Regional outlook: Latin America and the Caribbean

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 (2033) to the base period of 2021-23.

Agrifood systems globally have navigated multiple disruptions in recent years, including the COVID-19 pandemic, the impact of Russia's war against Ukraine, weather related supply fluctuations in several regions, surging energy prices, a cost-of-living crisis and spiralling inflation. The sharp rise in food prices impacted the cost and affordability of healthy diets as well as food security in several regions. Differences in resource endowments, economic structure, development and income levels mean that the magnitude of these impacts are not uniform in all 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 them. 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 concerned.

Background

Export led growth facing an increasingly fragmented global environment

The Latin America and Caribbean region encompass some 2 billion hectares and is endowed with an abundance of agricultural resources. It houses more than 660 million people, almost 8.5% of the global population. While average population density is low, it is the most urbanised of the developing regions. By 2033, its population is expected to approach 710 million of which 84% could reside in urban settings. This implies that most of the region's poor will live in urban areas but almost 120 million people will remain in rural settings, where obstinately high incidence of poverty presents significant challenges.

Despite its vast resources, which are not equal across the region, food security is a perpetual challenge. Progress since the early 2000's already began to reverse from 2014 when historic progress in poverty reduction stalled amid a multitude of macro-economic challenges. The prevalence of moderate and severe food insecurity has been rising since 2014, but the combination of global disruptions of the recent past accelerated the decline substantially. These include the COVID-19 pandemic, the economic challenges that it induced and some of which still linger, Russia's war against Ukraine, the energy and cost of living crises, ongoing conflict in the Near East and food price inflation that averaged almost 15% over the past three years. The Economic Commission for Latin America and the Caribbean suggests that the COVID-19 pandemic pushed the extreme poverty rate in the region to 13.8% by 2021 but this recovered to 11.2% by 2022, similar to pre-pandemic levels. The incidence of moderate or severe food insecurity also peaked in 2021 before declining slightly in 2022 but it remains well above pre-pandemic levels and continues to affect women and rural residents most severely. The gender gap narrowed in 2021 and 2022 but remains at 9.1 percentage points (FAO, IFAD, PAHO, UNICEF and WFP, 2023[12]). Improved food security, despite high food inflation, is testament to the recovery in income and the success of social protection schemes implemented to mitigate the crisis. With food price inflation expected to continue moderating, affordability should improve, accelerating progress in improving food security.

Economic prospects across much of the region have been challenging for some time and income levels per capita contracted by an annual average of 0.9% over the past decade. Pre-existing structural challenges such as high inequality and poverty incidence accentuated the effect of the COVID-19 pandemic but the rebound from the resultant recession was swift. Propelled by high commodity prices and the substantial role of trade in the region, real GDP per capita in 2022 exceeded 2019 levels. Momentum stalled by 2023 amid rising interest rates, weaker commodity prices, slower growth in trading partners and a generally less accommodating global environment. With inflation converging slowly to central bank targets, growth is expected to bottom out in 2024 and in the medium term, could average 1.6% p.a. As in most of the world, the balance of risks, particularly in the short term, are on the downside, but high trade dependence makes the region particularly vulnerable to possible escalation of geopolitical fragmentation. Given the diversity of the countries in the region in terms of economic composition of their economic activity and the extent of domestic risks that amplify global impacts, the magnitude of the rebound and subsequent slowdown differs.

Per capita GDP in the region is expected to approach USD 10 900 per capita by 2033. While representing a 19% gain relative to the 2021-23 base period, it is still only 9% higher than in 2014 and almost 20% below the global average. On average across the region, households spend around 16% of their total expenditure on food but this varies significantly within the region, influenced by income levels and inequality. In countries that allocate a higher share of total expenditure to food, the benefit of moderating food price inflation is substantial. In countries with heightened macroeconomic instability, this impact may be smaller as exchange rate depreciation, which has been a core factor fuelling food price inflation, could offset some of the decline in dollar-based world prices.

Agriculture in the region is highly diverse. Farm structures range from large commercial units, often oriented to exports, to medium and large scale family-run operations and some 15 million smallholders

that are responsible for much of the region's food production (OECD/FAO, 2019[13]). Smaller operations are often resource constrained compared to large, export orientated entities, entrenching the duality that exists in the sector. Agriculture and fish production accounts for just over 6.4% of total GDP and this share has increased through the various disruptions that plagued global economies over the past four years. This reflects the resilience of the region's agrifood system, robust performance in 2020 when it was exempt from lockdown restrictions, and the sustained period of high prices. As agricultural commodity prices continue to normalise over the *Outlook*, the share of agriculture in total GDP is foreseen to decline to 5.7% by 2033.

