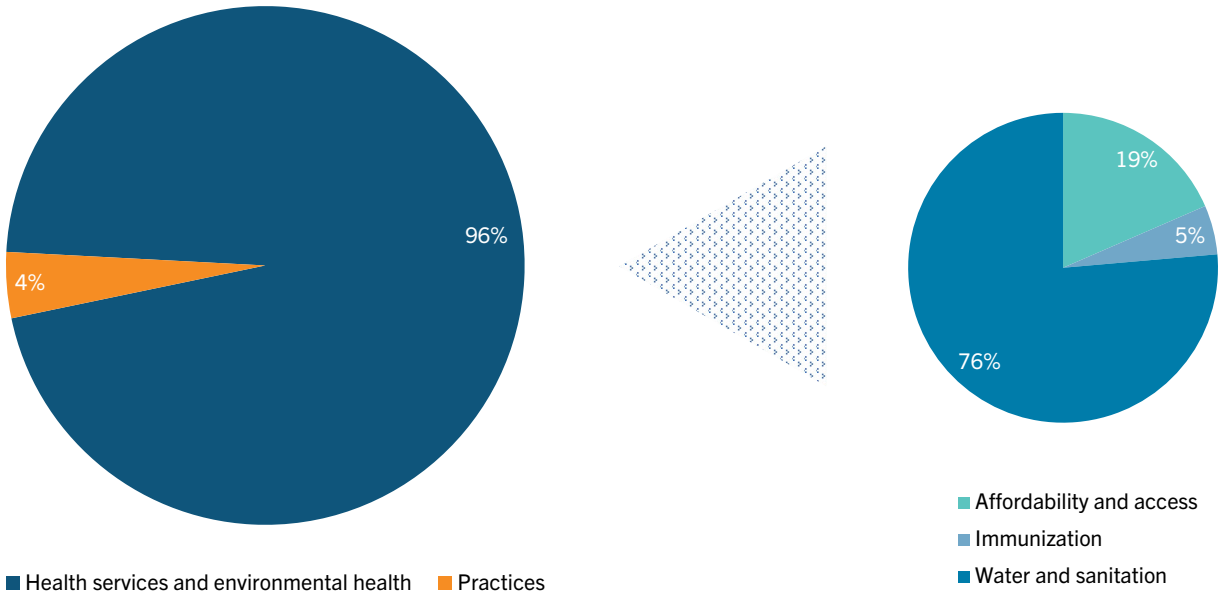
85 percent of the flows for food consumption have been allocated to address food availability concerns (of which slightly more than 29 percent has been allocated to support domestic production and 71 percent to food aid); the remaining part has been overwhelmingly taken by food access (13 percent, Figure 35).

FIGURE 36
COMPOSITION OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR HEALTH STATUS IN ARAB COUNTRIES (ANNUAL AVERAGE, 2017–2021)



Note: Annual average flows for food consumption, health and drivers of food insecurity and malnutrition are included in Table 10.

Sources: FAO based on the application of the methodology explained in *The State of Food Security and Nutrition 2024.* Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. OECD Data Explorer. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets.

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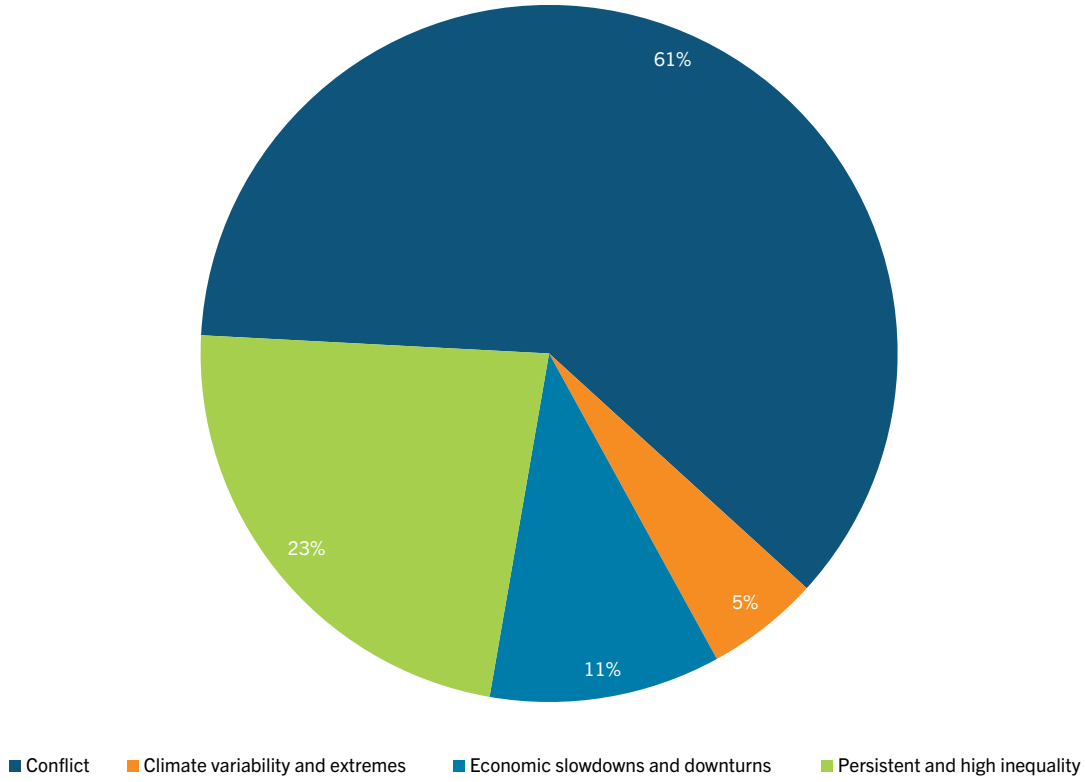
Secondly, Figure 36 shows the decomposing health status-related development flows. Health services and environmental health have received the majority (96 percent) of health-related flows, particularly those supporting water and sanitation.

FIGURE 37
COMPOSITION OF OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR THE DRIVERS OF FOOD INSECURITY AND MALNUTRITION IN ARAB COUNTRIES (ANNUAL AVERAGE, 2017–2021)



Note: Annual average flows for food consumption, health and drivers of food insecurity and malnutrition are included in Table 10.

Source: FAO based on the application of the methodology explained in *The State of Food Security and Nutrition 2024.* Supplementary material to Chapter 4 S4.3 using amounts of flows in constant 2021 USD billion from OECD. 2024. OECD Data Explorer. [Accessed 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

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Thirdly, Figure 37 shows the decomposition of development flows to the drivers of food insecurity and malnutrition. Conflict is a major driver of food insecurity in Arab countries. This fact is reflected in the decomposition of ODA and OOF, which aimed to address the drivers of food insecurity and malnutrition, as the majority of these funds target conflict (61 percent), and the remaining share persistent and high inequality (23 percent), and economic slowdowns and downturns (11 percent).

The majority of ODA flows in the region is commodity aid and emergency food Assistance. Emergency food assistance is mainly in conflict countries, such as the Sudan and Yemen. The largest recipient of commodity aid in 2021 was Egypt,[14] which provided essential commodities by import.

14 The country level mapping of ODA was undertaken for the FAO Regional Conference for the Near East, Thirty-seventh Session, in a document titled "Financing to end hunger for today and tomorrow (SDG 2)" NERC/24/INF/19 - Financing to end hunger for today and tomorrow (SDG 2) (FAO, 2023c). Differently to the estimates for ODA and OOF presented in this report, the analysis is based on OECD Creditor Reporting System (CRS). See OECD.

Development flows target mostly countries affected by conflict and least developed countries (LDCs).

TABLE 11

GLOBAL OFFICIAL DEVELOPMENT ASSISTANCE (ODA) AND OTHER OFFICIAL FLOWS (OOF) FOR ALL AID SECTORS AND FOR FOOD SECURITY AND NUTRITION IN ARAB COUNTRIES

	2017	2018	2019	2020	2021	AVERAGE
INCOME GROUP						
Low-income countries (USD billion)	5	6	7	8	6	6
Low-income countries (USD per capita)	52	54	59	66	52	57
Lower-middle-income countries (USD billion)	5	5	6	5	4	5
Lower-middle-income countries (USD per capita)	26	24	25	23	19	23
Upper-middle-income countries (USD billion)	1	1	1	1	1	1
Upper-middle-income countries (USD per capita)	30	27	30	24	23	27
Affected by conflict/Not affected by conflict						
Countries affected by conflict (USD billion)	6	7	7	8	7	7
Countries affected by conflict (USD per capita)	42	42	46	50	40	44
Countries not affected by conflict (USD billion)	6	6	6	6	5	6
Countries not affected by conflict (USD per capita)	22	21	23	20	18	21
LDCs/Non-LDCs						
Least developed countries (USD billion)	3	3	4	3	4	3
Least developed countries (USD per capita)	31	36	38	34	38	35
Non-LDCs (USD billion)	9	9	10	10	8	9
Non-LDCs (USD per capita)	29	26	29	30	22	27

Notes: ODA = Other development assistance. OOF = Other official flows. ODA flows included from AidData database represent little more than 5 percent of total flows, on average, during the period. OOF tallied in the AidData database are not included due to the difficulty of estimating the portion of these flows that present development aid characteristics. ODA and OOF for food security and nutrition result from applying the core and extended definitions of financing for food security and nutrition. Some subtotals may not fully add up due to rounding.

Sources: Authors' (FAO) own elaboration based on the application of the methodology in the Supplementary material to Chapter 4 S4.3 to data from OECD. 2024. OECD Data Explorer. [Accessed on 24 July 2024]. https://data-explorer.oecd.org/?fs[0]=T%2Co&pg=0&fc=Topic&bp=true&snb=580; AidData. 2024. Data. [Accessed on 24 July 2024]. https://www.aiddata.org/datasets

Global ODA and OOF flows for food security and nutrition target well the country groups where hunger, food insecurity and undernutrition are higher: low-income countries, least developed countries (LDCs) and countries affected by conflict. Part I of this report has shown that the prevalence of undernourishment was the highest in low-income countries (31.1 percent), Arab States LDCs (28.8 percent) and countries affected by conflict (26.4 percent) in the Arab region. On a per capita basis over the period 2017–2021, these flows amounted to USD 57 on average in low-income countries, USD 35 in LDCs and USD 44 in countries affected by conflict (Table 11). As Figure 34 presents, conflict, as a major driver of food insecurity, has the largest share of the total amount of ODA and OOF oriented to address the major drivers in the region.

Box 4 presents the findings of the *2023 Financing Flows and Food Crises Report* that shows that the Arab region was the second largest recipient of humanitarian allocations globally in 2022 (WFP and FAO, 2022). This is a relatively high share if we compare it to the global distribution of numbers of acutely food insecure people in 58 countries/territories in 2022 (FSIN and Global Network Against Food Crises, 2023). However, even though these flows are relatively high and increasing, they should continue to increase even more, especially when it comes to food security and nutrition. Firstly, as Section 5.2 of this report presents, the most frequent major driver of food insecurity and malnutrition affecting countries in the region is conflict. Secondly, conflicts in the very recent period have escalated further in the region (in the Sudan, Gaza and Lebanon).

On the other hand, in humanitarian assistance, there is an opportunity to embed the agrifood systems approach, particularly food security and nutrition objectives, into humanitarian financing flows. An agrifood systems approach to resilience and emergency in times of crises caused by conflict rests on the humanitarian-development–peace (HDP) nexus approach, integrating emergency relief, resilience building, development and peacebuilding to tackle both immediate food security needs and the root causes of vulnerability while working towards strengthening social cohesion and local peace. The goal is to assist people in strengthening their livelihoods, making them more resilient, breaking their dependency on humanitarian aid, and strengthening the alignment between humanitarian, development and peace efforts.

BOX 4

HUMANITARIAN AND DEVELOPMENT FINANCING FLOWS TO FOOD SECTORS IN FOOD CRISIS COUNTRIES

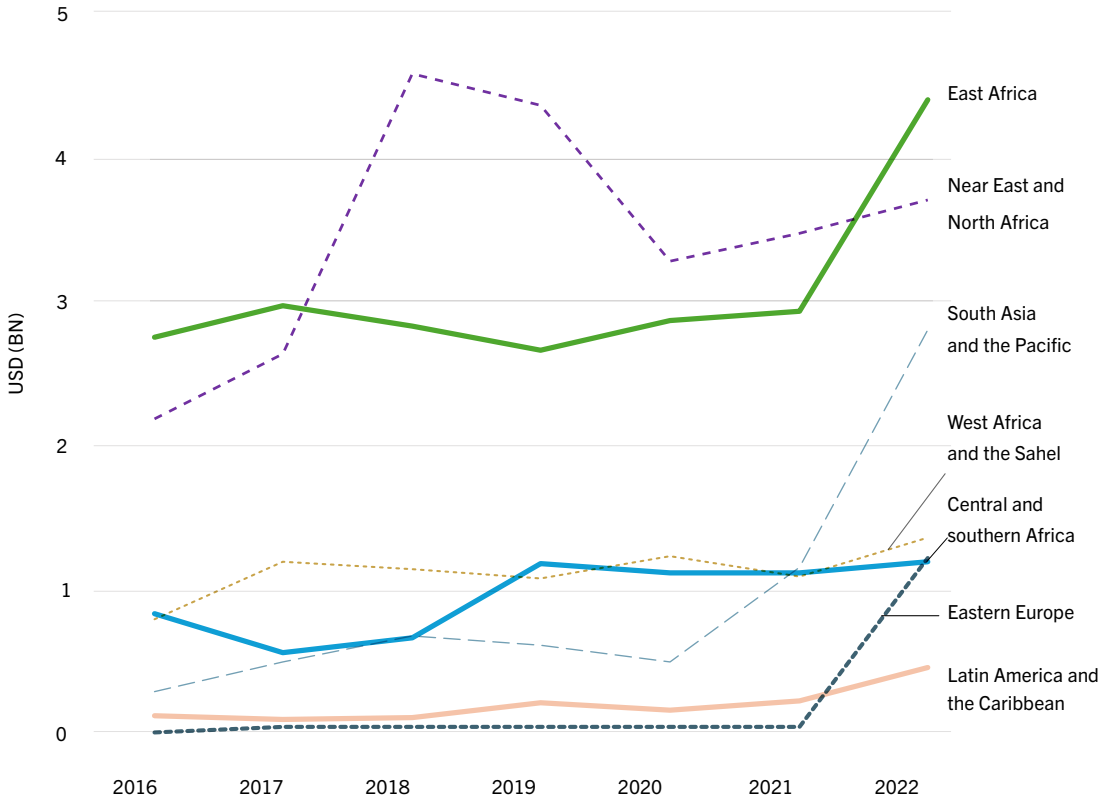
The *2023 Financing Flows and Food Crises Report* reveals that countries and territories affected by a food crisis absorbed three-quarters of global humanitarian allocations and almost one-third of global development allocations over the past seven years.

Humanitarian assistance to food sectors includes allocations aimed at improving or safeguarding food security by providing cash or in-kind food assistance, emergency agriculture support, as well as allocations to improve and safeguard nutrition and health. Emergency agriculture support covers a broad range of activities that specifically aim to save lives and safeguard livelihoods ahead of, during and immediately after crises. For example, these include the provision of livestock feed, water and health care to keep animals alive and productive, fishing nets and other equipment to restore fishing livelihoods, or quality seeds, tools and fertilizers when a season is threatened by disaster. These totals comprise the sum of commitments and paid contributions for humanitarian action spent outside donor countries as reported to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Financial Tracking Service (FTS) – including those from non-official resource partners (e.g. private donors). They exclude domestic responses by national governments. The FTS data were cross-checked against development assistance from the OECD CRS to avoid duplication and presented in United States dollars (2021 constant prices).

Note: OECD = Office for Economic Co-operation and Development. CRS = Credit Reporting System.

Source: GNAFC (Global Network Against Food Crises). 2024. 2023 *Financing flows and food crises report*. https://www.fightfoodcrises.net/sites/default/files/2024-02/Financing_Flows_and_Food_Crises_Report_2023.pdf

FIGURE 38
HUMANITARIAN ASSISTANCE TO FOOD SECTORS IN FOOD CRISIS COUNTRIES/TERRITORIES PER REGION (2016–2022, USD BILLIONS)



Source: GNAFC (Global Network Against Food Crises). 2024. 2023 *Financing flows and food crises report*. https://www.fightfoodcrises.net/sites/default/files/2024-02/Financing_Flows_and_Food_Crises_Report_2023.pdf

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Humanitarian funding allocations continue to be concentrated in regions with the highest acute food insecurity needs: financing to seven countries drove the increase in humanitarian assistance in 2022 East Africa (Ethiopia, Kenya, Somalia and the Sudan), Eastern Europe (Ukraine), South Asia (Afghanistan) and the Near East and North Africa (the Syrian Arab Republic) (Figure 38).

The Arab region, which hosted 34.1 million people in high acute food insecurity in eight countries and territories in 2022, was the second largest recipient of humanitarian allocations globally in 2022 with USD 3.7 billion allocated, representing one-quarter of total global humanitarian allocations that year. The Syrian Arab Republic and Yemen hosted around 86 percent of the region's population facing high levels of acute food insecurity. Largely due to increased allocations to the Syrian Arab Republic, 2022 allocations marked an increase of around USD 300 million compared to 2021.

Box 5 contains an analysis of development flows targeting climate change adaptation and mitigation in the agriculture, forestry and fishing sectors.[15]

15 This analysis is based on the OECD's Credit Reporting System (CRS) database.

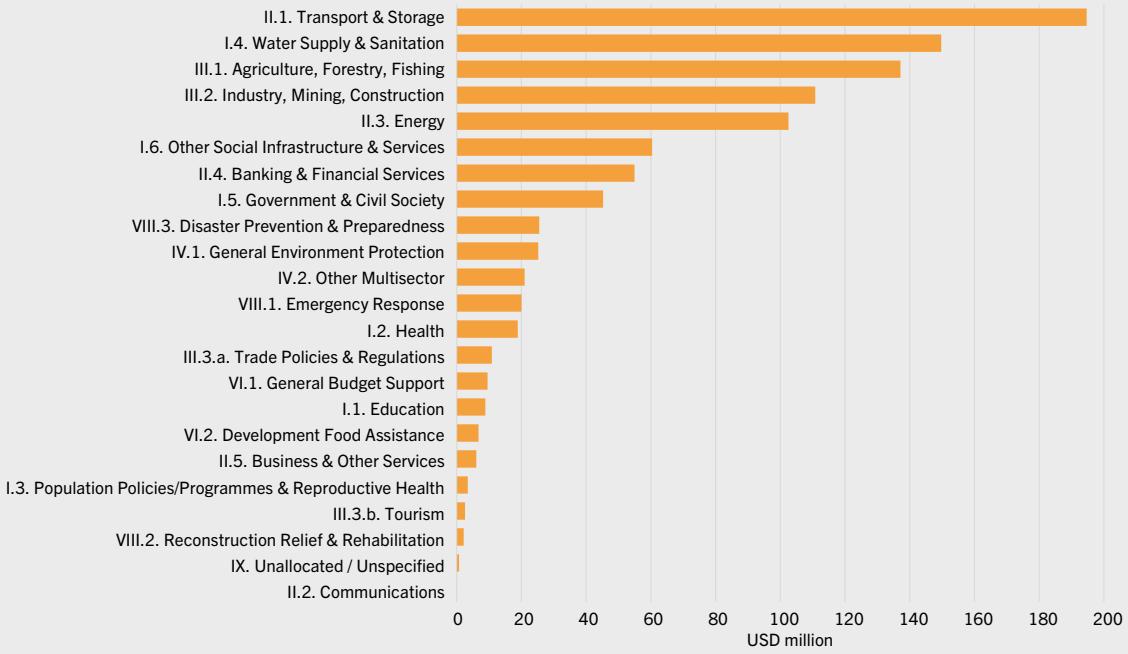
Based on these findings, although the Arab States are among the most vulnerable to the impacts of climate change, they receive significantly less funding for climate change-related development than some other regions in the world. Adaptation-related finance has generally been higher than mitigation-related finance in the Arab States. At the country level, Morocco remains by far the biggest recipient of climate finance directed towards agriculture, forestry and fishing in 2022, while Egypt, Iraq, the Sudan and Tunisia make up the rest of the top five countries that receive climate finance in the region.

BOX 5

DEVELOPMENT FLOWS TARGETING CLIMATE CHANGE ADAPTATION AND MITIGATION IN THE AGRICULTURE, FORESTRY AND FISHING SECTORS IN ARAB STATES

FIGURE 39

OFFICE OF ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD) SECTORS CLIMATE FINANCE BREAKDOWN (USD, MILLIONS, 2022)



Source: OECD. n.d. Climate Change: OECD DAC external development finance statistics. In: *OECD*. Paris. [Cited 6 September 2024]. https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/ climate-change.htm

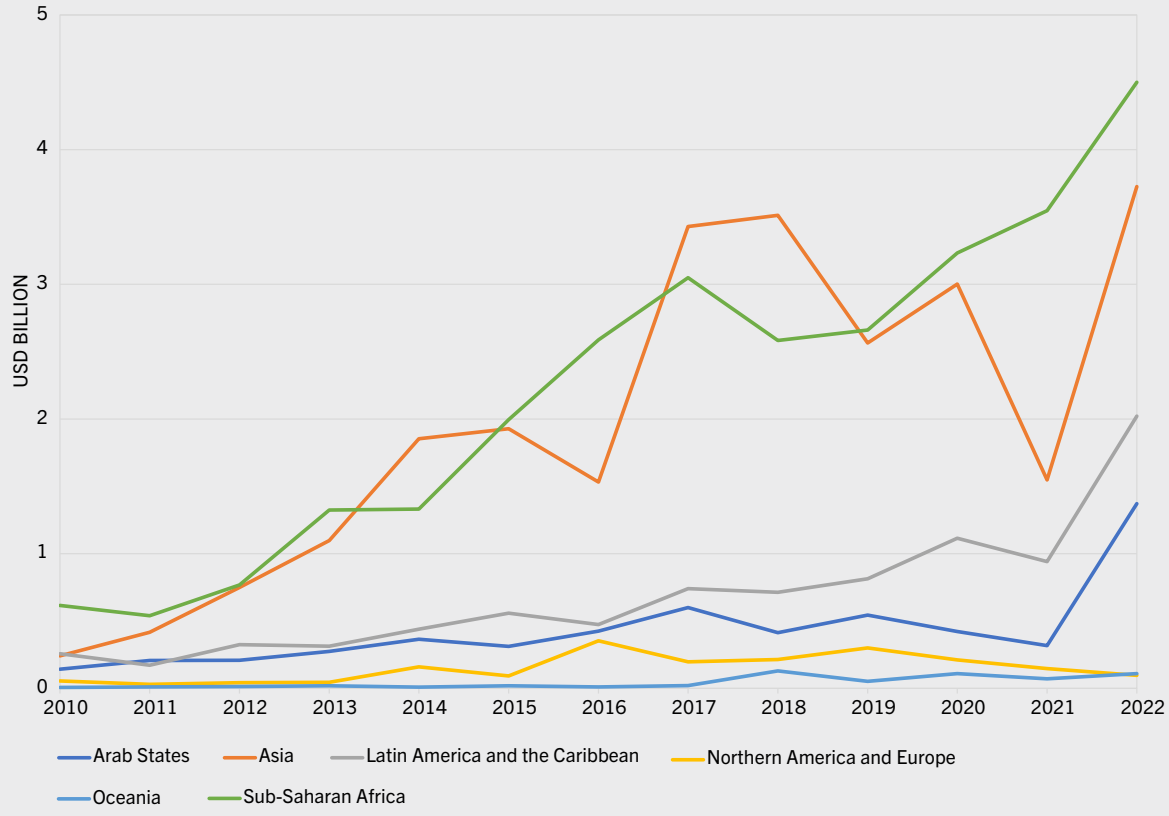
Download: https://doi.org/10.4060/cd3550en-fig39

CONTINUED →

BOX 5 CONTINUED

In 2022, the agriculture, forestry and fishing sector donors committed approximately USD 137 million in climate finance, positioning it as the third-highest recipient of funds in the Arab States region, following transport and storage, and water supply and sanitation (Figure 39). This notable investment reflects the growing recognition of the sector's vulnerability to climate change, as well as its critical role in ensuring food security and nutrition in a region highly dependent on food imports. Given the challenges of water scarcity, desertification and increasing temperatures, there is a need for an increase in climate funding to build climate resilience with sustainable agricultural practices.

FIGURE 40
CLIMATE FINANCE DIRECTED AT AGRICULTURE, FORESTRY AND FISHING BY REGION IN THE WORLD (USD BILLIONS)



Note: Asia on the graph does not include Western Asian Arab countries.

Source: OECD. Climate Change: OECD DAC External Development Finance Statistics. In: *OECD*. Paris. [Cited 5 September 2024]. https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/ climate-change.htm
Download: https://doi.org/10.4060/cd3550en-fig40

Although the Arab States are among the most vulnerable to the impacts of climate change, they have significantly less funding committed for climate change-related development than some other regions in the world (Figure 40). In 2022, sub-Saharan Africa (USD 4.5 billion), Asia (USD 3.7 billion) and Latin America and the Caribbean (USD 2.0 billion) all received higher climate finance commitments than the Arab States (USD 1.4 billion).

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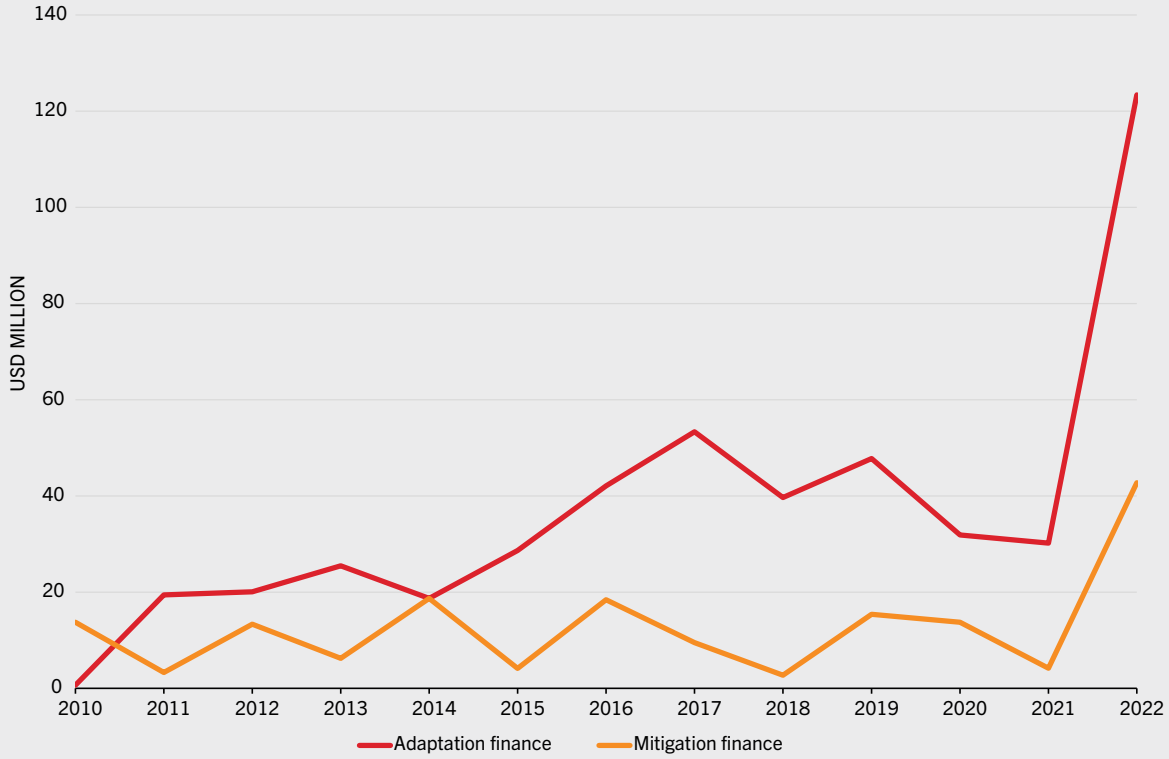
BOX 5 CONTINUED

FIGURE 41
MITIGATION/ADAPTATION-RELATED FINANCE RECEIVED IN THE ARAB STATES (USD MILLIONS)



Source: OECD. n.d. Climate Change: OECD DAC external development finance statistics. In: *OECD*. Paris. [Cited 5 September 2024]. https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/ climate-change.htm

Download: https://doi.org/10.4060/cd3550en-fig41

Adaptation-related finance has generally been higher than mitigation-related finance in the Arab States, although both types of finance fluctuate over time (Figure 41). From 2021 to 2022, there was a dramatic increase in both categories. Adaptation finance soared to 123 million USD, and mitigation finance also saw a substantial recovery, reaching 42.7 million USD. This increase in both categories may be due to a renewed global focus on green recovery efforts post-pandemic, international climate agreements, and the implementation of large-scale renewable energy or emission-reduction projects.

