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# COMMITTEE ON COMMODITY PROBLEMS

## Seventy-first Session

Rome, 4–6 October 2016

## MEDIUM-TERM OUTLOOK: TRENDS AND EMERGING ISSUES

### Executive Summary

This document presents an assessment of the prospects of global agricultural commodity markets in the coming decade (2016–2025). With supply and demand growth broadly matched, real agricultural prices are projected to remain relatively flat. Over the next decade, food demand is projected to change in composition, while its growth is expected to slow progressively. Demand for food grains would stagnate, while the demand for meat, fish and dairy products is likely to grow relatively strongly. The latter should induce additional demand for feed crops, particularly coarse grains and protein meals. The bulk of global food production and consumption growth is seen originating in developing countries. Food imports into Africa, the Near East and Asia are projected to increase, with most of them to be supplied by the Americas.

### Suggested action by the Committee

The Committee is invited to:

- take note of the projections produced jointly by FAO and the OECD and discuss their possible implications for food security and nutrition;
- advise on the relevance and usefulness of the projections to inform policy decisions.

*Queries on the substantive content of the document may be addressed to:*

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## I. Introduction

1. The medium-term outlook provides an assessment of the prospects of national, regional and global agricultural commodity markets in the coming decade. It is not a forecast about the future, but rather a plausible scenario based on specific assumptions regarding the macroeconomic conditions, the agriculture and trade policy settings, weather conditions, longer term productivity trends and international market developments. Its underlying modelling system is an instrument for the quantitative analysis and assessment of policy options and resource allocation decisions. The findings of this document are based on the 2016–2025 OECD-FAO Agricultural Outlook, which brings together the commodity, policy and country expertise of both organisations, and inputs from collaborating member countries, to provide an annual assessment of medium-term prospects of global agricultural markets.

2. The new edition of the OECD-FAO Agricultural Outlook was launched by the Director-General of FAO and the Secretary General of the OECD, through a joint press conference held on 4 July 2016 at FAO Headquarters in Rome.

## II. Starting situation and macroeconomic assumptions

3. Price trends for crops, livestock and fish products had diverged in recent years, but they all aligned in 2015. Meat prices declined in 2015 after hitting record highs in 2014, crop prices fell further from their peaks in 2012, and dairy prices continued a decline that started in 2013. The main factors behind these price falls were several years of robust supply growth, combined with a weakening of global demand.

4. Economic growth in industrialised economies is projected to average about 2 percent per annum (p.a.) throughout the projection period. Growth prospects for developing economies are generally expected to remain stronger, with some divergence in large emerging economies. World population growth will slow to 1 percent p.a. over the next decade. Shifts in exchange rates tend to be driven by the inflation differential keeping real exchange rates relatively stable. Oil price projections see a recovery from USD 39 per barrel in 2016 to USD 83 per barrel by 2025.

## III. Projection highlights

### A. Consumption

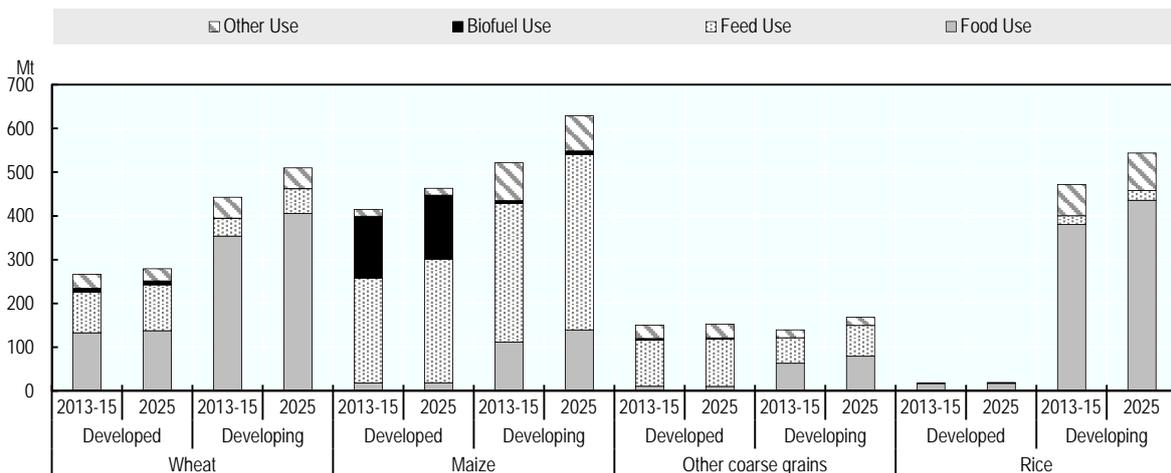
5. Demand for major agricultural commodities is expected to grow by 18 percent over the outlook period, albeit at a progressively slowing rate. The main drivers of this development are global population growth and an improving income situation in emerging economies combined with dietary and lifestyle changes. Food consumption patterns are shifting continuously. As income levels rise, diets are increasingly based on value-added, protein-rich products rather than starch-based. Furthermore, ready-made meals and consumption away from home are accounting for an increasing share of food consumption. These factors will have significant impacts on the generation and distribution of value within the food system, including a widening of the price gap between the food retail prices and the prices farmers receive.

