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Agricultural production statistics

2000–2020

HIGHLIGHTS

- The global production of primary crops increased by 52 percent between 2000 and 2020, to 9.3 billion tonnes in 2020.
- Four individual crops accounted for half the global production of primary crops in 2020: sugar cane, maize, rice and wheat.
- The global fruit production went up 55 percent between 2000 and 2020, while that of vegetables increased by 65 percent over the same period.
- The total world production of vegetable oils went up 125 percent between 2000 and 2019, to 207.5 million tonnes in 2019. The main driver is palm oil, which more than tripled during the period.
- World meat production reached 337 million tonnes in 2020, up 45 percent, or 104 million tonnes compared with 2000.
- Chicken meat represented 35 percent of the global production in 2020, followed by pig meat (33 percent) and cattle meat (20 percent). Chicken meat production showed the fastest growth, while pig meat production declined between 2018 and 2019 due to the African swine flu outbreak.
- Overall, the current primary crop and livestock data for 2020 do not provide clear evidence for any impact of the COVID-19 pandemic at the global level.

FAOSTAT CROPS AND LIVESTOCK PRODUCTION

BACKGROUND

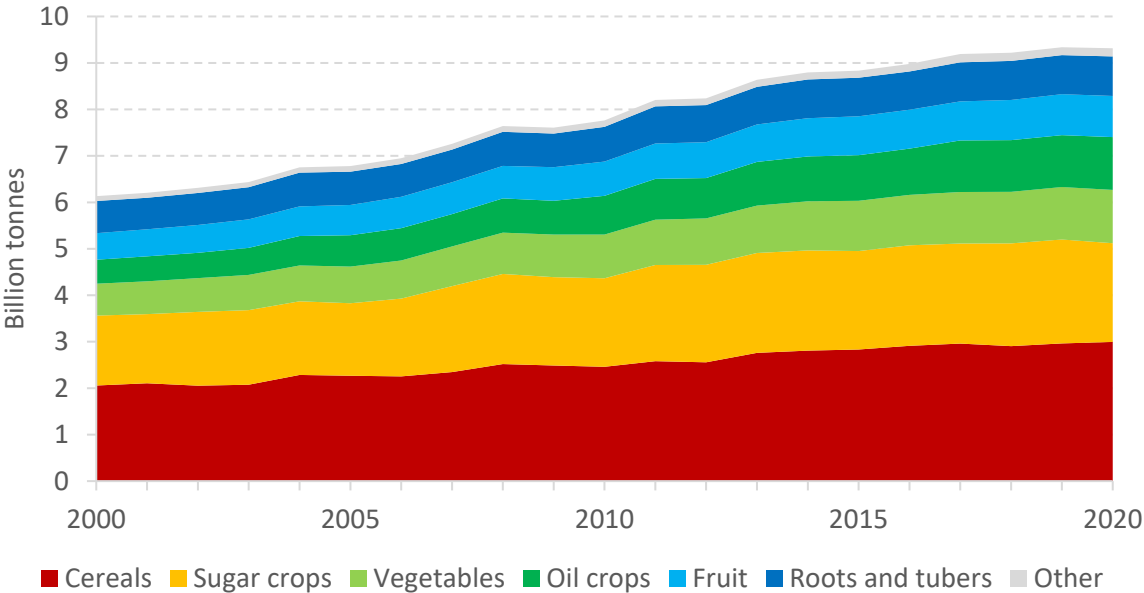
The agricultural production domain covers data on crops and livestock commodities as well as harvested areas, yields, and live and slaughtered animal numbers for 199 countries. The most recently released data elaborated by the Statistics Division of the Food and Agriculture Organization of the United Nations (FAO) extend to 2020. For each time series, data are analysed using agricultural input, output, and productivity variables. Data are also available up to 2019 for some processed crop and livestock products that are synchronized with the Food Balance Sheets domain.

PRIMARY CROPS

The global production of primary crops increased by 52 percent between 2000 and 2020, to 9.3 billion tonnes in 2020 (Figure 1). This represents 3.2 billion tonnes more than in 2000. With slightly less than one-third of the total, cereals were the main group of crops produced in 2020, followed by sugar crops (23 percent) and vegetables and oil crops (12 percent each). Fruit, and roots and tubers each accounted for 9–10 percent of the total production. The production of oil crops grew the fastest between 2000 and 2020, posting a 120 percent increase from 0.5 billion tonnes to 1.1 billion tonnes. In contrast, the smallest increase is recorded for roots and tubers, which grew by just 22 percent between 2000 and

2020. Overall, the current data for 2020 do not provide clear evidence for any impact of the COVID-19 pandemic at the global level.

Figure 1: Global production of crops by commodity group



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

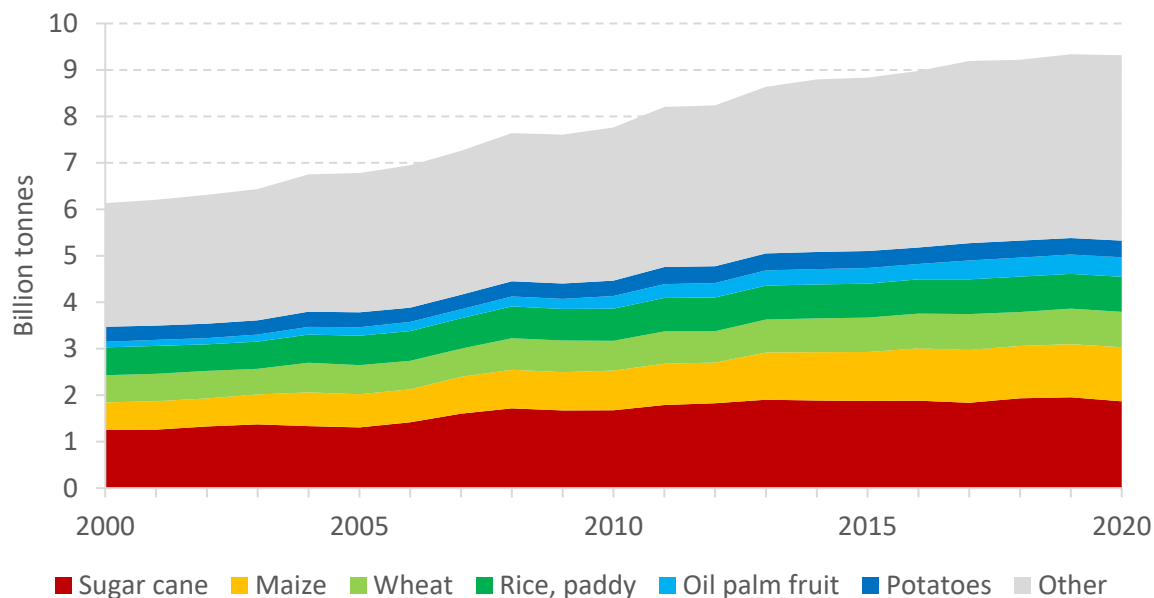
While a large number of crops are cultivated and harvested around the world, just four single crops accounted for half the global production of primary crops in 2020: sugar cane (20 percent of the total, with 1.9 billion tonnes), maize (12 percent, with 1.2 billion tonnes), rice and wheat (8 percent, with 0.8 billion tonnes each). Oil palm fruit and potatoes each accounted for an additional 4 percent of world crop production (Figure 2).

