Tracking progress on food and agriculture-related SDG indicators

A report on the indicators under FAO custodianship

Foreword

Eradicating hunger and food insecurity, as well as ensuring sustainable agriculture and natural resource management, is a central pillar of the Sustainable Development Goals (SDGs), and a prerequisite for the achievement of the entire 2030 Agenda for Sustainable Development. FAO plays an important role in measuring progress towards its achievement.

The most recent evidence available for such targets, however, paints a grim picture. The world is not on track to meeting the overwhelming majority of SDG targets related to sustainable agriculture, food security and nutrition. Four years into the 2030 Agenda, regression is the norm for almost all related indicators, with only a few areas reflecting some progress.

The number of undernourished people in the world has been on the rise since 2015 and is back to levels seen in 2010–2011. In other words, more than 820 million people are still hungry today. Small-scale food producers face disproportionate challenges in accessing inputs and services, and as a result, both their incomes and productivity are systematically lower as compared to larger food producers. Around 60 percent of local livestock breeds are at risk of extinction in the 70 countries that had risk status information, while the risk status remained unknown for two thirds of total local livestock breeds around the world. Despite this situation, less than one percent out of a total of 7 760 local livestock breeds in the world have sufficient material stored allowing the breed to be reconstituted in case of extinction. Conservation of plant genetic material is faring somewhat better; In the oceans, one third of fish are now estimated to be overfished, with the fraction of world marine fish stocks that are within biologically sustainable levels declining from 90 percent in 1974 to 66.9 percent in 2015. Nonetheless, some 30 percent of countries still have a low or medium implementation record of the key international instruments combatting illegal, unreported, and unregulated (IUU) fishing, whereas some 20 percent of countries have a low or medium implementation record of the key instruments to promote access of small-scale fishers to productive resources, services and markets.

Between 2000 and 2015, the world lost an area of forest the size of Madagascar, though the rate of deforestation seems to be slowing down. During the period 2016-2017, high general food prices affected over a third of Land-Locked Developing Countries (LLDCs), one in four countries in Africa and Western Asia, and one in five countries in Central and Southern Asia. Many of these problems would probably be less acute if agriculture received sufficient funding. However, figures show that public investment in agriculture has been declining with respect to the agricultural sector's contribution to the Gross Domestic Product (GDP).

In the first FAO digital SDG progress report of its kind, key data and trends for indicators under FAO's custodianship will be examined. FAO is the designated custodian agency for 21 SDG indicators in total, and data is currently available for 18 of these.

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Measuring SDG progress

Measuring SDG indicators represents a huge endeavour. Not only has the overall number of SDG indicators quadrupled compared to the number of MDG indicators, but indicators should also be disaggregated by multiple dimensions where appropriate, such as by sex, age, geographic location, ethnicity, disability status etc.

To help countries measure the SDG indicators, since 2016, FAO has rolled out a systematic capacity development programme, which includes regional training workshops, technical assistance missions, and e-learning courses. To date, 137 countries have participated in one or more training activities. Country officers responsible for reporting to FAO can now consult over 15 different e-learning courses, many of which are available in various languages. As a result, the average number of countries reporting on the 21 SDG indicators under FAO custodianship has risen steadily over the past few years, going from 29% in 2017 to 42% in 2019.

Despite this overall increase, for a number of specific indicators, data are still limited, either in terms of country coverage, data points per country, or both. Indeed, there are no globally comparable data yet available for four critical SDG indicators relating to agricultural sustainability, women's access to land, and food losses and waste.

The lack of solid information on key indicators holds countries back from designing effective food and agriculture policies; it also hampers the international community's development cooperation efforts. Overall, data gaps are therefore still vast and progress insufficient to ensure that the majority of countries - but especially developing countries - will be able to monitor all SDG indicators in the next few years.

The majority of countries do not conduct key data collection vehicles such as farm surveys, household surveys, forest inventories, and fish stock assessments. Moreover, even when such data collections are carried out regularly, they often do not gather the data needed for key food and agriculture-related SDG indicators. This represents a missed opportunity, as these survey tools could potentially be upgraded with little effort to ensure greater country coverage in SDG reporting. In yet other cases, the basic data for compiling the SDG indicators are available, but are not regularly transmitted to FAO.

In response, FAO has recently unveiled a USD 21 million multi-donor programme aiming to accelerate support to countries in the collection, production, dissemination and use of all 21 indicators under its custodianship.

SUSTAINABLE DEVELOPMENT GOAL 2

Zero Hunger

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

IN FOCUS

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

SDG INDICATOR 2.1.1

Prevalence of undernourishment (PoU)

Off track

> 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 who suffer from hunger has slowly increased. More than 820 million people – approximately one out of every nine people in the world – are hungry today.

The 2019 State of Food Security and Nutrition in the World reveals that, after decades of steady decline, the trend in world hunger – as measured by the prevalence of undernourishment – reverted in 2015, remaining virtually unchanged in the past three years at a level slightly below 11 percent. Meanwhile, the number of people who suffer from hunger has slowly increased. As a result, more than 820 million people in the world are still hungry today.

The situation is most alarming in Africa, where since 2015 the PoU shows slight but steady increases in almost all subregions. It has reached levels of 26.5 percent and 30.8 percent in Middle and Eastern Africa, respectively, with rapid growth in recent years, especially in Western Africa.

These trends are mostly driven by a combination of factors, including conflicts and extreme weather events, currently affecting a number of countries in Africa. In conflict-affected countries in sub-Saharan Africa for instance, the number of undernourished people increased by 23.4 million between 2015 and 2018 – a significantly sharper increase compared with countries not exposed to conflicts. An even more dramatic, longer-term impact on food security seems to be associated with exposure to drought. Countries classified as drought-sensitive in sub-Saharan Africa have seen the prevalence of undernourishment increase from 17.4 to 21.8 percent over the last six years, while in the same period the PoU actually dropped (from an average of 24.6 to 23.8 percent) in the other countries of the region. The number of undernourished people in drought-sensitive countries has increased by 45.6 percent since 2012.

In Asia, the PoU has been steadily decreasing in most regions, reaching 11.4 percent in 2017. The exception is Western Asia, where the PoU has increased since 2010 to reach more than 12 percent of the population. This level in the region is second only to Southern Asia, which, despite great progress in the last five years, is still the subregion where undernourishment is highest, at almost 15 percent.

Within the Western Asian subregion, the difference is striking between countries that have been affected by popular uprisings in Arab states and other conflicts, and those that have not been affected. For those affected countries, there has been an increase in the

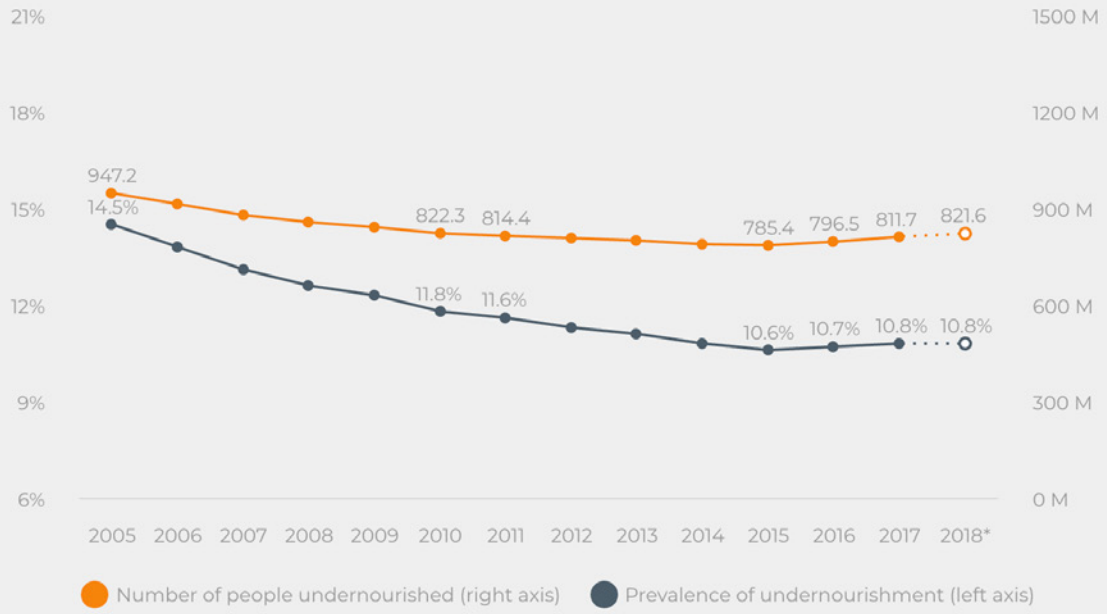
PoU from the already higher value of 17.8 percent to 27.0 percent, almost doubling the number of undernourished between 2010 and 2018.

In Latin America and the Caribbean (LAC), rates of undernourishment have increased in recent years, largely as a consequence of the situation in South America, where the PoU increased from 4.6 percent in 2013 to 5.5 percent in 2017. In fact, South America hosts the majority (68 percent) of the undernourished in LAC.

By contrast, prevalence rates of undernourishment in Central America and the Caribbean, despite being higher than those in South America, have been decreasing in recent years. This is consistent with the economic growth pattern observed in these subregions, where real GDP grew at a rate of about 4 percent between 2014 and 2018, with moderate rates of inflation consistently below 3 percent in the same period.

The majority of undernourished population in the world (more than 500 million) live in Asia. The number has been increasing steadily in Africa, where it reached almost 260 million people in 2018, with more than 90 percent living in sub-Saharan Africa. Given these figures and the trends observed over the last decade, achieving Zero Hunger by 2030 appears to be an increasingly daunting challenge.

The number of undernourished people in the world has been on the rise since 2015, and is back to levels seen in 2010–2011



NOTES: * Values for 2018 are projections as illustrated by dotted lines and empty circles.
Source: FAO.

SDG INDICATOR 2.1.2

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

Off track

> 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.

A total of about 2 billion people in the world experience some level of food insecurity, including moderate. People who are moderately food insecure may not necessarily suffer from hunger, but they lack regular access to nutritious and sufficient food, 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).

According to the latest FIES-based food-insecurity estimates, 9.2 percent of the world population (or slightly more than 700 million people) were exposed to severe levels of food insecurity in 2018, implying reductions in the quantity of food consumed to the extent that they have possibly experienced hunger.