6. These trends are reflected in the consumption patterns of the main cereals, wheat, maize, rice and other coarse grains. Per capita demand of wheat, the main food grain in the world, remains flat over the coming decade, so global demand for wheat expands at the rate of population growth. Rice consumption growth, the major staple food in large parts of Asia, Africa, Latin America and the Caribbean, is also sustained primarily by population growth, but some countries in Africa are expected to increase their per capita consumption significantly. Similarly for maize, food consumption is projected to grow by 21 percent, mainly driven by African countries, where the crop is a major staple. However, worldwide, almost 60 percent of maize is used for feed, and its demand expands by 23 percent, mostly to supply the fast expanding livestock sectors of developing countries. Demand for

feedstock for biofuel production is projected to stagnate due to the lower energy prices and more conservative biofuel policies in several countries

7. Consumption growth will originate mainly in Asia and Africa. Fast developing Asian economies are expected to generate the largest share of additional consumption, while high population growth in Africa will drive significant increases in total food consumption, despite per capita consumption remaining low, compared to the rest of the world (Figure 1).

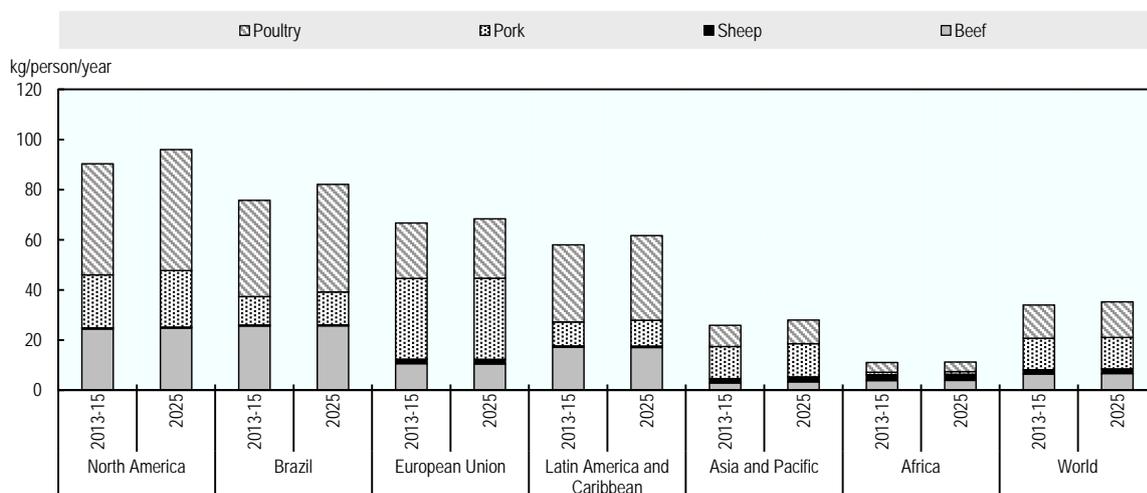
**Figure 1. Cereal utilisation in developed and developing countries**



Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

8. Global per capita consumption of meat is expected to grow by 4 percent over the decade. Per capita meat demand growth in developed countries is projected to outpace the growth in developing countries, thereby increasing their already large differences in consumption levels (Figure 2). Fish consumption is showing a different trend, whereby per capita consumption in developing countries is expected to surpass consumption in developed countries by the end of the coming decade. This is mainly driven by income gains and dietary preferences in Asia. Dairy products, fresh dairy in particular, are the fastest growing source of animal protein in many developing countries, albeit from a very low base. In overall terms, the consumption of more meat, fish and dairy products will lead to more diversified diets and higher per capita protein intake.

**Figure 2. Per capita meat consumption by country and region**



Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

9. Increases in the calorie intake in developing countries is to a large extent due to a rising demand for sugar and vegetable oil. Their consumption increases faster than any other food group in developing countries while it is stagnating in the developed world. Biodiesel use will also expand steadily, with notable demand increases in Indonesia, Brazil and Argentina, in line with their domestic mandates.

10. Over the next ten years, higher per capita food consumption is expected to contribute to a reduction in the number of people that are undernourished. However, skewed consumption distributions mean that more and more countries will be confronted with a complex burden of undernourishment obesity, and micronutrient deficiency (unbalanced diets).

