

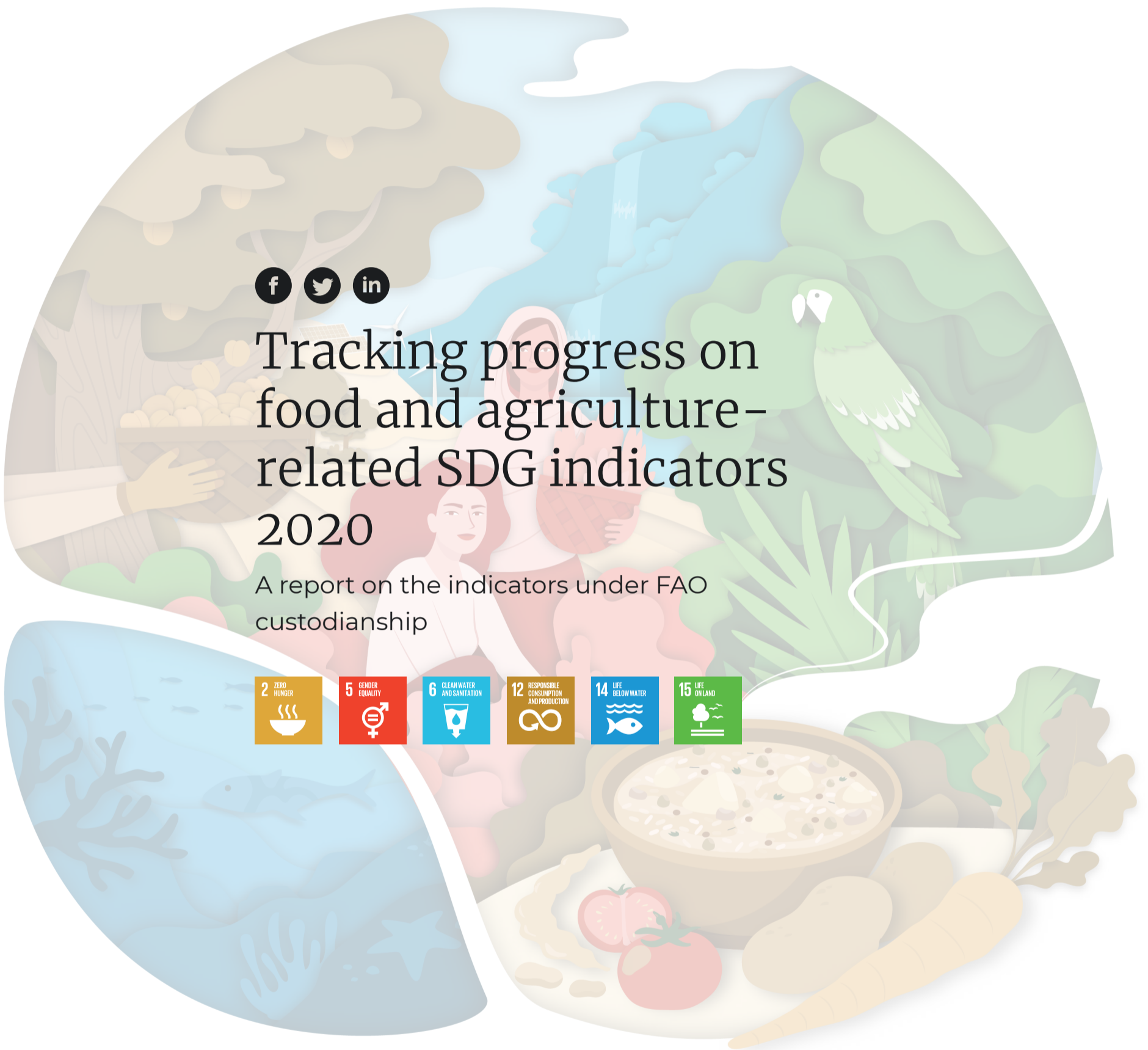


Food and Agriculture Organization
of the United Nations



Tracking progress on food and agriculture- related SDG indicators 2020

A report on the indicators under FAO
custodianship



Foreword

In September 2019, the High Level Political Forum noted that the world is “off track” to meeting the Sustainable Development Goals. This echoed the main finding of the first edition of this report, issued in July 2019, that the world was not going to meet most of the food and agriculture-related SDG targets by 2030.

The situation has not significantly changed this year, which marks the 10-year countdown to the end-date of the 2030 Agenda. According to the latest data contained in this report, collected before the COVID-19 pandemic, progress remains insufficient in the food and agriculture domain, suggesting that the world is not on track to meet the relevant targets by 2030.

Now, due to COVID-19, an unprecedented health, economic and social crisis is threatening lives and livelihoods, making the achievement of these targets even more challenging.

The most recent 2019 estimates show that prior to the pandemic, nearly 690 million people, or 8.9 percent of the world population, were hungry – up by 10 million people in one year and by nearly 60 million in five years. Globally, moderate or severe food insecurity rose between 2015 and 2019, and now affects an estimated 25.9 percent of the world population – about 2 billion people, with women being more likely than men to face moderate or severe food insecurity.

The productivity and incomes of small-scale producers are systematically lower than those of larger food producers on average. For the past decade, government spending on agriculture has remained virtually stagnant compared to the share of agriculture in global GDP, at levels markedly lower in the early 2000s.

The proportion of countries facing high general food price volatility decreased in 2017–2018, but over a quarter remained affected.

Only a fraction (1.3 percent) of the world’s approximately 7600 local livestock breeds are stored with sufficient material to allow them to be reconstituted in case of extinction: an inadequate situation given that 73 percent of assessed local livestock are at risk of extinction.

Notwithstanding the reported increase in global holdings of plant genetic resources for food and agriculture, from 4.21 million in 2005 to 5.43 million in 2019, efforts for securing crop diversity continues to be insufficient, particularly for crop wild relatives and underutilized crop species.

Gender inequalities in land rights are pervasive: in 9 out of 10 countries assessed, relatively fewer women than men have ownership and/or control rights over agricultural land.

While water stress remains at a safe 17 percent at global level, regions such as Central and Southern Asia and Northern Africa register very high water stress levels, at over 70 percent.

While it is not possible to estimate the percentage of food waste at the retail and consumption stage yet, the percentage of food lost after harvest on farm and at the transport, storage and processing stages stands at 13.8 percent globally, amounting to over USD 400 billion a year.

Most countries have made good overall progress in implementing international instruments to combat IUU fishing and support small-scale fisheries. However, the proportion of fish stocks within biologically sustainable levels has continued to decrease, dropping from 90 percent in 1974 to 65.8 percent in 2017, 1.1 percentage points lower than in 2015.

The world's forest area continues to decrease, though at a slightly slower rate than during the previous decades. The proportion of forest area fell from 31.9 percent of the total land area in 2000 to 31.2 percent in 2020 – a net loss of almost 100 million hectares of the world's forests.

Despite the overall loss of forest, the world has made some progress towards sustainable forest management. Above-ground forest biomass per hectare, the proportion of forest area in protected areas and under long-term management plans, and certified forest area increased or remained stable at the global level and in most of the regions of the world.

Impact of COVID-19 on agriculture and food statistics

The COVID-19 pandemic is intensifying data scarcity problems when timely, reliable information has become even more essential for immediate policy responses and for monitoring national and international development agendas. Many data collection activities rely on direct or face-to-face interviews and have been postponed or suspended as countries remain on lockdown.

At the same time, mitigation and contingency plans are being put in place in many countries. Data producers have been revising their strategies, mainly by shifting to alternative data collection means and using new statistical methods to minimize data gaps and impact on data quality.

The available tools and methods have not fully succeeded in keeping pace with the rapidly evolving situation.

FAO is responsible for the worldwide collection, validation and dissemination of data and information related to food and agriculture, including 21 SDG indicators under FAO custodianship. FAO collects relevant national statistical information on a regular basis and is currently issuing questionnaires according to its [agreed calendar](#).

FAO also coordinates and provides support for national agricultural surveys and censuses, whose planning and implementation have been affected by the pandemic. The extent of the impact varies depending on the stage (e.g. planning, fieldwork, or data processing/analysis) that such surveys and censuses were at when lockdowns were introduced.

Impact on census of agriculture (CA) activities

FAO coordinates [the World Programme for the Census of Agriculture 2020](#) (FAO, 2015) which supports national agricultural censuses conducted during the 2016–2025 round. Countries carefully schedule census of agriculture (CA) activities to ensure that crop and livestock data are collected at the right time in an agricultural year. A delay in CA activities can result in a full year postponement of the enumeration if the agricultural season is missed.

As the pandemic continues, physical distancing, restrictions on movement and other remedial measures taken by countries have impacted CA activities (FAO, 2020a). FAO is monitoring such impacts to provide timely support for countries.

[A rapid appraisal and informal consultations](#) (FAO, 2020b) with 150 countries' national CA authorities has shown that, as of July 2020, CA activities have been:

- delayed in 27 percent of the countries.
- postponed in 22 percent of the countries.
- suspended in 4 percent of the countries.

An additional 9 percent of reporting countries had completed their CAs and were not affected (excluding countries that completed their censuses earlier in the round but planned a second one later in the round). Another 38 percent of the countries reported that their CA activities have not been affected yet. Two-thirds of these countries are at an early planning stage.

The pandemic continues to reveal uncertainties for CA activities, which cause additional concerns on CA financing, census reference periods, data quality and sampling for future agricultural surveys. Delays in the Population Census could also defer CA plans in countries using the Population Census to set up the CA frame¹.

To help cope, FAO provides remote technical support to countries undertaking CAs. More and more countries have been moving from door-to-door data collection to IT-based modalities. Census activities have continued via teleworking and e-learning courses for trainers, supervisors and enumerators, while data collection activities are carried out through Computer Assisted Web Interviewing (CAWI) and Computer-Assisted Telephone Interviewing (CATI), supported by use of administrative records.

A stocktaking of lessons learned from the crisis highlights some mitigation measures, which are in line with the recommendations presented in the WCA 2020 guidelines (FAO 2015, 2018).

¹ See an overview of the impact of COVID-19 on 2020 World Population and Housing Census Programme: <https://unstats.un.org/unsd/demographic-social/census/COVID-19/>

Impact on agricultural survey activities

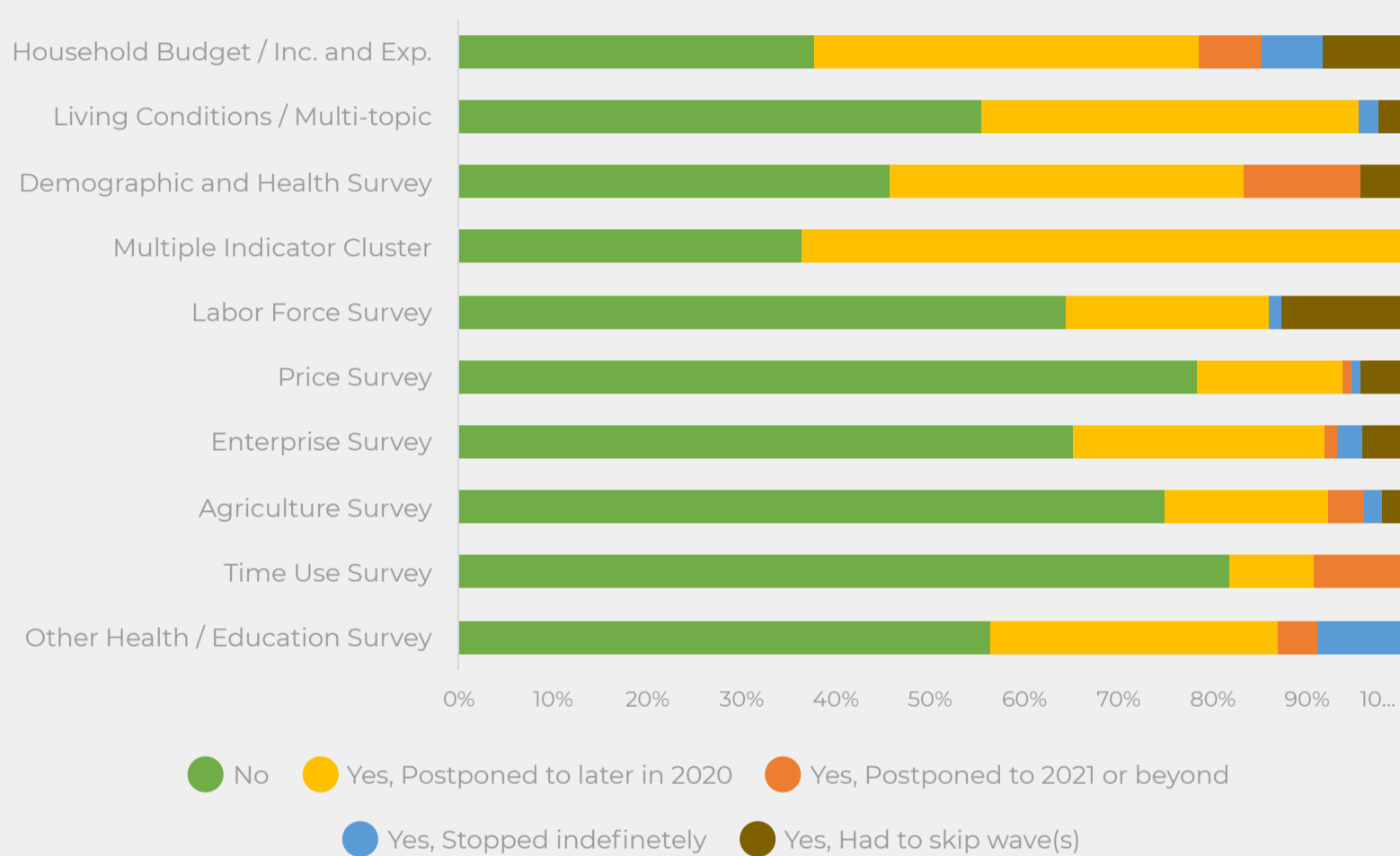
Partial or total blackouts of national statistical systems have limited agricultural survey activities (FAO, 2020). According to a recent [global web-based survey](#) by United Nations Department of Economic and Social Affairs and the World Bank's Development Data Group (UNDESA and WB, 2020), agricultural surveys have been postponed or suspended in around 25 percent of the countries participating in the assessment (122 countries in total) (Figure B.1).

Since the survey aims to monitor the impact of COVID-19 on the operations of national statistical agencies in general, it covers other key data sources relevant for the SDG indicators under FAO custodianship (e.g. Household Budget Survey/Income & Expenditure Survey, Labor Force Survey). The results show that nearly all key data collection means are being adversely affected.

This presents a large, ongoing challenge for data availability for the compilation of the SDG indicators, which heavily rely on those data sources.

Considering operational difficulties, funding constraints and new data needs as a result of the pandemic, technical assistance and financial resources to National Statistical Offices are vital, especially for supporting low- and lower middle-income countries.

Figure B.1: Percentage of countries which have suspended or postponed their field work for the planned national surveys due to the COVID-19 pandemic



Source: <https://unstats.un.org/unsd/covid19-response/covid19-nso-survey-report.pdf>

How FAO is supporting countries during the COVID-19 pandemic

To combat the impact of the pandemic on both data collection activities and the livelihood of people, in term of food insecurity and disruptions to the food systems, FAO is providing technical assistance and capacity support to countries in a number of areas.

To monitor the socio-economic impact of COVID-19 FAO has adapted its Food Insecurity Experience Scale (FIES) survey module to meet the urgent challenge of measuring and monitoring food insecurity in the context of the COVID-19 pandemic and to carefully evaluate its impact. The adapted FIES has been developed to respond to the need for timely and reliable food security information.

Moreover, FAO is also exploiting alternative data sources to help countries assess in real-time the impact of the pandemic on food systems and, at the same time, overcome the current limitations on data collection in the field. Satellite time series data are being used to identify and monitor risks of disruptions on crop production and value-chains induced by the COVID-19 pandemic.

Once satellite data have been analysed to first identify crop types and then to assess their growth stage, machine learning models are calibrated to classify crops for the current and past years. Then the spatial information and related data (crop type maps, crop acreage and crop yield) are overlaid with COVID-19 related geographical-disaggregated information (e.g. number of government restriction measures, number of COVID-19 cases, etc.) to inform evidence-based decision-making.

Among FAO's main initiatives to monitor the impact of COVID-19 on food and agriculture are the following:

1. **FAO Data Lab Big Data tool** is gathering, organizing and analysing real time information on food value chains, food prices, food security and undertaken measures.
 - [Overview of COVID-19 raising importance in newspapers' tweets](#)
 - [Daily Food Prices Monitor](#)
2. **[FAO Food Price Monitoring and Analysis \(FPMA\) tool](#)** contains the latest information and analysis on domestic prices of basic foods mainly in developing countries, complementing FAO analysis on international markets. It provides an early warning on high food prices at country level that may negatively affect food security.
3. **[The Agricultural Market Information System \(AMIS\)](#)** is an inter-agency platform to enhance food market transparency and policy response for food security. It

assesses global food supplies (focusing on wheat, maize, rice and soybeans) and provides a platform to coordinate policy action in times of market uncertainty.

References:

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- FAO 2020b. National agricultural census operations and COVID-19. FAO Policy Brief, Rome. www.fao.org/3/ca8605en/CA8605EN.pdf
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SUSTAINABLE DEVELOPMENT GOAL 2

Zero Hunger

End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

INDICATORS

2.1.1

2.1.2

2.3.1

2.3.2

2.5.1a

2.5.1b

2.5.2

2.a.1

2.c.1

Overview

Eradicating hunger, achieving food security and promoting sustainable agriculture remains a challenge, more so in the wake of the COVID-19 crisis. Across the world, hunger and food insecurity have been growing slightly since 2015, and malnutrition still affects millions of children. The situation is likely to get worse, owing to economic slowdowns and disruptions caused by a pandemic-triggered recession.

Countries need to step up efforts to support small-scale food producers, conserve plant and animal genetic resources for food and agriculture, adopt measures to counter food price volatility, and allocate a greater proportion of government funds to agriculture, in line with agriculture's contribution to GDP.

SDG INDICATOR 2.1.1

Prevalence of undernourishment (PoU)

Current status = Close to target

Trend assessment = Stagnation

Target 2.1

By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

The number of people affected by hunger globally has been slowly on the rise since 2014. Current estimates are that nearly 690 million people are hungry, or 8.9 percent of the world population – up by 10 million people in one year and by nearly 60 million in five years.

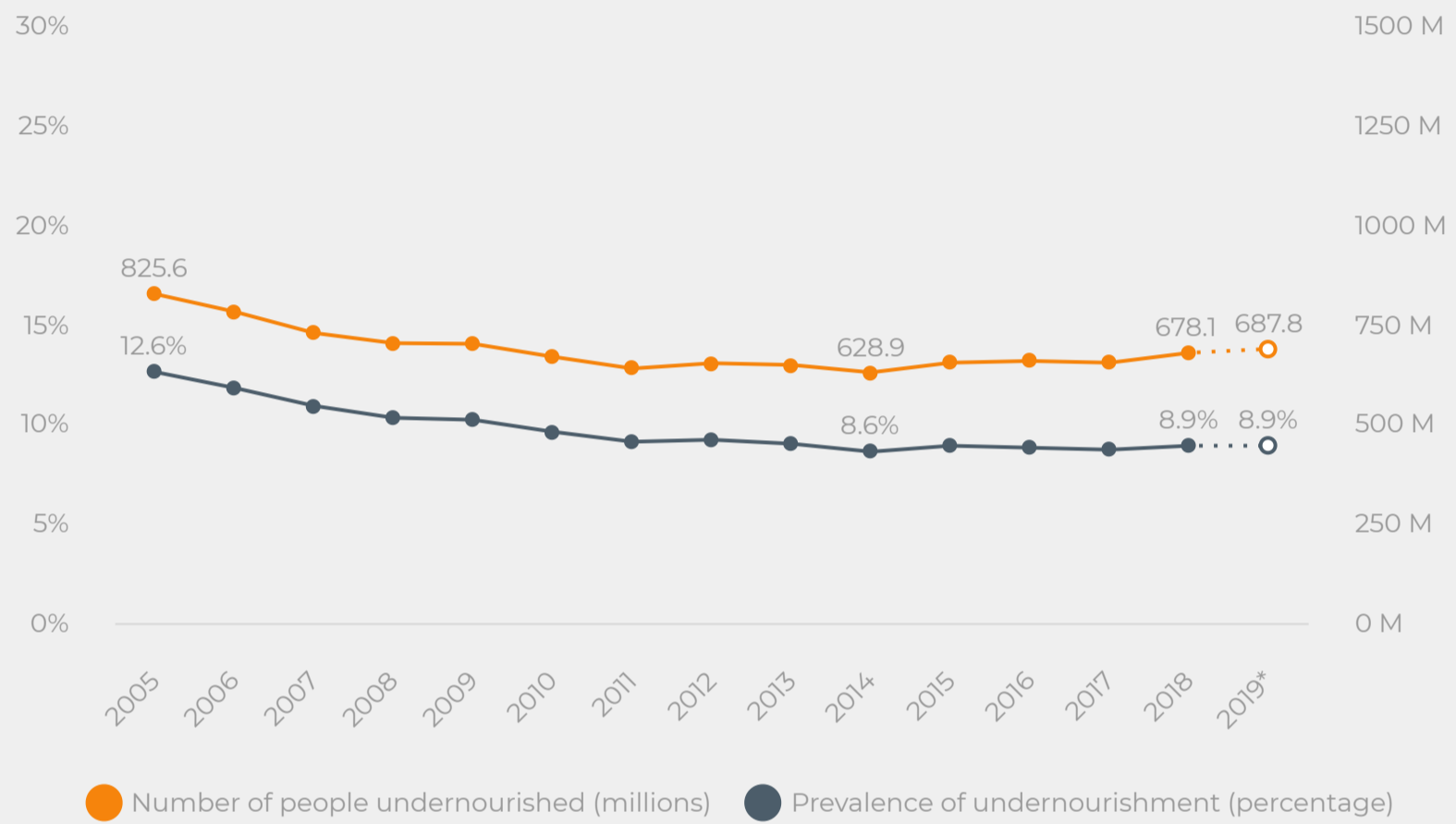
More recent food consumption data for many countries have made it possible to estimate the prevalence of undernourishment with greater accuracy this year. In particular, newly accessible data enabled the revision of the entire series of annual undernourishment estimates for China back to 2000, resulting in a substantial downward shift of the series of the number of undernourished in the world.

Nevertheless, the revision confirms that:

- the number of people affected by hunger globally has been growing moderately since 2014.
- almost 690 million people in the world (8.9 percent of the world population) are estimated to have been undernourished in 2019.

- there are nearly 60 million more undernourished people now than in 2014, when the prevalence was 8.6 percent, and 10 million people more than in 2018.
- the world is not on track to achieve the SDG 2.1 Zero Hunger target by 2030.