Given its favourable resource endowment, the Latin America and Caribbean region is a major contributor to global agriculture. Between 2021 and 2023, it accounted for 13% of the net value of agriculture and fish production globally and its share in total exports was even higher at 18%. This stems primarily from South America, with the Caribbean being a net importer. The importance of agricultural exports in the region is further underscored by its growing share in total production value, which has risen to almost 70%. Historic export growth has been aided by greater competitiveness, with total factor productivity increasing by 40% from 2000 to 2019.[1] Growth has been underpinned by greater input use, notably fertiliser which rose by 27% in the past decade alone. The sharp increase in fertiliser costs in 2022, combined with supply chain challenges arising from Russia's war against Ukraine induced a significant contraction in fertiliser application per hectare and heightened focus on efficient use. The benefits of investment in increased efficiency are reflected in a deceleration of growth in fertiliser application per hectare to 8% over the coming decade. With expected growth in the coming decade predominantly export-led, openness to trade, input use efficiency, successful climate change mitigation and adaptation strategies and an increased focus on environmental sustainability will be critical to maintain and grow competitiveness.

As the biggest net exporter amongst all the regions in the *Outlook*, it is paradoxical that some of the major challenges facing the Latin America and Caribbean region relate to food security. These stem from affordability rather than availability constraints reflecting a combination of income distributional issues and high food price inflation in the recent past, and exacerbated by widespread rural poverty and macroeconomic instability in many countries. The region's robust export orientation shielded agricultural growth from the macroeconomic challenges but also made it vulnerable to increasing volatility, tighter financial conditions and weaker import demand globally. Post pandemic, increased focus on development of domestic supply chains and the heightened awareness of environmental sustainability among some importers may influence trade policy and subsequent export prospects. Other trade-related issues arise from increased concentration of exports by destination which exposes export demand to higher market risks, the re-emergence of shipping disruptions amid ongoing conflict in the Black Sea and the Red Sea, as well as drought related limitations to passage through the Panama Canal. Persistence of such disruptions could drive up shipping rates, again influencing competitiveness. Further to trade-related risks, the sector's adaptation strategies and resilience to climate change impacts will be critical to sustained growth.

Production

Growth reflects a combination of expansion and productivity gains

Agricultural and fish production in the region is projected to expand by almost 15% by 2033. Almost half of this growth is expected to come from crop production, which expands by 14%, compared to a more muted expansion of 12% in the livestock sector. The net value of fish production is expected to rise by 23%, but from a much smaller base and by 2033, will still account for only 14% of agriculture and fish output value compared to 48% from crops and 39% from livestock.

The region's land abundance contributes to strong crop production growth which is derived from a combination of expansion and intensification. Total land used for agriculture is expected to rise by almost

7 Mha, the most of any region covered in this chapter. This is exclusive to the crop sector, and almost 60% of the projected expansion is in Brazil. The gain in area harvested is almost double that of land use, pointing to rising prevalence of double cropping. The comparative advantage of Brazil and Argentina in soybean production is reflected in their combined share of almost 50% of global output. Consequently, soybeans will also account for 31% of the additional area with a further 25% allocated to maize. The 8% allocation of additional area to wheat contributes to filling potential supply gaps from the Black Sea region amid Russia's war against Ukraine.

The region's high share in soybean and maize output globally, at 53% and 18% respectively, is set to rise further over the *Outlook* period. By implication, supply fluctuations within the region can cause substantial world price volatility. This was evident from the sharp increase in soybean prices during the 2021 drought and, in the face of ongoing climate change, such events are expected to become more frequent. Many countries in the region are already challenged by prolonged drought conditions which reduce productive potential, as well as the increasing frequency of extreme heat and wildfires. Consequently, the region's ability to adapt to climate change and remain resilient in the face of increased weather disturbances will be critical not only to its own agricultural performance but also to the stability of global markets. The Climate Action Platform for Latin America and the Caribbean in 2022 suggested that most countries in the region possess the institutional framework and adaptation plans to navigate climate change but lack detailed monitoring and evaluation systems to track implementation, which can affect funding allocations.