Sugar cane accounted for 21 percent of the global crop production on average over the past two decades. While maize, wheat and rice each represented 10 percent of the total in 2000, maize production grew more than three times faster than that of wheat or rice during the period, surpassing rice in 2001 to become the second most produced crop worldwide. The Americas is the leading region in the production of sugar cane (54 percent of the world total) and maize (50 percent), while Asia leads in the production of rice (89 percent), oil palm fruit (89 percent), wheat (46 percent) and potatoes (50 percent) (FAO, 2021a).

For each main crop commodity mentioned in Figure 2, the top three producers combined accounted for a significant share of the world total in 2020: slightly above 40 percent for wheat and potatoes, around 60 to 66 percent for sugar cane, maize and rice, and close to 90 percent for oil palm fruit (Figure 3). For each crop, the top producer also has a sizeable share of the global output: in 2020, Brazil accounted for 40 percent of world sugar cane production, the United States of America grew 31 percent of the global production for maize, China (which ranked in the top three producers for five out of the six main crop commodities) produced 28 percent of the world output of rice, 22 percent of that of maize and potatoes, 18 percent of that of wheat and 6 percent of that of sugar cane, while 61 percent of oil palm fruit production originated in Indonesia. Such a concentration can have a large impact on prices when

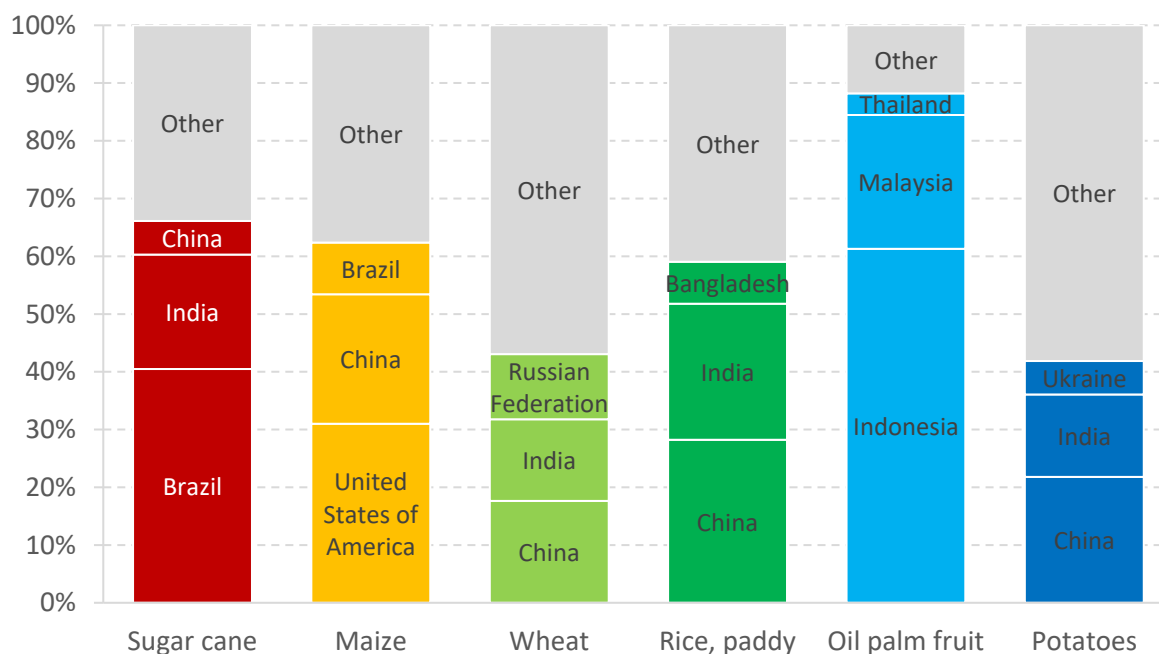
harvests are affected – either positively or negatively – in the main producing countries that export part of their production.

Figure 2: Global production of crops by main commodities



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

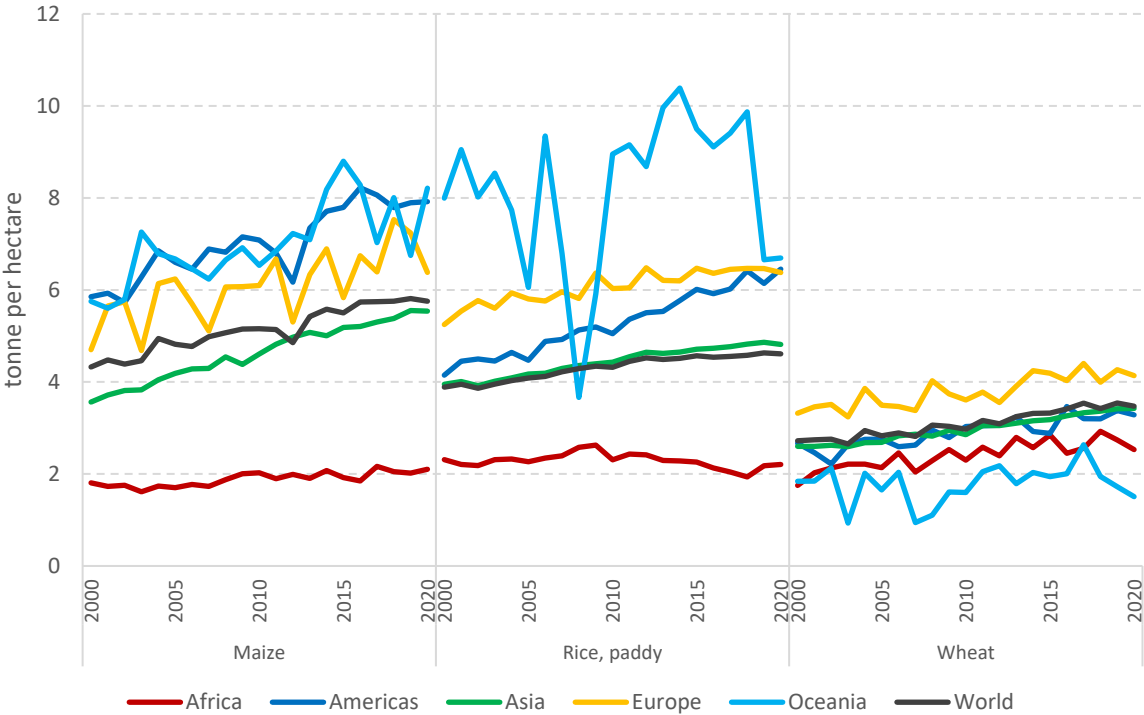
Figure 3: Global production of main primary crops by main producers (2020)