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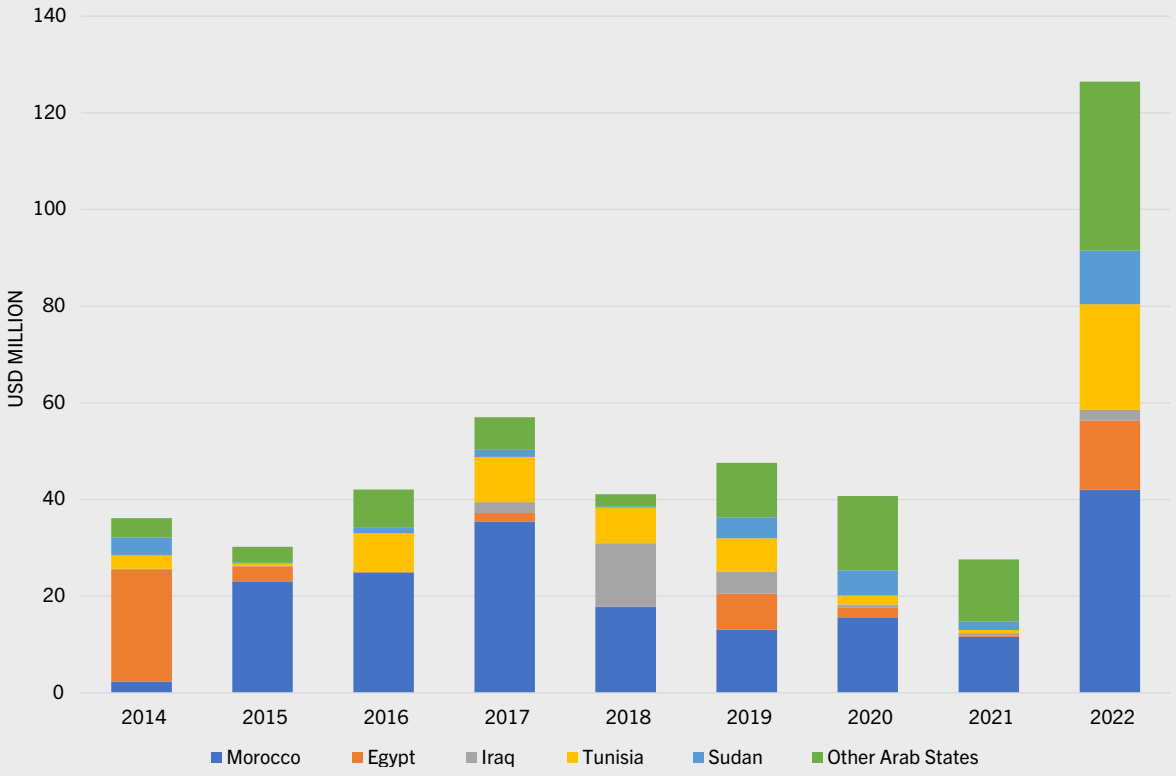
BOX 5 CONTINUED

FIGURE 42
CLIMATE FINANCE DIRECTED AT AGRICULTURE, FORESTRY AND FISHING BY COUNTRY (USD MILLIONS)



Source: OECD. n.d. Climate Change: OECD DAC external development finance statistics. In: *OECD*. Paris. [Cited 5 September 2024]. https://www.oecd.org/dac/financing-sustainable-development/development-finance-topics/ climate-change.htm

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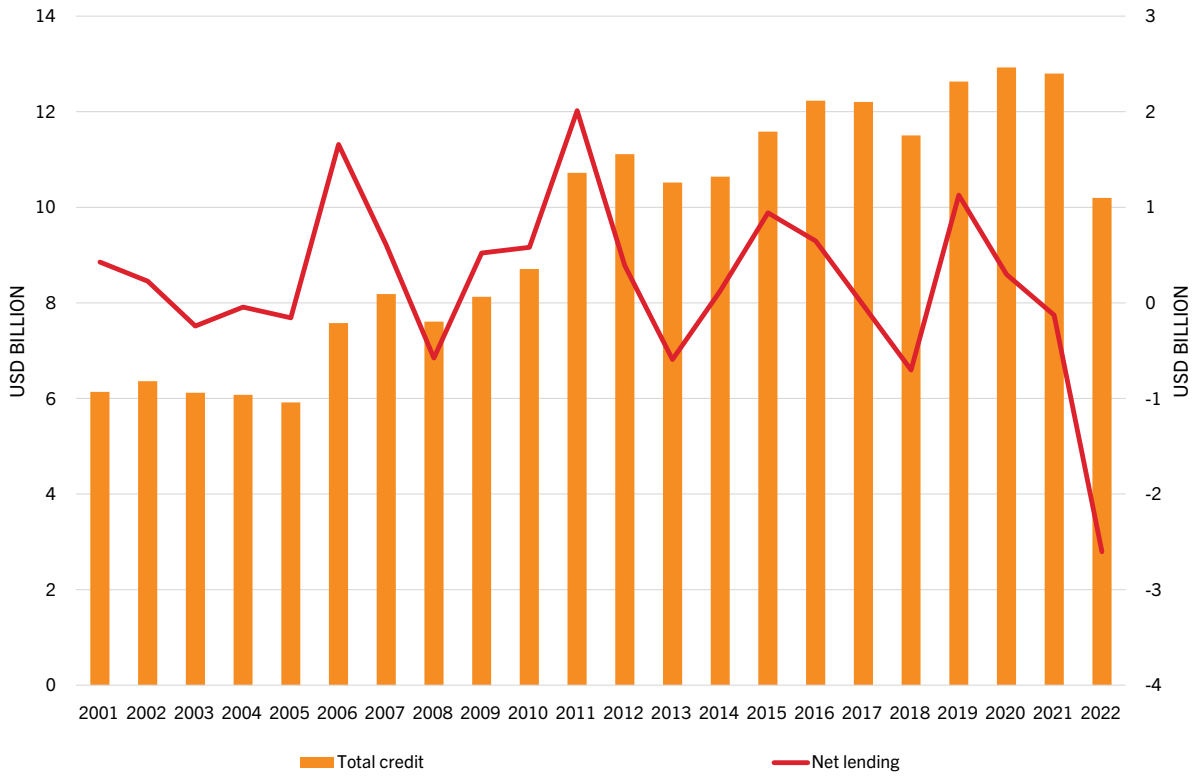
Morocco regularly stands out as the largest recipient of climate finance, consistently having the highest share of climate finance received in the region, except for 2014 when Egypt had the highest share (23 million USD) (Figure 42). This substantial funding towards Morocco coincides with Morocco's strong focus on sustainability, renewable energy projects, and climate adaptation measures, particularly in agriculture and water resource management against the backdrop of a persistent drought. Morocco remains the biggest recipient of climate finance directed towards agriculture, forestry and fishing in 2022 (42 million USD). Egypt, Iraq, the Sudan and Tunisia also receive significant portions of climate finance and comprise the rest of the top five countries that receive climate finance among the Arab States.

5.3.4 Credit to agriculture, forestry and fishing

This subsection analyses credit to agriculture, forestry and fishing (see private domestic flows in Table 9), as it is not possible to have the data on credits for food security and nutrition, applying the new definition. Credit to agriculture measures the amount of loans and advances given by the private/commercial banking sector to farmers, rural households, agricultural cooperatives, and agri-related businesses. Access to formal credit is crucial to farmers for purchasing inputs such as seeds, fertilizers and capital goods, such as machines for production. Credits are also necessary to bridge the financial gap between the expenditures spent on cultivating crops or raising livestock and the income derived later from selling agricultural products. In the absence of personal savings, borrowing from the informal sector may involve unreasonably high interest rates and unfavourable conditions, which may make many agricultural activities unviable (FAO, n.d.a).

FIGURE 43
CREDIT TO AGRICULTURE, FORESTRY AND FISHING (BILLION USD, 2015 PRICES) IN THE ARAB REGION (TOTAL CREDIT: LEFT AXIS, NET LENDING: RIGHT AXIS)



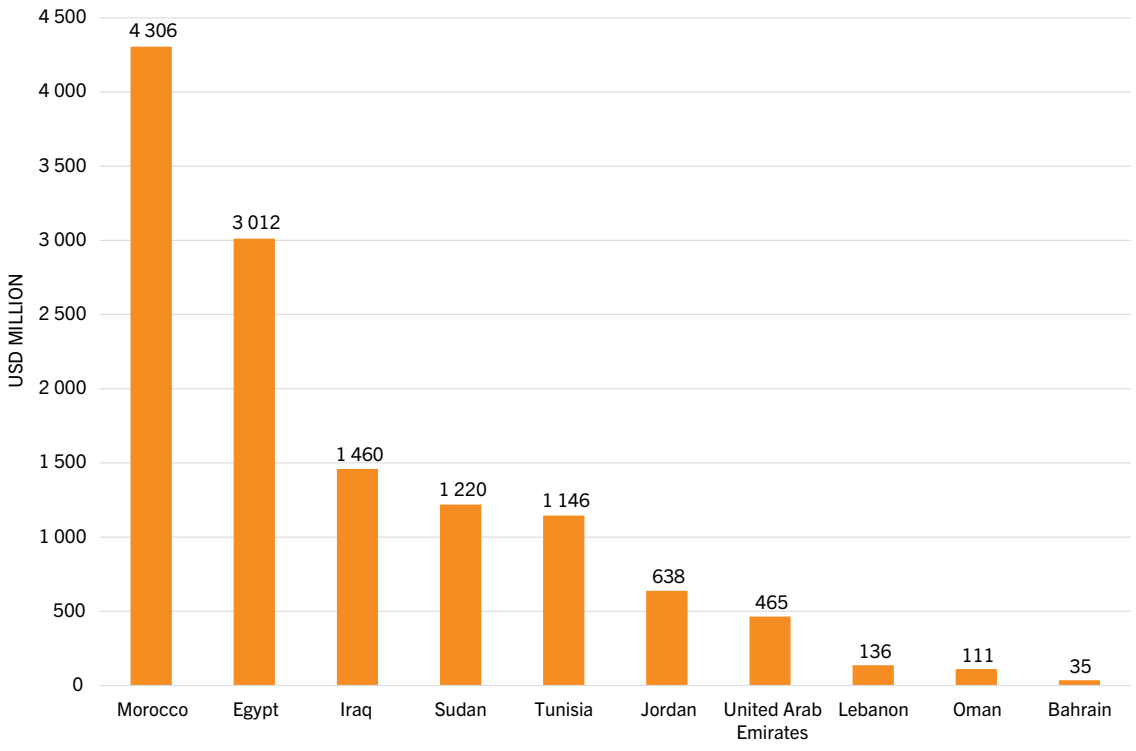
Notes: Bars indicate stock of credit (total credit). Net lending, indicated by the line, can be estimated by the change in stock from one year to the next. This shows the new credit flows into (or credit outflows from) the agriculture sector.

Source: FAO. 2024. *FAOSTAT: Credit to Agriculture*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/IC. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig43

FAOSTAT's Credit to Agriculture dataset provides national data on the amount of loans (stock of credit) provided by the private/commercial banking sector to producers in agriculture, forestry and fishing, including household producers, cooperatives, and agrobusinesses (FAO, n.d.b). Figure 43 illustrates stocks of credit (bars) and net flows (line) into the agriculture, forestry and fishing sector in 2001–2022 in constant 2015 USD. Net lending, indicated by the line in Figure 43, can be estimated by the change in stock from one year to the next. This shows the new credit flows into (or credit outflows from) the agriculture sector. The stock of credit reached its height in the Arab region in 2020 (USD 12.9 billion); since then, it has been declining in USD terms. The declining flows in 2021 and 2022 are attributable to the lack of recent data for Lebanon, Qatar, the Sudan, the Syrian Arab Republic, and Yemen.

FIGURE 44
TOTAL CREDIT IN THE AGRICULTURE, FORESTRY AND FISHING SECTOR (2021, MILLION USD)



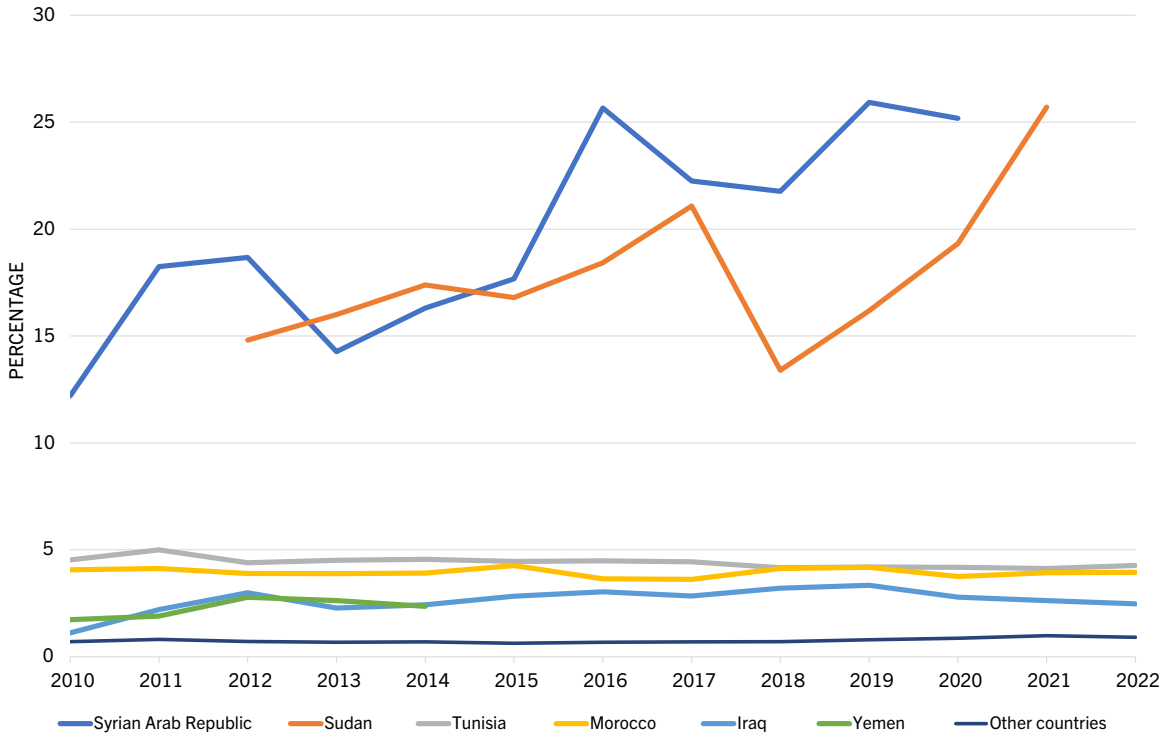
Note: There was no data available in July 2024 in FAOSTAT for 2021 for Algeria, the Comoros, Djibouti, Kuwait, Libya, Mauritania, Palestine, Qatar, Saudi Arabia, Somalia, the Syrian Arab Republic and Yemen.

Source: FAO. 2023. *FAOSTAT: Credit to Agriculture*. [Accessed on 6 July 2024]. https://www.fao.org/faostat/en/#data/IC. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig44

As can be seen in Figure 44, Egypt had the second largest stock of credit in the agriculture sector (3 billion USD) after Morocco (4.3 billion USD). Since credits to the agriculture sector are primarily denominated in national currency, a depreciation in the national currency would result in a decrease in the USD value of these credit stocks.

FIGURE 45
SHARE OF CREDIT TO AGRICULTURE, FORESTRY AND FISHING IN TOTAL CREDITS



Note: Other countries include Bahrain, Egypt, Jordan, Lebanon, Oman, and the United Arab Emirates. No data is available in FAOSTAT for Algeria, the Comoros, Djibouti, Kuwait, Libya, Mauritania, Palestine, Qatar, Saudi Arabia, Somalia.

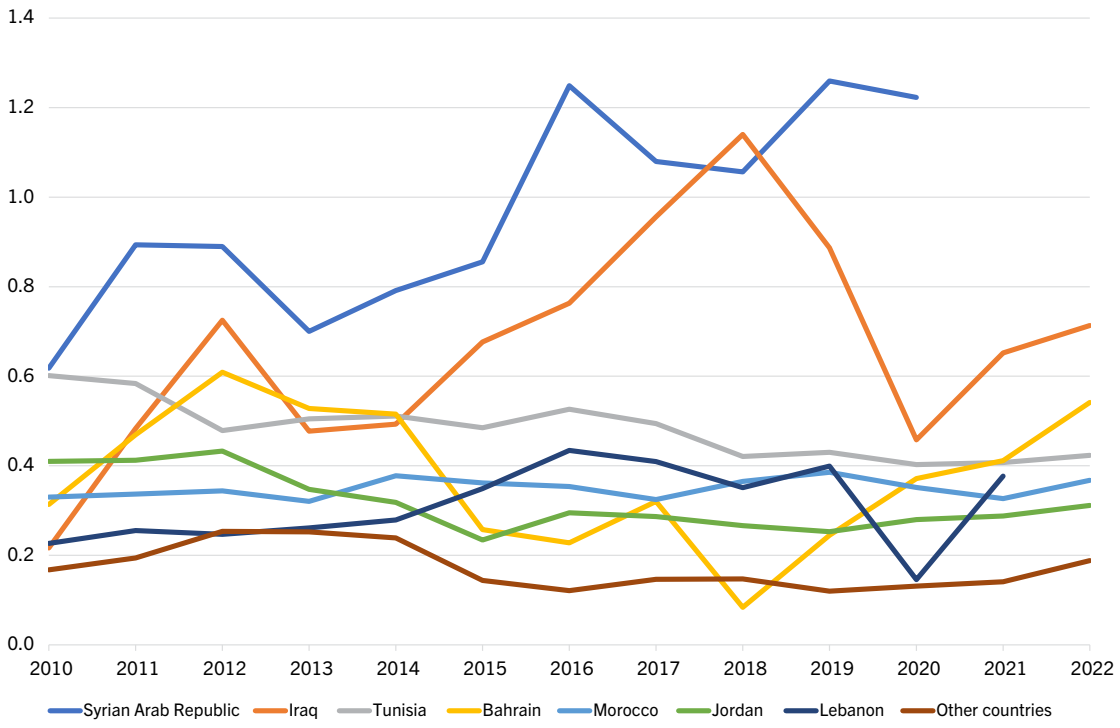
Source: FAO. 2023. *FAOSTAT: Credit to Agriculture*. [Accessed on 6 July 2024]. https://www.fao.org/faostat/en/#data/IC. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig45

The share of credit to agriculture, forestry and fishing in total credits (Figure 45) in most countries is below 5 percent, and on average it was 4.3 percent in the period of 2010–2022 in the twelve countries analysed in the region. The exemptions are the Sudan and the Syrian Arab Republic, where the share of agricultural credit was around 25–26 percent of the total credits in the economy in 2020–2021.

The Sudan and the Syrian Arab Republic have higher agriculture value added share in their GDP (in the case of the Sudan: 15.6 percent and of the Syrian Arab Republic: 20.6 percent) compared to other countries in the region (FAO, 2023d) that might partly explain the higher share of credit to agriculture, forestry and fishing in total credits. However, as can be seen in Figure 46, the agriculture sector received more credit among other economic sectors even compared to the share of agriculture in their economy in the Syrian Arab Republic since 2016.

FIGURE 46
AGRICULTURE ORIENTATION INDEX OF CREDIT TO AGRICULTURE (2010–2022) IN ARAB COUNTRIES



Note: Other countries include the United Arab Emirates, Oman and Egypt. The value for Agriculture Orientation Index (AOI) of credit for other countries is calculated from the simple average of the AOI of credit of the three countries. Data is not available on FAOSTAT for Iraq and the Sudan. Data is not available on FAOSTAT for Qatar from 2003, for Yemen from 2015.

Source: FAO. 2023. *FAOSTAT: Credit to Agriculture*. [Accessed on 6 July 2024]. https://www.fao.org/faostat/en/#data/IC. Licence: CC-BY-4.0.

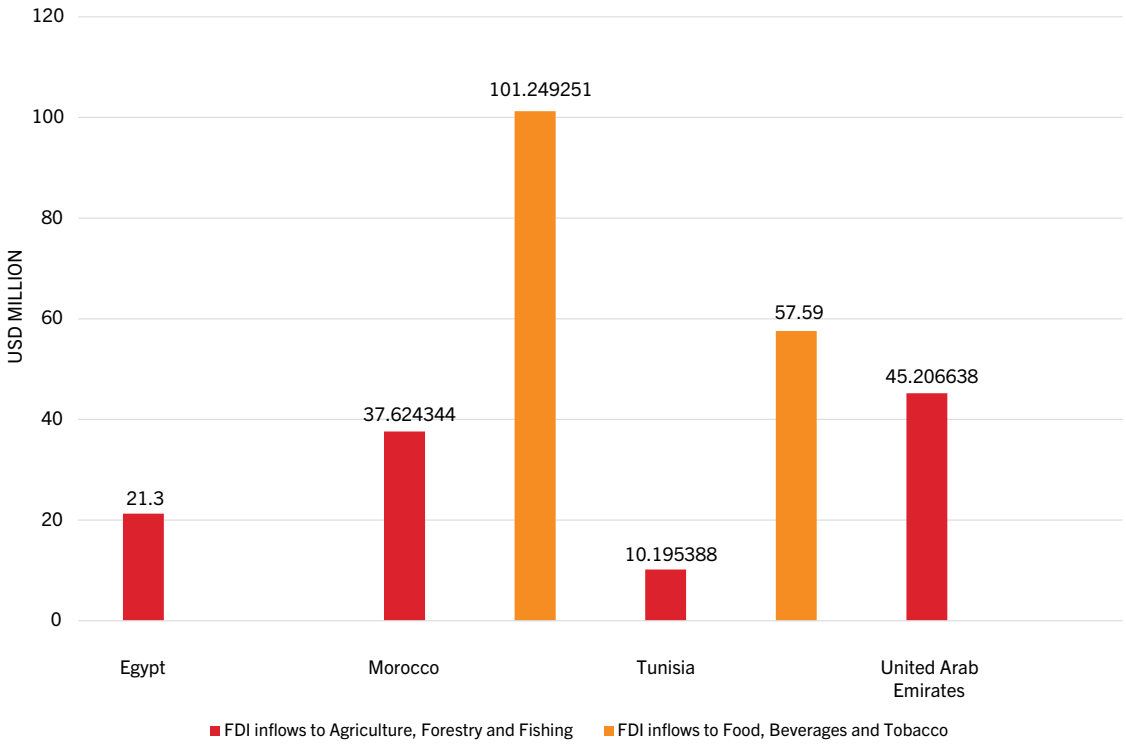
Download: https://doi.org/10.4060/cd3550en-fig46

The Agriculture Orientation Index (AOI) for credit normalizes the share of credit to agriculture by dividing it by the share of agriculture in gross domestic product (GDP). An AOI lower than one indicates that agriculture receives a credit share which is lower than its contribution to the economy, while an AOI for credit greater than one indicates a credit share to the agriculture sector greater than the value added that it generates. The AOI for credit in the analysed countries in the 2010–2022 period on average was below one meaning that agriculture has a lesser share of credits in the economy compared to its share in the GDP. It is greater, however, than one in the Syrian Arab Republic since 2016, and it was above one in Iraq in 2018 (Figure 46).

5.3.5 Foreign direct investment inflows

Foreign direct investment (FDI) is defined as an investment which aims to acquire a lasting management influence (10 percent or more of voting power) in an enterprise operating in a foreign economy. FDI inflows are the value of inward direct investment made by non-resident investors in the reporting economy. FDI creates stable and long-lasting links between economies. The latest FAOSTAT update includes data on foreign direct investment flows to agriculture, forestry and fishing, and food, beverages and tobacco.

FIGURE 47
FOREIGN DIRECT INVESTMENT INFLOWS INTO AGRICULTURE, FORESTRY AND FISHING, AND FOOD, BEVERAGES AND TOBACCO (2016, MILLION USD)



Note: Most comprehensive data for FDI for the region was available in FAOSTAT for 2016. No data for 2016 was available in FAOSTAT for the other countries in the region.

Source: FAOSTAT. 2023. Foreign Direct Investment (FDI). [Accessed 15 November 2023]. https://www.fao.org/faostat/en/#data/FDI. Licence: CC-BY-4.0.

Download: https://doi.org/10.4060/cd3550en-fig47

Foreign direct investment (FDI) inflows into agriculture, forestry and fishing, and food, beverages and tobacco sectors are not significant compared to other financing sources flowing into the countries with available data in the region (Figure 47). FDI inflow was USD 273.2 million in 2016.[16] The majority of FDI (58.2 percent) were directed to the agrifood processing industry (food, beverages and tobacco), and 41.9 percent to agriculture, forestry and fishing.

16 The latest year, for which we have data for all Arab subregions.

CHAPTER 6

REPURPOSING PUBLIC SUPPORT FOR INCREASING THE AVAILABLE FINANCING FOR AGRIFOOD SYSTEMS TRANSFORMATION ORIENTED TO ENDING HUNGER, FOOD INSECURITY AND MALNUTRITION IN ALL ITS FORMS

Section 5 presented the current financial flows to agrifood systems for achieving food security and better nutrition in the region. Public expenditure, which is part of the overall financing for transforming agrifood systems for food security and nutrition, is an important financing flow needed to meet the SDG Targets 2.1 and 2.2. Although increased levels of public funding will be required, there is a substantial share of public financing that can be repurposed for increasing the available financing for transforming agrifood systems for food security and nutrition.

Repurposing means the "reduction of agricultural producer support measures that are inefficient, unsustainable and/or inequitable, in order to replace them with measures that are the opposite" (FAO, UNDP and UNEP, 2021, p. 2). It should support environmental sustainability, such as climate change adaptation and mitigation and water efficiency. In addition, repurposing should also contribute to promoting the production of nutritious foods (whose consumption is low relative to the dietary guidelines) to make a healthy diet less costly and more affordable (FAO, IFAD, UNICEF, WFP and WHO, 2022). Finally, repurposed subsidies should avoid having distortive effects in regional and international markets.

This section presents the conceptual framework of repurposing policy support (Section 6.1). Then, Section 6.2 discusses in detail which support measures could be repurposed (such as input, water use and output subsidies, market price support and fiscal subsidies to consumers) for increasing the available financing for transforming agrifood systems for food security and nutrition and which subsidies should be further enhanced (Section 6.3, such as research and development, extension services, investment in infrastructure, social protection measures and decoupled payments).

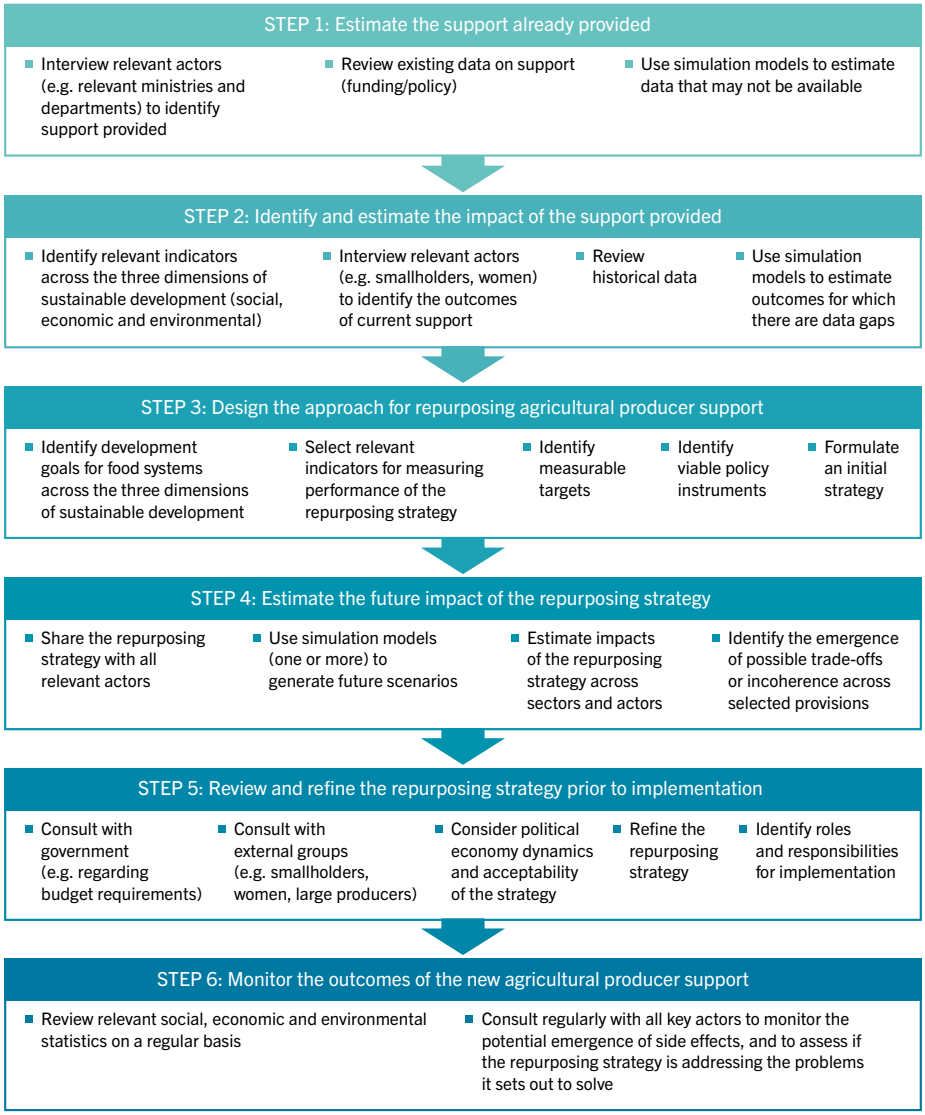
6.1 THE CONCEPTUAL FRAMEWORK

In the 2021 report on repurposing agricultural support to transform agrifood systems, FAO, United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP) describe how globally "agricultural support policies are steering us away from achieving the SDGs and the goals of the Paris Agreement" (FAO, UNDP and UNEP, 2021, p. 1), and how a repurposing of subsidies could still "drive a transformation towards healthier, more sustainable, equitable and efficient food systems" (FAO, UNDP and UNEP, 2021, p. 1). The report describes how agricultural producer support should be repurposed and reformed to support a transformation of our agrifood systems and, consequently, the achievement of the SDGs. It is acknowledged that repurposing strategies depends on a range of factors and country-specific circumstances and that it is important to involve relevant stakeholders and mitigate negative short-term impacts, especially for vulnerable groups (FAO, UNDP and UNEP, 2021).

One recommendation of the report is that there is a need to shift from production and trade-distorting agricultural producer support (such as price incentive measures and coupled subsidies) to support that is well targeted, decoupled from production, and that incorporates conditions to improve productivity and reduce negative environmental impacts and social inequality. It advises governments to allocate more resources and investment to the provision of public goods and services for climate smart and nutrition-sensitive agriculture (e.g. technology improvements and infrastructure, R&D, climate adaptation, risk management measures), as this is the least distorting and most rewarding form of fiscal support to agriculture. This approach can drive agricultural transformation and is an essential ingredient for enhancing food security and improving nutrition even though positive impacts can take a longer time to materialize compared, for example, to input subsidies.

