



Food and Agriculture  
Organization of the  
United Nations



## FACTSHEETS ON THE 21 SDG INDICATORS UNDER FAO CUSTODIANSHIP

A HIGHLIGHT OF THE MAIN INDICATORS WITH THE  
GREATEST GAPS IN COUNTRY REPORTING



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# LIST OF ACRONYMS



CCRF	Code of Conduct for Responsible Fisheries	PoU	Prevalence of Undernourishment
CV	Coefficient of variation	PPP	purchasing power parity
DEC	Dietary energy consumption	SDGs	Sustainable Development Goals
DES	Dietary energy supply	SIDS	Small Island Developing States
FAO	Food and Agriculture Organization of the United Nations	UNEP	United Nations Environment Programme
FIES	Food Insecurity Experience Scale	UNSD	United Nations Statistical Division
GDP	Gross Domestic Product		
GEA	Government Expenditures in Agriculture		
IAEG-SDG	Interagency and Expert Group on SDG indicators		
IMF	International Monetary Fund		
IUU	illegal, unreported and unregulated		
LDCs	Least Developed Countries		
LLDCs	Landlocked developing countries		
MDER	Minimum dietary energy requirement		
MDGs	Millennium Development Goals		
MoE	margins of error		
MSY	maximum sustainable yield		
OECD	Organisation for Economic Co-operation and Development		



As we enter the ten-year countdown to the implementation of the 2030 Agenda, the world faces an unprecedented challenge. After the High-Level Political Forum's alarming recognition in 2019 that the world is "off track" to meeting the Sustainable Development Goals (SDGs), the impact of COVID-19 is likely to make an already uphill struggle even more demanding. Now more than ever, we need to invest in the immense power of data to help drive the transformative changes the world needs. High quality data are not only a prerequisite for measuring progress towards the SDGs, but also for informing the catalytic policies and investments required to push through development bottlenecks and ensure no one is left behind.

The global SDG indicators hold a central place in the global drive for timely, reliable and internationally comparable data. This core set of metrics, applicable to developed and developing countries alike, is the bedrock of the 2030 Agenda's mutual accountability mechanism – not only measuring, but also effectively prompting countries to take action to achieve the SDG targets. "What gets measured, gets done", as the saying goes.

As compelling as the power of data may be, many obstacles still challenge countries' ability to harness this power and report on global SDG indicators. In many countries, National Statistical Systems lack the capacity to report SDG indicators with the regularity, timeliness and level of disaggregation demanded of the 2030 Agenda. Compounding this capacity gap is the misalignment between many national and regional monitoring frameworks and the global indicator framework, which often leads to the arbitrary substitution of global SDG indicators with different national or regional proxy indicators.

As custodian agency of 21 SDG indicators, the Food and Agriculture Organization of the United Nations (FAO) is helping countries to overcome both these challenges. Specifically, FAO supports countries to develop the statistical capacity to generate, disseminate and use national data, as well

as realign their national monitoring frameworks to SDG indicators. As custodian agency, FAO is also responsible for leading the methodological development of indicators, collecting data from national sources, ensuring their comparability and consistency, and disseminating them at global level. FAO also contributes to monitoring progress at the global, regional and national levels, providing inputs to the global and regional SDG progress reports, providing analytical reports, and, more recently, developing its own digital SDG progress report.

This publication complements [FAO's digital SDG progress report](#) and other material on SDG indicators available through [FAO's SDG indicators portal](#). It provides a snapshot of the main characteristics of each of the 21 SDG indicators under FAO custodianship in a compact and agile format. For each of these indicators, a concise factsheet provides the latest information on data availability and country coverage; the methodology for compiling the indicator and the process followed for establishing it as an international standard; a description of data sources and the main constraints faced by countries in reporting the indicators; and a list of the main tools, resources and initiatives developed by FAO for providing technical support to countries.

By providing all these pieces of information in one compact factsheet for each indicator, it is hoped that this publication will provide a useful aid to national stakeholders to tackle the main constraints faced in reporting SDG indicators, thus raising the global reporting rate and ultimately contributing to furthering the achievement of the food and agriculture-related SDG targets.

