Food and Agriculture Organization
of the United Nations

ISSN 2709-006X [Print]
ISSN 2709-0078 [Online]

FAOSTAT ANALYTICAL BRIEF 48

Land statistics and indicators

Global, regional and country trends, 2000–2020

>> FAO Statistics Division

HIGHLIGHTS

- → **In 2020, world total agricultural land was about 4.7 billion hectares, about one-third of the global land area. One-third of agricultural land was cropland (nearly 1.6 billion hectares) while the remaining two-thirds were permanent meadows and pastures (around 3.2 billion hectares).**
- → **Agricultural land decreased by nearly 3 percent in the last two decades, due to a combined 5 percent increase in cropland and a 6 percent decrease in permanent meadows and pastures.**
- → **The 2022 dissemination includes a significant update in arable land subcomponents (temporary crops, temporary meadows and pastures, temporary fallow). Annual crops represented in 2020 about 80 percent of the global arable land (1.1 billion hectares), going up 10 percent since 2001 while fallow land and temporary meadows and pastures decreased.**
- → **In 2020, world per capita use of agricultural land and of cropland were 0.6 and 0.2 hectares per capita, respectively, down by about 20 percent since 2000, in line with population increases.**
- → **World total area equipped for irrigation was 350 million hectares in 2020, or 22 percent of cropland area, a 20 percent increase since 2000. The area under organic agriculture was 75 million hectares in 2020, three times larger than the start of the series in 2004.**
- → **In 2020, Asia had the largest cropland area (590 million hectares, one-fifth of which in China), followed by Africa and Europe (about 280 million hectares each). Conversely, Oceania and Northern America had the highest cropland per capita indicators (0.8 and 0.5 hectares per capita, respectively).**

LAND STATISTICS AND INDICATORS

BACKGROUND

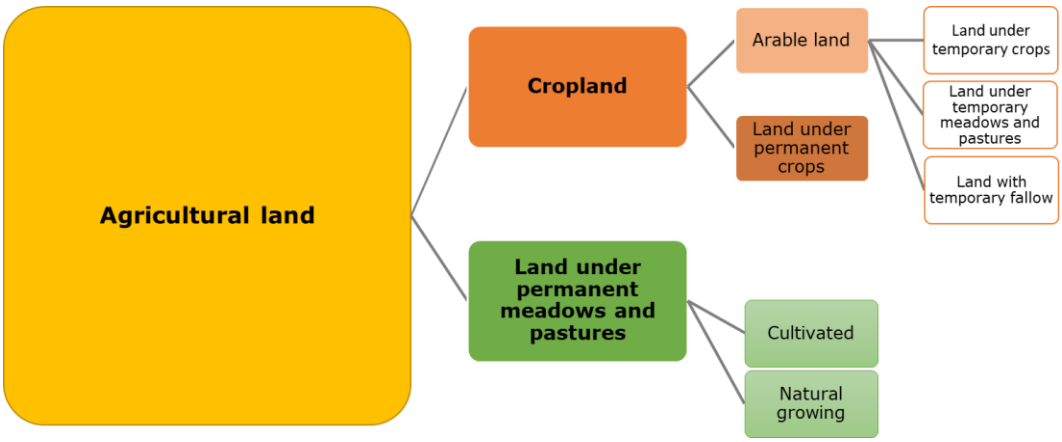
Land use statistics describe activities undertaken for the purpose of economic production, and more recently for the maintenance and restoration of environmental functions (FAO and UNSD, 2020). The term “use” implies the existence of human intervention or management, including the institutional arrangements put in place for administrative purpose. Land in use therefore includes areas that are under the active management of institutional units of a country.

The Food and Agriculture Organization of the United Nations (FAO) land use classification is an international statistical standard (see FAO and UNSD, 2020), consistent in addition with land classes of the Intergovernmental Panel on Climate Change (IPCC), used by countries for reporting to the United Nations Framework Convention on Climate Change (UNFCCC).

Since the 1950s and in line with the first article of its Constitution, FAO collects annual land use data from countries via a standard Land Use, Irrigation and Agricultural Practices questionnaire, integrated every five years with independent information on forest land area collected via the FAO Global Forest Resources Assessment (FAO, 2020). Resulting Land Use statistics and Land use indicators are published in FAOSTAT (FAO, 2022a, FAO, 2022b). Together they provide information on the full land use matrix of a country. Land cover statistics provide supplemental information on the related land cover features, and are used as a tool in support of land use data analysis (FAO, 2022c).