The FAO, UNDP and UNEP (2021) report proposes a six-step method to carefully repurpose subsidies (Figure 48):

FIGURE 48
SIX STEPS FOR REPURPOSING AND REFORMING AGRICULTURAL PRODUCER SUPPORT



Source: FAO, UNDP and UNEP. 2021. A multi-billion-dollar opportunity – Repurposing agricultural support to transform food systems. Rome, FAO. https://doi.org/10.4060/cb6562en

Download: https://doi.org/10.4060/cd3550en-fig48

The Near East and North Africa – Regional Overview of Food Security and Nutrition 2022 report highlighted that trade-offs should be carefully considered regarding the repurposing of domestic agricultural subsidies to pursue better nutrition, health and environmental outcomes (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). Subsidies in the Arab region have not been well targeted, have fuelled more structural dependence on imports, and have encouraged overconsumption of subsidized staple foods, which often have not contributed to the consumption of healthy diets (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). In addition, input subsidies in some of the Arab countries have induced the overuse of fertilizers and pesticides (Kurdi *et al.,* 2023), leading to adverse food safety and environmental impacts (FAO, 2024b).

Subsidy repurposing should be done sensitively as many smallholder farmers, households, and economic sectors in the region depend on agricultural activity; shifts in goals or incentives must be gradual and pay close attention to the interests of smallholder farmers and any potential unintended consequences. Mitigation measures, such as cash transfer schemes, are needed to address any short-term negative implications of repurposing agricultural producer support for poor producers and consumers (FAO, UNDP and UNEP, 2021). Public support should be used also to link agricultural producers, especially smallholder farmers to markets and international value chains to promote farm income, livelihoods and increased value addition to agricultural products. Appropriate communication to stakeholders affected by subsidy policy changes is also important. An integrated policy approach is needed, which places agriculture within a broader context of solutions for agrifood system transformation, analysing the trade-offs and synergies of addressing different agrifood systems goals (Global Panel on Agriculture and Food Systems for Nutrition, 2022; FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023).

This conceptual framework can be used to weigh which support measures could be repurposed for increasing the available financing for transforming agrifood systems for food security and nutrition (Section 6.2) and which measures should be further enhanced with the help of the additional financial resources (Section 6.3).

While considering the risks to all stakeholders and alignment with World Trade Organization (WTO) rules, prevailing subsidies in the Arab region that could benefit from repurposing are discussed in Section 6.2, including input subsidies, water subsidies, output subsidies, market price support and consumer price support. These subsidies can be repurposed, for example, so that they target better smallholder farmers, or serve better environmental sustainability (such as input subsidies of fertilizers). In other cases, they can be repurposed and use the additional financial resources to enhance other policies (Section 6.3, including funding research and development, agricultural extension services, infrastructure, social safety net provisions for farming families, decoupled payments): for example, repurposing water subsidies to build more effective water infrastructure. Overall, this section discusses how repurposing policy support can be considered as a first step towards increasing financing for agrifood systems transformation for food security and nutrition.

6.2 POLICIES TO CONSIDER REPURPOSING

This section presents how current subsidies – input and water subsidies, output subsidies, market price support, and fiscal subsidies to consumers – can be repurposed along the value chain for increasing the available financing for transforming agrifood systems for food security and nutrition.

6.2.1 Input subsidies

Subsidizing agricultural inputs includes the provision of seeds and fertilizers in kind or at subsidized prices, irrigation and power subsidies. Input subsidies reduce input costs, thus lowering production costs and raising productivity and agricultural production. (Due to the importance of water in the region, we elaborate on water subsidies more in-depth in the following subsection). They have the effect of providing incentives to increase production, and as such, can be important for ensuring food security and nutrition (Gadhok *et al.,* 2020). Subsidies stimulate substantial increases in input use by farmers who either have no means to finance input purchases or have no access to credit. However, input subsidies can also carry negative environmental consequences, such as the increased use of mineral fertilizers. In addition, incentives to produce more can also have negative implications on water sustainability, if the increase of production is not coupled with measures that increase the sustainability of agricultural production, such as water-saving technologies. Furthermore, universal input subsidies might benefit large commercial farmers who are not in need of support, and harm the private sector as they displace fertilizer purchases that would have been made without the subsidy (FAO, 2009).

If input subsidies target low-income or resource-poor producers in developing countries, they can be granted without upper limits (as part of the Development Box, see Section 6.2.). In other cases, being a trade and production distorting subsidy, an input subsidy must be counted towards the aggregate measure of support (AMS), just like an output subsidy. Thus, these subsidies have an upper limit according to World Trade Organization (WTO) rules that limit WTO members' room for manoeuvre to use these subsidies, in most cases to develop certain strategic sectors with these subsidies.[17]

Input subsidy programmes are more efficient and effective if they better target intended beneficiaries. Input subsidies are important to many small-scale farmers in the Arab region, as these farmers depend on inputs to grow crops and ensure household food security. For example, in Egypt, the government is providing fertilizer to agricultural producers that target smallholder farmers (land size less than 10.5 hectares) who receive fertilizers at subsidized prices depending on land size and the type of crops cultivated (FAO, 2024b). Where mineral fertilizers and pesticides are subsidized, and alternative sustainable inputs are not, subsidy policies can incentivize overuse practices that degrade soil health and can pose food safety threats from high pesticide residue levels

17 The case of Saudi Arabia in developing its poultry sector illustrates the case. Based on the Saudi National Agricultural Strategy (2018), subsidies directed to feed inputs have been replaced with a direct output subsidy for poultry from 2020 (see Subsection 6.2.3. on Output subsidies). Before that change, Saudi Arabia provided input subsidies for the poultry sector in 2019 in the amount of 15.5 percent of the value of the domestic poultry production. In a general case, most Arab countries would breach their WTO commitments with such an amount of output subsidy as most of them can provide trade and production distorting subsidies (such as output subsidies) up to 10 percent of the value of the product's production (in our case 10 percent of the value of the poultry production). However, Saudi Arabia (together with Jordan, Morocco and Tunisia in the region) have their own limits for AMS (Bound Total AMS, see Annex V.). So, Saudi Arabia did not breach its WTO commitments by providing 15.5 percent of the value of the poultry production.

(FAO, 2024b). High pesticide residue levels can also impact the feasibility of exports (FAO, 2024b), as exported products might not be able to meet the requirements for pesticide maximum residue levels in export markets.

Input subsidy programmes after repurposing might be linked to conditions of achieving sustainable agriculture objectives. For example, in the United Arab Emirates, input subsidies are provided to farmers under the condition of the adoption of modern agriculture practices, such as organic farming, protected farming, or advanced irrigation methods (FAO, 2024b). Input subsidies could be helpful in the promotion of climate-smart agricultural technologies and practices, such as intercropping, organic fertilizers, crop tolerance to stress, and conservation agriculture (Santos Rocha, Sanchez and Fathallah, 2023). Repurposing of chemical input subsidies can be amended to include supporting organic, soil-building fertilizers. Planting nitrogen-fixing plants that are also nutritious can increase the level of nitrogen in the soil when planted in rotation with wheat. For example, in Egypt, fava beans provide multiple nutrients for humans, which could decrease anaemia and stunting levels; in addition, they fix nitrogen in the soil (FAO, 2024b). Countries can also cap fertilizer subsidies to farmers, taking into consideration their land holdings to promote rational use of soil nutrients. Soil nutrient maps can be used to improve the efficiency of fertilizer use (FAO and WTO, 2022) through the use of drones and artificial intelligence (AI) in soil quality monitoring (FAO, Global Soil Partnership, 2022). Enhancing the adoption of digital technologies and the adoption of precision farming for smallholders can have a crucial role in reducing the use of inputs and improving agricultural productivity.

Providing drought-resistant crop seeds can help increase the resilience of smallholder farmers against climate change-related shocks. For example, a regional initiative in 2023 included a joint effort by the Arab Organization for Agricultural Development and the Arab Center for Dryland Studies and Arid Zones Development to supply more drought-resistant seed varieties in Libya (FAO, 2023a). In response to droughts, Morocco subsidizes transportation costs and ensures the supply of imported barley used for animal feed to farmers in affected areas (FAO, 2024b).

Where repurposing provides additional fiscal space in government budgets, this additional financing can be used to improve or expand extension services, to reduce the overuse of pesticides and chemical fertilizers and to ensure that small-scale farmers are using optimal quantities. Training farmers on low-cost manual approaches such as fertilizer microdosing could ensure more efficient use of fertilizers and less environmental harm (FAO, 2024b). Government subsidies can encourage adherence to organic farming methods, use of organic fertilizers and biopesticides, and support efficient fertilizer management. With biofertilizers, farmers can get high-quality yields and avoid environmental pollution (Abdullah *et al.,* 2022). In several Arab countries, however, such as in GCC, where soils have poor quality, fertilizers may be considered essential, short of a significant soil-building project taking place.

6.2.2 Water use subsidies

Water use subsidies pose sustainability challenges in the Arab region. While it has the lowest per capita freshwater availability in the world, the Arab region's irrigation water tariffs remain relatively low with high subsidies, which incentivize unsustainable water use (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). While low access to water provides a barrier to agriculture, subsidizing the overuse of a limited water supply is

not a sustainable long-term solution. Instead of heavily subsidizing water for irrigation, countries could consider repurposing their fiscal resources and use the financial resources saved in such a way to build more effective water institutions, management and infrastructure (such as water desalination systems, irrigation, water harvesting, drainage and flood control, see Subsection 6.3.3. on "Investment in Infrastructure"). This would enable them to use water-conserving crops and to pay for research to improve market information about prices and costs of water, enabling the design of effective water institutions (FAO, Global Soil Partnership, 2022). Governments also need to provide innovators with incentives to identify the best technologies to meet water challenges (FAO, 2023b) and to encourage farmers to implement them. Policymakers might also consider providing seeds/seedlings of drought-resistant plant varieties as inputs to increase the resilience of farm production in harsh climatic conditions (see also subsection on Input Subsidies).

Reduction in subsidies to water for irrigation, without complementary measures, can negatively impact farmers' water costs. To mitigate this negative impact, policymakers should propose replacing them with subsidies that offer similar financial benefits to farmers while reducing the overall consumption of water, thus increasing overall sustainability. For example, governments can compensate for the income loss of agricultural producers due to higher water prices by direct payments (decoupled from production, see Subsection 6.3.5.).

6.2.3 Output subsidies

In the case of output subsidies, the amount of outlay depends on the volume of production that the farmer produces. Output subsidies incentivize production. If enough additional production from farmers receiving subsidies comes to the market, it will lower the price of the product, thus benefiting consumers and other users (for example, the livestock industry, which uses corn as animal feed). Thus, while the subsidy will benefit farmers, part of the benefit will also be passed on to consumers and downstream to industries (WTO, 2006). Output subsidies can support the production of staple food crops and, as such, can be important for ensuring food security. They also boost producer income and reduce production risks of smallholder farmers (Gadhok *et al.,* 2020).

Output subsidies can have, on the other hand, negative environmental effects (overuse of mineral fertilizers, water depletion) if they incentivize unsustainable agricultural production (see also previous subsection on Input Subsidies). Furthermore, output subsidies have trade and production distorting effects and should be counted against the aggregate measure of support (AMS) in the WTO. As they promote higher incomes, they allow farmers to compete with imports. However, they can unfairly underprice competitors in the export market (Gadhok *et al.,* 2020).

The background study for this report that compiles subsidies data for four of the Arab countries (Egypt, Morocco, Tunisia, Saudi Arabia, and the United Arab Emirates) shows that in the four countries analysed input subsidies are more often used than output subsidies (FAO, 2024b). One reason might be that input subsidies have a more direct effect on increasing food production.

An example of output subsidy (performance-based payment) in the region includes Saudi Arabia, where the government removed most subsidies on imported animal feed and, in the case of poultry, moved to subsidies based on production in 2020.

Certain output subsidies can be repurposed, and the additional financial resources can be used for supporting the production of nutritious foods that are part of healthy diets, and more sustainable crop alternatives, which can be more water efficient (see recommendations under the following subsection on Market Price Support). In other cases, larger fiscal space can support other policies, discussed in Section 6.3.

6.2.4 Market price support

Governments often build public stocks from domestically procured agricultural products and provide food at concessional prices to the poorer segments of society, which plays a critical role in fighting hunger and malnutrition. Despite the inherent operational challenges and high fiscal costs (FAO, 2021b), the procurement of food stocks through market price support programmes can bring significant benefits to farmers who can have access to a guaranteed outlet with a higher and more predictable price than what is achievable on the open market, which can encourage on-farm investment and improvements in productive practices (Gadhok *et al.,* 2020). However, the procurement of food grains at a predetermined, administrative price can have negative environmental effects (as discussed under input and output subsidies) and market-distorting impacts in domestic and international markets, and, as such, this type of subsidy has to be counted in the WTO towards AMS (FAO, 2021b).[18]

While market price support often contributes to increased caloric availability, it should not always be assumed to be positively supporting nutrition. In many cases, such market price support incentivizes the production of crops that do not encourage the consumption of healthy diets. This support can also incentivize practices that are harmful to the environment if not crafted carefully.

Some Arab countries set procurement prices by state-owned buyers to incentivize farmers to grow a given commodity. For example, Tunisia and Egypt apply administered prices for wheat that are accompanied by bread subsidies to consumers. Morocco applies a reference price for common wheat and a guaranteed minimum price paid for sunflower seeds.

Most of the wheat is imported into the region, and it poses a significant fiscal burden on governments' budgets, not least because the government entities are often the biggest importers. Furthermore, the wheat subsidies often result in unsustainable and inefficient use of resources. Both Egypt and Tunisia face water scarcity, and their comparative advantage in wheat is low compared to that of fruit and vegetables (OECD and Food and Agriculture Organization of the United Nations, 2018).[19] Thus, the wheat subsidy diverted resources away from more competitive products.

Wheat has been subject to market price support that amounted to about 25 percent of the value of wheat production in Saudi Arabia in 2019 (WTO, 2024). The Saudi government initiated a ban on wheat production in 2015/16 due to water reserve concerns. (The measure has been reconsidered: In 2024, Saudi Arabia produced the maximum allowed production quota) (USDA, 2024). In Tunisia, the milk price support programme resulted in market inefficiencies. The prices offered to producers did not

18 The calculation of market price support under the WTO AoA captures the gap between the current administered price and a proxy of the world price, the fixed external reference price, taken as an average of import prices in the 1986–1988 period, multiplied by the amount of eligible production to receive price support.

19 Fruits and vegetables both consume less water and provide higher economic returns per drop.

differentiate between the different milk quality grades, which affected the quality of the dairy industry. In addition, the increasing costs of feed and the devaluation of the dinar have resulted in deteriorating profitability of the industry. This resulted in declining production and induced farmers to smuggle cattle to be sold at neighbouring countries at higher prices (FAO, 2024b).

Market price support could be repurposed and the additional financial resources can be used to subsidize the production of nutritious foods that are part of healthy diets, and more sustainable crop alternatives, which can be more water efficient, in examples such as horticultural crops (FAO, IFAD, UNICEF, WFP and WHO, 2020). Strengthening the focus on the horticulture sector is crucial, given the importance of consuming fresh fruits and vegetables as part of healthy diets for preventing micronutrient deficiencies and diet-related non-communicable diseases. Crop and varietal selection should go beyond a yield perspective and also consider nutrient content to encourage the production of species and varieties with high nutrient productivity (FAO, 2017). Furthermore, increasing soil fertility directly influences the nutrient content of crops.

In addition, with the additional financial resources, governments should support access to sustainable technology for farmers, such as drip irrigation kits, and general services to agriculture and farmers, such as research and development, extension services or infrastructural services, including sustainable water supply, which is discussed further in Section 6.3.

6.2.5 Fiscal subsidies to consumers

Fiscal subsidies to consumers are budgetary transfers from the government (and more specifically, taxpayers) to intermediaries (e.g. processors, traders, etc.) or final food consumers. These transfers lower the cost of acquiring food (e.g. food subsidies), increase consumer income (e.g. cash transfers), or provide direct access to food (e.g. in-kind food transfers and school feeding programmes) (FAO, IFAD, UNICEF, WFP and WHO, 2022). Expenditures on domestic food aid under the WTO law can be exempted under the Green Box.[20]

Fiscal subsidies to consumers can increase total household food consumption and decrease poverty rates. However, as these "in-kind" subsidies in the region target mainly staple foods, such as bread, and they usually do not include other nutritious foods that contribute to healthy diets, this leaves the population with an incentive to purchase bread rather than a variety of nutritious foods.

Such policies do not support the consumption of healthy diets when these price subsidies directly or indirectly encourage the consumption of energy-dense, nutrient-poor products with high fat, sugar and/or salt content by making them more affordable than nutritious foods (FAO, 2017). These subsidies can also exacerbate import dependence as most of the staple foods are imported into the region. Furthermore, in countries that rely on imports, for instance wheat, consumer subsidies to products such as bread can be implicitly considered as subsidies that benefit the foreign farmers in the imported

20 WTO AoA, Annex 2, paragraph 4 defines domestic food aid as expenditures (or revenue foregone) in relation to the provision of domestic food aid to sections of the population in need. To be exempted, eligibility to receive the food aid should be subject to clearly defined criteria related to nutritional objectives. Such aid should be in the form of direct provision of food to those concerned or the provision of means to allow eligible recipients to buy food either at market or at subsidized prices. Food purchases by the government should be made at current market prices and the financing and administration of the aid should be transparent.

product's country of origin. Moreover, like all subsidies, also consumer subsidies may not be well targeted. For example, in Morocco, the most affluent households are estimated to have received an average total subsidy per capita for sugar and wheat almost double compared to that received by the poorest (FAO, 2024b).

Some examples of consumer subsidies in the region include the bread subsidy and the ration card subsidy in Egypt (the latter includes vegetable oil, pasta, fava beans, sugar, wheat-based processed products like biscuits, sesame paste, vinegar, soap and sometimes rice); semolina, vegetable oil, and bread subsidies in Tunisia; sugar and soft wheat flour in Morocco, cash transfers in Saudi Arabia; and "Inflation Subsidies" in the United Arab Emirates (monthly subsidy for low-income families). It is also important to note that consumer subsidies should be accompanied by relevant food and nutrition education.

Cash transfers provide beneficiaries with greater flexibility and can be distributed quickly and at a lower cost compared to in-kind food transfers. They can be beneficial to both producers and consumers and reduce the risks of market disruption. They have positive implications for food security and nutrition, increased investment in assets, and improved ability to manage risks (Gadhok *et al.,* 2020). However, where food stores are not widely available (like in some rural areas), in-kind transfers can be actually more effective for food security and nutrition purposes. In cases of the latter, this support should also ensure the consumption of nutritious foods.

If consumer commodity subsidies such as bread subsidies are repurposed, the newly created fiscal space could be used to offer alternative food subsidies to households, such as cash transfers. Such transfers could be more versatile, allowing consumers to use subsidy resources to spend on foods that might include the previously subsidized staples, like bread, as well as other nutritious foods, like fruits, vegetables and nuts, at the consumer's discretion.

However, a cash transfer alone does not provide any incentive to shift consumption from staple foods to a variety of nutritious foods. Additional measures, such as conditionalities or nutrition education programmes, should be considered for achieving that goal. For example, in Brazil, the Bolsa Familia programme is a successful conditional cash transfer, which includes education and health components in its design (a family cannot access the cash transfer if their children have not attended school or medical checks, for example).

Repurposing fiscal subsidies to consumers must be done carefully and with thorough attention to adverse circumstances that could arise, particularly due to their importance to low-income and vulnerable members of the community. Care should also be taken that the repurposed subsidies target low-income and vulnerable populations and that they still offer a net benefit to households.

6.3 POLICIES THAT SHOULD BE FURTHER ENHANCED

Additional financial resources that are created by lifting certain subsidies can be used to support agrifood systems transformation for improved food security and nutrition in an environmentally conscious and equitable manner. Production and trade-distorting agricultural producer support should be gradually reoriented towards the provision of public goods and services for agriculture (e.g. technology improvements and infrastructure, R&D, climate adaptation, risk management measures), as this is the least distorting and most rewarding form of fiscal support to agriculture, which can drive agricultural transformation.[21] Several subsidies that support environmental sustainability can be exempted from counting as trade-distorting subsidies under WTO rules and can be provided without upper limits.[22] Incentives are essential to encourage the adoption of sustainable practices (e.g. payments for environmental services, ecolabels and certification systems), support innovations and ensure that environmentally sustainable practices are economically viable and can effectively compete with conventional farming (FAO, 2017). It should be considered that most of the polices discussed below are part of the "transformative pathways" discussed in Section 5.2 and are therefore considered in the definition of financing for food security, particularly in the extended definition.

6.3.1 Research and development

Investment in research and development (R&D) is critical for agrifood systems transformation having some of the highest rates of return among all rural development investments (Gadhok *et al.,* 2020). Findings from (Fuglie *et al.,*2020) show that returns to agricultural research spending yield a median value of the internal rate of return to agricultural research equivalent to 36 percent for the North Africa and West Asia region. Over the past 50 years, most of the improvements in agricultural productivity have arisen from innovations and changes in technology.

Research and development (R&D) can offer valuable solutions for climate change adaptation and mitigation, such as developing drought-resistant crop varieties and improving water efficiency. Due to the importance of agricultural technology and methods to environmental sustainability, Arab countries should consider investing more in research and development.

Investment in research and development can also contribute to safeguarding genetic diversity, including through support for drought-resistant crop varieties, plant breeding and innovation. A recent example from the region is the Saudi Plant Genetic Resources Bank, which was accredited in 2023. It holds a wide array of plant genetic resources, including field and horticultural crop seeds, seeds for natural plants in pastures and forests, medicinal seeds, aromatic plants, and genetic pools. The bank also incorporates herbaria and biotechnology laboratories to facilitate genetic studies and research on the genetic diversity of plant resources from GCC states (FAO, 2023a).

21 See for instance *The State of Food Security and Nutrition in the World 2022.*

22 If the subsidy meets the general and policy specific criteria under Annex 2 of the WTO Agreement on Agriculture ("Green box"). These programmes include government general services (such as research and development, extension and advisory services, infrastructural services, including water supply facilities, dams and drainage schemes), and direct payments to producers, (such as payments decoupled from production, income insurance and income safety net programmes, and environment programmes).

6.3.2 Extension services

Farmer training in the Arab region has lagged behind other regions, which is holding back technology adoption and farming efficiency (FAO and World Bank, 2001). The importance of disseminating knowledge to small-scale farmers raises the need for increasing government support for extension and advisory services, which have been declining in the Arab region countries (FAO, 2024b). Improved extension services should disseminate sustainable agricultural practices and the production of nutritious foods, which is crucial to creating an enabling environment for crop diversification and sustainable agricultural intensification (FAO, 2017).

Areas of Arab region countries with low population densities have often lacked an adequate flow of technical and market information. In recent years, however, some countries have piloted technology linked dissemination of farm management information, which is helpful to some but risks leaving out populations that don't have access to mobile phones or the internet, including the poor and women (FAO, 2024b).

6.3.3 Investment in infrastructure

Agricultural infrastructure and logistics usually refer to a wide range of public services that facilitate production, procurement, processing, preservation and trade. They can include resource-based infrastructure (e.g. water/irrigation, farm power/energy); physical infrastructure (e.g. road, connectivity, transport, storage); institutional infrastructure (e.g. information and communication, financial services) or marketing infrastructure (e.g. quality infrastructure for compliance with public or private standards including sanitary and phytosanitary [SPS] requirements) (Gadhok *et al.,* 2024). They are essential to agrifood systems transformation. For example, transport and storage infrastructure can help bring farm products to markets and reduce food waste. Supporting food processing and preservation capacities are crucial requirements for nutrition-sensitive agrifood systems (FAO, 2017). Cold-chain infrastructure is especially important for perishable nutritious foods such as fruits and vegetables. Physical and institutional infrastructures can spread yield-enhancing agricultural technologies. Adequate infrastructure can raise farm productivity and lower farming costs, thus accelerating agricultural development (Gadhok *et al.,* 2020).

Investment in infrastructure strengthens countries' capacity for adaptation to climate change. Supporting irrigation infrastructure (such as the rehabilitation of irrigation canals in Egypt and the deployment of smart and automated irrigation systems in Jordan) is essential in the water-scarce Arab region. Desalination is particularly important given that about 50 percent of the world's desalination capacity is in the Arab region (FAO, 2022c). In Egypt, for example, the Farm-level Irrigation Modernization Project was implemented in 2020, converting open ditch canals to buried pipes, swapping diesel pumps for electrical ones, connecting canals and ultimately providing access to water to almost 200 000 users. Other examples from the region include the recent implementation of desalination projects (Algeria and Oman), artificial river construction (Egypt), new dams (Jordan, Morocco, Mauritania) and water harvesting capacities (Jordan, Saudi Arabia) (FAO, 2023a). Morocco provides high subsidy rates for localized irrigation investment projects and was able to achieve significant progress in enhancing water productivity in the agricultural sector through the modernization of the irrigation system (FAO, 2024).[23]

23 Subsidies account for 80 percent of the total investment cost for individual farms of more than five hectares and 100 percent for collective projects and individual farms of less than five hectares. As a result, the area equipped with localized irrigation has increased from 160 000 hectares in 2007 to more than 560 000 hectares in 2018.

Another priority in the region is improving cross-border trade infrastructure and logistics, as it has an important role in net-food importing Arab countries ensuring a sufficient quantity, quality and adequate diversity of food supply. Perishable fresh fruits and vegetables are highly sensitive to delays, which affects quality and often leads to waste (FAO, IFAD, UNICEF, WFP, WHO and UNESCWA, 2023). On average Arab countries score 127 out of 188 countries in the trading cross border indicators of the Doing Business Report 2020. The time to import in the Middle East and North Africa (MENA) region which comprises most of the Arab region countries takes an average of 94 hours compared to only 8.5 hours in the OECD high-income countries. For example, it takes 240 hours for import procedures in Egypt, and 54 hours in the UAE (FAO, 2024b).

Reducing food loss and waste is another priority for infrastructure and logistics investments in the Arab region at different stages of the food value chains. It is estimated that at the regional level, almost 15 percent of the food produced in Arab countries is lost between post-harvest and retail, and between 75 and 163 kilograms per capita is wasted at retail and household levels each year (FAO, 2024c). Reducing food loss and waste requires investments in upgrading rural market facilities, such as improving cold storage facilities, deploying climate-smart processing, storage, and packaging, and utilizing handling technologies.

6.3.4 Social protection for farmers and policies supporting income diversification

Social protection measures target poor farmers or consumers by providing different kinds of social safety nets. These measures protect smallholder farmers, who are vulnerable and have risky livelihoods.[24] These schemes may include in-kind transfers. Alternatively, governments can provide cash transfers when food insecurity results more from lack of accessibility.

Social protection programmes are an effective way to ensure that the diverse needs of farming households can be met. Some households may need access to inputs or technical support, while others may require food. Cash transfers and food programmes were discussed above as alternatives to food commodity subsidies, but they are useful tools for any country that has the fiscal space to do so and is home to vulnerable small-scale farming households.

The Arab countries are generally moving away from food subsidies and establishing targeted food assistance and cash transfer programmes as part of their social protection strategies. The most common are unconditional cash transfer programmes. Where affordability limits consumers to buy a variety of nutritious foods, social protection programmes can help enabling the consumption of healthy diets (FAO, IFAD, UNICEF, WFP and WHO, 2020).

In 2015, Egypt began to implement two cash support programmes with the aim of supporting the poorest groups. The Takaful ("Solidarity") programme aims to provide cash support to poor families who have children, while the Karama ("Dignity") programme aims to provide financial assistance to two categories of poor families: the elderly and the disabled. The cash transfer programme has enrolled 2.25 million families. Analysis by the International Food Policy Research Institute (IFPRI) showed that in Takaful beneficiary

24 These measures target agricultural smallholder producers and are different from the ones discussed in Subsection 6.2.5, "Fiscal subsidies for consumers," which ensure food security for consumers.

households the prevalence of stunting and wasting was lower, and the programme also improved the quality of diets, for example. Households spent more on healthy meat, such as fish (Breisinger *et al.,* 2018).

Measures that help farmers diversify their income sources can be an important tool to boost farmers' income and lift them out of poverty. Diversification strategies for small producers require the adoption of farming system approaches to create synergies among various farming activities. Non-farm activities such as food processing, intermediate manufacturing, food supply and other services to rural residents (Gadhok *et al.,* 2020) and agritourism can be significant additional sources of income for smallholder farmers. These opportunities can provide incremental income flows to farmers until they can harvest their main seasonal crops and provide a hedge against losses in case of calamities. A recent example from the region includes measures by the United Arab Emirates that promote sustainable income by supporting other activities that can be carried out on farms, such as agritourism (FAO, 2023a) featuring educational, recreational or dining opportunities.

6.3.5 Decoupled payments

Decoupled agricultural payments are lump-sum payments to farmers that may include subsidies tied to environmental or landscape outcomes. Eligibility for such subsidies could be based on historical fixed periods indicators relating to production or landholdings (FAO, 2024b). Income support schemes have no or minimal trade and production distorting effects and can also contribute to addressing environmental challenges. In the European Union for example, decoupled direct payments for farmers encourage practices which address environment and climate policy goals ("conditionality"). Such requirements include maintaining permanent grassland, maintaining soil organic matter and soil structure, protecting and managing water, preserving soil, and protecting biodiversity (European Commission, 2021).

Decoupled payments might also be made linked to the adoption of climate-smart agricultural practices, applying some environmentally sustainable practices, such as agroecology, climate change adaptation and mitigation, biofertilizers, water-saving practices, and so forth.

6.4 LOOKING BEYOND PUBLIC SUPPORT TO OTHER SOURCES OF CAPITAL

While re-allocating public support for food and agriculture can lift some additional financial resources for agrifood systems transformation for improving food security and nutrition, the volume of capital from public allocations will be insufficient to better address the funding gap. Overseas Development Assistance (ODA) often complements government public support in many countries in the Arab region, either through budget support or through the financing of programmes that are deemed to be for the public good. Beyond domestic sources, ODA and private capital can play a role to close the funding gap.

In the following section, we explore how investment capital can by leveraged by concessional capital to address this gap.

CHAPTER 7

SOURCES OF CAPITAL AND INNOVATIVE FINANCIAL INSTRUMENTS THAT HELP FUND THE AGRIFOOD SYSTEMS TRANSFORMATION FOR FOOD SECURITY AND NUTRITION

Even if repurposing efforts from Section 6 are implemented, there will still likely be insufficient financing flows from domestic and international sources to match the financial resources needed for agrifood systems transformation for food security and nutrition. The Arab region can look to blending investment financing with concessional flows of financing to reduce investment risk and unlock investment financing that otherwise would not have flowed, transforming the agrifood system and reducing the financing gap.