A broader look at the extent of food insecurity beyond severe levels and hunger reveals that an additional 17.2 percent of the world population, or 1.3 billion people, have experienced food insecurity at moderate levels. This implies that these additional 1.3 billion people did not have regular access to nutritious and sufficient food, even if they were not necessarily suffering from hunger, thus putting them at greater risk of various forms of malnutrition and poor health than the food secure population.

The combination of moderate and severe levels of food insecurity brings the estimated prevalence of moderate or severe food insecurity (SDG Indicator 2.1.2) to 26.4 percent of the world population, amounting to a total of about 2 billion people. Since 2014 when FAO first started collecting FIES data, levels of food insecurity have been on the rise at the global level, as well as in most regions of the world. Total food insecurity (moderate or severe) is much higher in Africa than in any other part of the world, affecting more than half of the population. Latin America is next, with a prevalence of food insecurity of more than 30 percent, followed by Asia at 23 percent and Northern America and Europe at 8 percent.

The distribution of food-insecure people in the world shows that, from a total of 2 billion suffering from food insecurity, 1.04 billion (52 percent) are in Asia; 676 million (34 percent) are in Africa; and almost 188 million (9 percent) are in Latin America. There are notable differences across regions in the distribution of the population by food-insecurity severity level. For example, in addition to being the region with the highest overall prevalence of food insecurity, Africa is also the region where severe

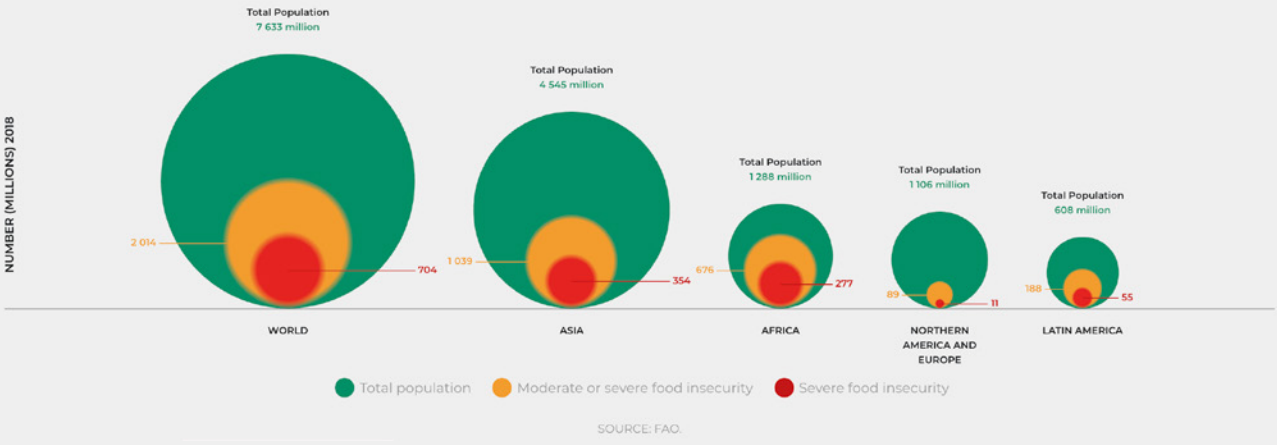
levels represent the largest share of the total. In Latin America, and even more in Northern America and Europe, the proportion of food insecurity experienced at severe levels is much smaller.

Food insecurity can affect health and well-being in many ways, with potentially negative consequences for mental, social and physical well-being.

Many studies using experience-based food-insecurity scales have documented negative psychosocial effects of food insecurity in women and children. Furthermore, one particular study using the global FIES data found that food insecurity is associated with poorer mental health and specific psychosocial stressors across global regions independent of socio-economic status.

There is also a large body of evidence on the links between food insecurity and various forms of malnutrition, including stunting in children, and in upper-middle- and high-income countries in particular, overweight and obesity. The higher cost of nutritious foods, the stress of living with food insecurity, and physiological adaptations to food restriction help explain why food-insecure families may have a higher risk of overweight and obesity. This reveals an important link between SDG target 2.1 and SDG target 2.2, which is aimed at ending all forms of malnutrition.

Prevalence of Moderate and Severe Food Insecurity in the population



SDG INDICATOR 2.3.1 SDG INDICATOR 2.3.2

Productivity and Incomes of Small-Scale Food Producers[1]

Too early to call

Target 2.3
Double the agricultural productivity and incomes of small-scale food producers

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 what 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 incomes and productivity. In doing so, 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. In this regard, strengthening the resilience and adaptive capacity of small-scale food producers is critical to reversing the trend of rising hunger and reducing the share of people living in extreme poverty.

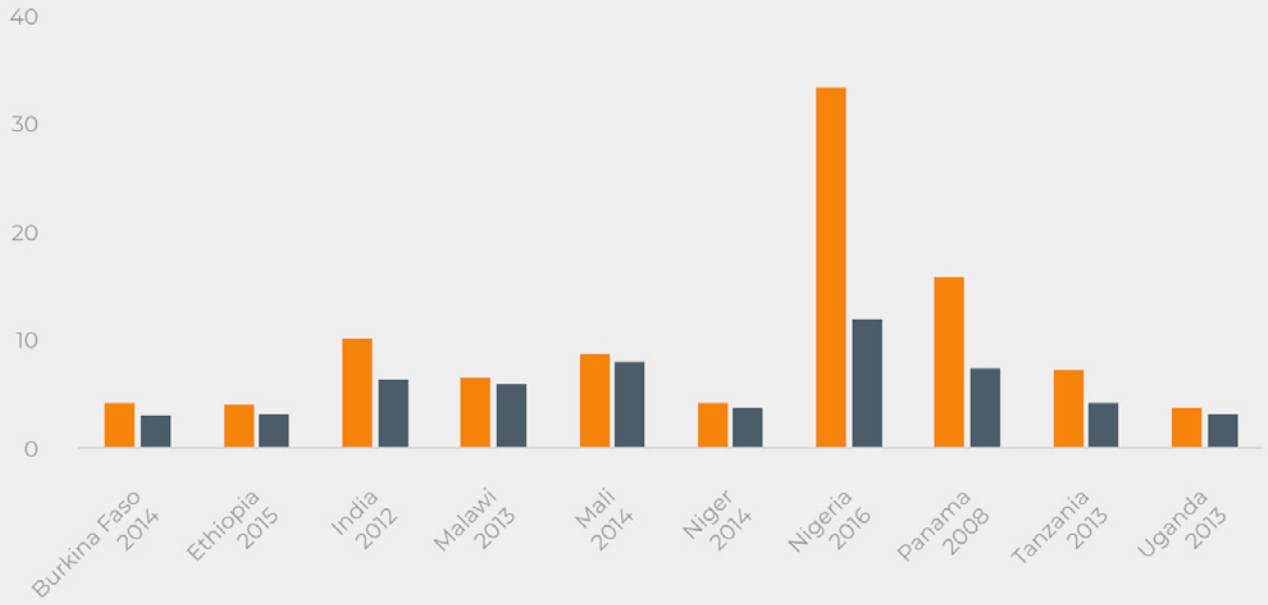
FAO estimates that there are some 570 million farms worldwide, of which the majority are small farms. In some countries, small-scale food producers account for up to 85 percent of all food producers. Now that an international definition of small-scale food producers has been established, FAO can calculate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

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

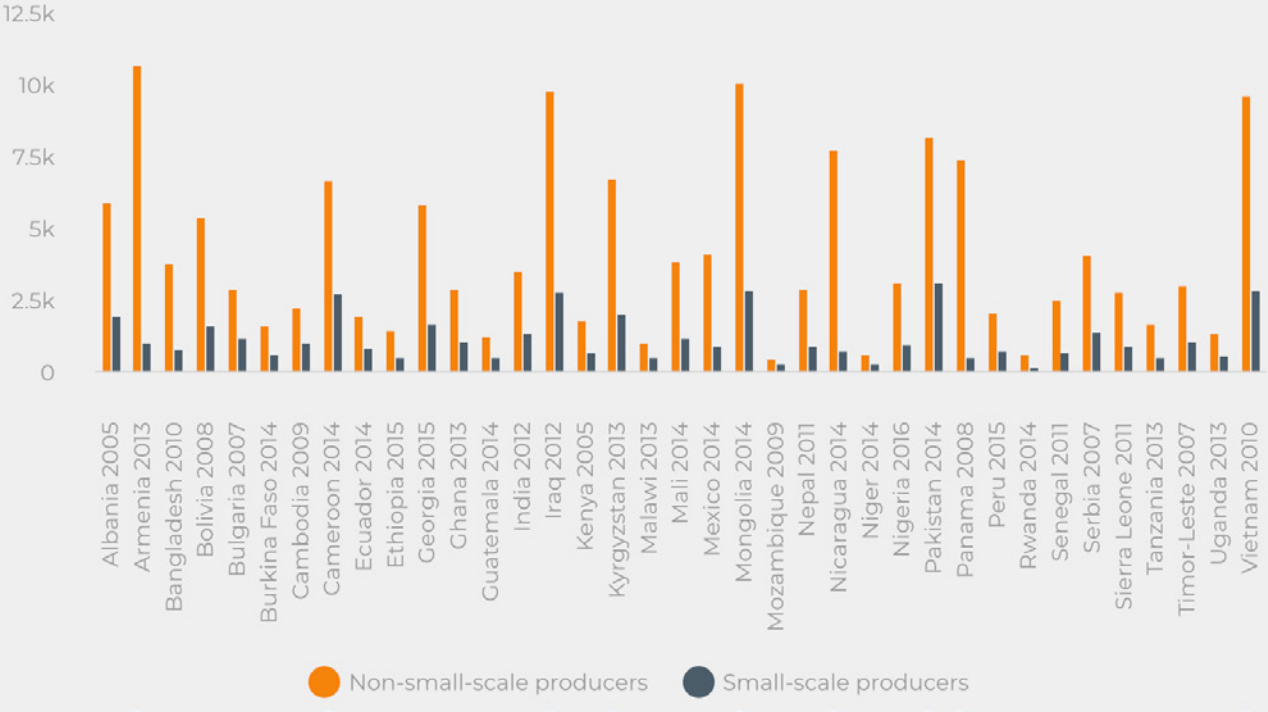
Relatively more information is available (38 countries) on the incomes of small-scale food producers, which are also systematically lower than those of large food producers. In most countries, the incomes of small-scale food producers are indeed less than half those of larger food producers, thus supporting the central call of SDG target 2.3 for doubling incomes and productivity of small-scale food producers.

