Regional outlook: Near East and North Africa

The regional briefs in the *Outlook* highlight broad trends for the regions defined by the FAO in the implementation of its global workplan. Recognising regional diversity, the intention is not to compare results across regions. Instead, they illustrate some of the latest regional developments, highlighting responses to global challenges and emerging trends, and relating these to the main messages of the *Outlook*. The assessments generally compare the end point of the *Outlook's* projection (2032) to the base period of 2020-22. The large and diverse Asia Pacific region has been disaggregated into two separate parts: Developed and East Asia, and South and Southeast Asia.

Agriculture and food systems globally have faced multiple disruptions in recent years – first in the form of the COVID-19 pandemic, and subsequently the impact of Russia's war against Ukraine. The subsequent rise in food prices has impacted affordability and food security in multiple regions. These briefs do not present a quantitative assessment of the impacts of these disruptions, though they do account for the latest expectations with respect to macro-economic developments as the world emerges from these disruptions. The trends and issues presented are those expected to underpin the *Outlook* in the medium term. They assume that the adverse effects on food, feed and fuel production, consumption and trade will gradually moderate, recognising that several uncertainties remain.

This chapter contains seven sections, with text, tabular and graphic information for each region following a similar template. A background section provides the key regional characteristics and provides the setting from which the projection is described in the subsequent sections for production, consumption, and trade. Each regional brief contains an annex providing common charts and tables outlining the key aspects for the region.

Background

Rising import dependence due to fundamental supply constraints

The Near East and North Africa[1] region encompasses a range of countries with diverse income and socioeconomic profiles. Many face similar challenges with respect to the agricultural production environment and a fragile natural resource base. In the region, less than 5% of total land is considered arable and water resources are constrained, so most countries face water scarcity. In several countries, this is extreme. In 2020, 19 of 22 Arab states fell below the threshold for renewable water scarcity of 1 000 m^3 per capita per year, with 13 states situated below the absolute water scarcity threshold of 500 m^3 per capita per year (UN WWDR, 2022[7]). The region is also amongst the most vulnerable to climate change, due to its arid nature and already limited water resources.

Across the spectrum of least developed, middle- and high-income economies, the region includes many oil exporting nations in the Gulf, whose economies are intrinsically tied to energy markets. The contribution of oil to revenue implies that it can have significant impacts on demand prospects. In this regard, energy market volatility in recent years impacted significantly on income levels. The region's economy was amongst the worst affected by the COVID-19 pandemic and per capita income contracted by over 7% in 2020, before rebounding only modestly with gains of less than 2% in 2021. In 2022, support from high oil prices provided new impetus, and growth accelerated to 3.3%. The region's inherent sensitivity to energy market developments implies that it will likely continue to face significant volatility in the short term, as Russia's war against Ukraine continues, but energy prices are expected to remain below 2022 levels by 2032. Medium term prospects will also be influenced by the increasingly challenging global environment and per capita income growth is expected to average 1.7% p.a. over the coming decade. Consequently, it is unlikely to constitute a major driver of demand, which is a concern in a region where healthy diets are unaffordable to more than half of the population (FAO, IFAD, UNICEF, WFP and WHO, 2022[8]).

Population growth is another important factor determining demand and growth is expected to slow only marginally from 22% over the past decade to 20% over the next ten years. This growth rate is second only to the SSA region and will see the region's population exceed 510 million people by 2032. Approximately two thirds of the population is expected to reside in urban areas, which may encourage consumption of higher value products, including meat and dairy products, but also convenience products that often contain substantial quantities of vegetable oil and sugar.