Figure 1: Number and percentage of undernourished people in the world, 2005-2019



From a regional perspective, the PoU in sub-Saharan Africa was estimated to be 22.0 percent of the population in 2019, corresponding to nearly 235 million undernourished people, up from 21.2 percent in 2015. This is more than double Western Asia and Northern Africa (9.0 percent, which approximates the world average) and is the highest among all regions. However, Western Asia and Northern Africa has seen a significant deterioration since 2015, with the prevalence of undernourishment rising from 8.6 percent to 9 percent.

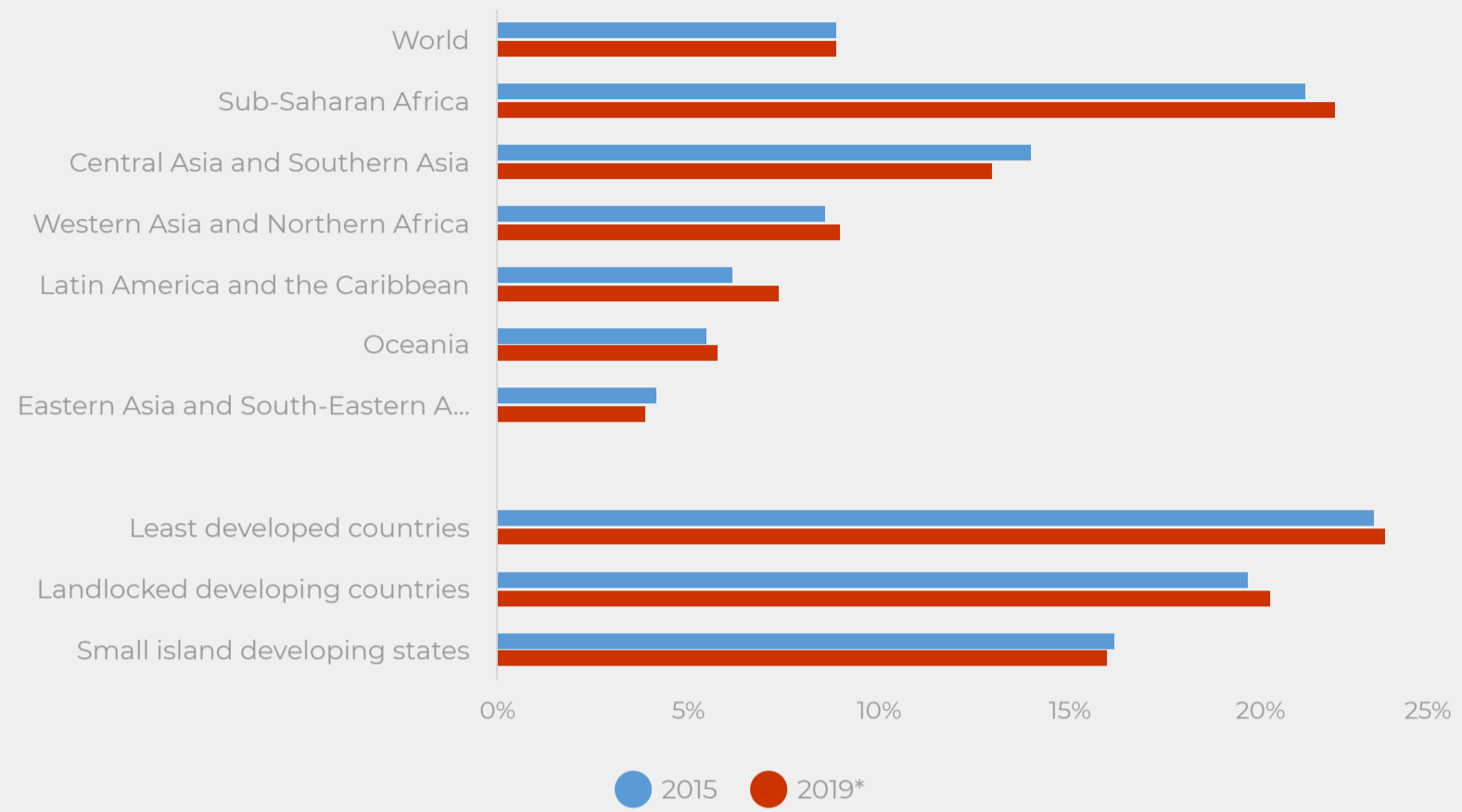
More than 37 percent of undernourished people in the world live in Central Asia and Southern Asia – an estimated 259 million people in 2019. Yet, the PoU for the region is 13 percent, below that of sub-Saharan Africa. The region has shown progress in reducing the number of hungry people in recent years, down by 5.8 million since 2015.

In Latin America and the Caribbean, the PoU was 7.4 percent in 2019, below the world prevalence of 8.9 percent, which still translates into almost 48 million undernourished people. The region has seen a rise in hunger in the past few years, with the number of undernourished people increasing by 9 million between 2015 and 2019.

There are many reasons why hunger has increased in the last few years. Economic slowdowns and downturns, particularly since the financial crisis of 2008–2009, have exacerbated poverty and undernourishment. Despite significant progress in many of the world's poorest countries, almost 10 percent of the world population still lives on USD 1.90 per day or less, especially in sub-Saharan Africa and Southern Asia.

Large inequalities in the distribution of income, assets and resources, together with the absence of effective social protection policies, undermine food access, particularly for the poor and vulnerable. A high level of commodity-export and commodity-import dependence increases the vulnerability of several countries and regions to external shocks.

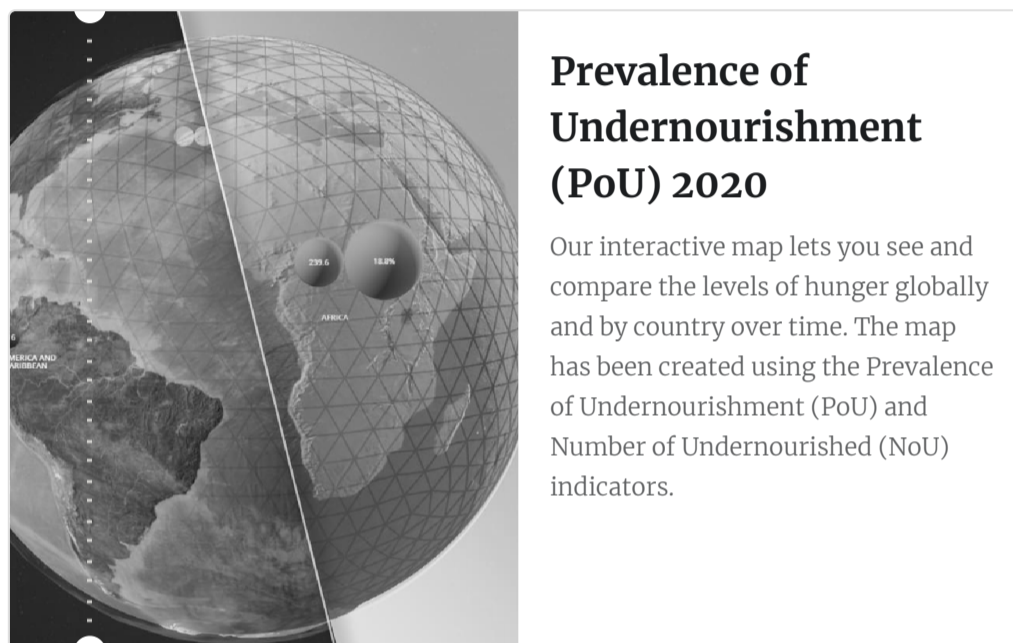
Figure 2: Percentage of undernourished people by region in 2015 and 2019



Notes: *Projected values. Northern America and Europe is not shown because its PoU is below 2.5 percent. Source: FAO.

The increasing frequency of extreme weather events, altered environmental conditions, and the associated spread of pests and diseases over the last 15 years contribute to vicious circles of poverty and hunger, particularly when exacerbated by fragile institutions, conflicts, violence and the widespread displacement of populations. Competition for key resources such as land and water have played a significant role in provoking violence and armed conflicts in some countries.

Smallholder farmers and communities that rely directly on their ability to produce their own food are affected more by these phenomena. The prevalence of hunger is also higher in countries with fast population growth and poor access to healthcare and education. This establishes direct links between food security, nutrition and health conditions of the population, which affect the prospects of economic growth and development.



Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)

Current status = Far from the target

Trend assessment = Deterioration

Target 2.1

By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round

An estimated 2 billion people in the world did not have regular access to safe, nutritious and sufficient food in 2019, putting them at greater risk of various forms of malnutrition and poor health.

SDG Indicator 2.1.2 is the prevalence of moderate or severe food insecurity in the population based on the Food Insecurity Experience Scale (FIES).

Latest estimates suggest that 9.7 percent of the world population (746 million people) was exposed to severe levels of food insecurity in 2019. Severe food insecurity and undernourishment (SDG indicator 2.1.1) are related concepts that approximate chronic hunger. In all regions of the world except Northern America and Europe, and Western Asia and Northern Africa, the prevalence of severe food insecurity has increased from 2015 to 2019.

An additional 16 percent of the world population, or more than 1.25 billion people, have experienced food insecurity at moderate levels. People who are moderately food insecure do not have regular access to nutritious and sufficient food, even if not necessarily suffering from hunger.

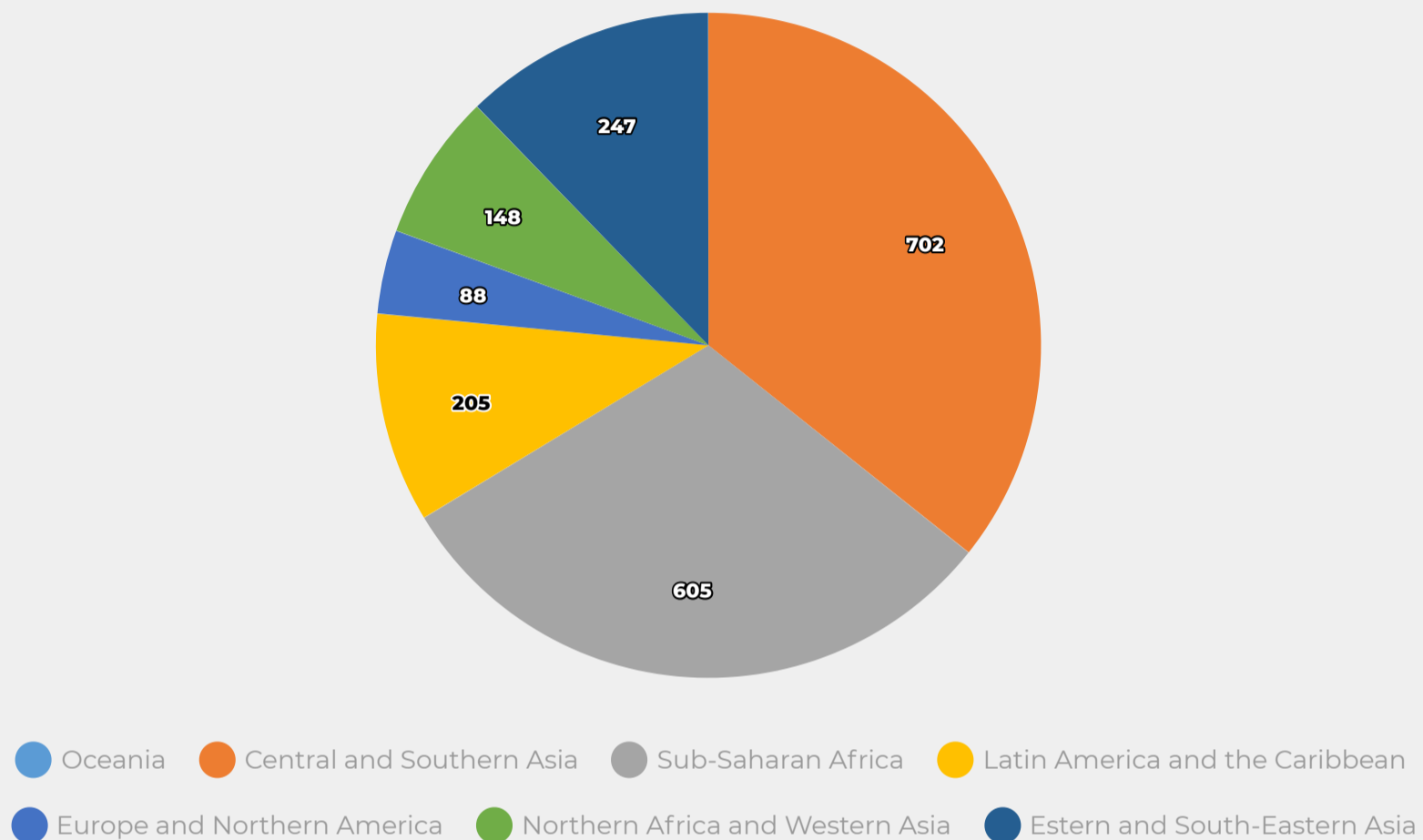
The prevalence of both moderate and severe levels of food insecurity (SDG Indicator 2.1.2) worldwide is estimated to be 25.9 percent in 2019 – a total of 2 billion people. Total food insecurity (moderate or severe) has increased at the global level in five years, mostly because of the increase in moderate food insecurity.

Although sub-Saharan Africa is where the highest levels of total food insecurity are observed, it is in Latin America and the Caribbean where food insecurity is rising the fastest: from 22.9 percent in 2014 to 31.7 percent in 2019, due to a sharp increase in South America.

The figure below illustrates that almost two thirds of the total food insecure (moderate or severe) people in the world are found in either Central and Southern Asia or Sub-Saharan Africa.

Specifically, Central and Southern Asia is home to 702 million food insecure people (35 percent of the world's total), whereas in Sub-Saharan Africa there are 605 million food insecure people (30 percent of the world's total).

Figure 3: Regional distribution of the population affected by moderate or severe food insecurity, 2019 (millions)

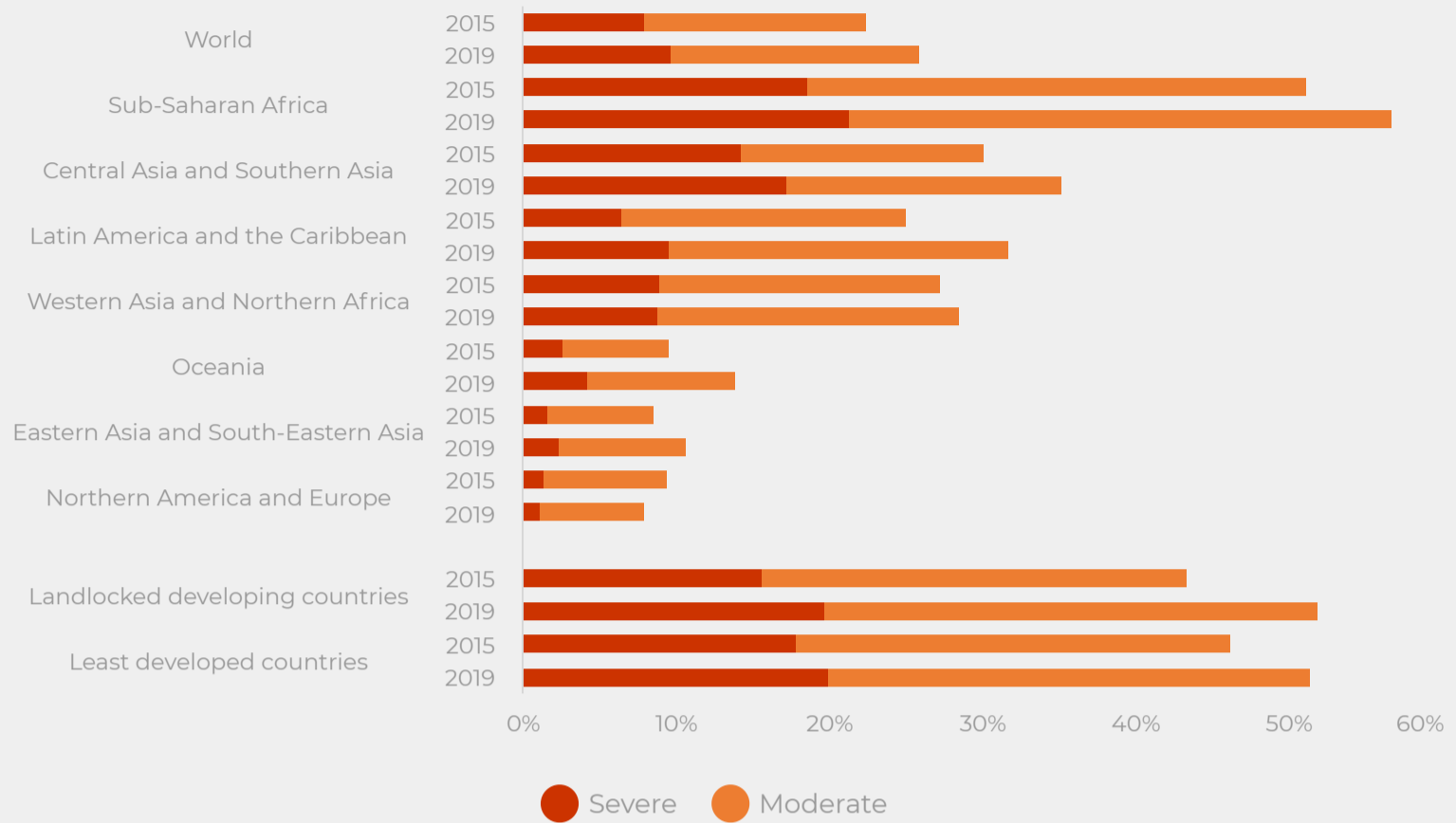


Globally, the prevalence of food insecurity at moderate or severe level, and severe level only, is higher among women than men. The gender gap in accessing food increased from 2018 to 2019, particularly at the moderate or severe level.

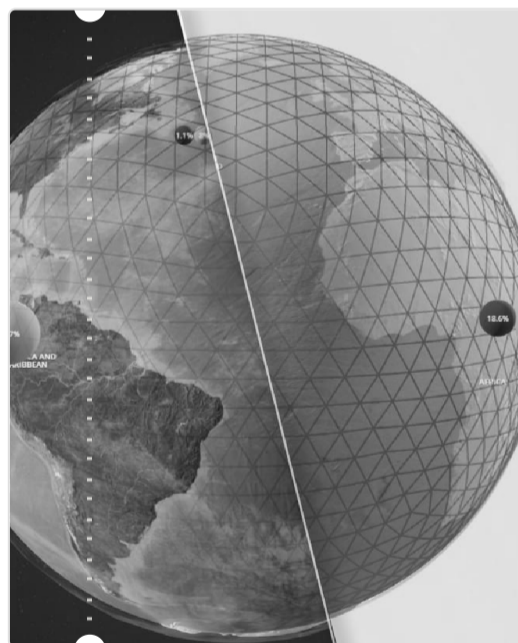
There is a large body of evidence on the links between food insecurity and forms of malnutrition, including overweight and obesity. One factor that helps explain such links is the negative impact of food insecurity – even at moderate levels of severity – on diet quality. This is consistent with the theoretical basis of the Food Insecurity Experience Scale: that people experiencing moderate food insecurity face uncertainties about their ability to obtain food and have been forced to reduce the nutritional quality and/or quantity of the food they consume.

This reveals an important link between SDG target 2.1 and SDG target 2.2, which is aimed at ending all forms of malnutrition.

Figure 4: Prevalence of severe and moderate food insecurity by region in 2015 and 2019



Source: FAO



Moderate or severe food insecurity 2020

Our interactive map lets you see and compare the levels of hunger globally and by country over time. The map looks at moderate and severe food insecurity based on the Food Insecurity Experience Scale (FIES) measurements.

2.3.1 – Volume of production per labour unit by classes of farming/pastoral/forestry enterprise size

2.3.2 – Average income of small-scale food producers, by sex and indigenous status

Insufficient data to assess status and progress at global level

Target 2.3

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

The productivity of small-scale producers is systematically lower on average than for larger food producers and, in most countries, the incomes of small-scale food producers are less than half those of larger food producers. It is too early to determine whether any progress has been made.

Measuring the productivity and incomes of small-scale food producers is critical for tracking progress towards SDG target 2.3, which calls for doubling both their incomes and productivity. Target 2.3 recognizes the essential role that small-scale food producers have in promoting food production across the world, while facing greater constraints in accessing land, other productive resources and inputs, knowledge, financial services, markets and opportunities. Therefore, strengthening the resilience and adaptivity of small-scale food producers is critical to reversing the trend of rising hunger and reducing the share of people living in extreme poverty.

FAO estimates that there are some 570 million farms worldwide, the majority being small farms. In some countries, small-scale food producers account for up to 85 percent of all food producers. Now that an international definition of small-scale food producers has been established, FAO can calculate their average labour productivity and incomes.

Data on the labour productivity of small-scale food producers is available for only 11 countries, as many surveys do not report labour input in agriculture in a comparable form. When they do, it is limited to crop production. With these limitations in mind, in all countries, the labour productivity of small-scale producers is lower, on average, than for larger food producers.

More information is available (38 countries) on the incomes of small-scale food producers, which are also systematically lower than those of large food producers. In most countries, the

incomes of small-scale food producers are less than half those of larger food producers, supporting the central call of SDG target 2.3 for doubling their incomes.