Intensification and yield gains have been instrumental to the region's strong production growth. Growth in fertiliser application rates is expected to slow substantially over the *Outlook* but remain positive. Combined with technological innovation and practices that optimize efficiency, increased fertiliser use is set to support further yield improvements across most major crops. This includes a 11% gain in maize and wheat yields by 2033 relative to the 2021-23 base period, along with a 12% improvement in soybean yields. It also enables a further improvement of 10% in the net value of production per hectare of cropland as well as a 5% reduction in the fertiliser required per calorie produced.

The region contributes 15% of global livestock production and growth of 1.2% p.a. is sufficient to sustain this share by 2033. Owing to its surplus of feedgrains, intensive livestock production is highly competitive, but growth prospects remain sensitive to the risks posed by animal disease. Meat production accounts for a far bigger share than dairy in expected production growth. Amongst the various meat types, almost 60% of the additional production by 2033 is attributed to poultry. Poultry's short production cycle facilitates rapid advancements in genetics and feed conversion rates, thereby driving productivity enhancements, while the decline in feed prices relative to meat prices in the medium term will incentivise expansion. Bovine and pig meat are expected to grow by 0.9% p.a. and 1.3% p.a. respectively, accounting for 19% and 20% respectively of additional meat produced by 2033. Productivity gains remain instrumental to growth, as a 9% increase in beef production is achieved with only a 2% expansion in the beef herd by 2033.

Latin America and the Caribbean account for just under 10% of global fish production and projected growth of 0.6% p.a. is sufficient to sustain this share by 2033. Three-quarters of production is still derived from capture fisheries but the contribution of aquaculture is rising in several countries, resulting in growth of 1.2% p.a., compared to just 0.4% p.a. for capture fisheries. Capture fisheries are inherently volatile, owing to the intermittent but strong influence of *El Nino* conditions which increase sea surface temperatures, and reduce availability of fish used for the production of fishmeal and fish oil. *El Nino* effects also influence the availability of food supply for high value aquaculture production such as abalone. These effects could become more severe with climate change, influencing the consistency of supply and leading to price volatility.

GHG emissions from agriculture are expected to rise by 3% over the coming decade with a comparatively larger contribution from crops than livestock products. By 2033, the region is expected to account for 18% of global emissions from agriculture, higher than its share in total output. Nevertheless, expressed relative

to the net value of agricultural production, emissions per unit value of output are set to decline consistently over the next ten years. This year's *Outlook* features a scenario that simulates the impact of halving food losses along supply chains and food waste at the retail and consumer levels by 2030 (SDG 12.3). The scenario projects that total agricultural emissions in the region could be reduced by 4.6% relative to the baseline, while calorie intake improves. This implies that by 2030, agricultural GHG emissions could reduce by 2.6% from the average level in the 2021-23 base period.

Consumption

Dietary patterns are diverse but slowly evolving

Growth in total calorie availability in the region has largely stagnated since 2015. This mirrors movements in per capita income levels which declined because of macroeconomic instability. More recently, the COVID 19 pandemic-induced recession in 2020 and subsequent increase in food prices constrained affordability of nutritious food products but, while the incidence of food insecurity and undernourishment increased in 2020 and 2021, average calorie availability remained fairly stable. This suggests that average calorie availability masks significant differences across consumers in different countries and across different income levels. It is likely reflective of income inequality in the region and the disproportionate impact of the economic hardship induced by the COVID-19 pandemic and subsequent food price inflation on the poor and vulnerable, who spend a greater share of total budgets on food. By 2033, average calorie availability per capita is expected to exceed 3 100 kcal/person per year but growth remains slow at 0.3% p.a. on average over the ten-year period. This marks an increase of 122 kcal/person/day, due to gains in consumption of cereals, meat, dairy, vegetable oil and fresh produce along with reduced sugar consumption. Despite the decline of 1 kg per person per year by 2033, sugar consumption in the region remains high and 60% above the global average.

In a region challenged by the triple burden of malnutrition, with food insecurity and undernourishment amid rising incidence of overweight and obesity, the reduction in sugar intake reflects a growing awareness of the links between diet and health. This has been promoted by initiatives such as front of package labelling legislation and sugar-sweet beverage taxes. While efforts to induce healthy eating may have some effect, affordability remains a challenge with nutritious fresh foods comparatively expensive across large parts of the region. Affordability constraints among the lower echelons of the income distribution affects both the quality and quantity of food intake despite the positive impact of initiatives such as school feeding programs which are estimated to benefit up to 37% of the poorer members of the population. A reduction in food waste and losses also has the potential to improve availability and affordability. Estimates suggests that the greatest contributors to total calories lost and wasted in the region are cereals, oilseed products, fresh produce and sweeteners with more than half attributed to cereals (Figure 2). In the *Outlook* scenario where food waste and losses can be halved by 2030, as envisioned in SDG targets, calorie intake in the region could be increased by 5% relative to the baseline and the number of undernourished people in the region could decline by 22% while at the same time, reducing GHG emissions. This implies that by 2030, calorie intake could increase by 8.3% relative to the average level in the 2021-23 base period and the number of undernourished people would decline by 15.4 million.