Concessional flows can also be used to develop results-based instruments. These concessional flows can contribute to addressing the funding shortfall that is standing in the way of transforming the Arab agrifood systems. At the United Nations (UN) Conference of Parties held in November 2023 (COP28), the parties articulated a declaration on sustainable agriculture, resilient foods systems, and climate action that included intention #4: "Continue to scale-up and enhance access to all forms of finance from the public, philanthropic and private sectors - including through blended instruments, public-private partnerships and other aligned efforts - to adapt and transform agriculture and food systems to respond to climate change" (UNFCC, 2023). This multilateral intention can set the foundation for an era of increased capital flows from responsible stakeholders working to positively impact agrifood systems in the Arab region and around the world.

Funding that is raised from private investors for agrifood systems should be structured and sourced intentionally. It should flow through mechanisms that have positive impacts on food security and nutrition, the sustaining of livelihoods, and the well-being of the planet. In Section 7.1 of this report, investment capital and concessional capital are introduced, and their functions, forms and sources are discussed. Section 7.2 then explores how both investment capital and concessional capital can be blended into innovative financing instruments which can drive the agrifood transformation in the Arab region. Some of the terms used in this section are defined in Box 6.

BOX 6

DEFINITIONS OF FINANCIAL INSTRUMENTS THAT CAN BE APPLIED TO AGRIFOOD SYSTEMS IN THE REGION

Bank loans: Banks provide debt to agrifood firms, stakeholders and farmers of all stages and sizes, enabling them to manage cashflow, expand operations or acquire new capital assets. For significant loans, banks often require collateral, which can be land, physical assets, forward contracts or insurance underwritings.

Credit lines: Credit lines are flexible pre-approved loans that borrowers can draw down a balance on an as-needed basis,[i] and interest is only charged on the amount that is drawn down over the term that it is drawn down for. Credit lines can be very helpful for agrifood firms that have irregular but recurring cash flow patterns, where the ability to borrow pre-approved money quickly with prenegotiated terms can keep business operations smooth.

Islamic Finance Instruments: Islamic finance tools are important in many Arab countries, where lending with conventional interest can be viewed as usurious, impermissible, or illegal. Some examples of Islamic finance tools that are helpful to food firms are: murabahah,[ii] a cost-plus financial product; and musharakah,[iii] a joint venture structure that stipulates a sharing of revenues between an asset operator and the financier. These tools have varying risk-return profiles – some similar to debt, some similar to venture equity, while others fall elsewhere along the spectrum. While many Gulf Cooperation Council (GCC) countries have well-established Islamic finance sectors, most countries of the Maghreb, the Levant and Egypt have a smaller Islamic finance sector.[iv]

Mezzanine debt: Mezzanine financing is a business loan that offers repayment terms adapted to a company's cash flows. It is a hybrid of debt and equity financing–similar to debt financing in that it requires cash flow to repay the loan, but with repayment terms that are more flexible than conventional debt financing. It typically carries more risk than conventional debt. It has the benefit to borrowers that it can be classified as equity on the firm's balance sheet as opposed to debt.[v]

Microcredit: Microcredit uniquely offers debt without collateral in the form of very small loans with high interest rates to a class of borrowers once described as "un-bankable". These borrowers are typically very small family businesses, farming enterprises or sole proprietors that play a role in food value chains. Since collateral is not required from these borrowers, lenders often rely on social pressure from other borrowers in their community.

Venture equity: Venture equity is the sale of shares in early-stage companies to investors. Venture equity is in demand from start-up firms that are: (i) in the agrifood space and increasing access to foods that can support healthy diets in the region, (ii) providing novel value-addition services for food products, (iii) offering finance, insurance, or technical services to agrifood firms, or (iv) offering sustainable agricultural inputs. These start-up firms require patient capital in their early stages. Venture investors that are willing to take on risk in hopes of a high return by purchasing shares are a great match for these firms.

Convertible instruments: These instruments are used for the early stages of a start-up company's development when the company cannot be attributed a fair value. Under convertible instruments, the company receives cash in exchange for an undetermined amount of stock until a subsequent investment round takes place which attributes value to the company. These instruments typically offer the convertible instrument holders a better or similar valuation relative to the valuation in the subsequent round of funding.

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BOX 6 CONTINUED

Results-based financing: An innovative financial instrument that enables the financing of innovative solutions to social or environmental challenges through the flow of a conditional grant to a service delivery non-profit organization, often complemented by risk capital from investors. Granters commit payments to the non-profit organization contingent on the achievement of measurable results, as determined by a third-party results evaluator. If the implementing non-profit fails to achieve the intended results, payment is not made in full, or in some cases, not made at all.

Sources: [i] BDC. 2024a. *Entrepreneur's toolkit, glossary: line of credit*. Montreal, Canada. https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/bank-operating-loan

[ii] Kuwait Finance House. 2023. Islamic Finance Tools, Understanding Islamic Banking. *In: KFH*. Kuwait. [Cited 16 January 2024]. https://www.kfh.com/en/home/Personal/understanding-Islamic-Banking/Islamic-Tools.html; [iii] IIBI. 2023. *Musharakah. Institute of Islamic Banking and Insurance*. Middlesex, United Kingdom. [Cited 10 January, 2024]. https://islamic-banking.com/musharakah/; [iv] MEED. 2009. *Non-GCC banks laying the foundations for growth*. Dubai. https://www.meed.com/non-gcc-banks-laying-the-foundations-for-growth-3/; [v] BDC. 2024b. *Entrepreneur's toolkit, glossary: mezzanine financing.* Montreal, Canada. https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/mezzanine-financing

7.1 CAPITAL IN AGRIFOOD SYSTEMS

7.1.1 Investment capital

Investment capital plays a central role in addressing the funding gap and can complement the public support of concessional capital discussed in Section 6. Subsection 7.1 discusses the functions of investment capital in agrifood systems and the barriers and perceived risks that prevent more financing from flowing to the agrifood sector. Since investment capital cannot replace all of the functions of nonrepayable capital from governments or donors, there is also exploration of the appropriate role of investment capital in agrifood systems, including a discussion of the various forms and sources of investment capital.

Private sector investments in the form of debt, equity and Islamic finance instruments can be used to build companies, organizations or infrastructure that enable sustainable and nutritious food production and distribution. Capital from the private sector that is invested in financial institutions can subsequently provide financing to stakeholders, including: farmers, input providers, and agrifood importers, aggregators, processors, traders and distributors. And yet, many financial institutions face barriers accessing these rural stakeholders, which are discussed in Section 7.1.3.

Investment capital can also provide risk capital pre-financing to non-profit organizations that are operating under results-based financing (RBF) instruments. These investment instruments can catalyse larger flows of government or donor funding to non-profit projects that contribute to improvements in food security and nutrition, livelihoods, and planetary well-being. Results-based instruments are further discussed in Section 7.2.3.

The context on investee stakeholders, investment capital, its functions, barriers, roles, forms and sources discussed in this section set the foundation for the exploration of innovative financing instruments that are discussed in Section 7.2.4.

7.1.2 Agrifood system investee stakeholders and their roles in the transformation of food security and nutrition

In Arab countries, there are a variety of different stakeholders and firms that contribute to improved food security and nutrition, livelihoods, and environmental well-being through their roles in agrifood systems. Many of them also require financing and insurance in order to scale up their impacts on the agrifood system. Accessible, fair financial options for these stakeholders and firms can be foundational to enhancing food security, improving nutrition, safeguarding livelihoods and protecting the planet, yet there are barriers that prevent firms and farmers from accessing finance and insurance. In this subsection, agrifood system stakeholders relevant to the proposed financing instruments, financing typologies, and barriers to financing are discussed before solutions to the barriers are proposed.

Investee firms and stakeholders

Agrifood systems are complex, multifaceted and are unique from country to country. Leveraging investments to protect food security and nutrition, sustainable agrifood livelihoods and the planet's well-being is not a straightforward task. That said, there are several categories of organizations that can support positive agrifood system transformation with proper positioning and sufficient investment, including:

- Food importers: In many Arab countries, most of which are food importers and not food selfsufficient, importers play an important role in ensuring food security and nutrition.
- Sustainable farmers: Whether at a subsistence or commercial level, farmers have an important role in enhancing food security and ensuring the availability and access to nutritious foods.
- Input suppliers: Suppliers of sustainable inputs such as seeds, fertilizers and pest controls are essential to improvements in food security and nutrition.
- Service Providers: Agricultural extension services, and financial service and insurance providers play a critical role to farmers in agrifood systems. There is a particular shortage of these services tailored to small scale farmers. Technology-enabled services are recently presenting opportunities to deliver products to these underserved markets by leveraging technology to provide services to customers who are: 1) in remote locations, and 2) transact relatively small deals with providers.
- Value-addition firms: Firms such as aggregators, wholesalers, processors and distributors also play key roles in the development of a food-secure, healthy Arab region.
- Infrastructure and logistics: Agrifood storage, transportation, irrigation water supply and processing facilities lay foundations for agrifood systems to develop.
- Incubators: Incubators can facilitate the flow of finance to agrifood startups.
- Cooperatives: Agrifood cooperatives can access finance more easily than individuals in many cases, being able to pool collateral and spread risk.

Different investee stakeholders have different optimal matches with investors and forms of capital. Some investments, like heavy infrastructure, might be most appropriately financed leveraging concessional capital and long-term debt from international finance institutions (IFIs), and public financing where available, given that its development can be in the national interest and have long repayment periods. On the other hand, Innovative

fintech companies that provide financing, insurance or technical support to farmers, may be appropriately matched with venture capital firms that can provide risk-tolerant capital for firms that can scale up relatively quickly to unserved markets through new access to technology. The agrifood stakeholders discussed above have a range of financing needs that can be serviced with a variety of different instruments, as outlined in Box 6 above.

7.1.3 Barriers to the flow of financing in the Arab region

Access to finance is low in the Arab region. Access to credit, for example, was very low at 9 percent in 2019, according to the MENA Financial Inclusion Report 2020 (FinTech Consortium, 2020). The Stanford Social Innovation Review characterizes the global gap in small-scale agricultural finance as follows:

> Providing financing in the agricultural sector is often considered risky and costly, with long-term financing of amounts between $50,000 and $1 million being particularly difficult for smallholders to obtain. Such financial support is too big for microcredit lenders but often too small for regular impact investors. Additionally, the banking sector is often underdeveloped in rural areas and clients typically need to put up a lot of collateral. These types of investments are critical if a sector is to be successful and sustainable (Vandersypen, Claes and Serneels, 2023, p. 1).

There are several barriers that hold back the progress of agrifood systems development for increased food security and nutrition. These are primarily associated with perceived risks and institutional barriers such as a lack in credit rating systems of ability to leverage assets as collateral. The risks and institutional barriers are discussed in this subsection.

Collateral barrier

The lack of collateral, particularly among small-scale farmers, presents a key barrier to accessing financing in the form of bank loans for agrifood businesses.

In some Arab countries, banks and farmers struggle to find agreeable, appropriate collateral; in some circumstances banks are perceived by farmers as imposing difficult collateral conditions (Dal *et al.,* 2021); on the other hand, many farmers also have concerns with offering their land as collateral, for fear of losing their land if they default (Dal *et al.,* 2021). Farmers in some countries also have problems with possessing appropriate title for their land to be used as collateral.

In Lebanon, for instance, many banks have not been willing to allow farming outputs to be used as collateral for loans (Srour, Hamade and Grondier, 2020). Farming outputs can be unpredictable, but if they are paired with properly designed and affordable crop insurance, outputs are more likely to be considered as collateral, which would expand access to credit for many farmers. One study found that "If crop insurance and agricultural loans are bundled, the demand for crop insurance increases with the profitability of the investment made through the agricultural credit…" (Syll, 2021, p. 889).

Credit rating barriers and lack of track record

The absence of credit bureaus in much of the Arab region, or lack of a financial track record among many farmers where credit bureaus do exist, presents a barrier to lenders, hindering their ability to de-risk prospective borrowers.

Agricultural risk / agricultural data

Agricultural production often depends greatly on weather. To have a successful harvest, farmers depend on rainfall, sufficient sunshine and an absence of adverse events that damage crops. After harvest, food products also carry risks of spoilage, especially organic biofoods produced without preservatives or pesticides. These risks often make lenders less attracted to food and agriculture. Agricultural climate disaster risks can pose portfolio diversification challenges to lenders. Disastrous climate events have the potential to affect an entire lending portfolio in a given area, country or region. Some farmers or agricultural businesses also only generate significant revenue at certain points in the year, at harvest or planting time. This infrequent revenue can be perceived as a risky prospect to lenders or investors, who might prefer to support firms that demonstrate consistent generation of revenue throughout the year. Pests also pose significant risks to food production. In the Arab region, locusts have presented significant challenges over the last 20 years in Arab countries ranging from Mauritania (World Bank, 2010), Morocco (Relief Web, 2004), the Sudan, Saudi Arabia, Yemen, Somalia and Egypt (FAO, n.d.c). Agricultural market risks also exist, where market price volatility can affect the plans of firms and stakeholders. Producers and importers can have planned activities disrupted if market prices do not meet forecasted expectations. If a borrower's revenue is impacted, it impacts their ability to repay their debt. In circumstances where financiers are open to making agricultural investments the lack of data about crop performance can also be a hinderance.

Foreign exchange risk

Importers and exporters face losses, or windfalls, when foreign exchange rates change significantly. In countries where currencies experience a depreciation relative to international currencies, there is a risk to any foreign currency-denominated financing. With foreign currency-denominated financing, interest or financing charges are essentially compounded by any foreign exchange fluctuations, making high interest rates vulnerable to an effective increase if local currency depreciates over the course of the loan.

Financial crises

Some Arab countries are experiencing financial crises and associated liquidity crises. Liquidity crises arise when demand for cash is high and bank deposits drop to low levels, relative to the bank's outstanding loan portfolio. The ratio of outstanding loans to deposits in reserve is called fractional reserve. In most jurisdictions, when a bank's deposits drop below a fractional reserve threshold, they are no longer allowed to issue further loans. When banks cannot issue loans, it further exacerbates the demand for cash. This can hinder the growth of all food businesses that depend on loans. Liquidity crises currently exist or have occurred recently in the Arab region in Lebanon (Dal *et al.,* 2021), Yemen (Sana'a Center, 2023), the Syrian Arab Republic, the Sudan (Younes, 2018), and Libya (Marie-Nelly, 2019), where banks are constrained from lending enough to keep up with demand.

Conflict and political risk

Some of the Arab countries are also experiencing conflict, or are at a perceived risk of conflict, where the assets and operations of prospective investee firms are seen as at a significant risk to investors. Conflicts or elements of conflict currently exist in Palestine, Yemen, the Syrian Arab Republic, Somalia, the Sudan, Libya and Iraq. Risks of conflict that could impact investment exist in many more countries in the Arab region as well.

These risks and challenges that often hold back finance from enabling agrifood systems to improve food security and nutrition, livelihoods, and planetary well-being can be mitigated to an extent through: 1) providing capital guarantees to stimulate lending, 2) deploying capital guarantees as reinsurance to mitigate conflict risk and potentially catalyse crop insurance (if other factors discussed in 7.2.2 are also addressed), 3) subsidizing or "buying down" interest rates to make them more feasible for some firms, and 4) relieving constrained lenders by increasing their fractional reserves with a conditional deposit. Other applications that can also mitigate risk using concessional capital include capacity building for financial institutions to better serve agricultural clients, digital solutions to unlock digital finance and increase market access for producers, market information systems, and contractual arrangements for agrifood products to be used as collateral.

7.1.4 Mitigating risk with concessional capital

There are several risks inherent to investments in agrifood systems. Agricultural production carries weather and disaster-related risks. Some agricultural production activities also present revenue risk, given that some agrifood firms only generate revenue at certain times in agrifood system cycles, in some cases only once or twice a year. Food transport, processing and production activities also carry risks of spoilage and post-harvest losses. Investors in the Arab region are exposed to some instability risks: the risks associated with conflict, economic crises, currency exchange and transboundary challenges.

In addition to the agricultural, climate and conflict risks, the region sees relatively high transaction costs in its early-stage due to several factors including limited credit history and limited financial literacy among borrowers and investees, and a lack of incentives for investors and lenders to travel to remote areas, or to design bespoke agriculture investment products, particularly for relatively small transaction sizes.

These risks to agrifood system investments in the Arab region act as barriers to increased flow of foreign direct investment. That said, the region's unique challenges can be mitigated to a degree through the strategic use of concessional capital which is discussed in this section.

Concessional capital can mitigate some of these risks and facilitate investment opportunities. At a high level, concessional capital can facilitate a greater role for investment capital through at least three channels. First, it can provide capital guarantees, reducing risk for investors by issuing conditional grants that cover first loss should an investment fail. Second, grants can be provided for investee organizations to build their capacity if they are not yet deemed investment ready, or for investors and lenders to better develop products and systems that can finance agrifood systems. The third method is the creation of investment opportunities through results-based

financing (RBF). These instruments are all discussed in detail in Section 7, where they are explored using examples.

Concessional capital comes from a variety of sources. Official development assistance (ODA), or bilateral aid, is one of the largest sources of concessional capital. ODA is typically structured as bilateral grant agreements. Many of the Arab region countries receive bilateral funding from the Development Assistance Community (DAC) or countries in the Gulf Cooperation Council (GCC). Other sources of concessional capital include the International Financial Institutions that are mentioned in Section 7.1.7 such as the International Fund for Agricultural Development (IFAD), the Islamic Development Bank (IsDB), African Development Bank (AfDB), Asian Development Bank (ADB), the International Finance Corporation (IFC), the International Bank for Reconstruction and Development (IBRD), the European Bank for Reconstruction and Development (EBRD), providing both debt financing and grants. Foundations and donors also act as providers of concessional capital to catalyse investment, as well as local Arab governments where fiscal space is available to stimulate financial flows, particularly through their national public financial institutions. In circumstances where an Arab country is indebted to a bilateral aid partner or an international financial institution (IFI), concessional capital support can be structured as a debt swap.

In recent years, several funds have emerged that can address climate resilience and adaptation needs in agrifood systems. These include the USD 660 million Loss and Damage Fund, announced at COP28; the Green Climate Fund, under the framework of the United Nations Framework Convention on Climate Change (UNFCC); and the Adaptation Fund.

7.1.5 The role of investment capital in systems that are considered a public good

While investment capital can enable agrifood systems to grow impactful private companies, build important infrastructure or catalyse funding to non-profit food security and nutrition projects. There are appropriate and inappropriate roles for investment capital from the private sector in agrifood systems. Food is essential to life, and as such, public funding is tied to agrifood systems in many countries to safeguard food security and nutrition. Instances where private capital displaces public funding for programmes, policies, activities and infrastructure should be approached with utmost caution. Care should be taken to prioritize the safeguarding of food security and nutrition, livelihoods, and planetary well-being. The risks associated with privatizing essential elements of agrifood systems should be assessed and weighed by policymakers.
In many instances, parastatal food companies or government food infrastructure may run at a loss or a modest profit margin if they safeguard access to food for the country. When considering the introduction of private investment or ownership stakes in such public entities, or the replacement of government programmes with private services, policymakers should always analyse the consequent risks to food security and nutrition. When many new financial instruments are introduced, policymakers should also be mindful of the risk of the "over-financialization" of a system. (Wang *et al.,* 2023) warn that over-financialization occurs when "abnormal development of financialization is allowed" beyond its fundamental function to "serve the efficient and stable operation of the real economy" (Wang *et al.,* 2023, p. 1). In the agrifood system case, the economy's fundamental function could be considered as serving the efficient and stable achievement of improvements in food security and nutrition, livelihoods, and planetary well-being. Investment capital can be welcomed where it supports this fundamental

function. Caution, however, should be taken where existing flows of capital are replaced or "financialized" with new instruments that could run counter to this fundamental function. Investment capital also presents inherent risks with its under-representation of women and other marginalized populations. In 2021, globally women made up only 19 percent of C-suite roles in finance and only 5 percent of CEO positions in finance (Roglish, 2022). This lack of representation poses a risk to overlooking the perspectives and realities of women and other under-represented groups.

7.1.6 The form of capital, aligning investors with agrifood systems for food security and nutrition

Investment capital comes in many different forms and is available from a variety of investors. When considering the application of private capital to support agrifood systems, it is important to draw from the most appropriate form of capital. It is also important to work with the types of investors who are aligned with the overall goals of the agrifood system transformation for ending hunger, food insecurity and malnutrition.

Investment instruments include debt, equity, notes that are convertible to equity, Islamic finance instruments and pre-financing agreements for results-based financing. At a high level these instruments have different attributes, and they sit at different places along the spectrums of risk, rate of return and timeline to return. Some infrastructure projects, or early-stage businesses might require "patient capital", which will require a longer time horizon before return on investment is realized. If these projects secure debt financing with high interest rates, the project may not be able to keep up with repayments, or the repayments may constrain its growth by hampering its cashflow. For these projects, equity, instruments convertible to equity, or certain Islamic finance products can better suit the project's needs without shortterm repayment requirements back to the investor. Debt is very useful when cashflows are more predictable, especially when an asset can be used as collateral. Equity investments are attractive to investors who share the vision that an investment opportunity will generate value in the future, the cashflow and future profits cannot be predicted precisely, and the initial value of the company or asset can be approximated at the time of investment. Convertible notes are applied to early-stage companies that require equity-type financing but are so early stage that they cannot be given a reasonable valuation at the time of investment. Islamic finance products vary in form and many have returns and timelines like those of conventional debt, while others have higher risk and return profiles, similar to equity investments. Diminishing musharakah is an Islamic Finance Instrument that collateralizes the investment made by the investor, where they own the asset at the onset, and shares of ownership of the asset are transferred to the borrower progressively as payments are made (DKLM Solicitors, 2023). This keeps payments flexible for borrowers that may have inconsistent revenue streams, while protecting the lender. It also avoids the use of interest, making it appropriate even for stakeholders the Arab region for whom interest is inappropriate.

Without sufficient oversight, capital from investors whose goals are incongruent with those of the agrifood system can lead to outcomes that are similarly incongruent with the goals of the agrifood system transformation. Investment terms and limitations of investor governance roles can mitigate these challenges to a degree.

7.1. 7 Sources of investment capital for governments and firms in agrifood systems for food security and nutrition

International financing institutions

Financing can be provided by international financial institutions (IFIs), also known as Multilateral Development Finance Institutions (OECD, 2023a). IFIs' asset bases are made up of contributions from a variety of member states. These institutions include the International Fund for Agricultural Development (IFAD), the Islamic Development Bank (IsDB), African Development Bank (AfDB), Asian Development Bank (ADB), the International Finance Corporation (IFC), International Bank for Reconstruction and Development (IBRD), and the European Bank for Reconstruction and Development (EBRD), among others. Working with international finance institutions (IFIs) in pursuit of agrifood system transformation can be beneficial due to the mandate for development that they all have. Many of the IFIs also have submandates that relate to agrifood systems development. The large asset bases of IFIs make them suitable partners for larger projects managed by governments or large firms, but they may be less appropriate for smaller investments. These financial institutions almost all offer debt, many of them provide equity financing and grants, and the IsDB provides Islamic financing options (Zahran and Ezeldin, 2016). Working with multilateral organizations, like the IFIs, can have advantages over bilateral relationships in instances where borrowing countries may avoid other bilateral pressure or conditions to financial agreements.

Bilateral development finance institutions (DFIs)

Many ODA providers from the Development Assistance Committee (DAC) and the Gulf Cooperation Council (GCC) operate their own bilateral development finance institutions (DFIs) (OECD, 2023a) that can make investments in government projects or in private firms by using either debt or equity. In some instances, ODA providers can also offer development financing directly issuing debt without using a DFI. Gulf Cooperation Council (GCC) member countries all have sovereign investment funds. Many GCC countries have increased their foreign direct investment (FDI) outflows recently, as they diversify their economies to reduce reliance on hydrocarbons (Ameer *et al.,* 2021). Among these outflows, there have been notable investments in green infrastructure and food security. GCC countries could play a very significant role in the financing of an Arab agrifood systems transformation as a financially powerful group of countries that are part of the region.

Venture capital and private equity

Venture capital and private equity firms are well suited to finance opportunities that offer higher rates of return for taking on higher degrees of risk. Venture capital firms back early-stage start-up ventures that have high rates of failure, while private equity typically targets shareholdings in medium or later stage companies. Both private equity and venture capital are typically private placements that are not traded in public markets. Private equity investments are usually stock, while venture capital can be either stock or a convertible instrument that becomes stock once the company experiences a valuation event. Both venture capital and private equity firms may also issue debt to their investees. Venture and private equity investors are often assumed to prioritize high returns above all else, but there has been a movement of impact investing firms that seek to drive social or environmental impact through their investments. When corporate firms look to expand or diversify their holdings, they may take strategic equity positions in other companies where they are referred to as strategic corporate investors.

Some venture capital, private equity, or corporate strategic firms offer agrifood systems expertise in addition to the monetary contribution that they bring to a deal. Beyond their technical expertise, some investors can offer benefits through the synergies that exist between a prospective investment and other assets or investments in their portfolio.

As discussed in Section 7.1.5, the profit-oriented nature of many of these firms can present risks to companies and assets.

Impact investors

Impact investors are a category of private investors that make equity or debt investments which aim to earn returns on their investment alongside positive social and/or environmental impacts. Engagement of these investors can reduce the profit-oriented risks discussed above and in Section 7.1.5. Examples of impact investors that are mandated to make investments in agrifood systems in the Arab region include Clean Energy Ventures and CoPeace PBC (Impact Assets 50, 2023).

7.2 INNOVATIVE FINANCE INSTRUMENTS

7.2.1 Overview of innovative finance in agrifood systems for food security and nutrition in the Arab region

By complementing investment capital with concessional capital, or by structuring, promoting and funding impactful agrifood investment opportunities, innovative finance instruments can help address the agrifood system funding shortage in the Arab region and improve food security and nutrition.

As early as 2010, the United Nations saw potential for innovative financial instruments with resolution 65/146, where it "highlighted the considerable progress in innovative sources of financing for development achieved to date" and stressed the importance of "scaling up present initiatives and developing new mechanisms, as appropriate" (UNDESA, 2010, p. 1). The resolution kept clear that "mechanisms should be effective, should aim to mobilize resources that are stable and predictable, should supplement and not be a substitute for traditional sources of financing, should be disbursed in accordance with the priorities of developing countries and should not unduly burden such countries" (UNDESA, 2010, p. 1).

There is no internationally agreed upon definition of innovative finance for development (UNDESA, 2010, p. 1). Naming conventions for initiatives can also differ and often overlap (e.g. blended finance, social finance, sustainable finance). *The State of Food Security and Nutrition in the World 2024* (FAO, IFAD, UNICEF, WFP and WHO, 2024) defines an innovative financing instrument for food security and nutrition as one that fulfils any of the following conditions:

1. It has been developed in the last ten years.
2. It is implemented in a different way from its original purpose.
3. It is new to being used in financing for food security and nutrition.
4. It involves new combinations of actors.

This section explores several innovative financing instruments that are well positioned to contribute to leveraging the agrifood system for increased food security and improved nutrition in the Arab region, although not every example of "innovative finance" that has been written about is represented in this report.

The following pieces of Section 7 explore how the financing gap can be further addressed through the deployment of innovative financing instruments across four themes:

1. Concessional capital can reduce perceived risk and stimulate increased availability of financing through a variety of instruments.
2. Results-based financing can support the funding of innovative, impactful solutions, that may otherwise go unfunded.
3. Climate finance, green bonds, and other infrastructure financing alternatives are already the fastest growing mechanisms to mobilize funding to development goals including food security and improved nutrition.
4. Contract farming and debts swaps and other instruments have been used to access foreign markets or address foreign debt by funding agrifood transformation for food security and nutrition.

7.2.2 Concessional capital to enable increased availability of financing and insurance for agrifood systems transformation for food security and nutrition

Stimulating lending for agrifood systems investments with capital guarantees

Guarantees play a pivotal role in the activation of lending. They are designed to mitigate downside risk and enable banks or lenders to provide lower interest rates, approve loans with less collateral and lend to clientele that were previously unbankable, or unable to access sufficient financing.

While guarantees had catalysed capital flows of USD 77 billion globally by 2019, they have not been deployed at scale in higher-impact sectors like agriculture (Convergence, 2019). Capital guarantees were the innovative finance mechanism of greatest volume of finance mobilized according to Dalberg, when measured as a total of all the contingent liabilities carried by capital guarantees (Guarnaschelli *et al.,* 2014).

Guarantees can be structured to address many of the challenges outlined in the preceding risks and barriers section. Conditions of guarantees by financiers can be tailored to support food security and improved nutrition to ensure the accessibility of finance to farmers and firms who support the same goals.

Providing limited guarantees to lenders on loans that are made to firms or stakeholders experiencing agriculture risks can increase access to finance for organizations oriented to transforming agrifood systems to enable improved food security and nutrition, livelihoods, and planetary well-being. Loan guarantees can be structured by national governments, International Finance Institutions, Overseas Development Aid contributors or Development Finance Institutions, UN development partners, or by other donors or partners.

Credit guarantees are often perceived as capable of increasing credit flow and fostering access to finance for agricultural firms that would otherwise not be considered by many lenders – but they are subject to certain pitfalls (Benni, 2021). Credit guarantees risk the "moral hazards" of encouraging borrowers to take on risk, as well as encouraging financial institutions to lend to riskier clients than they otherwise would. There is also little empirical evidence yet that credit guarantees benefit economies overall (Benni, 2021), and it is suggested that guarantees could in fact displace other firms that are not provided with guarantees (Benni, 2021). If loans are only guaranteed to agrifood system borrowers, and no other borrowers, and if lenders are limited with a fixed pool of cash to lend, the displacement theory could imply that guaranteeing loans to agrifood system players may be at the expense of credit-worthy borrowers in other industries of value to the economy. Policymakers should be prudent to assess the risks and provide mitigation strategies for increases in moral hazards or the displacement of qualified non-agricultural borrowers (Benni, 2021).

