

## CEREALS

### Market situation

Global supplies of major cereals continued to exceed overall demand, leading to a significant build-up of inventories and much lower prices on international markets as compared to the previous decade. In 2016, world cereals production reached a new high, exceeding the previous peak of 2014. Wheat and maize outputs increased the most, driven by record high crops in several countries, especially among the world's leading exporters. Given the continued large surplus of cereals, downward pressure on world prices is unlikely to be relieved over the coming months.

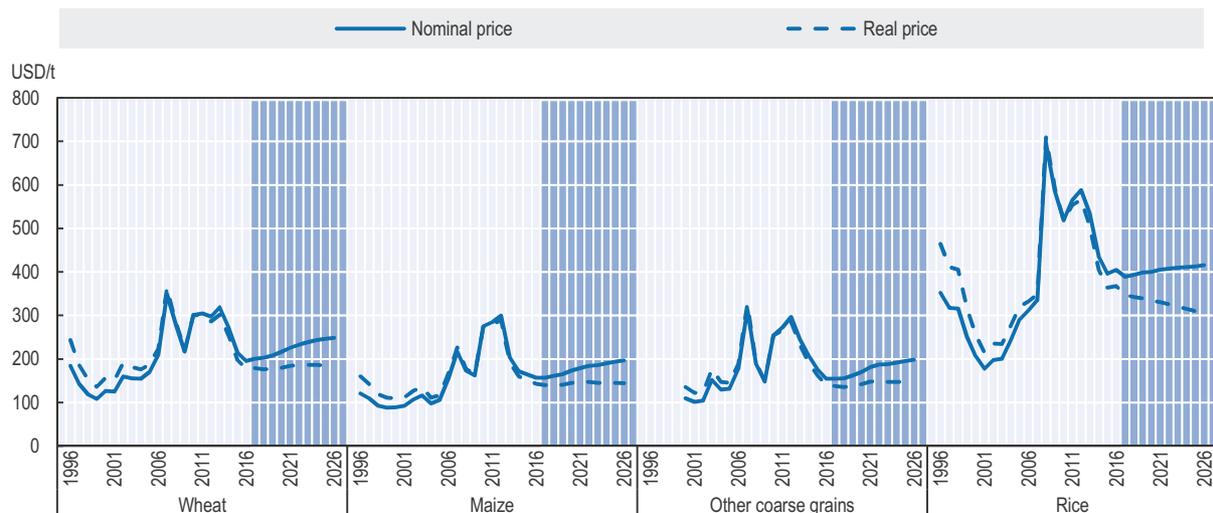
### Projection highlights

Prices will likely remain under pressure in the short term due to low prices during the base period (2014-16), sluggish economic growth conditions, large stocks, low oil prices, and a strong US dollar. Over the course of the medium term, however, cereal prices are projected to increase in nominal terms, but not by enough to keep pace with inflation, which indicates a slight decline in real terms. The decline in real terms is more pronounced for rice since human consumption is its only relevant use category while prices of the remaining cereals are also supported by feed and other uses. Prices of all cereals, even in nominal terms, are projected to be lower on average than in the previous decade, although well above the levels of before 2007.

Global cereal production is projected to expand by 12% between the base period and 2026, mainly driven by yield growth. Compared with the base period, production of wheat in 2026 is projected to be 11% higher (78 Mt), with most of the increase in India (15 Mt), followed by the European Union (10 Mt), the Russian Federation (7 Mt), Pakistan (6 Mt), and the People's Republic of China (hereafter "China") (5.5 Mt). Rice production is set to increase by 13% (66 Mt), with most of the increase (58 Mt) concentrated in Asian countries, led by India (20 Mt), Indonesia (7 Mt), Bangladesh, Thailand (6 Mt each), Viet Nam (4 Mt), and China (3.5 Mt). Maize production is projected to rise by 14% (138 Mt), led by United States (29 Mt), the Brazil (22 Mt), China (14 Mt), Argentina (11 Mt), the European Union (9 Mt) and India (6 Mt). Production of other coarse grains is projected to increase by 10% (30 Mt), with the biggest increases in Ethiopia (4 Mt), India (3.5 Mt), Argentina (2 Mt), the Russian federation (1.9 Mt), and Nigeria (1.8 Mt).

Global cereal use is projected to grow by 13% or 338 Mt, to reach 2 863 Mt by 2026. Wheat consumption is expected to increase by 11% compared to the base period, and will continue to be largely used for human consumption (67% of total use throughout the projection period). The use of wheat for feed is projected to increase, primarily in China, Pakistan and Viet Nam in relative terms, while the use of wheat for the production of biofuels will account for only 1.2% of global use in 2026. Maize use for animal feed is projected to increase to 121 Mt, increasing its overall share over total use from 56% during the base period to 60% in 2026, largely on account of fast expanding livestock sectors in developing countries. Maize for human consumption is projected to grow by 19% (24 Mt), mainly in developing countries also, especially those in Africa where white maize is a main staple in several countries. The use of other coarse grains is also set to grow by 12% (34 Mt), driven by feed demand (17 Mt) followed closely by food demand (16 Mt). The expansion of food use is mainly in Africa (13 Mt), while the European Union and the Russian Federation have the highest expansion for feed. Direct human consumption

Figure 3.1. World cereal prices



Note: Wheat: US wheat No.2 Hard Red Winter (fob), maize: US Gulf maize, No.2 Yellow (fob), other coarse grains: Barley (feed Rouen), rice: Thailand, 100% B, 2nd grade.

Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.  
1 2 <http://dx.doi.org/10.1787/888933522016>

remains the main end-use of rice, a major staple in large parts of Asia, Africa, Latin America, and the Caribbean. Total consumption is predicted to rise from 494 Mt in the base period to 560 Mt by 2026, principally due to population growth. Given the expected demographic changes, Asian countries are expected to account for close to 80% of the projected increase in global rice consumption.

World trade in cereals by 2026 is projected to increase to 448 Mt, up 14% from the base period. At this projected level, global trade would expand at a slightly faster rate than production (1.5% p.a. vs. 1.2% p.a.), increasing the share of global production that is traded to 15.6%. For wheat, this share is expected to reach 23% by 2026, compared with 13% for maize and 15% for other coarse grains. The Russian Federation has started to play a major role on international markets for wheat and maize in the past few years. It was the fifth largest exporter of wheat on average over the past decade and is projected to become the second largest exporter over the projection period, contributing 15% to global trade. Developed countries are expected to continue to be the main exporters of wheat and coarse grains to developing countries, while rice is mostly traded between developing countries. The global players on international rice markets are expected to remain the same, although Cambodia and Myanmar are projected to increase their shares of the international market over the next decade.

Continued lower cereal prices, as compared to the previous decade, will impact planting decisions and hence supply responses. Prices relative to other crops, such as oilseeds, are therefore an important factor as lower prices might lead to a more vigorous reallocation towards other crops. On the demand side, developments in the fastest growing economies will have profound implications for trade. Changes in demand in China and the timing with which they release their maize stocks are the main uncertainties during the projection period.

**The expanded cereals chapter is available at**

[http://dx.doi.org/10.1787/agr\\_outlook-2017-7-en](http://dx.doi.org/10.1787/agr_outlook-2017-7-en)

## CEREALS

### Prices

The international wheat price, as measured by the benchmark US wheat No.2 Hard Red Winter (fob), is expected to decrease to USD 195/t in the 2016 marketing year, continuing a downward trend that started in 2014. On the basis of average harvest expectations, adequately rebuilt global stocks, and low but increasing projected oil prices, wheat prices are projected to follow a moderately upward trend reaching USD 249/t by 2026, which corresponds to stable prices in real terms as compared to 2016.

The world price for maize, as measured by the benchmark US maize No. 2 Yellow (fob), is expected to have averaged USD 157/t at the end of the 2016 marketing year. Since world maize inventories are still high due to the record harvests of 2012 and 2014 – and the 2016 harvest estimates are above average – maize prices should remain under downward pressure for at least another season. The price is expected to fall slightly in 2017 before it recovers to USD 197/t by 2026, while being steady in real terms.

The world reference rice price (milled, 100% B, fob Bangkok) increased moderately during the 2016 marketing year and reached USD 404/t, compared to USD 395/t in 2015. The international rice price is also likely to remain under pressure in the short term reflecting sluggish import demand. Over the medium term, prices in nominal terms are projected to recover slowly, sustained by growing purchases from countries in Africa, Asia and the Near East, reaching USD 415/t by 2026 with prices in real terms decreasing over the ten-year horizon.

The world market price for other coarse grains, as measured by the price for feed barley (fob. Rouen), is also set to decrease in the 2016 marketing year to USD 154/t and to USD 153/t in 2017. By 2026, the world market price for other coarse grains should increase to USD 198/t, sustained by growing import demand from the People's Republic of China (hereafter "China") and Saudi Arabia. In real terms, prices are expected to stabilise at the 2016 level.

### Production

While global crop land is projected to increase by 42 Mn ha, global area planted to cereals is expected to expand only moderately by 8 Mn ha over the next decade because projected price levels are comparably low and production incentives do not favour cereals. Global wheat and maize areas are projected to increase by 1.8% and 2.2% respectively by 2026 compared to the base period (2014-16). Rice area is also expected to expand moderately by 1.2%. However, other coarse grains areas are expected to decrease by 0.6% respectively by 2026. Notwithstanding the area expansion most of the production growth in cereals is being driven by yield increases (Figure 3.1.1). Land availability is expected to become more restricted than in the previous decade given the limited possibility to convert forest or pasture into arable land particularly in developed countries, as well as ongoing urbanisation and desertification occurring in many countries. Average cereal yields at the global level are projected to expand by 11% by 2026 relative to the base period, with annual growth rates projected to slow. In 2026, global wheat, maize and rice yields are projected to be 9%, 11% and 12% higher than in the base period.