By 2033, per capita protein consumption is projected to reach 94g/person/day, marking a rise of 4 g/person from current levels. This gain stems mainly from animal products, which contribute 70% of the growth in protein availability. Meat consumption is expected to rise by 3.3 kg per capita to reach almost 52 kg/person/year by 2033. This is 80% higher than the global average. Growth is derived from poultry and pig meat for which consumption is expected to rise by 0.8% p.a. and 0.7% p.a. respectively, compared to a modest decline in bovine meat consumption by 2033. Fish consumption in the region is still low, at 62% of the global average, but is set to expand by 0.3% p.a. to reach 3 kg/person/year by 2033.

The Latin America and Caribbean region accounts for 12% of animal feed use globally. Projected growth of 1.2% p.a. is similar to meat production and slightly faster than that dairy production. Coming despite expected genetic improvement that results in better feed conversion ratios, this points to further intensification in production systems which is essential to growth. Just over 50% of additional feed use is attributed to maize with a further 21% coming from protein meal. This implies growth of 1.4% p.a. and 1.1% p.a. respectively in maize and protein meal used as feed.

The region contributes substantially to global biofuel markets, and it currently produces 28% of global ethanol and 17% of global biodiesel. Brazil constitutes almost 90% of ethanol production and use in the region, as well as 71% and 79% respectively of biodiesel production and use. Sustained by its RenovaBio programme, designed to reduce emission intensity as part of its COP 21 commitments, and rising demand for transport fuel, ethanol use is expected to rise by 37% over the coming decade. Sugarcane is expected to remain the primary feedstock. The competitiveness of Brazil's sugarcane-based ethanol has also bolstered its share in global exports which is expected to be sustained at 24%, despite rapid growth in domestic consumption.

Trade

Exports are key to sustained agricultural growth, but risks are rising

Led by South America, Latin America and the Caribbean is the largest net exporter amongst all the regions included in this chapter. At the same time, several countries and subregions are net importers of agricultural products, including Panama, El Salvador, and most of the Caribbean. Despite these differences, intra-regional trade remains low.

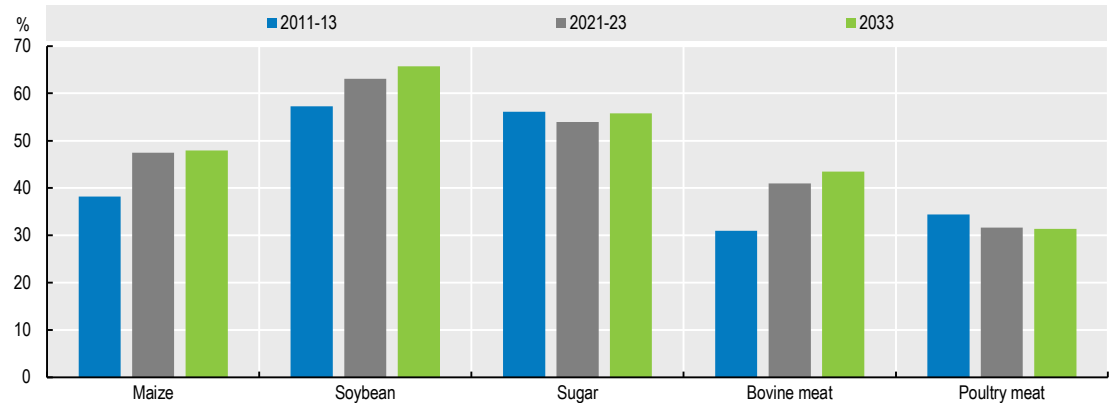
Exports have played a pivotal role in driving agricultural growth within the region, mitigating its vulnerability to inherent macroeconomic instability and enhancing its resilience to exogenous shocks. Its relative importance is underscored by consistent increases in the share of exports in total production value which could exceed 70% by 2033. This reflects a 26% expansion in its trade surplus for agricultural products – more than any other region covered in this chapter. Consequently, its share in global exports is set to rise to 19% by 2033. Brazil is the biggest exporter in the region and accounts for almost half of the growth, but its projected expansion of 1.8% p.a. is significantly slower than the 7.2% p.a. attained over the past decade. Other notable contributors to regional export growth include Mexico and Argentina while exports of fresh fruit from Peru are also expected to rise rapidly.