Examples of loan guarantees in the Arab region

Lebanon offers loan default guarantees to domestic lenders to stimulate borrowing through its governmental body, the Economic and Social Fund for Development (ESFD). The United States of America, as an ODA provider, offers loan guarantees to financial intermediaries in developing countries around the world through its Development Finance Corporation (DFC, 2020), as well as through intermediaries such as Triple Jump, an impact-focused investment manager. The Swedish International Development Agency

BOX 7
EXAMPLE – IRAQ SUSTAINABLE COMMUNITIES: ECO-INNOVATIVE, GENDER-RESPONSIVE GROWTH STRATEGIES FOR IRAQ

Country: Iraq
Innovation: Capital guarantees for small agricultural loans
Implementing Party: Joint SDG Fund
Timeline: 2023–present

Through the Sustainable Communities initiative, the Joint SDG Fund and the United Nations Multi partner Trust Fund Office (UN MPTF) use guarantees to facilitate access to finance for medium-, small- and micro-enterprises, especially women and youth-led agribusinesses, agro-industry and sustainable value chains and support services.

The scheme aims to catalyse lending to micro-, small- and medium-sized enterprises (MSMEs) by de risking loans and decreasing collateral requirements for lenders. The project targets lenders that are private commercial and Islamic banks that provide loans to MSMEs in agricultural value chains with a focus on renewable energy and efficient water usage. The project aims to be self-sustaining through the imposition of a small guarantee fee to borrowers.

This project aims to directly lead to at least 600 new loans, increased confidence and capability of commercial banks with regards to working with MSMEs, and to create 1 200 jobs.

Note: MSMEs = micro-, small- and medium-sized enterprises.

Source: Joint SDG Fund. 2023. MPTF Office Final Programme Report, Jan 2020 – Dec 2023. New York. https://mptf.undp.org/sites/default/files/documents/40000/20210831_final_narrative_report_joint_sdg_fc2-iraq.pdf

(SIDA) offers a guarantee instrument designed to share risk with public and private actors in order to mobilize additional capital to sectors that include agriculture, health, environment, market development and infrastructure (SIDA, 2019). SIDA has extended capital guarantees in both Somalia and Palestine (SIDA, 2019). Specific to food security in the Arab region, loan guarantees have been implemented with the Sustainable Communities: eco-innovative, gender-responsive growth strategies for Iraq, elaborated in Box 7.

Guarantees for sovereign impact loans

Loan guarantees can also stimulate larger scale borrowers that stand to contribute to the transformation of agrifood systems for food security and nutrition. Member states can take advantage of partial guarantees to help secure sovereign debt that can be used to invest in infrastructure or firms in the agrifood sector. Tunisia secured a sovereign loan in 2023 through a sovereign loan guarantee to support its cereal value chains, which is elaborated in Box 8.

BOX 8
EXAMPLE – TUNISIA CEREALS ROOM TO RUN SOVEREIGN LOAN GUARANTEE

Country: Tunisia
Innovation: Sovereign loan and loan guarantee
Implementing Party: AfDB (lender); FCDO-UK/City of London Insurers (guarantors)
Timeline: 2023–present

Tunisia's Inclusive and Sustainable Development of the Cereal Sector Project was approved in July 2023 and will strengthen food security resilience by applying interventions throughout the cereal value chain, including through storage and transport systems, aiming to increase both production volumes and productivity.

The project is financed by the African Development Bank (AfDB) and the United Kingdom's Foreign, Commonwealth and Development Office's (UK-FCDO) joint "Room to Run Sovereign" (RSRS) financing partnership that was launched at COP26. Room to Run is a USD 2 billion guarantee facility funded by the UK-FCDO (USD 1.6 billion) and City of London Insurers (USD 400 million) that assumes a portion of the credit exposure of the African Development Bank's sovereign climate finance portfolio.

Notes: AfDB = African Development Bank; UK-FCDO = the United Kingdom's Foreign, Commonwealth and Development Office; RSRS = Room to Run Sovereign
Source: AfDB (African Development Bank). 2023. *Sustainable Bond Framework.* Abidjan, African Development Bank. https://www.afdb.org/sites/default/files/2023/09/12/230912_afdb_sustainable_bond_framework_final.pdf

Venture capital guarantees

The private sector components of agrifood systems are responsible for much of the innovation that can improve food security and nutrition, livelihoods and planetary well-being. Venture capital is an important source of capital for innovators at startups to secure capital to enable their growth. Climate-related venture capital has been on the rise in the region, increasing from USD 24 million in 2018 up to USD 270 million in 2022 in the MENA and Türkiye (Crescent Enterprises Ventures, 2023). 50 percent of this venture capital funding has been directed towards deals in agriculture (Crescent Enterprises Ventures, 2023). While venture capital is on the rise in many countries and can contribute to food security, through examples such as Pure Harvest Farms in

the United Arab Emorates, the risk of conflict and economic crisis in many countries continues to keep some venture capital investors at bay. Capital guarantees for venture capital investments that contribute to increased food security and improved nutrition in Palestine, the Sudan, Yemen, the Syrian Arab Republic, Libya, Iraq and Lebanon could help venture capital firms mitigate risk and offer muchneeded support to impactful agrifood system innovators.

Subsidizing interest rates on loans

Interest rates on agricultural loans in the Arab region can be prohibitively expensive for certain types of borrowers. Direct subsidies to interest rates have been implemented in some Arab countries to increase the flow of credit. In many countries in the Arab region, including Lebanon (Dal *et al.,* 2021) and Algeria (Boukenia, 2023), national governments subsidize interest rates to make finance more accessible during times of economic hardship. Elsewhere development finance institutions (DFIs) provide interest rate subsidies as concessional finance tools (Arvantis, 2013).

As discussed earlier in this section, agrifood firms face some unique barriers to access to finance. To support these unique challenges, governments, DFIs, IFIs and ODA providers could subsidize interest rates exclusively for firms and farms that contribute to enhanced food security and nutrition and are seeking financing. Some similar systems that effectively reduce borrowing rates for farmers have had their overall economic value questioned, suggesting that reducing rates for agricultural businesses is not likely to increase the total available capital for loans to an economy but simply diverts existing lending capital to the agriculture sector from other sectors (Benni, 2021). In circumstances like Lebanon's economic crisis, discussed in Box 9, subsidies were not enough to stimulate increases in lending activity.

BOX 9
EXAMPLE – LEBANON INTEREST RATE SUBSIDY

Country: Lebanon
Innovation: Interest rate subsidy
Implementing Party: Banc Du Liban (Lebanon's Central Bank)
Timeline: 2001–2019

Banque Du Liban, Lebanon's Central Bank, introduced an interest subsidy programme in 2001 whereby eligible loans would be granted a quarterly reimbursement of 4.5 percent in interest. In other words, the borrower pays the interest on their loan with their monthly payments and receives a quarterly reimbursement equivalent to 4.5 percent of the payment into his account each quarter.

On 1 February 2018, Central Bank Intermediary Circular 485 suspended the supply of subsidized funds and replaced them with an interest rate subsidization system whereby banks apply for interest subsidies, and a ceiling is set for interest rates charged to clients and specifies the subsidy rates that would be reimbursed to the lending banks.

After 2019, despite the interest rate subsidies, the Lebanese liquidity crisis forced many banks to reduce their "lending activity to a bare minimum" (Daoud, 2021, p. 10).

Source: Daoud, B. 2021. *Financing Lebanon's agro-food sector: an analysis of the sector before and after October 2019*, USAID, ARE. https://pdf.usaid.gov/pdf_docs/PA00XDCT.pdf

Agricultural insurance and disaster assistance

The Arab region is the most arid in the world; drought and water scarcity problems in the area will be exacerbated under medium- to long-term climate scenarios, making the region one of the most vulnerable globally to climate change (FAO, 2023e). These conditions contribute to often unmitigated risks to agricultural production in the region, which could be mitigated to some degree if feasible insurance solutions for farmers can be scaled up in the region (FAO, 2021c).

In developed economies, agricultural insurance is usually indemnity based, a model that entails significant costs, and hands-on work associated with each claim. In least-developed countries (LDCs) index-based insurance programmes have begun to emerge, which are generally more cost effective but less precise than indemnity-based insurance.

BOX 10
EXAMPLE – THE WORLD FOOD PROGRAMME'S
R4 INITIATIVE

Countries: Senegal, Ethiopia, Kenya and seven others
Innovation: Crop insurance
Implementing Party: World Food Programme
Timeline: 2011–present

The R4 Rural Resilience Initiative provides access to index-based subsidized drought and flood risk insurance products for vulnerable households that engage in sustainable agriculture practices as well as community-led disaster risk reduction and landscape restoration activities. To ensure the sustainability of the approach, the initiative enhances participant's saving capacity and access to loans while gradually enabling farmers to pay for a portion of the insurance premium.

R4's Index-based insurance compensates farmers based on changes in a pre-agreed statistical index that is associated with crop performance rather than on-site assessments of actual damage or losses.

Insurance payouts are provided in cash, often through mobile banking systems, when available. The most significant payout disbursed to date – following the almost total failure of the 2017 short rains in Kenya – equaled to USD 119 per household. The World Food Programme (WFP) has started to design specific products to provide food assistance or agricultural inputs in countries experiencing elevated inflation to stabilize the value of the insurance claim.

While none of the R4 countries of operation are part of the Arab region, several countries from the region border R4 countries, including Mauritania, the Sudan, Somalia and Djibouti, sharing climatic, environmental and economic realities with the participating R4 countries.

Note: WFP = World Food Programme.
Source: WFP (World Food Programme). 2021. *Does Climate Insurance Work? Evidence from WFP-supported microinsurance programmes*. Rome.

Indemnity-based insurance insures farmers against "measured loss or damage suffered at the level of the individual farm or herd" and requires a "direct on-farm damage assessment and individual visits to set up the policies" (FAO, 2021c, p. 9). While attempts at indemnity-based insurance were endeavoured in LDCs around the world from the 1950s to the 1990s, most have been phased out with the exception of some highly subsidized examples (FAO, 2021c). Indemnity-based insurance has high operational costs per insured customer, which poses a challenge to serving small scale farmers (FAO, 2021c) who have relatively low insurable crop investments. Indemnity-based insurance is common in countries that have strong public welfare systems and larger farm sizes.

Index-based insurance does not compensate based on actual losses by farmers but pays out based on indicators that cover the region of the insured farmers. Indicators that trigger payouts can be based on weather indicators, regional production indicators, or remote-sensing observations (FAO, 2021c). A shortcoming to index-based insurance is the "insufficient degree of correlation between the yield losses incurred by the farmer and the index chosen to measure losses and payouts. This mismatch could result in farmers incurring losses without receiving a payout, or farmers receiving insurance payouts with no actual loss" (FAO 2021c, p. 19). Index-based insurance emerged after many governments started to favour collaborations with the private insurance sector (FAO 2021c). The indexbased R4 initiative outlined in Box 10 offers index-based insurance solutions in several countries that border the Arab region.

Reinsurance to support crop insurance provision

Crop insurance reduces agricultural risk for farmers in most parts of the world. For vulnerable small-scale farmers that have agriculture as a core source of income and livelihood stability, crop insurance acts as a social protection system (FAO, 2021c), as discussed above. Crop insurance can also enable access to finance for farmers who cannot put forward sufficient collateral to access loans or other financial products. For established commercial farmers, crop insurance allows farmers to mitigate the risks associated with farming activities that require investment. As climate change causes increased challenges for farmers in the Arab region, crop insurance stands to support farmers, food security, nutrition and livelihoods overall.

In Lebanon, where agricultural insurance products are not widely available, agriculture stakeholders are characterized as having consensus that "crop insurance would be a game changer for the sector, mitigating a substantial amount of risk for stakeholders, promoting farmers' liquidity and therefore easing access to finance" (Daoud, 2021, p. 4).

Most insurance companies that offer indemnity-based insurance protect their underwritings with reinsurance – a way of insuring all or a portion of their risk with another party, spreading out their risk and reducing their exposure. Crop insurance can be reinsured by national public entities, or by private reinsurance companies.

"Accessing reinsurance is especially challenging in the agricultural sectors of less-developed countries, as global reinsurers usually struggle with the small business volume and lack of lack of publicly available.

BOX 11
EXAMPLE – TARSIM CO-INSURANCE POOL

Country: Türkiye
Innovation: Pooled risk insurance facility
Implementing Party: TARSIM, Turkish Government
Timeline: 2005–Present

TARSIM is a special purpose company with 24 shareholders that are agricultural insurance underwriters. The underwriters sell, approve and issue TARSIM-designed products to farmers. Once an insurance policy is sold by an underwriter, the premiums are transferred to TARSIM, less a sales commission. The risk is transferred to TARSIM, and the government subsidizes the policies that TARIM holds by 50–66 percent. The government also provides support to TARSIM to access reinsurance.

Prior to the formation of TARSIM, only 0.5 percent of the total agricultural area in Türkiye was insured. Since its inception the programme has grown to cover 14 percent of the total agricultural land in the country.

Source: FAO. 2021c. *Protecting livelihoods – Linking agricultural insurance and social protection.* Rome. https://doi.org/10.4060/cb2690en

Data" (Benni, 2021, p. 15). China and India, however, have reached the largest scale of insured small-scale farmers, by leveraging their ability to utilize government reinsurance schemes and government subsidies (Benni, 2021). For context, India is currently home to 30 million of the 51 million small-scale farmers (Benni, 2021).

While smaller governments may not be able to fund reinsurance facilities themselves, nor attract private reinsurance companies, two models that offer examples that the Arab region could follow are the emergence of a public private partnership in Türkiye called the TARSIM insurance pool, discussed in Box 11, and the Caribbean Catastrophe Risk Insurance Facility, outlined in Box 12.

Smaller countries that do not have the fiscal space to offer a national co-insurance pool like TARSIM can also consider drawing on elements from an example in the Caribbean, the Caribbean Catastrophe Risk Insurance Facility, outlined in Box 12. While its focus is on property damage, similar international pooling concepts could be considered for countries that share these kinds of risks.

BOX 12
EXAMPLE – CARIBBEAN CATASTROPHE
RISK INSURANCE FACILITY (CCRIF)

Country: Various – Caribbean region
Innovation: Pooled risk insurance facility
Implementing Party: CARICOM and the Caribbean Development Bank
Timeline: 2007–Present

"CCRIF enables countries to pool their individual risks into a single, better diversified joint reserve mechanism. Through risk pooling, CCRIF provides coverage to countries at a significantly lower cost than individual governments would incur if they had to maintain their own reserves or if they were to independently purchase insurance in the open market" (p. 1).

"CCRIF helps Caribbean countries lower the cost of insurance by pooling risks. A portion of the pooled risks is retained through reserves, which helps to reduce the cost of insurance premiums. The CCRIF transfers the risks it cannot retain by purchasing reinsurance and catastrophe swaps" (p. 1).

"Insured countries pay an annual premium commensurate with their own specific risk exposure and receive compensation based on the level of coverage agreed upon in the insurance contract upon the occurrence of a triggering event"(p. 1).

The insurance is parametric (or index-based), and payments are based on a model as opposed to being based off of an assessment on the ground.

"CCRIF is the first-ever multi-country risk pool. Sixteen Caribbean countries joined in 2007 and have renewed their policies each year since. Seven payouts have been made to date. The CCRIF has been well received by the reinsurance market, which has provided capacity a low rate to the Facility. A US$20 million catastrophe swap between IBRD and CCRIF was the first derivative transaction to enable emerging countries to access the capital market to insure against natural disasters" (p. 1).

While the CCRIF pools to insure against property damage, similar insurance pooling could be sought by NENA countries to protect agricultural investments from disasters.

Note: CCRIF = Caribbean Catastrophe Risk Insurance Facility.

Source: World Bank, IFC, 2012. *Caribbean catastrophe risk insurance facility: pooling risk to protect against natural disasters, world bank financial and private sector development, disaster risk and insurance financing program.* Washington, DC. https://documents1.worldbank.org/curated/en/319251467999348409/pdf/97469-BRI-Box391476B-PUBLIC-study-CCRIF-Final.pdf

The index-based insurance programmes that have developed in countries discussed in the previous section typically collaborate with private insurance companies for reinsurance. These schemes have been able to scale up more rapidly than indemnity-based insurance, but do not have as strong a correlation between losses and payouts.

Reinsurance has been easier for index-based insurance schemes to obtain, given their objective, transparent structure and their use of publicly available data (FAO, 2021c). This is despite the fact that reinsurance in agriculture typically comes from the public

sector in both developed countries, as well as in countries such as India and China (FAO, 2021c), where there is a significant number of small-scale farmers but also a government with the ability to allocate fiscal space. Reinsurance can come from international entities, or through pooling with governments (World Bank, IFC, 2012) in instances where individual governments cannot implement it on their own, as Boxes 11 and 12 illustrate.

There are some barriers to insurance implementation by government from the World Trade Organization's (WTO) Agreement on Agriculture (AoA) restrictions for WTO member countries. Meeting the strict criteria in Paragraph 7 (income insurance) or Paragraph 8 (natural disaster and crop insurance) of Annex 2 of the AoA may make it difficult to report insurance programmes in the Green Box. For example, both Paragraphs 7 and 8 limit coverage to 70 percent of expected income or yield. This is why most countries notify these programmes as AMS support (Glauber, 2018).

While crop insurance solutions are being piloted in the Arab region, they have yet to scale up. In Morocco, for example, climate risk insurance covers oilseeds, food pulses, cereals and fruit trees (mainly olives) to cover drought and excess water in the plots. The penetration rate of agricultural insurance, however, remains low, with only 17 percent of agricultural areas insured against climate risks and with only 3 percent of small farmers having access to it (FAO, 2024b).

Mitigating conflict and political risk through reinsurance

Political risk insurance, while not new, has been a very important tool in the international development landscape. The World Bank's Multilateral Investment Guarantee Agency (MIGA) has supported foreign direct investment of over USD 30 billion since 1988 through its insurance of projects against losses related to currency inconvertibility, expropriation, war and civil disturbance and non-honouring of financial obligations (Guarnaschelli *et al.,* 2014). The Dalberg Innovative Finance Report points out the limitations for other organizations to replicate the World Bank's unique capacity to act as an insurer since it has the ability to exert enormous political pressure on its claims, but the model still serves as a prototype for new players given the current high demand for investments among political risk (Guarnaschelli *et al.,* 2014). Some newer private re-insurers are currently extending offerings that are now approaching the magnitude of funding that is offered by MIGA (Guarnaschelli *et al.,* 2014). It is plausible that governments of countries at risk of conflict, or ODA supporters to these countries, could underwrite a variety of investments to stimulate flows of venture equity, or debt financing for circumstances that investors otherwise might see as too risky. An example of a MIGA guarantee in Palestine is outlined in Box 13.

BOX 13
EXAMPLE – WORLD BANK MULTILATERAL INVESTMENT GUARANTEE AGENCY'S (MIGA) INVESTMENT GUARANTEE FOR DATE PRODUCTION IN PALESTINE

Country: Palestine
Innovation: Capital Guarantee Protecting from the risk of conflict
Implementing Party: World Bank Multilateral Investment Guarantee Agency (MIGA)
Timeline: 2023–present

In June 2023, MIGA provided a capital guarantee of USD 16.6 million to companies that cultivate date palm trees and produce high-quality dates to cover the demand in the local market and build market share in international markets.

The guarantee covers investment that finances expansion from two to seven farms, opens a packaging facility for post-harvest handling of dates, a sorting and grading house, a cold storage facility, and a rooftop solar power plant, all located in Jericho, West Bank. The guarantees were issued for a period of up to five and a half years against the risks of expropriation and war and civil disturbance, including temporary loss of income.

The guarantees were underwritten by MIGA as an administrator of the West Bank and Gaza Investment Trust Fund and MIGA's Conflict-Affected and Fragile Economies Facility.

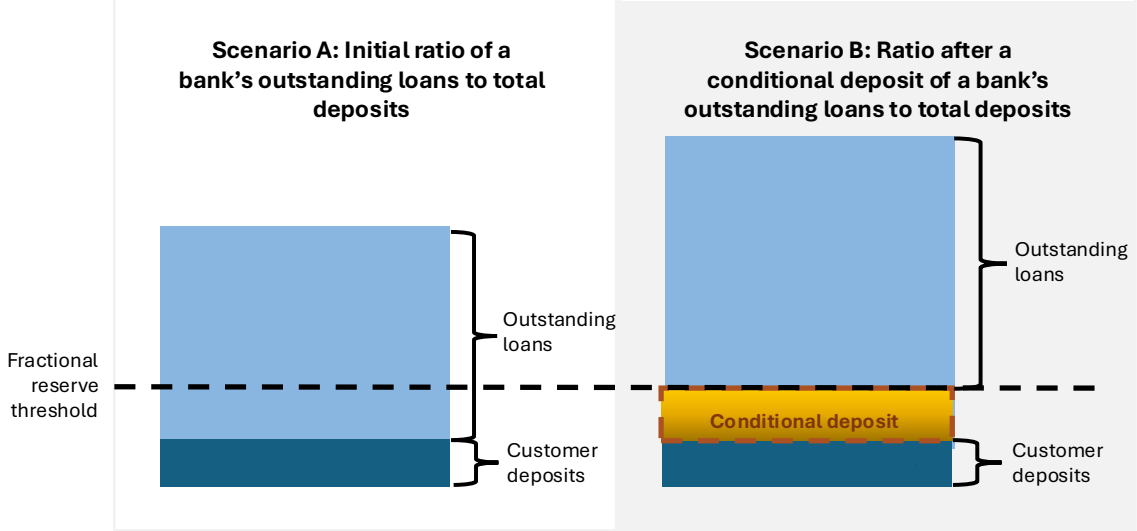
Notes: MIGA = Multilateral Investment Guarantee Agency of the World Bank.
Source: World Bank. 2023. Early Warning System. Nakheel Palestine for agricultural investment (MIGA-14828). In: *EWSData.* [Cited 15 January 2024]. https://ewsdata.rightsindevelopment.org/projects/14828-nakheel-palestine-for-agricultural-investment/

Relieving agrifood systems lending constraints through conditional deposits to financial institutions

Banks can ease fractional reserve challenges by accessing either large relief deposits (Wytenburg, Beja and Darbyshire, R. 2021), or through deposit insurance (Garcia, 1997).

Relief deposits can be structured as conditional bank deposits by supporting banks to make lending capital available in the agricultural sector. These deposits relieve a bank's lending barriers by increasing its deposit assets above the fractional reserve limit, enabling them to legally lend further (Figure 49). Given the aim of stimulating lending to firms that contribute to increases in food security and nutrition, such conditional deposits could be made with conditions that the increased lending bandwidth be exclusively deployed to the agrifood system borrowers that are contributing to food security and improved nutritional outcomes.

FIGURE 49
MEETING FRACTIONAL RESERVE THRESHOLDS WITH CONDITIONAL DEPOSITS



Source: Authors' (FAO RNE) own elaboration.
Download: https://doi.org/10.4060/cd3550en-fig49

Liquidity crises are currently affecting banks in Lebanon (Dal *et al.,* 2021), Yemen (Sana'a Center, 2023), the Syrian Arab Republic (Sewell, 2023), the Sudan (Younes, 2018) and Libya (Marie-Nelly, 2019). Some banks may also be facing liquidity challenges outside of these examples.

7.2.3 Taxes on energy-dense foods that do not support healthy diets to discourage consumption and increase fiscal space

Taxes on energy-dense foods high in fats, sugars and/or salt that do not support healthy diets are emerging but have not been widely applied around the world. Similar to more common alcohol and tobacco taxes, they have the potential to generate significant revenue for governments and expand fiscal space. Furthermore, taxes on foods that do not support healthy diets may lead to reduced purchases of these taxed foods and encourage product changes and reformulation (WHO, 2024).

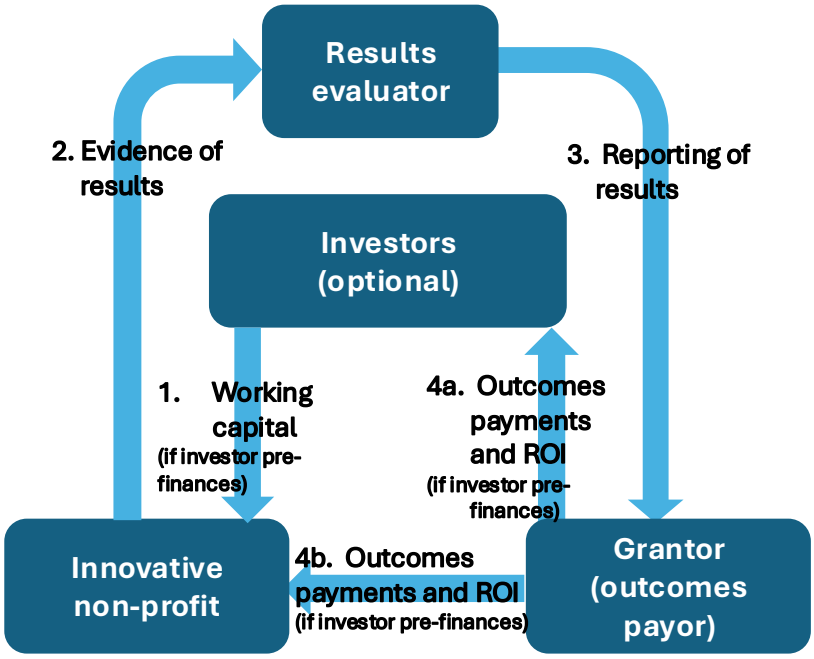
For example, in the Arab region, Bahrain, Morocco, Oman, Qatar, Saudi Arabia, Tunisia and the United Arab Emirates apply sugar-sweetened beverage (SSB) taxes. The SSB tax population coverage (around 20 percent) is relatively low in the Arab region, compared to other world regions (in South Asia it is almost 100 percent; in Latin America and the Caribbean and sub-Saharan Africa it is around 80 percent) (Mandeville, Hattersley and Shekar, 2023). One of the examples with the most data is from Mexico, where consumers were charged with an 8 percent tax on foods, including snacks, sweets, nut butter, and cerealbased prepared products. An evaluation of the initiative concluded that the policy resulted in people buying 7 percent less of these foods than they would have had the tax not been imposed (Taillie, 2017).

7.2.4 Results-based financing initiatives

Background on results-based financing

Results-based financing is an innovative financial tool that enables the financing of innovative solutions to social or environmental challenges through the flow of a conditional grant to a service delivery non-profit organization, often complemented by risk capital from investors. Granters commit payments to the nonprofit organization contingent on the achievement of measurable results, as determined by a thirdparty results evaluator (Figure 50). If the implementing non-profit fails to achieve the intended results, payment is not made in full, or in some cases, not made at all.

FIGURE 50
RESULTS-BASED FINANCING SCHEMATIC FLOW



Notes: ROI = return on investment.

Source: Authors' (FAO RNE) own elaboration.

Download: https://doi.org/10.4060/cd3550en-fig50

Results-based financing instruments have been used in food security and nutrition-related areas, for instance, in agricultural and environmental applications outside of the Arab region, while they have also been used in the Arab region to increase access to employment. Results-based financing was recently used in Cambodia to transition minefields to cultivable rice farms through the Mine Fields to Rice Fields DIB (Oxford Government Outcomes Lab, 2024a). It was also used in Peru to improve the sustainable production of coffee and cocoa through the Asháninka Impact Bond in 2015 (Oxford Government Outcomes Lab, 2024b). The Arab region has carried out results-based financing models to increase access to employment for less-privileged populations through the Palestine Youth Employment Project (Oxford Government Outcomes Lab, 2024c), the Refugee Impact Bond in Jordan (Oxford Government

Outcomes Lab, 2024d), and for people of determination (those living with disabilities) through the Atmah social impact bond in the United Arab Emirates (Oxford Government Outcomes Lab, 2024e). The Integrated Rural Development Project of the Mountain Areas in the Oriental Region (PADERMO) is a new resultsbased instrument in Morocco, which is discussed in Box 14.

BOX 14
EXAMPLE – THE INTEGRATED RURAL DEVELOPMENT PROJECT OF THE MOUNTAIN AREAS IN THE ORIENTAL REGION (PADERMO)

Country: Morocco
Innovation: Results-based lending instrument
Implementing Party: International Fund for Agricultural Development (IFAD)
Timeline: Forthcoming*

This mechanism is being deployed for the first time in IFAD's Morocco portfolio. It consists of linking the disbursement of funds to the achievement of specific, previously agreed upon results (for PADERMO, the mechanism is based on disbursement-linked indicators or DLIs). The results must be certified by the external third-party verification entity through a specific verification protocol. PADERMO has three DLIs for:

1. the creation and support of producer groups' members of the National Association for Sheep and Goat Breeders (ANOC);
2. the rehabilitation of rural roads; and
3. functional literacy education for the project's target populations.

Note: DOI = disbursement-linked indicator; ANOC = National Association for Sheep and Goat Breeders; IFAD = International Fund for Agricultural Development.
Source: IFAD (International Fund for Agricultural Development). 2023. *President's Report: Proposed loan. Kingdom of Morocco. Integrated Rural Development Project of the Mountain Areas in the Oriental Region*, EB 2023/139/R.4. Rome. https://webapps.ifad.org/members/eb/139/docs/EB-2023-139-R-4.pdf?attach=1

Benefits of results-based financing initiatives

Granting organizations benefit from being able to pay only for programmes that achieve intended results. Non-profit organizations implementing the innovations benefit from securing longer and larger grant terms than they typically acquire from grants that provide funding based on the cost of activities.

In order to finance their operations, non-profit organizations will often source pre-financing risk capital from investors. If the social or environmental innovation demonstrates successful results, the investors typically make a return on their investment. If the innovation falls short of its targets, the investors typically lose a portion of, or all of, their investment.

By aligning funding with results as opposed to activities, organizations have the flexibility to adapt their programming as they learn throughout their implementation. By contrast, projects with rigid activity schedules tied to funding milestones often struggle to pivot

away from the implementation of activities that do not work but that they are contractually bound to carry out. They may not be able to incorporate new insights nor amend their programming based on rigid project plans.

Evaluation metrics are agreed to before the programme starts. Measurement of the metrics trigger payments and indicate the degree to which desired results have been achieved.