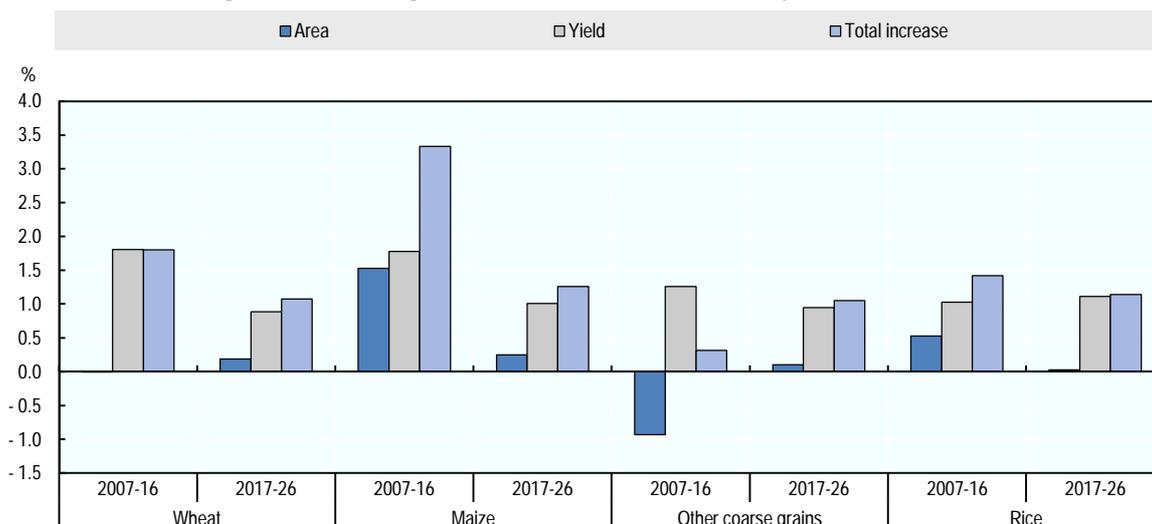
Global wheat production is expected to increase continuously, but at a more moderate pace compared to the last decade. Most of this growth is expected to come from the major wheat-producing countries, although some Middle Eastern and Asian countries will also contribute to this increase, reflecting national policies to obtain self-sufficiency in wheat. As a result, production is expected to increase by 10.6% from the base period. Developed countries account for 53.5% of global wheat production in the base period; a share which is projected to decrease slightly to 52.4% by 2026 (Figure 3.1.2). While developed countries are set to increase production by 33 Mt by 2026, developing countries are set to add 45 Mt to global production. India, the world's third largest wheat producer, is expected to increase wheat production by 15.2 Mt by 2026 and to provide the largest share of additional wheat supply, followed by the European Union (10 Mt), the Russian Federation (7 Mt), Ukraine (4.6 Mt), Pakistan (6 Mt), China (5.3 Mt) and Argentina (3.5 Mt). In Argentina, areas planted to wheat decreased over the previous decade, however it is expected that they will pick up recent upward trends because this would help the country to tackle crop rotation problems deriving from the lack of winter crops. With production expected to grow slightly less than consumption, global stocks are projected to grow at a slower rate, with a global stock-to-use ratio of about 30% by 2026, compared with 31% in the base period.

World maize production is projected to grow by 139 Mt over the next decade, with the biggest increases in the United States (29 Mt), followed by Brazil (22 Mt), China (14 Mt) and Argentina (11 Mt). By 2026, production in developing countries (605 Mt) is expected to exceed that in developed countries (558 Mt). The stock-to-use ratio is projected to decrease from 43% to 18% by 2026 with global stocks expected to be released gradually onto global markets, mainly driven by China's policy change in 2016 to end its stock piling programme and replace it by market-oriented purchasing combined with direct subsidies to farmers. This *Outlook* therefore assumes that the Chinese government will release the accumulated stocks over the outlook period to reach a more sustainable stock-to-use ratio of about 30%. With reduced support to maize production and a resulting incentive shifts toward soybean production, maize production in China is projected to grow much slower (1% p.a.) than over the previous decade (5% p.a.).

Global production of other coarse grains is projected to reach 331 Mt by 2026, up from 301 Mt during the base period. Among the major producing countries, the European Union will slightly increase production to its 2014 high, while production in the Russian Federation is set to increase by 7% by 2026 compared to the base period. Major production gains are projected for Ethiopia (+3.9 Mt), India (+3.5 Mt), Argentina (+ 2 Mt) and Nigeria (+1.8 Mt), where production will reach almost 10 Mt in 2026.<sup>1</sup> India alone is projected to account for 25% of the increase global production. The United States is expected to decrease production by 11% compared to the exceptional high base period levels. Production in developed countries is expected to increase marginally (Figure 3.1.2), partly due to feed demand not increasing enough, while gains in developing countries are a result of intensification in the feed sector and of food demand following population increases, especially in African countries.