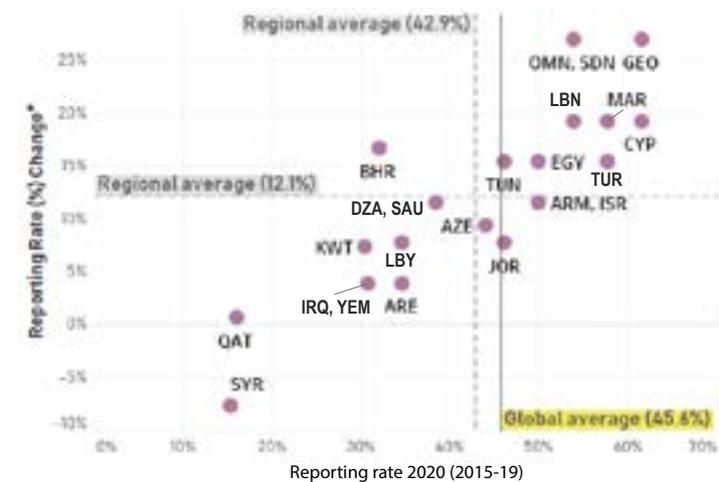
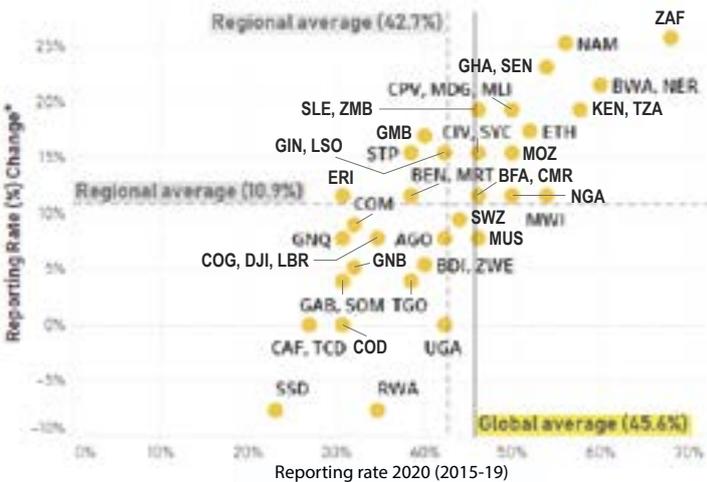
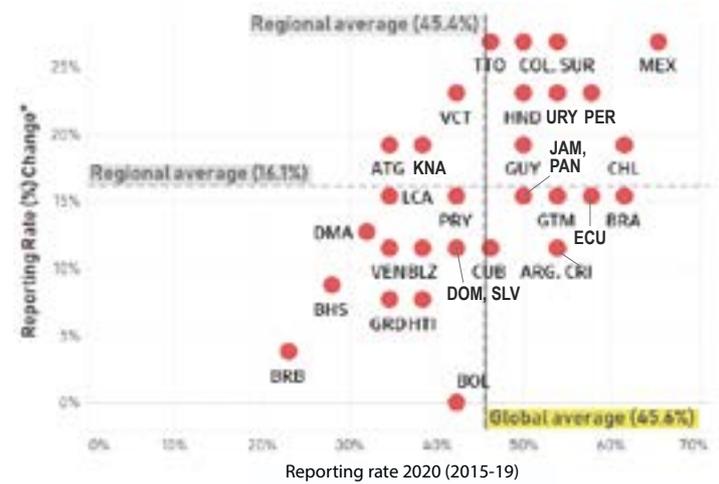
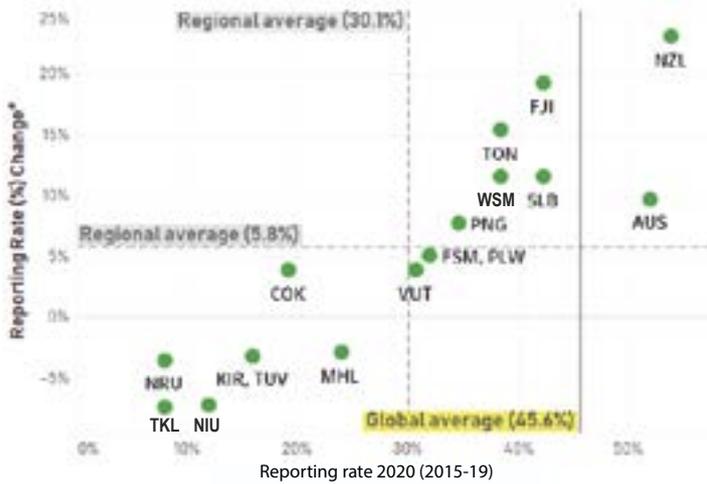
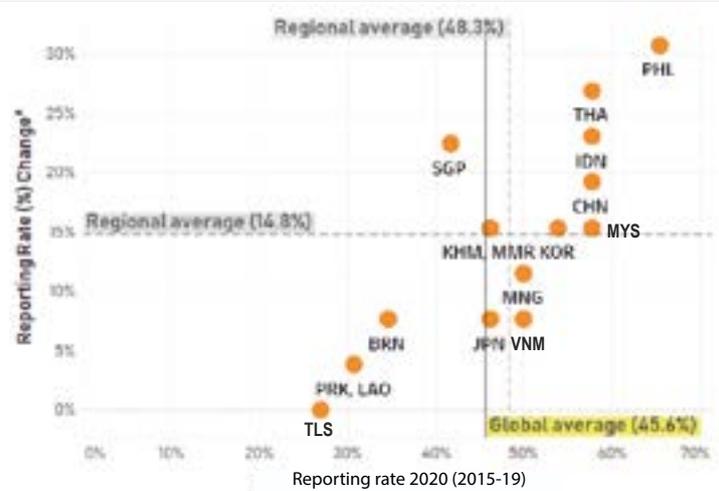
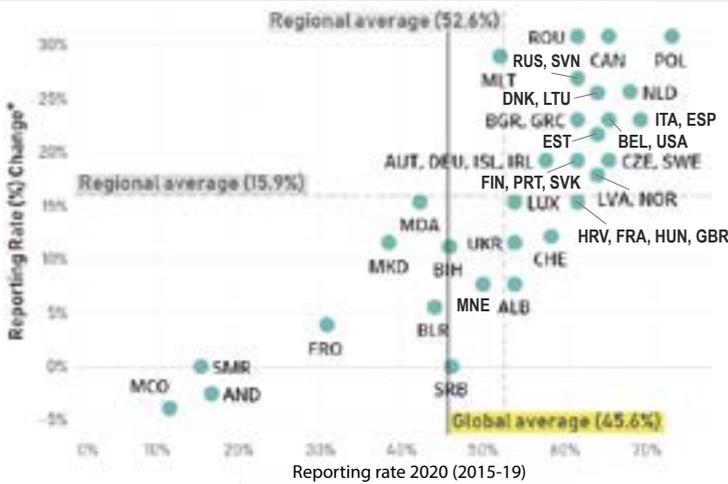
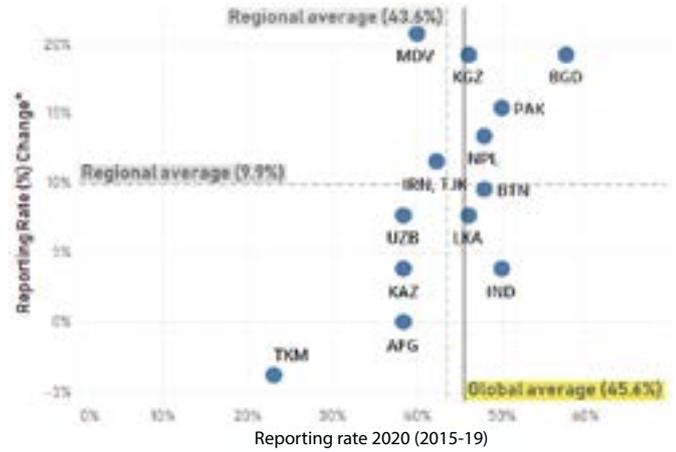
# FAO SDG INDICATORS REPORTING RATE TABLE