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

Looking at cereals, the average global yields of maize, rice and wheat grew by 33 percent, 19 percent and 28 percent respectively between 2000 and 2020 (Figure 4). In the case of **maize**, Oceania and the Americas show yields around 8 tonnes per hectare (t/ha), which is 25 percent above the global yield of 6 t/ha. This is especially important given that the Americas accounted for half the maize production in 2020. The yield increased the fastest in Asia (by 56 percent), to 5.5 t/ha in 2020. The yield was lowest in Africa, at around 2 t/ha during the last two decades, and increased by just 16 percent between 2000 and 2020, the slowest pace among all regions. The yield of **rice** production increased by 22 percent in Asia (which accounted for close to 90 percent of the global production in 2020) to 4.8 t/ha in 2020. It is the highest in the Americas, where it also increased the fastest (+56 percent between 2000 and 2020, to 6.5 t/ha). In contrast, the rice yield is the lowest, and declining, in Africa (-5 percent between 2000 and 2020, to 2.2 t/ha). The large fluctuations observed for Oceania are due to the variability of the production in Australia, which is small and highly dependent on water availability and seasonal conditions. During the past two decades, Asia and Europe – the two main producing regions of **wheat** – saw their yields increase by 32 percent (to 3.4 t/ha in 2020) and 25 percent (to 4.1 t/ha in 2020) respectively. Africa recorded the fastest increase, which went up 44 percent between 2000 and 2020 to 2.5 t/ha. Wheat is the cereal for which the range of yields between regions is the smallest.

Figure 4: Cereals production yield by region and main commodities



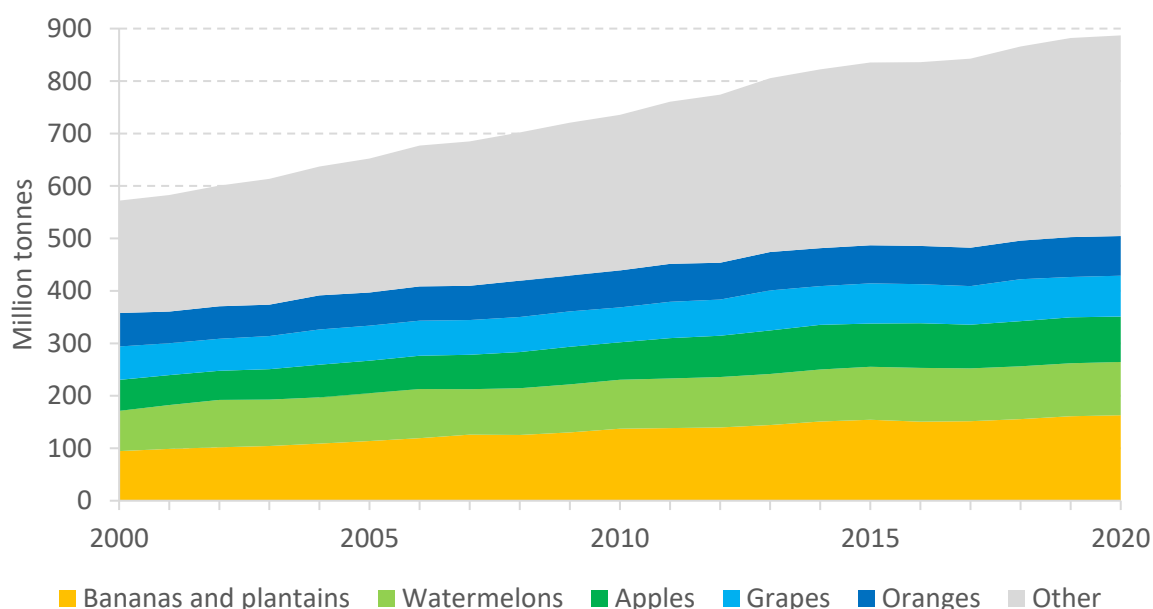
Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

Focus on the International Year of Fruits and Vegetables

The United Nations General Assembly designated 2021 the International Year of Fruits and Vegetables, which was launched in December 2020 and closed in March 2022.

World fruit production went up 55 percent between 2000 and 2020, to 887 million tonnes, which represents an increase of 315 million tonnes (Figure 5). Five fruit species accounted for 57 percent of the total production in 2020, down from 63 percent in 2000: bananas and plantains (18 percent), watermelons (11 percent), apples (10 percent), oranges and grapes (9 percent each). The share of bananas and plantains in the global total slightly increased since 2000, while that of the other main fruit species declined. India was the top producer of bananas and plantains in 2020 and accounted for just under 20 percent of the global production; China was the top producer of watermelons (59 percent of the world total), apples (47 percent) and grapes (19 percent); and with 22 percent of the world production, Brazil was the top producer of oranges.