Results-based financing could be used to improve food security and nutrition in the Arab region by scaling up sustainable agrifood system interventions that contribute both to food security and improved nutrition through the lenses of gender inclusivity and climate resilience.

Keys to success for results-based financing

Results-based financing (RBF) contracts are appropriate for innovative, novel initiatives that have high potential but have not yet built up a comprehensive evidence base. An appropriate case for the use of RBF arises when grantors are aligned with an initiative, but the novel nature of the initiative inherently means that its efficacy has yet to be proven.

If there is a compelling body of evidence that an approach will be successful, conventional grants are more cost effective, and usually more appropriate, than results-based financing. If results-based financing is used for a well-evidenced approach, the granter risks overpaying for results that could have been achieved with a conventional grant. Results-based financing contracts are not appropriate as replacements for existing funding agreements for social services.

In Box 15 a climate-resilient agriculture project backed by an RBF contract is proposed.

BOX 15

PROMOTION OF QUINOA AS A DROUGHT-RESILIENT, SALINE-RESILIENT CROP IN ALGERIA, TUNISIA, MAURITANIA, MOROCCO, AND LIBYA

Research from the International Center for Biosaline Agriculture, Mohammed VI Polytechnic University and Canada's International Development Research Centre generated knowledge and empirical evidence that Quinoa can improve resilience and livelihoods of communities living in marginal ecosystems in Morocco.[i]

The research showed that quinoa has positive potential to improve food-security and nutrition in the NENA region based on findings that[i]:

- **It is climate-resilient under drought/dry-spell conditions** – With quinoa, "a yield reduction of only 15% occurs when the crop receives 50% of its total water requirement" (p. 1), which makes it ideal for low rainfall environments that exist in many parts of the NENA region.
- **It is nutritious** – Quinoa contains all of the essential amino acids necessary for human health. It contains twice as much protein as corn, wheat and barley. It also has more micronutrients than the majority of staple grains, including wheat, barley and maize.

CONTINUED →

BOX 15 CONTINUED

- **It demonstrates adequate performance with saline water** – "Quinoa can be irrigated with saline water without significant yield reduction and that a yield" (p. 1), offering compelling irrigation potential in rainfall constrained environments that do not have desalinization technology.
- **It yields increases to smallholder farmer income** – The project improved the income of smallholder farmers who are producing and marketing Quinoa. Under rainfed conditions, it was found that the net profit of one hectare cultivated with Quinoa is more than triple and around seven times the net profit of one hectare cultivated with wheat and barley, respectively.
- **It could increase food-security through new nascent markets** – There is current potential for quinoa to be marketed more broadly. There is currently a modest market for quinoa in Morocco. If quinoa can be promoted locally and the market can be increased, it could increase food security and increase the local market for farmers. Quinoa has some similarities to semolina used for couscous. While a "substitution" for couscous in a traditional cuisine is not likely to occur, there may be opportunities for quinoa to complement some of the conventional dishes in the Maghreb countries.
- **It is gender inclusive** – The quinoa research led to the formation of four new agricultural cooperatives, three of which were women led.
- Challenges to scaling the cultivation and consumption of quinoa in Morocco and other Maghreb countries:
- **Adoption by consumers** – While quinoa holds many similarities to couscous produced from semolina, there could be barriers to consumers adopting a new grain, based on some differences. The most notable difference is in quinoa's taste based on its saponin content. There is a niche market that consumes quinoa now.
- **Long-term soil degradation if saline cultivation is implemented** – Saline irrigation can pose threats to soil health if improperly managed.
- **Limited access to inputs**.[ii]

Structuring a result-based financing contract for the promotion of quinoa consumption with a gender and climate-resilience lens.

A results-based financing contract for the promotion of quinoa could be arranged with a service delivery organization that is well-equipped to carry out food and agriculture projects, and that also has the entrepreneurial competence to adapt its offering as it learns from stakeholders throughout implementation.

Evaluation metrics

The establishment of programme evaluation metrics is foundational to any results-based financing mechanism. Here below in Box 15 potential evaluation metrics are outlined that would measure the impact of the project and trigger repayment by the outcomes payor.

Evaluation metrics could include measurable outcomes that demonstrate increases in food security and improved nutrition with gender and environmental safeguards.

The evaluator who is contracted to measure the results must demonstrate quantitative expertise analysing social, economic and environmental data. Targets could include:

- Payment target 1: 60 percent of total funding allocation is tied to the achievement of X tonnes of quinoa production by small-scale farmers in target countries.

CONTINUED →

BOX 15 CONTINUED

- Payment target 2: 40 percent of the total funding allocation is tied to the achievement of Y tonnes of nutritious quinoa being consumed locally within the country.
- Gender safeguard: If less than 15–40 percent of participant farmers are female, the funding allocation is reduced by 1–Z percent on a sliding scale.
- Environmental safeguard 1: If the project results in a measurable increase of irrigated water consumption per acre of cultivated land among farmers, the funding allocation will be reduced by W percent.
- Environmental safeguard 2: If the project results in soil degradation as a result of salinity, the total funding allocation will be reduced by V percent.

Notes: NENA = North East and North Africa;

Source: [i] UM6P, ICBA, IDRC. 2023. *Policy Brief: Promoting Quinoa in Morocco.* Mohammed VI Polytechnic University, International Center for Biosaline Agriculture (ICBA), International Development Research Centre (IDRC). https://idl-bnc-idrc.dspacedirect.org/server/api/core/bitstreams/33020da6-7942-455a-9a47-2c628099c73b/content; [ii] Babas, L. 2021. *Quinoa production, a niche market in Morocco with prospects and obstacles to overcome*. Casablanca, Yabiladi. https://en.yabiladi.com/articles/details/105746/quinoa-production-niche-market-morocco.html

Awards and prizes

Results-based financing payments can also be issued as innovation prizes for organizations that achieve certain social or environmental outcomes. Although prizes have not grown the way that results-based contracts have, the UK-funded "Ideas to Impact" was the most notable effort at funding innovative, novel approaches to development challenges. Vivid Economics defined the Ideas to Impact innovation prizes as "financial incentive that induces change through competition – to solve a specific and pre-defined problem, with a particular focus on developing country contexts and, especially, supporting the poorest within these countries" (Wards and Dixon, 2015). Results-based prizes can be used instead of resultsbased contracts when a single organization is not selected and it is appropriate to have several organizations all working toward the solution to the challenge. Innovation prize challenges in the Arab region agrifood systems could be launched to increase food security sustainably and equitably or to improve the availability and affordability of nutritious foods.

7.2.5 Using climate finance, green bonds and other innovative finance instruments to fund infrastructure and support an agrifood transformation for increased food security and nutrition

The Arab region can use green bonds and climate financing to support the sustainable agrifood system development by implementing projects that can demonstrate climate mitigation, through incentives based on a project's ability to: 1) demonstrate reductions in carbon emissions and through carbon sequestration, or its ability to 2) demonstrate climate adaptation, where ecosystems, livelihoods and infrastructure can be adapted to be more resilient to the negative impacts of climate change. These bonds can support an agrifood transformation by safeguarding the environment and securing the scarce environmental resources required for local food production that can support food security and nutrition in the Arab region.

Given that the Arab region is one of the most water-scarce regions in the world, the deployment of climate finance could be instrumental in addressing the USD 127.46 billion financing gap, which the United Nations Economic and Social Commission for Western Asia (UNESCWA) estimates is required to address water scarcity in the region (UNESCWA, 2023). This financing gap represents the costs required for wastewater treatment, desalination, water harvesting and irrigation, early warning systems as well as for reducing climateinduced water shortages for vulnerable communities and agriculture (UNESCWA, 2023). In Box 16, a UNESCWA climate financing initiative is illustrated.

BOX 16
EXAMPLE – CLIMATE FINANCING FOR WATER

Country: Various countries across West Asia and the League of Arab States
Innovation: Mobilization effort for various climate finance initiatives
Implementing Party: United Nations Economic and Social Commission for Western Asia (UNESCWA) and the League of Arab States
Timeline: 2023–Present

In 2023, UNESCWA and the League of Arab States jointly launched the Arab Initiative for Mobilizing Climate Finance for Water (AIM Climate Finance for Water). Recognizing the close interlinkages between water and climate change as well as the vital role public finance can play in providing essential services and catalysing other sources of finance, the initiative aims to develop regional capacity to mobilize finance for water action under changing climatic conditions.

Source: UNESCWA (United Nations Economic and Social Commission for Western Asia). 2023. *Climate finance for water in the Arab region*. E/ESCWA/CL1. CCS/2023/Policy brief.3. https://www.unescwa.org/sites/default/files/pubs/pdf/climate-finance-water-arab-region-english.pdf

In addition to international public climate and development finance, financing for water projects could come from dedicated climate funds, such as the Green Climate Fund (GCF), but also the private sector, for example, through green bonds, blue bonds, sustainability-linked loans, or carbon credit markets (UNESCWA, 2023).

Green bonds

Green bonds are an innovative finance mechanism that have been highly utilized over the course of the last few decades. While there is "lack of systematic rules and standardisation of green definitions, reporting and impact assessment" to delineate what constitutes a green bond, or even a green project or activity (OECD, 2017 p. 27), the Dalberg Innovative Financing for Development report broadly explains them as "bonds issued by companies and institutions to channel capital from institutional investors to address a global challenge" (Guarnaschelli *et al.,* 2014, p. 2).

Investment is growing in renewable energy, but not quickly enough to put the world on a cost-effective track to limit warming to below 2 ^{0}C relative to pre-industrial levels (OECD, 2017, Key Messages). The Office for Economic Co-operation and Development (OECD) analysis has suggested that the 2020s have the potential to be the "golden years" for bond issuances in the low-carbon sectors (OECD, 2017, p. 1).

In the Arab region, green bonds have been issued by both Egypt (USD 750 million) and Morocco (EUR 356 million), although neither have the agrifood system nor food security and nutrition as primary targets. Egypt's Green bond includes water conservation measures which have applications for the transformation of agricultural production, as well as the development of crop species resistant to salinity and temperature increase (Qadir and Pillay, 2021). A pan-African bond issued through the African Development Bank Sustainable Bond Framework supports a variety of climate change mitigation and adaptation applications including climate-smart agriculture, synthetic fertilizer and pesticide reduction and increased food storage (AfDB, 2021). Outside of the Arab region, the first of green bond issuances to raise financing for sustainable agriculture by a government (Benni, 2024) started in 2018 in Mexico through an entity called FIRA (acronym of the Spanish "Fideicomisos Instituidos en Relación con la Agricultura") (Benni, 2024, p. 25). In total three bonds were raised worth USD 410 million to finance 782 projects that included: environmentally sustainable agriculture, water efficiency, sustainable forestry and solar energy projects (Benni, 2024). These examples illustrate the variety of entities that can issue a green bond; Egypt's was raised as a sovereign bond, while Morocco's was split between a financial corporate and a government-backed entity. The panAfrican bank was raised by an international financial institution in the African Development Bank. Where appropriate, shari'ah compliant Islamic finance alternatives to green bonds can be structured in the form of "Green Sukuk" (Climate Bonds Initiative, 2024). Sukuk resembles the principles of Murabaha (Kuwait Finance House, 2023), but can be used to develop a bondlike vehicle without using conventional interest.

Benefits

Bonds have the potential to provide low-cost, long-term sources of debt capital, and they can tap into a deep global pool of capital with a diverse base of investors, despite constraints on traditional sources of capital such as governments, banks and corporates (OECD, 2017). Since the Arab region requires significant investment to address its food security and nutrition challenges, green bonds provide an excellent pool of capital that could be drawn upon for a variety of revenue-generating agrifood system transformation expenses.

Keys for success

Green bonds have the risk of becoming "greenwashed" if they are not properly paired with an impact measurement strategy that confirms that they are achieving their desired impact on the climate. As such, green bonds need to have the integrity of their market safeguarded and enhanced by refining standards and monitoring compliance. The Global Center on Adaptation (GCA) points out that capacity for impact monitoring is "significantly lacking" and requires capacity building (Qadir and Pillay, 2021). Similarly bonds that claim social or economic outcomes should implement standards to ensure their instruments' connection to such outcomes.

7.2.6 Sustainability-linked bonds

A sustainability-linked bond is a debt instrument that enables borrowers to have their interest rates lowered if they can demonstrate the achievement of certain outcome targets (FAO, IFAD, UNICEF, WFP and WHO, 2024). In a recent example from 2023, the Development Bank of Rwanda (BRD) issued, for the first time, a sustainability-linked bond backed by the World Bank as concessional finance, that enables the BRD to mobilize

financial flows to finance projects oriented to one of the three main objectives of the bond: 1) improving environmental, social, and governance (ESG) practices; 2) increasing the access to finance for women-led projects; and 3) financing the building of affordable housing. If borrowers meet certain performance indicators related to at least one of the three objectives, they will be rewarded with lower interest repayments (FAO, IFAD, UNICEF, WFP and WHO, 2024).

Both sustainability-linked bonds or bonds that are linked to social outcomes could be implemented to support food security and nutrition in the region's agrifood system by safeguarding the environment, protecting environmental assets essential to food production and supporting outcomes tied directly to nutrition and livelihoods outcomes.

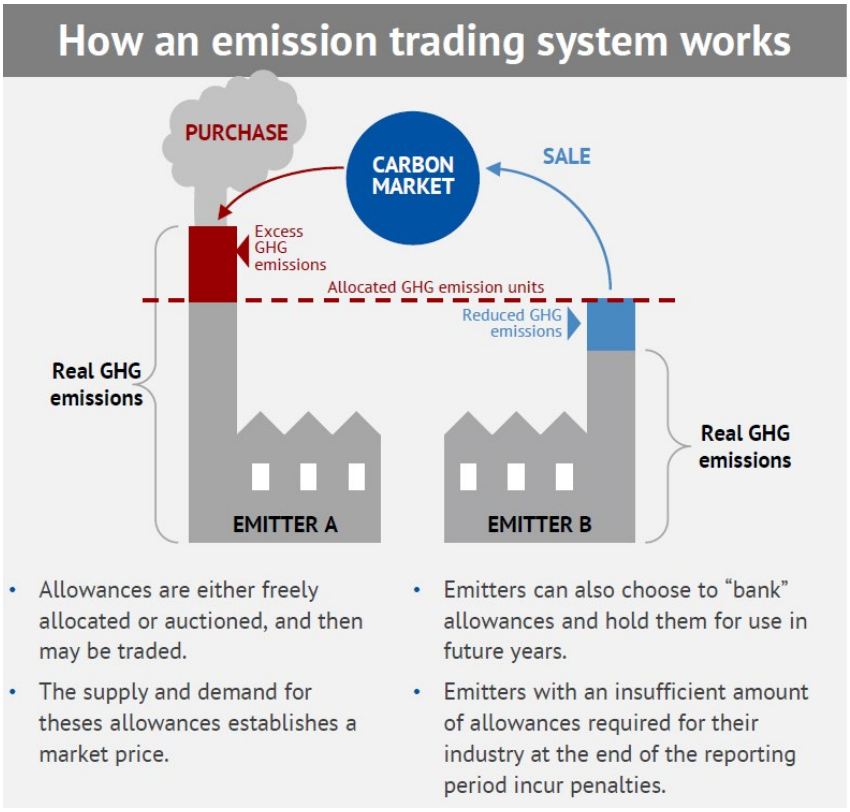
7.2.7 Carbon credits

Carbon credits are designed to serve as market mechanisms that help reduce overall carbon emissions (UNDESA, 2023). A carbon credit is an intangible instrument that represents a unit of carbon dioxide (or another greenhouse gas measured in carbon dioxide equivalence). "Because [greenhouse gases] are widespread in the Earth's atmosphere, the climate benefits from emission reductions, regardless of where such cutbacks occur" (UNDESA, 2023, p. 5).

Carbon credit units are certified by an international carbon accounting standard, and then they become tradeable. An emissions trading system is developed "based on the notion of tradeable pollution rights" (UNDESA, 2023, p. 5). Carbon emitters that have committed to emissions targets can then buy carbon credits if they decide to emit more than their quota. Sellers who plan not to reach their limit can "sell" a portion of their emissions quota to those who will exceed their quota (Figure 51).

Carbon credit markets can be used to support agrifood systems transformation for food security and nutrition through examples including but not limited to: 1) the expansion of agroforestry initiatives that produce healthy tree crops and sequester carbon, 2) agroforestry initiatives that promote soil health for nutritious food production, or 3) initiatives that increase food security and reduce carbon emissions by increasing local production of nutritious foods and also decreasing the carbon emissions associated with transport and storage.

FIGURE 51
HOW AN EMISSION TRADING SYSTEM WORKS



Source: UNDESA (United Nations Department of Economic and Social Affairs). 2023. *Transfer pricing of carbon offsets and carbon credits*. New York. https://financing.desa.un.org/sites/default/files/2023-10/CRP%2026%20ANNEX%20C%20%28Transfer%20Pricing%20of%20Carbon%20Offsets%20and%20Carbon%20Credits%29%20.pdf

Download: https://doi.org/10.4060/cd3550en-fig51

As an example, an agroforestry initiative that involves the integration of tree planting and soil health improvement for agricultural purposes in the Arab region might earn carbon credits from the planting of trees and trade these carbon credits for cash with an emitter that would otherwise exceed their carbon allowance (UNDESA, 2023).

7.2.8 Contract farming / advanced market commitments

Advanced market commitments in contract farming can reduce risk for farmers that are considering new sustainable farming methods. When firms that contract farmers to produce goods include sustainable standards, behaviours, or include climate resilient outcomes like planting trees, farmers are incentivized to comply.

If advanced market commitments are structured with foreign buyers, policy makers should carefully analyse the potential impacts on food security, as foreign contracts can push agricultural produce outside of the country. If these impacts are sufficiently mitigated, contract farming can provide financial benefits that enable countries to increase their purchasing power, including for food commodities. Contract farming helps mitigate the financial risk; thus, it can make investing in agriculture more

attractive to private actors who would otherwise avoid financing the agriculture sector. Contract farming also has a history of increasing the quality of agricultural practices and produce among farmers due to the high standards required for procurement, when properly developed, resulting in increased capacity among farmers for high-quality production. Contract farming is especially valuable in the areas of horticulture and high-value, nutritious crops that require advanced farming practices to cultivate. Instances of contract farming can be sought that require sustainable farming methods, that also conserve water, build soil, and safeguard natural systems, all while earning foreign cash, and developing new high-capacity farming methods. An example of contract farming with advance market commitments implemented by the Green Climate Fund (GCF) in the Sudan is outlined in Box 17.

BOX 17
EXAMPLE – THE GUMS FOR ADAPTATION AND MITIGATION IN THE SUDAN

Country: Sudan
Innovation: Contract farming
Implementing Party: Green Climate Fund
Timeline: November 2021–November 2026

The project enhances climate resilience and reduces greenhouse gas emissions from land use by planting gum Arabic trees. Planting gum Arabic trees alongside crops both reduces net greenhouse gas emissions from land use and protects crops against increased moisture stress.[i]

The farmers who plant the trees benefit from access to gum markets through "contract farming arrangements between smallholder farmer producer groups and gum exporting companies" (p. 10).[ii]

The project provides contract farming opportunities for farmers in gum cooperatives. The contracts incentivize participating farmers to adopt climate-resilient practices that aim to reduce the country's vulnerability to climate shocks.[iii]

Notes: GCF = Green Climate Fund.

Sources: [i] GCF (Green Climate Fund). n.d. SAP019 Gums for adaptation and mitigation in the Sudan (GAMS): Enhancing adaptive capacity of local communities and restoring carbon sink potential of the gum Arabic belt, expanding Africa's Great Green Wall. In: *Green Climate Fund*. [Cited 15 January, 2024]. Yeonsu-gu, Incheo, Republic of Korea. https://www.greenclimate.fund/project/sap019#documents; [ii] FAO. 2020. *Environmental and Social Action Plan (ESAP) Gums for Adaptation and Mitigation in Sudan (GAMS): Enhancing adaptive capacity of local communities and restoring carbon sink potential of the Gum Arabic belt, expanding Africa's Great Green Wall*. Rome. https://www.fao.org/3/cb1586en/cb1586en.pdf; [iii] FAO. 2023. *Food policy monitoring in the Near East and North Africa region.* 1st Quarter 2023 | Bulletin. Cairo.

7 .2.9 Debt swaps

Debt swaps are mechanisms that enable creditors to "forego a portion of their [debt] claims on the condition that the debtor country spends an agreed amount on approved social or environmental programmes" (Hurley, 2021, p. 13). Many countries that face critical food security and nutrition challenges are also heavily indebted. By enacting debt swaps, indebted governments can fund agrifood systems initiatives that contribute to ending hunger and malnutrition in all its forms, instead of being forced to prioritize debt obligations. In addition to being an impactful use of funds for programming in debtor

countries, debt swaps have the potential to benefit debtor countries by only requiring payment of a portion of the original financial liability.

Since 1998 at least 18 debt-for-education and debt-for-health swaps have been structured (Hurley, 2012). Successful debt swap food security and nutrition examples have been led in the Arab region by the World Food Programme (WFP), in both Egypt and Mauritania (FAO, IFAD, UNICEF, WFP and WHO, 2024). The Egypt debt swap deal was signed with Italy in 2009 and "channelled approximately USD 15 million worth of Egyptian debt towards a school feeding project implemented by WFP, significantly improving nutritional outcomes and educational participation" (FAO, IFAD, UNICEF, WFP and WHO, 2024, p. 117). The United Nations Economic and Social Commission for Western Asia (UNESCWA) has also launched a debt swap mechanism for Arab countries, which is outlined in Box 18.

Debt swaps should only be enacted if the initiatives that take over as the creditor are favoured by or welcomed by the debtor. Creditors should not coercively offload their receivables to programmes or organizations that are not welcomed by the debtor country.

BOX 18
EXAMPLE – THE UNESCWA DEBT SWAP MECHANISM FOR THE ARAB REGION

Country: Jordan, others across the Arab region
Innovation: Debt Swap Mechanism
Implementing Party: Economic and Social Commission for Western Asia (ESCWA)
Timeline: 2020–Present

In December 2020, the UNESCWA (United Nations Economic and Social Commission for Western Asia) launched the Debt Swap Mechanism (DSM), aimed at supporting Member States that are facing high debt burdens and need additional financing for the SDGs and climate action.

The DSM presents an opportunity for creditors and donors to support the efforts of developing countries in the Arab region to accelerate action towards achieving the SDGs and Paris Agreement commitments.

UNESCWA is mandated to provide technical assistance to member States to advance and accelerate progress towards the SDGs and climate action. UNESCWA has the convening power to liaise with member States debtors, creditors and donors to monitor and implement the swap funds transparently and accountably.

The UNESCWA Debt Swap Advisory Committee includes high-level experts, who have contributed to implementing debt swaps in the region or in other parts of the world to support the implementation of debt swap deals.

Jordan has been selected as a DSM pilot country, and UNESCWA has declared it is open to cooperating with other Member States to initiative discussions, formulate concrete proposals or to operate debt swap initiatives.

Notes: DSM = Debt Swap Mechanism; SDG = Sustainable Development Goal; UNESCWA = United Nations Economic and Social Commission for Western Asia.
Source: UNESCWA. 2021. *Debt swaps for climate and SDG finance in the Arab region.* Committee on Financing for Development in the States Members of the Economic and Social Commission for Western Asia Second session Cairo, 8-9 December 2021. UNESCWA, Cairo. https://repository.unescwa.org/server/api/core/bitstreams/a8db66a9-c5f6-4e92-99dd-88152609817b/content

7.3 DEVELOPING AN ENABLING ENVIRONMENT FOR AGRIFOOD INNOVATIVE FINANCING TOOLS TO THRIVE

For innovative finance instruments to support the transformation of agrifood systems for food security and nutrition, there needs to be an enabling environment that allows them to operate and that is conducive to a pipeline of investable projects or deals.

Policymakers can support innovative finance instruments in the pursuit of food security and nutrition by creating laws, regulations and policies that enable the development of instruments. Investment alone will not transform an agrifood system without projects, organizations and firms ready to receive investment capital and drive impact through increases in food security and nutrition. The pipeline of investable opportunities can be increased through the implementation of impactful incubators and accelerators. In this section regulatory policy and the facilitation of incubators and accelerators are discussed as elements of a food security and nutrition innovative finance enabling environment.

Regulatory and policy framework

Regulatory environments must enable the attraction of capital to innovative financing vehicles that can facilitate the agrifood system transformation to increased food security and nutrition. A map analysis may consider the existing regulatory environment and any additions or alterations in the regulations that need to be undertaken for the new vehicles of investment and financing. The regulatory framework should focus on creating a conducive environment for investment, addressing existing regulatory gaps, aligning with international standards and best practices, and being flexible enough to accommodate any new and innovative financing scheme. In this regard, FAO can develop a regional framework that can later be adopted by each Arab Member State as required. Some Member States may need to pass legislation to enable certain innovative financing activities in order to make a jurisdiction appropriate for innovative finance instruments. Simplification of trade regulation is also an important factor in the regulatory environment (FAO, IFAD, UNICEF, WFP and WHO, 2022).

To enable innovative financing, financial institutions should be appropriately regulated to ensure they provide accessible and affordable credit tailored to the needs of agrifood firms and farmers. In addition, appropriate legal frameworks should be established for government-backed credit guarantee schemes and agricultural insurance products, reducing investment risks.

Furthermore, clear and transparent policies should be developed and tailored specifically for foreign direct investment (FDI) for agrifood systems, including detailed guidelines on foreign ownership, repatriation of profits, and investment protection.

The monitoring and evaluation of various vehicles are also required. Appropriate bodies should be set up to monitor compliance with subsidy regulations and ensure alignment with WTO laws and local and regional commitments and laws. Metrics and systems for monitoring should be developed, and the effectiveness of investment and financing regulations should be periodically evaluated, ensuring they promote desired outcomes. Regular review should take place and should involve stakeholders to adapt regulations to evolving challenges and opportunities in the agrifood sector.

There are many other examples of legislation that can be passed and regulations that can be implemented that are beyond the scope of this report, and below are four examples: 1) the legal structure for WTO-compliant subsidy schemes, 2) policy to facilitate the flow of FDI for development, 3) the amendment of shareholder primacy laws, 4) and the establishment of contingent liability mechanisms for governments.

Legal structure for World Trade Organization (WTO)-compliant subsidy schemes

A legal structure for WTO-compliant subsidy schemes may be formulated, i.e. enacting laws that clearly classify different types of subsidies under the WTO AoA categories.[25] In addition, regulatory caps on Amber Box subsidies should be established, ensuring they remain within WTO limits and develop mechanisms to transition these subsidies to less trade-distorting forms. Furthermore, regulations should focus on subsidies that are permitted and can provide maximum benefits simultaneously, for example, research and development (R&D), infrastructure development, and environmental programmes.

Arab countries can actively participate in WTO negotiations to advocate for more flexible subsidy rules that consider the unique challenges of developing economies. For example, they can:

- seek enhanced special and differential treatment provisions that are proportionate with a given country's level of development and allow for greater flexibility in implementing subsidies critical for agricultural development; and
- support further development of the rules on agricultural subsidies, which aim to improve food security, rural development, and livelihoods while reducing trade distorting subsidies.

Policy to facilitate the flow of foreign direct investment (FDI) for development

The WTO has also developed the Investment Facilitation for Development, which has the objective to facilitate the flow of foreign direct investment (FDI). The document contains regulatory recommendations for transparency of investment measures, streamlining of administrative procedures, recommendations for improved cooperation, and articles to ensure responsible business conduct and prevent corruption (Jose, 2024). Unlike WTO multilateral agreements, this is currently a plurilateral agreement under the WTO and is binding only to those members that have accepted them (WTO, n.d.).

Amending shareholder primacy laws

Shareholder primacy laws exist in many jurisdictions, and they essentially mandate that corporations should prioritize generating profits for their shareholders at the expense of everything and everyone else (Armenti, Lyon and Menter, 2023). When profits for shareholders are prioritized above all else, it can put the well-being of the planet, corporations' workers, and other stakeholders at risk. Modifying and checking shareholder primacy laws can free organizations to take actions that are not only best for their shareholders' financial well-being, but for the planet, and for stakeholders who are impacted by a corporations' decisions. In this way, shareholders can still stand to make some financial returns, while the projects that they invest in are able to prioritize the health and well-being of their stakeholders and the environment. FAO has

25 See Annex V of this report.

created Principles for Responsible Investment in Agriculture, which are laid out below. In jurisdictions where shareholder primacy is unchecked, corporations could be forced by shareholders and courts not to follow the FAO principles, if such principles are considered contrary to shareholders' best interests. For a thriving agrifood system that is improving food security and nutrition, livelihoods, and planetary well-being, it is important to ensure that shareholder primacy laws do not impede the agrifood system's ability to progress.

While FAO's Principles for Responsible Investment in Agriculture and Food Systems are non-binding and voluntary, regulators and investors are encouraged to support investments that are in line with the principles and that:

- contribute to food security and nutrition;
- contribute to sustainable and inclusive economic development and the eradication of poverty;
- foster gender equality and women's empowerment;
- engage and empower youth;
- respect tenure of land, fisheries, and forests, and access to water;
- conserve and sustainably manage natural resources, increase resilience, and reduce disaster risks;
- respect cultural heritage and traditional knowledge, and support diversity and innovation;
- promote safe and healthy agriculture and food systems;
- incorporate inclusive and transparent governance structures, processes, and grievance mechanisms; and
- assess and address impacts and promote accountability (FAO, IFAD and WFP, 2014).

Contingent liabilities from governments

Some innovative finance instruments, like sustainability-linked bonds and results-based financing instruments require government payments that vary depending on the results that are achieved by the contracted organization. Some government funding protocols require set budgets that can be planned and forecasted well in advance. In order to back sustainability-linked bonds and results-based financing tools though, governments need to be able to approve what are often termed "contingent liabilities". Contingent liabilities are funding lines that the government is required to pay, but they are contingent on the occurrence of certain results or events taking place.

Incubators and accelerators to take ideas to innovation

Entrepreneurship in innovation is a challenging endeavour with a high rate of failure. While bringing together the elements that enable an innovation to successfully commercialize is fraught with challenges, programming that offers strategic and technical guidance can help entrepreneurs through these challenges through support programmes or by attracting investment capital.