SDG Indicators under FAO custodianship		Global Reporting Rate 2020 [reference period 2015–2019]*	% Change (absolute)
2.1.1	Prevalence of Undernourishment	82.1%	-2.0%
2.1.2	Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale	45.9%	16.8%
2.3.1	Volume of production per labour unit by classes of farming / pastoral / forestry enterprise size	1.5%	1.5%
2.3.2	Average income of small-scale food producers, by sex and indigenous status	2.6%	2.6%
2.4.1*	Proportion of agricultural area under productive and sustainable agriculture	0.0%	0.0%
2.5.1.a	Number of plant genetic resources for food and agriculture secured in medium or long term conservation facilities	50.5%* (with reference period 2010–2019)	9.2%
2.5.1.b	Number of animal genetic resources for food and agriculture secured in medium or long term conservation facilities	8.7%	-16.8%
2.5.2	Proportion of local breeds classified as being at risk of extinction	39.3%	5.6%
2.a.1	The agriculture orientation index for government expenditures	58.2%* (53% with reference year to 2017)	2.0%
2.c.1	Indicator of (food) price anomalies	78.1%	67.3%
5.a.1	(a) Percentage of people with ownership or secure rights over agricultural land (out of total agricultural population), by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure	3.0%	3.0%
5.a.2	Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control	8.0%	8.0%
6.4.1	Change in water use efficiency over time	26.0%* (with reference period 2008–2017)	26.0%
6.4.2	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	64.3%	34.7%
12.3.1	Food Loss Index	0.0%	0.0%
14.4.1	Proportion of fish stocks within biologically sustainable levels	Not applicable	Not applicable
14.6.1	Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing	56.0%	56.0%
14.7.1	Sustainable fisheries as a percentage of GDP in Small Island Developing States, Least Developed Countries and all countries	54.1%* (with reference period 2011–2019)	54.1%
14.b.1	Progress by countries in the degree of application of a legal / regulatory / policy / institutional framework which recognizes and protects access rights for small-scale fisheries	61.1%	61.1%
15.1.1	Forest area as a percentage of total land area	100.0%	0.0%
15.2.1*	Progress towards sustainable forest management	69.2%	-2.0%
15.4.2	Mountain Green Cover Index	100.0%	6.9%

# 2020 SDG reporting rate by region and its progress\* in compared with 2017 reporting rate

- Central Asia and Southern Asia
- North America and Europe
- Eastern Asia and South-eastern Asia
- Oceania
- Latin America and the Caribbean
- Western Asia and Northern Africa
- Sub-Saharan Africa

\*X-axis (Reporting Rate (%) Change [absolute, 2017-2020]) indicates the change of the absolute percentage from reporting rate of 2017, which has 2012-2016 as time reference to reporting rate of 2020, which has 2015-2019 as time reference.





## SDG INDICATOR 2.1.1

# PREVALENCE OF UNDERNOURISHMENT (POU)

2 ZERO HUNGER



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.

Global Reporting Rate 2020 [reference period 2015–2019]: 82.1 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 2.1.1.





## APPROVAL PROCESS

The Interagency and Expert Group on SDG indicators (IAEG-SDG) included the Prevalence of Undernourishment (PoU) in the SDG framework immediately as a Tier I indicator at its 2nd session (October 2015) given that the indicator was already being used as an official Millennium Development Goal (MDG) indicator, during the period 2000-2015, to track progress toward MDG target 1C “reducing the proportion of people suffering from hunger by half between 1990 and 2015.”

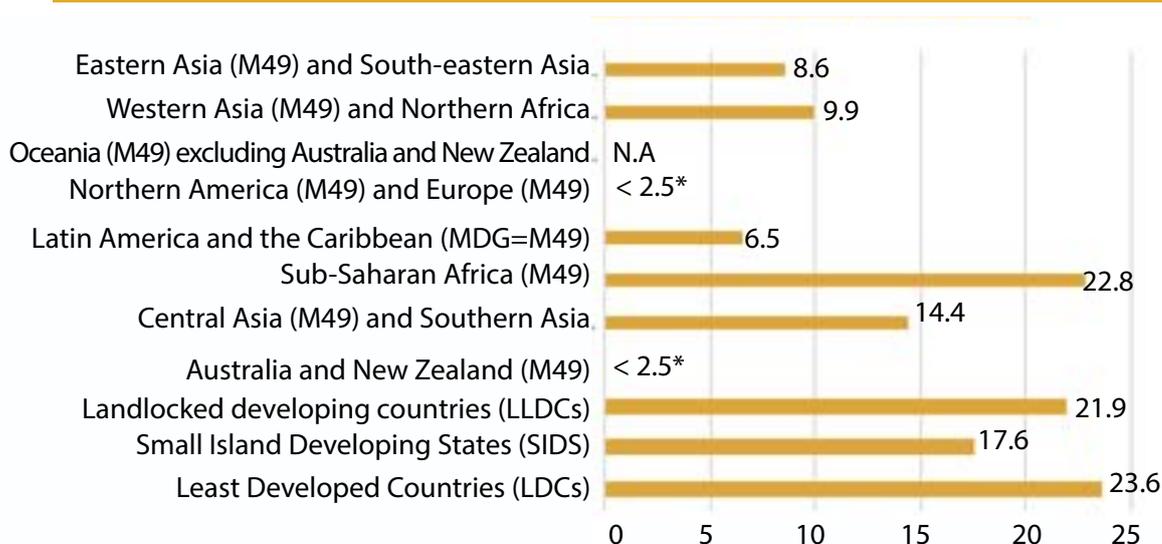
## DEFINITION

The “Prevalence of Undernourishment (PoU)” is an estimate of the proportion of the population whose habitual food consumption is insufficient to provide the dietary energy levels that are required to maintain a normal active and healthy life. It is FAO’s traditional indicator used to monitor hunger.