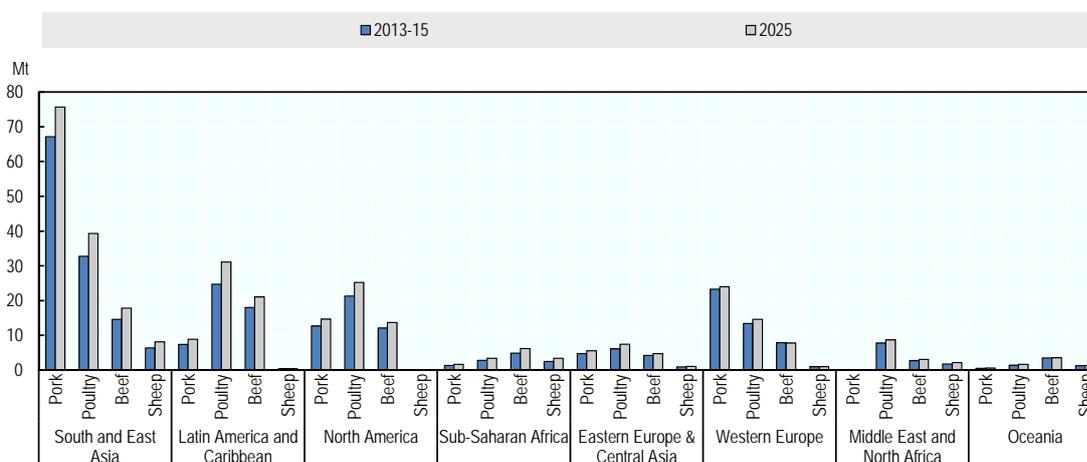
## B. Production

11. Strong global demand and low stocks resulted in high agricultural prices in recent years which, along with policy reforms in many countries, provided the economic incentives and facilitating conditions for increased global agricultural production. Overall, the sector was able to expand at 2.5 percent p.a. in the last decade.

12. In the coming decade, agricultural production faces a different set of challenges. Commodity prices started to decline in 2013, stocks have been replenished and economic growth in major producer countries is projected to slow. As outlined in the previous section, global demand growth varies between commodities, but overall is projected to be slower than in the previous decade. The resulting weakening of agricultural markets makes the sector less attractive for investments, limiting total agricultural output growth to 1.6 percent p.a. on average during the projection period.

13. According to the Outlook, global demand growth is satisfied mainly through yield growth, and will require small expansions of the production base, crop area and livestock herds. In the crop sector, yield improvements will be responsible for 80 percent of total output growth, and area expansion for the remaining 20 percent. Agricultural crop area harvested is projected to expand by 42 million hectares (4 percent) over the next decade, with almost half of this increase taking place in Brazil and Argentina. Sustained demand and lower feed prices support the steady growth of livestock production at 1.4 percent p.a., adding about 4.5 million tonnes of meats and 16 million tonnes of milk annually (Figure 3). World fishery production will expand by 17 percent over the course of the projection period, with aquaculture production steadily increasing its role in total fish supply. Global biofuel production stagnates due to the lower energy prices, which curb discretionary demand, and more conservative policies in some of the major producer countries.

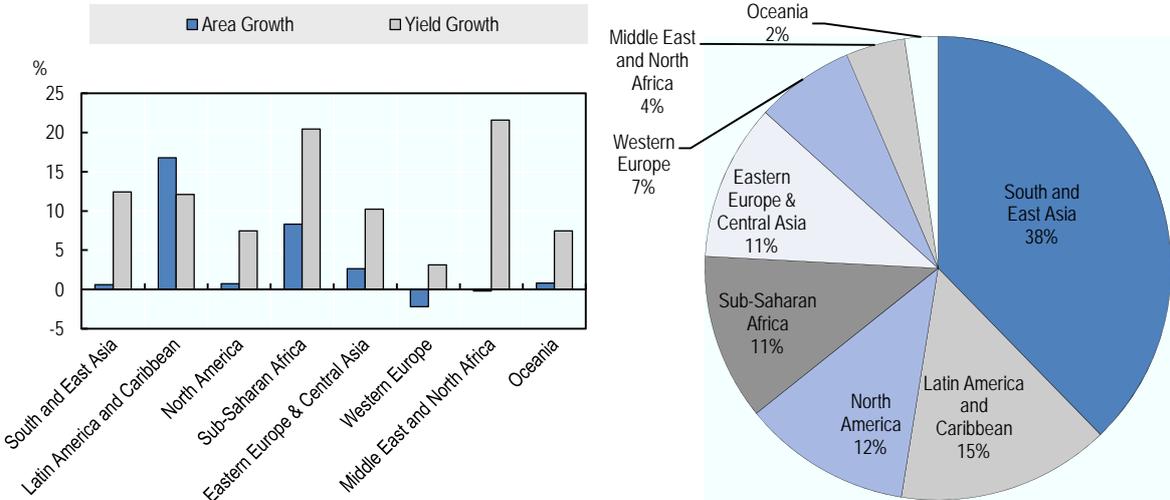
**Figure 3. Global meat production**



14. Figure 4 illustrates the evolution of area growth and yield growth by geographic region and indicates each region's share of the global agricultural area in 2025 (see the methodology section for the classification of geographic regions). In Sub-Saharan Africa, production growth stems from a combination of yield improvements and area expansion. South and East Asia, and Eastern Europe sustain their moderate growth mainly by yield advances. By contrast, in Latin America and the Caribbean, area expansion is a major driver, mainly due to Brazil’s and Argentina’s expansion into soybeans. In North Africa and the Middle East, and Western Europe, yield growth compensates for the decrease in area, leaving output relatively flat. In Oceania, higher self-sufficiency rates are expected through yield and area increases.

