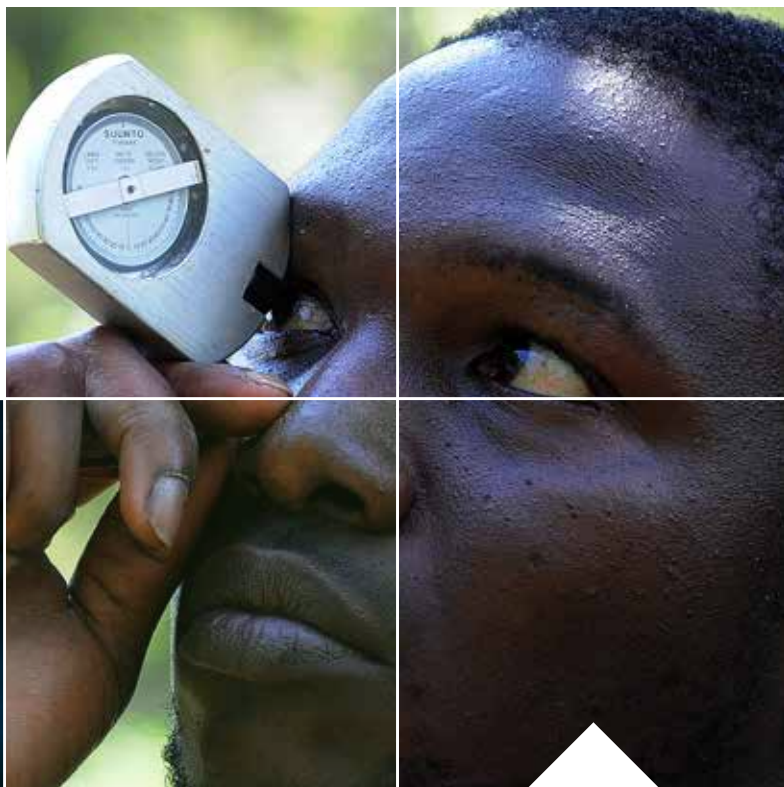




Food and Agriculture
Organization of the
United Nations



KEEPING AN EYE ON SDG 15



Working with
countries to measure
indicators for forests
and mountains







FORESTS AND MOUNTAINS IN THE SUSTAINABLE DEVELOPMENT GOALS

The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) set out the international community's commitment to rid the world of poverty and hunger and achieve sustainable development in its three dimensions – economic, social and environmental.

Forests and mountains are referred to several times in the SDGs because of their significant contributions to food security and livelihoods and the many products and ecosystem services they

provide. In particular, SDG 15, “Life on land”, puts forests and mountains at the centre of the sustainability of terrestrial ecosystems.


The Inter-agency Expert Group on SDG Indicators (IAEG-SDGs) agreed on a framework of targets and indicators to measure progress towards the SDGs. Two of the targets in SDG 15 – 15.1 and 15.2 – explicitly refer to forests and sustainable forest management, and a third target, 15.4, refers to the conservation of mountain ecosystems.

FAO'S ROLE UNDER SDG 15

FAO is the custodian agency for three of the indicators for SDG targets 15.1, 15.2 and 15.4.

These indicators and their methodologies have been agreed by the IAEG-SDGs, and they form part of the SDG Global Indicator Framework approved in March 2017.

FAO's main tasks as a custodian agency are the development of methodologies to measure progress; the collection, compilation and validation of data; the submission of data and storylines to the United Nations Statistical Division; and the provision of support to enable countries to develop their reporting capacity.