## METHODOLOGY

Based on a model that determines the probability that a randomly selected individual in a population regularly consumes a quantity of food that is insufficient to meet his/her normal energy requirements. Due to the probabilistic nature of the inference and the margins of uncertainty associated with estimates of each of the parameters in the model, the theoretical margins of error (MoE) for PoU would very likely exceed plus or minus 2.5 percent in most cases. For this reason, FAO does not publish national level PoU estimates when they are lower than 2.5 percent.

Figure 1: Prevalence of Undernourishment (percent) across regions (2018)



Note: < 2.5\* = proportion of undernourishment less than 2.5 percent. See above explanation.

Source: FAO. (All the figures and tables in this document are from FAO sources).

Figure 2: SDG indicator 2.1.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

- Average dietary energy consumption (DEC) per capita per day – Food Balance Sheets or dietary intake survey data (both with limitations, leading to the indicator traditionally being reported as a three-year average).
- Coefficient of variation (CV) of dietary energy consumption – household income-expenditure surveys (HIES).
- Skewness of dietary energy consumption (SK) – household income-expenditure surveys (HIES).
- Minimum dietary energy requirement (MDER) per day – demographic data, UN Population Division's World Population Prospects data (age, sex, height).

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Prevalent use of similar but methodologically different national indicators (e.g. Food Poverty Ratio, proportion of population consuming less than the average recommended dietary intake).
- Due to high cost of individual dietary intake surveys, typically rely on less-than-ideal data sources: food consumption data from household income and expenditure surveys (not specifically designed to collect this type of information) and Food Balance Sheets (providing estimates of national food availability, used as a very rough proxy for average dietary energy consumption, prone to measurement errors).

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting officials in the National Statistical Office in compiling the indicator from different data sources and improving existing data sources for more accurate and regular estimates.
- Printed guidelines on improving the collection of food consumption data in household surveys (<http://www.fao.org/3/a-i4690e.pdf>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-01-01.pdf>).
- E-Learning course (in English and soon available in French and Spanish) (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.1.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/211/en/>

FAO. FAO capacity development programmes and services for statistics [online]. Rome. <http://www.fao.org/statistics/statistical-capacity-development/en/>

FAO. 2014. Refinements to the FAO Methodology for estimating the Prevalence of Undernourishment Indicator (also available at: <http://www.fao.org/3/a-i4046e.pdf>)

FAO. 2020. Voices of the Hungry [online]. Rome. <http://www.fao.org/in-action/voices-of-the-hungry/en/#.WS67kut97cs>

FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns*. Rome, FAO (also available at: <http://www.fao.org/3/ca5162en/ca5162en.pdf>).



## SDG INDICATOR 2.1.2

# PREVALENCE OF MODERATE OR SEVERE FOOD INSECURITY, BASED ON THE FOOD INSECURITY EXPERIENCE SCALE (FIES)

2 ZERO HUNGER



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.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 2.1.2.





## APPROVAL PROCESS

The indicator was included in the SDG indicator framework directly as a Tier II indicator by the Interagency and Expert Group on SDG indicators (IAEG-SDG) at its 2nd session (October 2015). The IAEG-SDG approved the indicator methodology acknowledging FAO's work to develop a global standard since 2013, based on a sound methodology, four pilot country tests, and a global data collection process established through an external service provider.

## DEFINITION

The indicator measures the percentage of individuals in the population who have experienced food insecurity (constrained access to food due to lack of money or other resources) at moderate or severe levels during the reference period.

## METHODOLOGY

Based on an eight-question module, responses to which are analysed using Item Response Theory (the Rasch model) to obtain cross-country comparable, proper measures of the severity of food insecurity of households or individuals, treated as a "latent" trait (i.e., it cannot be observed directly, but its magnitude can be inferred from observable facts.)