**Figure 4. Area and yield by region**

Area and yield growth 2025 vs. 2013–15 (left) and share of agricultural area in 2025 (right)



Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-outl-data-en>.

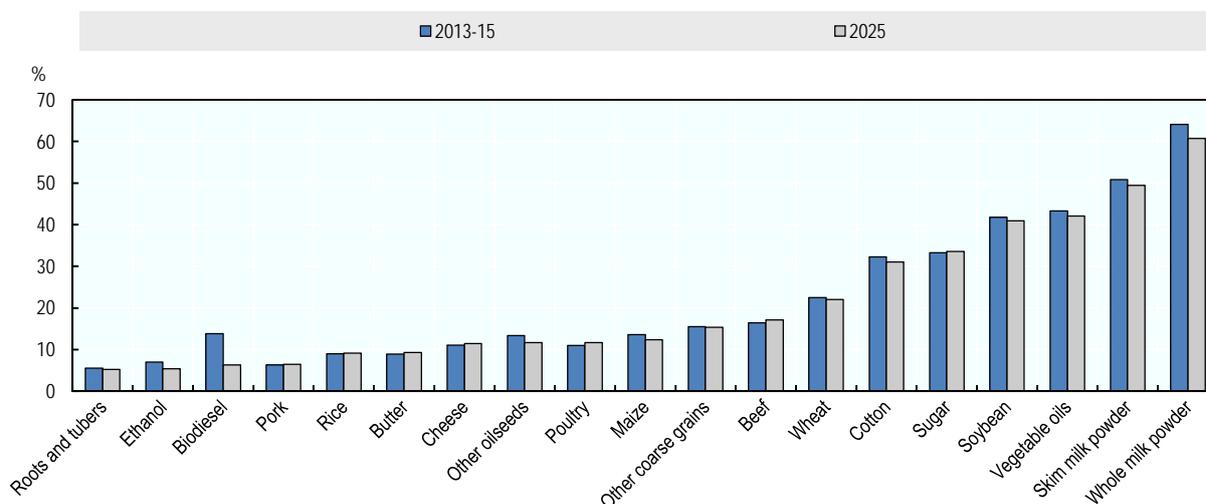
**C. Trade**

15. As patterns of consumption and production continue to evolve, global trade in agricultural products is expected to continue to increase over the coming decades. More food than ever will have to be shipped internationally in 2025 meaning more people will depend on well-functioning markets. Trade will influence the extent and nature of food security across all regions of the globe. In 2025, about one quarter of the world’s population will obtain at least 25 percent of their cereal food from imports.

16. With the declining growth rates in global supply and demand, trade growth is also expected to slow over the next ten years. No significant structural shifts are expected in individual commodity markets; i.e. the share of global production that is traded internationally will not change over time for most of the commodities covered by this report (Figure 5).