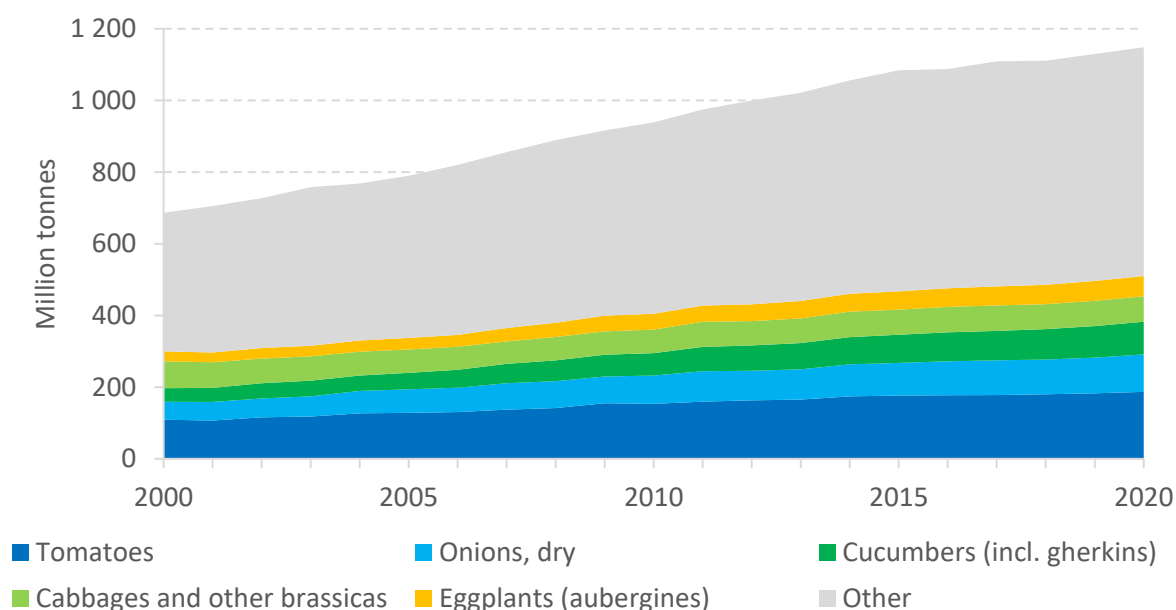
Figure 5: Global production of fruit by main commodities



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

World vegetables production grew faster between 2000 and 2020, as it went up 65 percent, or 446 million tonnes, to 1 128 million tonnes in 2020 (Figure 6). The five main vegetable species accounted for 42–45 percent of the total during the period: tomatoes (16 percent in 2020), onions (9 percent), cucumbers (including gherkins) (8 percent), cabbages (6 percent) and eggplants (5 percent). The share of onions, cucumbers (including gherkins), and eggplants increased, while that of cabbages almost halved and that of tomatoes remained stable. In 2020, China was the top producer of tomatoes (35 percent of the global production), cucumbers (including gherkins) (80 percent), cabbages (48 percent) and eggplants (65 percent); India was the top producer of onions (26 percent of the world total).

Figure 6: Global production of vegetables by main commodities



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

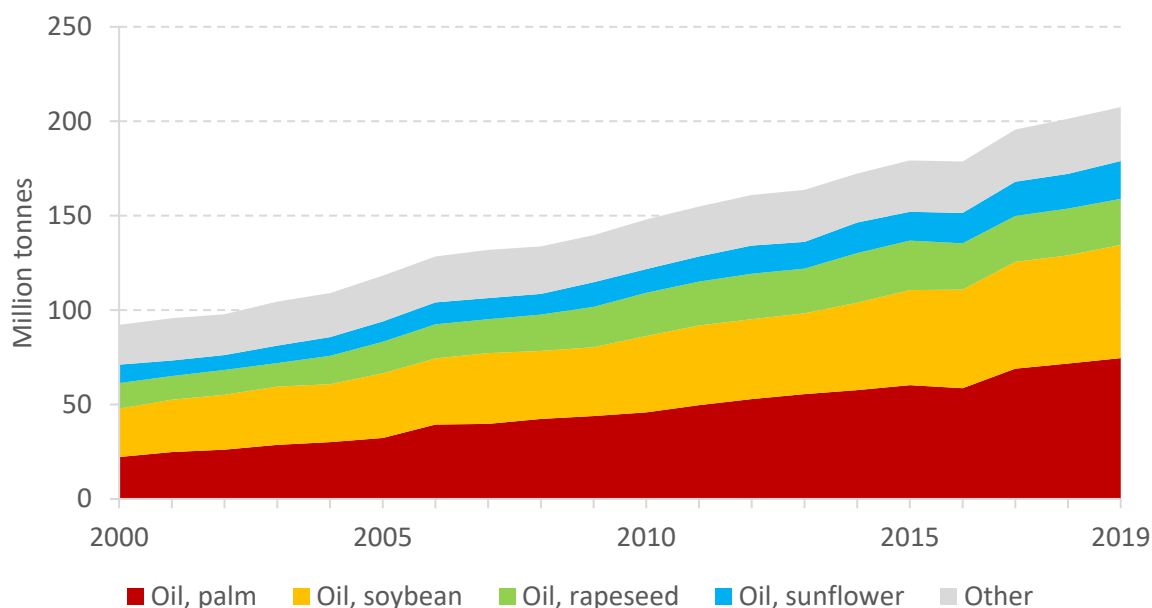
PROCESSED CROPS

Most primary crops can be consumed unprocessed, but two crop groups in particular require processing for the production of commodities used both as food and fuel: oil crops and sugar crops. As such, they have an impact on nutrition and health, but also on energy and the environment.

The total world production of vegetable oils went up 125 percent between 2000 and 2019, to 207.5 million tonnes in 2019 – 115 million tonnes more than in 2000 (Figure 7). Palm oil had the largest increase, both absolute and relative, as its production went up 52 million tonnes, or 236 percent; it overtook soybean oil as the main vegetable oil produced in 2006. The other main vegetable oils are rapeseed oil, accounting for 12 percent of global vegetable oil production in 2019, and sunflower oil, which accounted for 10 percent of total vegetable oil production in 2019.