Support programmes such as incubators and accelerators offer innovators early-stage financing, officespace and strategic support. These programmes make services available either for a fee, for free (leveraging concessional capital), or as in-kind

investment, where the incubator or accelerator can see a return on their investment in the future. Incubators and accelerators can support entrepreneurs through the early and middle stages of organization building until they achieve stable revenue streams. Start-up incubators and accelerators offer very early-stage funding and mentorship that can help take innovative ideas incrementally further along the path to commercial viability. While incubators and accelerators can have a positive influence on a startup, they cannot guarantee the success or commercialization of companies or organizations. The success of an innovation requires having a valuable product and business plan, a highly capable team, pathways to markets, and investors at different stages.

Several agrifood- and climate-focused incubators exist in the Arab region including the PepsiCo Greenhouse accelerator, HSA Yemen's Social Innovation Lab, ClimAccelerator Egypt, Flat6 Labs' Climate Finance Accelerator (further detailed in Box 18), Gulfood Green, and Gulfood Agrotech. Outside of the Arab region, there are incubators tailored to nutritious food development such as the Nutritious Foods Facility, which provides technical assistance and offers blended financing to small- and medium-sized enterprises (SMEs) that operate along the food value chain to increase access to nutritious foods through wider distribution and improved affordability, variety, and desirability, particularly for lower-income populations. Other incubators could be helpful from a transformative perspective towards food security and nutrition, including Womentum Accelerator, which seeks to invest in venture capital deals with female founders. Fintech incubators, even if they are not explicitly focused on agrifood systems, can support new tech companies to provide agrifood stakeholders with access to finance, insurance and technical support.

BOX 19
EXAMPLE – SOCIAL INNOVATION FOOD SECURITY INCUBATOR IN YEMEN

Country: Yemen
Innovation: Incubator
Implementing Party: HSA
Timeline: Forthcoming

Following a Food Security and AgriTech Hackathon, where teams will work with mentors, stakeholders and experts to develop prototypes and policy proposals, winners are selected to join the three-month incubator programme. The incubator offers teams a grant, alongside continued access to expertise from mentors and coaches to further develop their initiative and measure its impact. At the conclusion, a "demo day" is held where participants demonstrate their projects to investors, sponsors and stakeholders, as an opportunity to secure resources and further develop their projects.

The incubator focuses on food security solutions for the "19 million Yemeni's that are food insecure after 8 years of conflict" (HAS, 2024, p. 2). The incubator aims to source ideas from young female and male Yemeni innovators.

Source: HSA. 2024. *Concept note: impact and innovation initiative.* Yemen Social Innovation Lab. Dubai, United Arab Emirates.

Incubators and accelerators could be developed in the Arab region that directly support businesses along food value chains that contribute to food security and nutrition (Box 20).

BOX 20
EXAMPLE – EGYPT AGRITECH ACCELERATOR

Country: Egypt
Innovation: Accelerator
Implementing Party: Flat6Labs / SANAD Entrepreneurship Academy
Timeline: 2022–present

The programme will give start-ups access to capital, helping them to grow quickly and efficiently, and will encourage the development of technologies that make the agriculture industry sustainable, safe, and environmentally friendly. Each accelerator cohort will "assist 10 to 12 start-ups in each cycle to improve their business models, product development, customer relationships, marketing plans, and financial management".

Source: Flat6Labs, 2022. *Flat6Labs and Sanad Entrepreneurship Academy Launch Agritech Accelerator to support agri-digital start-ups across Egypt.* https://www.flat6labs.com/flat6labs-and-sanad-entrepreneurship-academy-launch-agritech-accelerator-program-to-support-agri-digital-start-ups-across-egypt/ [Cited: 12 February, 2024]

CHAPTER 8

THE WAY FORWARD: RECOMMENDATIONS TO FINANCE AGRICULTURAL TRANSFORMATION IN THE ARAB REGION

In the face of its food security and nutrition challenges, the Arab region must transform its agrifood systems to meet Sustainable Development Goal 2 of Zero Hunger and eradicating all forms of malnutrition. Such a transformation should be sustainable and equitable, caring for the natural systems that sustain food production, and should ensure that the transformation includes everyone, particularly people from low-income households, youth and women. Public support repurposing and adjustments will be important to increase the value of public money, but to finance the agrifood system transformation in its entirety, the region needs to raise additional capital sources.

Section 5 shows that the broader agriculture sector (agriculture, food, forestry, and fishing sectors) in Arab countries received USD 28.4 billion in financing (in 2021 in most cases): USD 4.9 billion ODA and OOF for food security and nutrition, specifically food consumption (in 2021); a USD 12.8 billion bank credit to agriculture, forestry, and fishing sectors (in 2021); a USD 10.4 billion domestic government expenditure (in 2021), and USD 0.3 billion FDI (in 2016). The current food security and nutrition challenges clearly suggest that this funding is not enough.

Increased financing is needed to implement the policies, investments and legislation necessary to transform agrifood systems for food security and nutrition. Member States should look at innovative finance, using concessional finance to catalyse private financing flows. Member States can take measures to ensure that there is a healthy, enabling environment to facilitate increased capital flows and the development of innovative financing mechanisms.

This section summarizes recommendations on the innovative finance approach to the agrifood systems transformation that will help on the food security and nutrition fronts, including engagement of both concessional capital and investment capital providers. It concludes by discussing how they can be used to transform agrifood systems.

8.1 REPURPOSE POLICY SUPPORT TO AGRIFOOD SYSTEMS

Before increasing the financing for agrifood systems transformation for food security and nutrition, current public finance must be used better; that is, with increased cost effectiveness in the economic, social and sustainable realms. Hence, repurposing existing domestic subsidies will be necessary to better redirect the financing flows available for implementing policies for agrifood systems transformation towards the eradication of hunger and malnutrition. As shown in this report, current subsidies – input and water subsidies, output subsidies, subsidies resulting in market price support, and fiscal subsidies to consumers – can be repurposed along the value chain to transform regional agrifood systems to be more resilient, sustainable and inclusive, contributing to meeting SDG Targets 2.1 and 2.2 while making healthy diets more affordable for all.

8.2 ATTRACT CONCESSIONAL CAPITAL TO CATALYSE INVESTMENT

In order to implement the innovative finance instruments discussed in this report, Arab countries should explore attracting concessional capital from international finance institutions (IFIs), as aid from donor governments, as aid from non-governmental donors, and public funding from within governments where there is fiscal space. Focus can be placed on partners who have implemented innovative finance instruments in the past, or those who have expressed a willingness to support them.

Capital guarantees can be sourced to reduce risk for prospective debt-providers, venture capital and private equity investors and insurance underwriters. Member States could partner with ODA providers from the United States Agency for International Development (USAID) and from the Swedish International Development Agency (SIDA), who regularly deploy partial credit guarantees to better integrate the private sector with their development efforts. GuarantCo is a multilateral guarantor that offers capital guarantees for infrastructure in Arab countries including Palestine and Jordan, and their mandate covers agriculture, water and energy infrastructure in Asia and Africa, which covers all Arab countries. Guarantco is funded by the governments of the United Kingdom of Great Britain and Northern Ireland, Switzerland, Australia, Sweden, the Kingdom of the Netherlands, France, and Canada (Guarantco, 2024). The UN Joint SDG Fund and the UN Multi-Partner trust Fund (MPTF) have also offered guarantees with loan programmes (Joint SDG Fund, 2023). The World Bank through the Multilateral Investment Guarantee Agency (MIGA) offers capital guarantees to countries facing conflict (Guarnaschelli *et al.,* 2014).

Grantors that can fund results-based financing (RBF) projects to support innovative non-profits can be engaged through donor relationships. So far ODA providers that have supported RBF deals in the Arab region or in other regions in the agrifood systems include the UK's Foreign, Commonwealth and Development Office (FCDO) and the Norwegian Agency for Development Cooperation (NORAD). The United Arab Emirates' government has also supported an RBF deal domestically. Multilateral agencies that have supported RBF deals in Arab countries or elsewhere in agrifood systems include the Common Fund for Commodities, World Bank Group Trust Fund for Gaza and West Bank (TFGWB), and the World Bank Group State and Peacebuilding Fund (SPF). Private foundations that

have supported similar RBF deals include the IKEA Foundation and Novo Nordisk (Oxford Government Outcomes Lab, 2024d). While these grantors have supported RBF deals in the past, many enterprising donors could be open to these emerging contract types.

8.3 ENGAGING INVESTMENT CAPITAL

Development financing can be attracted to investment opportunities that are delivered by for-profit companies or non-profit organizations. Development finance can be attracted on its own, or through opportunities that are harmonized with concessional capital, discussed in the section above. Investments can be made through debt, equity, Islamic Finance instruments or by investing in RBF deals. The following is a non-exhaustive list of financiers that could play a role in the Arab region's agrifood system transformation, by providing investment capital that can support efforts for eradicating hunger, food insecurity and malnutrition:

Debt facilities can be financed from multilateral institutions including IFAD, IsDB, AfDB, ADB, IFC, IBRD, and the EBRD. Bilateral debt can also be sourced from DAC or GCC partner governments.

- Green bonds can be raised as sovereign bonds, or they can also be raised by banks or by international financial institutions, as they have been by Banque Central Populaire in Morocco, and the African Development Bank, respectively. They can also be raised by corporates or local governments.
- Private equity (PE) and venture capital (VC) financing can be provided through DAC or GCC DFIs, Arab region PE/VC investors, international impact investors or angel investors.
- Sovereign wealth funds include the Qatar Investment Authority, Public Investment fund (Saudi Arabia) Investment Corporation of Dubai, Mubadala Investment Company, Abu Dhabi Developmental Holding Company PJSC, Emirates Investment Authority, and the Oman Investment Authority Saudi Abu Dhabi Investment Office.
- Development finance institutions include: the US Development Finance Corporation (DFC), British International Investment, Canada's FinDev, Swedfund, Norfund, Germany's KFW, Denmark's IFU, and France's AFD.
- Arab region investors include Crescent Enterprises Ventures, BRINC, Flat6Labs, Falak Start-ups, Kaust Innovation Ventures, Tarven Ventures, Shorooq Partners, and SOSV.
- International Impact Investors that could be investors include Clean Energy Ventures and CoPeace PBC (Impact Assets 50, 2024).
- Results-based funding investors in agrifood systems deals or RBF contracts in the Arab region include the Schmidt Family Foundation, Hawk Rock Foundation, Blue Parasol, and FJC – A Foundation of Philanthropic Funds.

8.4 CONCLUSION

Up to trillions of US dollars per year must flow to transform worldwide agrifood systems in order to improve food security and nutrition in a manner that is conducive to safeguarding livelihoods, human health and the planet's well-being. The Arab region is likely to require a disproportionate per capita amount of this funding, given its unique challenges with access to water, fertile soils and the presence of destabilizing conflict in many countries.

The solution to mobilize the funding required to improve food security and nutrition while protecting livelihoods and safeguarding the planet lies in repurposing current policy support and leveraging appropriate private capital, that is selectively engaged and deployed. Private capital lacks sufficient incentives and acceptable risk-profiles to finance all of the levers to enable agrifood systems to thrive; it also lacks certain incentives to safeguard food security and nutrition, livelihoods, human health and the planet. When private capital is combined with concessional capital from appropriate providers, through innovative financial instruments, in an appropriately regulated environment, capital can be unlocked to support an agrifood transformation that can improve food security and nutrition.

Given the challenges posed by climate change, protracted crises and conflicts, and the increasing demand for food, it is not only imperative but also makes a good business proposition, for the financing partners to channel their flows towards the Arab region for ensuring food security and nutrition. Some of the potential financing flows may have been hindered by lack of structured or specialized financing vehicles and enabling regulatory systems; however, a coordinated, collective and collaborative effort, facilitated by partners such as FAO may yield positive results for transforming agrifood systems in the Arab region.

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ANNEX 1
DATA TABLES

TABLE A-1
PREVALENCE OF UNDERNOURISHMENT (PERCENT)

	2000–2002	2004–2006	2009–2011	2014–2016	2018–2020	2019–2021	2020–2022	2021–2023
WORLD	**13.0**	**12.0**	**8.7**	**7.5**	**7.8**	**8.3**	**8.9**	**9.1**
Arab States	11.9	11.4	10.4	10.9	12.0	12.2	12.7	13.4
Low-income countries	25.3	24.5	21.7	24.8	27.6	27.5	28.0	29.3
Lower-middle-income countries	5.9	5.9	5.0	5.1	5.2	5.5	6.1	6.7
Upper-middle-income countries	15.2	12.9	10.9	12.8	14.2	14.7	15.3	15.4
High-income countries	5.2	5.1	7.1	4.3	4.1	3.8	3.5	3.1
Arab States LDCs	29.6	29.0	25.9	26.9	26.6	25.9	25.9	27.1
Countries affected by conflict	22.9	21.5	19.1	21.8	23.9	23.8	24.2	25.1
Countries not affected by conflict	5.9	5.8	5.5	5.0	5.3	5.6	6.1	6.5
Algeria	7.5	6.2	4.1	2.6	<2.5	<2.5	<2.5	<2.5
Bahrain	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Comoros	24.9	16.6	17.3	13.9	13.4	13.9	15.7	16.9
Djibouti	41.9	30.1	19.9	13.2	11.9	11.9	12.3	12.9
Egypt	4.8	5.9	5.2	6.3	6.7	6.9	7.6	8.5
Iraq	20.1	16.5	13.7	16.3	16.1	15.8	16.0	16.1
Jordan	8.9	5.2	6.2	7.0	13.1	15.8	17.3	17.9
Kuwait	2.6	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Lebanon	7.6	10.6	5.5	5.7	7.1	8.9	10.2	9.6
Libya	3.5	4.8	6.6	7.8	9.9	11.0	11.9	11.4
Mauritania	8.1	9.1	7.0	6.7	7.0	7.5	8.3	9.3
Morocco	5.8	4.8	4.8	3.7	4.1	5.3	6.4	6.9
Oman	13.3	10.2	6.3	7.2	5.8	5.7	5.7	5.7
Palestine	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	5.0	4.5	7.8	4.2	4.3	4.0	3.5	3.0
Somalia	70.2	70.0	71.4	60.0	53.3	51.1	50.7	51.3
Sudan	n.a.	n.a.	n.a.	9.2	10.8	11.1	11.0	11.4
Syrian Arab Republic	7.7	6.2	5.2	10.8	26.4	29.6	32.2	34.0
Tunisia	4.1	4.0	3.7	3.2	2.8	3.2	3.4	3.2
United Arab Emirates	3.3	7.8	7.1	4.6	3.3	3.1	3.4	2.7
Yemen	24.4	25.5	24.2	38.1	38.4	36.7	36.9	39.5

Note: The 2021–2023 average values reflect 2023 projections that are based on nowcasts.

Source: Based on FAO. 2024. FAOSTAT: *Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

TABLE A-2

NUMBER OF UNDERNOURISHED PEOPLE (MILLIONS)

	2000–2002	2004–2006	2009–2011	2014–2016	2018–2020	2019–2021	2020–2022	2021–2023
WORLD	**807.3**	**788.3**	**605.7**	**559.0**	**602.5**	**653.1**	**700.6**	**722.0**
Arab States	34.8	36.7	37.7	44.5	53.0	54.9	58.2	62.1
Low-income countries	18.2	19.7	20.1	24.8	30.6	31.3	32.7	35.2
Lower-middle-income countries	8.9	9.5	8.8	9.8	10.9	11.7	13.1	14.6
Upper-middle-income countries	6.1	5.8	5.4	7.6	9.2	9.7	10.3	10.5
High-income countries	1.6	1.8	3.3	2.3	2.4	2.2	2.1	1.8
Arab States LDCs	17.5	19.1	19.5	23.2	25.8	25.8	26.5	28.4
Countries affected by conflict	23.5	24.6	24.9	31.4	37.9	38.8	40.5	43.2
Countries not affected by conflict	11.3	12.1	12.9	13.1	15.1	16.1	17.7	19.0
Algeria	2.3	2.0	1.5	1.0	n.r.	n.r.	n.r.	n.r.
Bahrain	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Comoros	0.1	<0.1	0.1	0.1	0.1	0.1	0.1	0.1
Djibouti	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1
Egypt	3.5	4.6	4.6	6.2	7.1	7.4	8.3	9.4
Iraq	5.1	4.7	4.3	6.1	6.7	6.7	7.0	7.2
Jordan	0.5	0.3	0.4	0.7	1.4	1.7	1.9	2.0
Kuwait	<0.1	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Lebanon	0.3	0.5	0.3	0.4	0.4	0.5	0.6	0.5
Libya	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.8
Mauritania	0.2	0.3	0.2	0.3	0.3	0.3	0.4	0.4
Morocco	1.7	1.5	1.5	1.3	1.5	1.9	2.4	2.6
Oman	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3
Palestine	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	1.1	1.1	2.3	1.4	1.5	1.4	1.3	1.1
Somalia	6.4	7.3	8.6	8.3	8.5	8.4	8.7	9.0
Sudan	n.a.	n.a.	n.a.	3.5	4.7	4.9	5.0	5.3
Syrian Arab Republic	1.3	1.2	1.2	2.1	5.3	6.1	6.9	7.6
Tunisia	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4
United Arab Emirates	0.1	0.3	0.6	0.4	0.3	0.3	0.3	0.3
Yemen	4.7	5.4	6.0	10.9	12.1	11.8	12.2	13.3

Note: The 2021–2023 average values reflect 2023 projections that are based on nowcasts.

Source: Based on FAO. 2024. FAOSTAT: *Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

TABLE A-3
PREVALENCE OF FOOD INSECURITY (PERCENT)

	SEVERE FOOD INSECURITY				MODERATE OR SEVERE FOOD INSECURITY			
	2014–2016	2017–2019	2019–2021	2021–2023	2014–2016	2017–2019	2019–2021	2021–2023
WORLD	**7.6**	**8.7**	**10.3**	**10.9**	**21.7**	**24.4**	**27.7**	**29.0**
Arab States	12.0	12.6	13.3	15.1	32.6	34.8	36.4	39.0
Low-income countries	17.7	20.5	24.3	27.7	48.1	53.0	59.6	66.2
Lower-middle-income countries	8.9	7.7	7.7	9.8	26.2	27.4	27.1	29.4
Upper-middle-income countries	17.3	19.3	17.4	17.2	38.1	41.2	41.7	40.7
High-income countries	6.9	7.5	7.1	6.5	20.4	19.8	19.0	17.0
Arab States LDCs	16.8	17.1	19.6	21.8	47.6	51.1	57.6	64.9
Countries affected by conflict	18.3	21.1	22.5	24.6	46.6	50.8	54.6	58.3
Countries not affected by conflict	8.6	7.8	8.0	9.5	24.9	25.9	26.1	27.8
Algeria	13.0	9.3	6.2	5.6	22.9	17.6	19.0	18.9
Bahrain	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Comoros	n.a.	n.a.	27.4	27.4	n.a.	n.a.	79.7	79.7
Djibouti	n.a.	n.a.	16.5	16.5	n.a.	n.a.	49.2	49.2
Egypt	8.4	7.4	7.1	10.4	27.8	31.2	27.3	29.8
Iraq	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Jordan	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Kuwait	4.9	4.9	4.9	3.5	12.6	12.3	12.2	8.7
Lebanon	n.a.	4.2	10.2	11.7	n.a.	14.7	29.0	40.1
Libya	11.2	16.7	20.7	19.9	29.1	35.7	39.4	37.9
Mauritania	4.6	5.9	7.2	11.6	26.3	35.9	45.3	61.2
Morocco	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Oman	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palestine	n.a.	4.2	3.7	4.5	n.a.	26.8	28.4	27.4
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Somalia	n.a.	n.a.	41.7	43.5	n.a.	n.a.	77.4	79.7
Sudan	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Syrian Arab Republic	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Tunisia	9.1	9.7	12.6	11.3	18.2	22.1	28.0	26.7
United Arab Emirates	n.a.	n.a.	0.8	1.4	n.a.	n.a.	7.5	10.0
Yemen	n.a.	n.a.	n.a.	n.a.	45.7	46.0	58.5	72.5

Notes: n.a. = data not available; n.r. = not reported. The estimate for Palestine reflects the situation before the conflict erupted at the end of 2023.

Source: Based on FAO. 2024. FAOSTAT: *Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

TABLE A-4

NUMBER OF FOOD-INSECURE PEOPLE (MILLIONS)

	SEVERE FOOD INSECURITY				MODERATE OR SEVERE FOOD INSECURITY			
	2014–2016	2017–2019	2019–2021	2021–2023	2014–2016	2017–2019	2019–2021	2021–2023
WORLD	**568.0**	**666.8**	**804.6**	**868.6**	**1 611.1**	**1 877.2**	**2 168.5**	**2 311.7**
Arab States	48.9	54.3	59.7	70.0	132.5	150.5	163.7	181.5
Low-income countries	17.6	22.0	27.7	33.3	48.0	57.1	67.9	79.7
Lower-middle-income countries	17.3	15.7	16.3	21.2	50.8	56.0	57.2	64.1
Upper-middle-income countries	10.3	12.3	11.4	11.7	22.7	26.1	27.5	27.7
High-income countries	3.7	4.3	4.2	3.8	10.9	11.3	11.1	10.0
Arab States LDCs	14.5	16.1	19.5	22.9	41.0	48.1	57.4	68.0
Countries affected by conflict	26.3	32.7	36.7	42.2	67.0	78.6	89.0	100.1
Countries not affected by conflict	22.6	21.7	22.9	27.8	65.5	71.9	74.6	81.4
Algeria	5.2	3.9	2.7	2.5	9.0	7.4	8.2	8.5
Bahrain	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Comoros	n.a.	n.a.	0.2	0.2	n.a.	n.a.	0.6	0.7
Djibouti	n.a.	n.a.	0.2	0.2	n.a.	n.a.	0.5	0.6
Egypt	8.2	7.7	7.6	11.5	27.1	32.4	29.3	33.1
Iraq	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Jordan	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Kuwait	0.2	0.2	0.2	0.1	0.5	0.5	0.5	0.4
Lebanon	n.a.	0.2	0.6	0.6	n.a.	0.9	1.6	2.2
Libya	0.7	1.1	1.4	1.4	1.8	2.3	2.6	2.6
Mauritania	0.2	0.3	0.3	0.6	1.0	1.5	2.0	2.9
Morocco	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Oman	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palestine	n.a.	0.2	0.2	0.2	n.a.	1.3	1.4	1.4
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Somalia	n.a.	n.a.	6.9	7.7	n.a.	n.a.	12.8	14.0
Sudan	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Syrian Arab Republic	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Tunisia	1.1	1.2	1.5	1.4	2.1	2.6	3.4	3.3
United Arab Emirates	n.a.	n.a.	<0.1	0.1	n.a.	n.a.	0.7	0.9
Yemen	n.a.	n.a.	n.a.	n.a.	13.0	14.2	18.9	24.4

Notes: n.a. = data not available; n.r. = not reported. The estimate for Palestine reflects the situation before the conflict erupted at the end of 2023.

Source: Based on FAO. 2024. FAOSTAT: *Suite of Food Security Indicators*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

TABLE A-5
PREVALENCE OF FOOD INSECURITY BY SEX (PERCENT)

	SEVERE FOOD INSECURITY				MODERATE OR SEVERE FOOD INSECURITY			
	MEN		WOMEN		MEN		WOMEN	
	2014–2016	2021–2023	2014–2016	2021–2023	2014–2016	2021–2023	2014–2016	2021–2023
WORLD	**6.4**	**9.1**	**7.1**	**10.4**	**18.7**	**24.9**	**20.4**	**27.3**
Arab States	10.4	13.7	12.7	15.6	29.0	35.8	34.0	39.9
Low-income countries	16.8	27.6	17.9	28.5	46.8	65.2	48.6	67.2
Lower-middle-income countries	7.9	9.2	10.0	10.3	23.3	28.2	28.9	30.6
Upper-middle-income countries	14.6	14.4	19.0	19.9	34.0	36.3	40.5	45.2
High-income countries	6.9	7.2	6.5	5.2	20.7	18.6	19.5	14.6
Arab States LDCs	15.8	20.9	17.1	21.9	46.2	63.4	48.3	65.8
Countries affected by conflict	16.8	23.3	19.3	26.2	44.4	55.4	48.0	60.5
Countries not affected by conflict	7.7	9.1	9.4	9.8	22.5	26.5	27.1	28.7
Algeria	11.9	7.0	14.1	4.3	21.6	20.9	24.2	16.9
Bahrain	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Comoros	n.a.	26.4	n.a.	28.4	n.a.	79.5	n.a.	80.0
Djibouti	n.a.	17.6	n.a.	15.4	n.a.	49.3	n.a.	49.2
Egypt	7.0	9.0	9.9	11.7	23.2	27.1	32.3	32.5
Iraq	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Jordan	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Kuwait	6.4	4.2	3.3	2.7	15.7	9.6	9.5	7.8
Lebanon	n.a.	11.2	n.a.	12.2	n.a.	39.3	n.a.	40.8
Libya	9.0	18.4	13.4	21.3	24.1	35.8	34.1	40.0
Mauritania	4.4	11.0	4.9	12.3	25.1	60.2	27.5	62.3
Morocco	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Oman	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palestine	n.a.	3.8	n.a.	5.1	n.a.	25.3	n.a.	29.5
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Somalia	n.a.	43.5	n.a.	43.5	n.a.	79.7	n.a.	79.7
Sudan	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Syrian Arab Republic	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Tunisia	8.8	11.8	9.5	10.7	18.3	27.0	18.0	26.4
United Arab Emirates	n.a.	1.5	n.a.	1.2	n.a.	11.8	n.a.	8.3
Yemen	n.a.	n.a.	n.a.	n.a.	42.6	68.9	48.7	76.1

Notes: n.a. = data not available; n.r. = not reported. The estimate for Palestine reflects the situation before the conflict erupted at the end of 2023.

Source: Based on FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS.