SDG 15	Targets*	Indicators for which FAO is the custodian agency
 <p>Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss</p>	<p>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</p>	<p>15.1.1: Forest area as a proportion of total land area</p>
	<p>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</p>	<p>15.2.1: Progress towards sustainable forest management</p>
	<p>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</p>	<p>15.4.2: Mountain Green Cover Index</p>

* The full set of targets under SDG 15 is available at www.un.org/sustainabledevelopment/biodiversity

Orangutan, Malaysia
©Sara Maulo

FAO: WORKING WITH COUNTRIES AND PARTNERS

FAO is working with countries and other international organizations to ensure high-quality data and improve monitoring and reporting capacity on the three indicators. As a leading source of forest-related information since 1946, FAO has a long tradition of monitoring the world's forests. FAO collects and analyses data on forest resources periodically through several well-established processes, including the Global Forest Resources Assessment (FRA). Many countries conduct assessments of their forest areas and other forest variables, increasingly using remote sensing to complement ground-level forest inventories. The data generated by such assessments are reported periodically to the FRA.

FAO collects and reports data on SDG 15 indicators through the following two processes:

1. Countries provide FAO with data for indicators 15.1.1 and 15.2.1 as part of the FRA process. The data are subject to a comprehensive FAO review and then validated by countries. It is expected that, starting in 2018, the

FRA will collect updated information on these indicators annually.

2. The Mountain Partnership Secretariat (MPS) produces data for indicator 15.4.2 using remote sensing, and national-level data are distributed to governments for validation.

The final submission to the United Nations Statistical Division of data on the three indicators is the responsibility of FAO's Chief Statistician, who supervises the reporting of all SDG indicators under FAO custodianship.

FAO further supports the SDG reporting process through partnerships and networking with other agencies with responsibilities for forest-related issues. Under the umbrella of the Collaborative Partnership on Forests, agencies are working on a global core set of forest-related indicators, which is expected to support monitoring of progress in the implementation of both the 2030 Agenda for Sustainable Development and the United Nations Strategic Plan for Forests 2017–2030.

THE INDICATORS



FOREST AREA AS A PROPORTION OF TOTAL LAND AREA

Accurate information on a country's forest area is crucial for forest policy and planning. Changes in forest area reflect changes in demand for land for other uses and may help in identifying unsustainable practices in the forest and agriculture sectors.

Indicator 15.1.1, which measures the **proportion of the total land area that is forested**, can be used as a proxy for the extent to which forests are being conserved or restored. It is a well-established indicator, for example, "proportion of land covered by forest" was used to help monitor progress towards the Millennium Development Goals.

ABOUT THE DATA

Indicator 15.1.1 is calculated as the **forest area in the latest reporting year divided by the total land area in 2015**, expressed as a percentage.

Data on this indicator are available for all countries and territories and can be aggregated to produce regional and global estimates.

Officially nominated FRA National Correspondents report official national data on forest area to FAO. Country reports are prepared using a standardized FRA reporting format and commonly agreed definitions.

Each national dataset has its own characteristics, and the reporting format enables countries to indicate the original data sources as well as national classifications, definitions and terminologies. Country reports also describe how forest area has been estimated according to the globally agreed FRA standard categories and reporting years.





Forest inventory, Viet Nam
©FAO/Joan Manuel Baliellas



Forest inventory, Australia
©FAO/Salahuddin Ahmad



PROGRESS TOWARDS SUSTAINABLE FOREST MANAGEMENT

The United Nations General Assembly has defined Sustainable Forest Management (SFM) as a dynamic and evolving concept that aims to maintain and enhance the **economic, social and environmental** values of all types of forests, for the **benefit of present and future generations** (Resolution A/RES/62/98).

FAO worked with partners¹ to develop the methodology for reporting on this indicator. **The following five subindicators** measure progress on the three dimensions of SFM (i.e. economic, social and environmental), taking intergenerational equity into account:

- 1. The forest area net change rate** monitors the rate at which forest area changes over time.

¹ The International Tropical Timber Organization and the secretariats of the United Nations Convention to Combat Desertification, the United Nations Framework Convention on Climate Change, the United Nations Forum on Forests, and the Montreal Process.