Figure 5: Agricultural output per labour day for selected countries by size of food producers, PPP (constant 2011 international \$)

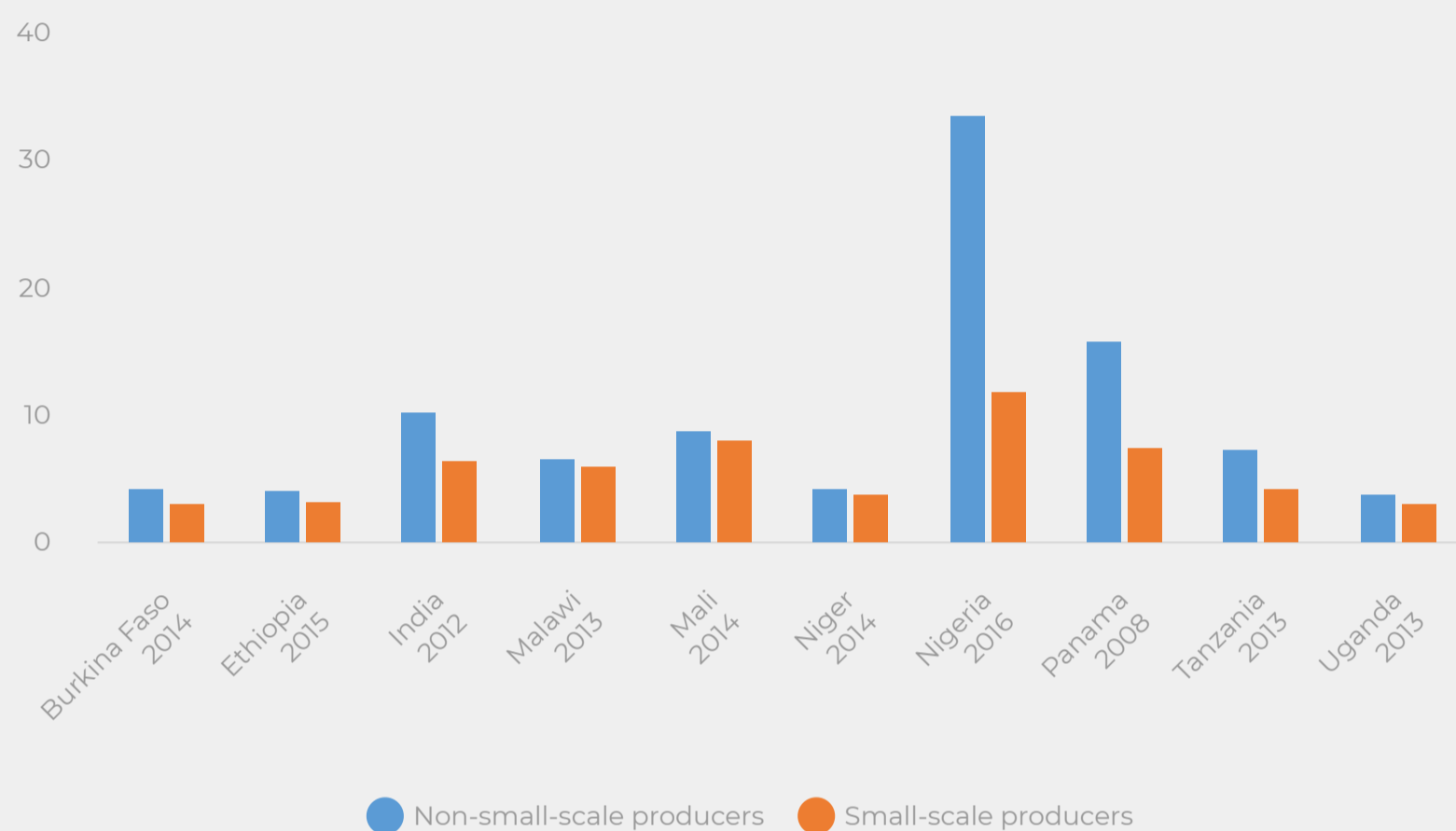
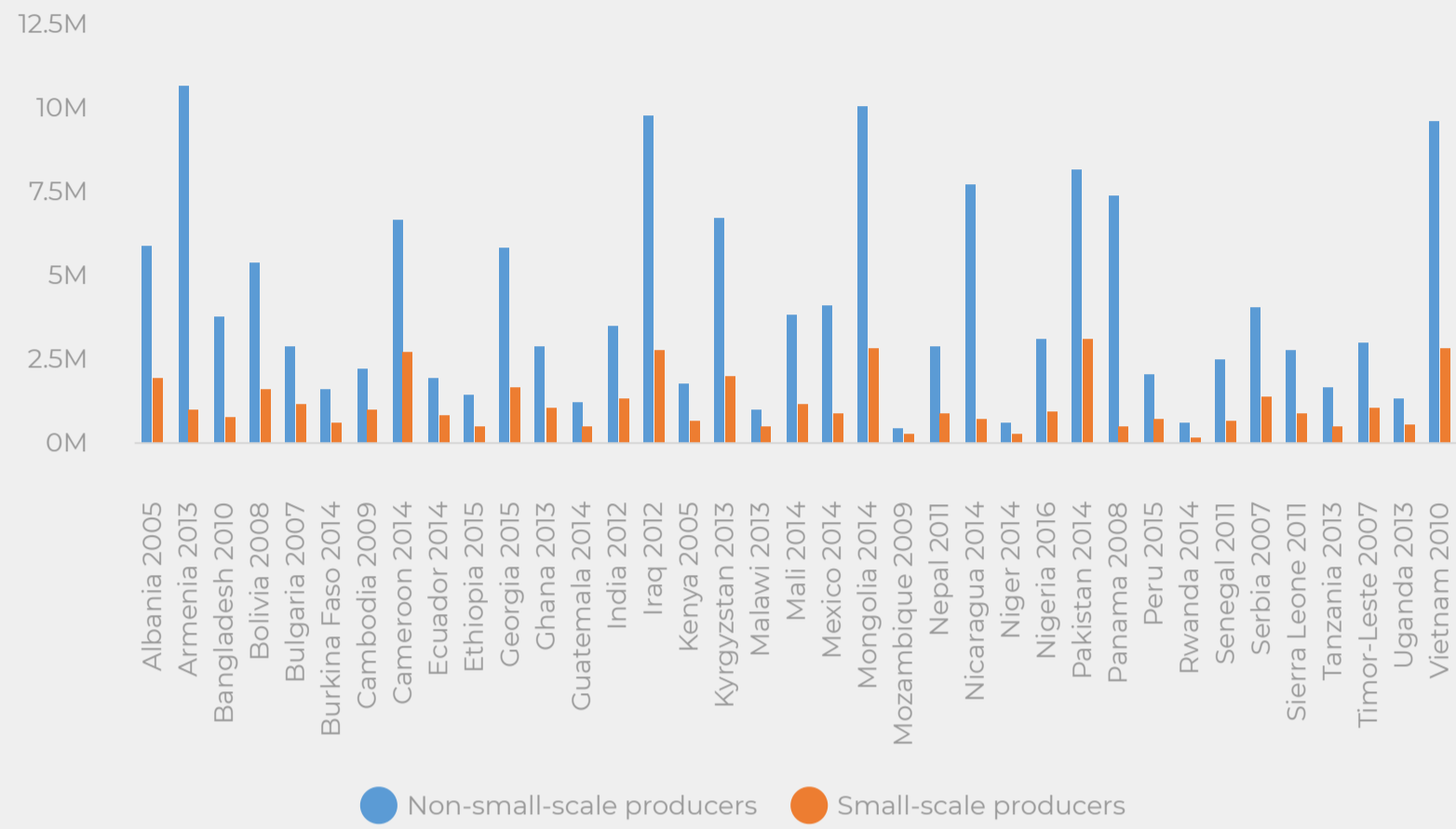


Figure 6: Average annual income from agriculture for selected countries by size of food producers, PPP (constant 2011 international \$)



Number of plant genetic resources for food and agriculture secured in medium- or long-term conservation facilities

Trend assessment = Improvement

Target 2.5

By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

Despite the 2019 reported increase in global holdings of plant genetic resources for food and agriculture, efforts for securing crop diversity continue to be insufficient, particularly for crop wild relatives and wild food plants, as well as for neglected and underutilized crop species.

Plant genetic resources underpin the world's food security, nutrition and the livelihoods of millions of farmers. They are vital for allowing crops to adapt to evolving environmental conditions and for sustainable intensification of agricultural production.

At the end of 2019, genebank holdings under medium or long-term conditions in 103 countries and 17 regional and international research centres were estimated at 5.43 million accessions, about a one percent increase on the previous year. Estimates were based on updated reports from 59 countries and 15 research centres, representing 75.2 percent of the total holdings, and on previous year reports for the remaining countries and centres.

Net increases in genebank holdings: Virtually all regions of the world increased their holdings between 2015 and 2019. Central and Southern Asia as well as Northern Africa and Western Asia registered the highest relative increases. Over the year, conserved germplasm increased in 40 out of 59 countries and 7 out of 12 international centres.

Net decreases in genebank holdings: Net decreases, greater than one percent, occurred in six countries, three in Europe and one each in Western Asia (-1.7 percent), Eastern Africa (-10.7 percent) and South America (-11.4 percent). Losses were ascribed to insufficient human and financial resources in Eastern Africa and Eastern Europe, and to the identification and elimination of duplicates in the remaining regions.

As of December 2019, 290 genebanks around the world conserved almost 96,000 samples from over 1,700 species listed in the IUCN categories of global major concern, including wild relatives of crops particularly important for global and local food security.

In the past few years, the global response in preserving crop diversity in standard compliant ex situ facilities has been insufficient to respond to the alarming pace of threats posed by climate change to crop and crop-associated diversity under on-farm and wild conditions, particularly for crop wild relatives, wild food plants and for neglected and underutilized crop species. These continue to be missing in the gene bank collections or have their intraspecific diversity, i.e. variation within the same species, poorly represented.

Figure 7: Number of accessions of plant genetic resources secured in medium- or long-term conservation facilities in the world, 2000-2019

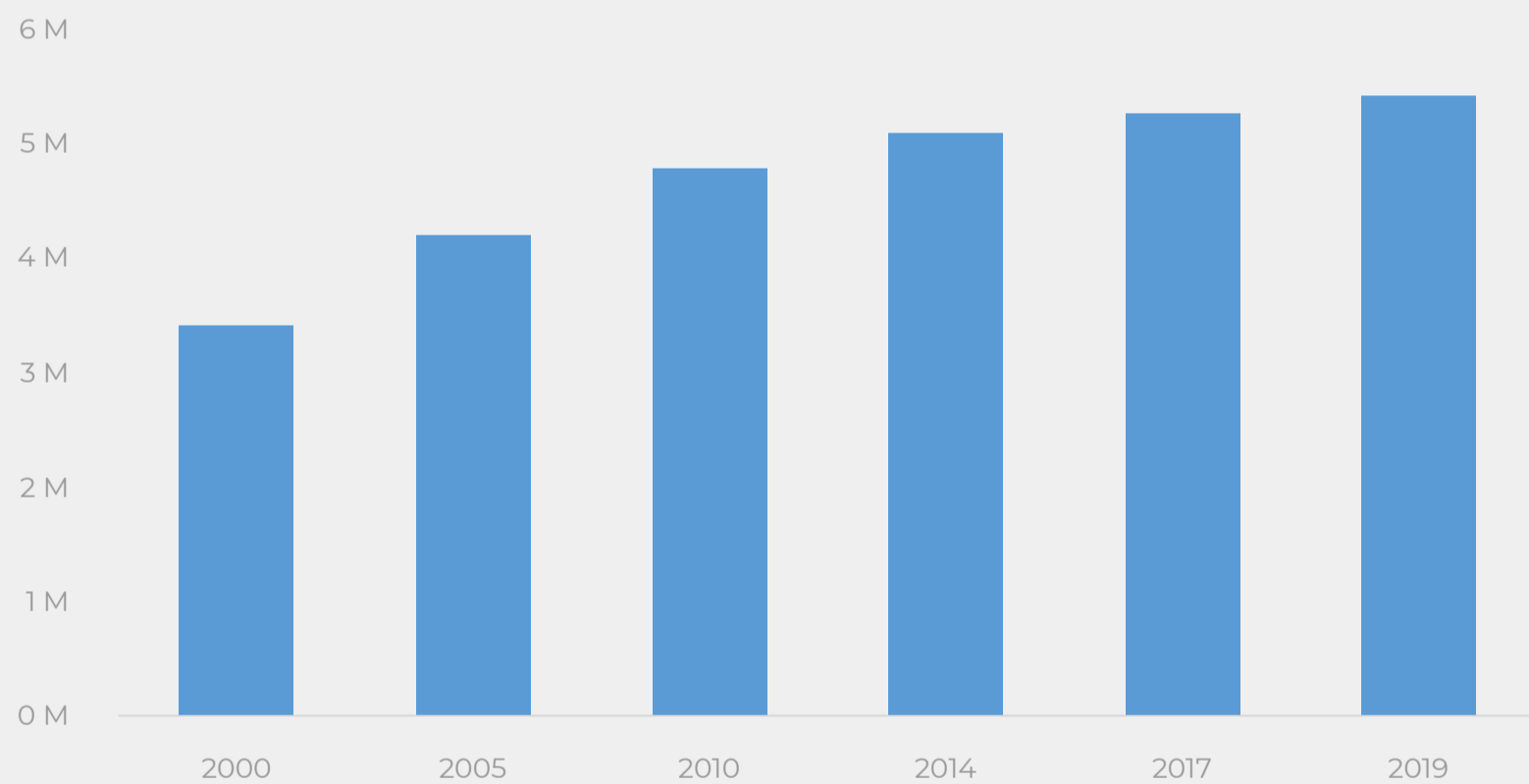
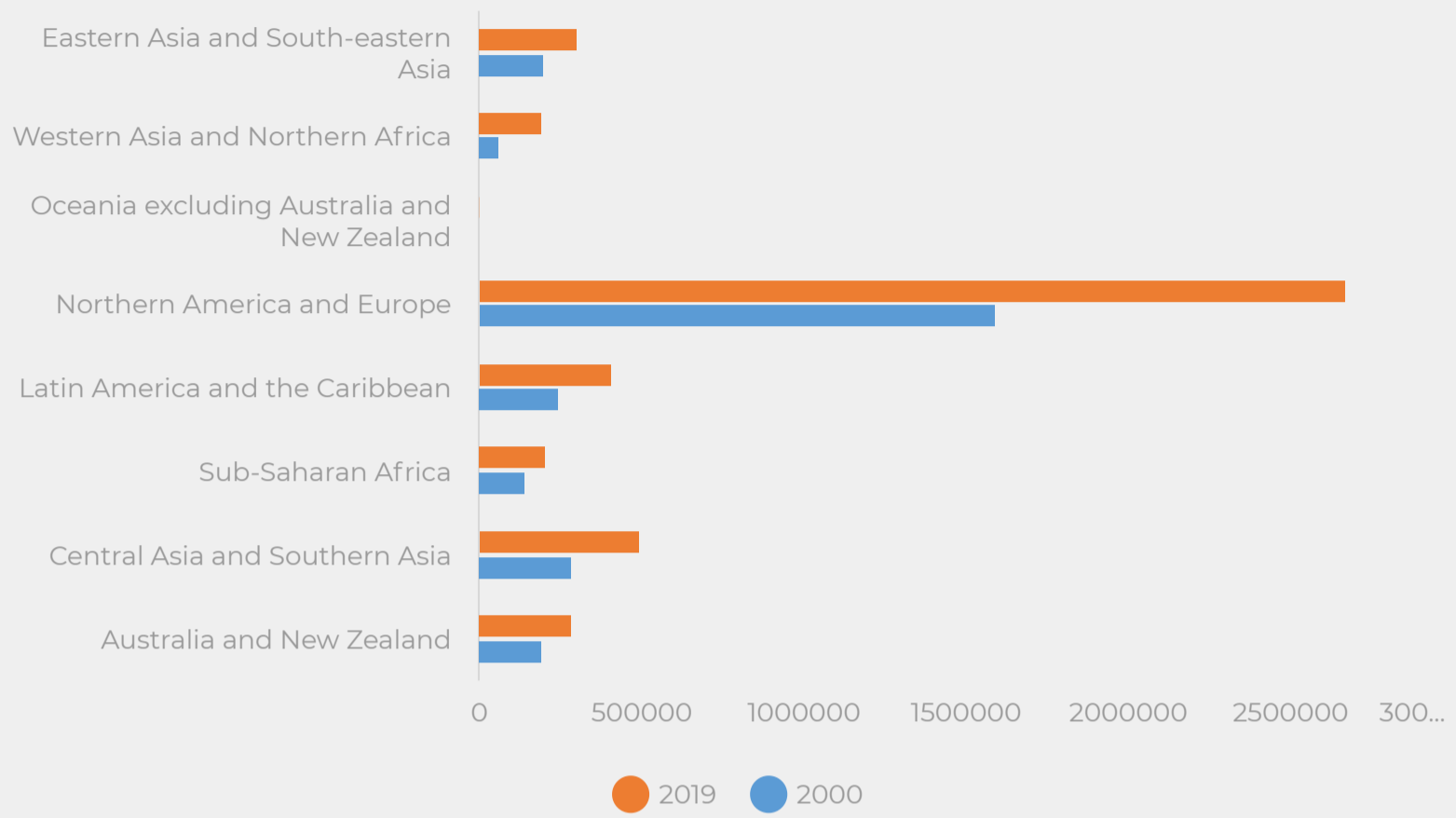


Figure 8: Number of accessions of plant genetic resources secured in conservation facilities under medium- or long-term conditions by region in 2000 and 2019



Number of animal genetic resources for food and agriculture secured in medium- or long-term conservation facilities

Insufficient data to assess status and progress at global level

Target 2.5

By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

In addition to plant genetic resources, animal genetic resources are equally vital for the food security and livelihoods, allowing the adaptation of livestock to evolving environmental conditions and thus bolstering the resilience of food systems in the face of climate change.

A good way to measure the conservation of animal genetic resources for food and agriculture is counting the number of local livestock breeds (i.e. breeds occurring in only one country) with sufficient material stored in genebanks to allow them to be reconstituted in case of extinction. This information is provided annually to FAO's Domestic Animal Diversity Information System (DAD-IS) by designated national focal points.

Between 2010 and 2019, the number of local breeds with sufficient material stored in genebanks increased from 10 to 101. This may appear like a significant increase yet it represents a fraction of the approximately 7600 breeds reported globally and is still a far cry from the SDG target calling on the international community to halt the loss of animal genetic resources for food and agriculture.

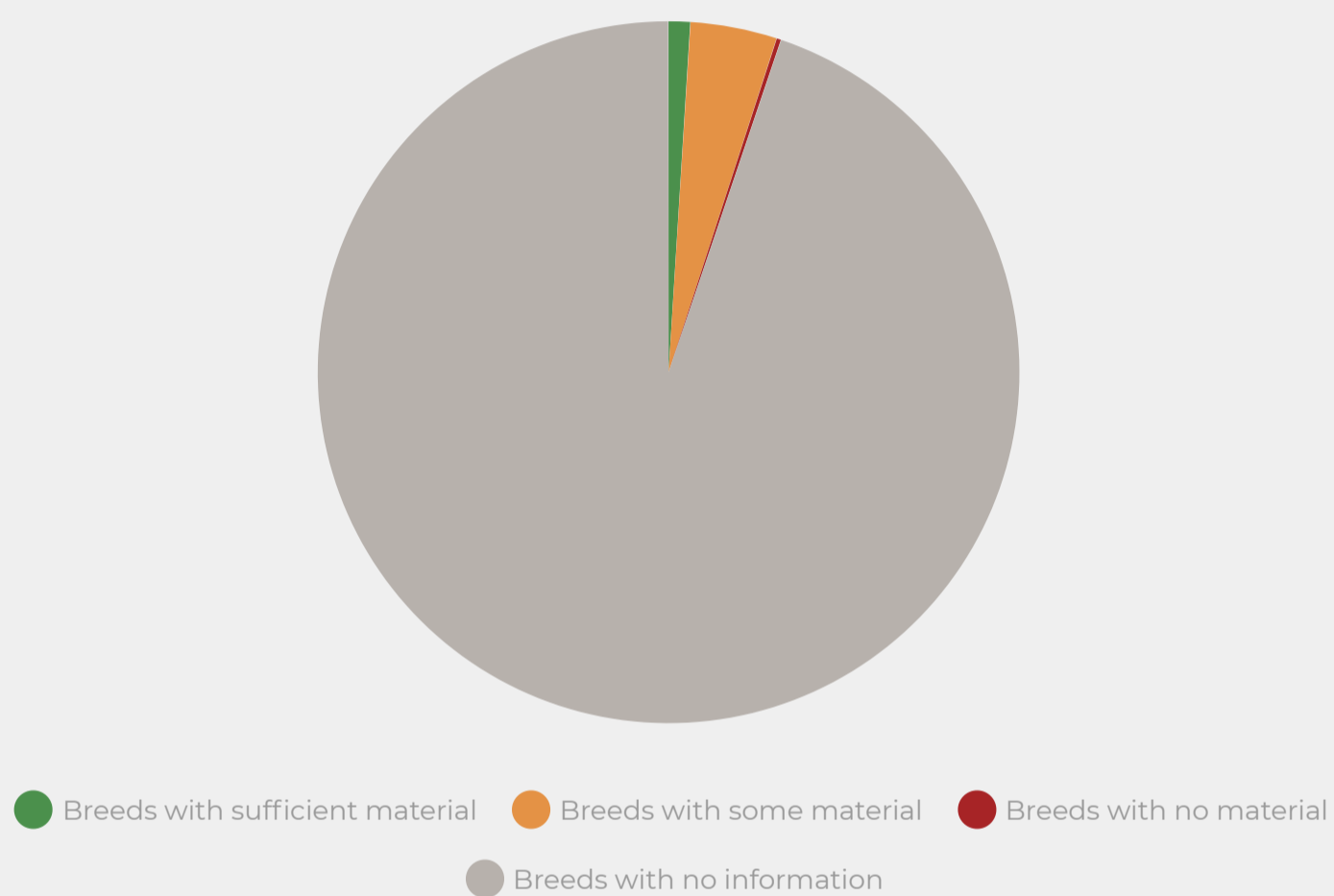
Out of a world total of 7643 registered local breeds (including extinct ones), 400 (5.2 percent) are reported with some genetic material stored, out of which 101 (1.3 percent) are reported with sufficient material stored to allow them to be reconstituted. This reflects negligible progress compared to the preceding year, when only 3.3 percent of local animal breeds had some material stored, and only 0.9 percent had enough material to allow the breed to be reconstituted in case of extinction.

Challenges to measuring animal genetic resources in genebanks

Accurately measuring global efforts to conserve animal genetic resources in genebanks is hampered by under-reporting of national inventories. A staggering 94.5 percent of local livestock breeds have no information as to their conservation status. Only

about 30 countries report data on this indicator – the majority of them in Western Europe – and even this data is not regularly updated, with about half these countries not having provided new data since 2015. Ongoing efforts to preserve animal genetic resources appear inadequate in the face of climate change and the rising demand for livestock products.

Figure 9: Number of local livestock breeds with material secured in medium- or long-term conservation facilities, 2019



Proportion of local breeds classified as being at risk of extinction

Insufficient data to assess status and progress at global level

Target 2.5

By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed

An alarming proportion of local livestock breeds are at risk of extinction

Genetic diversity in live animal breeds is important to agriculture and food production. It enables livestock to be raised in various environments and provides a wide range of products and services (food, fibres, manure, draught power, etc.). While SDG indicator 2.5.1.b revealed that only a minute fraction of the local livestock breeds have sufficient material stored in case of extinction, SDG indicator 2.5.2 provides a measure of the actual risk of extinction for each living local livestock breed.

That animal genetic resources are not being adequately conserved in medium- and long-term conservation facilities is worrisome since, according to the latest country reports, an alarming proportion of local breeds are at risk of extinction.