Figure 3: Food insecurity has risen in almost all regions

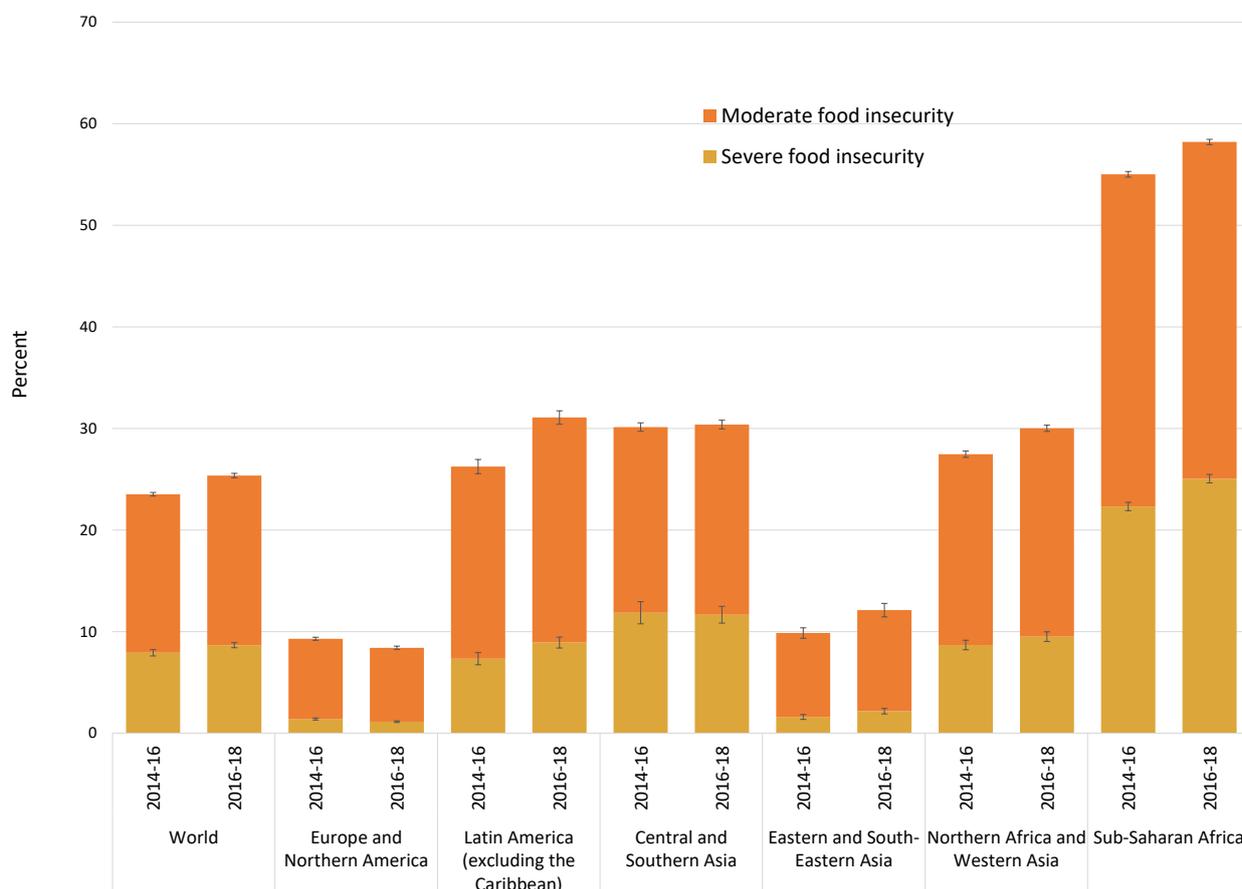
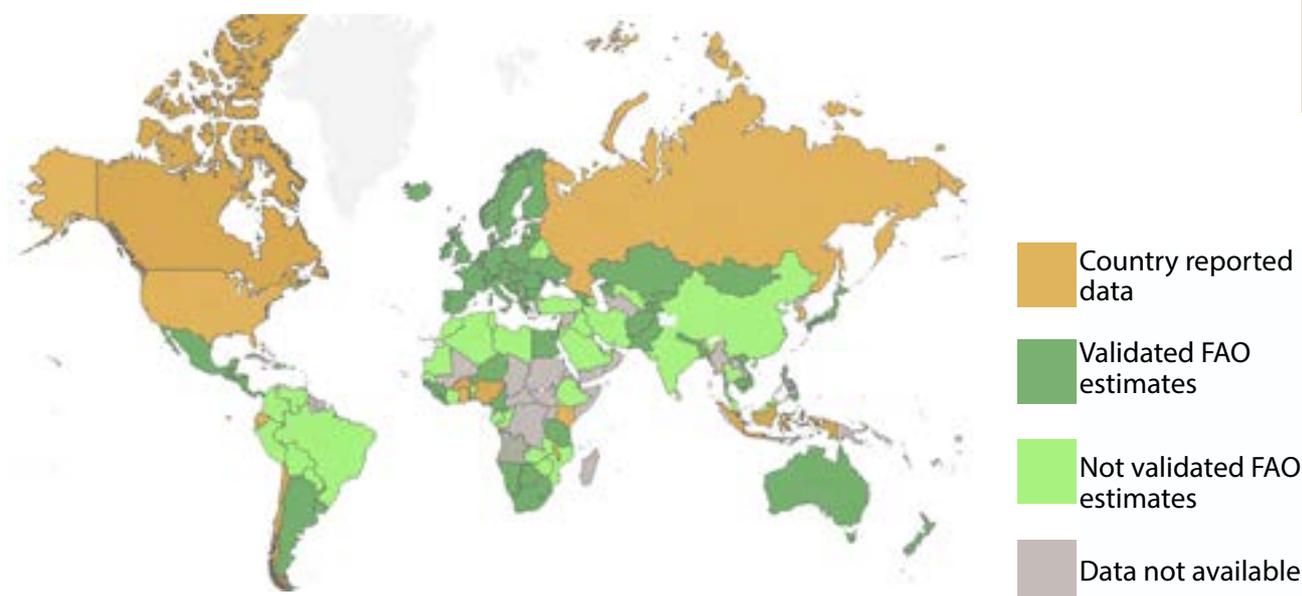


Figure 4: SDG indicator 2.1.2 reporting rate (2015–2019) = 45.9 percent



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

An eight-question module (available in 200 languages) needs to be incorporated in a suitable large-scale national population survey. To fill the gap until countries are collecting their own FIES data, FAO has included this module in the Gallup World Poll since 2014 and collected data for about 150 countries. In 2019, 92 of these countries authorized FAO to publish the indicator compiled based on this non-official data.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Need to provide technical and capacity development support for the correct analysis of the FIES data using the Rasch model.
- The eight-question module, though translated into 200 languages, may require further linguistic and cultural adaptation in certain contexts.
- Country reluctance to use the new indicator, which also captures “moderate” food insecurity and may therefore give the impression that the problem is larger than what traditional indicators focusing on hunger or malnutrition suggest.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops helping National Statistical Offices to include the eight-question module in a national population survey and to analyze the results.
- Custom R package for the analysis of FIES data (<http://www.fao.org/in-action/voices-of-the-hungry/using-fies/en/>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-01-02.pdf>).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.1.2 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/212/en/>

FAO. Capacity development programmes and services for statistics [online]. Rome. <http://www.fao.org/statistics/statistical-capacity-development/en/>

FAO. The Food Insecurity Experience Scale (FIES) [online]. Rome. <http://www.fao.org/in-action/voices-of-the-hungry/fies/en/>

FAO. Voices of the Hungry [online]. Rome. <http://www.fao.org/in-action/voices-of-the-hungry/en/#.WS67kut97cs>

FAO. Resources for applying the FIES survey module and analyzing the data [online]. Rome. <http://www.fao.org/in-action/voices-of-the-hungry/using-fies/en/>

FAO. Food and Agriculture Microdata (FAM) Catalogue [online]. Rome. <http://www.fao.org/food-agriculture-microdata/en/>

FAO, IFAD, UNICEF, WFP and WHO. 2019. *The State of Food Security and Nutrition in the World 2019. Safeguarding against economic slowdowns and downturns*. Rome, FAO (also available at: <http://www.fao.org/3/ca5162en/ca5162en.pdf>).