[1] 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

Agricultural output per labour day, PPP (constant 2011 international $)



Average annual income from agriculture, PPP (constant 2011 international $)



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*Who are small-scale food producers?

Until recently, no international definition of small-scale food producers existed, making it impossible to calculate comparable figures for productivity and incomes across countries. The most widely used benchmark in the past was based on farmland area (2 hectares) , but this did not take into account huge disparities in farms between different countries. The international definition developed by FAO identifies small-scale food producers as those who:

- operate an amount of land falling in the bottom 40 percent of the cumulative distribution of land size (measured in hectares) at national level; and
- operate a number of livestock falling in the bottom 40 percent of the cumulative distribution of the number of livestock per production unit (measured in Tropical Livestock Units – TLUs) at national level; and
- obtain an annual economic revenue from agricultural activities falling in the bottom 40 percent of the cumulative distribution at national level of economic revenues from agricultural activities per production unit (measured in international Dollars at Purchasing Power Parity) not exceeding 34,387 Dollars at Purchasing Power Parity.

The definition was submitted to the 49th session of the UN Statistical Commission in March 2018 and finalized in September 2018 in consultation with the Interagency and Expert Group on SDG indicators (IAEG-SDG).

SDG INDICATOR 2.5.1A

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

Off track

Target 2.5
Maintain the genetic diversity of seeds, cultivated plants and their related wild species

Notwithstanding the 2018 reported increase in global holdings of plant genetic resources for food and agriculture, securing crop diversity continues 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 2018, global holdings of

plant genetic materials conserved in gene banks in 99 countries and 17 regional and international centers totaled 5.3 million samples, representing a 1.8 percent increase over the previous year. The increase was mainly due to the movement of existing materials to better, indicator-compliant storage facilities and their subsequent reporting, rather than reflecting newly added diversity collected from the field.

Approximately 29.7 percent of the 2018 newly added samples were traditional varieties; 27 percent resulted from breeding activities; 18 percent were sourced from the wild; and 12.3 percent were improved varieties.

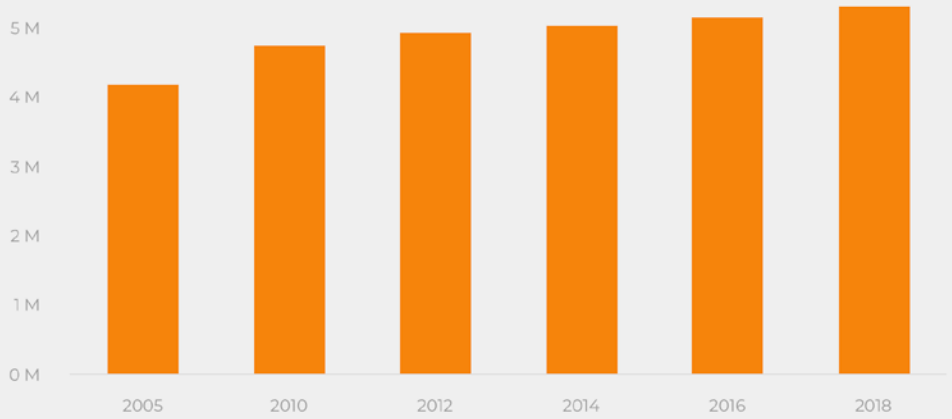
An increase in the germplasm[1] conserved under medium- or long-term conditions was reported by 40 countries, while three countries, all from Europe, indicated a decline. Germplasm holdings decreased in one international centre and increased in ten others. However, only in three of these international collections were the increases due to new acquisitions, 20 percent of which were derived from field collecting. The remaining 80 percent were from research activities on diversity already conserved (i.e. breeding materials). Increases reported in two of seven regional collections were the result of germplasm rescued through regeneration or germplasm transfer from other regions.

At the end of 2018 about 512,000 samples (an increase of 2.8 percent as compared to 2017) from 4,500 species (an increase of 2.7 percent as compared to 2017) reported in the IUCN Red List[2] were conserved in 469 genebanks around the world. Germplasm of species in categories of global major concern of the IUCN Red List comprised 44,500 samples from 1,315 species, including wild relatives of food crops particularly important for global and local food security.

Progress in securing crop diversity continues to be insufficient, particularly for crop wild relatives and wild food plants as well as for neglected and underutilized crop species. These plant groups are either missing in the gene bank collections or have their intraspecific diversity, i.e. variation among populations of the same species, poorly represented.

[1] Definition: Germplasm are living genetic resources such as plants, seeds or tissues that are maintained for the purpose of plant breeding, preservation, and other research uses.
[2] The IUCN Red List sourced from https://www.iucnredlist.org on 18 April 2019.

Number of accessions of plant genetic resources secured in conservation facilities under medium- or long-term conditions, 2005-2018 (millions).



SDG INDICATOR 2.5.1B

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

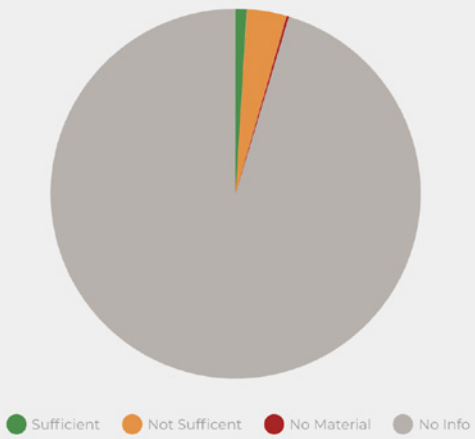
Off track

Target 2.5
Maintain the genetic diversity of farmed and domesticated animals

Less than one percent of local livestock breeds across the world have enough genetic material stored that would allow the breed to be reconstituted in case of extinction. There has been no progress in conserving animal genetic resources and ongoing efforts to preserve these resources appear inadequate.

In addition to plant genetic resources, animal genetic resources are equally vital for the food security and livelihoods, allowing the adaptation of livestock to evolve according to environmental conditions. For animal breeds, under-reporting hinders knowledge of global gene bank inventories. From what has been reported, out of a total of 7 760 local breeds (including extinct ones), only 258 breeds have some genetic material stored. Of these breeds, only 79 have sufficient material stored to allow them to be reconstituted in case of extinction. In percentage terms, these reports show that only 3.28% of local animal breeds have material stored, whereas only 0.92% have enough material to allow breed reconstitution. Western Europe is the only region where a majority of countries are reporting on this indicator, though the reports suggest that only 4 percent of local breeds are conserved with sufficient genetic material for reconstitution. Ongoing efforts to preserve both plant and animal genetic resources appear inadequate given the unprecedented threat posed to their diversity by increasingly rapid environmental and social changes.

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



SDG INDICATOR 2.5.2

Proportion of local breeds, classified as being at risk, not-at-risk or unknown level risk of extinction

Off track

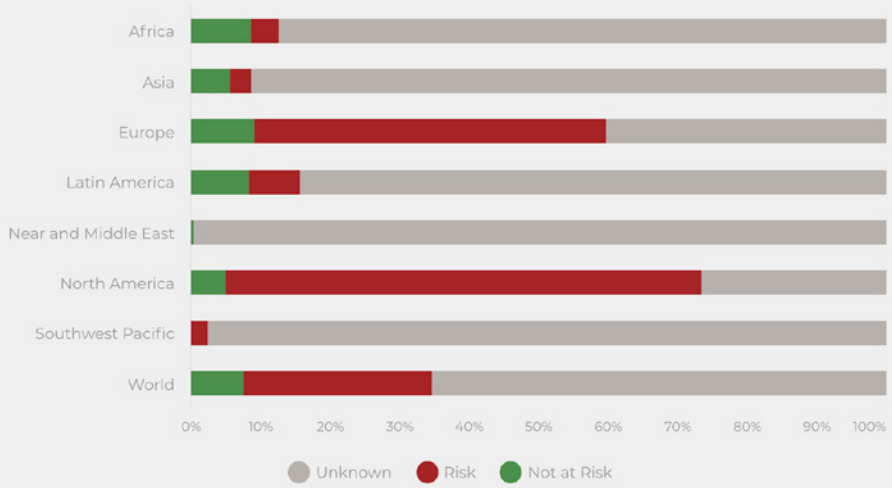
Target 2.5
Maintain the genetic diversity of farmed and domesticated animal

On average, 60% of local livestock breeds are at risk of extinction in the 70 countries that have risk status information. Globally, the risk status remains unknown for two thirds of local livestock breeds.

Genetic diversity in live animal breeds is important to agriculture and food production because it enables livestock to be raised in various environments and to provide 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 breed.

On average, 60% of local livestock breeds are at risk of extinction in the 70 countries that have risk status information. Specifically, across the world, out of 7 155 local livestock breeds (i.e. breeds occurring in only one country), 1940 are considered to be at risk of extinction. However, for 4 668 of them the risk status remains unknown due to a lack of data or updated data. Results between regions differ. In Europe, among the breeds with known risk status, 84% are considered to be at risk, while this proportion is 44% for South America and 71% for Southern Africa. Due to the scarce information reported, results for other regions are not considered representative.

Proportion of local breeds classified as being at risk of extinction



SDG INDICATOR 2.A.1

Agriculture Orientation Index for Government Expenditures

Off track

Target 2.a
Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services

Across the world, since 2001, governments are devoting fewer resources to the agriculture sector when in fact agriculture is contributing to an increasing share of global GDP.