TABLE A-6

PREVALENCE OF STUNTING AMONG CHILDREN UNDER 5 YEARS OF AGE (PERCENT)

	2000	2005	2010	2012	2015	2019	2020	2022
WORLD	**33.0**	**31.1**	**27.9**	**26.3**	**24.6**	**23.0**	**22.7**	**22.3**
Arab States	28.0	27.1	25.1	23.7	22.1	20.8	20.5	19.9
Low-income countries	40.7	40.6	37.3	35.7	34.5	32.8	32.2	31.1
Lower-middle-income countries	24.2	21.6	20.3	19.3	17.7	16.5	16.2	15.6
Upper-middle-income countries	24.9	24.8	21.8	19.7	17.3	15.0	14.3	13.3
High-income countries	10.8	10.3	10.3	10.2	10.4	10.8	10.9	10.8
Arab States LDCs	43.5	42.7	39.3	37.4	35.2	32.9	32.3	31.2
Countries affected by conflict	36.8	36.6	33.5	31.6	29.8	28.0	27.5	26.5
Countries not affected by conflict	21.5	19.5	18.5	17.6	16.3	15.4	15.2	14.7
Algeria	22.3	18.1	13.6	12.1	10.7	9.4	9.1	8.6
Bahrain	10.9	9.0	7.3	6.8	6.2	5.4	5.3	5.0
Comoros	43.9	41.8	35.5	31.9	27.2	21.7	20.6	18.8
Djibouti	33.7	35.8	32.2	29.6	26.1	21.5	20.5	18.7
Egypt	25.9	24.4	25.4	24.6	22.5	21.4	21.1	20.4
Iraq	27.9	27.1	22.5	19.6	16.0	12.2	11.3	9.9
Jordan	10.8	9.8	8.3	7.7	7.4	7.2	7.1	6.6
Kuwait	4.0	4.1	4.5	4.8	5.4	6.3	6.5	6.9
Lebanon	17.8	16.4	14.5	11.7	9.4	8.2	7.9	7.4
Libya	18.4	21.2	26.3	30.0	37.7	47.9	49.6	52.2
Mauritania	39.3	32.1	27.3	26.0	25.1	23.8	23.3	22.1
Morocco	25.2	20.3	16.8	15.8	14.8	13.8	13.4	12.8
Oman	14.6	12.0	11.2	11.1	11.7	12.5	12.6	12.7
Palestine	9.9	11.4	11.1	10.3	8.8	7.7	7.6	7.5
Qatar	9.6	8.1	6.6	6.2	5.8	5.0	4.8	4.4
Saudi Arabia	11.4	11.3	11.7	11.8	12.2	12.6	12.6	12.4
Somalia	33.0	33.9	30.1	27.6	24.2	20.3	19.4	18.0
Sudan	39.3	37.8	36.5	36.0	36.2	36.5	36.4	36.0
Syrian Arab Republic	28.3	29.7	27.2	26.4	27.6	27.3	26.7	25.4
Tunisia	12.6	10.9	9.3	8.8	8.6	8.8	8.8	8.6
Yemen	55.4	56.1	50.4	46.9	42.3	37.6	36.7	35.1

Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank.
https://data.unicef.org/resources/jme-report-2023

TABLE A-7

PREVALENCE OF WASTING AMONG CHILDREN UNDER 5 YEARS OF AGE (PERCENT)

	2000	2005	2010	2012	2015	2019	2020	2022
WORLD	**8.7**	**8.3**	**7.7**	**7.5**	**7.2**	**6.9**	**6.8**	**6.8**
Arab States								7.1
Low-income countries								14.6
Lower-middle-income countries								5.3
Upper-middle-income countries								4.1
High-income countries								5.0
Arab States LDCs								13.8
Countries affected by conflict								10.4
Countries not affected by conflict								5.0
Algeria	3.1			4.1		2.7		
Comoros	13.3			11.2				
Djibouti						10.6		
Egypt		5.3						
Iraq	6.6							
Jordan				2.4		0.6		
Kuwait		3.3	2.4	2.4	3.0	2.0	2.3	
Mauritania	15.3			11.7	14.8	11.1	6.4	13.6
Morocco						2.3		
Palestine	2.0		3.3				1.3	
Saudi Arabia					5.9	5.1	4.5	
Sudan			15.4					
Syrian Arab Republic	4.9		11.5					
Tunisia	2.9			2.8				
Yemen		13.8						

Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition.* New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank.
https://data.unicef.org/resources/jme-report-2023

TABLE A-8

PREVALENCE OF OVERWEIGHT AMONG CHILDREN UNDER 5 YEARS OF AGE (PERCENT)

	2000	2005	2010	2012	2015	2019	2020	2022
WORLD	**5.3**	**5.6**	**5.5**	**5.5**	**5.5**	**5.6**	**5.6**	**5.6**
Arab States	8.8	10.5	10.3	10.0	9.6	9.4	9.4	9.5
Low-income countries	6.7	7.1	6.0	5.3	4.1	3.3	3.3	3.4
Lower-middle-income countries	11.3	13.7	13.5	13.2	13.0	13.5	13.7	14.2
Upper-middle-income countries	8.5	11.5	11.9	11.1	10.0	9.1	8.9	8.5
High-income countries	3.9	5.6	7.7	8.5	9.4	9.9	9.8	9.5
Arab States LDCs	4.2	4.0	2.8	2.5	2.3	2.3	2.3	2.4
Countries affected by conflict	7.3	8.5	7.7	7.0	5.9	5.0	4.9	4.8
Countries not affected by conflict	10.0	12.2	12.4	12.3	12.3	12.8	12.9	13.3
Algeria	12.8	15.4	14.6	13.5	12.2	11.7	11.7	11.9
Comoros	13.5	16.4	12.8	11.5	10.1	8.7	8.3	7.7
Djibouti	1.2	1.3	1.2	1.3	1.5	2.2	2.5	3.2
Egypt	12.1	14.8	15.7	15.7	16.2	17.3	17.8	18.8
Iraq	7.8	10.4	10.3	9.5	8.4	7.2	6.9	6.4
Jordan	4.5	5.3	5.9	5.9	6.3	7.6	8.1	9.5
Kuwait	7.7	8.0	8.6	9.0	9.6	10.6	10.9	11.7
Lebanon	8.4	9.6	8.6	8.5	8.3	8.1	8.1	8.3
Libya	16.2	22.9	26.5	26.4	26.6	27.6	27.9	28.7
Mauritania	3.5	3.7	2.0	1.9	1.9	1.9	1.9	2.0
Morocco	13.3	14.5	11.3	9.5	7.5	5.7	5.4	4.9
Oman	1.7	1.8	2.5	2.9	3.7	5.1	5.6	6.5
Palestine	6.1	7.8	7.9	7.6	7.6	8.0	8.1	8.3
Qatar	10.0	11.2	12.1	12.2	12.1	12.0	11.9	11.7
Saudi Arabia	3.6	5.6	8.2	9.3	10.5	10.9	10.7	10.1
Somalia	4.5	4.5	3.3	3.0	2.7	2.7	2.7	2.7
Sudan	3.6	3.5	2.6	2.4	2.3	2.5	2.5	2.7
Syrian Arab Republic	17.0	19.7	18.3	16.6	13.8	11.9	11.7	11.7
Tunisia	4.0	7.4	11.4	12.7	14.8	17.6	18.2	19.0
Yemen	4.7	4.2	2.9	2.4	1.9	1.7	1.6	1.7

Source: Based on UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition.* New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank.
https://data.unicef.org/resources/jme-report-2023

TABLE A-9

PREVALENCE OF ANAEMIA AMONG WOMEN AGED 15 TO 49 YEARS (PERCENT)

	2000	2005	2010	2012	2015	2017	2018	2019
WORLD	**31.2**	**29.9**	**28.6**	**28.5**	**28.8**	**29.3**	**29.6**	**29.9**
Arab States	38.1	36.2	33.8	33.2	32.8	32.9	33.0	33.2
Low-income countries	47.3	45.4	43.2	43.0	43.3	43.6	43.8	43.9
Lower-middle-income countries	35.5	34.0	31.8	31.2	30.7	30.5	30.5	30.6
Upper-middle-income countries	38.0	34.8	30.8	29.6	28.8	28.8	28.8	29.0
High-income countries	31.2	28.6	26.1	25.7	25.9	26.4	26.7	27.1
Arab States LDCs	50.5	48.7	46.6	46.1	45.8	45.8	45.8	45.9
Countries affected by conflict	44.5	42.2	39.6	39.0	38.7	38.9	39.0	39.2
Countries not affected by conflict	34.9	33.2	30.8	30.2	29.8	29.8	29.8	29.9
Algeria	37.6	35.2	33.3	32.9	32.8	33.0	33.1	33.3
Bahrain	43.3	40.1	36.9	36.3	35.7	35.6	35.5	35.4
Comoros	38.4	35.8	33.2	32.8	33.0	33.3	33.5	33.8
Djibouti	37.2	33.3	31.0	31.0	31.3	31.8	32.0	32.3
Egypt	35.5	34.5	31.9	31.0	29.7	28.8	28.5	28.3
Iraq	39.5	35.9	31.2	29.8	28.6	28.4	28.4	28.6
Jordan	30.4	29.0	29.3	30.5	33.2	35.6	36.6	37.7
Kuwait	24.1	21.2	20.4	21.1	22.4	23.1	23.4	23.7
Lebanon	26.6	25.6	25.0	25.4	26.7	27.5	27.9	28.3
Libya	32.6	30.7	28.8	28.6	28.9	29.4	29.6	29.9
Mauritania	48.7	47.7	45.9	45.1	44.2	43.7	43.5	43.3
Morocco	35.3	33.2	30.5	29.8	29.5	29.6	29.7	29.9
Oman	37.8	33.8	29.7	29.0	28.8	29.1	29.1	29.1
Palestine	36.7	34.5	31.3	30.5	30.2	30.5	30.7	31.0
Qatar	31.4	29.2	27.4	27.1	27.2	27.6	27.9	28.1
Saudi Arabia	31.7	29.2	26.4	25.8	26.0	26.8	27.1	27.5
Somalia	47.9	46.6	44.6	44.0	43.5	43.3	43.2	43.1
Sudan	42.9	40.2	37.4	36.8	36.3	36.4	36.4	36.5
Syrian Arab Republic	36.8	34.4	32.1	31.7	31.9	32.2	32.5	32.8
Tunisia	31.5	30.9	30.3	30.4	30.8	31.4	31.7	32.1
United Arab Emirates	24.3	23.4	23.8	24.0	23.7	23.7	24.0	24.3
Yemen	66.1	64.3	62.1	61.5	61.3	61.4	61.5	61.5

Note: The estimates refer to women aged 15 to 49 years, including pregnant, non-pregnant women and lactating women and were adjusted for altitude and smoking. WHO defines anaemia in pregnant women as a haemoglobin concentration <110 g/L at sea level, and anaemia in non-pregnant women and lactating women as a haemoglobin concentration <120 g/L.

Source: Based on WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children

TABLE A-10

PREVALENCE OF OBESITY AMONG ADULTS (PERCENT)

	2000	2005	2010	2012	2015	2019	2020	2022
WORLD	**8.7**	**10.1**	**11.5**	**12.1**	**13.1**	**14.5**	**14.9**	**15.8**
Arab States	19.6	22.7	25.7	26.8	28.5	30.6	31.1	32.1
Low-income countries	10.3	12.5	14.8	15.6	16.1	17.9	18.5	19.7
Lower-middle-income countries	20.4	23.6	26.6	27.8	29.6	32.0	32.6	33.8
Upper-middle-income countries	25.8	29.5	32.7	34.0	35.8	38.1	38.6	39.7
High-income countries	26.3	30.0	33.2	34.1	35.6	37.4	37.8	38.6
Arab States LDCs	6.2	7.9	9.8	10.6	11.9	13.9	14.5	15.7
Countries affected by conflict	15.2	17.9	20.3	21.3	22.5	24.5	25.1	26.2
Countries not affected by conflict	21.4	24.8	28.0	29.2	30.9	33.2	33.7	34.7
Algeria	13.4	15.6	17.8	18.8	20.2	22.3	22.8	23.8
Bahrain	24.4	27.8	30.6	31.7	33.1	34.9	35.3	36.1
Comoros	5.7	7.7	9.8	10.7	12.2	14.4	15.0	16.3
Djibouti	3.8	5.1	6.5	7.1	8.2	9.8	10.3	11.3
Egypt	27.8	32.1	35.9	37.4	39.6	42.4	43.0	44.3
Iraq	26.1	29.7	33.1	34.4	36.3	38.8	39.3	40.5
Jordan	30.0	33.2	35.6	36.3	37.2	38.0	38.2	38.5
Kuwait	35.5	38.5	40.3	40.7	40.9	41.1	41.2	41.4
Lebanon	20.1	23.0	25.4	26.2	27.4	28.7	29.1	29.8
Libya	24.3	28.1	30.9	32.0	33.5	35.4	35.8	36.7
Mauritania	9.1	12.3	15.2	16.2	17.9	20.5	21.2	22.7
Morocco	11.3	13.5	15.7	16.7	18.2	20.2	20.7	21.8
Oman	18.2	21.3	24.1	24.9	26.5	29.0	29.8	31.1
Palestine	27.3	30.6	33.3	34.2	35.4	36.7	37.0	37.6
Qatar	26.0	30.4	34.4	36.1	38.3	41.3	42.0	43.1
Saudi Arabia	26.6	30.5	33.8	35.0	36.8	39.1	39.6	40.6
Somalia	5.3	6.9	8.8	9.6	10.9	12.9	13.4	14.6
Sudan	6.7	8.7	10.7	11.5	12.8	15.0	15.7	17.0
Syrian Arab Republic	22.7	25.7	28.2	29.2	30.8	32.7	33.1	33.9
Tunisia	16.3	18.8	21.1	22.0	23.5	25.4	25.9	26.8
United Arab Emirates	25.4	28.2	32.4	31.9	31.9	32.0	32.0	32.1
Yemen	5.4	6.8	8.4	9.2	10.4	12.2	12.7	13.7

Source: Based on WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024].
https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(age-standardized-estimate)-(-).

TABLE A-11

PREVALENCE OF EXCLUSIVE BREASTFEEDING AMONG INFANTS 0–5 MONTHS OF AGE (PERCENT)

	2000	2005	2012	2015	2020	2021	2022
WORLD			**37.1**				**48.0**
Arab States			34.6				32.7
Low-income countries			33.2				n.a.
Lower-middle-income countries			39.3				34.6
Upper-middle-income countries			20.4				27.2
High-income countries			n.a.				n.a.
Arab States LDCs			29.4				n.a.
Countries affected by conflict			28.7				n.a.
Countries not affected by conflict			38.9				34.6
Algeria	12.6		25.4				
Comoros	10.2		11.4				
Djibouti			12.4				
Egypt	56.1	41.1				40.2	
Iraq	11.6						
Jordan			22.7				
Lebanon						22.1	
Mauritania	20.2			41.1	40.9		
Palestine					38.9		
Qatar			29.3				
Tunisia			8.5				

Source: Based on UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

TABLE A-12
PREVALENCE OF LOW BIRTHWEIGHT (PERCENT)

	2000	2005	2010	2012	2015	2019	2020
WORLD	**16.6**	**16.1**	**15.3**	**15.0**	**14.8**	**14.6**	**14.7**
Arab States	13.1	13.1	13.1	13.1	13.2	13.2	13.3
Low-income countries	13.5	13.5	13.5	13.5	13.6	13.7	13.7
Lower-middle-income countries	14.3	14.2	14.1	14.1	14.2	14.2	14.2
Upper-middle-income countries	10.2	10.5	10.7	10.7	10.8	10.9	10.9
High-income countries	9.8	10.0	10.3	10.4	10.6	10.6	10.7
Arab States LDCs	13.8	13.7	13.7	13.6	13.6	13.6	13.7
Countries affected by conflict	12.6	12.7	12.8	12.8	12.8	12.9	13.0
Countries not affected by conflict	13.4	13.4	13.4	13.4	13.6	13.5	13.5
Algeria	6.8	6.8	6.9	6.9	7.0	7.2	7.2
Bahrain	10.1	10.7	11.4	11.6	11.9	12.3	12.4
Comoros	25.5	25.0	24.4	24.1	23.8	23.2	23.0
Iraq	10.3	10.5	10.7	10.8	10.8	10.9	10.9
Jordan	14.6	15.6	16.5	17.0	17.6	18.7	18.9
Kuwait	10.1	11.0	12.0	12.4	13.2	14.1	14.4
Lebanon	12.3	12.4	12.1	12.2	12.4	12.6	12.6
Morocco	18.3	17.5	16.5	16.1	15.6	14.9	14.8
Oman	13.5	13.4	13.3	13.3	13.3	13.2	13.2
Palestine	9.0	9.4	9.7	9.8	10.0	10.3	10.4
Qatar	9.9	9.9	9.9	9.9	9.9	10.0	10.0
Tunisia	7.8	7.9	8.0	8.1	8.2	8.2	8.2
United Arab Emirates	12.9	13.0	13.7	13.9	13.9	13.9	13.9

Source: Based on UNICEF and WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight

TABLE A-13
AFFORDABILITY OF A HEALTHY DIET

	PROPORTION OF THE POPULATION UNABLE TO AFFORD A HEALTHY DIET (PERCENT)						NUMBER OF PEOPLE UNABLE TO AFFORD A HEALTHY DIET (MILLION)					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
WORLD	**40.3**	**38.0**	**36.4**	**37.9**	**36.4**	**35.4**	**3 062.3**	**2 916.1**	**2 823.4**	**2 968.0**	**2 876.4**	**2 826.3**
Arab States	35.5	36.4	35.5	35.6	32.8	32.6	150.3	157.4	157.0	159.9	149.7	151.3
Low-income countries	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Lower-middle-income countries	33.5	33.9	31.4	30.2	28.8	30.2	67.3	69.3	65.3	63.8	61.7	65.7
Upper-middle-income countries	21.2	21.2	20.2	26.2	26.0	24.3	13.2	13.4	13.0	17.2	17.4	16.6
High-income countries	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Arab States LDCs	46.1	50.3	56.1	56.0	43.3	36.4	42.2	47.4	54.4	55.8	44.3	38.2
Countries affected by conflict	44.2	46.2	48.6	51.1	45.0	41.2	66.6	71.4	77.2	83.4	75.3	70.6
Countries not affected by conflict	31.6	32.0	29.7	28.5	27.2	28.5	86.4	89.1	84.0	81.6	78.6	83.7
Algeria	17.8	17.0	16.4	18.3	18.7	19.7	7.3	7.1	7.0	7.9	8.3	8.8
Bahrain	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Comoros	63.5	n.a.	n.a.	n.a.	60.8	n.a.	0.5	n.a.	n.a.	n.a.	0.5	n.a.
Djibouti	54.5	53.0	52.5	53.4	52.7	53.6	0.6	0.6	0.6	0.6	0.6	0.6
Egypt	53.0	54.2	49.4	44.9	42.3	44.4	53.9	56.2	52.2	48.3	46.2	49.3
Iraq	23.1	23.1	21.9	28.5	28.4	26.7	9.2	9.4	9.1	12.1	12.4	11.9
Jordan	13.0	12.9	12.9	14.4	13.6	13.0	1.3	1.3	1.4	1.6	1.5	1.5
Kuwait	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lebanon	n.a.	n.a.	n.a.	0.1	1.8	2.9	n.a.	n.a.	n.a.	<0.1	0.1	0.2
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mauritania	49.9	49.9	50.4	52.1	54.4	55.2	2.1	2.1	2.2	2.3	2.5	2.6
Morocco	13.0	12.4	11.7	13.8	12.0	12.7	4.6	4.5	4.3	5.1	4.4	4.8
Oman	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Palestine	5.0	5.1	5.5	6.8	5.4	4.4	0.2	0.2	0.3	0.3	0.3	0.2
Qatar	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Saudi Arabia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Somalia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sudan	45.2	50.0	56.7	56.3	41.6	33.7	18.4	21.0	24.5	25.0	19.0	15.8
Syrian Arab Republic	n.a.	n.a.	n.a.	n.a.	86.2	n.a.	n.a.	n.a.	n.a.	n.a.	18.4	n.a.
Tunisia	7.7	7.2	6.9	8.1	7.3	7.3	0.9	0.9	0.8	1.0	0.9	0.9
United Arab Emirates	1.0	2.5	2.1	<0.1	<0.1	2.3	0.1	0.2	0.2	<0.1	<0.1	0.2
Yemen	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Based on FAO. 2024. FAOSTAT: *Cost and Affordability of a Healthy Diet (CoAHD)*. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

TABLE A-14

COST OF A HEALTHY DIET (PPP INTERNATIONAL DOLLARS PER PERSON PER DAY)

	2017	2018	2019	2020	2021	2022
WORLD	**3.13**	**3.17**	**3.25**	**3.35**	**3.56**	**3.96**
Arab States	2.94	2.92	2.99	3.12	3.53	3.77
Low-income countries	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Lower-middle-income countries	3.13	3.20	3.24	3.44	3.85	4.48
Upper-middle-income countries	3.00	3.07	3.14	3.09	3.12	3.50
High-income countries	2.46	2.53	2.62	2.76	2.93	3.24
Arab States LDCs	3.02	3.14	3.30	3.30	3.22	3.48
Countries affected by conflict	2.95	3.08	3.25	3.18	2.89	2.95
Countries not affected by conflict	2.83	2.90	2.96	3.11	3.40	3.88
Algeria	4.06	4.13	4.10	4.06	4.36	4.89
Bahrain	3.07	3.15	3.25	3.48	3.67	4.22
Comoros	4.56	n.a.	n.a.	n.a.	4.55	n.a.
Djibouti	2.79	2.86	2.98	3.10	3.27	3.71
Egypt	3.83	3.88	3.88	3.73	3.88	4.55
Iraq	3.38	3.47	3.54	3.54	3.67	4.03
Jordan	2.94	2.98	3.01	3.12	3.22	3.45
Kuwait	2.17	2.21	2.25	2.34	2.59	2.89
Lebanon	1.47	1.49	1.53	2.97	5.01	6.76
Libya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Mauritania	3.73	3.86	3.95	3.99	4.27	4.86
Morocco	2.60	2.64	2.65	2.69	2.79	3.14
Oman	2.32	2.34	2.41	2.49	2.59	2.87
Palestine	2.62	2.66	2.74	2.63	2.58	2.98
Qatar	2.31	2.36	2.42	2.51	2.63	2.82
Saudi Arabia	2.49	2.65	2.82	3.00	3.22	3.52
Somalia	n.a.	n.a.	n.a.	n.a.	4.14	n.a.
Sudan	2.53	2.70	2.96	2.82	2.12	1.86
Syrian Arab Republic	n.a.	n.a.	n.a.	n.a.	5.11	n.a.
Tunisia	3.66	3.74	3.82	3.83	4.03	4.46
United Arab Emirates	2.42	2.50	2.55	2.74	2.86	3.14
Yemen	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Based on FAO. 2024. FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD. Licence: CC-BY-4.0.

ANNEX 2
DEFINITIONS OF INDICATORS

Undernourishment

Undernourishment is defined as the condition of an individual whose habitual food consumption is insufficient to provide, on average, the amount of dietary energy required to maintain a normal, active and healthy life. The indicator is reported as a prevalence and is denominated as "prevalence of undernourishment", which is an estimate of the percentage of individuals in the total population who are in a condition of undernourishment.

Data source: FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

Food insecurity as measured by the Food Insecurity Experience Scale

Food insecurity as measured by the Food Insecurity Inexperience Scale (FIES) indicator refers to limited access to food, at the level of individuals or households, due to lack of money or other resources. The severity of food insecurity is measured using data collected with the FIES survey module (FIES-SM), a set of eight questions asking respondents to self-report conditions and experiences typically associated with limited access to food. For purposes of annual SDG monitoring, the questions are asked with reference to the 12 months preceding the survey.

FAO provides estimates of food insecurity at two different levels of severity: moderate or severe food insecurity and severe food insecurity. People affected by moderate food insecurity face uncertainties about their ability to obtain food and have been forced to reduce, at times during the year, the quality and/or quantity of food they consume due to lack of money or other resources. Severe food insecurity refers to situations when individuals have likely run out of food, experienced hunger and, at the most extreme, gone for days without eating. The prevalence of moderate or severe food insecurity is the combined prevalence of food insecurity at both severity levels.

Data source: FAO. 2024. FAOSTAT: Suite of Food Security Indicators. [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/FS. Licence: CC-BY-4.0.

Stunting, wasting and overweight in children under 5 years of age

Stunting (children under five years of age): height/length (cm) for age (months) < -2 SD of the WHO Child Growth Standards median. Low height-for-age is an indicator that reflects the cumulative effects of undernutrition and infections since and even before birth. It may be the result of long-term nutritional deprivation, recurrent infections and lack of water and sanitation infrastructures. Stunted children are at greater risk for illness and death. Stunting often adversely affects the cognitive and physical growth of children, making for poor performance in school and reduced intellectual capacity.

Prevalence cut-off values for public health significance are as follows: very low < 2.5 percent; low 2.5–9.9 percent; medium 10–19.9 percent; high 20–29.9 percent; very high ≥ 30 percent.

Wasting: weight (kg) for height/length (cm) < -2 SD of the WHO Child Growth Standards median. Low weight-for-height is an indicator of acute weight loss or a failure to gain weight and can be the result of insufficient food intake and/or an incidence of infectious diseases, especially diarrhoea. Wasting indicates acute malnutrition and increases the risk of death in childhood from infectious diseases such as diarrhoea, pneumonia and measles.

Prevalence cut-off values for public health significance for wasting are as follows: very low < 2.5 percent; low 2.5–4.9 percent; medium 5–9.9 percent; high 10–14.9 percent; very high ≥ 15 percent.

Overweight: weight (kg) for height/ length (cm) > +2 SD of the WHO Child Growth Standards median. This indicator reflects excessive weight gain for height generally due to energy intakes exceeding children's energy requirements. Childhood overweight and obesity is associated with a higher probability of overweight and obesity in adulthood, which can lead to various non-communicable diseases, such as diabetes and cardiovascular diseases.

Prevalence cut-off values for public health significance for child overweight are as follows: very low < 2.5 percent; low 2.5–4.9 percent; medium 5–9.9 percent; high 10–14.9 percent; very high ≥ 15 percent.

Data source: UNICEF, WHO and World Bank. 2023. *Levels and trends in child malnutrition. UNICEF / WHO / World Bank Group Joint Child Malnutrition Estimates – Key findings of the 2023 edition*. New York, USA, UNICEF; Geneva, Switzerland, WHO and Washington, DC, World Bank. https://data.unicef.org/resources/jme-report-2023, www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-child-malnutrition-estimates, https://datatopics.worldbank.org/child-malnutrition

Anaemia in women aged 15 to 49 years

Definition: percentage of women aged 15–49 years with a haemoglobin concentration less than 120 g/L for non-pregnant women and lactating women, and less than 110 g/L for pregnant women, adjusted for altitude and smoking.

Prevalence cut-off values for public health significance are as follows: no public health problem < 5 percent; mild 5–19.9 percent; moderate 20–39.9 percent; severe ≥ 40 percent.

Data source: WHO. 2021. Vitamin and Mineral Nutrition Information System (VMNIS). In: *WHO*. Geneva, Switzerland. [Cited 25 May 2021]. https://www.who.int/teams/nutrition-and-food-safety/databases/vitamin-and-mineral-nutrition-information-system. WHO. 2021. WHO global anaemia estimates, 2021 edition. In: *WHO*. [Cited 24 July 2024]. www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children

Adult obesity

The body mass index (BMI) is the ratio of weight-to-height commonly used to classify the nutritional status of adults. It is calculated as the body weight in kilograms divided by the square of the body height in metres (kg/m2). Obesity includes individuals with BMI equal to or higher than 30 kg/m2.

Data source: WHO. 2024. *Global Health Observatory (GHO) data repository: Prevalence of obesity among adults, BMI ≥ 30, age-standardized. Estimates by country*. [Accessed on 24 July 2024]. https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi--30-(age-standardized-estimate)-(-).

Exclusive breastfeeding

Exclusive breastfeeding for infants under 6 months of age is defined as receiving only breastmilk and no additional food or drink, not even water. Exclusive breastfeeding is a cornerstone of child survival and is the best food for newborns, as breastmilk shapes the baby's microbiome, strengthens the immune system and reduces the risk of developing chronic diseases. Breastfeeding also benefits mothers by preventing postpartum haemorrhage and promoting uterine involution, decreasing risk of iron-deficiency anaemia, reducing the risk of various types of cancer and providing psychological benefits.

Data source: UNICEF. 2024. Infant and young child feeding. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/infant-and-young-child-feeding

Low birthweight

Low birthweight is defined as a weight at birth of less than 2.5 kg (less than 5.51 lbs), regardless of gestational age. A newborn's weight at birth is an important marker of maternal and foetal health and nutrition.

Data source: UNICEF and WHO. 2023. Low birthweight. In: *UNICEF*. [Cited 24 July 2024]. https://data.unicef.org/topic/nutrition/low-birthweight; UNICEF and WHO. 2023. Joint low birthweight estimates. In: *WHO*. [Cited 24 July 2024]. www.who.int/teams/nutrition-and-food-safety/monitoring-nutritional-status-and-food-safety-and-events/joint-low-birthweight-estimates

Cost and unaffordability of a healthy diet

The cost of a healthy diet (CoHD) is the cost of purchasing the least expensive locally available foods to meet the energy requirements and food-based dietary guidelines for a representative person within energy balance at 2 330 kcal/day. The CoHD is calculated using retail food price data from the 2024 series of the International Comparison Program (ICP), coordinated by the World Bank, which refers to 2021 prices. The cost of a healthy diet is converted to international dollars using purchasing power parity (PPP) conversion factors for private consumption.

The prevalence of unaffordability (PUA) estimates the percentage of individuals in a population whose disposable income, net of the amount needed to acquire all basic non-food goods and services, is lower than the minimum cost of a healthy diet. National estimates are obtained by contrasting the country-specific income distributions against a threshold (*r*). The threshold *r* is obtained by summing the cost of a healthy diet in a country and the basic cost of non-food needs for the income group to which the country belongs. Specifically, the cost of non-food needs is calculated by multiplying World Bank international poverty lines by a share of total expenditure to be reserved for non-food basic goods and services that is specific to each income group. Along with the PUA, the number of people unable to afford a healthy diet (NUA) is computed by multiplying the PUA by the reference population size.

Data source: FAO. 2024. FAOSTAT: Cost and Affordability of a Healthy Diet (CoAHD). [Accessed on 24 July 2024]. https://www.fao.org/faostat/en/#data/CAHD.

ANNEX 3
NOTES

For specific country notes, please refer to Tables A.1.1 and A.1.2 in FAO, IFAD, UNICEF, WFP and WHO. 2024. *The State of Food Security and Nutrition in the World 2024. Financing to end hunger, food insecurity and malnutrition in all its forms.* Rome, FAO. https://doi.org/10.4060/cd1254en

Prevalence of undernourishment

Subregional and regional estimates were included when more than 50 percent of the population was covered. National estimates are reported as three-year moving averages to control for the low reliability of some of the underlying parameters such as the year-to-year variation in food commodity stocks, one of the components of the annual FAO Food Balance Sheets, for which complete and reliable information is scarce. Subregional, regional and global aggregates are reported as annual estimates on account of the fact that possible estimation errors are expected not to be correlated across countries.

Food insecurity

Subregional and regional estimates were included when more than 50 percent of the population was covered. To reduce the margin of error, national estimates are presented as three-year averages.

FAO estimates refer to the number of people living in households where at least one adult has been found to be food insecure.

Country-level results are presented only for those countries for which estimates are based on official national data or as provisional estimates, based on FAO data collected through the Gallup© World Poll, for countries whose national relevant authorities expressed no objection to their publication. Note that consent to publication does not necessarily imply validation of the estimate by the national authorities involved and that the estimate is subject to revision as soon as suitable data from official national sources is available. Global aggregates are based on data collected in approximately 150 countries.

Child stunting, wasting and overweight

For child wasting regional estimates, values correspond to the model predicted estimates for the year 2022 only. Wasting is an acute condition that can change often and rapidly over the course of a calendar year. This makes it difficult to generate reliable trends over time with the input data available – as such, this report provides only the most recent global and regional estimates.

Exclusive breastfeeding

Regional estimates are included when more than 50 percent of the population is covered.

ANNEX 4
COUNTRY GROUPINGS

This report covers 22 Arab States: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syrian Arab Republic, Tunisia, United Arab Emirates and Yemen. The 22 Arab States include 19 Near East and North Africa (NENA) countries as well as three additional Arab States: Djibouti, Comoros and Somalia.

Concerning the country groupings, FAO uses the 2023 World Bank income groups, available at https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

The groupings are:

- **high-income economies:** Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates;
- **lower-middle-income economies:** Algeria, Comoros, Djibouti, Egypt, Jordan, Lebanon, Mauritania, Morocco, Tunisia;
- **low-income economies:** Somalia, Sudan, Syrian Arab Republic, Yemen; and
- **upper-middle-income economies:** Iraq, Libya, Palestine.

In addition, the following groupings are used for information purposes:

- **Arab States LDCs:** Comoros, Djibouti, Mauritania, Somalia, Sudan, Yemen;
- **Countries affected by conflict:** Iraq, Libya, Somalia, Sudan, Syrian Arab Republic, Yemen; and
- **Countries not affected by conflict:** Algeria, Bahrain, Comoros, Djibouti, Egypt, Jordan, Kuwait, Lebanon, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Tunisia, United Arab Emirates.

Palestine and Lebanon remain in the group of countries not affected by conflict as all the data presented for it in this report go up to 2022 or, in the case of food insecurity, reflect the situation before the conflict erupted in October 2023. Otherwise, the categorization of countries affected and not affected by conflict follows previous reports of the "Near East and North Africa – Regional Overview of Food Security and Nutrition" from the years 2021, 2022 and 2023.

The categorization of countries as being affected or not affected by conflict used in this report is determined by the FAO Regional Office for Near East and North Africa and is not necessarily aligned with the classification used in *The State of Food Security and Nutrition in the World report 2024.*

The definition of countries affected by climate extremes and economic downturns as well as countries with high income inequality follows the classification used in *The State of Food Security and Nutrition in the World report 2024* as defined in the supplementary materials for Chapter 3.

2024

NEAR EAST AND NORTH AFRICA

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THE STATE OF THE WORLD

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