2. The **aboveground biomass stock in forests** indicates the amount of living aboveground biomass stored in forests, comprising stems, stumps, branches, bark, seeds and foliage.
3. The **proportion of forest area located in legally established protected areas** indicates the extent to which forest is managed for the protection and maintenance of biodiversity and other natural and cultural resources.
4. The **proportion of forest area under long-term forest management plans** indicates the proportion of the forest estate for which there is a documented intention to manage. Management plans can have various purposes, such as the production of wood and non-wood products and the conservation of biodiversity.
5. **Forest area under independently verified forest management certification schemes** indicates the area of forest for which forest management certificates have been issued by accredited independent bodies in compliance with national and international standards.

ABOUT THE DATA

Data for indicator 15.2.1 are also collected through the FRA country reporting process.



As an aid to interpretation, a **dashboard of traffic lights** is used to indicate progress in each of the five subindicators, with green, yellow and red indicating the direction and rate of change. For each subindicator, the value assigned to a country in the most recent reporting year is compared with the value assigned in the previous reporting year. Progress on each subindicator is signposted in this way, and the combined result for each subindicator indicates overall progress towards SFM.

The latest submissions to FRA show that national data coverage for these subindicators is high, although not all countries report on all subindicators. Only countries that report complete time series are included in regional and global aggregates; thus, such aggregates may involve differing sets of countries, and trends should be interpreted with caution.





MOUNTAIN GREEN COVER INDEX

Indicator 15.4.2 measures change in the area of green vegetation in mountain areas, by comparing the proportion of green cover over the total mountain area in a country at two consecutive points in time (i.e. 2017 and 2020).

The Mountain Green Cover Index indicates the conservation status of mountain environments based on the recognition that there is a direct correlation between green cover in mountainous areas and the capacity of those areas to fulfil their ecosystem roles.

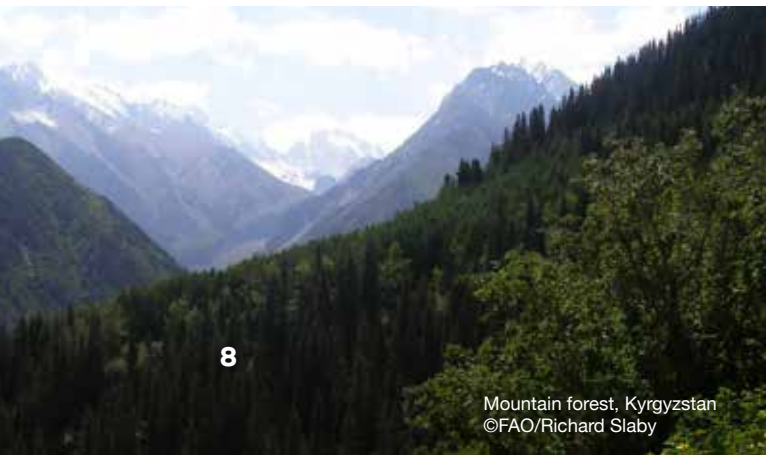
Monitoring the indicator over time will provide information on changes in forest, agricultural and other vegetation cover. A negative value could arise due to factors such as overgrazing, land clearing, urbanization, timber extraction, woodfuel collection and fire, and positive values could be linked to land restoration, reforestation, afforestation and sustainable agricultural practices.

ABOUT THE DATA

“Green cover” comprises three of the six land-cover/land-use classes defined by the Intergovernmental Panel on Climate Change: forest land; grassland/shrubland; and cropland. The forest definition is aligned with that used in the FRA.

The baseline for this indicator is the total area of the three land-cover/land-use classes in the mountain area of a country expressed as a proportion of the total mountain area within that country’s borders. The baseline was derived in 2017 using a 2015 FAO/MPS global mountain map, which is based on the United Nations Environment Programme – World Conservation Monitoring Centre classification of mountain elevations. Vegetation cover was assessed for a systematic grid of about 120 000 plots using visual interpretation (and the Collect Earth software – see [page 11](#)) of high- and very high-resolution remote sensing images. Data will be collected again in 2020 to determine the index.