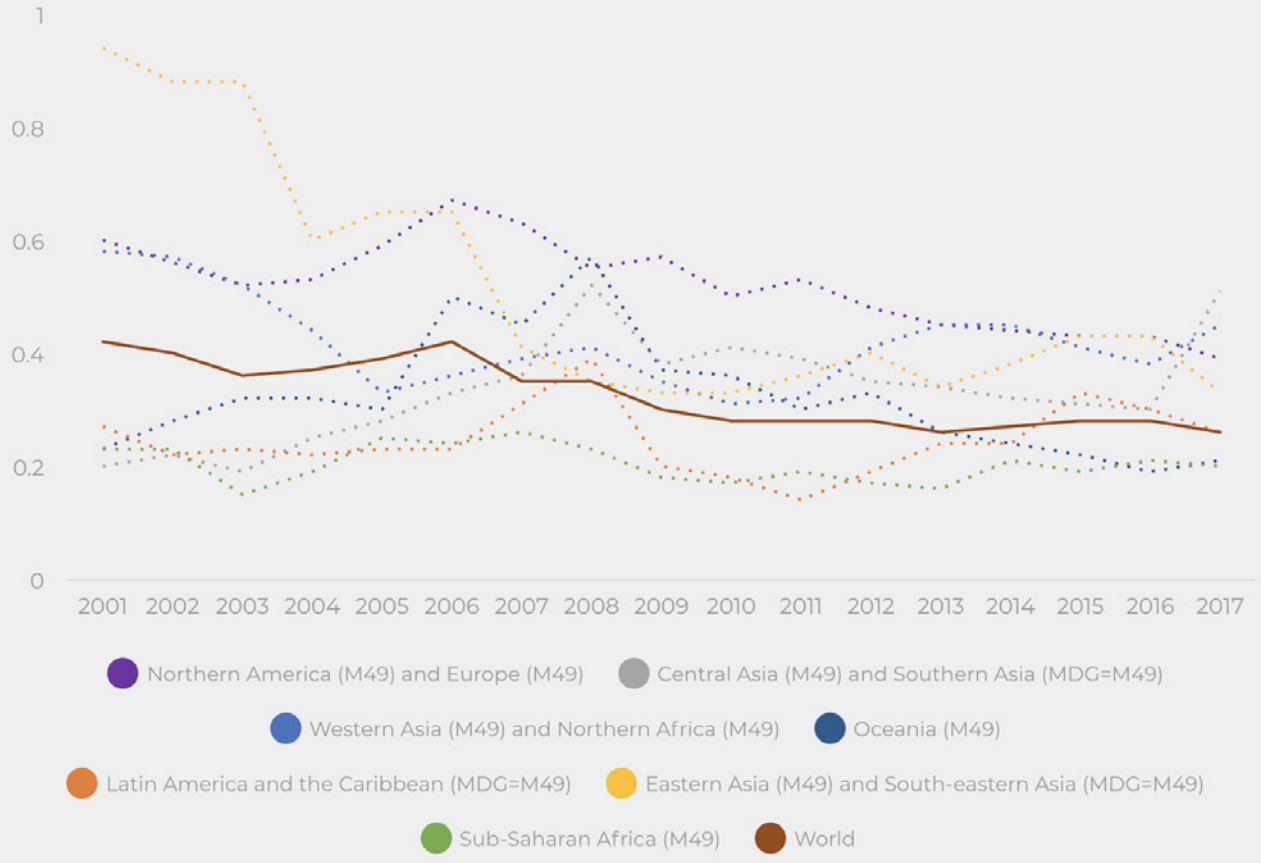
The Agriculture Orientation Index (AOI) for Government Expenditures compares the central government contribution to agriculture with the sector's contribution to GDP. An AOI of less than 1 indicates a lower orientation of the central government towards the agriculture sector relative to the sector's contribution to the economy, while 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.

At global level, the AOI consistently declined from 0.42 (2001) to 0.26 (2017). This would suggest that the world is not on track to meeting SDG target 2.a, which calls for increasing investment in agriculture. More specifically, since 2001, most of the world's regions consistently remained under 0.5. In particular, Sub-Saharan Africa and Oceania (excluding Australia and New Zealand) registered the lowest values. The regions that demonstrated the highest values are Eastern and Southeastern Asia, Northern America and Europe, and Western Asia and Northern Africa. However, in the most recent years, the trends in these regions have also downturned, making their values more in line with the other regions.

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. From 2001 onwards, governments allocated less than 2% of their central government expenditure to agriculture. The agriculture share of total expenditure fluctuated around 1.6%. By contrast, the agricultural sector's contribution to global GDP actually increased in the same period from 4.13 % to 6.15%.

Public underinvestment in agriculture and the sector's importance to economic growth and poverty alleviation, particularly in Africa, was acknowledged in the African Union's Maputo Declaration of 2003. In this Declaration, signatory nations committed to allocate 10% of government expenditures to agriculture and rural development. Though several countries were unable to attain this goal, the importance of public expenditures in agriculture was also recognized in the Malabo Declaration of 2014, in which signatory nations re-committed to the 10% goal.

Agricultural Orientation Index - Trend by Regions, 2001-2017



SDG INDICATOR 2.C.1

Indicator of food price anomalies

Off track

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.

High general food prices affected one in four countries in Africa and Western Asia in 2016-2017.

Extreme food price movements pose a threat to agricultural markets and to the food security and livelihoods especially of the most vulnerable people. During the period 2016-2017, high volatility of general food prices affected a quarter of countries in Africa and Western Asia, and a fifth of countries in Central and Southern Asia. Landlocked developing countries are particularly prone to high volatility of general food prices, with up to 37% of countries affected during the period. There tend to be multiple driving factors for food price volatility; however due to their isolation from world markets and scarcity of arable land, Landlocked developing countries were usually more vulnerable to economic shocks, tariff changes and natural disasters. By contrast, high volatility of general food prices affected only a small proportion of countries in Oceania, North America and Europe, and Latin America and the Caribbean. Moderate increases in general food prices, on the other hand, affected all regions. In East and South-East Asia, while no country was affected by high general food price volatility during the same period, over one third of countries experienced an episode of moderate general food price volatility. In Oceania, only a handful of countries have reported general food prices indices, making it impossible to draw conclusions about food price volatility in the region as a whole.

More particularly, in Africa, sharp depreciation of national currencies was the main driver of the high food price indices in Egypt, as well as in Nigeria. In Zimbabwe, the hike in the food index was fueled by shortages of foreign exchange, while in Burundi by a drop in food production in 2016. With regard to cereals, prices in 2017 were exceptionally high in Central African Republic, mainly on account of civil insecurity and in Madagascar, where prices of rice reached record highs due to reduced domestic supplies. Moderately high cereal prices were recorded in West African countries, where prices of coarse grains were underpinned by large institutional purchases, localized production shortfalls in 2016 and insecurity. In several East African countries, prices of maize were supported by the drought-reduced 2016/17 harvests, and in the Sudan, by the strong depreciation of the currency.

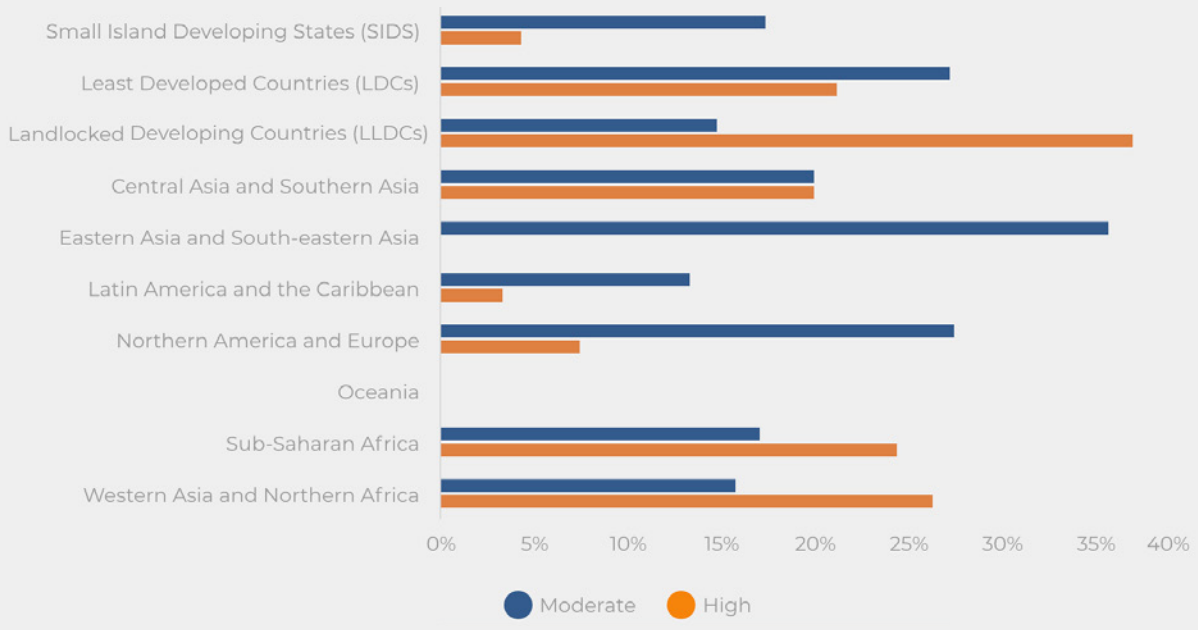
In South Asia, the food price index was anomalously high in Bangladesh, mainly due to the elevated prices of rice, following a decline in output and lower imports in 2016, as well as production losses in 2017. Moderately high rates of food inflation were

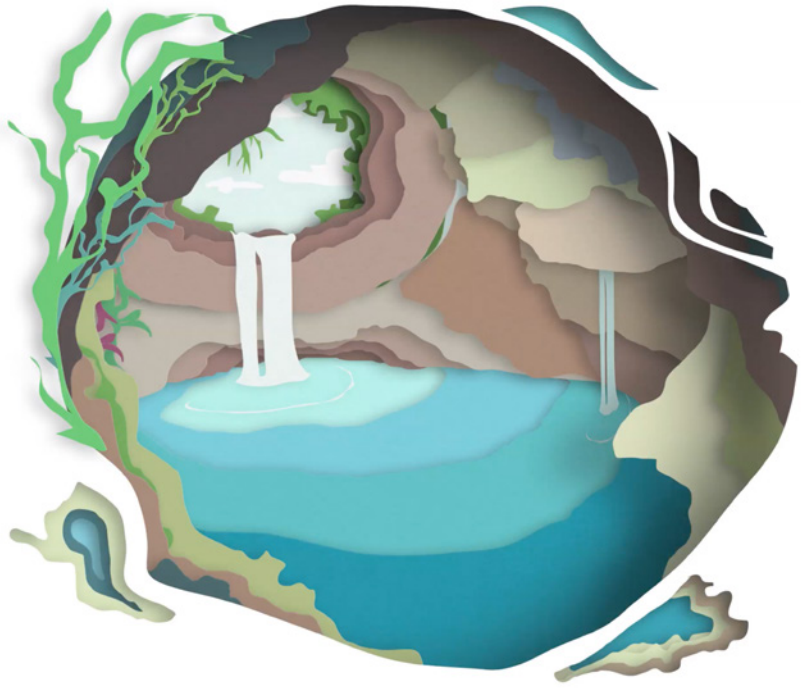
recorded in Timor-Leste due to costlier imports and in Pakistan on account of increased prices of vegetable and fruit. In Asia, the food price index was anomalously high in Azerbaijan in 2017, as were prices of the main staple wheat flour, owing to the effect of the sharp devaluation of the currency in 2015 and 2016.