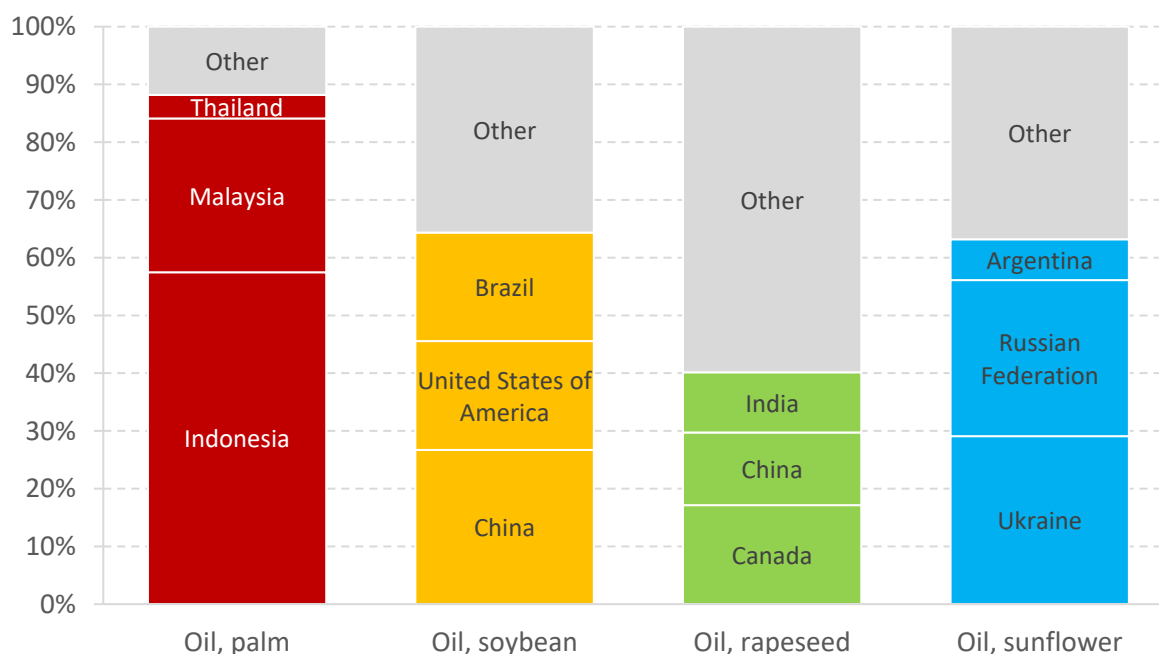
As with primary crops, the production of the main vegetable oils is heavily concentrated in a handful of countries (Figure 8). The concentration is highest with palm oil, as 84 percent of global production came from two countries in 2019: Indonesia (57 percent) and Malaysia (27 percent). This mirrors the shares of the top producers of oil palm fruit shown in Figure 3. In 2019, the top three producers accounted for 63–64 percent of the production of soybean oil and sunflower oil, and for 40 percent of the production of rapeseed oil. China was the main producer of soybean oil, with a share of 27 percent in 2019 and the United States of America a distant second with a share of 19 percent. The difference between the first and second producer was much smaller for rapeseed and sunflower oil: Canada led the production of rapeseed oil in 2019, with 17 percent of the world total, just ahead of China (13 percent), while Ukraine produced 29 percent of the global sunflower oil production in 2019, with the Russian Federation a close second (27 percent).

Figure 7: Global production of vegetable oils by main commodities



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

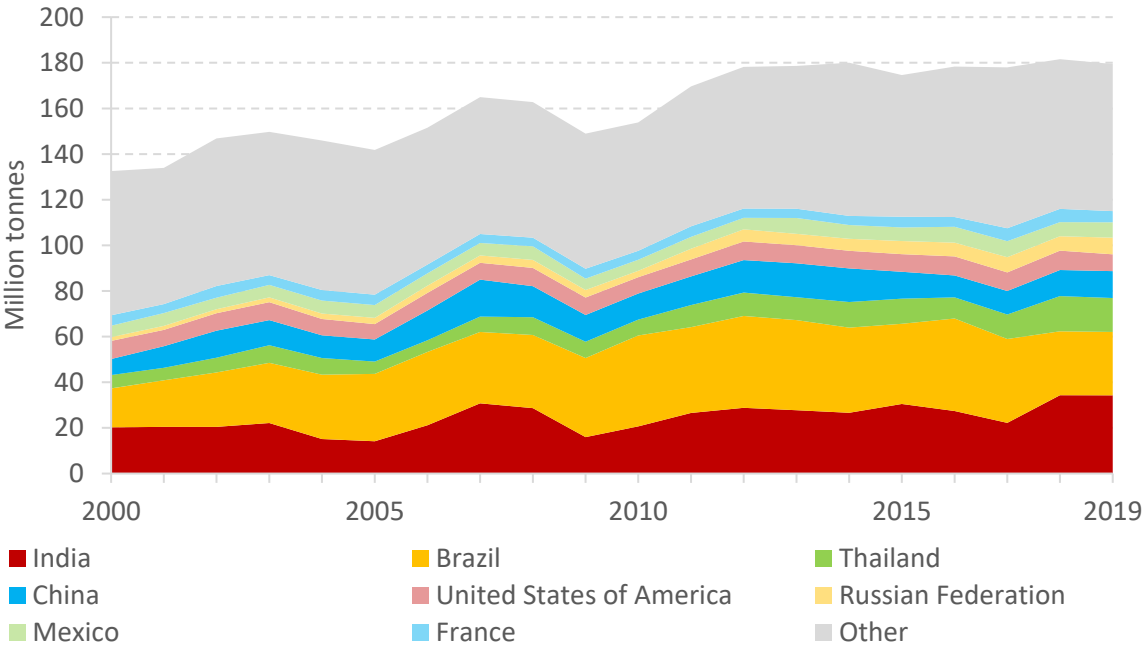
Figure 8: Global production of main vegetable oils by main producers (2019)



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

The global production of raw sugar reached 179 million tonnes in 2019, up 35 percent compared with 2000, or 47 million tonnes (Figure 9). As sugar cane, the main sugar crop, grows in tropical regions, the main producing countries are located there. The largest producing country is India, which increased its share in the world total from 15 percent in 2000 to 19 percent in 2019. Brazil, which was the top sugar producer between 2002 and 2017, saw its sugar production drop in 2018–19 due to dry weather and higher ethanol prices that make producing sugar less profitable, and accounted for 15 percent of the global total in 2019. The other main producers account for 3 to 8 percent of the total production each, with the Russian Federation relying exclusively and France almost entirely on sugar beet for sugar production.