The region is amongst the largest net food importers in the world, largely due to the challenging production environment resulting from its natural resource limitations. Self-sufficiency rates are low for most commodities, but particularly for cereals, vegetable oils and sugar (Figure 2). High import dependency also implies that the trade related challenges of the past three years have been particularly impactful in the region. Logistical problems and surging shipping costs emanating from the COVID-19 pandemic and the fragilities it exposed in global trade systems were further exacerbated by Russia's war against Ukraine. Traditionally, the region is highly reliant on both Russia and Ukraine for its wheat supplies. Initial disruptions to trade have been eased somewhat by the grain deal which enabled exports from Ukraine to resume, but volumes are much lower than before, and the region has been forced to source significant quantities elsewhere. The increase in imported cereal prices, further exacerbated by currency depreciation in many non-oil exporting nations, combined with surging inflation and the cost-of-living crisis, strained affordability of basic foods in lower income areas and that of healthy diets across the region. With average food expenditures around 17% of total household expenditures, and least developed countries at 33%, income and price shocks can have a significant impact on welfare.[2]

In an effort to reduce import dependence in major cereals and thereby also the associated vulnerabilities to disruptions, policies have historically sought to stimulate production. While these policies strove to reduce risk, they in fact constrained growth, as these cereals compete with higher value crops for limited water resources. Consequently, the region's already limited resource base was stretched and with rising cereal production, the availability of higher value fresh produce declined. Such produce might otherwise have aided in improving dietary diversity and provide higher income from the same limited resources. Climate change remains a major challenge and geopolitical conflict in the region has further reduced investment and displaced populations, hindering production growth.

The GDP derived from the agriculture, forestry and fishery sector currently comprises only 5% of economic activity and it is expected to decline to 4% by 2032. Egypt produces 25% of the net value of agriculture and fish production in the region, with a further 51% attributed to the rest of North Africa (18% from LDC's and 33% from other North African countries). These shares are expected to be sustained, such that North Africa will continue to constitute more than three quarters of net agricultural output value in the region by 2032.

In a low-income growth environments, and with several countries affected by geopolitical conflict, some of the greatest challenges facing the region relate to accessibility of affordable food products to a growing population. Import dependence is inevitable given limitations to production and natural resource endowment, particularly in a region highly impacted by climate change, hence self-sufficiency rates for most major commodities are expected to decline further. Imports contribute significantly to dietary diversity and efficient trade facilitation can propel progress toward the 2030 goal of eradicating hunger, food insecurity and malnutrition. However, in an increasingly volatile and fragmented global market, faced with a mounting number of severe trade related disruptions in recent years, adaptable and effective policies and procurement practices will be essential to ensure food security and improve resilience. In an effort to mitigate vulnerability, many countries are actively seeking to diversify import sources.

Production

Productivity gains urgently needed to confront severe resource constraints

The region's dependence on global markets is expected to deepen (Figure 1), reflecting a projected expansion of 1.5% p.a. in agriculture and fish production, which is slower than the past decade and below the population growth rate of 1.6% p.a. Crop production from the commodities covered in the *Outlook* constitutes 40% of total value, but average growth of only 1% p.a. implies that this share could decline to 38% by 2032. Livestock production growth is stronger at 2.1% p.a., with its share in total net value increasing to 42% by 2032.

Fish production is an important contributor, comprising 21% of agricultural value, but growth of just 0.9% p.a. is markedly slower than the past decade and will see its share decline marginally to 20% by 2032. Almost 70% of total production comes from capture in coastal areas, but fish stocks are under pressure, resulting in a significant slowdown over the outlook period. The aquaculture sector is growing in importance and expanded by more than 5% p.a. over the past decade, with Egypt the major contributor. Growth is projected to slow over the outlook period, but at 2.4% p.a. is still sufficient to drive aquaculture's share in total production to 33% by 2032.

Little change is expected in total agricultural land use, which expands by only 0.5% over the ten-year period. The expansion is concentrated in the least developed regions, mainly Sudan and Mauritania, and almost half of the additional land is for pasture. In most countries in the region, conditions are not conducive to large scale crop production, but more than half of total cropland is expected to be allocated to cereal production by 2032, reflecting a modest decline of 2% from current levels. Coarse grains and wheat account for the bulk of total cereal production and will account for 63% and 35% respectively of total land used for cereals by 2032.