In Europe, high consumer food prices were reported in the Republic of Moldova, Slovakia and Poland. In the Republic of Moldova, this was due to adverse weather in 2017 affecting agricultural production, while the main driver in Slovakia and Poland was higher global commodity prices.

Some ways countries could seek to curb price volatility include improving information on prices, allowing markets to function more efficiently, stabilizing prices through governmental interventions including the use of a combination of import/export levies and offering targeted safety-net mechanisms in an effort to reduce the negative consequences of price volatility. In the long term, investment in agriculture can also prevent price volatility.

Proportion of countries by region affected by high or moderately high general food prices in the period 2016-17





SUSTAINABLE DEVELOPMENT GOAL 6

Clean water and sanitation

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

IN FOCUS

6.4.1 6.4.2

SDG INDICATOR 6.4.1

Change in water use efficiency over time

Too early to call

> Target 6.4
> By 2030, substantially increase water-use efficiency across all sectors

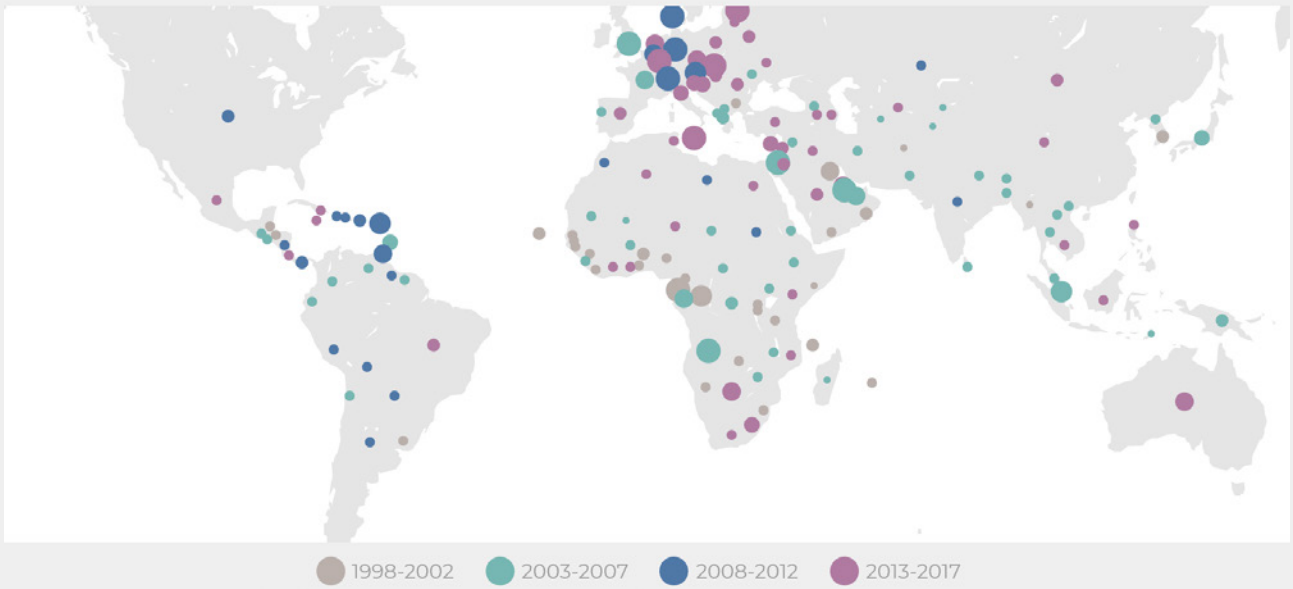
Developed and developing countries alike can do more to increase water use efficiency.

Increasing water-use efficiency over time means using less water while carrying out society's economic activities. The indicator has been defined as the value added per unit of water used, expressed in USD/m3, over time and major economic sectors.

Water-use efficiency is a critical indicator for assessing the economic and social use of water resources in different sectors of the economy. The greater the change in water use efficiency, the more economic growth has been decoupled from water-use across the main water-using sectors of agriculture, industry, energy and municipal water supply. Increasing agricultural water productivity and reducing water losses, such as by tackling leakages in municipal distribution networks, are some of the ways this can be done.

Estimates for water use efficiency are available for 165 countries since the year 2000. As a new indicator, there is only one data point available for each country between 2000 and 2015. The majority of countries (62%) have a water-use efficiency between 5 and 100 USD/m^3, with extreme values from as little as 0.1 USD/m^3, for countries whose economies depend largely on agriculture, to as much as 1,223 USD/m^3 in service-based economies that are less dependent on natural resources. However, these absolute values are not so relevant or indicative. In fact, the indicator is defined as the change in water-use efficiency. Hence, the absence of time series data hampers the possibility to compute the actual indicator, and to provide analysis and guidance for policies and specific operational decisions aimed to tackle the root causes of water use in efficiency among various water users. More regular reporting by countries as well as supplementary information on sectoral water use are needed. Improvements in water productivity and irrigation in agriculture and reduced losses in municipal distribution networks, industrial and energy cooling processes are among the main issues to be tackled.

Water use efficiency



SDG INDICATOR 6.4.2

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

Too early to call

Target 6.4
By 2030, ensure sustainable withdrawals and supply of freshwater to address water scarcity

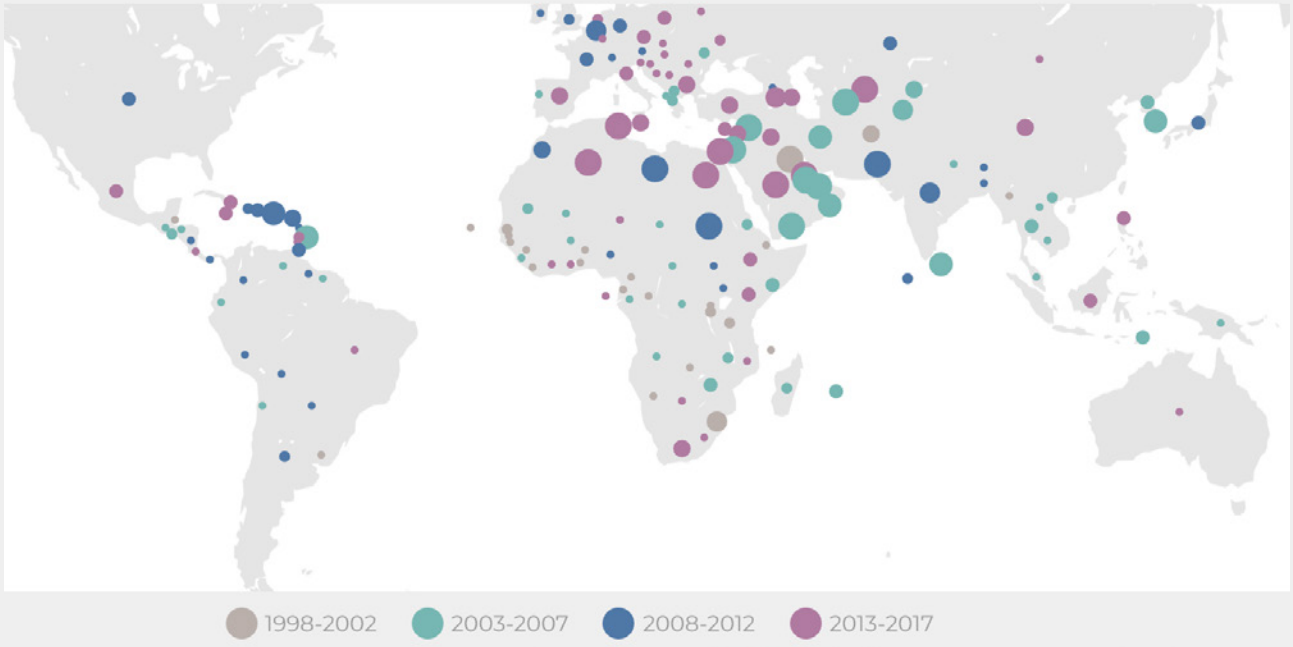
Almost all countries that have registered high water stress since the year 2000 are found either in Northern Africa, Western Asia or Central and Southern Asia.

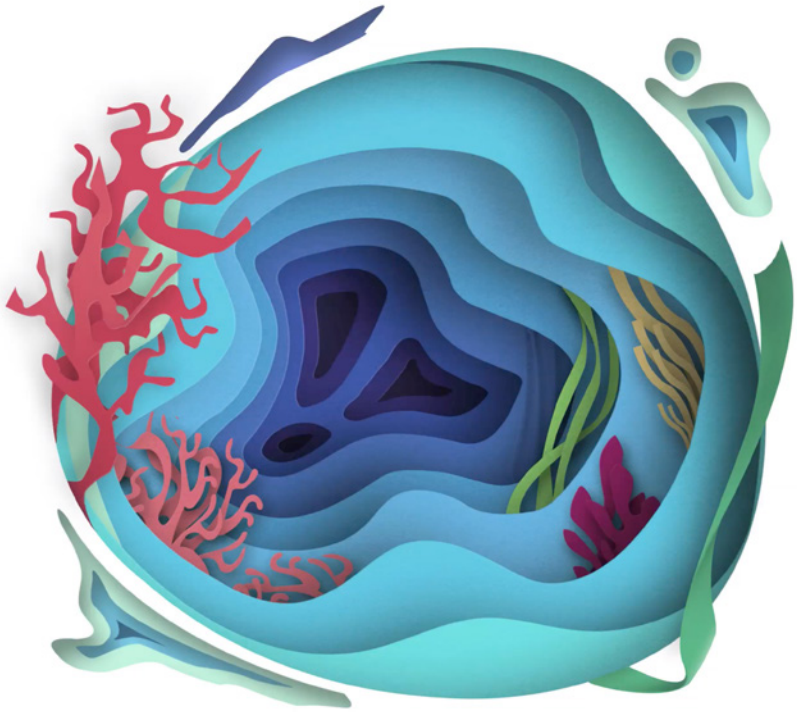
Water stress affects countries on every continent. It occurs when there is too much freshwater withdrawn from the environment, compared to the total freshwater available, also taking into account the water needed for sustaining basic ecosystem function. High water stress has many undesirable consequences, such as hindering the sustainability of natural resources and hampering economic and social development, all of which tend to disproportionately affect the most disadvantaged people.