This analytical brief reports the main results and changes over time in land use with a focus on agricultural land uses and its components (Figure 1), including important irrigation and agricultural practices, and with details at global, regional and country level during the past decades (2000–2020).

Figure 1: Components of agricultural land



Source: FAO. 2022. FAOSTAT: Land Use. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/RL

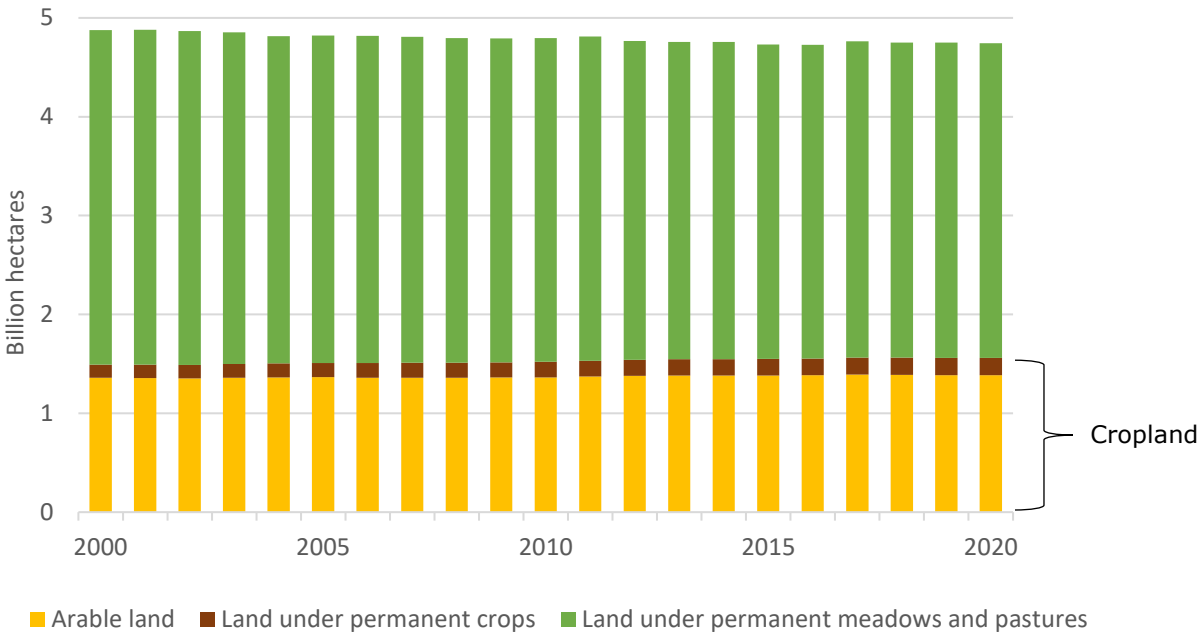
GLOBAL

The world land area excluding Antarctica is about 13 billion hectares (ha), reaching 13.5 billion ha with the addition of inland waters. In 2020, agricultural land, forest land and other land (the latter including barren and desert areas, urban land and infrastructure) occupied about one-third each of the total. More specifically, in 2020 the agricultural land area was 4.7 billion ha; forest land 4.1 billion ha; and other land 4.2 billion ha. Within agricultural land, the cropland area was nearly 1.6 billion ha (12 percent of the world land area), whereas permanent meadows and pastures covered almost 3.2 billion ha, or one-fourth of the world land area. These global shares have not changed significantly since 2000.

In the period 2000–2020, world total agricultural land decreased by 134 million ha, to 4 744 million ha, due to a decrease in the area of permanent meadows and pastures (-203 million ha), accompanied by an increase in cropland area of over 69 million hectares, representing a 5 percent increase to 1 562 million ha. At the same time, world total cropland area per capita decreased by 18 percent, to reach 0.2 ha/capita in 2020, reflecting much sharper increases in population numbers over the period.