In a region facing such severe constraints in the availability of arable land and water, productivity gains are essential to drive growth. Total factor productivity grew by a modest 1.2% p.a. in the decade to 2019, driven largely by increased capital inputs.[3] The value generated per hectare land used for crop production has increased consistently by 0.8% p.a. over the past decade and this is expected to accelerate over the next ten years to 1.2% p.a. This trend involves multiple factors. The first is intensification, as the 1.5 Mha expansion in total crop area harvested exceeds the 1.2 Mha gain in land used for crop production. The second is considerable improvements in yields for most major crops. Wheat yields are expected to improve by an annual average of almost 1%, to reach 3 tonnes per hectare by 2032, almost 80% of the global average. Coarse grain yields are expected to rise by 1.8% p.a., but only reach 44% of the global average. Most of the expected yield gains are underpinned by improvement in technology, with fertiliser use per hectare expected to decline marginally over the ten-year period to 2032.

Meat production is expected to grow by almost 2.4 Mt by 2032, mostly derived from poultry. Poultry production already comprises 59% of total meat production and growth of 2.8% p.a. increases its share to

62% by 2032. Anticipated growth in bovine meat and sheepmeat production is slower at 1.9% p.a. and 1.5% p.a. respectively. In the case of ovine meat, this represents an acceleration from the past decade, whereas for bovine meat it represents a turnaround from an historic contraction. Growth in inventory is slower than that of production for both bovine and ovine species, reflecting expected productivity gains in meat production.

Direct GHG emissions from livestock activities in the region will expand by 6.8% by 2032 compared to 2020-22, which sharply contrasts with the growth of 28.0% and 23.9% for meat and dairy production respectively. Such differences clearly illustrate that productivity gains are imperative to contain emissions. With crop emissions expected to decline by 3.2%, total direct emissions from agriculture are projected to expand 5.4% by 2032. The historic decline in GHG emissions per unit value of output is set to continue.

Consumption

Affordability limits a shift to healthier, more diverse diets

In an effort to promote food security, policies in the region have traditionally focussed on supporting the consumption of basic foodstuff through subsidies. In recent years, these have been expanded to include animal products. While they did initially improve food security, these policies have further entrenched the region's staple-heavy diets. Furthermore, in recent years, both the prevalence of undernourishment and the number of undernourished people has started rising again. Impact of the COVID-19 pandemic accelerated these trends in 2020. In the current high price environment, the region has been unable to reverse them, with further deterioration of food security in 2021, despite a higher share of total income being spent on food products and the introduction of a range of policies to improve food security and increase resilience. Despite accelerated income growth in 2022, the combination of persistently high food prices and sustained general inflation further constrained affordability and total calorie availability declined.

By 2032, total calorie availability is expected to increase only marginally to 3034 kcal/person/day, slightly lower than the global average. Accounting for household food waste estimates implies that total calorie intake could be around 2 830 kcal/person/day. Limited gains over the outlook period reflects a combination of factors. Firstly, the prolonged nature of the economic recovery, which sees income levels surpass pre-pandemic levels by 2024. Secondly, the influence of high current prices, which results in reduced calorie availability in the short term. Thirdly, it also reflects an increasing awareness of healthy eating. There is however great diversity within the region and the relative contribution of these three factors in influencing the number of calories consumed will vary. In the LDC's in the Middle East, calorie availability remains low and is only expected to reach 2 650 kcal/person/day, almost 15% below the global average (**Error! Reference source not found.**). Within these lower income countries, the share of total expenditure spent on food is also higher, which magnifies the impact of the recent high price environment on food security.

The projections for the average diet in the region suggest that 53% of calories will come from cereals by 2032, well above the global average of 43%. A similar picture emerges for sugar, where the region's share of total calorie consumption derived from sugar will be 9% compared to a global average of 8%. The typical diet, which is highly dependent on starchy foods and sugar is calorie dense but nutrient poor and often associated with a rising incidence of over-weight and obesity, as well as chronic diseases such as diabetes. At the same time, the prevalence of undernourishment, as well as stunting and wasting in young children is high in some countries, particularly those of lower income or affected by conflict. This reflects diversity amongst countries, but also suggests that the "triple burden" of malnutrition (undernutrition, overweight and micronutrient deficiency) will be a key policy challenge that will need to be addressed over the medium term , with food quality central to a solution. However, affordability remains a major constraint to the adoption of healthier, higher quality diets.