Rice production in developed countries is projected to increase by 0.5 Mt to 18.5 Mt in 2026, led by a recovery in the United States and modest expansion in Australia and the Russian Federation. Production in the European Union is expected to stagnate around the base period's production level. Japan and Korea are expected to decrease production throughout the projection period, following the trend of the previous decade. However, developing countries are expected to increase rice production by 65.5 Mt to produce 542 Mt by 2026. Asia contributes the majority of the additional global supply and accounts for 88% of the global production increase during the outlook period. The largest growth rates are expected in India as the world's largest rice producer (+20 Mt), followed by Indonesia (+6.9 Mt), Bangladesh, Thailand (+6 Mt each), and Viet Nam (+4.3 Mt). Viet Nam is expected to increase production mainly through yield improvement, even though its government has gradually promoted a transition for rice farmers to shift from rice to alternative crops. China, the world's second largest producer, is expected to increase rice production by 3.4 Mt by 2026, implying a slower pace than during the last ten years. Rice production growth in some developing countries is sustained by domestic producer support through procurement policies. Global rice production is expected to grow by 1.1% p.a. to 560 Mt in 2026 from 495 Mt in the base period.

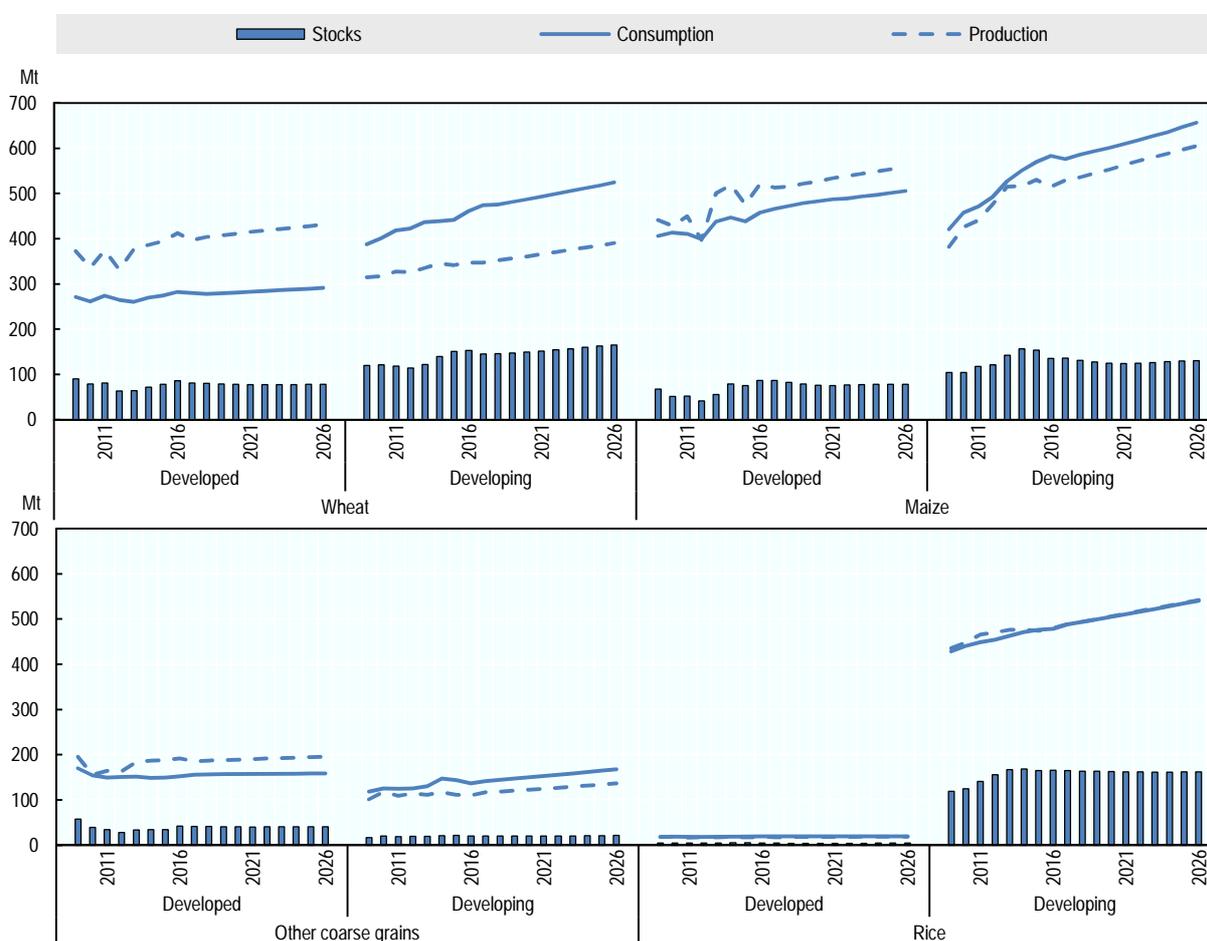
Figure 3.1.1. Global growth rates of harvested areas and yields for cereals



Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

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Figure 3.1.2. Supply, demand and stocks of cereals in developed and developing countries



Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", OECD Agriculture statistics (database), <http://dx.doi.org/10.1787/agr-data-en>.