Figure 9: Global production of raw sugar by main producers

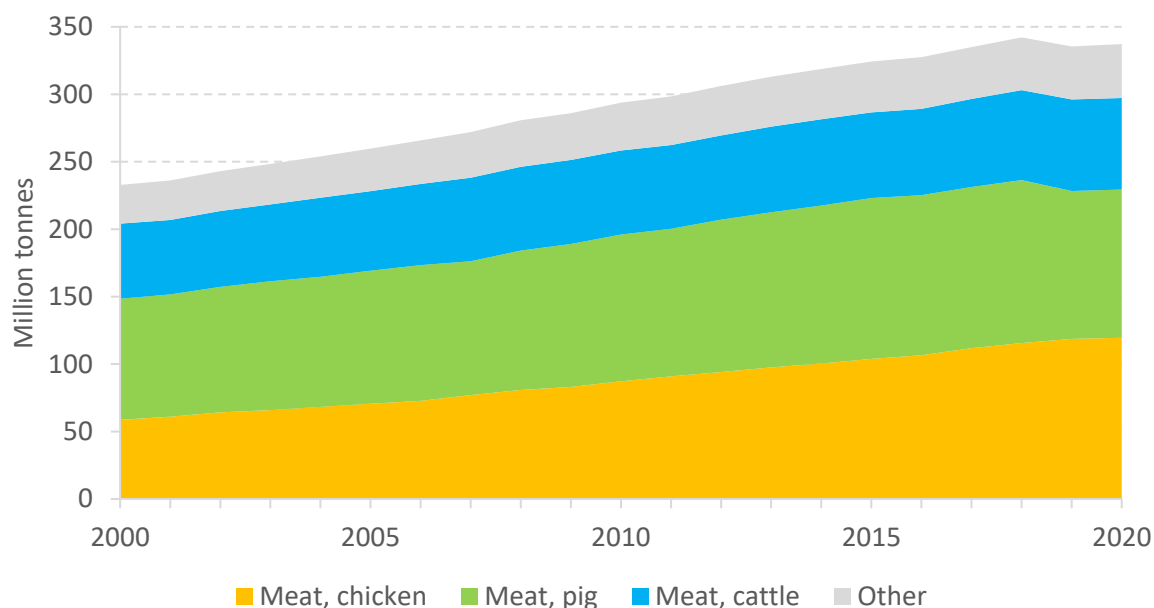


Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

LIVESTOCK

World meat production reached 337 million tonnes in 2020, up 45 percent, or 104 million tonnes compared with 2000 (Figure 10). Although many species are raised for their meat, only three accounted for nearly 90 percent of the global production during the past two decades: chicken, pig and cattle (not taking into account the different breeds for each). With 35 percent of the global production in 2020, chicken meat showed the largest growth in absolute and relative terms since 2000 (+104 percent, or 61 million tonnes) and was the most produced type of meat in 2020. Pig meat represented 33 percent of the total in 2020, compared to 38 percent in 2000. The African swine fever started affecting Asian countries in late 2018, resulting in a 11 million tonnes decrease in pig meat production between 2018 and 2019 and constraining production in 2020, with China being hardest hit. The share of cattle meat dropped from 24 percent in 2000 to 20 percent in 2020.

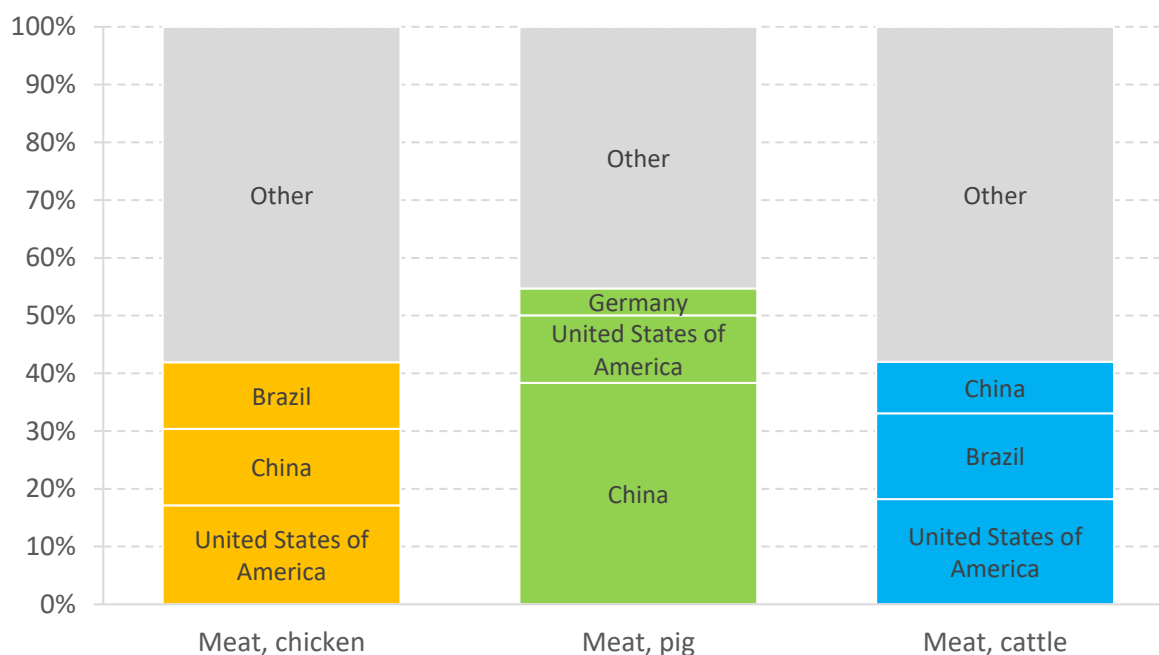
Figure 10: Global production of meat by main items



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

The market concentration of meat production is not as strong as for primary crops and vegetable oils, even though the top three producers accounted for 55 percent of world pig meat production and 42 percent of global chicken and cattle meat production (Figure 11). China and the United States of America are among the three largest producers for each main meat type: in particular, China alone accounts for 38 percent of world pig meat, and the United States of America produced 17 to 18 percent of world chicken and cattle meat. The difference between the two countries is that meat production in China is mostly for the domestic market, whereas a significant share of American meat production is exported, especially in the case of chicken (FAO, 2021b).