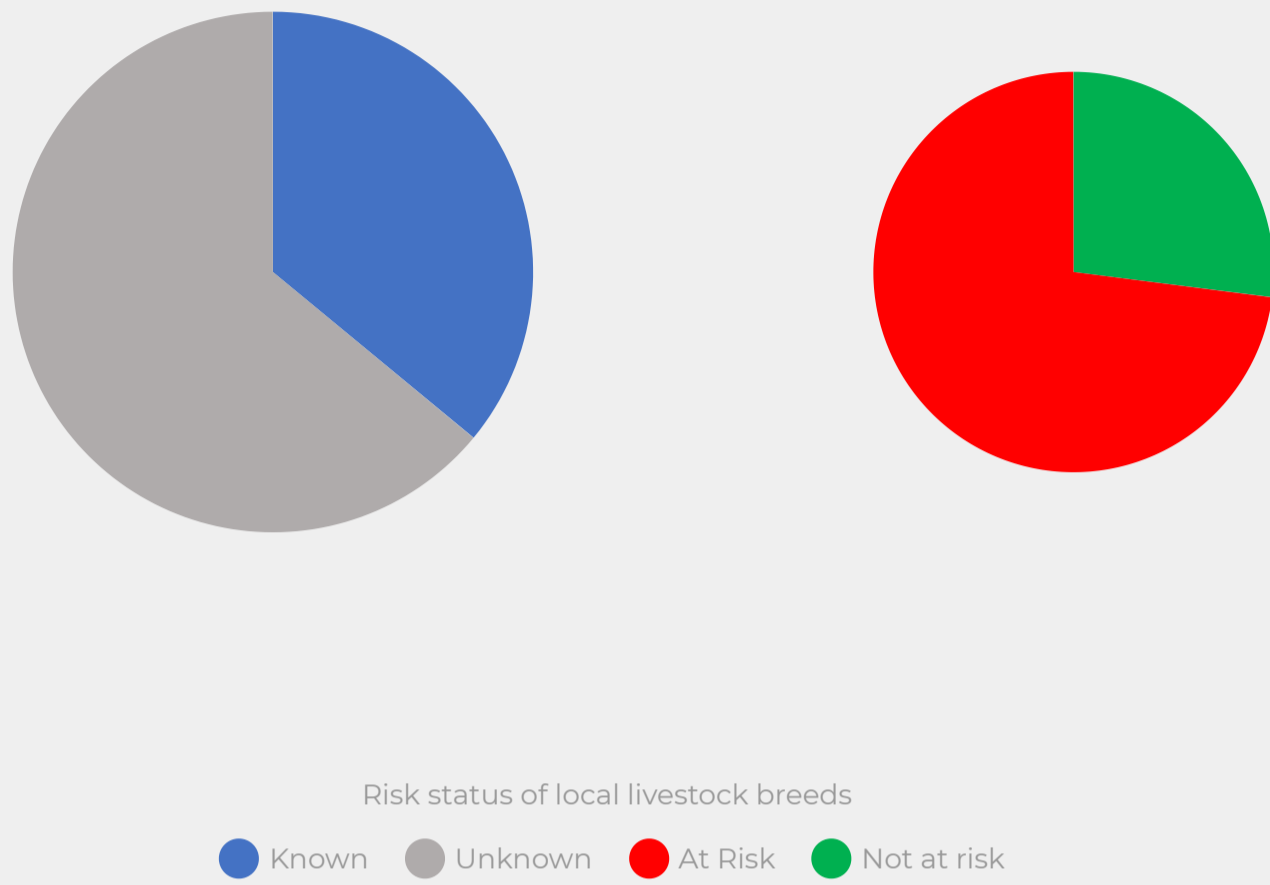
In 2019, 73 percent of assessed local livestock breeds (2025 out of 2761) were determined to be at risk of extinction, based on their population size, reproductive rates and other biological characteristics. This is marginally better than one year ago, when 78 percent of assessed breeds were determined to be at risk of extinction. Results between regions differ. Among breeds with known risk status:

- 84 percent are considered to be at risk in Europe.
- 44 percent are considered to be at risk in South America.
- 71 percent are considered to be at risk in Southern Africa.

Due to the scarce information reported, results for other regions are considered to be not representative.

For the majority of local breeds around the world (4343), the risk status remains unknown due to a lack of data. Only 77 countries reported data in 2020 – seven more than the previous year.

Figure 10: Risk status of the local livestock breeds in the world, 2019



Measuring Aquatic Genetic Resources for Food and Agriculture

Monitoring progress towards the SDG target for the conservation of animal or plant genetic resources for food and agriculture is currently limited to terrestrial species and does not encompass aquatic genetic resources such as fish, crustaceans, molluscs or seaweed. Despite this, there are nearly 700 species or species items used in aquaculture, many of which are domesticated, and a slowly increasing number are represented by improved farmed types.

In August 2019, FAO published the first global assessment of aquatic genetic resources in its report on the [State of the World's Aquatic Genetic Resources for Food and Agriculture](#). In addition to identifying 694 species that are farmed across the 92 reporting countries, the report indicated that wild relatives still exist in nature for all these species. Countries reported 2,300 aquatic protected areas, most of which were effective in supporting in situ conservation of wild relatives of aquatic genetic resources for food and agriculture. Furthermore, countries identified 690 ex situ in vivo gene banks, protecting approximately 290 species and their farmed types, and a further 295 ex situ in vitro gene banks covering approximately 133 species.

FAO is developing an information system for farmed types of aquatic genetic resources for food and agriculture which will facilitate much closer monitoring of the development and conservation status of farmed aquatic species. A prototype registry is set to be launched in late 2020.

The agriculture orientation index for government expenditures

Trend assessment = Deterioration since baseline year

Target 2.a

Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries

Investment in agriculture relative to its contribution to the economy has declined in most regions of the world since 2000, although it appears to have stabilized since 2010

Public investment in agriculture can enhance productivity, attract private investment, and help reduce poverty and hunger. A key measure of public investment in agriculture is the Agriculture Orientation Index (AOI) for Government Expenditures, which compares the central government contribution to agriculture with the sector's contribution to GDP.

- An AOI of less than 1 indicates a lower orientation of the central government towards the agriculture sector relative to the sector's contribution to the economy.
- An AOI of greater than 1 indicates a higher orientation of the central government towards the agriculture sector relative to the sector's contribution to the economy.

Overall, investment in agriculture relative to its contribution to the economy has declined in most regions of the world since 2000, although it appears to have stabilized since 2010.

From 2001 to 2018, the AOI for government expenditures:

- fell from 0.42 to 0.28 worldwide.
- dropped sharply in Eastern and South-Eastern Asia, from 0.96 to 0.33.
- declined from 0.58 to 0.43 in Western Asia and Northern Africa.

The regions with the highest AOI currently are Northern America and Europe, as well as Western Asia and Northern Africa. The only two regions that have experienced an upward surge are Central and Southern Asia and Oceania* which had the lowest Agricultural Orientation Index in 2001 and have managed to raise it by increasing investment in agriculture.

The Agricultural Orientation Index for Government Expenditures has also declined since 2015, when the international community adopted the Sustainable Development Goals. Global AOI dropped from 0.31 in 2015 to 0.28 in 2018 suggesting that the world is not on track to meeting SDG target 2.a, which calls for increasing investment in agriculture. In most regions, the AOI is below 0.5, which suggests an underinvestment in agriculture compared to the sector's contribution to GDP.

The decline in AOI at global level is generally due to reductions in government allocations to agriculture, rather than a decline in the agriculture sector's contribution to the economy. Since 2015, the agricultural sector's contribution to global GDP dropped from 5.54 percent to 5.28 percent. However, there was a sharper drop in government expenditures in agriculture from 1.73 percent to 1.48 percent leading to an overall decline in the Agricultural Orientation Index.

*excl. Australia & New Zealand

Figure 11: Agriculture Orientation Index for Government Expenditure in the world (2001 – 2018)

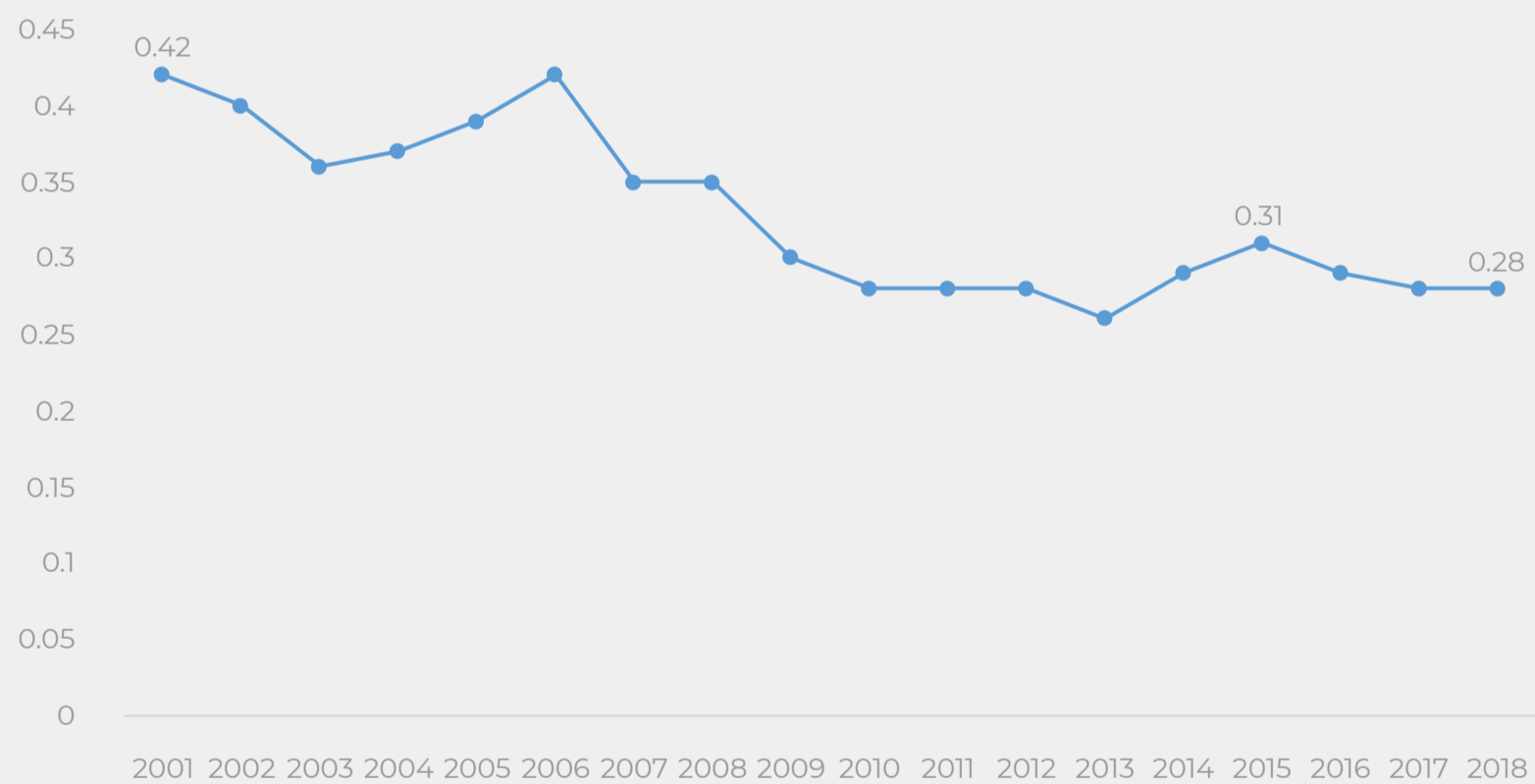
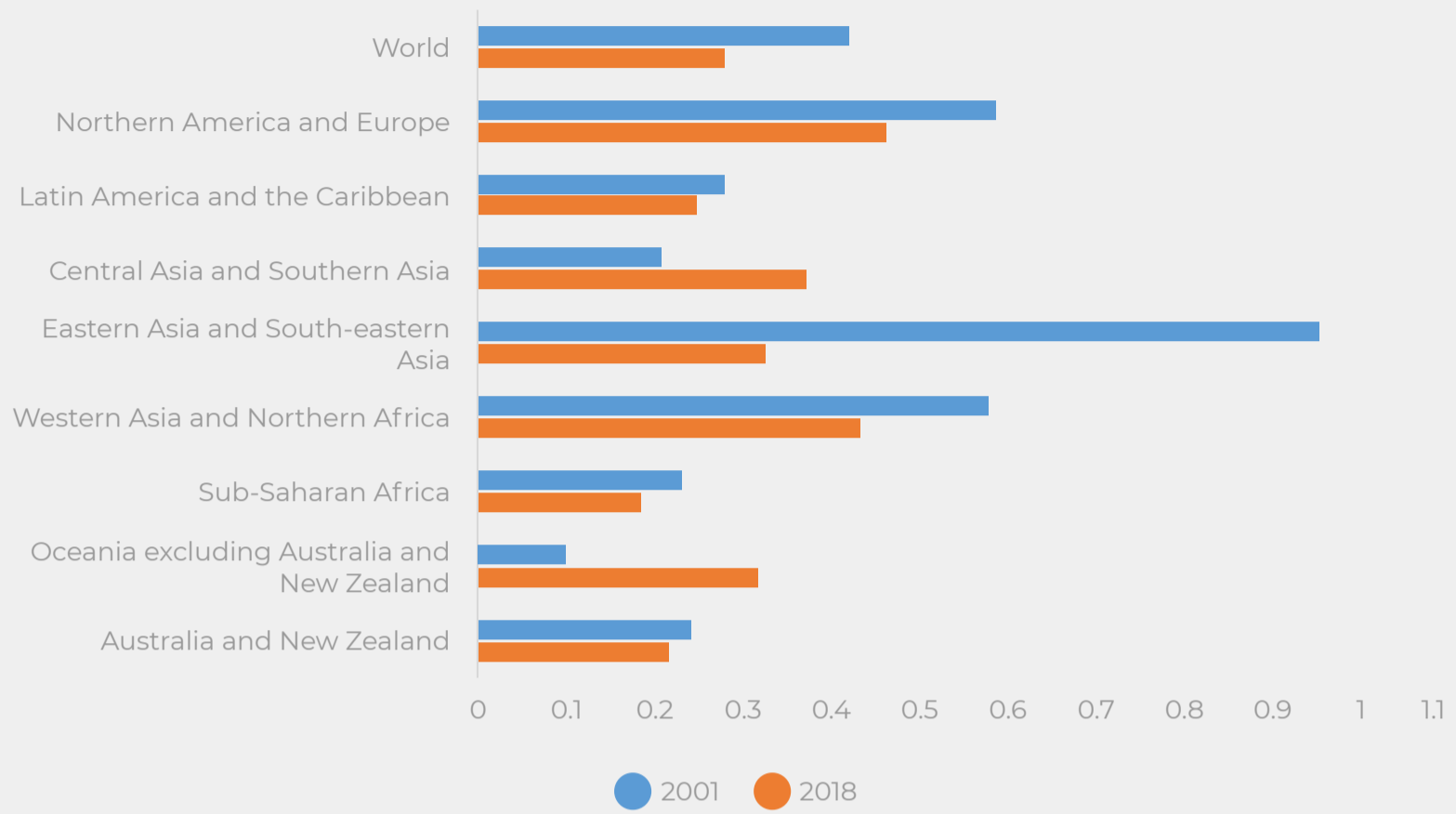


Figure 12: The Agriculture Orientation Index for Government Expenditure by region in 2001 and 2018



Indicator of food price anomalies

Global assessment not possible due to the methodological characteristics of the indicator

Target 2.c

Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility

Globally the proportion of countries affected by high food prices decreased in 2017–2018, but over a quarter experienced food price volatility

In 2017–2018, the proportion of countries experiencing abnormally high and moderately high food prices declined compared to 2015–2016. The largest decline was recorded in Eastern Asia and South–eastern Asia, driven by weaker agricultural commodity prices, amid currency appreciations, particularly in South–eastern Asia.

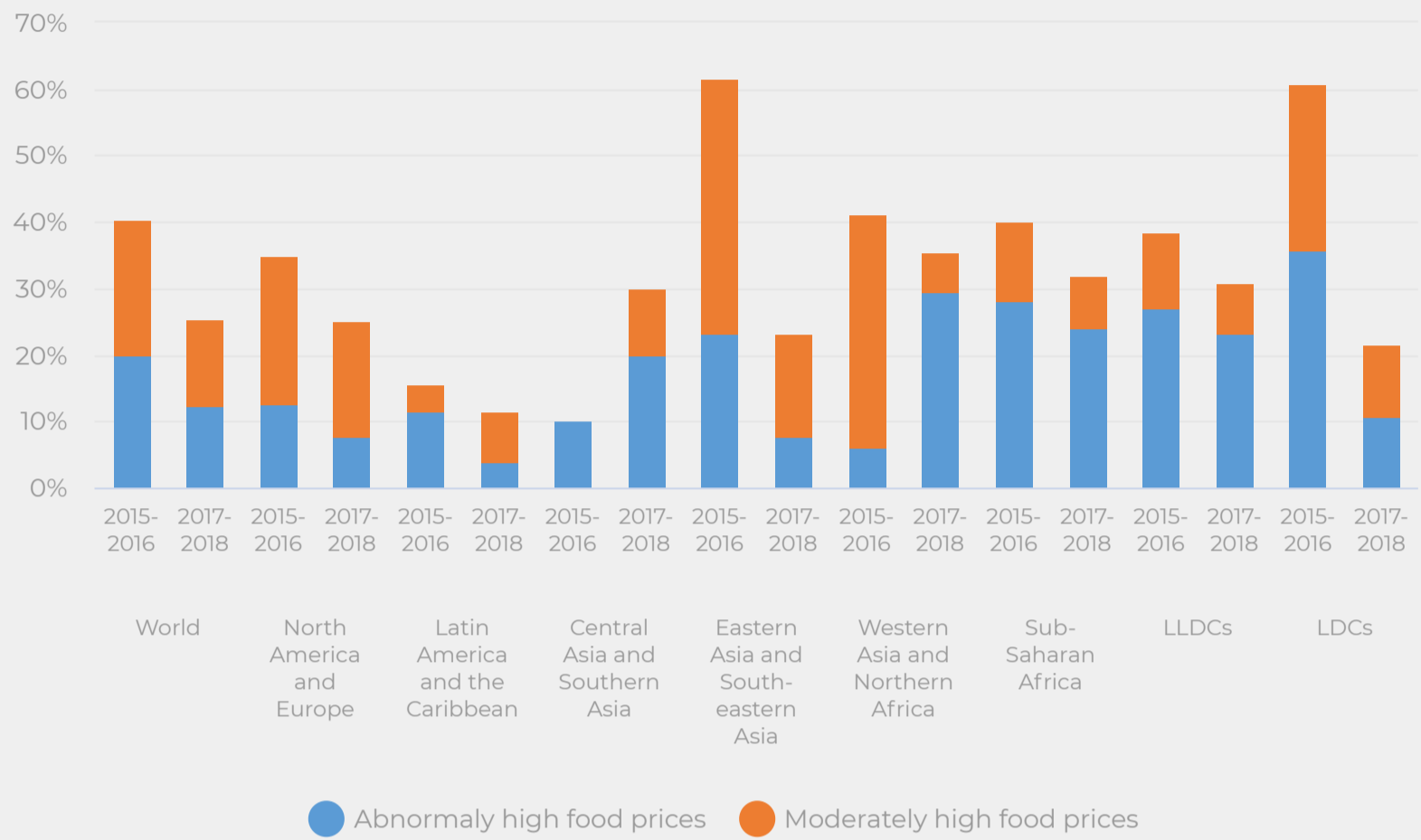
By contrast, an increase in countries affected by abnormally and moderately high food prices was recorded in Central Asia and Southern Asia, underpinned by reduced domestic availabilities of food staples and currency depreciations in selected countries in Southern Asia.

Although overall lower than in 2015–2016, high food prices continued to afflict more than one third of the countries in Western Asia and North Africa in 2017–2018, due to a combination of currency depreciations, reduced crop harvests and a rebound in world oil prices from mid–2017 to mid–2018.

The introduction of fiscal measures in Western Asia during 2018 contributed to boost agricultural commodity prices in selected countries. In Sub–Saharan Africa, the proportion of countries that experienced abnormally high and moderately high food prices declined in 2017–2018, as agricultural outputs generally recovered and alleviated internal supply pressure, which had caused price hikes in 2015 and 2016. High food prices persisted in nearly one third of the countries in the region during the 2017–2018 period, due to production shortfalls, currency depreciations and the impact of insecurity on food markets.

High food prices affected a relatively smaller proportion of countries in North America and Europe, as well as in Latin America and the Caribbean, where the share of countries experiencing abnormally and moderately high prices broadly declined in 2017–2018, supported by satisfactory production of agricultural commodities. In Oceania, price indices are only available for a handful of countries, making it difficult to draw conclusions about food price volatility at the regional level.

Figure 13: Proportion of countries by region affected by high or moderately high food prices in 2015 – 2016 and 2017 – 2018





SUSTAINABLE DEVELOPMENT GOAL 5

Gender equality

Achieve gender equality and empower all women and girls.

INDICATORS

5.a.1

5.a.2

Overview

International commitments to advance gender equality have brought about improvements in some areas: child marriage and female genital mutilation have declined in recent years, and women's political representation is higher than ever before.

However, the vision of full gender equality remains unfulfilled and has probably taken a turn for the worse during the COVID-19 pandemic. The crisis has contributed to a surge in reports of violence against women and girls. They are also on the front lines in fighting the coronavirus, since women account for nearly 70 percent of health and social workers globally.

Women also make up a substantial share of the agricultural labour force in developing countries, yet relatively fewer women than men have ownership and/or secure tenure rights over agricultural land. Substantial progress is still needed in both legal frameworks and their implementation to realize women's land rights.

SDG INDICATOR 5.A.1

(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex

and

(b) share of women among owners or rights-bearers of agricultural land, by type of tenure

Insufficient data to assess status and progress at global level

Target 5.a

Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws

Relatively fewer women than men have ownership and/or secure tenure rights over agricultural land

Land is one of the most important assets for supporting agricultural production and providing food security and nutrition. Evidence suggests that owning or bearing rights to land reduces women's reliance on male partners and relatives and increases their bargaining power in the economy and within households. It also improves women's chances of accessing extension services and credit, and encourages them to undertake and expand their investments and join producer organizations.