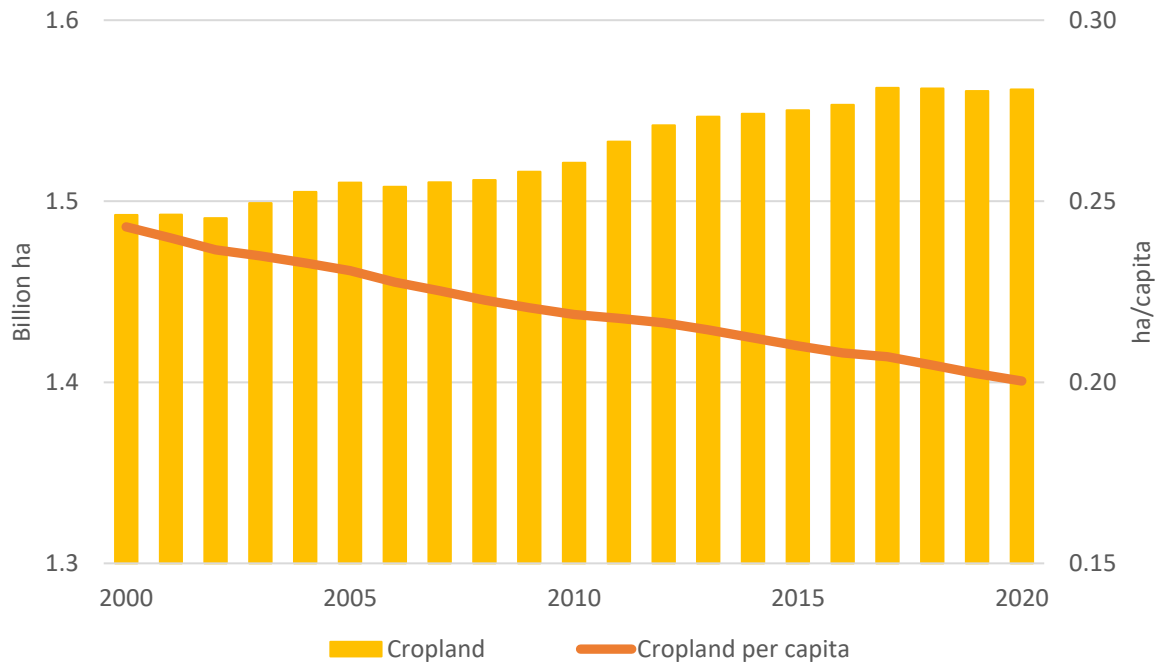
The increase in cropland area was largely driven by trends in area of permanent crops – oil palm, cocoa and coffee, olives, orchards, and other tree and shrub crops – which increased by 41 million ha from 2000 to 2020 (+31 percent), to reach 174 million ha, i.e. about one-tenth of total cropland area Increases in arable land area over the same period were smaller both in absolute amounts (28 million ha) and relative terms (+2 percent) than the growth in permanent crops (Figures 2 and 3).

Figure 2: World total agricultural land by component



Source: FAO. 2022. FAOSTAT: Land Use. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/RL