**Figure 5. Share of production traded**

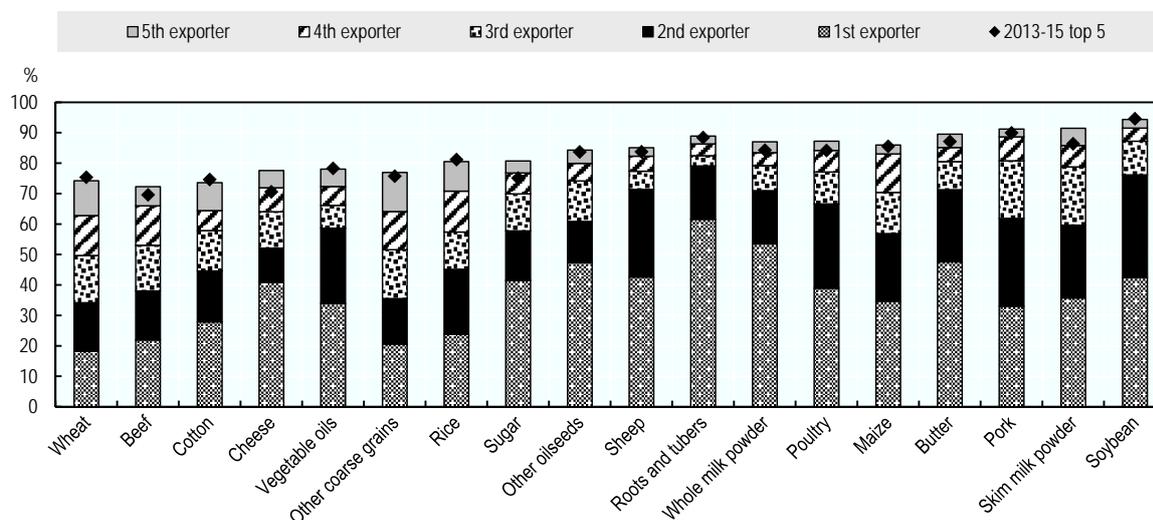
Share of exports in total production



Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

17. Agricultural exports tend to be concentrated in countries that possess the natural endowments necessary for surplus production, and have the infrastructure in place to produce and export at competitive prices. Figure 6 illustrates for selected commodities the export shares of each of the top five exporters. In 2025, at least 70 percent of total exports of major agricultural commodities will originate from only five countries. Soybean sees the highest concentration of exports, where the top five exporters account for almost 95 percent of total exports.

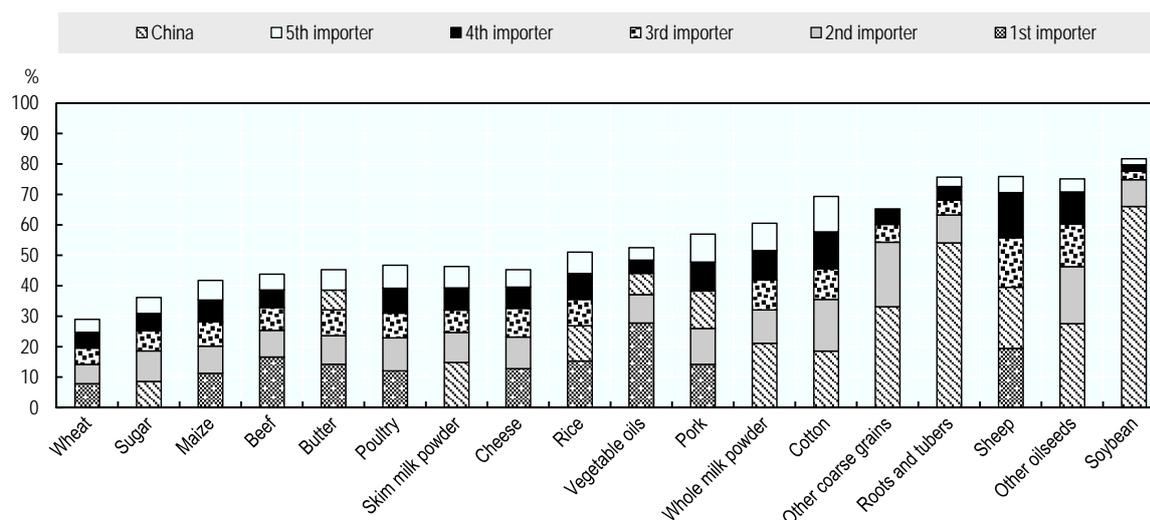
18. Relying on a handful of exporters for the supply of numerous commodities implies potentially significant market impacts should trade be interrupted, either as a result of production shocks or policy changes. Those risks are particularly acute in the case where just one or two countries hold a significant share of exports, and other countries may struggle to replace a shortfall, at least in the short-term.

**Figure 6. Export shares of top 5 exporters in 2025, by commodity**

Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

19. With consumption growth projected to outpace production growth in many countries, imports will continue to be more dispersed among countries than exports (Figure 7). For some commodities, however, a relatively high share of import demand stems from just a few countries. Notably, a high concentration of imports for oilseeds and cotton is tied to large scale processing in only a few countries. Soybean imports to China are projected to account for more than 65 percent of world imports by 2025, a 105 million tonne increase compared to the baseline. The largest demand for cotton imports will also come from China in 2025, even though Bangladesh is projected to be a close second, followed by Viet Nam and Indonesia.

**Figure 7. Import shares of top 5 importers in 2025, by commodity**



Note: Shading for China is super-imposed depending upon its position among leading importers.

Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

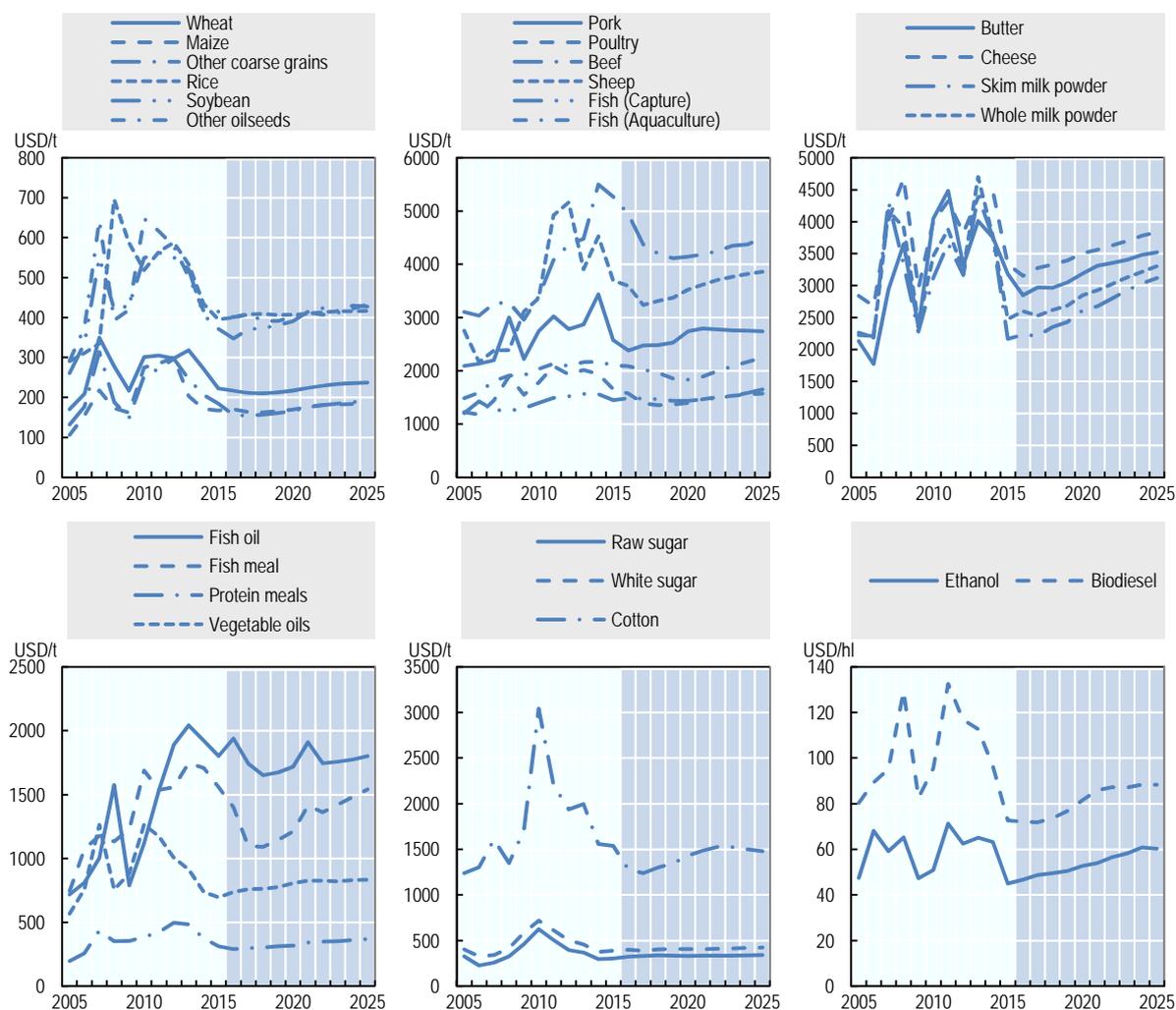
20. Resource constrained countries in the Middle East and Northern Africa (MENA), plus a number of countries in Sub-Saharan Africa, are especially dependent on imports of basic and high value food commodities. The MENA region currently imports more than half of its main staple food, wheat; 70 percent of sugar; and 80 percent of vegetable oils. The dependency on wheat imports is expected to ease slightly in the coming decade, but it will increase for other products. In Sub-Saharan Africa, the need for imports is especially high for vegetable oils (50 percent), poultry meat (36 percent) and sugar (23 percent), all with increasing trends.

## D. Prices

21. The medium term projections use prices at main markets (e.g. US gulf ports, Bangkok) as international reference prices. Historic observations describe previous developments, while projected values reflect future market trends. Near term price projections are influenced by the effects of recent market events (e.g. droughts, policy changes), whereas in the outer years of the projection period, they are driven by fundamental supply and demand conditions.

22. Figure 8 shows the projected evolution of nominal prices for selected commodities. Over the short-term, a combination of rebuilt global stocks and sluggish demand will keep prices for rice, wheat and other coarse grains under pressure. By contrast, maize prices are not expected to fall any further in 2016, after a sharp drop in 2015. Over the medium-term, prices for all cereals are projected to follow a similar trend of modest nominal increases, with more significant gains in other coarse grains, which is mostly a result of the high demand for animal feed in China and limited production expansion possibilities in the main production regions.