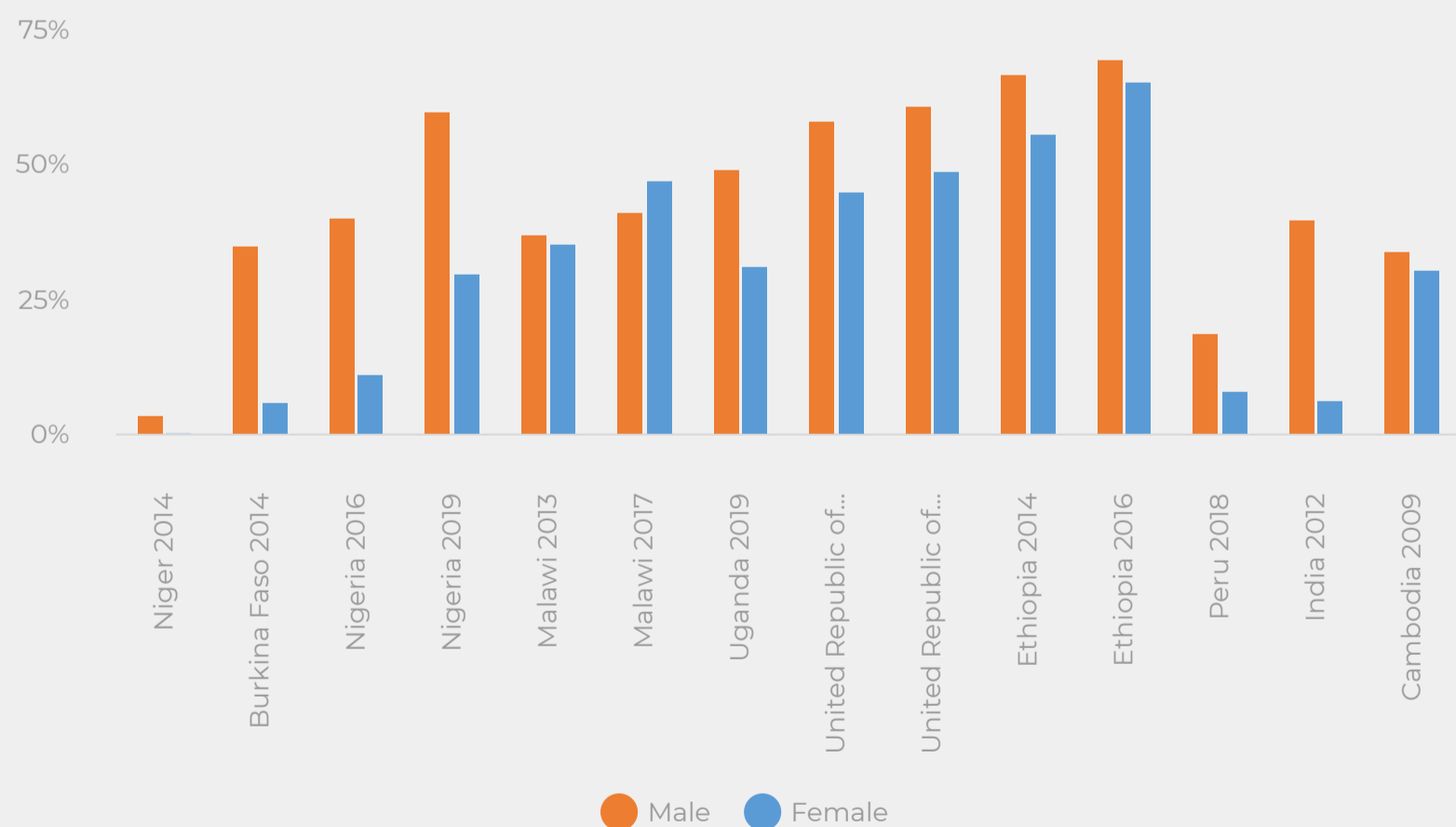
Some studies suggest that if women had equal access to land, poverty and food insecurity would be significantly reduced around the world.

The existing data - still restricted to a few countries in Africa, Latin America and Asia - shows that both men and women involved in agricultural production lack ownership and/or secure tenure rights over agricultural land.

In most countries, less than 50 percent of men and women engaged in agriculture have ownership and/or secure tenure rights over agricultural land. Available evidence also shows that gender inequalities in access to ownership and/or secure land rights are pervasive: in 9 out of 10 countries assessed, relatively fewer women than men have ownership and/or secure tenure rights over agricultural land (Figure 14).

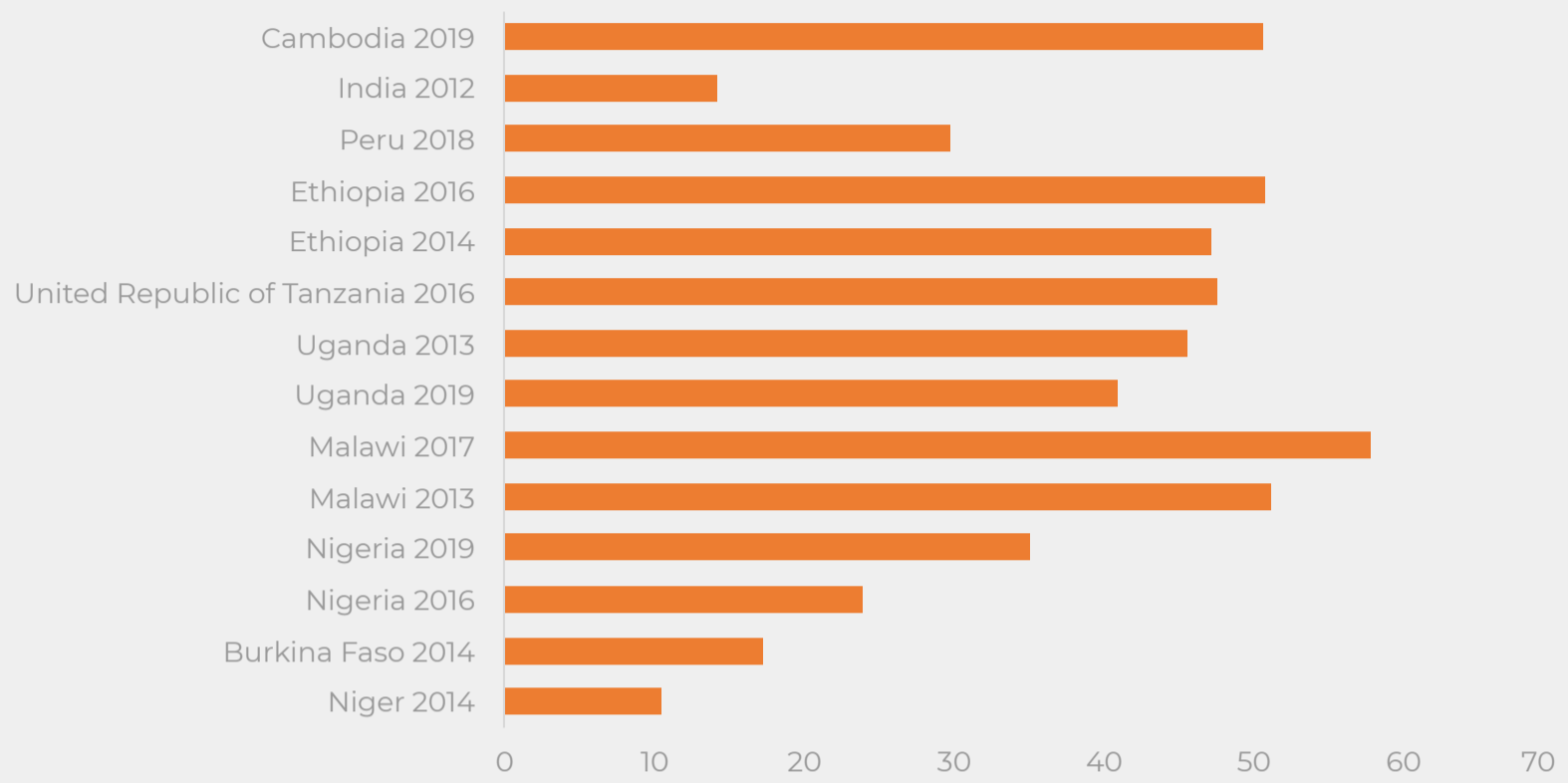
That being said, in the few countries that have more than one data point, it is possible to observe a reduction of the gap between the percentage of men and the percentage of women with ownership and/or secure tenure rights over agricultural land.

Figure 14: Percentage of adults (18+) in the agricultural population with ownership or secure rights over agricultural land for selected countries, by sex [SDG5a1-part a]



* Data may not be fully comparable across countries as a different set of questions was used in each survey analysed

Figure 15: Share of women among owners or rights-bearers of agricultural land for selected countries [SDG 5a1 - part b]



* Data may not be fully comparable across countries as a different set of questions was used in each survey analysed.

This does not necessarily mean that there are always more men landowners than women, as there may be a larger proportion of women engaged in agriculture than men in a country, as is often the case especially in developing countries. Indeed, there are more women landowners than men in three out of 10 countries (Figure 15). The relative share of women landowners exceeds 55 percent only in the case of Malawi. By contrast, the share of men among landowners is over 65 percent in five out of 10 countries.

SDG INDICATOR 5.A.2

Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control

Insufficient data to assess status and progress at global level

Target 5.a

Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws

Legal frameworks fail to provide enough guarantees for gender equality in ownership and/or control over land. Substantial progress is still needed both in law formulation and implementation to realize women's land rights.

A sound legal framework is key to strengthening women's land rights and breaking existing patterns of inequality and discrimination. Legal frameworks that guarantee women's rights to land ownership and or/control help to ensure the protection and security of women's land rights by regulating land and property rights in marriage or informal unions and inheritance rights.

The first global assessment of 16 national legal frameworks suggests that relevant legal provisions in many countries across the world do not adequately protect women's rights to land. The degree to which the legal framework guarantees women's equal rights to land ranges from very low to medium in more than 60 percent of assessed countries. Only 12 percent of assessed countries guarantee a very high degree of protection for gender equality in land ownership and/or control.

Disaggregated data by six key criteria for this type of legal framework suggest that legal provisions that mandate or incentivise joint registration of land in married couples are lacking in most countries. Without the inclusion of women's names and rights on the land registration document, women's property rights remain insecure, particularly for women who

separate, divorce, or become abandoned or widowed. In such situations, women may be forced to undertake costly legal action to claim their rights.

In countries in which legal pluralism prevails (where the formal law coexists with customary laws), women land rights are less protected. For instance, in countries where some aspects of customary laws override constitutional provisions, women's land rights are less safeguarded, particularly when it comes to inheritance or matrimonial rights. Likewise, where customary law is recognized, very often the rights of women are not protected if they conflict with the formal law and are more likely to be endangered by entrenched patriarchal norms.

Measuring implementation of gender equality policies in land ownership and control

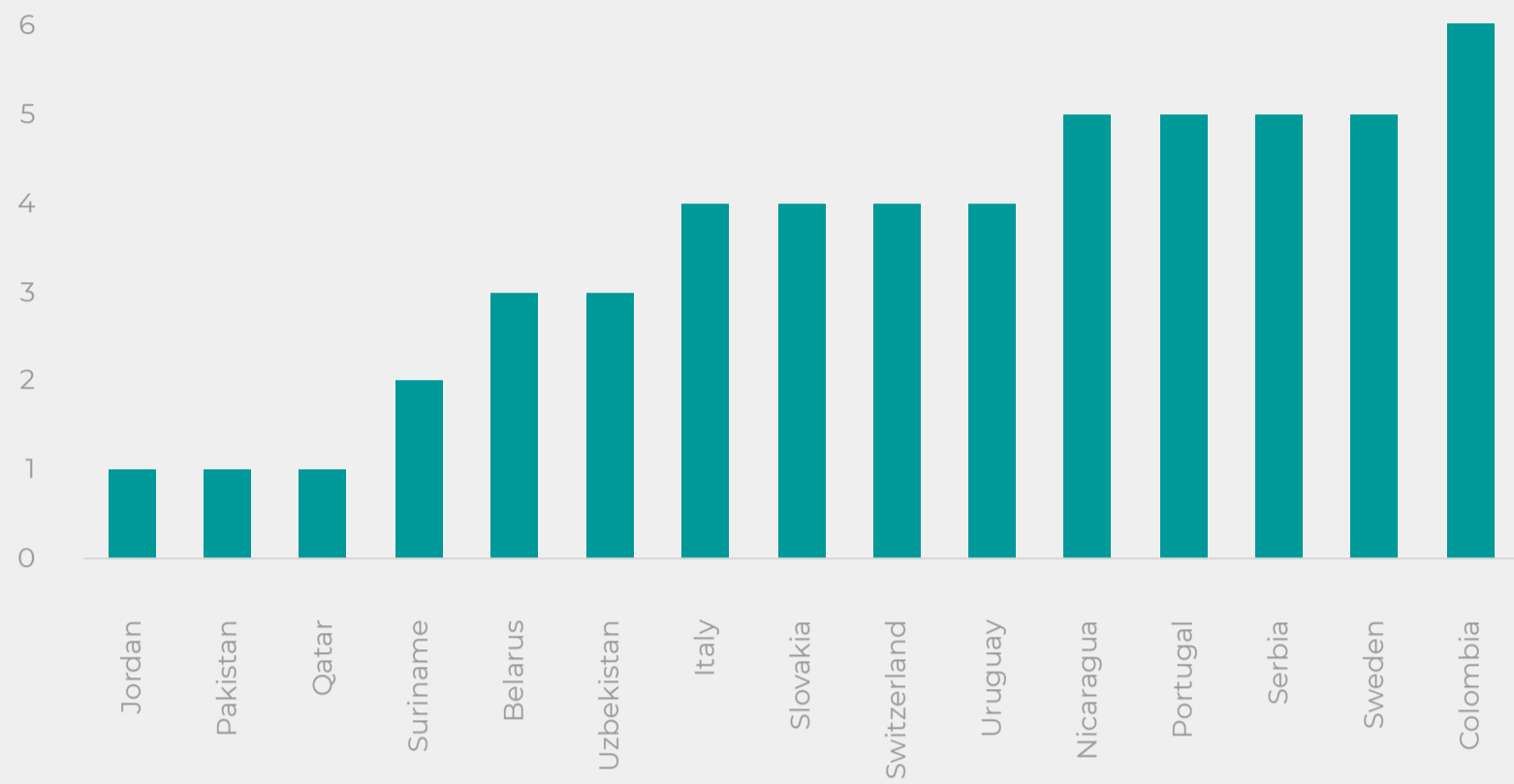
A key measure for supporting the implementation of policies and laws and accelerating gender equality in land ownership and control is the adoption of temporary special measures, such as legal provisions that:

- allocate financial resources for facilitating women's purchase of land, or
- establish mandatory quotas to foster women's participation in land governance institutions.

Nevertheless, there is little evidence that such positive measures are commonly adopted in legal frameworks. Even where women's and girls' inheritance rights are protected by the laws, social and cultural norms constitute an important obstacle for claiming those rights.

Although many countries have improved their legislation to promote gender equality over the last three decades, substantial progress is still needed to realize women's land rights in the legal framework and in practice.

Figure 16: Level of guarantees of women's equal rights to land ownership and/or control in the national legal framework for selected countries, 2020 (1=lowest, 6=highest)





SUSTAINABLE DEVELOPMENT GOAL 6

Clean water and sanitation

Ensure availability and sustainable management of water and sanitation for all.

INDICATORS

6.4.1

6.4.2

Overview

The coronavirus crisis has brought to the fore the critical importance of water, sanitation and hygiene for protecting human health. Despite progress, billions of people across the globe still lack these basic services, hampering efforts to contain the spread of COVID-19. Water is essential not only to health, but also to poverty reduction, food security, ensuring peace and human rights, improving ecosystems and education.

Nevertheless, countries face growing challenges linked to water scarcity, water pollution, degraded water-related ecosystems and cooperation over transboundary water basins. Water stress remains alarmingly high in many regions, threatening progress towards sustainable development. The resulting water scarcity, which tends to disproportionately affect the most vulnerable people, could lead to widespread socio-economic disruptions unless urgent measures are taken.

SDG INDICATOR 6.4.1

Change in water-use efficiency over time

Insufficient data to assess status and progress at global level

Target 6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Water use efficiency is on the rise in most regions, although the rate of progress varies widely.

Improving water use efficiency is a key measure that can contribute to reducing overall water stress in a country, provided that it also leads to a parallel reduction of water withdrawals. Increasing water-use efficiency over time means using less water to produce the same amount of output, effectively decoupling economic growth from water-use across the main water-using sectors.

Across the world, water use efficiency rose from 12.58 USD/m³ in 2000 to 18.17 USD/m³ in 2017. Estimates for water use efficiency range from as little as 0.2 USD/m³ for countries whose economies depend largely on agriculture, to 1,197 USD/m³ in highly industrialized, service-based economies that are less dependent on natural resources. The majority of countries (two thirds) have a water use efficiency between 5 and 100 USD/m³.

Regionally, water use efficiency in 2017 ranges from 2.2 USD/m³ in Central Asia, to 62.2 USD/m³ in Oceania, highlighting again the huge differences existing across the world (Figure 17). The figures also show that several regions have been faster at increasing water use efficiency over time. The highest proportional increases have been recorded in Central Asia and Southern Asia, while Oceania and Northern Africa show lower improvements, and Latin America and the Caribbean registered an actual decline in water use efficiency (Figure 18).

Agriculture tends to have a much lower water use efficiency compared to other productive sectors, meaning that a country's economic structure usually greatly affects its overall water use efficiency. Increasing agricultural water productivity is therefore a key intervention for improving water use efficiency. Other important measures include reducing water losses by tackling leakages in municipal distribution networks and optimizing industrial and energy cooling processes.

Figure 17: Water use efficiency by region in 2000 and 2017 (USD/m³)

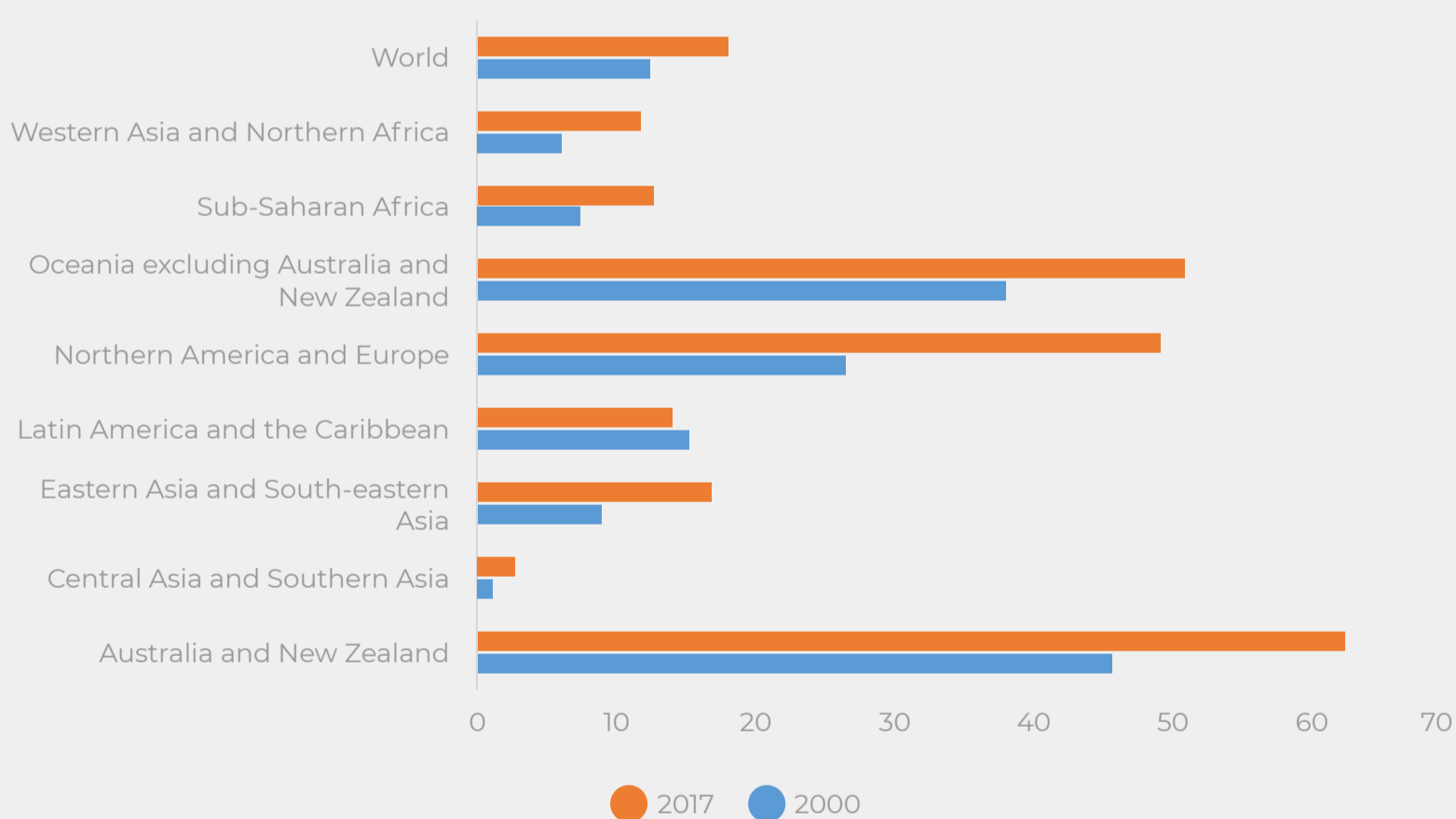
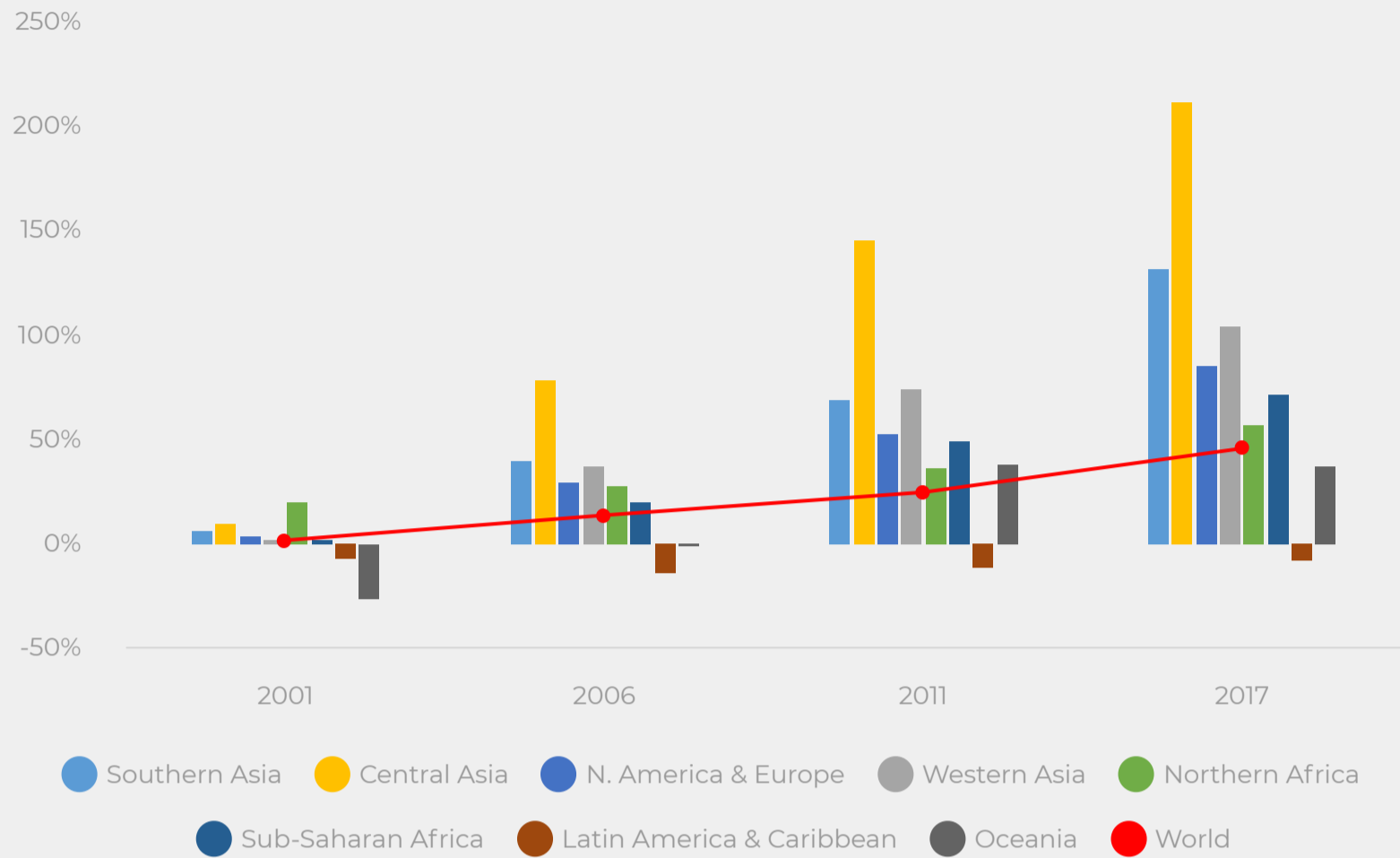


Figure 18: Change in water use efficiency over time by region, 2001 – 2017



Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Target 6.4

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

Water stress remains alarmingly high in many regions, threatening progress towards sustainable development

Water stress is one of the most serious current threats to sustainable development. High water stress – the withdrawal of too much freshwater from natural sources compared to the freshwater available – can have devastating consequences for the environment and hinder or even reverse economic and social development. The resulting water scarcity, which tends to disproportionately affect the most vulnerable people, could displace an estimated 700 million people by 2030.