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### Consumption

Global food consumption per capita of cereals is expected to increase by a moderate 1.1% p.a. Per capita consumption is projected to decrease for wheat and maize, but to increase for rice and other coarse grains by about 1% p.a. Food use is expected to remain the main driver behind the total wheat utilisation with a share of around 67% in total consumption, which is projected to remain stable during the outlook period. Human consumption is projected to increase from 491 Mt in the base period to 552 Mt in 2026, equivalent to a 12% increase. With world population projected to increase slightly less, per capita food demand of wheat increases marginally. Feed use grows by another 24 Mt (17%) compared to the base period. Global production of wheat-based ethanol is not expected to increase, as biofuel policies in the European Union (the major user of wheat in ethanol processing) are assumed to no longer support growth of first generation biofuels. In developed countries, the increase in food use is only half the increase in feed use; in developing countries, the increase in food utilisation of wheat is four times larger than the increase in feed use. This accounts for most of the increase in global wheat use. Overall, the absolute increase is much smaller for feed use compared to food utilisation (Figure 3.1.3).

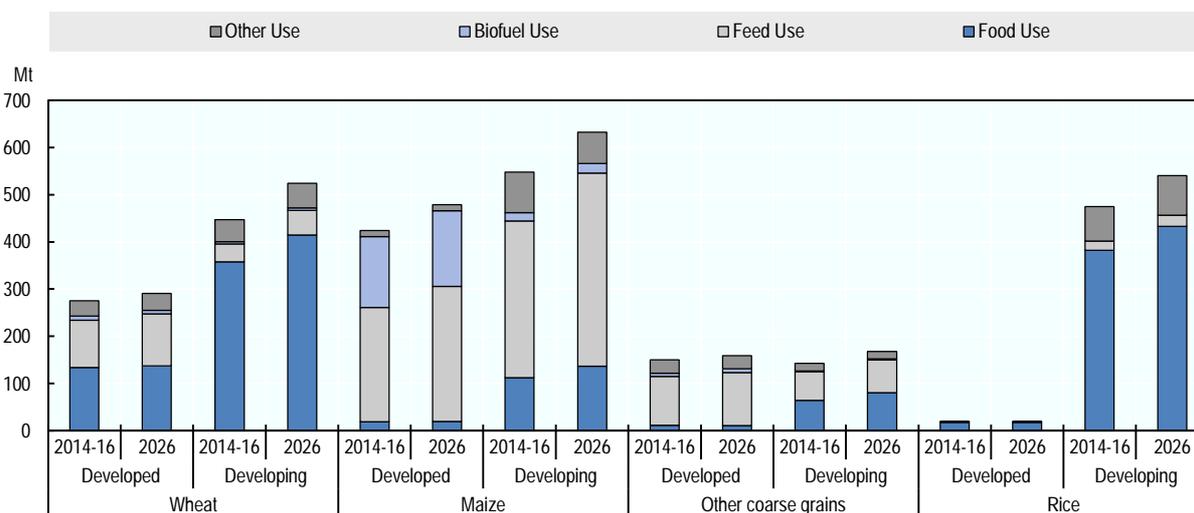
World utilisation of maize is projected to increase by 14% over the projection period, a slower pace compared to 31% in the previous decade. This increase is largely driven by increased feed demand, which holds the largest share of total utilisation, rising from 56% in the base period to around 60% by 2026. In developed countries, food demand is set to increase moderately by 0.3% p.a., while in developing countries, the higher importance of maize in diets, especially white maize, and growing populations, lead to an increase in food use of about 1.8% p.a. Among

developing countries, Africa shows the strongest food consumption growth, at 3% p.a. Use of coarse grains, predominantly maize for biofuel production, almost tripled between 2006 and 2016. During the outlook period, however, growth is expected to be limited as additional maize-based ethanol is not eligible to contribute to the US biofuel mandates after 2016 in the current legislation, and the international ethanol market is restrained in general given current biofuel policies (Figure 3.1.3).

World utilisation of other coarse grains is projected to increase by 12% compared to the base period to 326 Mt by 2026, a slightly faster increase than over the past decade. This acceleration is driven by developing countries (1.9% p.a.) as utilisation is expected to remain stable in developed countries. The main driver is increasing food demand in Africa (2.3% p.a.), followed by Latin America and the Caribbean (1.3% p.a.) and Asia (1.7% p.a.). In line with these trends, the food share of total consumption is projected to increase from around 26% in the base period to 28% in 2026.

One of the most important global players regarding the utilisation of maize and other coarse grains remains China, which accounts for 22% and 8% respectively of global maize and other coarse grain utilisation during the base period. These shares are expected to decrease to 7% for other coarse grains and to 20% for other maize. China's demand for coarse grains is projected to increase in absolute terms. Not surprisingly, the additional demand is mainly driven by a growing feed sector, where a substitution of maize with imported barley and sorghum can be observed after maize stocks have returned to more normal levels.

Figure 3.1.3. Cereal use in developed and developing countries



Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-data-en>.