Amid robust production gains, the region has consolidated its share in global exports and by 2033 is expected to account for a major share of global exports for several commodities: 66% for soybeans, 56% for sugar, 54% for protein meal, 48% for maize, 43% for beef, 40% for fishmeal, 31% for poultry, 24% for fruit and 28% for cotton. In the case of soybeans, sugar and bovine meat, this represents a growing share. This striking dominance of export markets reinforces a global trend towards increased concentration in the export market.

The importance of exports to agriculture in the region is underscored not only by its central position in global trade but also the pivotal role of exports in driving production growth. Sustained growth will depend on continued orientation towards open trade in the global market. The disruptions of the past four years exposed vulnerabilities in the global trade system which resulted in logistical bottlenecks and rising costs. The latest of these is the disruption to flows through the Panama Canal due to drought, and through the Suez Canal due to conflict in the Red Sea. While exports to the European Union and the United States comprise less than 14% and 22% of total exports respectively, the impact may seem limited but it is substantial for countries on the Pacific Coast such as Chile, Peru, Ecuador and Colombia. Growing fresh produce exports from both Chile and Peru, with substantial volumes typically destined for the European Union, could be at risk. Persistence of these constraints also carries the risk of raising shipping costs and hence reducing competitiveness of exports from the region.

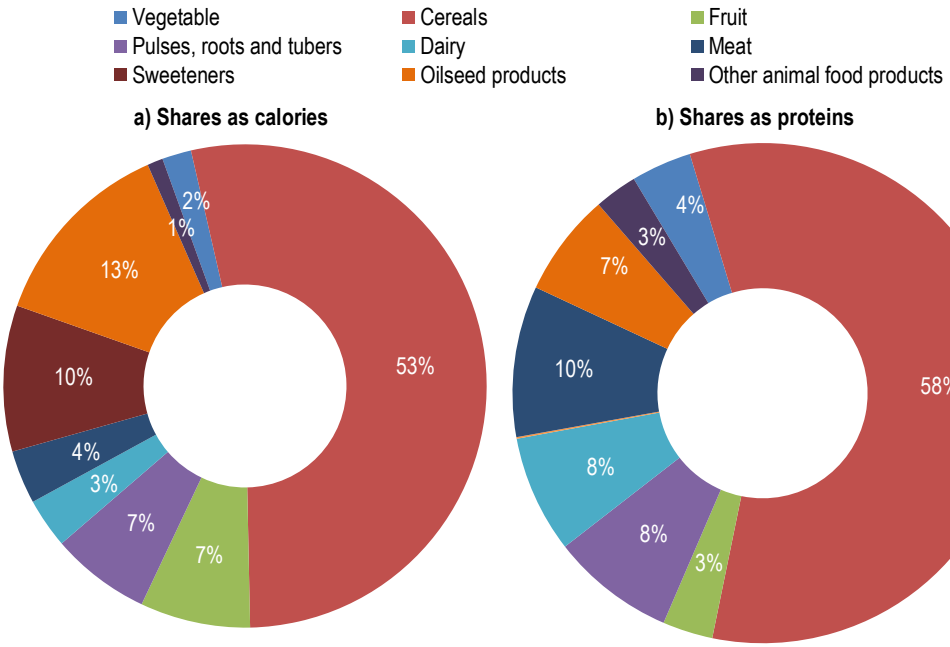
Amid the various crises, several exporting countries imposed trade policies that prioritise domestic supply. The absence of such constraints in Latin American and Caribbean provided opportunities to gain market share. However, the development of domestic supply chains has been prioritised in many parts of the world to mitigate risks of disruption. Over the coming decade, the evolution of trade relations in various parts of the world will have an influence on the region, creating both new opportunities and heightened risks. Despite the success of export-led growth in the past, global import demand is slowing and the market is increasingly volatile and fragmented, increasing the fragility of international trade. Improving internal market integration and functioning of small and medium enterprises, cooperatives and family farms could expand trade within the region, thus diversifying market opportunities and bolstering the sector's resilience.