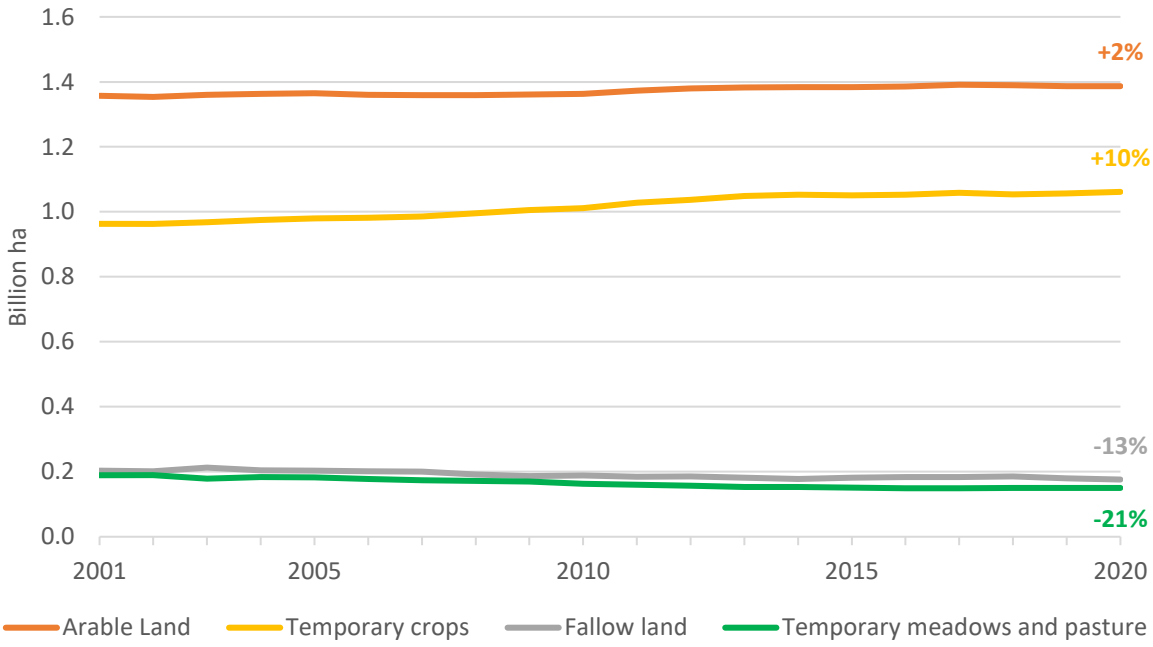
Figure 3: Global cropland area trends



Source: FAO. 2022. FAOSTAT: Land Use. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/RL and FAO. 2022. FAOSTAT: Land Use indicators. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/EL

Detailed statistics of arable land subcomponents (starting in 2001) provided with this dissemination allow for a more in-depth analysis of trends in arable land and shed light on the relative stability between 2001–2020. The small growth rates observed above for arable land were in fact the result of robust growth in temporary (annual) crops – cereals, soy and other herbaceous crops – which added 98 million ha from 2001 to 2020 (+10 percent) to reach 1 061 million ha in 2020. This growth was offset by significant decreases in the area used as fallow land or temporary meadows and pastures, which decreased by 27 and 39 million ha, or -13 and -21 percent, respectively (Figure 4).

Figure 4: Global arable land by subcomponent



Source: FAO. 2022. FAOSTAT: Land Use. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/RL

Irrigation and agricultural practices (organic agriculture)

In 2020, land area equipped for irrigation covered 349 million ha, or 7 percent of total agricultural land. It increased by over 20 percent since 2000. Land area equipped for irrigation does not coincide with the area actually irrigated, for which the associated statistics have insufficient temporal and geographical coverage due to low response rate.

In 2020, the global agricultural area under organic agriculture was 75 million ha, more than triple its value of 22 million ha in 2004, the first year for which data are available. In 2020, the amount of agricultural area under organic practices was 1.6 percent of the global agricultural land and 4.8 percent of total cropland area. The European Union (Eurostat, 2021) reports these statistics as a proxy in reporting on Sustainable Development Goal indicator 2.4.1 on sustainable and productive agriculture.

REGIONAL

With nearly 1.7 billion ha in 2020, Asia was the region with the largest area of agricultural land, one-third of which was located in China. Africa and Latin America and the Caribbean followed with about

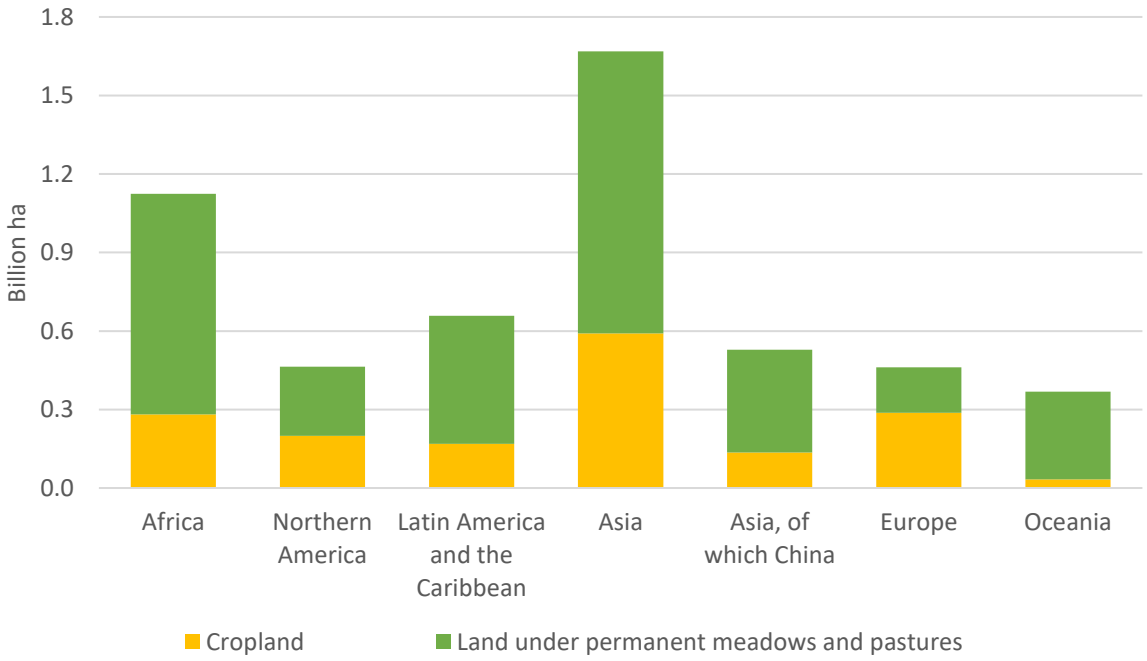
1.1 billion ha and nearly 700 million ha respectively. Northern America and Europe had a similar extent, about 460 million ha each and Oceania had the smallest area (370 million ha) (Figure 5).