Globally, water stress remains at a safe 17 percent. However, the world average masks huge regional variations.

- Central and South Asia as well as Northern Africa all register very high water stress over 70 percent, with the former two regions even having experienced an upward surge in water stress between 2015 and 2017.
- Western Asia and Eastern Asia follow with water stress levels between 45 and 70 percent, with both regions registering either a stable or decreasing water stress level since 2015.

For this reason, the gradually increasing trend of global water stress over the past 20 years reflects increasing stress in several areas of the world, which decreases in other areas of the world are not able to compensate.

By contrast, the water stress in some regions such as Sub-Saharan Africa and Central and South America is low enough to provide some countries with scope for sustainably increasing water use, provided that adequate precautions are taken. In regions affected by high water stress, urgent and concrete measures are required to save water and increase water use efficiency.

Figure 19: Level of water stress in the world. 2000-17 (%)

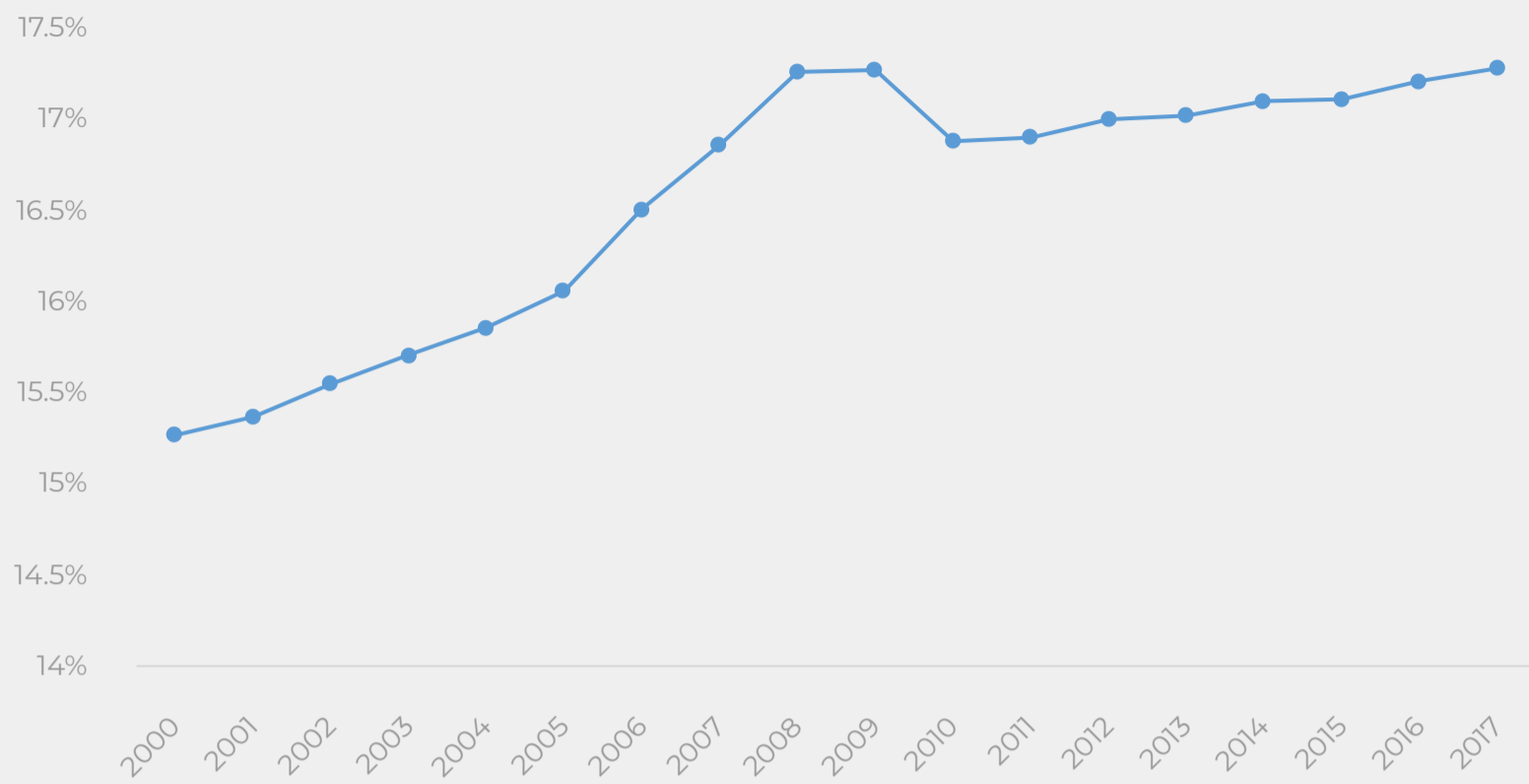
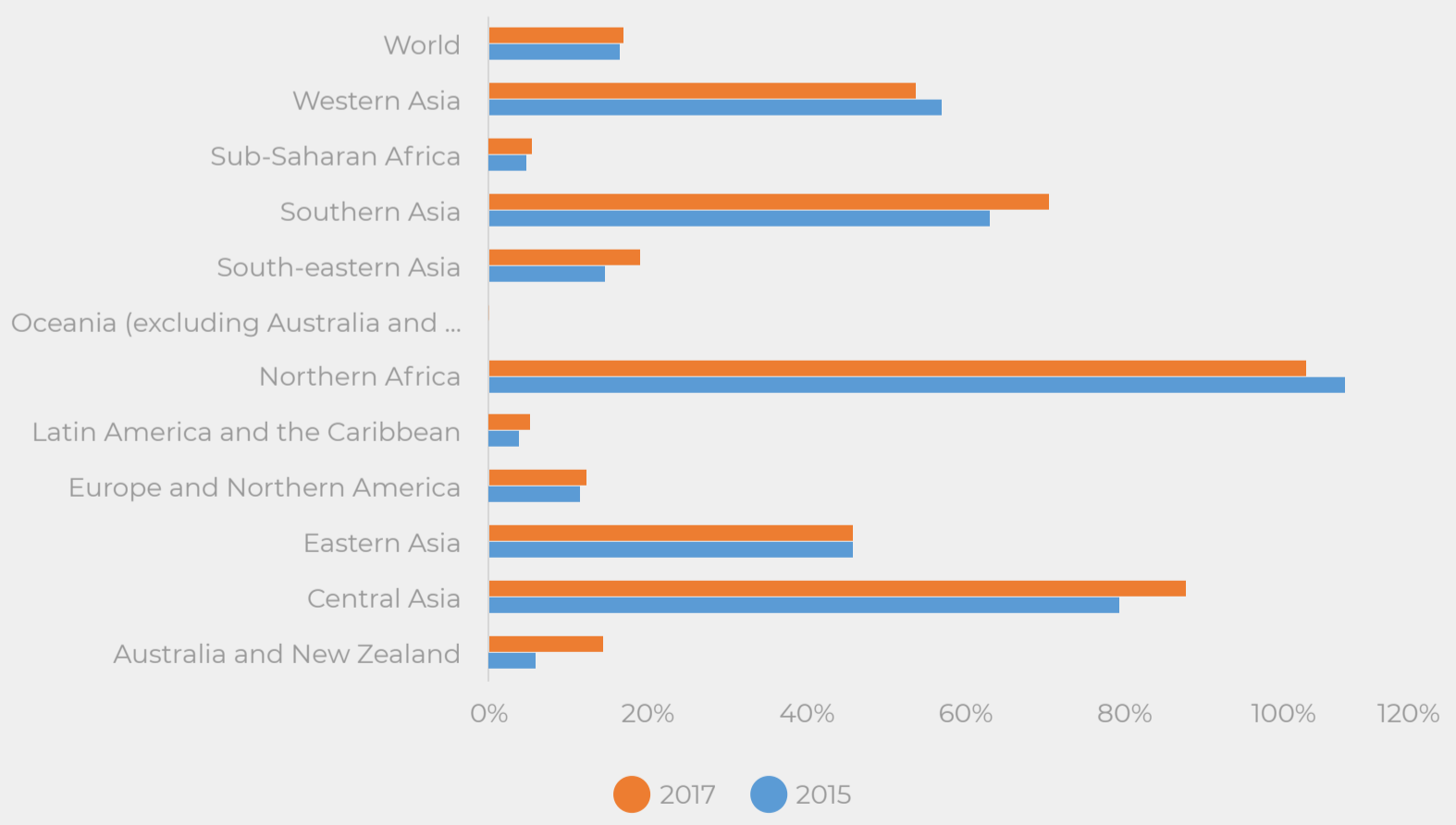


Figure 20: Level of water stress by region in 2015 and 2017 (%)





SUSTAINABLE DEVELOPMENT GOAL 12

Responsible consumption and production

Ensure sustainable consumption and
production patterns.

INDICATOR

12.3.1

Overview

Consumption and production underpin the global economy, yet current patterns are compromising planetary health.

The global material footprint is increasing faster than population growth and economic output. Improvements in resource efficiency in some countries are offset by increases in material intensity in others. Fossil fuel subsidies remain a serious concern. An unacceptably high proportion of food is lost along the supply chain, amounting to over 400 billion USD a year – a comparable value to some national and regional economic stimulus packages in the wake of the coronavirus pandemic.

At the same time, the pandemic offers an opportunity to develop recovery plans that will reverse current trends and shift our consumption and production patterns to a more sustainable course.

SDG INDICATOR 12.3.1

(a) Food loss index and (b) food waste index

Insufficient data to assess status and progress at global level

Target 12.3

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

An unacceptably high proportion of food is lost along the supply chain before it even reaches the consumer

Reducing food loss and waste is critical to reduce production costs and increase the efficiency of food systems, improve food security and nutrition, and contribute towards environmental sustainability.

While it is not yet possible to estimate the percentage of food wasted at the retail and consumption stage, FAO has generated modelled estimates of food losses across the main regions of the world based on a limited pool of available national data. Based on these estimates, the percentage of food lost after harvest on farm and at the transport, storage, processing and wholesale stages stands at 13.8 percent globally, amounting to over 400 billion USD a year.

To gain further insight into the location and extent of food loss and waste, FAO has also conducted a meta-analysis of existing studies that measure food loss and waste in countries all over the

world and published it on the [FLW Database](#). It illustrates how food loss and waste varies across stages in the food supply chain, as well as between regions and commodity groups

Regional estimates suggest that:

- Across all commodity groups, the highest share of food losses occurs in Central Asia and Southern Asia that is 20.7 percent of global agricultural production, while the Oceania region, which includes the Pacific Islands, Australia and New Zealand register the lowest percentages of food losses, at 9.8 percent and 5.8 respectively.
- For cereals and pulses – the commodity group with relatively more available and reliable data – significant loss levels are found in sub-Saharan Africa and Eastern and South-Eastern Asia, while they are limited in Central and Southern Asia.
- Generally, the share of losses is higher for fruits and vegetables than for cereals and pulses.

Causes of food loss and waste differ widely along the food supply chain. Important causes of on-farm losses include:

- inadequate harvesting time
- climatic conditions
- non-efficient practices applied at harvest and handling
- and challenges in marketing produce.

Significant losses are caused by inadequate transportation infrastructure and storage conditions as well as decisions made at earlier stages of the supply chain, which predispose products to a shorter shelf life. Adequate cold storage, in particular, can be crucial to prevent quantitative and qualitative food losses.

Good practices in the handling of the produce are also key to reduce food losses and require capacity building at all levels of the supply chain. Better market linkages, as well as shorter supply chains can contribute to an improved coordination between producers and consumers and reduce food losses, while processing and packaging can play a role in preserving foods.

Studies on waste at the consumer stage are mostly done in high-income countries; they indicate that waste levels are high for all types of food, but particularly for highly perishable foods such as animal products and fruits and vegetables. The causes of food waste at the retail level are linked to:

- limited shelf life
- the need for food products to meet aesthetic standards in terms of colour, shape and size

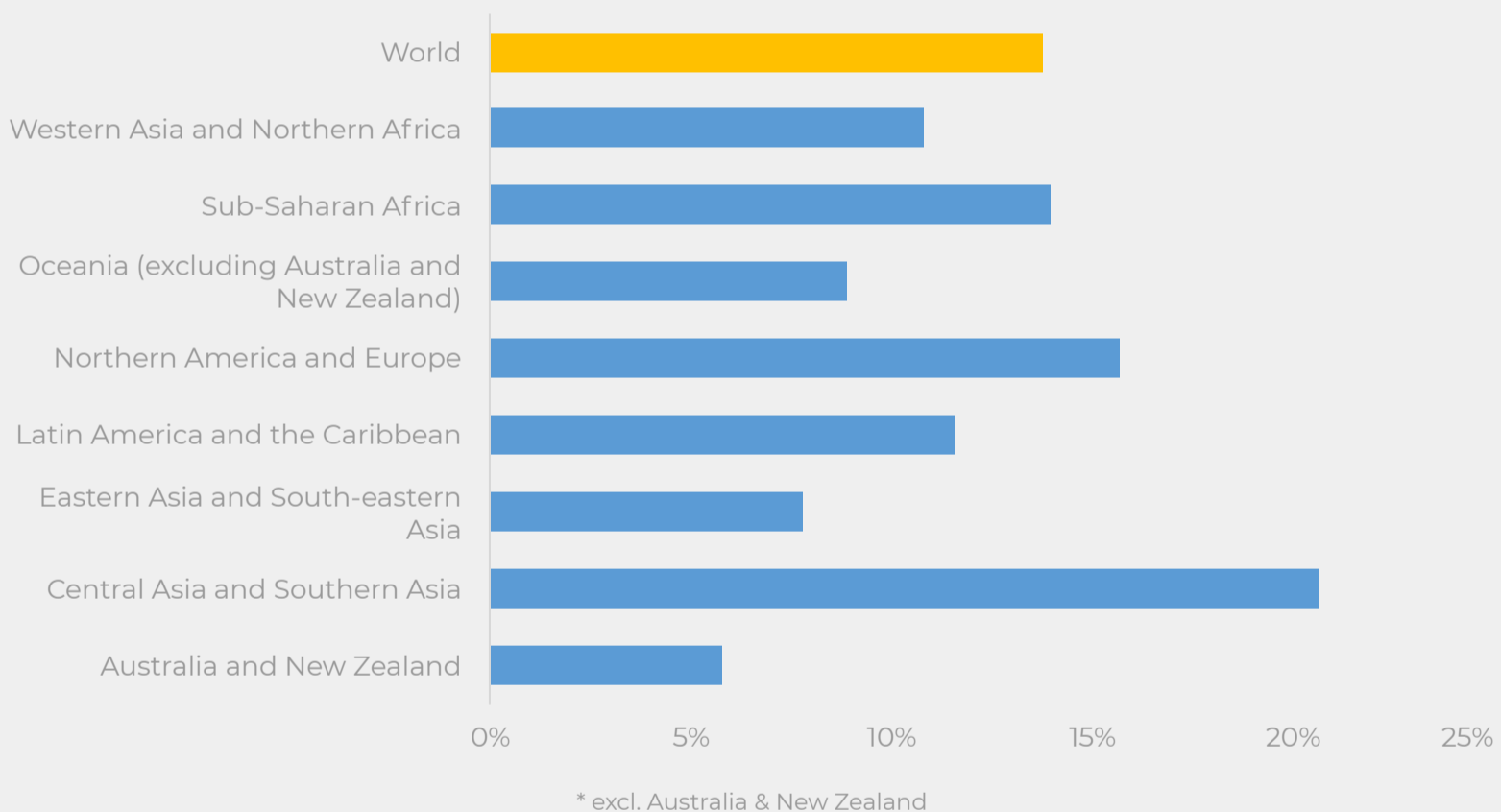
- variability in demand.

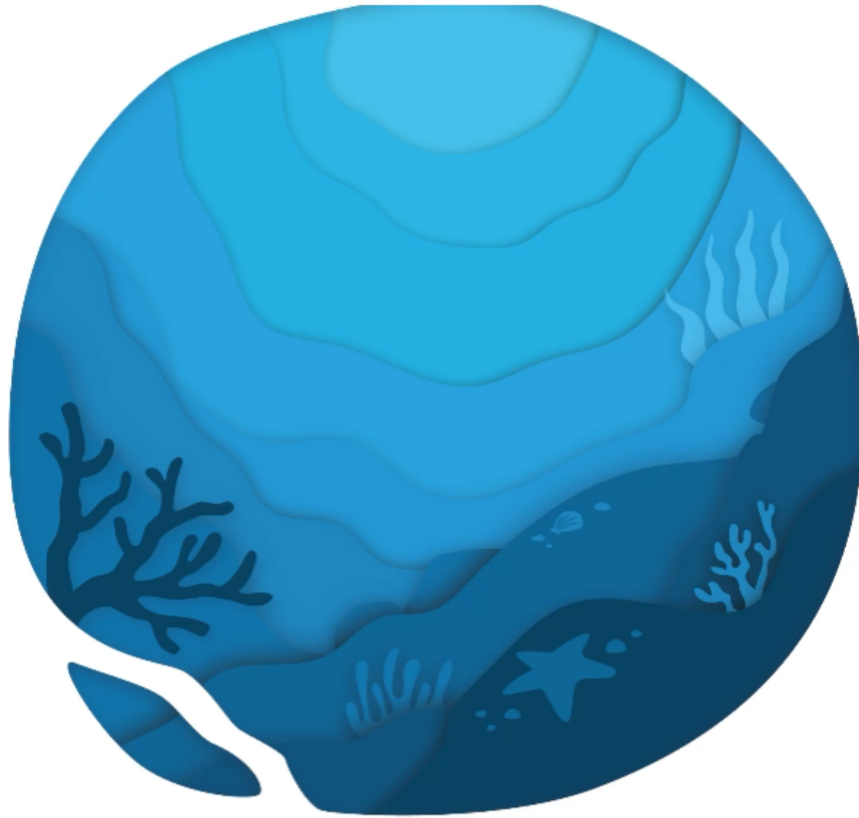
Consumer waste is often caused by:

- poor purchase and meal planning
- excess buying (influenced by over-large portioning and package sizes)
- confusion over labels (best before and use by)
- poor in-home storing.

Data collection efforts are urgently needed for countries to target interventions at critical stages of the value chain and reduce food losses and waste.

Figure 21: Percentage of food loss by region, 2016





SUSTAINABLE DEVELOPMENT GOAL 14

Life below water

Conserve and sustainably use the oceans, seas and marine resources.

INDICATORS

14.4.1

14.6.1

14.7.1

14.b.1

Overview

Oceans are the world's largest ecosystem, home to nearly a million known species, and play a vital role in regulating the global climate system. However, their ability to continue supporting the global population's economic, social and environmental needs is being compromised.

Despite some efforts in conserving oceans, decades of irresponsible exploitation have led to an alarming level of degradation. The sustainability of global fishery resources continues to decline, though at a reduced rate, and while many countries have made progress in combatting illegal, unreported and unregulated fishing, a more concerted effort is needed.

Increased support for small-scale fishers will be critical in light of the coronavirus pandemic to allow them to continue earning a livelihood and nourishing local communities.

SDG INDICATOR 14.4.1

Proportion of fish stocks within biologically sustainable levels

Trend assessment = Slight deterioration since the baseline year

Target 14.4

By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

The sustainability of global fishery resources continues to decline, though at a reduced rate

While global marine fish landings have remained relatively stable at around 80 million tonnes since 1995, the sustainability of world fishery resources has continued to decline. The proportion of fish stocks within biologically sustainable levels decreased from 90 percent in 1974 to 65.8 percent in 2017, 0.82 percentage points lower than in 2015 (Figure 22).

Despite the continuous deterioration, the rate of decline has slowed down over the past decade.

Geographically, there are great variations in the proportion of sustainable fish stocks. Some regions are experiencing significant increases in fishing pressure on their stocks. Others have good rates of stock recovery. Improvements in fisheries

management from governments and relevant fishing institutions remain central to improving the sustainability of fishery resources.

In 2017, the Mediterranean and Black Sea continued to have the highest percentage of stocks fished at unsustainable levels (62.5 percent), followed by the Southeast Pacific (54.5 percent) and Southwest Atlantic (53.3 percent).

By contrast, the Eastern Central Pacific, Southwest Pacific, Northeast Pacific, and Western Central Pacific had the lowest proportion (13–22 percent) of stocks fished at biologically unsustainable levels.

A combination of improved regulations and infrastructure in intensively managed fisheries has proven successful in recovering certain overfished stocks to biologically sustainable levels. However, the adoption of such measures has generally been slow, particularly in many developing countries.