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Rice is mostly destined for direct human consumption and will continue to be a major staple food in large parts of Asia, Africa, and Latin America and the Caribbean. Sustained by population growth, total utilisation of rice is expected to expand by about 1.1% p.a. compared with 1.7 p.a. in the last decade. The expected additional 65 Mt are almost entirely attributable to increasing food demand in developing countries. Asia will contribute to this expansion by increasing its total utilisation by 1% p.a., while Africa is projected to increase rice consumption by 2.7% p.a., driven by population increases in West African countries. In the Near East consumption is projected to increase by around 1.9% p.a. following the demographic changes due to immigration from Asian countries. Given demographic changes, per capita rice consumption in Asian countries, where much of the rice produced is anticipated to be consumed domestically, is expected to rise only marginally in view of the diversification of diets as income increases. Per capita rice consumption is expected to grow faster in Africa where rice is gaining importance as a major food staple (Table 3.1.1). Worldwide, per capita rice intake as food is projected to rise from 54.4 kg during the base period to 54.8 kg in 2026.

**Table 3.1.1. Rice per capita consumption**

kg/person/year

|                             | 2014-16 | 2026 | Growth rate (% p.a.) |
|-----------------------------|---------|------|----------------------|
| Africa                      | 24.9    | 26.2 | 0.47                 |
| Asia and Pacific            | 80.3    | 81.5 | 0.13                 |
| North America               | 12.2    | 11.9 | -0.19                |
| Latin America and Caribbean | 28.7    | 28.3 | -0.01                |
| Europe                      | 5.2     | 5.7  | 0.57                 |

Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-data-en>.

## Trade

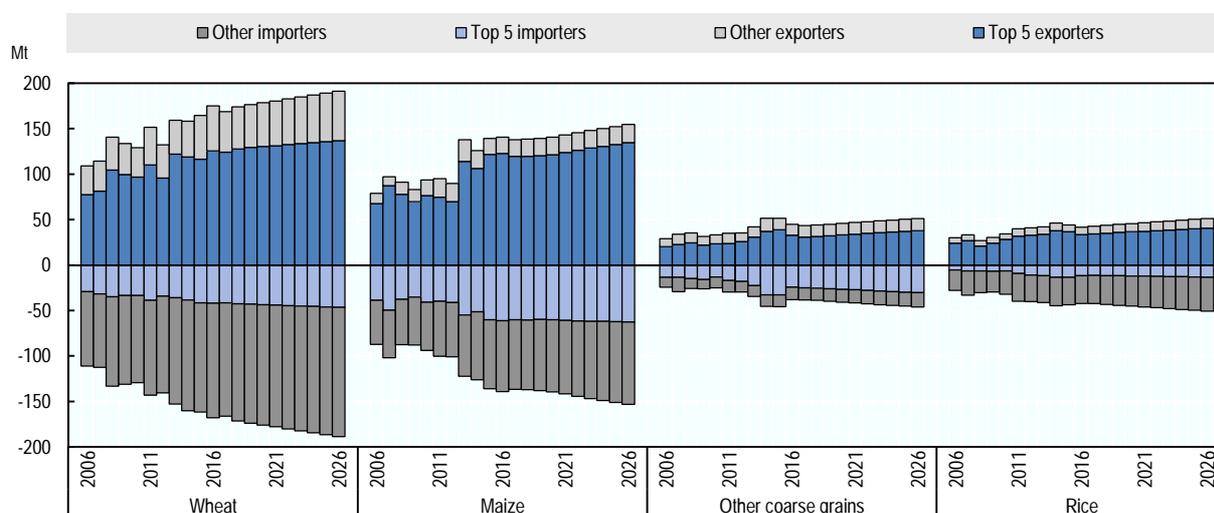
Traditionally, the developed world supplies wheat, maize and other coarse grains to developing countries. This situation is expected to continue and even intensify in the coming ten years as combined net exports of cereals are set to increase by 14% compared to the base period. In 2026 as in the base period, the European Union is the major wheat exporter and its international trade accounts for about 19% of global wheat exports. The Russian Federation is expected to become the second largest wheat exporter accounting for 15% of global trade, followed by the United States (14%), Canada (12%), and Australia (11%). However, the share of these top five exporters is set to decrease moderately, with Ukraine, Argentina and Kazakhstan increasing their export shares slowly. Wheat imports are spread more widely among a high number of importers, where the top five importers (Egypt, Indonesia, Algeria, Brazil and Japan) have a combined stable share of 25% over the ten-year horizon (Figure 3.1.4).

Supply in the major wheat-producing members of the Commonwealth of Independent States (CIS), Kazakhstan, the Russian Federation, and Ukraine, has been volatile in the past decade mainly due to yield fluctuations. Nonetheless, in the recent past, production growth on average outpaced consumption growth, so further increases of wheat production and exports are expected.

The share of the top five exporters for maize (United States, Brazil, Ukraine, Argentina, and the Russian Federation) amounts to 86% in the base period and is set to gain 1% point during the projection period. The five major importers of maize – Japan, Mexico, the European Union, Korea, and Egypt – account for 43% of world imports during the base period; this share is expected to decrease to 41% due mainly to expected import decreases in the latter three countries. Viet Nam is expected to replace Egypt as the fifth largest maize importer by 2026 after a strong increase in maize imports between 2012 and 2016, and further demand growth over the outlook period.

