Executive Summary

The *OECD-FAO Agricultural Outlook 2022-2031* provides a consensus-based assessment of the ten-year prospects for agricultural commodity and fish markets at national, regional, and global levels, and serves as a reference for forward-looking policy analysis and planning. The report is a collaborative effort between the OECD and FAO, prepared with inputs from Member countries and international commodity organisations. It highlights fundamental economic and social trends driving the global agri-food sector assuming no major changes to weather conditions or policies. In this year's *Outlook*, a scenario was run to assess the level of productivity growth required to achieve the UN's Sustainable Development Goal 2 (SDG-2) on Zero Hunger as well as a considerable reduction in agricultural greenhouse gas (GHG) emissions by 2030.

Current international prices are high for most agricultural commodities due to the recovery in demand following the outbreak of the COVID-19 pandemic and the resulting supply and trade disruptions, which have been exacerbated by the Russian Federation's (hereafter "Russia") war against Ukraine (hereinafter referred to as "war"). The war is already having considerable impact on agricultural and input markets, especially for grains and oilseeds, for which Russia and Ukraine are key exporters. The *Outlook* projections account for reduced production prospects in Ukraine, and reduced export availabilities from both Ukraine and Russia, in the marketing year 2022/23.

The macroeconomic environment over the next 10 years is also particularly uncertain. While the global economy is expected to recover from the COVID-19 pandemic, the war adds further uncertainty. In April 2022, the International Monetary Fund projected global GDP to grow at 2.7% p.a., on average, over the next decade, which is below the pre-crisis projections. Moreover, the Outlook projections are made under the assumption that current high energy prices will adjust down by 2023 and remain fixed in real terms for the rest of the decade.

Global food consumption, which is the main use of agricultural commodities, is projected to increase by 1.4% p.a. over the next decade, and to be mainly driven by population growth. Most additional demand for food will continue to originate in low- and middle-income countries, while in high-income countries it will be constrained by slow population growth and a saturation in the per capita consumption of several food groups.

The projected evolution of diets continues to be largely determined by income levels in the coming decade. In high-income countries, heightened concerns about health and the environment are expected to result in a decline in per capita consumption of sugar and a sluggish growth in the consumption of animal protein. In contrast, consumers in middle-income countries are expected to increase their food consumption and the diversity of their diets, with growing shares of animal products and fats over the next ten years. Diets in low-income countries, however, will remain largely based on staples, and the projections suggest that food consumption will not increase sufficiently to meet SDG 2 on Zero Hunger by 2030.

The *Outlook* highlights the strong contribution of low and middle-income countries to feed demand growth over the next decade, given the rapid expansion and intensification in their livestock production. In high-income countries and some upper-middle income countries, lower growth in livestock production and

improved feeding efficiency should result in slower growth in feed demand compared to last decade. The rebuilding of pig herds following the African swine fewer (ASF) outbreak in The People's Republic of China, which is characterised by the installation of modern, feed-intensive production facilities, is assumed to lead to further intensification in feed use.

Demand for first generation biofuel feedstocks is expected to grow slowly over the next ten years, mainly due to declining fuel use and weaker policy incentives in key markets, such as the European Union. Most additional demand for biofuel feedstocks is expected to originate in India and Indonesia, driven by increasing fuel use, and efforts to support the domestic farm sector through higher biofuel blending rates and subsidies supporting domestic production. The biofuel share of global sugarcane use is projected to increase to 23% by 2031, while the biofuel share of maize is expected to decline.

Over the next decade, global agricultural production is projected to increase by 1.1% p.a., with the additional output to be predominantly produced in middle- and low-income countries. The *Outlook* assumes wider access to inputs as well as increased productivity-enhancing investments in technology, infrastructure, and training as critical drivers of agricultural development. However, a prolonged increase in energy and agricultural input prices (e.g. fertilisers) will raise production costs and may constrain productivity and output growth in the coming years.

Investments in raising yields and improved farm management are foreseen to drive growth in global crop production. Assuming continuing progress in plant breeding and a transition to more intensive production systems, yield growth is projected to account for 80% of global crop production growth, cropland expansion for 15%, and increasing cropping intensity for 5%. Cropland expansion is expected to be regionally concentrated in Asia, Latin America, and Sub-Saharan Africa.

Similar to trends in crop production, a large share of the projected 1.5% annual growth in livestock and fish production will result from improvements in per-animal productivity, stemming from more efficient herd management and higher feed intensity. Poultry is projected to account for more than half of the global growth in meat production due to sustained profitability and favourable meat-to-feed price ratios. Global milk production is projected to grow strongly in the coming decade, with half of the growth originating in India and Pakistan. Despite its limited growth prospects, aquaculture is expected to overtake the global production volume of capture fisheries by 2023.

The *Outlook* highlights the significant contribution of agriculture to climate change. Direct GHG emissions from agriculture are projected to increase by 6% in the next decade, with livestock accounting for 90% of this increase. Yet, agricultural emissions will grow at a lower rate than production, thanks to yield improvements and a reduction in the share of ruminant production, indicating a decline in the carbon intensity of agriculture. However, more efforts are needed for the agricultural sector to effectively contribute to global reductions in GHG emissions, as set out in the Paris Agreement on climate change. This includes large-scale adoption of climate-smart production processes and technologies, especially in the livestock sector.

Agricultural trade is essential to ensure food security, diversification of diets, and better rural incomes in many regions. Globally, trade in the main agricultural commodities and processed products is projected to grow in line with production over the next decade. However, some regions are expected to export a growing share of their domestic production (e.g. Latin America and the Caribbean, Europe and Central Asia), while others are foreseen to import a growing share of their total consumption (e.g. Sub-Saharan Africa). This increasing interdependency between trading partners underscores the critical importance of a well-functioning, transparent, and rules-based multilateral trading system.

Transportation costs are a pivotal element in trade costs and have been increasing since mid-2020 due to rising oil prices and trade disruptions. Although vulnerable to uncertainty, the *Outlook* projections assume that trade facilitation costs return to their pre-COVID-19 levels from 2022 onwards.

The agricultural price projections presented in this *Outlook* result from the interplay of fundamental supply and demand factors under normal weather, macroeconomic and policy assumptions. Based on these fundamentals, the current price rally of agricultural commodities is projected to be temporary. While prices may remain high in the 2022/23 marketing year, they are expected to subsequently resume their long-term declining trend in real terms. The *Outlook* is based on the latest information available at the time of producing the baseline, but, naturally, there is unavoidably a degree of uncertainty attached to the projections and to the underlying assumptions.

The *Outlook* projections suggest that, following a business-as-usual path, SDG 2 on Zero Hunger would not be achieved by 2030 and GHG emissions from agriculture would continue to increase. To achieve the Zero Hunger target while simultaneously keeping agricultural emissions on track to reach the Paris Agreement targets, average global agricultural productivity would need to increase by 28% over the next decade. This is more than triple the increase recorded in the last decade. For crops, the necessary 24% increase in average global yields – which acts as a proxy for crop productivity – is close to double the increase achieved over the past decade (13%). Global animal productivity would have to increase by 31%, on average, vastly exceeding the growth recorded during the last decade. Comprehensive action to boost agricultural investment and innovation and to enable the transfer of knowledge, technology, and skills are urgently required in order to put the agricultural sector on the necessary trajectory for sustainable productivity growth and the transformation towards sustainable food systems. Additional efforts to reduce food loss and waste and limit excess calorie and protein intakes, particularly from animal sources, would also be necessary.