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SDG INDICATOR 15.1.1 FOREST AREA AS A PROPORTION OF TOTAL LAND AREA (Tier 1)

I. Introduction

The SDG indicator 15.1.1, Forest area as proportion of total land area, contributes to the monitoring of the Sustain Development Goal number 15, which is to "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss". It specifically aims at monitoring Target 15.1 which is to "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 indicator is defined as the total forest area divided by the total land area and expressed as a percentage. National governments are requested to report data on both forest area and land area to FAO's Global Forest Resources Assessment (FRA), according to established global definitions.

This indicator was also part of the MDG reporting framework.

II. Methodology

a. Rationale for the SDG Indicator 2.a.1

The indicator provides a measure of the relative extent of forest in a country and is a key element for forest policy and planning within the context of sustainable development. Changes in forest area reflect the demand for land for other uses and may help identify unsustainable practices in the forestry and agricultural sector. The indicator shows the extent to which the forests in a country are being lost, conserved or restored.

b. Classification systems and definitions

According to the FAO definitions, Forest is defined as: "land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. It does not include land that is predominantly under agricultural or urban land use". More specifically:

- Forest is determined both by the presence of trees and the absence of other predominant land uses. The trees should be able to reach a minimum height of 5 meters.
- It includes areas with young trees that have not yet reached but which are expected to reach a canopy cover of at least 10 percent and tree height of 5 meters or more. It also includes areas that are temporarily unstocked due to clear-cutting as part of a forest management practice or natural disasters, and which are expected to be regenerated within 5 years. Local conditions may, in exceptional cases, justify that a longer time frame is used.
- It includes forest roads, firebreaks and other small open areas; forest in national parks, nature reserves and other protected areas such as those of specific environmental, scientific, historical, cultural or spiritual interest.
- It includes windbreaks, shelterbelts and corridors of trees with an area of more than 0.5 hectares and width of more than 20 meters.
- It includes abandoned shifting cultivation land with a regeneration of trees that have, or are expected to reach, a canopy cover of at least 10 percent and tree height of at least 5 meters.
- It includes areas with mangroves in tidal zones, regardless whether this area is classified as land area or not.
- It includes rubberwood, cork oak and Christmas tree plantations.
- It includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met.
- It excludes tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations, olive orchards and agroforestry systems when crops are grown under tree cover. Note: Some agroforestry systems such as the "Taungya" system where crops are grown only during the first years of the forest rotation should be classified as forest.

Total land area is the total surface area of a country less the area covered by inland waters, such as major rivers, lakes and dams.

c. Computation method

Forest area (reference year) / Land area (2015) * 100

Note that the for the denominator Land area, the 2015 data are consistently used to ensure that the indicator only reflects changes in forest area.

This indicator can be aggregated to global or regional level by adding all country values globally or in a specific region

d. Interpretation

The time series of the indicator shows whether forest area is being lost, maintained or have increased. The time series can further be used to assess forest area change rates and how the change rate varies over time which is an input to indicator 15.2.1.

e. Treatment of missing values

For countries and territories where no information was provided to FAO for FRA 2015 (79 countries and territories representing 1.2 percent of the global forest area), a report was prepared by FAO using existing information from previous assessments and literature search. Data are therefore available for all countries and territories covered by the FRA process.

At regional and global levels, there are no missing values, so regional and global aggregates are based on the complete set of countries and territories covered by the FRA process.

f. Regional aggregates

Since information is available for all countries and territories, regional and global aggregates are produced by adding the data from all countries and territories in respective region.

g. Sources of discrepancies

The national figures in the database are reported by the countries themselves following standardized format, definitions and reporting years, thus eliminating any discrepancies between global and national figures. The reporting format ensures that countries provide the full reference for original data sources as well as national definitions and terminology. Separate sections in the reporting format (country reports) deal with the analysis of data including any specific assumptions made, methods used for estimates and projections to the common reporting years, and reclassification of national data to correspond to the global definitions and classes used in FAO's Global Forest Resources Assessment.

h. Quality assurance

Since the data is based on what countries officially report to FAO, there is no confidence interval or standard error associated with reported data.

III. Data sources

a. Description

Data on forest area are available for all 234 countries and territories included in FRA 2015. Of these, data for 79 countries and territories representing 1.2 percent of the global forest area are FAO estimates.

b. Time series

For FRA 2015, data were collected for 1990, 2000, 2005, 2010 and 2015. For FRA 2020, data will be collected for 1990, 2000, 2010, 2015, 2016, 2017, 2018, 2019 and 2020.

c. Collection process

Data on forest area are reported by countries to FAO using an on-line questionnaire. The data collection process for FRA 2020 will be launched in early 2018 and data collection will take place in the period 2018-2019.

Officially nominated national correspondents and their teams are responsible for collecting data and filling in the on-line questionnaire. Some of the national correspondents also report on dependent territories. For the remaining countries and territories where no information is provided, a report is prepared by FAO using existing information, remote sensing and a literature search.

Before publishing, data are sent back to national forest authorities for validation.

IV. Conclusion

As the indicator was part of the MDG indicator, it has been a Tier 1 indicator since the introduction of the SDG indicator framework. As data is readily available with a well-established process for international reporting, the indicator do not present any major problems.

The main challenge is that many countries still don’t have operational forest monitoring systems in place that allow for frequent updates of forest area estimates, so they often have to rely on interpolation and forecasting in order to provide national data for requested reporting years.