There are currently 175 countries for which at least one estimate for water stress is available since the year 2000. Of these countries, two thirds have water stress below 25% (conventionally regarded as the threshold for the onset of water stress), 20 percent have medium water stress between 25 and 70%, and 15 percent have a high water stress over 70%. Although water stress is a phenomenon that evolves slowly over time, the absence of time series data for the vast majority of countries hampers the ability of this indicator to give an accurate comparison across world regions.

Nonetheless, it is indicative that almost all countries that have registered a high water stress over 70% in any time period since the year 2000 are found either in Northern Africa and Western Asia or in Central and Southern Asia. Such levels indicate serious water difficulties in the supply of freshwater, at least during parts of the year. Those difficulties can be tackled to some extent by making use of non-conventional water resources, such as the reuse of wastewater, desalinated water and direct use of agricultural drainage water. Efforts should be made in those regions to reduce freshwater withdrawal by increasing productivity and efficiency in the use of water resources. Conversely, for those countries that are well below the threshold for water stress, there may be scope for sustainably increasing the use of water by people and the economy.

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





SUSTAINABLE DEVELOPMENT GOAL 14

Life below water

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

IN FOCUS

14.4.1 14.6.1 14.7.1 14.b.1

SDG INDICATOR 14.4.1

Proportion of fish stocks within biologically sustainable levels

Off track

> Target 14.4
> By 2020, restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

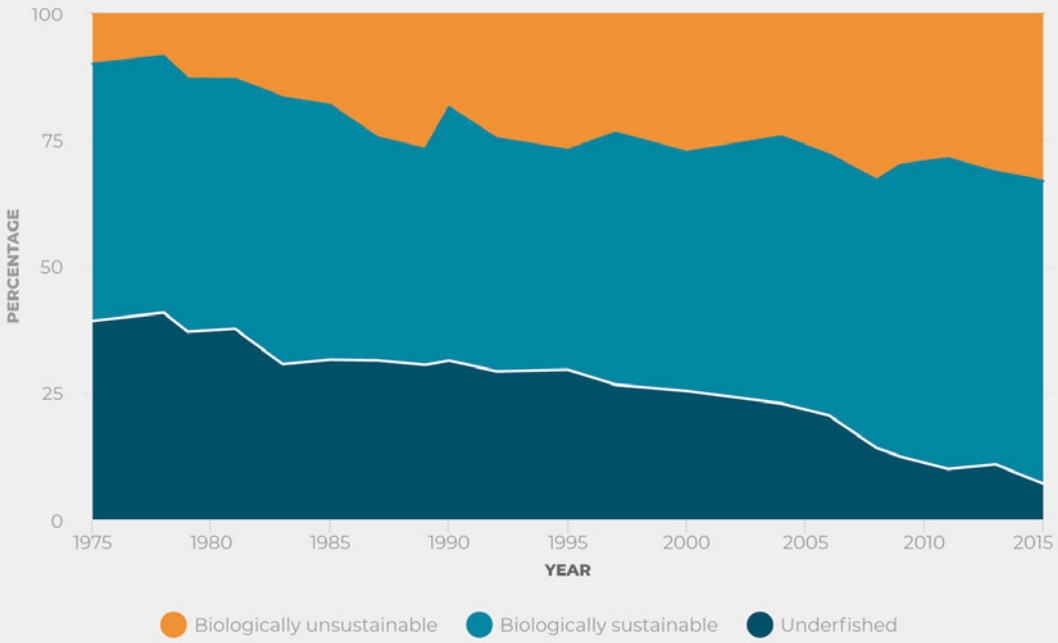
One third of the world's marine fish stocks are overfished today, compared to only 10 percent in 1974.

Fisheries support livelihoods, food security and human health worldwide. Their sustainable development has significant implications on the whole of humanity. The fundamental basis on which fisheries and its related industries rely is fish resources, which are now threatened by degraded habitats, climate change and overfishing. Of these anthropogenic threats, overfishing is directly caused by mismanagement of fisheries and could be corrected through improved policy and effective harvest strategies. To achieve sustainable development of fisheries, fish stocks must be maintained within biologically sustainable levels – at or above the abundance level that can produce maximum sustainable yield. Based on FAO's analysis of assessed stocks, the fraction of world marine fish stocks that are within biologically sustainable levels has declined from 90 percent in 1974 to 66.9 percent in 2015.

Overfishing not only reduces food production but also impairs the functioning of ecosystems and reduces biodiversity, with negative repercussions for economies and societies. It was estimated that rebuilding overfished stocks could increase annual fishery production by 16.5 million tonnes and annual revenue by USD 32 billion, which would certainly increase the contribution of marine fisheries to the food security, nutrition needs, economies and well-being of coastal communities.

The continuous decrease in the percentage of stocks fished at biologically sustainable levels does not mean that the world's marine fisheries have not made any progress towards achieving SDG target 14.4. Despite the overall worsening overcapacity and stock status across the world, some developed countries have managed to increase the proportion of stocks fished within biologically sustainable levels through improved fisheries management. Achieving SDG target 14.4 is a common goal for all countries and requires an inclusive global partnership in policy coordination, financial and human resource mobilization and deployment of advanced technologies for efficient regulation and monitoring. All countries need to urgently implement transformational changes in fishery management and governance and take solid steps in controlling its fishing fleet capacity towards the level corresponding to SDG Target 14.4.

Global trends in the state of the world's marine fish stocks, 1975-2015



SDG INDICATOR 14.6.1

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

Too early to call

> Target 14.6
> By 2020, eliminate subsidies that contribute to illegal, unreported and unregulated fishing

Countries have made significant steps toward implementing instruments to combat illegal, unreported and unregulated (IUU) fishing. Sixty countries have signed the Port State Measures Agreement, the first binding international agreement to specifically target IUU fishing. However, more is needed globally.

Illegal, unreported, and unregulated (IUU) fishing remains one of the greatest threats to marine ecosystems due to its potential to undermine national and regional efforts to manage fisheries sustainably as well as endeavors to conserve marine biodiversity. Illegal fishing can often lead to the collapse of local fisheries, with small-scale fisheries in developing countries proving particularly vulnerable. Products derived from IUU fishing can find their way into overseas trade markets thus throttling local food supply. IUU fishing therefore threatens livelihoods, exacerbates poverty and augments food insecurity.

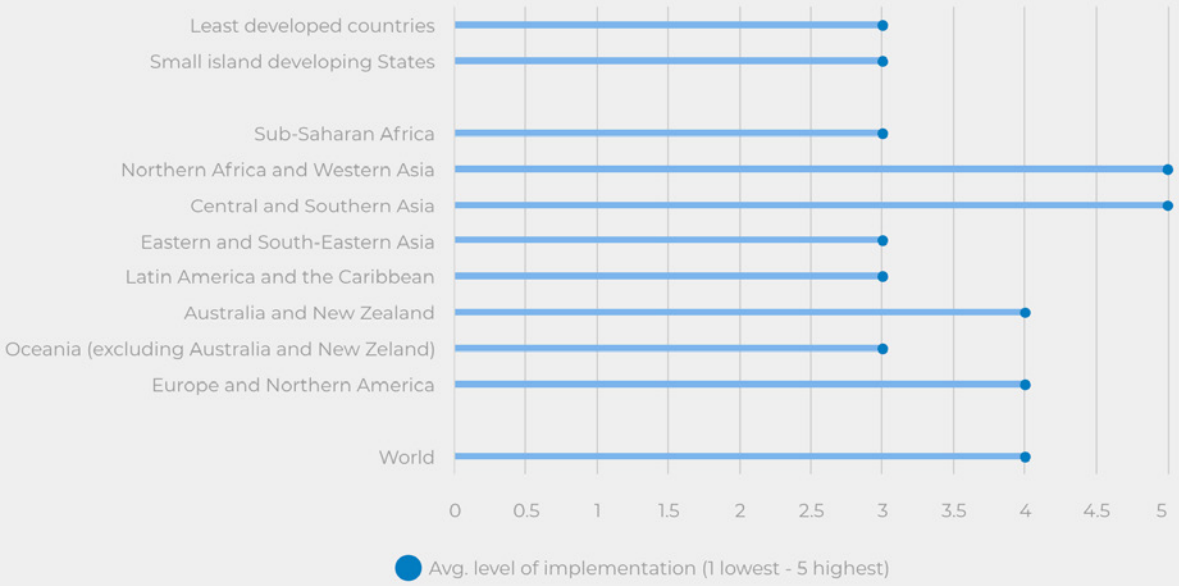
The threats that IUU fishing poses and the need to effectively address it is well acknowledged within the international community. Countries, through forums such as the UN and the FAO, have developed a range of international instruments and a suite of tools to combat IUU fishing[4] . For instance, the FAO Agreement on Port State Measures, the first international binding Agreement developed expressly to combat IUU fishing, entered into force in June 2016. Since its coming into force, the number of parties to the agreement has rapidly increased and as of May 2019 stands at 60 Member Parties, including the EU as one party representing its 28 Member States. The implementation of this agreement together with the other relevant international instruments are crucial to effectively combatting IUU fishing.

SDG indicator 14.6.1 is a new indicator that scores countries according to their implementation of instruments combatting IUU fishing. The first available data from 2018 show that, globally, a medium level of implementation of international instruments applicable to combatting IUU fishing has been reached. Regionally, figures suggest that Europe, North America, Australia and New Zealand registered the highest level of implementation of these instruments. Conversely, implementation was the lowest in Latin America and the Caribbean, Eastern and Southeastern Asia, and Northern Africa and Western Asia, all registering a medium level of implementation. Small Island Developing States (SIDS), faced with particular challenges in fully implementing these instruments due to their large

[4] 1982 UN Convention on the Law of the Sea (UNCLOS); 1993 FAO Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (Compliance Agreement); 1995 UN Fish Stocks Agreement (UNFSA); International Plan of Action to Prevent, Deter and Eliminate IUU fishing (IPOA-IUU); 2009 FAO Agreement on Port Sate Measures to Prevent, Deter and Eliminate IUU fishing (PSMA); The FAO Voluntary Guidelines for Flag State Performance (VG-FSP)

amounts of water under their jurisdiction, also registered a medium level of implementation. The same level of implementation was found in Least Developed Countries. In conclusion, further efforts are needed to make progress in implementing these instruments. A concerted effort and clear political will from countries are required to make advances in implementing instruments to combat IUU fishing.