Figure 22: Proportion of fish stocks within biologically sustainable levels. 1974 – 2017

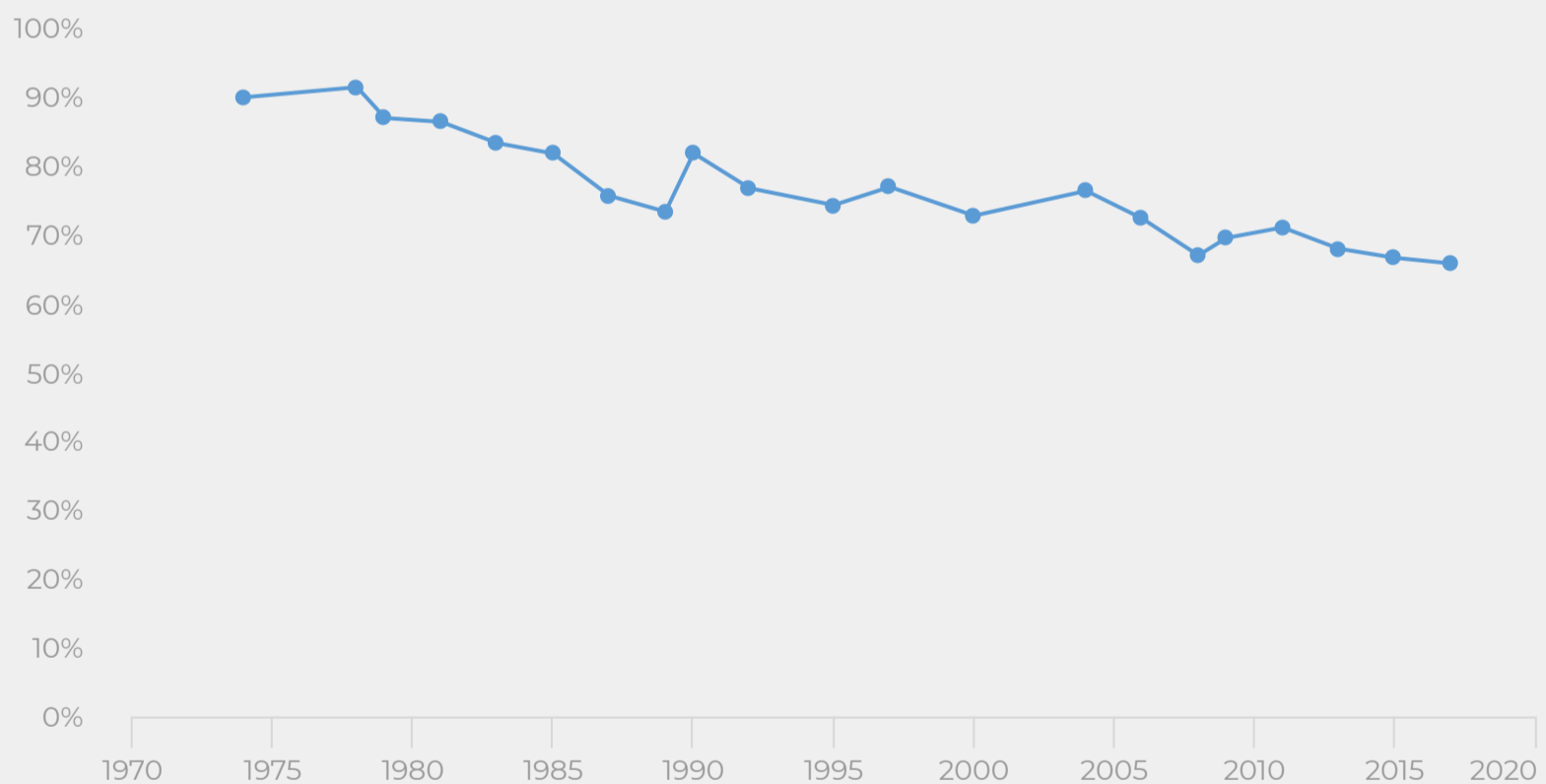
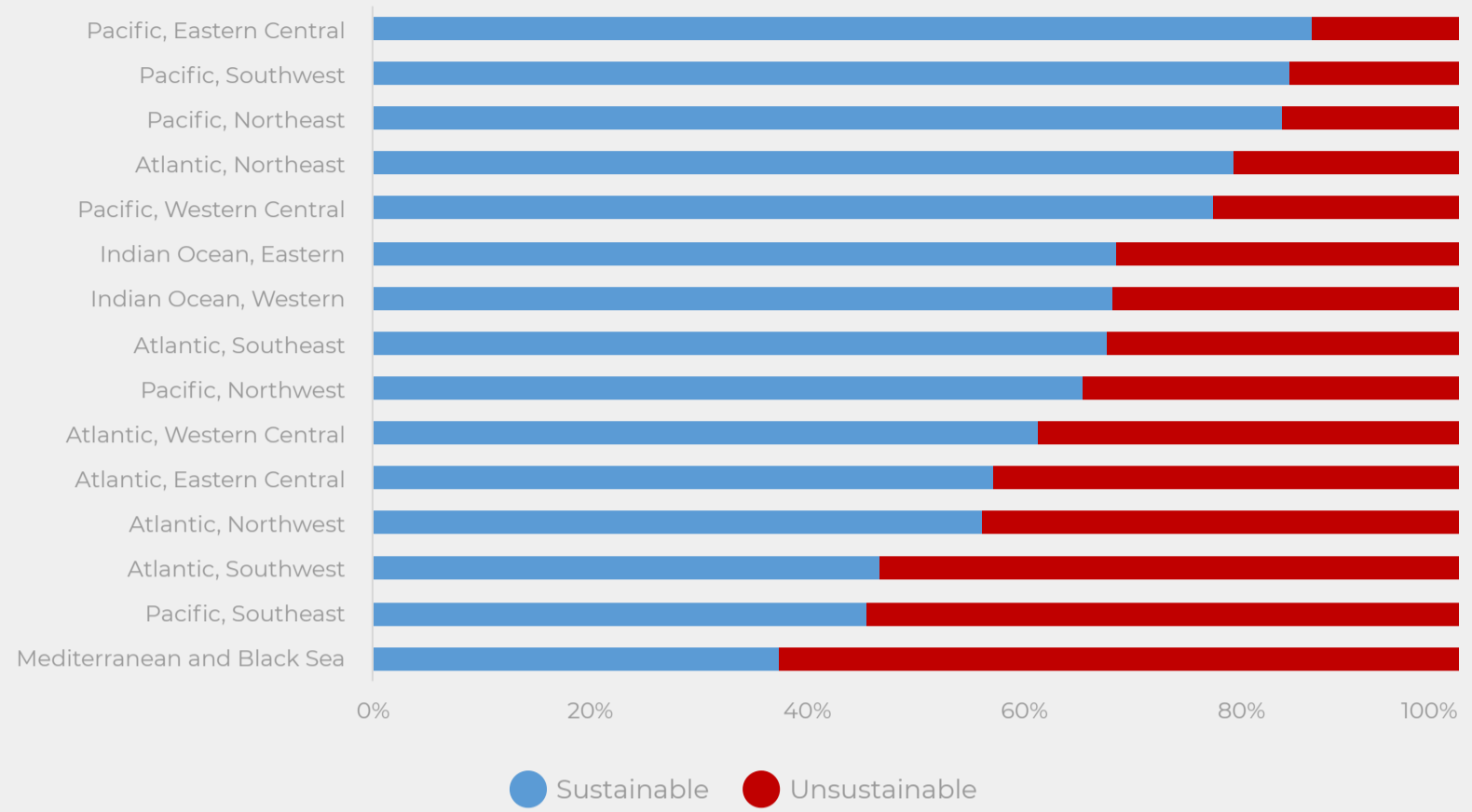


Figure 23: Fish stock sustainability status across major fishing areas



Degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing

Current status = Very close to the target

Trend assessment = Slight Improvement

Target 14.6

By 2020, prohibit certain forms of fisheries subsidies, which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation

Countries have made progress in combatting illegal, unreported and unregulated fishing, but a more concerted effort is needed.

Illegal, unreported and unregulated (IUU) fishing poses a significant risk to the sustainability and profitability of the fisheries sector. IUU fishing has negative economic, social, and environmental impacts, and hinders countries' ability to manage their fisheries in a sustainable, responsible manner.

The key to ending IUU fishing is through cooperation, transparency and compliance.

- **Cooperation** between all actors and strengthening individual efforts is required. This begins at the national level with inter-institutional cooperation, through to cooperation between different States, intergovernmental organizations and NGOs working towards this common goal.
- **Transparency** is needed, with States sharing information on the identity and compliance history of fishing vessels and other information to ensure the traceability of fish products throughout the value chain.
- **Compliance** is needed within the ample international framework covering all steps from the sea to the plate. This includes having strong monitoring, control and surveillance capacity, together with effective enforcement capacity, which are essential to proper implementation of international instruments to combat IUU fishing.

International instruments to combat IUU fishing

The framework of international instruments to combat IUU fishing, developed over the past few decades, provides a powerful suite of tools to combat IUU fishing, covering flag, coastal, port

and market State responsibilities. The Agreement on Port State Measures (PSMA) is the first binding international Agreement that specifically targets IUU fishing. It lays down a minimum set of standard measures for Parties to apply when foreign vessels seek entry into their ports or while they are in their ports.

In June 2016, the Agreement came into force and as of 03 July 2020, there were 66 Parties to the PSMA, including the European Union as one Party representing its Member States. This remarkable rate of adherence reflects the importance placed by States in combatting IUU fishing.

Between 2018 and 2020, the average degree of implementation of international instruments to combat IUU fishing has improved across the world. A composite measure of the degree of implementation of the five principal instruments, the world score for SDG indicator 14.6.1, rose from 3/5 to 4/5 over this period.

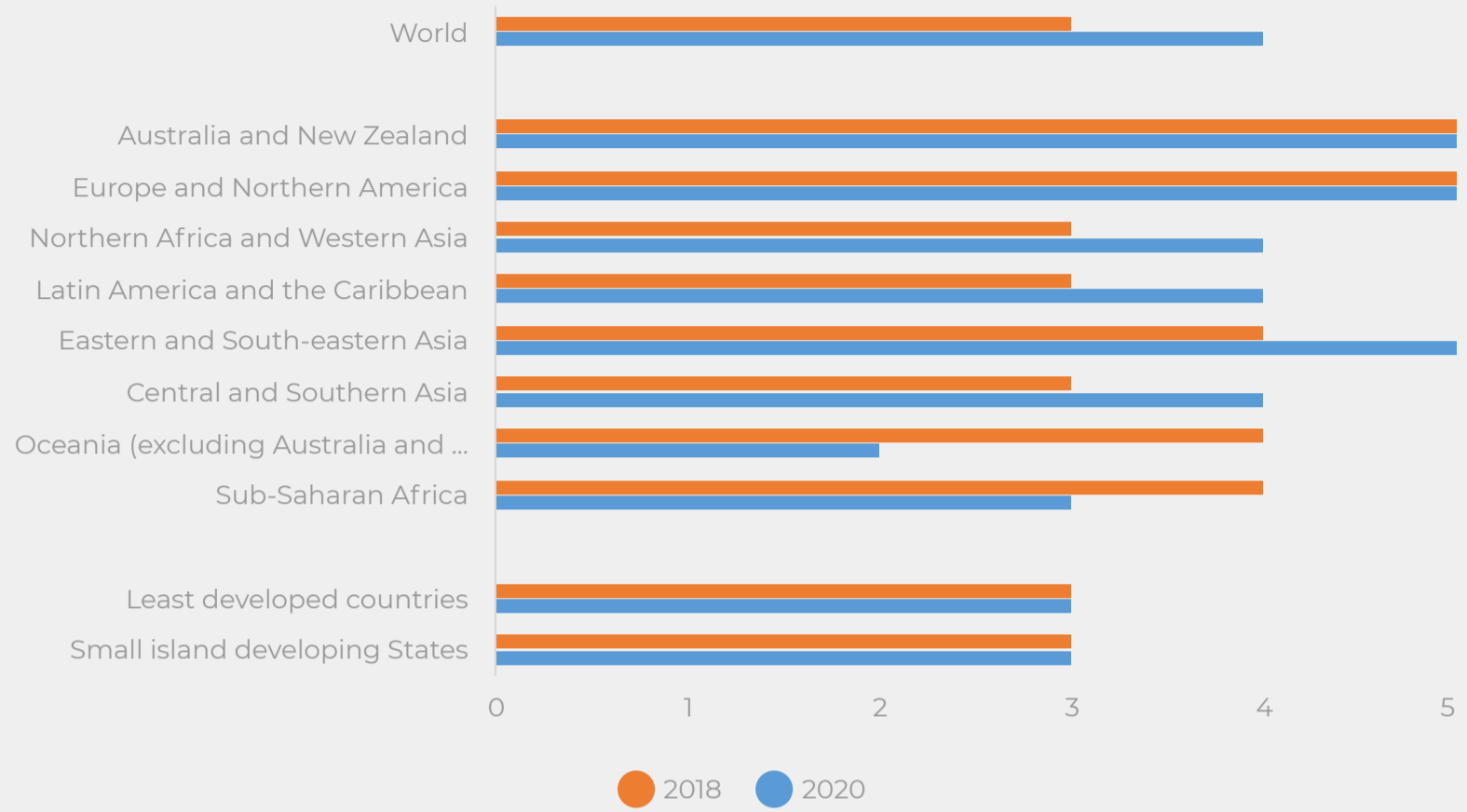
On the basis of their reporting, States have made good progress overall in carrying out the recommended measures to combat IUU fishing, with close to 75 percent of them scoring highly in their degree of implementation of relevant international instruments in 2020, compared to 70 percent in 2018.

Small Island Developing States (SIDS), faced with particular challenges in fully implementing these instruments due to their large amounts of waters under their jurisdiction, registered a medium level of implementation both in 2018 and in 2020.

The same level of implementation was found in least developed countries (LDCs) between 2018 and 2020, which often face challenges to implement these instruments.

Most regions have either remained at the same level of implementation or improved, the exception being Oceania (excluding Australia and New Zealand) and Sub-Saharan Africa. Currently, Australia and New Zealand, Europe and North America, as well as Eastern and South-Eastern Asia all receive a maximum score for the level of implementation of instruments to combat IUU fishing.

Figure 24: Progress in the degree of implementation of instruments to combat IUU fishing, 2018 - 2020



(Av. Level on implementation: 1 lowest – 5 highest).

Sustainable fisheries as a proportion of GDP in Small Island Developing States, Least Developed Countries and all countries

Trend assessment = Slight improvement

Target 14.7

By 2030, increase the economic benefits to Small Island Developing States (SIDS) and Least Developed Countries (LDCs) from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

Sustainable fisheries make a vital contribution to the GDP of LDCs and SIDS

Fisheries and aquaculture offer ample opportunities to alleviate poverty, hunger and malnutrition, generate economic growth and ensure better use of natural resources. These benefits can only be sustained through prudent management of fish stocks that avoids overexploitation and depletion.

As the world's appetite for fish continues to grow, so too has fish supply increasing from 20 million tonnes in 1950 to 178.5 million tonnes in 2018, with 96.4 million tonnes coming from capture fisheries and 82.1 million tonnes from aquaculture.

Between 2017 and 2018, the volume of marine capture fisheries rose by 3.9 percent. Aquaculture continues to grow faster than capture fisheries, making up an ever-greater share of global production destined for human consumption.

As the fisheries and aquaculture sector continues to grow, it has contributed to increased economic dividends from the sector and contributed to sustained economic growth. Globally, the value-added of this sector has increased consistently, by several percentage points year on year – a trend which has been confirmed recently.

As production is expected to continue its upward trend, reaching an estimated 204 million tonnes by 2030, it is ever more important to balance development objectives with management of fish stocks to avoid overexploitation and depletion, in order to ensure we are able to meet the needs of today without compromising the ability of future generations to do the same.

Measuring progress towards sustainable fisheries

To measure progress towards this objective we can look at the share of sustainable marine capture fisheries in GDP. This new metric brings together components including fisheries management, government policy and the societal role of fishing. It allows for the analysis of synergies and trade-offs between

economic, social and environmental concerns and bringing insight into the complex and interconnected nature of the fisheries sector.

In recent years, the contribution of sustainable fisheries to global GDP has remained fairly stable at around 0.1 percent a year, reflecting the interplay of two opposing trends: a consistently rising value-added of the fisheries sector, and a continued decline in the sustainability of global fish stocks.

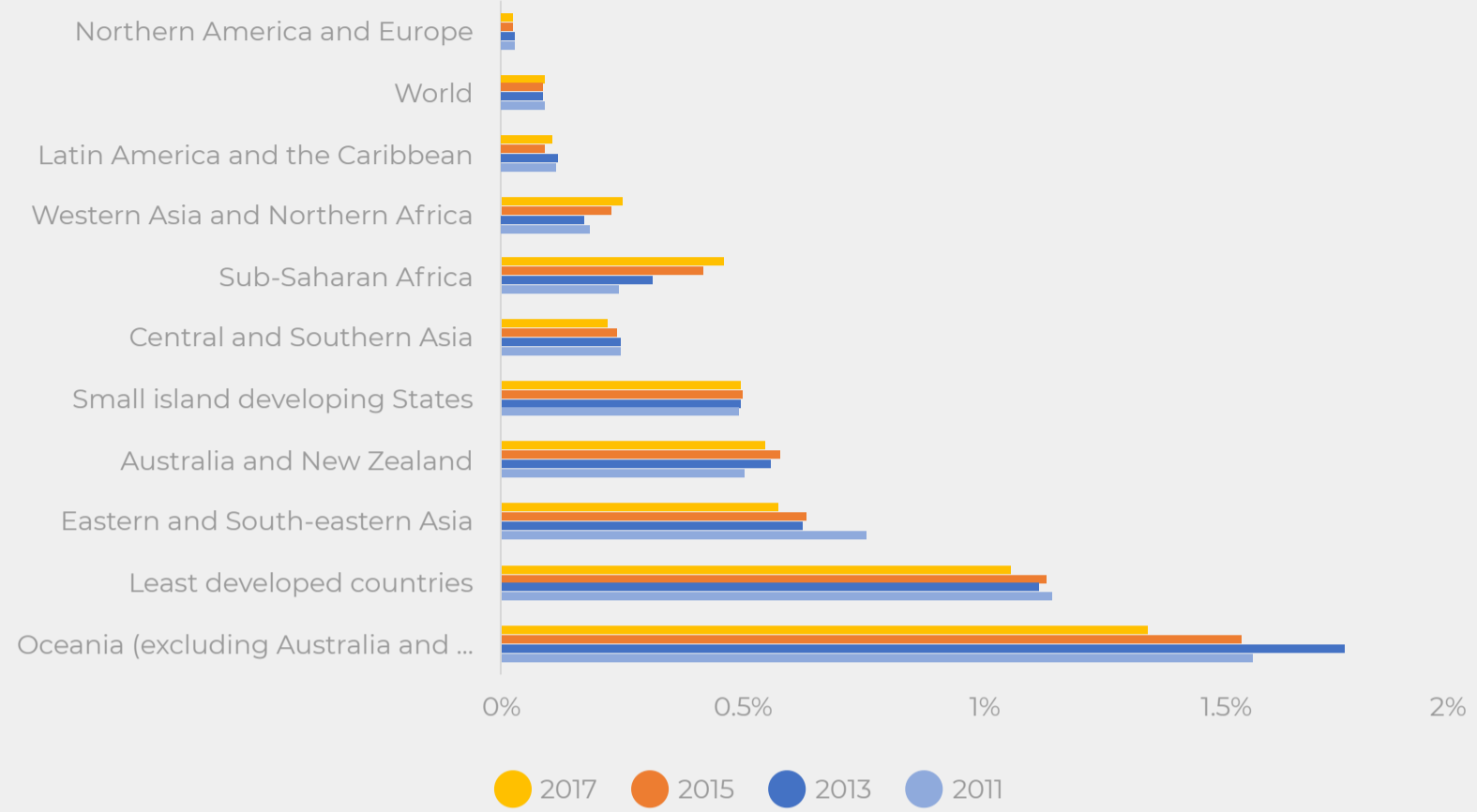
Compared to the global average, sustainable marine capture fisheries makes a substantial contribution to the GDPs of SIDS in Oceania and of LDCs, where fishing activities are vital to local communities and indigenous people.

The share of sustainable fisheries in the GDP is highest in Oceania (excl. Australia and New Zealand) at 1.33 percent and in LDCs at 1.06 percent, although this share has decreased in both regions since 2015. Central, Southern Asia, Eastern and South-eastern Asia, as well as Australia and New Zealand (M49), also saw their share of sustainable fisheries in GDP decreasing since 2015.

In Sub-Saharan Africa, while the overall figure is lower than in Oceania and LDCs, the region has seen notable growth in their economic contribution from sustainable fisheries, rising from 0.25 percent of GDP to 0.46 percent of GDP. Northern America and Europe, Latin America and the Caribbean, as well as Western Asia and Northern Africa have registered increases in their shares of sustainable fisheries in GDP.

Effective fisheries management and supportive government initiatives are critical to increasing the contribution of sustainable fisheries to GDP, particularly in countries where fisheries is central for local economies, food security and vulnerable communities.

**Figure 25: Sustainable Fisheries as a Percentage of GDP
by region, 2011 – 2017**



Degree of application of a legal/regulatory/ policy/institutional framework which recognizes and protects access rights for small-scale fisheries

Current status = Very close to the target

Trend assessment = Slight improvement

Target 14.b

Provide access for small-scale artisanal fishers to marine resources and markets

Increased support for small-scale fishers is critical in light of the coronavirus pandemic.

As the world looks to the International Year of Artisanal Fisheries and Aquaculture 2022, countries' commitment to providing access for small-scale artisanal fishers to marine resources and markets is gaining traction.

Small-scale fishers, who account for more than half of total capture fisheries production in developing countries, continue to be among the most marginalized food producers, beckoning the international community to take action. There is evidence that the COVID-19 crisis is adversely affecting their livelihoods, as global demand for seafood dwindles and transportation restrictions prevent market access.

At the same time, these small-scale food producers fulfill a vital role to nourish those depending on the sector and local communities in the current crisis. It is more important than ever for countries to support small-scale fishers as key contributors to sustainable food systems.

Adopting international guidelines and frameworks

Such action can be informed by adopting specific initiatives to implement the internationally agreed Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, an internationally agreed instrument that promotes improved small-scale fisheries governance, including in value chains, post-harvest operations and trade, and which also includes a dedicated chapter on Disaster Risks and Climate Change.