Figure 1. Trends in export market shares of the Latin America and the Caribbean



Source: OECD/FAO (2024), "OECD-FAO Agricultural *Outlook*", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

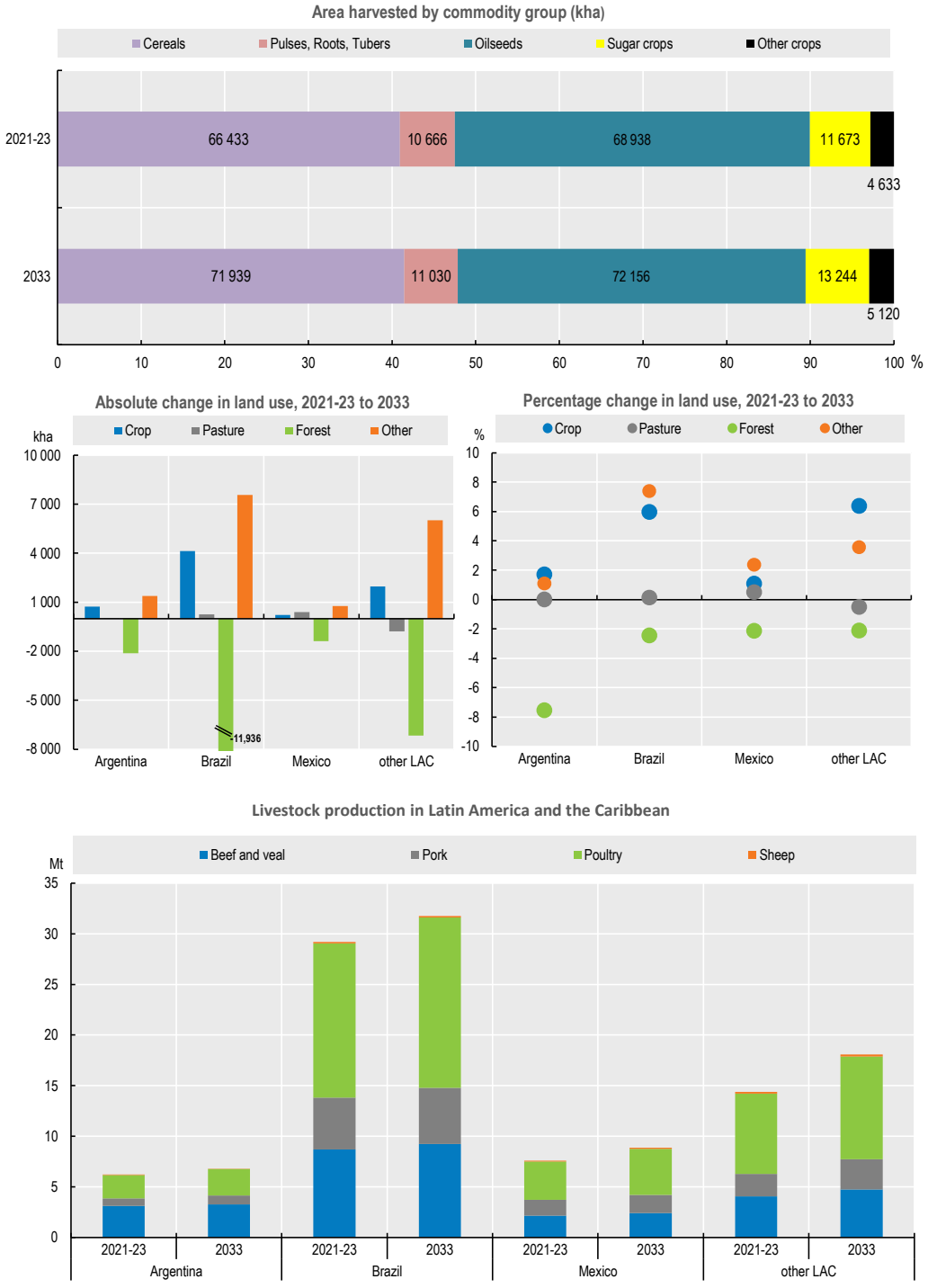
Figure 2. Distribution of food waste and losses in Latin America and the Caribbean in terms of calories and proteins, 2021-2023



Note: Other animal food products include egg and fish.
Source: OECD/FAO (2024), "OECD-FAO Agricultural *Outlook*", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/34oe87