Average level of implementation of IUU instruments in 2018



SDG INDICATOR 14.7.1

Sustainable fisheries as a proportion of GDP in Small Island Developing States, least developed countries and all countries

On track

> Target 14.7
> By 2030, increase the economic benefits to Small Island Developing States (SIDS) and Least Developed Countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

Least developed countries and SIDS are reporting higher contributions of sustainable fisheries to their country's GDPs, in particular for SIDS countries, the ratio increased from 6.69% in 2011 to 13.68% in 2015.

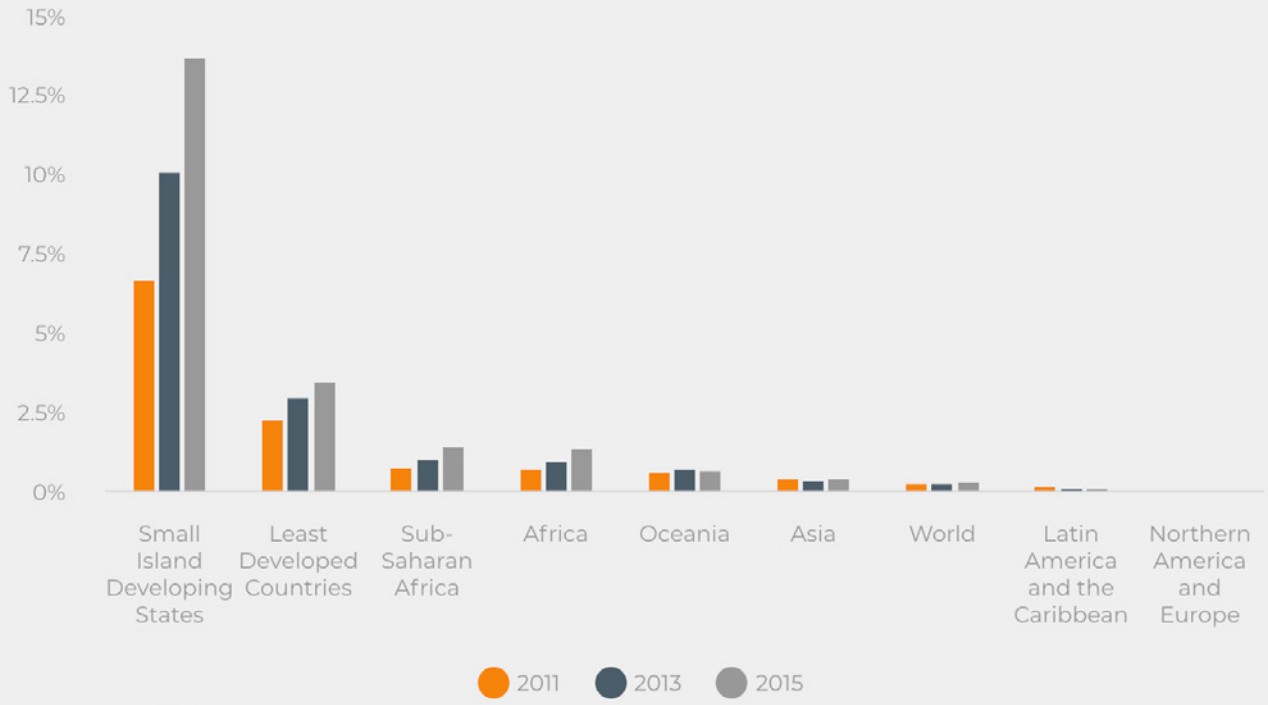
World fish supply has experienced tremendous growth, increasing from 20 million tonnes in 1950 to 173 million tonnes in 2017, with 93 million tonnes coming from capture fisheries and 80 million tonnes from aquaculture. According to the Organization for Economic Co-operation and Development (OECD) and FAO projections for 2018, this growth is likely to continue, with world fish production estimated to reach 195 million tonnes by 2027.

Fisheries and aquaculture offer ample opportunities to alleviate poverty, hunger and malnutrition, generate economic growth and ensure better use of natural resources. By expressing the value added of sustainable marine capture fisheries as a proportion of a country's GDP, there can be a conceptually clear and cost-effective framework for monitoring countries' progress towards target 14.7.1.

According to the results, sustainable marine capture fisheries in least developed and SIDS countries are making higher contributions to national GDPs; in particular for SIDS countries, the ratio increased from 6.69% in 2011 to 13.68% in 2015, taking into consideration that fishing activities are more important from asocial, economic and environmental perspective to the local communities and indigenous people in those countries.

For other regions of the world, the share has been overall increasing as a result of improved management from governments and relevant fishing institutions.

Sustainable fisheries as a proportion of GDP



SDG INDICATOR 14.B.1

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

Too early to call

Target 14.b
Provide access for small-scale artisanal fishers to marine resources and markets.

Most countries are taking active measures to promote small-scale fisheries, but more is needed.

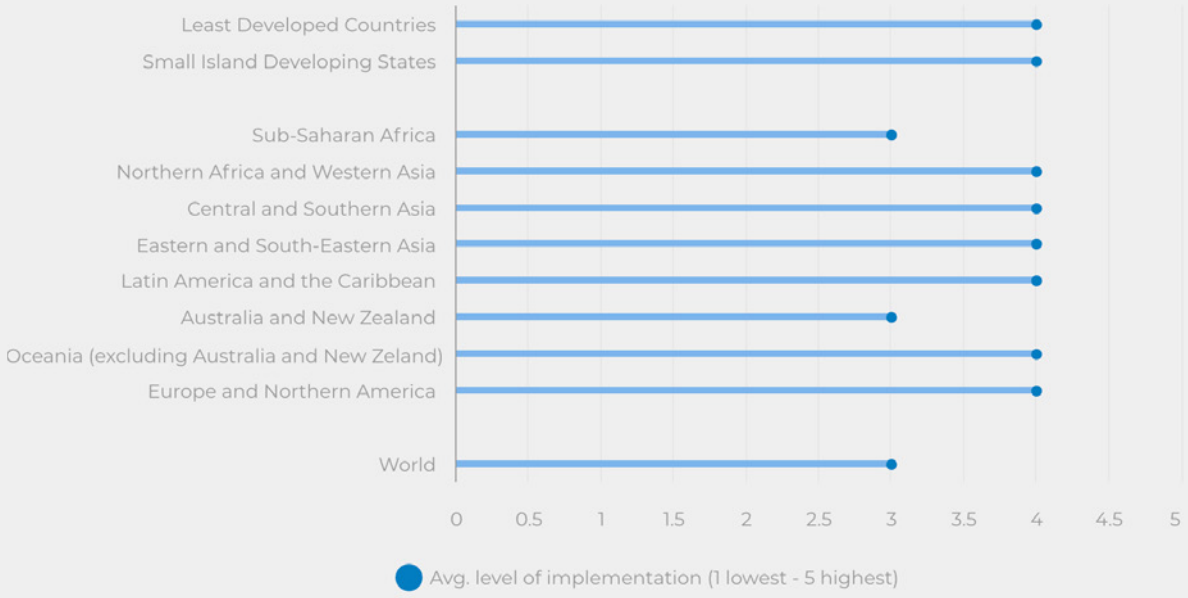
Small-scale or artisanal fisheries are present in almost all countries, accounting for more than half of total production on average, both in terms of quantity and value. In some countries, up to seventy percent of the people working in the fisheries sector are involved in small-scale fisheries, mostly in fishing activities and to a lesser extent in post-harvest, processing and other related activities. The available data further suggest that there is a higher proportion of men engaged in fishing activities and a higher proportion of women engaged in post-harvest/processing activities. In recognition of the importance of small-scale fisheries, the international community has declared 2022 as the International Year of Artisanal Fisheries and Aquaculture.

To promote the access of small-scale fishers to productive resources, services and markets, most countries have developed targeted regulatory and institutional frameworks. However, the implementation of such frameworks varies across countries and regions. SDG indicator 14.b.1 is a new indicator that scores countries' implementation of frameworks relevant to the protection of small-scale fisheries. The first available results in 2018 reveal that many countries and regions have a high degree of implementation of frameworks to promote small-scale fisheries. However, more than 20 percent of countries have a low-to-medium level of implementation, particularly in Oceania and Central and Southern Asia.

A key way to promote small-scale fisheries is for countries to take specific initiatives to implement the Small Scale Fisheries Guidelines, which focus on supporting resources management-related activities and the enhancement of value chains, post-harvest operations and trade. However, only about half the countries in the world have adopted such specific initiatives. 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, as well as piecemeal coordination with relevant national authorities.

Conversely, most countries and regions have introduced or developed regulations, policies, laws, plans or strategies specifically addressing small-scale fisheries. In addition, most countries and regions have put in place mechanisms through which small-scale fishers and fish workers can contribute to decision-making processes, with over three quarters of these mechanisms including the promotion of the active participation of women.

Implementation of instruments for access to resources and markets for small-scale fisheries in 2018



SUSTAINABLE DEVELOPMENT GOAL 15

Life on land

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

IN FOCUS

15.1.1 15.2.1 15.4.2 15.6.1

SDG INDICATOR 15.1.1

Forest area as a proportion of total land area

Off track

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.

The loss of forest continues at an alarming rate in some regions. Between 2000 and 2015, the proportion of forest area to the world's land area decreased from 31.1 to 30.7 percent.