## SDG INDICATOR 2.3.1

# PRODUCTIVITY OF SMALL-SCALE FOOD PRODUCERS

2 ZERO  
HUNGER



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 1.5 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 2.3.1.





## APPROVAL PROCESS

The proposed international operational definition of small-scale food producers was approved by the Interagency and Expert Group on SDG indicators (IAEG-SDG) in November 2018. This followed a consultation of the Interagency and Expert Group on Agricultural Statistics (IAEG-AG) and a global electronic consultation, during which feedback was received from 58 national and regional institutions. FAO presented the proposed international definition to the UN Statistical Commission in March 2018, after which it was further refined by an informal group of countries led by Canada, under the auspices of the IAEG-SDG. The group agreed to introduce a cap on the total revenues criterion for small-scale food producers at PPP USD 34 387 and to leave the identification of “food producers” in general to the discretion of each country.

## DEFINITION

“Small-scale food producers”: Producers that fall in the bottom 40 percent of the distribution of land size and livestock heads and total revenues (with a total revenue cap of PPP USD 34 387). Revenues only consider on-farm income.

## METHODOLOGY

Productivity is based on the Manual for Measuring Productivity published by the Organization for Economic Co-operation and Development (OECD) in 2001 and is calculated as the value of agricultural output (in PPP USD) divided by labour input (in annual number of working days). Agricultural output is calculated as the physical volume of agricultural product sold by the small-scale food producer multiplied by the constant sale price received during same year.

Figure 5: Agricultural output per labour day, PPP (constant 2011 international USD)

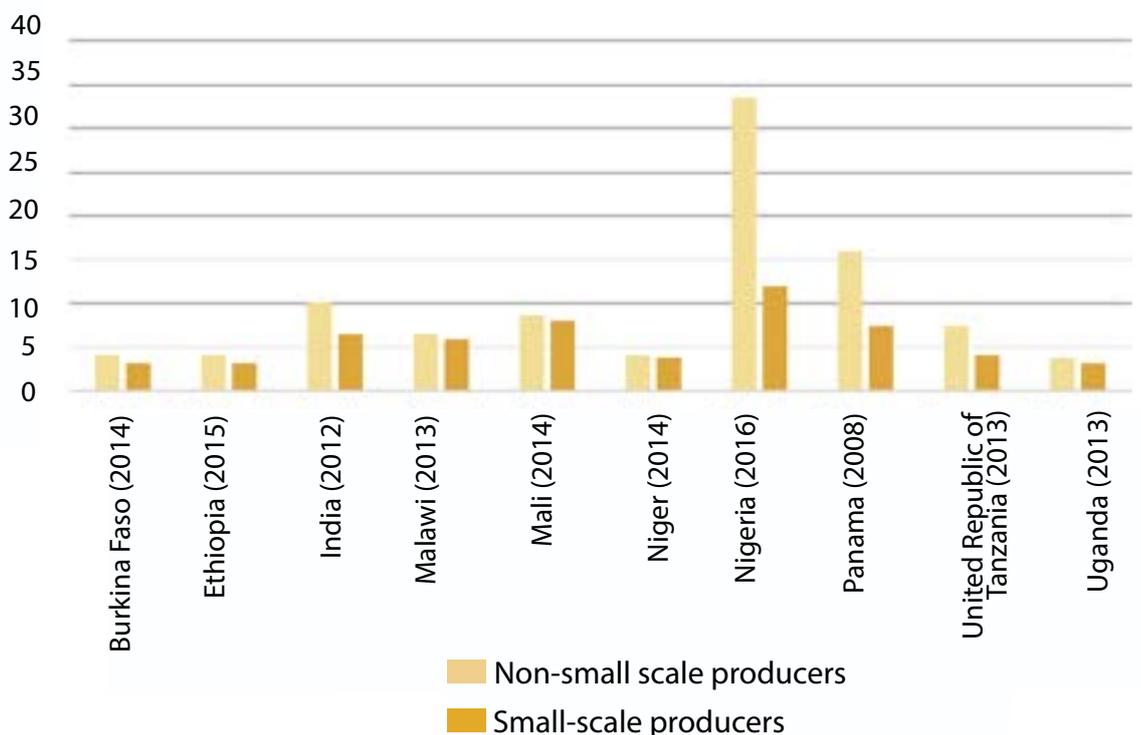


Figure 6: SDG indicator 2.3.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Agricultural Surveys collecting data at farm level (e.g. the AGRISurvey project of FAO), Household surveys integrated with a module on agricultural activities (e.g. World Bank's Living Standards Measurement Study - Integrated Surveys on Agriculture (LSMS-ISA) and similar surveys); integrated surveys proposed by the "50 by 2030" Initiative on Data to End Hunger. Administrative data sources, such as farmers' registries, combined with other data sources.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Most countries do not collect all the required data in a single survey, as it is required, given the need to compute the indicator with reference to same population of small-scale producers. Some information (especially on labour input) tends to be collected in separate surveys.
- Countries face difficulties in adjusting existing data collection tools (especially agricultural surveys) to fit the purpose.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops to support national statistical officers in computing the indicator from existing available data and upgrading existing farm surveys for collecting the necessary data items (linked to FAO's AGRIS project for helping countries establish a regular cycle of farm surveys).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-03-01.pdf>) and Methodology for Computing and Monitoring the Sustainable Development Goal Indicators 2.3.1 and 2.3.2 (<http://www.fao.org/3/ca3043en/ca3043en.pdf>).
- E-Learning course (in English and soon available in French and Spanish) (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.3.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/231/en/>