Figure 11: Global production of main meat items, main producers (2020)

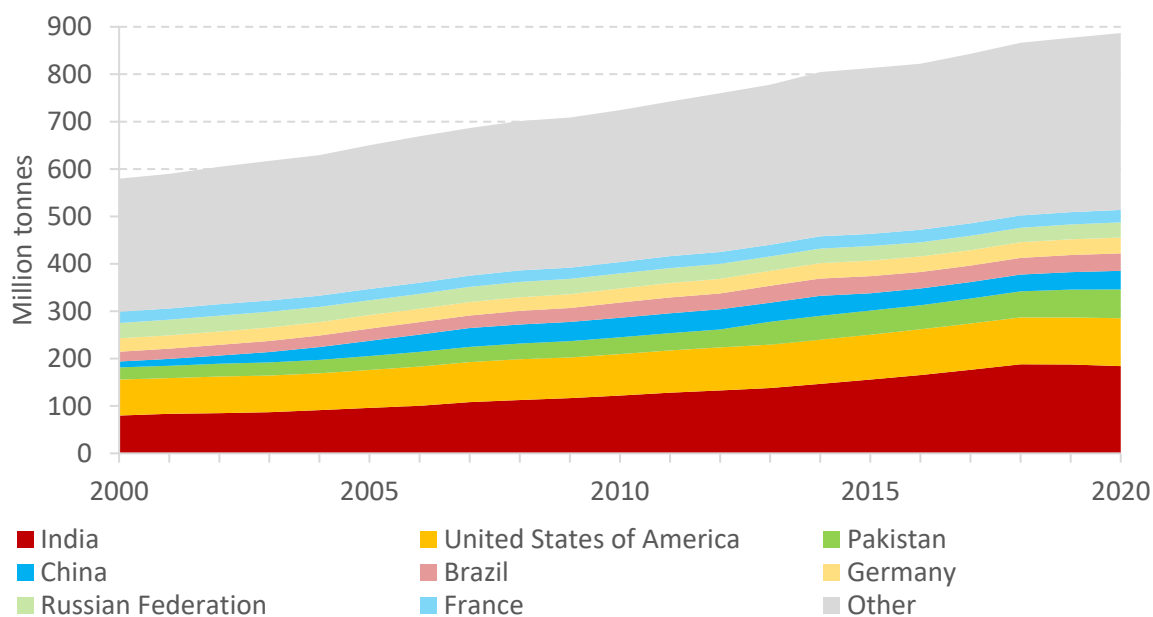


Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

World milk production rose by 53 percent to 887 million tonnes in 2020, an increase of 307 million tonnes compared with 2000 (Figure 12). The top eight producers accounted for 58 percent of the global production, compared with 52 percent in 2000. India was by far the largest milk producer in 2020, with 184 million tonnes (21 percent of the global total). While its production was just above that of the United States of America (the second largest producer throughout the period), its production grew by 130 percent between 2000 and 2020 compared to 33 percent for the United States of America. The other main producers (Pakistan, China, Brazil, Germany, the Russian Federation and France) each accounted for 3 to 7 percent of the global production, and the fastest increase in production over the past two decades took place in China (+217 percent).

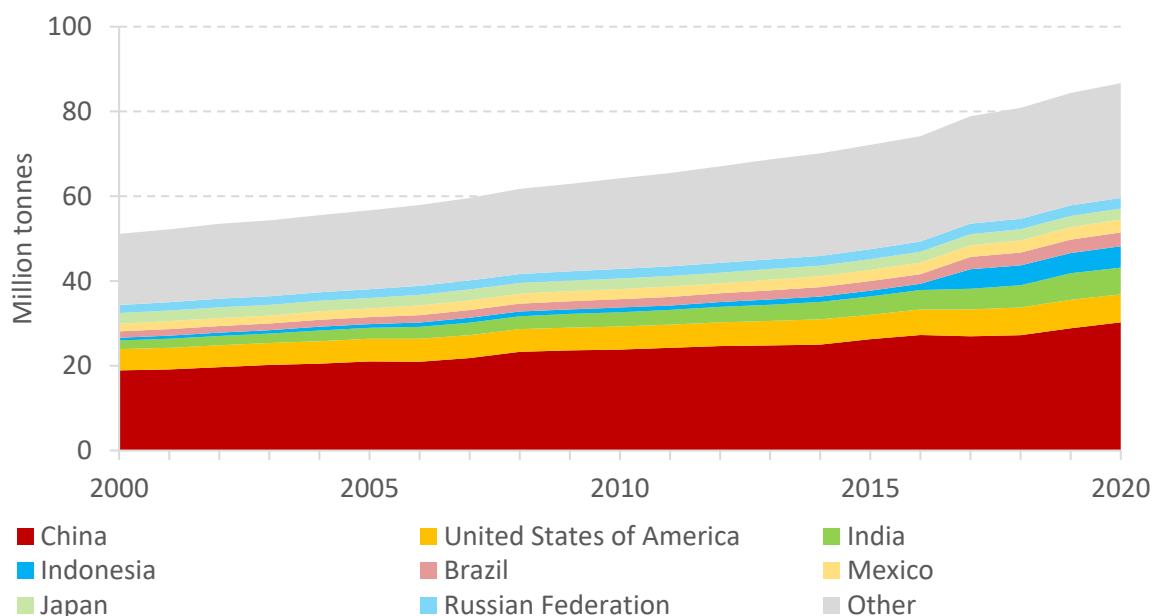
In 2020, world hen eggs production reached 87 million tonnes, a 69 percent increase from the 2000 level, which translates into an additional 36 million tonnes over the period (Figure 13). Together, the top three producers accounted for half the global hen eggs production in 2020, and the top eight producers for 69 percent. With 30 million tonnes (35 percent of the world total), China ranked as the largest hen egg producing country in 2020; the shares of the other main producers (the United States of America, India, Indonesia, Brazil, Mexico, Japan and the Russian Federation) vary between 3 and 8 percent of the global production.