The average level of protein availability in the region is projected to reach 84 g/day in 2032, still less than in the base period. Most of the decline is attributed to reduced consumption of plant-based proteins, which is not fully offset by higher quality meat and fish protein sources. Per capita consumption of poultry, bovine meat and most dairy products is set to rise, but typically by less than 1% p.a.

The growth of the livestock sector, particularly poultry, will increase feed use by 15% over the coming decade, but efficiency gains keep the rate of growth below that of meat production. Commodities such as maize, barley and protein meals, are expected to account for more than 70% of the total feed use. The bulk of feed materials will continue to be imported, with maize, for example, reaching 30 Mt by 2032 compared to 25 Mt in the base period. This trend reflects policies that prioritise the production of food crops over feed crops in an environment that has very limited production potential.

Trade

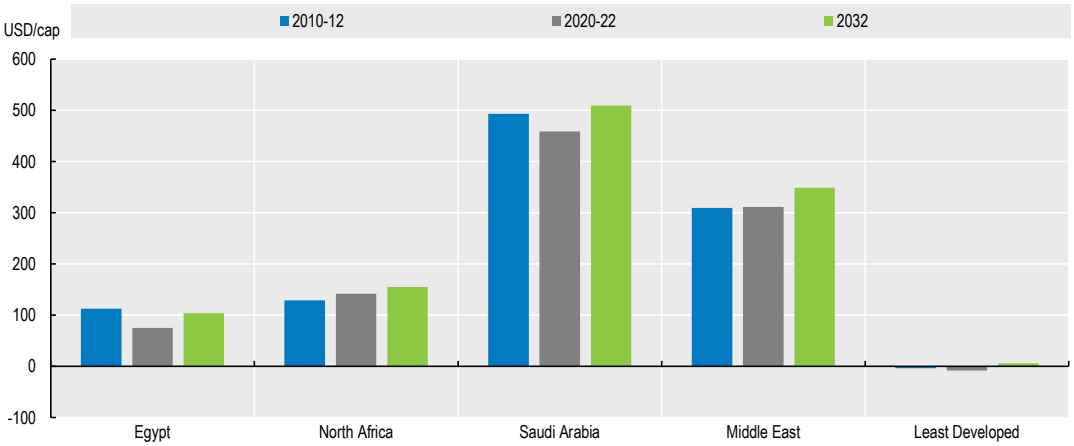
Rising imports continue for most products

The region is expected to become increasingly dependent on imports of food products over the coming decade, owing to the combination of strong population growth and severe limitations in production capacity. By 2032, the region's net imports of food products are expected to be second only to the Developed and East Asia region, but on a per capita basis will be the largest. Within the region, food imports per person are highest in Saudi Arabia and the Other Middle East area which include the Gulf States (Figure 1).

At the height of the logistical and economic challenges of the pandemic, the region's total import bill, expressed in real terms, declined in 2020 relative to 2019. Following a modest increase in 2021, it rose by almost 5% in 2022, despite the problems with trade from the Black Sea region, reflecting the extent of economic recovery amid high oil prices. Imports are expected to rise further, but slower in 2023, constrained by persistently high food product prices and weaker income growth. By 2032, the region's import bill is expected to increase by 30% relative to the base period.

Imports are expected to rise for almost all commodities, though generally at a faster rate for meat and dairy than plant-based products. Imports by the region will sustain high and generally rising shares of global markets for many commodities by 2032, including wheat (26%), sugar (23%) and maize (15%). The region will also account for high shares in global trade for sheepmeat (34%), cheese (21%) and poultry (18%) by 2032. The region is a major importer globally, but as imports comprise a substantial share of domestic consumption, significant developments in either global or domestic markets have broad food security implications in the Near East and North Africa.