FAO. Capacity development programmes and services for statistics [online]. Rome. <http://www.fao.org/statistics/statistical-capacity-development/en/>

FAO. RuLIS – Rural Livelihoods Information System [online]. Rome. <http://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/>

FAO. The Agricultural Integrated Surveys Programme AGRISurvey [online]. Rome. <http://www.fao.org/3/ca1459en/CA1459EN.pdf>

FAO. 2015. *The economic lives of smallholder farmers*. Rome (also available at: <http://www.fao.org/3/a-i5251e.pdf>)



## SDG INDICATOR 2.3.2

# INCOMES OF SMALL-SCALE FOOD PRODUCERS

2 ZERO HUNGER



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 2.6 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 2.3.2.





## APPROVAL PROCESS

The proposed international operational definition of small-scale food producers was approved by the Interagency and Expert Group on SDG indicators (IAEG-SDG) in November 2018. This followed a consultation of the Interagency and Expert Group on Agricultural Statistics (IAEG-AG) and a global electronic consultation, during which feedback was received from 58 national and regional institutions. FAO presented the proposed international definition to the UN Statistical Commission in March 2018, after which it was further refined by an informal group of countries led by Canada, under the auspices of the IAEG-SDG. The group agreed to introduce a cap on the total revenues criterion for small-scale food producers at PPP USD 34,387 and to leave the identification of “food producers” in general to the discretion of each country.

## DEFINITION

“Small-scale food producers”: producers that fall in the bottom 40 percent of the distribution of land size and livestock heads and total revenues (with a total revenue cap of PPP USD 34 387). Revenues only consider on-farm income.

## METHODOLOGY

The measure of income derived from agricultural activities is based on the resolution adopted by the 17th International Conference of Labour Statisticians (ICLS). It is calculated as the gross on-farm income of the agricultural holding, defined as the operating surplus (i.e. revenues minus operating costs) and expressed in constant PPP USD.

Figure 7: Average annual income from agriculture, PPP (constant 2011 international USD)