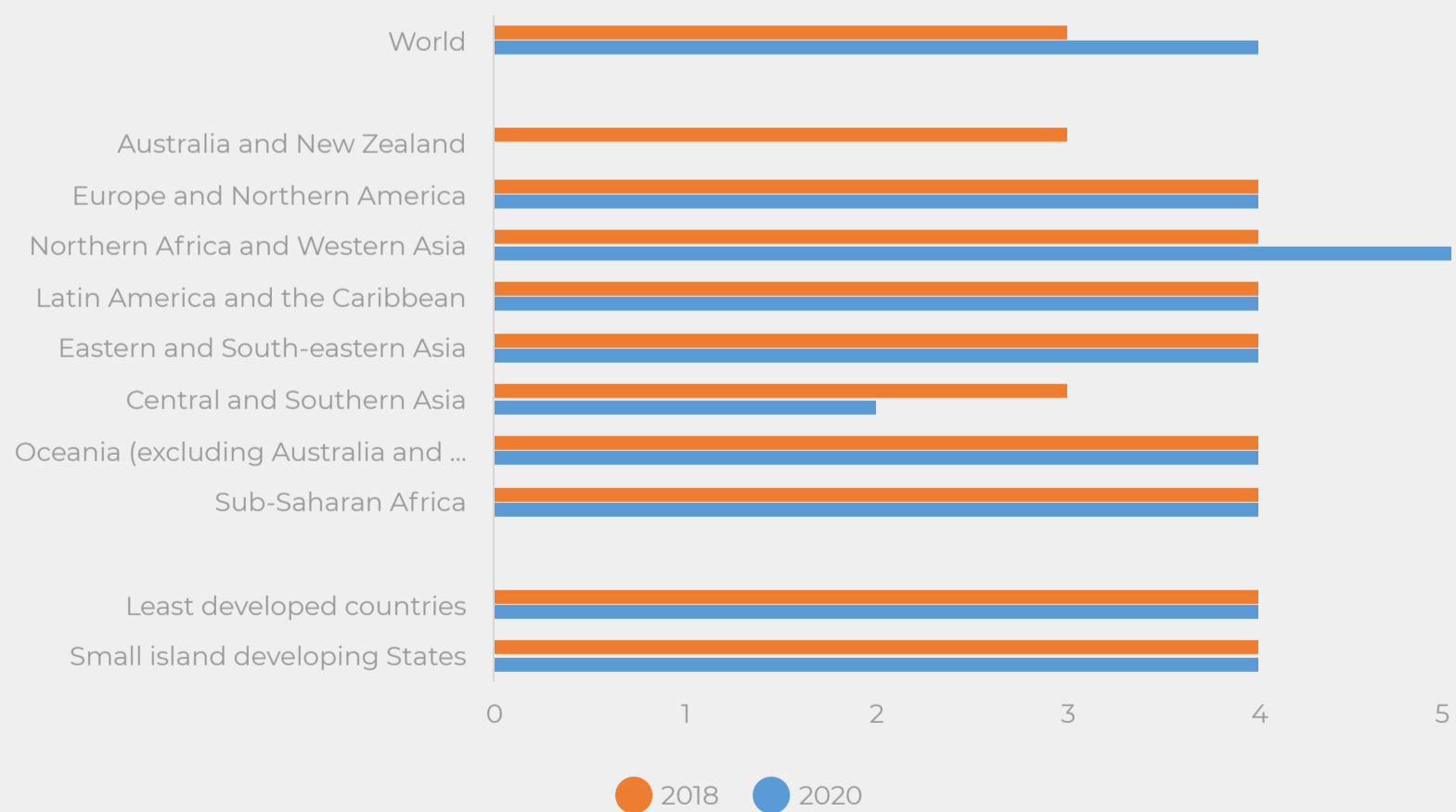
Since 2015, most regions have expanded the adoption of regulatory frameworks supporting small-scale fisheries and promoting participatory decision-making processes, including Small Island Developing States (SIDS), where up to 70 percent of the people working in the fisheries sector are involved in small-scale fisheries.

The average global score for SDG indicator 14.b.1 – a composite score on the implementation of legal / regulatory / policy /institutional frameworks which recognize and protect access rights for small-scale fisheries – has moved from 3/5 in 2018 to 4/5 in 2020.

Northern Africa and Western Asia reflect this increase, while Central and Southern Asia and Latin America and the Caribbean reduced their regional score from 3/5 to 2/5 and from 4/5 to 3/5 respectively, highlighting the need for strengthening their implementation efforts. The other regions remained stable at a score of 4/5.

Among the main constituents of the composite score for SDG indicator 14.b.1 reflects the lowest commitment by countries, despite their ability to guide actions to protect small-scale fisheries, particularly in the current circumstances. Only about half the countries in the world have adopted specific initiatives to implement the Voluntary Guidelines. The lack of financial resources and organizational structures among small-scale fishers are critical constraints, compounded by limited public awareness of the importance of small-scale fisheries and weak inter-institutional coordination.

Figure 26: Progress in the degree of implementation of international instruments to promote and protect small-scale fisheries by region, 2018-2020



Av. level on implementation: 1 lowest - 5 highest



SUSTAINABLE DEVELOPMENT GOAL 15

Life on land

Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss.

INDICATORS

15.1.1

15.2.1

15.4.2

15.6.1

Overview

Conservation of terrestrial ecosystems is not moving towards sustainability. Forest areas continue to decline, albeit at a slower rate compared to previous decades, protected areas are not concentrated in sites known for their biological diversity, and countless species remain threatened with extinction.

Moreover, surging wildlife crime, land use changes, and habitat encroachment are primary pathways of transmission for emerging infectious diseases, including COVID-19, threatening public health and the world economy.

The international community will need to scale up efforts to protect terrestrial ecosystems, including by continuing to expand sustainable forest management and protected area coverage for terrestrial, freshwater and mountain areas, as well as by doing more to ensure access and benefit-sharing of genetic resources.

SDG INDICATOR 15.1.1

Forest area as a proportion of total land area

Trend assessment = Deterioration since baseline year

Target 15.1

By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements

Forest loss continues but has slowed down globally

According to the latest data from the Global Forest Resources Assessment 2020, the proportion of forest area of the world's land area has gradually decreased from 31.9 percent in 2000 (4.2 billion hectares) to 31.5 percent in 2010, then down to 31.2 percent (4.1 billion ha) in 2020. Forest area losses amounted to almost 100 million hectares in the past two decades, however the rate of loss has slightly slowed down within the past ten years.

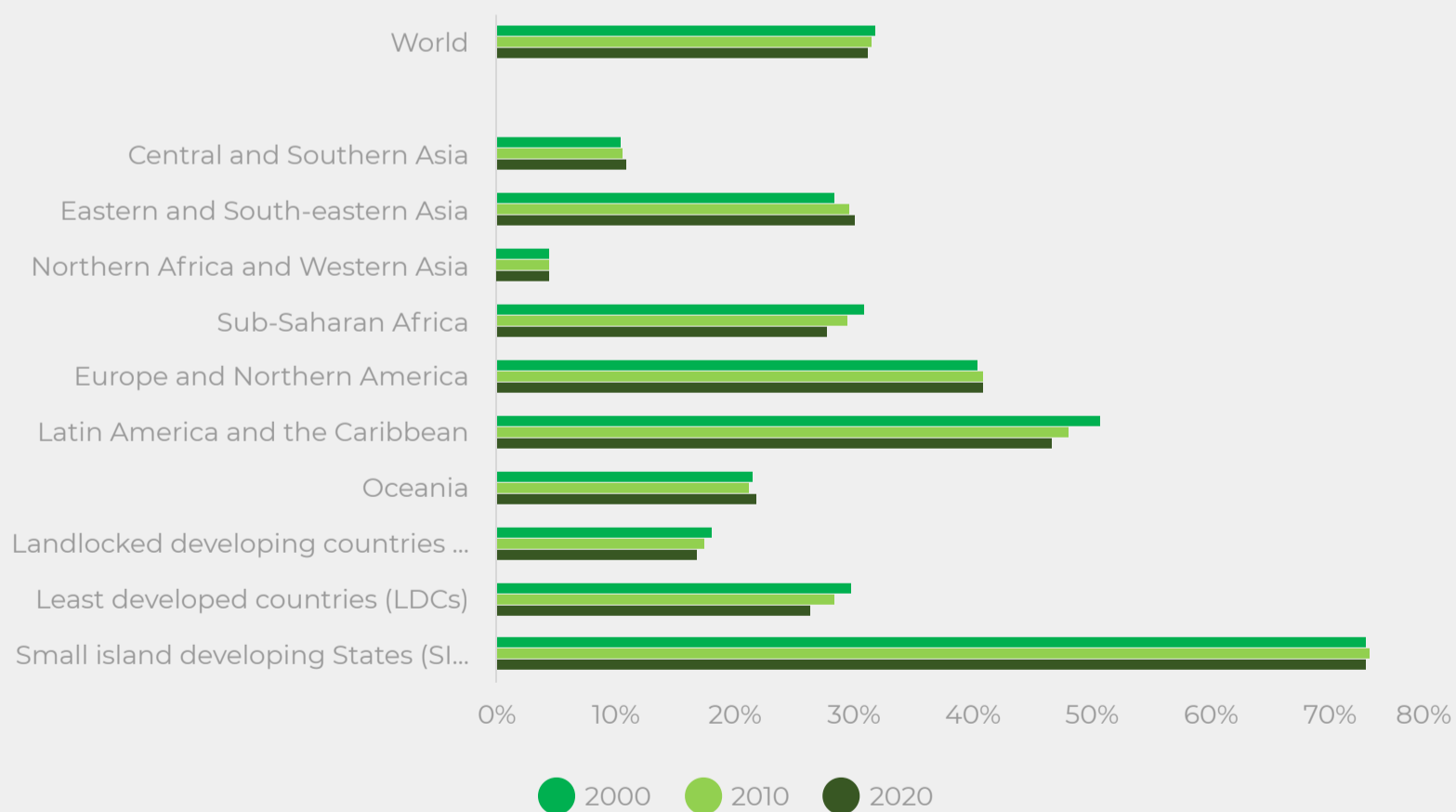
These global trends result from opposing dynamics in the regions:

- Most of Asia as well as Europe and Northern America showed an overall increase in forest area from 2000 to 2020, due to afforestation and landscape restoration efforts and natural expansion of forests in those regions. The expansion of forest area, however, slowed down from 2010 to 2020 compared to the period 2000–2010.

- Large forest area losses were observed in the past twenty years in Latin America and the Caribbean, Sub-Saharan Africa and South-Eastern Asia. These losses were mainly due to the conversion of forest land for agricultural use for crops and grazing. Least developed countries (LDCs) and landlocked developing countries (LLDCs) are particularly affected by forest area losses. In Latin America and the Caribbean, the forest losses decreased in 2010-2020 compared to the previous decade, while increases were observed especially in Sub-Saharan Africa and South-Eastern Asia.

Forests play an important role for livelihoods and the well-being of rural and urban population. They contribute to regulating the water cycle, mitigate climate change and hold most of the world's terrestrial biodiversity. Forest lost contributes to global warming and has negative effects, in particular, on the livelihoods of the poorest people, on interrelated land uses such as agriculture and on wildlife and other environmental services. Halting deforestation is still a major challenge, especially in the tropics and least developed countries.

Figure 27: Forest area as a proportion of total land area by region, 2000-2020 (percent)



Progress towards sustainable forest management

Target 15.2

By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally

Significant progress all over the world towards sustainable forest management, but forest loss remains high

Indicator 15.2.1 shows evident progress towards sustainable management of the world's forest. Most sub-indicators show positive trends, while comparing the period 2010–2020 to the period 2000–2010, demonstrating successful efforts to conserve and sustainably use the forests. Globally, the following have increased in most regions:

- the area of forest under certification
- the proportion of forest area in protected area and under long-term management plans
- the above-ground forest biomass per hectare

While these efforts have not managed to halt forest loss, they appear to have reduced the rate of forest loss: the rate of net forest loss decreased substantially over the period 1990–2020.

Nonetheless, the latest data reveal that in Africa and South-Eastern Asia the loss of forest increased in the 2010's compared to the previous decade.

Forest loss is still high in Latin America and the Caribbean too, but at a slower rate. In these regions, forest conversion to large scale cropping (particularly in Latin America and South-Eastern Asia), grazing and subsistence agriculture (Africa) are the main drivers of forest loss. Globally, the forest area change rate shows only a slight reduction of forest losses and remains an issue of concern.

Deforestation and forest degradation remain major challenges especially in the tropics, in least developed countries (LDCs), landlocked developing countries (LLDCs) and in small island developing states (SIDS).

Forests are the largest carbon and biodiversity reservoirs on Earth. They are essential source of foods, goods and services and are vital to the livelihoods of the poorest and rural communities. Therefore, global and regional efforts to preserve and sustain

forests and their social, economic and environmental functions should be pursued with emphasis on the tropics and developing countries.

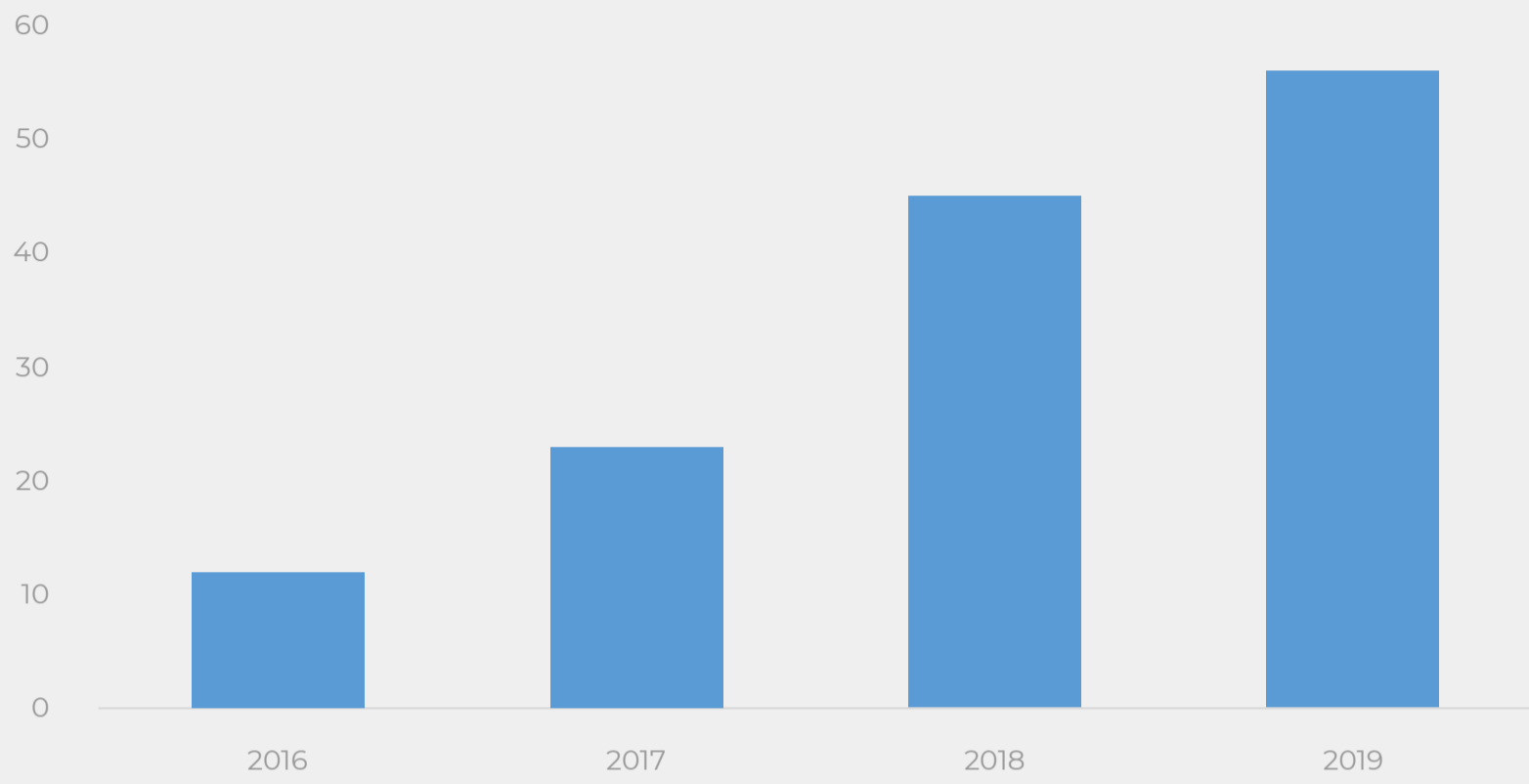
Figure 28: Progress towards sustainable forest management by region, 2010-2020

SDG Region	Forest area annual net change rate ²	Above-ground biomass stock in forest (t/ha)	Proportion of forest area within legally established protected areas	Proportion of forest area under a long-term forest management plan	Forest area certified
World	Yellow	Green	Green	Green	Green
Central and Southern Asia	Green	Yellow	Green	Green	Green
Central Asia	Green	Green	Green	Green	Green
Southern Asia	Green	Yellow	Green	Yellow	Green
Eastern and South-Eastern Asia	Green	Green	Green	Green	Green
Eastern Asia	Green	Green	Green	Green	Green
South-Eastern Asia	Red	Yellow	Green	Green	Green
Northern Africa and Western Asia	Red	Green	Green	Green	Green
Northern Africa	Red	Yellow	Yellow	Green	Red
Western Asia	Green	Green	Green	Green	Green
Sub-Saharan Africa	Red	Yellow	Green	Green	Red
Europe and Northern America	Green	Green	Green	Green	Green
Europe	Green	Green	Green	Yellow	Green
Northern America	Green	Green	Green	Green	Green
Latin America and the Caribbean	Yellow	Green	Green	Green	Green
Oceania	Green	Red	Green	Yellow	Green
Oceania (exc. Australia and New Zealand)	Yellow	Yellow	Green	Yellow	Green
Australia and New Zealand	Green	Red	Green	Yellow	Green
Landlocked developing countries (LLDCs)	Red	Yellow	Green	Green	Red
Least Developed Countries (LDCs)	Red	Yellow	Green	Green	Green
Small island developing States (SIDS)	Red	Yellow	Green	Green	Green

● Positive change ● No/small change ● Negative change

Notes: ² Calculated using compound interest rate formula

Figure 31: Number of countries that have legislative, administrative and policy framework or measures reported through the Online Reporting System on Compliance of the International Treaty



Across the main regions of the world:

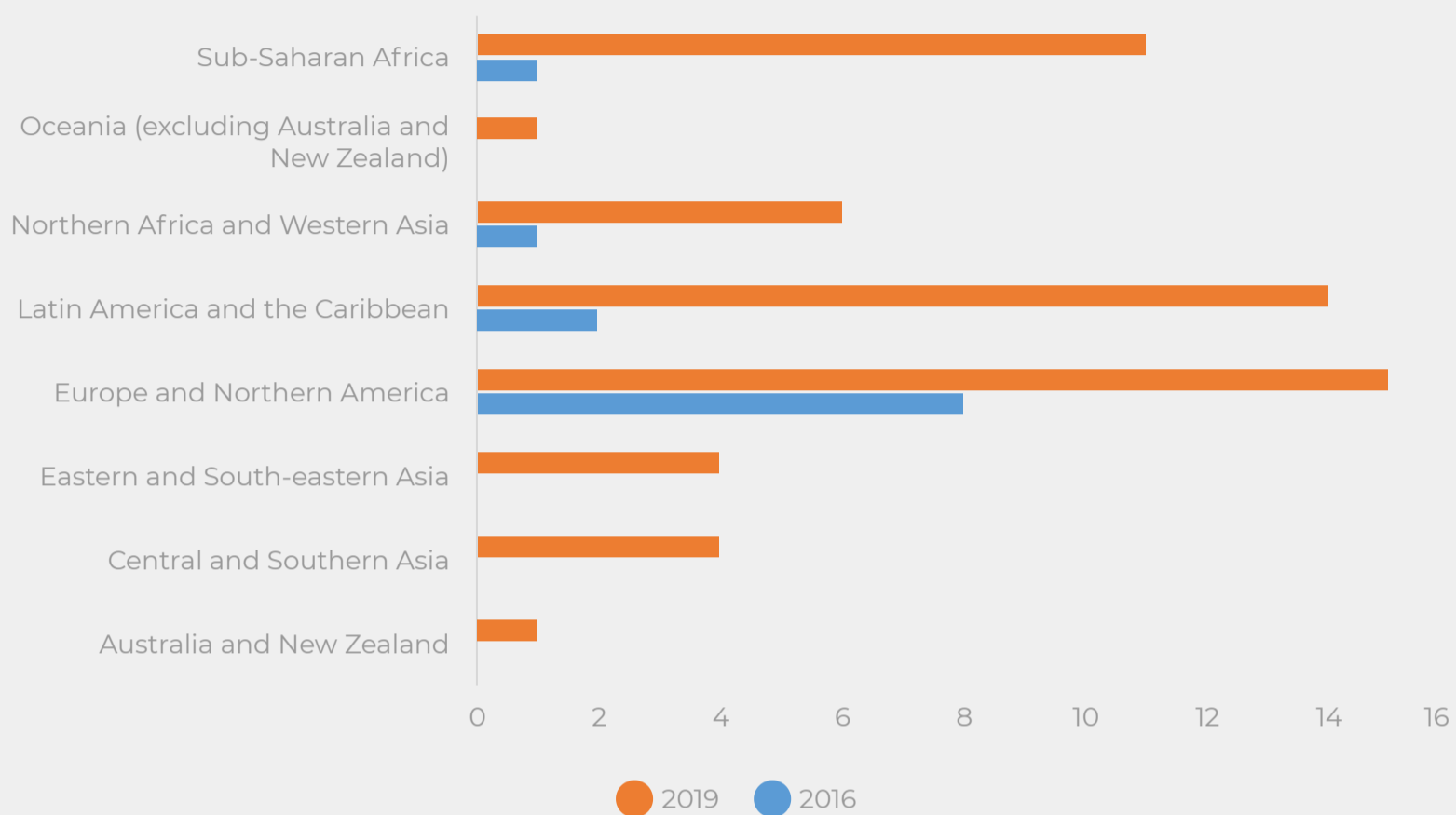
- Sub-Saharan Africa and Latin America and the Caribbean
- In Central and Southern Asia, as well as in Eastern and South-Eastern Asia, four countries reported ABS measures under the International Treaty, where in 2016 there had been none.
- In Oceania (excl. Australia and New Zealand) and in Australia and New Zealand, only one country reported ABS measures in each region.

Facilitating access to plant resources

The International Treaty's Multilateral System of Access and Benefit-sharing provides a mechanism for Contracting Parties and its stakeholders to facilitate access to the plant resources needed to breed crops adapted to environmental and socioeconomic changes and contributing to a more diversified agriculture.

According to the report submitted to the Governing Body of the International Treaty for its Eighth Session in November 2019, regarding the implementation of the Multilateral System of Access and Benefit-sharing, 2.2 million PGRFA were available for research, training and breeding. To date, over 5.5 million samples have been transferred globally with more than 76,000 Standard Material Transfer Agreements.

Figure 32: Number of countries that have legislative, administrative and policy framework or measures reported through the Online Reporting System on Compliance of the International Treaty by region in 2016 and 2019



A critical challenge identified by the Governing Body at its Eighth Session is the need to enhance the functioning of the Multilateral System, so that its genepool expands, more types of crops and genetic resources are exchanged across the world, and the benefit-sharing arising from the use of genetic resources is increased in a more predictable and sustainable manner. An enhanced Multilateral System will facilitate and support Contracting Parties' exchange of PGRFA effectively and in a fair and equitable way.

Figure 33: Number of Standard Material Transfer Agreements (SMTAs) transferring plant genetic resources for food and agriculture in the World, 2012-2019