The United States is projected to remain the main maize exporter with exports set to reach 50 Mt in 2026 corresponding to a slight decrease from the exceptionally high levels in the base period when 51 MT were exported. After a two-year adjustment period to more normal levels, exports are expected to be a moderately increasing share (around 12%) of US production during the projection period, but the country is expected to lose export shares in global trade to Brazil, Argentina, the Russian Federation and Ukraine. In the medium term, maize and other coarse grain markets continue to be dependent on China's willingness to import feed grains. Given the recent policy change regarding maize support and the unavoidable release of stocks in the coming years, maize imports are not expected to increase until China has reached a sustainable stock-to-use ratio. The *Outlook* assumes that this ratio would stabilise to around 30% from 2021 onwards. With maize production growth in China projected to slow down, maize imports are therefore expected to increase again after 2020 to reach 6.3 Mt by 2026.

Figure 3.1.4. Cereal trade concentration



Note: S Top 5 exporters, wheat (2007-2016): Australia, Canada, the European Union, Russia, the United States.

Top 5 importers, wheat (2007-2016): Algeria, Brazil, Egypt, Indonesia, European Union.

Top 5 exporters, maize (2007-2016): Brazil, Argentina, Russia, the United States, Ukraine.

Top 5 importers, maize (2007-2016): Viet Nam, the European Union, Japan, South Korea, Mexico.

Top 5 exporters, other coarse grains (2007-2016): Argentina, Australia, Ukraine, the European Union, the United States, Ukraine.

Top 5 importers, other coarse grains (2007-2016): China, the Islamic Republic of Iran, Japan, Saudi Arabia, the United States.

Top 5 exporters, rice (2007-2016): India, Pakistan, Thailand, the United States, Viet Nam.

Top 5 importers, rice (2007-2016): China, Côte d'Ivoire, Nigeria, the Philippines, Saudi Arabia.

Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-data-en>.

StatLink  <http://dx.doi.org/10.1787/888933522225>

Among maize importing countries in Asia, Bangladesh, Malaysia and Viet Nam are expected to become increasingly dependent on imports. Maize imports by Bangladesh are expected to more than double over the outlook period to reach 1 Mt, which means they cover 25% of their domestic demand through imports. Malaysia imports 3.7 Mt in the base period and is expected to import 4.4 Mt by 2026, which accounts for almost its entire domestic consumption. Viet Nam has experienced a surge in maize imports since 2012, from 1.6 Mt to 9 Mt or 65% of domestic consumption in 2016, although it is expected to increase imports at a slower pace over the outlook period reaching 9.5 Mt.

The international trade volume of other coarse grains is much smaller than those for maize or wheat. The major five exporters are the European Union, Australia, the United States, Argentina, and Ukraine. Most of the expected increase in trade volume is projected to come from these countries maintaining a share of 73% of global trade during the base period. Adding exports from the Russian Federation and Canada to the five major exporters leads to over 90% of global trade projected to be covered by these countries. In contrast to maize and wheat markets, imports of other coarse grains are much less widespread among countries. The five major importers (China, Saudi Arabia, Japan, the United States, and the Islamic Republic of Iran) absorb almost 70% of global trade, with China alone accounting for 29% in 2026.

China's imports of barley and sorghum imports increased from about 3 Mt in 2012 to more than 18 Mt in 2014. Since then, imports of these commodities have decreased and it is assumed in this *Outlook* that due to policy changes for maize, barley and sorghum imports will be replaced partly by maize released from stocks in the feed ratios in the coming years, thereby keeping imports flat. It is assumed that the other coarse grain imports will rise again as soon as the maize market reaches a new equilibrium and reach 15 Mt in 2026.