Figure 1. Value of net food imports per capita in Near East and North Africa (including processed products)



Note: Estimates are based on historical time series from the FAOSTAT Trade indices domain which are extended with the *Outlook* database. Products not covered by the *Outlook* are extended by trends. Total trade values include also processed products, usually not covered by the Outlook variables. Trade values are measured in constant 2014-2016 USD and trade values for fisheries (not available in the FAOSTAT trade index) have been added based on Outlook data.
Source: FAO (2023). FAOSTAT Value of Agricultural Production Database, http://www.fao.org/faostat/en/#data/QV; OECD/FAO (2023) "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

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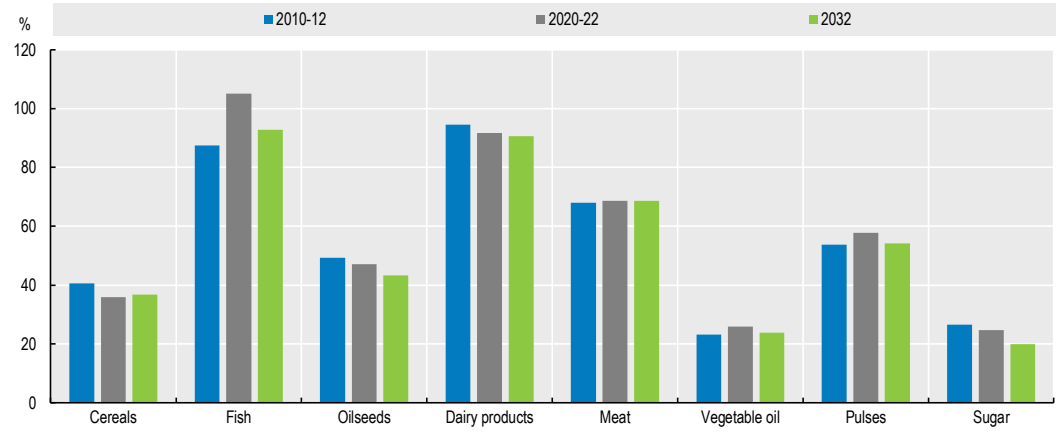
Figure 2. Self-sufficiency ratios for selected commodities in Near East and North Africa



Note: Self-sufficiency ratio calculated as (Production / (Production + Imports - Exports))*100
Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