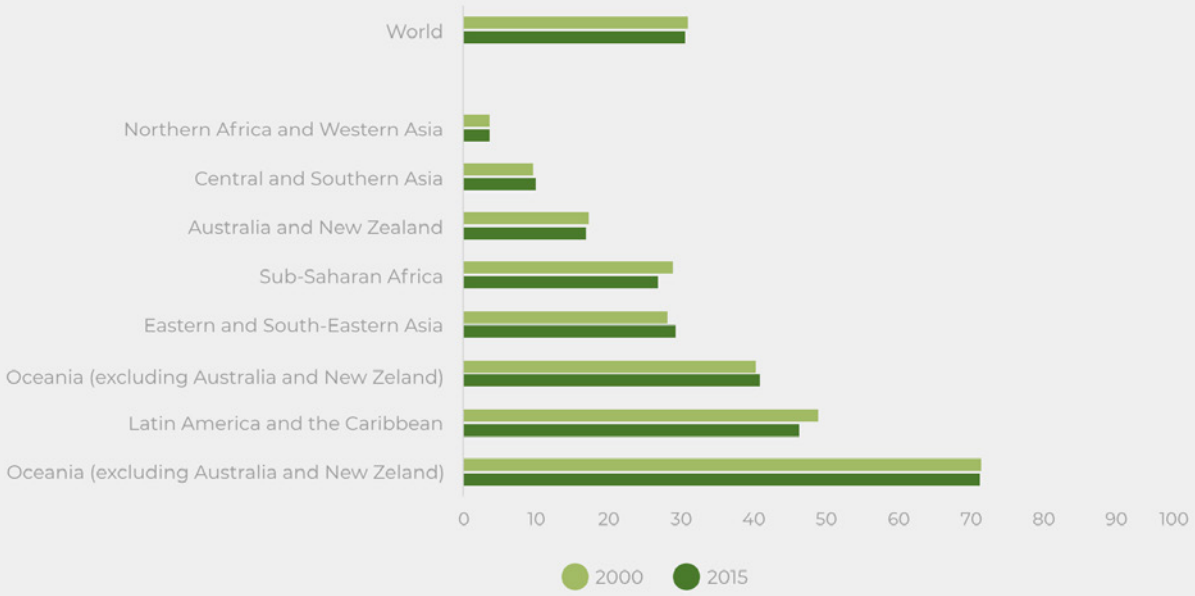
Forests contain over 80 percent of the world's terrestrial biodiversity. They make a direct and very tangible contribution to global food security and provide a range of goods and services that include acting as a source of renewable energy and playing an irreplaceable role in climate change adaptation and mitigation.

Between 2000 and 2015, the proportion of forest area to the world's land area decreased from 31.1 to 30.7 per cent. As this is only calculated every 5 years, the next data will be available in 2020. Most of this loss appeared in the tropics, with the biggest decreases found in Latin America and Sub-Saharan Africa. Conversion of forestland for agricultural use, such as crops and livestock, are deemed as important drivers of loss of forest area.

At global scale, the loss of forest in some of the tropical regions is partly compensated by the increase of forest area in many regions of Asia as well as in North America and Europe. In these regions, active afforestation and landscape restoration, as well as natural expansion of forests on abandoned agricultural land, drive the expansion of forest area.

Forest loss can result in a number of negative impacts including, but not limited to, loss of livelihoods in rural communities, release of CO_2 in the atmosphere, loss of biodiversity and land degradation.

Forest area as proportion of total land area (percent)



SDG INDICATOR 15.2.1

Progress towards sustainable forest management

On track

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.

Although global forest area is still decreasing, the rate of forest loss between 2010-2015 slowed down approximately 25% when compared to the 2000-2005 period. This shows progress towards sustainable management of the world's forests.

The latest data show there is progress towards the sustainable management of the world's forest. Although global forest area is still decreasing, the rate of forest loss between 2010-2015 slowed down approximately 25% when compared to the 2000-2005 period. In addition, the proportion of protected forest area and forests under long-term management plans remain stable or are increasing in all regions of the world. New certification data show a slightly negative global trend due to a reduction of certified forest area in Oceania. However, all other regions except for Sub-Saharan Africa show a stable or increasing certified forest area.

Deforestation and forest degradation are still a concern in some regions, particularly in South-eastern Asia and Northern Africa, where the forest loss rate increased from 2005-2010 to 2010-2015.

Among the developing countries groups, land-locked developing countries still show challenges to reverse the rate of forest loss and to maintain or increase legally established protected areas.

Dashboard for SDG indicator 15.2.1 sub-indicators

NOTES: [1] Calculated using compound interest formula.

SDG INDICATOR 15.4.2

Mountain Green Cover Index

Too early to call

> Target 15.4
> By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

Across the world, 76% of mountain areas are covered in vegetation. Monitoring changes to green mountain cover over time is a way of measuring the health of mountain ecosystems, which are vital for the environment and for upland and lowland communities.

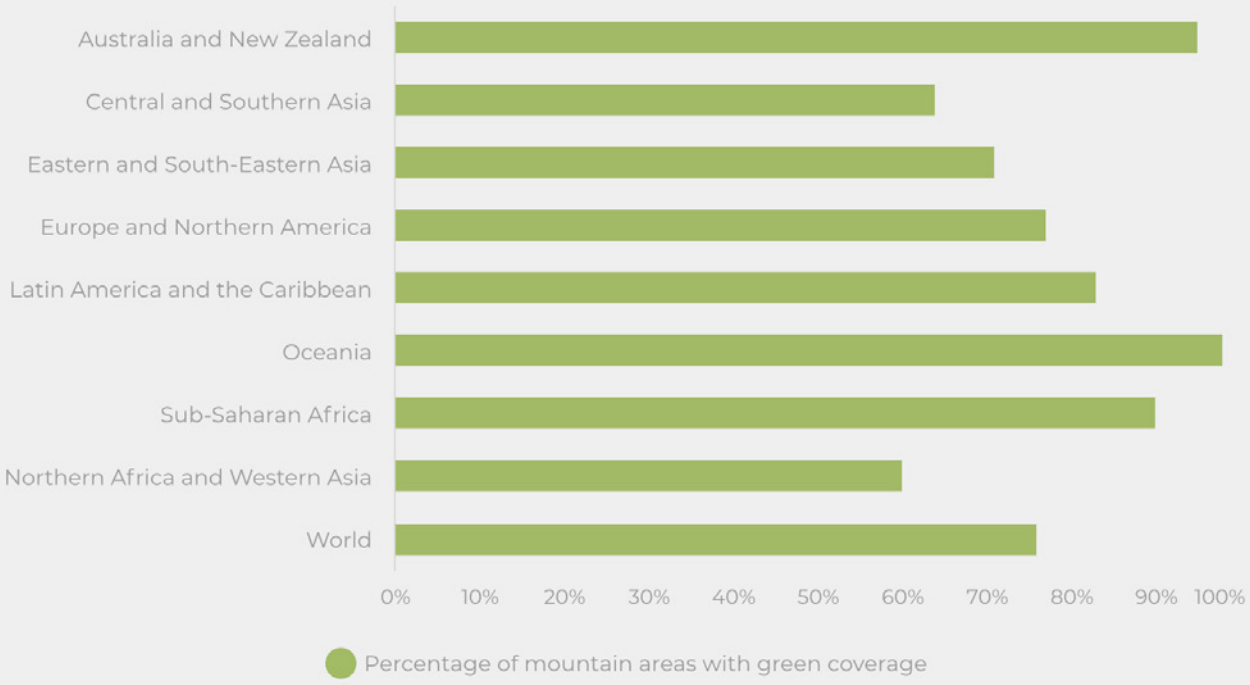
Healthy mountain ecosystems are fundamental to ensuring the provision of ecosystem services. For example, mountains provide between 60 and 80 percent of the world's freshwater for domestic, agricultural and industrial use, green energy production and biodiversity conservation.

SDG indicator 15.4.2 is a new indicator that monitors the sustainability of mountain areas by measuring their vegetation cover. The green cover of mountain areas is positively correlated to their state of health and – as a consequence – to their capacity to fulfil their ecosystem roles.

The first data collected in 2017 reveal that, globally, 76% of mountain areas are covered with green vegetation (forest, grassland/shrubland, and cropland). Specifically, 41 percent of the world's mountain areas are covered by forests, 29 percent by grassland/shrubland, while only 6 percent are cropland. Across regions, mountain green cover was lowest in Western Asia and Northern Africa (60 percent) and highest in Oceania (98 percent). This indicator has a periodicity of three years and therefore FAO will be conducting the next global assessment of green mountain cover in 2020.

As expected, the green cover of mountain areas decreased with an increase in altitude. It was highest in the lowest elevation class and lowest in the highest class. While some trends can be seen at global level, their interpretation must be assessed nationally. For example, we can see that forests homogenously decrease with altitude. However, depending on the elevation class, this decrease can be due to expected climatic reasons or to overgrazing, land clearing, urbanization, forest exploitation, timber extraction, fuelwood collection and fire.

Green cover percentage in mountain areas divided by regions (2017)



SDG INDICATOR 15.6.1

Number of countries that have adopted legislative, administrative and policy frameworks to ensure fair and equitable sharing of benefits

On track

Target 15.6
Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.

Since 2012, 50 out of a total of 146 parties have provided information about access and benefit sharing measures related to Plant Genetic Resources for Food and Agriculture through their national reports.

Sustainable management and utilization of biodiversity, including genetic resources, is important for the benefit of present and future generations. Biodiversity is necessary for the provision of food and other agricultural products and for sustaining the livelihoods of those who depend on them. It also contributes to maintaining ecosystem health and addressing climate challenges.

This indicator monitors and measures progress made by countries in establishing relevant frameworks on access and benefit-sharing (ABS) for the use of genetic resources. The Convention on Biological Diversity (CBD) is the custodian agency for this indicator and FAO is a partner institution, through the International Treaty on Plant Genetic Resources for Food and Agriculture (PGRFA).

The way in which genetic resources are accessed and how their benefits are shared can create incentives for their conservation and sustainable use. Both CBD and FAO promote the facilitated access and fair and equitable benefit-sharing for the use of genetic resources. By developing and implementing access and benefit sharing (ABS) measures together with CBD and FAO, countries are contributing to the conservation and sustainable use of biological and genetic diversity. The benefits of genetic resources are primarily for farmers in developing countries who promote the conservation and sustainable use of biodiversity.

Under the International Treaty on PGRFA hosted in FAO, contracting Parties regularly submit a national report on the measures taken to implement their obligations, including the access and benefit-sharing provisions. Since 2012, 50 out of 146 parties have provided information about the ABS measures related to PGRFA through their national reports[5].

The International Treaty also provides the foundation for a multilateral system, which stipulates the use of Standard Material Transfer Agreements (SMTAs) whenever PGRFA are transferred. SMTAs define the conditions of use and benefit-sharing for the transfer of PGRFA samples. Therefore, the more SMTAs are used for the transfer of food crops and forages, the more access and benefit sharing is promoted. As of May 2019, the total number of SMTAs reported is more than 75 000.

[5] Used for the transfer of food crops and forages, the more access and benefit sharing is promoted. As of May 2019, the total number of SMTAs reported is more than 75,000.

Number of Standard Material Transfer Agreements (SMTAs) (reported since 2012) and Countries reporting ABS measures (received since 2016)