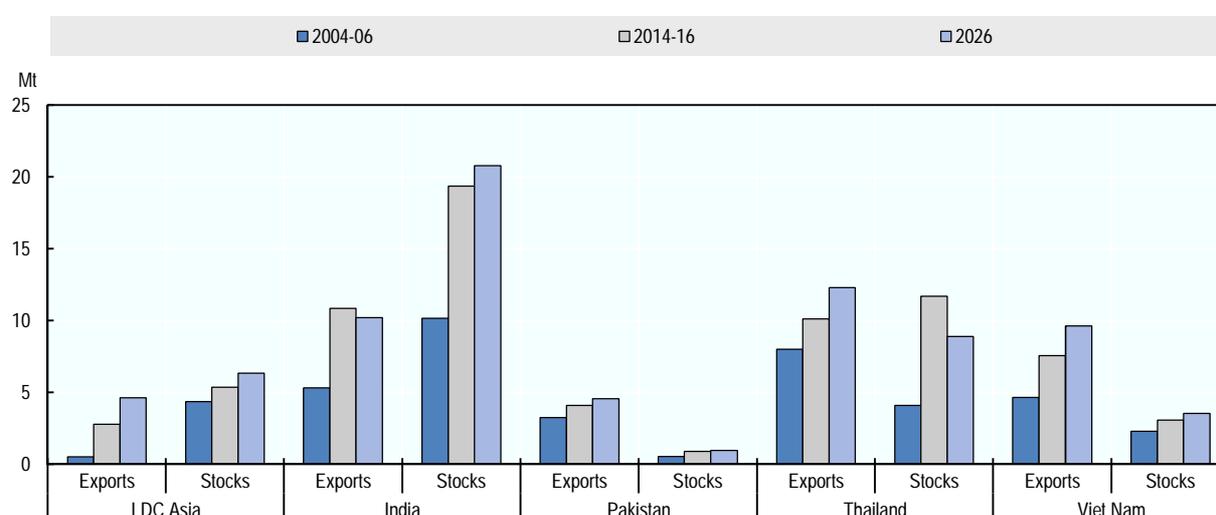
Despite being a thin market, compared with other agricultural commodities, international rice trade registered a particularly fast annual growth of 5.1% over the past ten years. Trade expansion is expected to slow down to 2% p.a. over the next ten years, but the volume exchanged is nevertheless expected to rise to 51 Mt by 2026.

Rice exports from four of the five major rice exporters – Pakistan, Thailand, Viet Nam, and the United States – are expected to be higher than in the base period, while those originating from India, currently the top exporter, are

projected to be moderately lower than in the base period. By 2026, Thailand replaces India as the largest global rice exporter with an export share of 24% (Figure 3.1.5). Another factor likely to dominate developments in the next decade is the probable rise of Cambodia and Myanmar as major rice exporters which would further stoke competition. Cambodia exports 1.3 Mt of rice to world markets in the base period and is expected to export 1.8 Mt by 2026, while the exports from Myanmar rise from 1.2 Mt in 2016 to 2.5 Mt in 2026 partly due to their duty free access to the European Union through the *Everything But Arms* agreement.

African countries are expected to remain major importers of rice as demand continues to outpace production. Nigeria, in particular, is predicted to establish its position as the second largest importer after China, purchasing close to 3.5 Mt or 50% of their domestic consumption. Overall, imports in Africa are expected to increase from 14.5 Mt in the base period to 20 Mt in 2026, lifting Africa's share of world imports from 33% to 41%. In addition to China and Nigeria, the group of the five major importers includes Côte d'Ivoire, the Philippines, and Saudi Arabia. Altogether, these countries account for about 33% of global rice imports throughout the projection period.

**Figure 3.1.5. Exports and stocks for Asian rice exporters**



Source: OECD/FAO (2017), "OECD-FAO Agricultural Outlook", *OECD Agriculture statistics* (database), <http://dx.doi.org/10.1787/agr-data-en>.

StatLink  <http://dx.doi.org/10.1787/888933522244>

### Main issues and uncertainties

After several consecutive years of above average supplies, current production prospects for the main grain-producing regions are optimistic despite the prevailing risk of adverse weather events such as extreme heatwaves or devastating floods, which are accentuated by climate change. Historical deviations of crop yields from expected values are higher for wheat than for other cereals, and wheat yields in Australia, Kazakhstan, the Russian Federation and Ukraine are particularly uncertain. Crop yields in South American countries such as Argentina, Brazil, Paraguay and Uruguay also show reasonably high variability.

Cereal prices could be affected by a potential further slowdown in economic growth of fast growing economies, such as China, and lower energy prices caused by the uptake of new energy sources and new extraction technologies. Moreover, the reinforcement of food security and the sustainability criteria in the reform and design of biofuel policies (i.e. the European Union or the United States) may also impact on the demand for cereals. Additionally, political unrest in either exporting countries (notably Ukraine) or importing countries (in particular North Africa and the Middle East) could provoke market reactions that are not reflected in the projections. China's policies which influence their import demand for cereals are also crucial for future developments in the cereal markets.

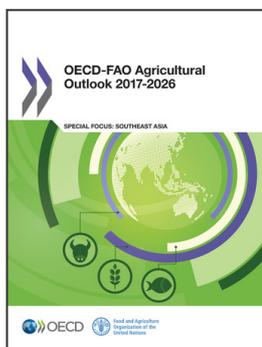
The future developments of global wheat markets are uncertain since exporting countries in South America face strong price increases given their assumed exchange rate depreciations which will stimulate production. Stronger exchange rates would put downward pressure on dollar-denominated prices. Consequently, international prices could fall in dollar terms, while farmers and export companies in one country could be looking at rising prices

in their domestic currency which could stimulate production. Demand for wheat is concentrated in North Africa and the Middle East, but further political instability in these regions could reduce demand and depress international wheat prices.

The outlook for Argentina is also uncertain since recent policy changes concerning the elimination of export taxes might strengthen competitiveness on international cereal markets even more than assumed in the projections.

*Note*

1. This implies production increases mainly in barley for the European Union and the Russian Federation, while for Ethiopia, India, Argentina and Nigeria the dominating other coarse grain are millet and sorghum.



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