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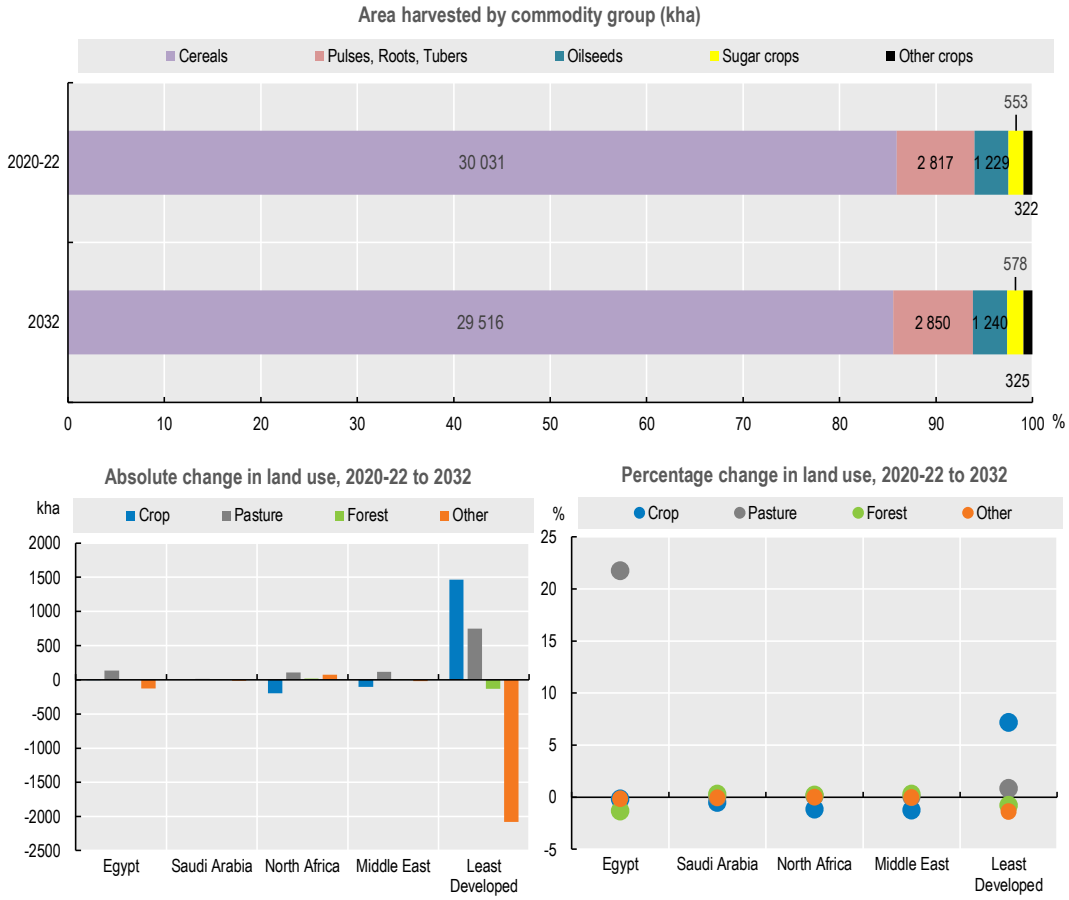
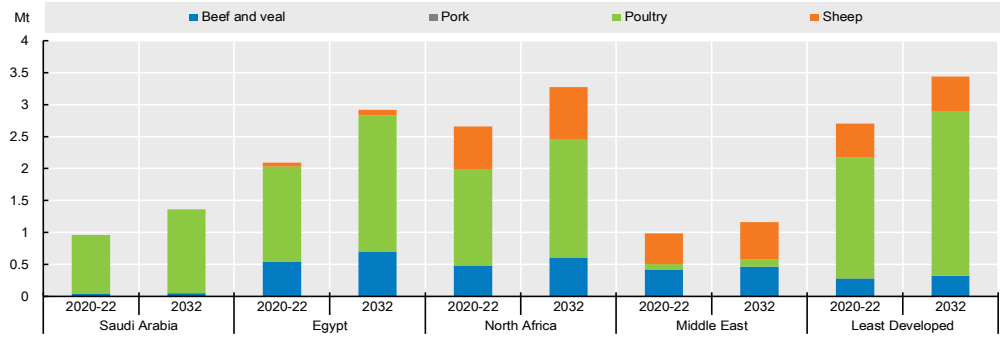
Figure 3. Change in area harvested and land use in Near East and North Africa



Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/39b1am

Figure 4. Livestock production in Near East and North Africa



Source: OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

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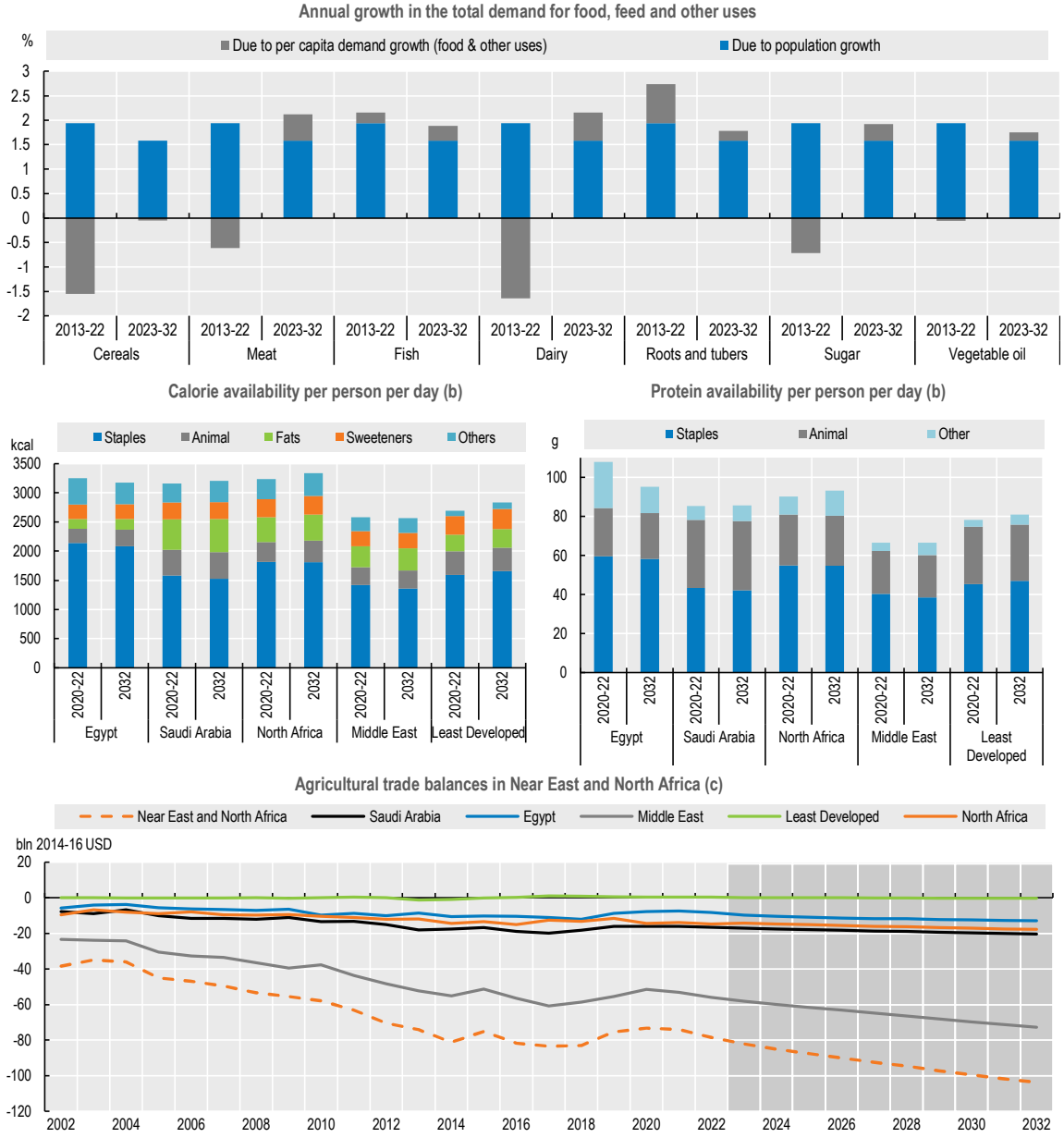
Figure 5. Demand for key commodities, food availability and agricultural trade balance in Near East and North Africa



Notes: Estimates are based on historical time series from the FAOSTAT Food Balance Sheets and trade indices databases and include products not covered by the *Outlook*. a) Population growth is calculated by assuming per capita demand constant at the level of the year preceding the decade. b) Fats: butter and oils; Animal: egg, fish, meat and dairy except for butter; Staples: cereals, oilseeds, pulses and roots. c) Include processed products, fisheries (not covered in the FAOSTAT trade index) based on outlook data.
Source: FAO (2023). FAOSTAT Value of Agricultural Production Database, http://www.fao.org/faostat/en/#data/QV; OECD/FAO (2023) "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/7mstfx