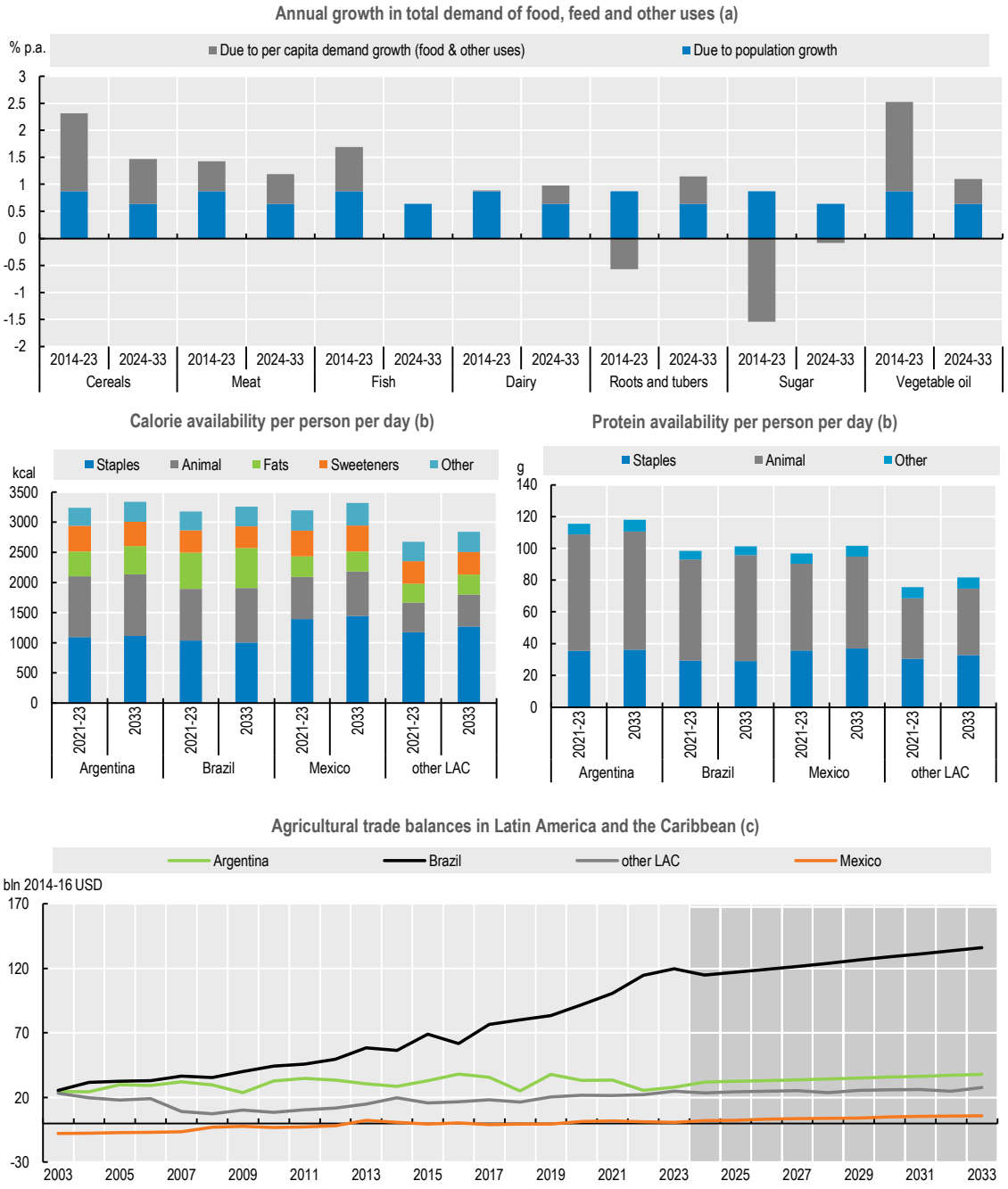
Figure 3. Change in area harvested and land use in Latin America and the Caribbean



Source: FAO (2024). FAOSTAT Value of Agricultural Production Database, http://www.fao.org/faostat/en/#data/QV; OECD/FAO (2024) "OECD-FAO Agricultural *Outlook*", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/dm59is

Figure 4. Demand for key commodities and food availability in Latin America and the Caribbean



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 and tubers. c) Include processed products, fisheries (not covered in the FAOSTAT trade index) based on outlook data.
Source: FAO (2024). FAOSTAT Value of Agricultural Production Database, http://www.fao.org/faostat/en/#data/QV; OECD/FAO (2024) "OECD-FAO Agricultural *Outlook*", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