23. Sugar prices remain stable, with global production projected to meet the growing demand in developing countries. The white sugar premium is projected to increase at the start of the projection period following growing import demand. However, this situation is expected to change in 2017 due to the abolishment of the sugar quota in the European Union, which will lead to lower raw sugar imports and higher white sugar exports. Towards the end of the projection period, the premium is projected to increase again as producers switch to exporting more raw sugar than white sugar.
24. Prices for protein meals grow at a faster rate than the price of vegetable oil. Whereas vegetable oil consumption is driven mainly by food demand increases in developing countries, the growth in protein meal demand is stronger due to increased non-ruminant and milk production and a greater incorporation of protein in feed rations in developing countries. Additionally, the sustained expansion of palm oil production depresses vegetable oil prices. As a result, soybean prices also rise at a faster rate than the prices of other oilseeds, reflecting their greater protein meal content.
25. Meat prices decline in the short-term as producers respond to lower feed grain prices. Owing to feed intensive production practices, pork and poultry producers gain a greater benefit from lower feed grain prices, while the shorter production cycle of poultry in particular allows a more rapid response to price signals. Its efficiency in feed conversion and rate of efficiency gains allows poultry to remain the cheapest source of protein, despite firm demand growth. Within the beef sector, which exhibits the longest production cycle, prices trend downwards until 2019, before recovering modestly to 2025. Cheese prices maintain a significant premium over other dairy products, owing to strong demand in both developing and developed economies.
26. Fish prices are projected to decline in the short-term, then stabilise. The tightening constraints of capture fisheries compared to the vastly expanding aquaculture are reflected in the projected prices. The average price for fish caught in the wild is expected to be stronger than that of farmed fish.
27. The world ethanol price is projected to increase at a faster rate than most other agricultural commodities, reflecting the faster recovery of the crude oil price. However, upward price pressure will be constrained by relatively modest global import demand and strong export potential from the United States and Brazil. Biodiesel prices are closely linked to vegetable oil prices. Demand for biodiesel is mostly driven by policies, which supports prices of both vegetable oil and biodiesel. However, the end result is that prices do not rise as strongly as for ethanol.
28. World cotton inventories have reached over 80 percent of annual consumption. Due to this current over-supply in the market, prices are projected to decrease between 2016 and 2018 and to increase thereafter. These price increases are limited by the increasing competition with man-made fibres and will be strongly influenced by China's future cotton policy.

**Figure 8. Agricultural prices in nominal terms**

Source: OECD/FAO (2016), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

29. When evaluated in constant US dollars, international reference prices will not divert significantly from their current levels over the next ten years. Globally, both production and demand growth are projected to slow, implying a broadly neutral price path. The overall expectation is that real prices will remain slightly higher than in the years before the 2007–08 price spike.

30. Real price trends of individual commodities depend on their particular supply and demand situation. Globally, the impetus for lower commodity prices comes from a combination of supply and demand factors. In the most productive economies, it becomes progressively more difficult to push the technological frontier outwards. On the other hand, in developing countries there is continued scope for yield catch up via more efficient farming practices. Improvements in Asia and Latin America are crucial for the global supply expansion. On the demand side, population growth is slowing, so too is income growth in developing countries, where consumers also have a declining propensity to spend their income gains on food.

#### IV. Thematic chapter

31. A special focus chapter on an issue of high relevance to commodity markets has become an important feature of the Outlook report. In the last three editions of the report, FAO and the OECD worked with China (2013), India (2014) and Brazil (2015) on a special country feature. The special feature chapter allows a more in-depth review and analysis of a specific subject than is possible in the commodity chapters, thus enriching the content of the outlook. It has also been an area of intense collaboration between the two organizations, exposing their differing interests and objectives while providing a platform for reaching a consensus. This year's special feature covers Sub-Saharan Africa. The main findings of the chapter are summarised in the following paragraphs.

32. The Sub-Saharan Africa (SSA) region accounts for more than 950 million people, approximately 13 percent of the global population. Despite ongoing transformation of the region's economies, agriculture remains a crucial sector providing livelihoods for millions of people. Regional differences in the structure and development stage of agriculture reflect the vast agro-ecological, economic, political and cultural differences across the continent. Undernourishment has been a long-standing challenge, with uneven progress toward food security across the region.

33. While the total value of agricultural output in SSA has grown markedly over the past decade, SSA remains the most food insecure region in the world, with uneven progress towards eradicating hunger over the past decade. The Malabo Declaration on accelerated agricultural growth strives to eradicate hunger in Africa by 2025. Among other objectives, it targets a doubling of agricultural productivity, a halving of current levels of post-harvest losses and a threefold increase in intra-regional trade levels. Within the context of resilient agricultural systems, it also targets social protection systems and decent employment opportunities for rural populations.

34. Development of the region's agricultural sector is being shaped by rapid population growth, urbanisation and rural diversification, an associated structural transformation from farm to non-farm employment, the rise of a middle class, and increasing interest (both domestically and globally) in the continent's farmland. Total agricultural production is projected to expand by 2.6 percent p.a. In contrast with past production increases, which overall were driven by area expansion, an increasing share of future production growth will come from improved productivity. Inclusive development will be needed that improves the productivity of small-scale, resource poor farmers, while creating broader rural development opportunities.