Although the distribution of permanent meadows and pastures drives the regional distribution of agricultural land, the regions exhibited some significant differences. Oceania had the largest proportion of meadows and pastures, with cropland covering less than one-tenth of agricultural land. Conversely, permanent meadows and pastures occupied about one-third of agricultural land in Europe. In Africa, Latin America and Asia, the land under permanent meadows and pastures was about three-fourths of the total. The agricultural area in Northern America was two-fifths cropland and three-fifths pastures.

In 2020, Asia had the largest extent of cropland, with 600 million ha (of which more than one-fifth was in China). Europe and Africa followed with about 285 million ha each. The area of cropland was 200 million ha in Northern America and 170 million ha in Latin America and the Caribbean. Oceania, at 35 million ha, had the smallest extent.

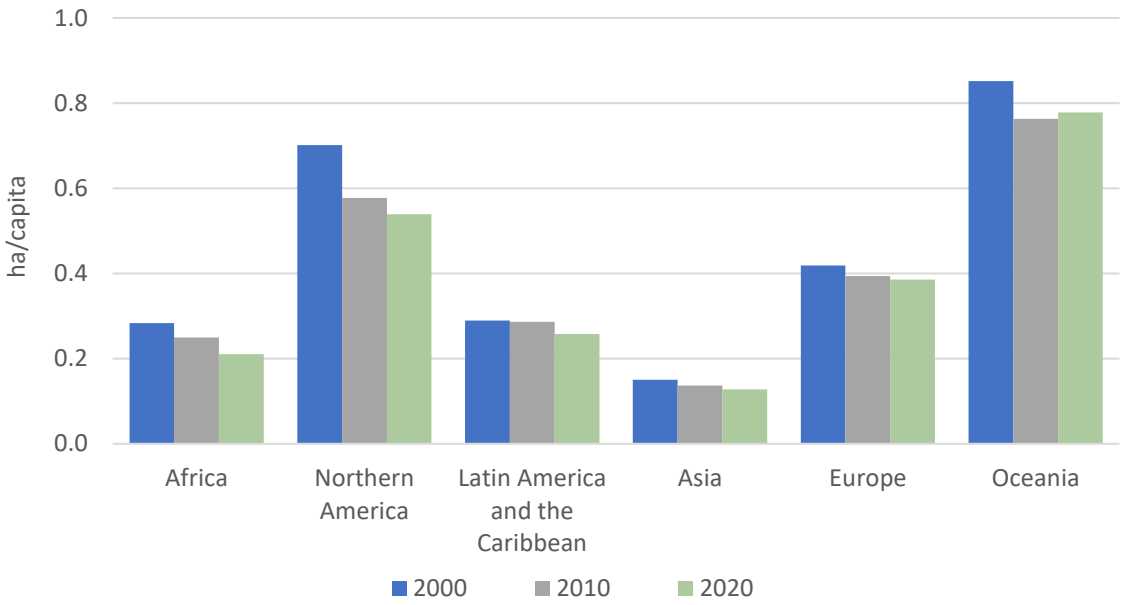
In 2020, the global per capita value of cropland (0.2 hectares per person) varied among regions (Figure 4). With nearly 0.8 ha per person, Oceania's value was nearly eight times larger than Asia's and about four times larger than Africa's. In 2020, Northern America had the second largest cropland area per capita (0.5 ha per capita), followed by Europe (0.4 ha per capita). Latin America and the Caribbean and Asia closed the ranking with only 0.3 and 0.1 ha of cropland area per capita, respectively. Over the past two decades, all the regions showed a reduction in cropland area per capita. The largest decrease was in Africa (-26 percent), primarily driven by a sustained growth in population. The second largest decrease (-23 percent) was recorded in Northern America, where the cropland area decreased by 9 percent and the population grew by 18 percent since 2000. The rates of decrease overall slowed down in the regions over the last decade.