Figure 12: Global production of milk by main producers



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

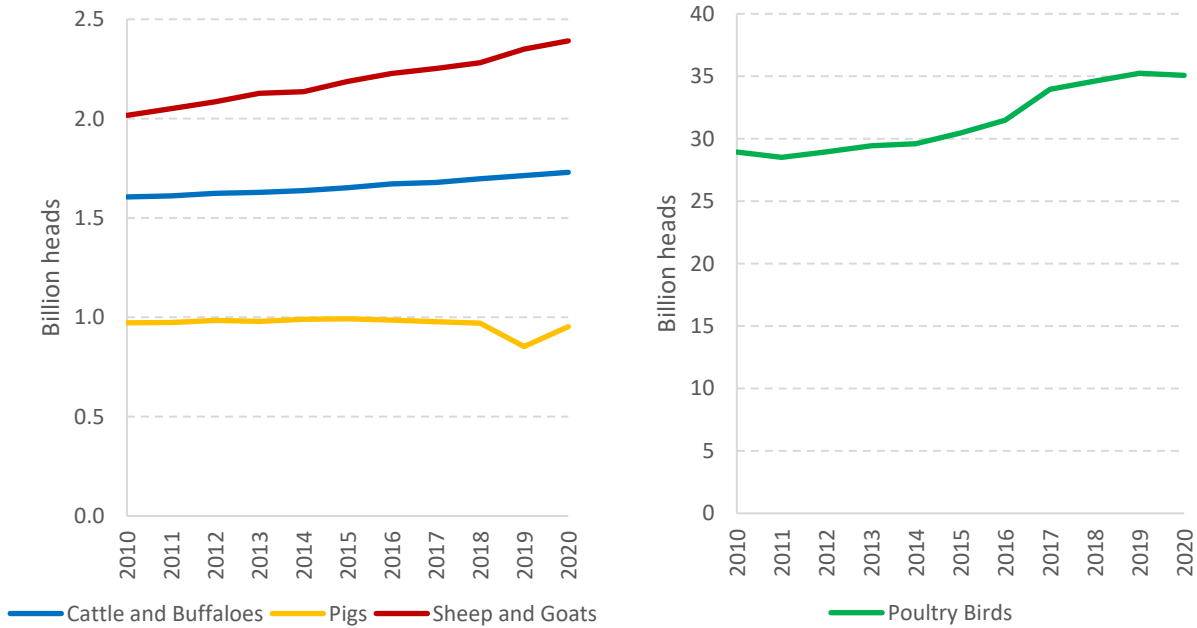
Figure 13: Global production of hen eggs by main producers



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

The global stocks of live animals grew at uneven rates between 2010 and 2020: by 21 percent for poultry birds, to 35.1 billion heads; by 19 percent for sheep and goats, to 2.4 billion heads; by 8 percent for cattle and buffaloes, to 1.7 billion heads. The only decrease observed during the period was for pigs, as their numbers went down 2 percent: this change masks a relative stability around 1.0 billion heads followed by a large drop in 2019 due to the African swine fever outbreak affecting Asian countries, which was mostly offset in 2020. India has the largest stock of cattle and buffaloes (304 million heads), while China has the largest stock of pigs (412 million heads) and sheep and goats (307 million heads) and the United States is the leader for poultry birds (9.4 billion heads), which reflects the position of each country in the production of meat or products derived from these animals.

Figure 14: Global stocks of live animals by species group



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

NON-FOOD

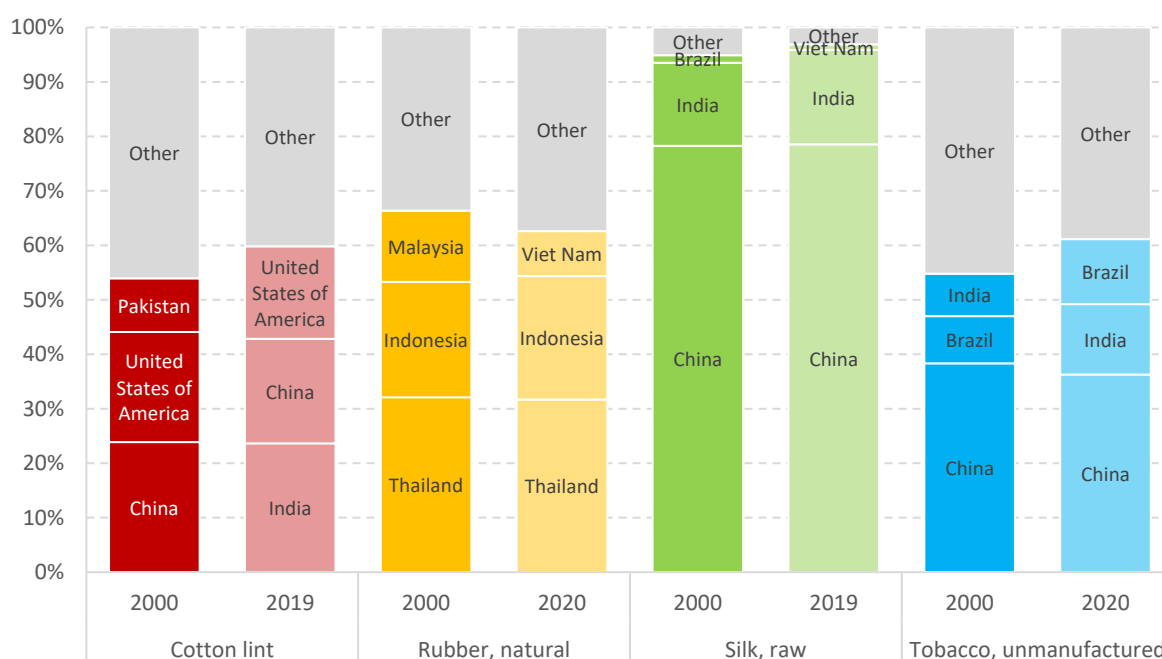
Many agricultural crops and livestock products are not used for food, and play key roles as inputs to other economic sectors such as the manufacturing or textile industries. Important commodities covered in this section are cotton lint, natural rubber, raw silk and unprocessed tobacco:

- The production of **cotton lint** went up 38 percent between 2000 and 2019, from 18.5 million tonnes to 25.5 million tonnes. The top three producers in 2019 were India, China and the United States of America, which accounted for 60 percent of the global production, compared to 54 percent in 2000. Notably, the production in India was multiplied by a factor of 3.7 since 2000, making it the largest producer in 2019.
- **Natural rubber** presents a 109 percent growth of its production between 2000 and 2020, from 7.1 million tonnes to 14.8 million tonnes. The main producers are all in South-eastern Asia, with Thailand and Indonesia the top two in both 2000 and 2020, with very stable shares in the total. As its production more than quadrupled between 2000 and 2020, Viet Nam became the third largest producer in 2020.



- The production of **raw silk** is concentrated in China and India, which accounted for 96 percent of the global output in 2019 (with China alone representing around 80 percent of the world total), up from 93 percent in 2000. Over the period, the production increased from 100 000 tonnes to 173 000 tonnes.
- **Unmanufactured tobacco** saw its production decline by 12 percent between 2000 and 2020, from 6.7 million tonnes to 5.9 million tonnes. The top three producers are China, India and Brazil (the latter two having switched positions as second and third largest producers), and accounted for 61 percent of the global total in 2020, up from 55 percent in 2000.

Figure 15: Global production of key non-food commodities, main producers



Source: FAO. 2021. Production: Crops and livestock products. In: FAO. Rome. Cited March 2022. <https://www.fao.org/faostat/en/#data/QCL>

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