35. Assuming continued rapid population growth across the region, complemented by rising incomes and continuation of current policies and market structures, the production of food crops in many countries is projected to grow more slowly than demand. Sub-Saharan Africa's net imports of food commodities are anticipated to grow over the next decade, although productivity enhancing investments would mitigate this trend.

36. Many countries are competitive producers and regular exporters of fruit and beverage crops, which contribute to foreign currency reserves. Such products may offer farmers alternative opportunities to traditional food crops. They may also be a potentially important source of employment for the continent's young population. With a limited number of food exporters, and a large number of net importers, open regional trade will be central to food security.

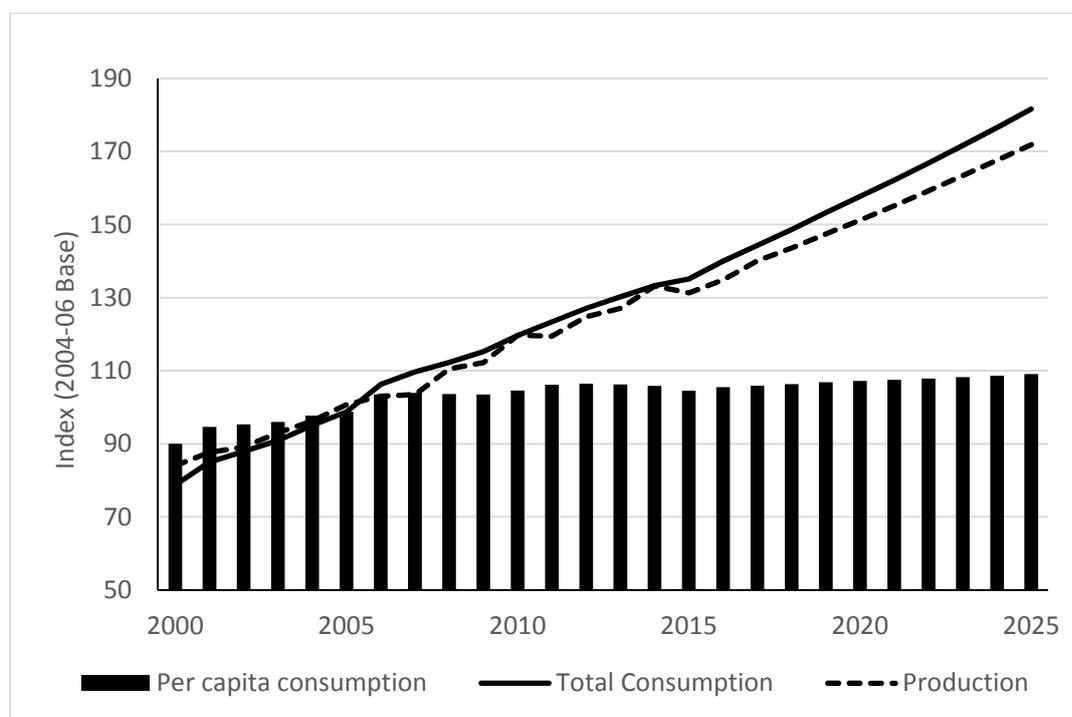
37. The potential contribution of the agricultural sector to poverty reduction, improved livelihoods of rural households and greater food security in SSA is undisputed. Yet growth in the sector remains challenged by an uncertain policy environment and poor infrastructural development that limit market access, keep post-harvest losses high and raise the cost of trade. Epizootic and weather events, including climate change (El Nino being currently experienced in the region), also challenge the medium-term development of the agricultural sector. Food prices in the region remain high compared to international prices, which impacts negatively on food security, particularly given that most smallholders and family farmers are net buyers of food products. Significant price differences remain

across the region and increased intraregional trade offers opportunities to improve food security and reduce poverty.

38. While the outlook for agriculture in Sub-Saharan Africa is broadly positive, it could be much improved by more stable policies across the region, by more strategic public and private investments, notably in infrastructure, by increased intra-regional trade among the SSA countries, and by suitably adapted research and extension.

39. Strategic investment by both public and private sector has the ability to further improve the outlook presented in this document. Abundant interest from both foreign and domestic investors had at times been hampered by inconsistent policy application. Thus, while public investments in infrastructure, research and development, and extension is critical, the institution of an enabling environment that promotes private investment and job creation in both farming and non-farm sectors will have high pay-offs that are able to smooth continued economic transformation in a region with a huge potential. Effective implementation of investment strategies at national and continental level would aid in achieving the zero hunger challenge and in transforming food systems in Africa for inclusive growth and shared prosperity by all.

**Figure 9. Sub-Saharan Africa: Outlook to 2025**



## V. Suggested action by the Committee

40. In light of the projections presented in this document and the joint collaborative partnership between FAO and the OECD, the Committee is invited to:

- a) take note of the projections and discuss their possible implications for food security and nutrition;
- b) advise on the relevance and usefulness of the projections to inform policy decisions.