StatLink 2 https://stat.link/8h5jqr

Table 1. Regional Indicators: Latin America and the Caribbean Region

	Average			%	Growth[2]	
	2011-13	2021-23 (base)	2033	Base to 2033	2014-23	2024-33
Macro assumptions						
Population ('000)	602 008	659 589	709 221	7.52	0.87	0.64
Per capita GDP[1] (kUSD)	9.85	9.12	10.89	19.41	-0.88	1.63
Production (USD bln 2014-16)						
Net value of agricultural and fisheries[3]	321.7	385.7	442.2	14.65	2.02	1.06
Net value of crop production[3]	139.1	183.8	210.3	14.42	2.53	1.10
Net value of livestock production[3]	137.4	152.9	171.4	12.13	1.06	1.18
Net value of fish production[3]	45.2	49.0	60.4	23.42	3.33	0.56
Quantity produced (kt)						
Cereals	210 669	297 982	360 204	20.88	3.51	1.76
Pulses	7 485	7 766	9 024	16.20	0.37	1.34
Roots and tubers	14 545	14 577	16 406	12.54	0.53	1.07
Oilseeds[4]	145 187	208 926	243 967	16.77	2.27	0.81
Meat	48 132	57 394	65 501	14.12	1.81	1.25
Dairy[5]	9 630	10 940	12 043	10.08	0.87	0.98
Fish	16 032	16 993	18 687	9.97	2.91	0.61
Sugar	57 692	58 635	66 688	13.73	0.69	0.98
Vegetable oil	21 163	28 895	33 157	14.75	1.64	1.00
Biofuel production (mln L)						
Biodiesel	5 976	9 916	12 505	26.11	4.72	2.04
Ethanol	26 739	35 374	47 811	35.16	1.89	2.21
Land use (kha)						
Total agricultural land use	657 465	651 601	658 517	1.06	-0.01	0.08
Total land use for crop production[6]	149 222	163 214	170 263	4.32	0.85	0.31
Total pasture land use[7]	508 243	488 387	488 254	-0.03	-0.28	0.00
GHG emissions (Mt CO2-eq)						
Total	1 019	1 108	1 142	3.12	0.99	0.33
Crop	98	114	123	8.13	2.11	0.79
Animal	905	969	993	2.45	0.80	0.28
Demand and food security						
Daily per capita caloric food consumption[8] (kcal)	2 909	2 979	3 101	4.09	0.35	0.29
Daily per capita protein food consumption[8] (g)	86.5	89.8	94.2	4.9	0.4	0.4
Per capita food consumption (kg/year)						
Staples[9]	149.1	146.8	151.8	3.41	-0.05	0.31
Meat	46.0	49.0	51.8	5.65	0.79	0.56
Dairy[5]	15.9	16.2	16.6	2.38	-0.03	0.34
Fish	10	11	11	5.47	-0.03	0.41
Sugar	41	35	34	-1.83	-1.40	-0.11
Vegetable oil	18	20	20	0.85	1.72	0.08
Trade (bln USD 2014-16)						
Net trade[3]	96	165	207	26.00	..	..
Value of exports[3]	171	263	320	21.73	4.47	1.75
Value of imports[3]	75	98	112	14.54	2.93	1.27
Self-sufficiency ratio (calorie basis)[10]	130.9	137.6	138.0	0.32	0.43	0.03

Notes: 1 Constant 2010 USD. 2. Least square growth rates (see glossary). 3. Follows FAOSTAT methodology, based on commodities in the Aglink-Cosimo model. 4. Oilseeds represent soybeans and other oilseeds. 5.Milk solid equivalent units. 6. Area accounts for multiple harvests of arable crops. 7. Land for grazing. 8. Food availability, not intake. 9. Cereals, oilseeds, pulses, roots and tubers. 10. Production / (Production + Imports - Exports)*100.
Sources: FAO (2024). FAOSTAT Food Balance Sheets and trade indices databases, http://www.fao.org/faostat/en/#data; OECD/FAO (2024), "OECD-FAO Agricultural *Outlook*", OECD Agriculture statistics (database), http://dx.doi.org/10.1787/agr-outl-data-en.

Notes

[1] Fuglie, Keith (2015), "Accounting for growth in global agriculture," *Bio-based and Applied Economics* 4 (3): 221-254 (updated to 2019, USDA).