Table 1. Regional indicators: Near East and North Africa

	Average			%	Growth [2]	
	2010-12	2020-22 (base)	2032	Base to 2032	2013-22	2023-32
Macro assumptions						
Population ('000)	349 438	426 622	510 419	19.64	1.94	1.58
Per capita GDP[1] (kUSD)	6.37	6.41	7.76	21.14	-0.29	1.68
Production (bln 2014-16 USD)						
Net value of agricultural and fisheries[3]	62.4	78.4	91.9	17.20	2.02	1.46
Net value of crop production[3]	24.9	31.0	35.3	13.74	1.93	1.04
Net value of livestock production[3]	27.0	30.7	38.2	24.14	0.77	2.14
Net value of fish production[3]	10.5	16.6	18.5	10.84	4.88	0.92
Quantity produced (kt)						
Cereals	49 624	49 947	60 254	20.64	-1.61	0.94
Pulses	1 616	1 944	2 188	12.52	2.47	1.68
Roots and tubers	2 959	4 002	4 946	23.60	2.68	1.93
Oilseeds[4]	1 023	1 052	1 148	9.12	-0.52	0.93
Meat	6 882	8 439	10 798	27.95	2.27	2.39
Dairy[5]	3 514	3 426	4 148	21.07	0.08	1.87
Fish	3 720	5 900	6 539	10.82	4.91	0.92
Sugar	3 056	3 252	3 330	2.40	-0.98	1.66
Vegetable oil	1 514	2 264	2 644	16.78	6.05	0.93
Biofuel production (mln L)						
Biodiesel	0.02	0.02	0.04	116.15	0.00	0.79
Ethanol	525	556	687	23.67	1.21	1.94
Land use (kha)						
Total agricultural land use	459 460	419 365	421 625	0.54	0.13	0.05
Total land use for crop production[6]	44 669	51 020	52 174	2.26	1.19	0.20
Total pasture land use[7]	414 791	368 345	369 450	0.30	-0.01	0.03
GHG Emissions (Mt CO2-eq)						
Total	178	188	198	5.44	0.20	0.45
Crop	25	26	25	-3.24	0.41	0.09
Animal	153	162	173	6.82	0.17	0.50
Demand and food security						
Daily per capita caloric food consumption[8] (kcal)	2 908	2 914	2 921	0.23	-0.30	0.28
Daily per capita protein food consumption[8](g)	81.4	84.2	81.3	-3.51	0.3	0.3
Per capita food consumption (kg/year)						
Staples[9]	213.1	209.3	206.7	-1.22	-0.30	-0.17
Meat	18.0	17.6	18.7	6.09	-0.58	0.49
Dairy[5]	12.4	10.9	11.6	5.89	-1.69	0.56
Fish	11.2	11.4	12.3	8.07	-0.79	0.58
Sugar	32.5	31.0	31.9	2.99	-0.93	0.29
Vegetable oil	10.8	11.2	12.5	10.88	-1.11	0.79
Trade (bln 2014-16 USD)						
Net trade[3]	-64	-75	-104	37.74	..	..
Value of exports[3]	22	34	39	13.76	4.27	1.15
Value of imports[3]	86	109	142	30.28	0.94	2.19
Self-sufficiency ratio[10]						
Cereals	40.7	36.3	36.8	1.40	-1.30	-0.48
Meat	66.6	67.9	68.6	1.14	0.93	0.26
Sugar	25.8	22.4	19.9	-11.08	-1.75	0.00
Vegetable oil	22.0	25.6	23.8	-7.14	4.0	-0.8

Notes: 1 Per capita GDP in constant 2010 US dollars. 2. Least square growth rates (see glossary). 3. Net value of agricultural and fisheries data follows FAOSTAT methodology, based on the set of commodities represented in the Aglink-Cosimo model valued at average international reference prices for 2014-16. 4. Oilseed represents soybeans and other oilseeds. 5. Dairy includes butter, cheese, milk powders and fresh dairy products, expressed in milk solid equivalent units. 6. Crop Land use area accounts for multiple harvests of arable crops. 7. Pasture land use represents land available for grazing by ruminant animals. 8. Daily per capita calories/protein represent food consumption per capita per day, not intake. 9. Staples represent cereals, oilseeds, pulses, roots and tubers. 10. Self-sufficiency ratio calculated as Production / (Production + Imports - Exports)*100.
Sources: FAO (2023). FAOSTAT Food Balance Sheets and trade indices databases, http://www.fao.org/faostat/en/#data; OECD/FAO (2023), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

Notes

[1] Middle East: Saudi Arabia and Other Western Asia. Least Developed: North Africa Least Developed. North Africa: Other North Africa. For mentioned regions, see summary table for regional grouping of countries.

[2] Source OECD-FAO interpolated for 2018-20 from the database of the Global Trade Analysis Project (GTAP) 2011, using food expenditure and GDP data used in this Outlook

[3] Fuglie, K. (2015), "Accounting for growth in global agriculture", *Bio-based and Applied Economics*, Vol. 4 (3): 221-254 (updated to 2019, USDA, regional aggregation of countries).