Figure 5: Agricultural land by region and component (2020)



Source: FAO. 2022. FAOSTAT: Land Use. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/RL

Figure 6: Cropland area per capita by region



Source: FAO. 2022. FAOSTAT: Land Use indicators. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/EL

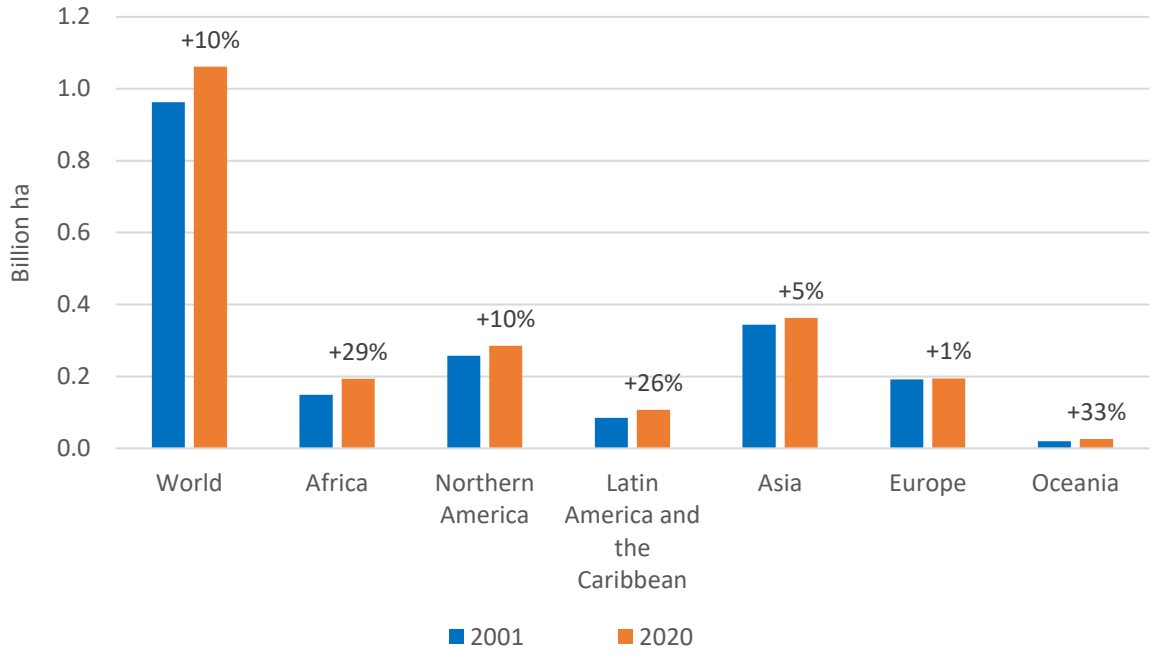
Temporary crops

As seen in Figure 4, the global area of temporary (annual) crops was 1 061 million ha in 2020, up 10 percent from 963 million ha in 2001, while land used as fallow land or for temporary meadows and pastures decreased. Figure 7 shows much larger growth rates in Oceania (+33 percent, to 26 million ha), Africa (+29 percent, to 193 million ha) and Latin America and the Caribbean (+26 percent, to 107 million ha in 2020). Conversely, the area of annual crops grew by 5 percent in Asia (to 362 million ha) and 1 percent in Europe[1] (to 194 million ha), and was in line with the world average in North America (+10 percent, to 285 million ha).

The new estimated data on temporary crops allowed for a better use of land cover data and harvested area data to improve quality assurance and quality control processes. In particular, land use data were compared to MODIS land cover data for herbaceous crops (FAO, 2022c), showing a high correlation over the entire period 2001–2020 (Figure 8).

[1] Including the Russian Federation.

Figure 7: Temporary crops area and change between 2001 and 2020 by region



Source: FAO. 2022. FAOSTAT: Land Use. In: *FAO.* Rome. Cited July 2022. http://www.fao.org/faostat/en/#data/RL

Figure 8: Comparisons of land use data with land cover data for herbaceous crops (2020)