The sampling density is not sufficiently high to produce representative data for all countries. Some countries, therefore, have decided to intensify the sampling grid and collect more data. Updated information on those countries will be available for the next index release.





Mountain cropland, India
©FAO/Shanthungo Ezung



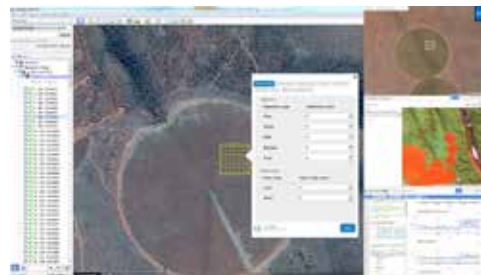
FAO'S SUPPORT TO COUNTRIES

FAO supports countries in their efforts to monitor the three forest-related indicators in SDG 15 through advanced software tools, training and networking.

NEW ONLINE PORTAL FOR REPORTING TO FRA

For FRA 2015, countries were able, for the first time, to submit their data online. The new FRA 2020 platform will build on this positive experience and enhance its features to improve the efficiency of data submission, facilitate countries' access to other relevant geospatial and statistical datasets, improve the quality of submitted data through rigorous quality assurance and quality control, and provide functionality for storing and publishing original national statistics.

OPEN FORIS



Open Foris is an initiative to develop and share easy-to-use, efficient, free and open-source software tools, which countries can use in gathering, producing and disseminating reliable information on the state of forest resources. Open Foris tools facilitate flexible and efficient data collection, analysis and reporting. One of the tools is Collect Earth, which, in conjunction with Google Earth, Bing Maps and Google Earth Engine, has been used successfully by many country partners for land-cover and land-use assessments and to analyse historical trends in vegetation

Mountain pasture, Kyrgyzstan
©FAO/Richard Slaby

change. Collect Earth can collect data at the local, regional and global levels.

SEPAL PLATFORM



The System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL) facilitates countries' access to and processing of earth observation data. SEPAL is a platform for processing and interpreting satellite data using a cloud-based supercomputer; one of its strengths is that it can help surmount barriers posed by poor internet connections and a lack of computing power.

TRAINING

Strengthening the capacity of countries' stakeholders is important for compiling and reporting high-quality data on the SDG indicators.

FAO and partners convene capacity-building workshops to support the FRA reporting process for indicators 15.1.1 and 15.2.1 and in the context of the Mountain Partnership for indicator 15.4.2. Training covers the theoretical underpinnings of the indicators, the reporting methodology, and the use of software tools.

Capacity-building activities also include sessions to encourage national networking, which is essential for ensuring full engagement with those national statistical offices supervising SDG-related reporting at the country level.

In addition to workshops, an e-learning online course is being designed to support countries in reporting on indicators 15.1.1 and 15.2.1.

CONTACTS

In its role as the custodian agency for SDG indicators 15.1.1, 15.2.1 and 15.4.2, FAO will continue to work closely with countries, other international agencies, forest processes and stakeholders worldwide. Find out more from the contacts below.

SDG process:

Thais.LinharesJuvenal@fao.org

SDG indicators 15.1.1 and 15.2.1:

fra@fao.org

<http://www.fao.org/forest-resources-assessment>

SDG indicator 15.4.2:

rosalaura.romeo@fao.org

<http://www.fao.org/mountain-partnership>

Cover photos

Front

Tree measurement, United Republic of Tanzania
©FAO/Simon Maina

Mountain woman returning home from the fields, India
©FAO/Satpal Singh

Back

Mountain pastureland, United Kingdom
©FAO/Tomek Kozłowski

24 February 2013, Dosso, Niger
©FAO/Giulio Napolitano

FOOD AND AGRICULTURE ORGANIZATION
OF THE UNITED NATIONS
Viale delle Terme di Caracalla
00153 Rome, Italy

www.fao.org