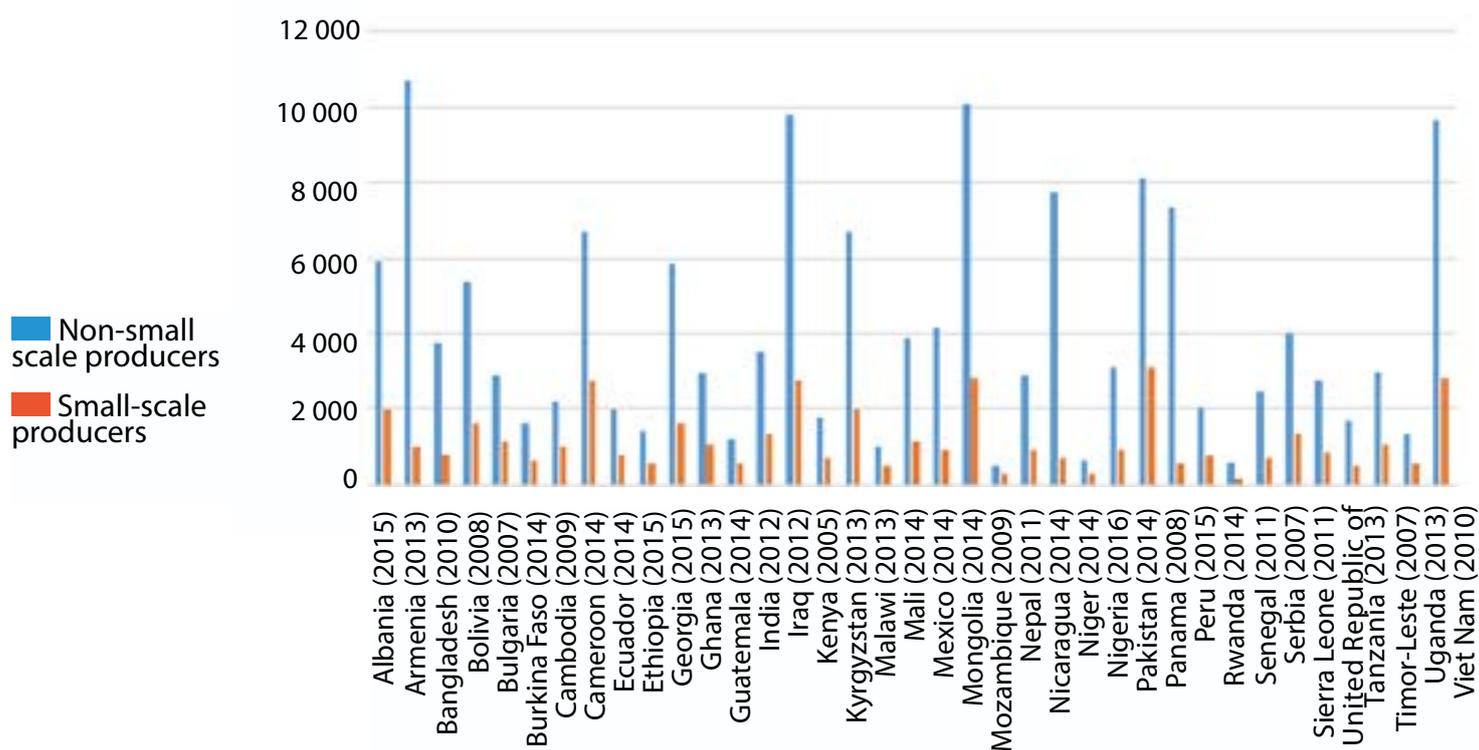


Figure 8: SDG indicator 2.3.2 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Agricultural Surveys collecting data at farm level (e.g. the AGRISurvey project of FAO), Household surveys integrated with a module on agricultural activities (e.g. World Bank's Living Standards Measurement Study - Integrated Surveys on Agriculture (LSMS-ISA) and similar surveys); integrated surveys proposed by the 50 by 2030 Initiative on Data to End Hunger. Administrative data sources, such as farmers' registries, combined with other data sources.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Most countries do not collect all the required data in a single survey, as it is required, given the need to compute the indicator with reference to same population of small-scale producers. Some information tends to be collected in separate surveys.
- Existing data collection tools (especially agricultural surveys) have not been adjusted to fit the purpose.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops to support national statistical officers in computing the indicator from existing available data and upgrading existing farm surveys for collecting the necessary data items (linked to FAO's AGRIS project for helping countries establish a regular cycle of farm surveys).
- E-Learning course (in English and soon in French and Spanish) (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.3.2 <http://www.fao.org/sustainable-development-goals/indicators/232/en/>

FAO capacity development programmes and services for statistics [Agricultural Integrated Surveys Programme (AGRISurvey)] <http://www.fao.org/statistics/statistical-capacity-development/en/>

RuLIS – Rural Livelihoods Information System <http://www.fao.org/in-action/rural-livelihoods-dataset-rulis/en/>

The Agricultural Integrated Surveys Programme AGRISurvey <http://www.fao.org/3/ca1459en/CA1459EN.pdf>

FAO. 2015. *The economic lives of smallholder farmers*. Rome (also available at: <http://www.fao.org/3/a-i5251e.pdf>)



## SDG INDICATOR 2.4.1

# PROPORTION OF AGRICULTURAL AREA UNDER PRODUCTIVE AND SUSTAINABLE AGRICULTURE

2 ZERO HUNGER



### Target 2.4:

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

Global Reporting Rate 2020 [reference period 2015–2019]: 0.0 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 2.4.1.





**TABLE 1: SDG INDICATOR 2.4.1 APPROVAL PROCESS**

Year	Month	Main milestones in the process of methodological development
2015	October	2nd meeting of IAEG-SDG: Various interpretations on the definition of sustainable agriculture and how to measure it
2016	March	The 46th session of the United Nations Statistical Commission endorses FAO's proposal on SDG 2.4.1
	Mar-Dec	Literature review: building on existing frameworks
	December	Technical expert meeting (FAO) – First draft methodology
2017	February	First proposal submitted to the Global Strategy-Scientific Advisory Committee (GS-SAC) – Refining the methodology
	April	Multi-stakeholder Expert Group Meeting at FAO: Drafting detailed methodology
2017	Oct-Jan	Desk piloting in selected countries
	October	International consultation with national statistical offices
	November	6th meeting of IAEG-SDG. Request finalizing country pilot
2018	Jan-May	Preparation of revised methodology
	May	Webinar with IAEG-SDG members
2018	May-Oct	Country testing for methodology and farm survey questionnaire
	October	Presented to FAO Committee on Agriculture (COAG)
	November	Reclassified as Tier II at the 8th meeting of IAEG-SDG
2019	Jan-Oct	Refinements in biodiversity sub-indicator carried out with informal group of countries – Revised proposal submitted to the IAEG-SDG in October for endorsement within 2020 Review Process, where it was accepted

**TABLE 2: SDG INDICATOR 2.4.1 METHODOLOGY**

Calculated as the area under productive and sustainable agriculture (assessed based on 11 sub-indicators covering the economic, social and environmental dimensions) divided by the total agricultural land area (according to the World Census for Agriculture definition).

Dimensions	No.	Theme	Sub-indicators
Economic	1	Land productivity	Farm output value per hectare
	2	Profitability	Net farm income
	3	Resilience	Risk mitigation mechanisms
Environmental	4	Soil health	Prevalence of soil degradation
	5	Water use	Variation in water availability
	6	Fertilizer pollution risk	Management of fertilizers
	7	Pesticide risk	Management of pesticides
Social	8	Biodiversity	Use of biodiversity-supportive practices
	9	Decent employment	Wage rate in agriculture
	10	Food security	Food insecurity experience scale (FIES)
	11	Land tenure	Secure tenure rights to land

Figure 9: SDG indicator 2.4.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Preferred instrument is a farm survey that should include the minimum set of questions needed to assess 2.4.1 (FAO has prepared a survey Questionnaire). Aligned with efforts supported by FAO to develop farm surveys as the most relevant instrument for agricultural data (see AGRISurvey programme and 50x2030 initiative).

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Most countries are not collecting the required data.
- Existing data collection tools and sampling frames have not been adjusted to fit the purpose.
- Ideally, all data required should come from the same data collection instrument.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance and training workshops and remote support for National Statistical Offices to help countries adopt the AGRISurvey programme or to introduce the simplified standalone questionnaire in their existing farm surveys.
- Toolkit of Guidance Documents (<https://www.fao.org/sustainable-development-goals/indicators/241/en/>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-04-01.pdf>) and Methodological note for SDG Indicator 2.4.1 (<http://www.fao.org/3/ca7154en/ca7154en.pdf>).
- E-Learning course (in English and soon in Spanish and French) (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.4.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/241/en/>

FAO. Sustainable Food and Agriculture [online]. Rome. <http://www.fao.org/sustainability/en/>

FAO. Survey Module Questionnaire [online]. Rome. <http://www.fao.org/3/ca7399en/ca7399en.pdf>

FAO. SDG 2.4.1 Data Collection process [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. The Agricultural Integrated Survey (AGRIS) [online]. Rome. <http://www.fao.org/3/ca1459en/CA1459EN.pdf>



## SDG INDICATOR 2.5.1.a

# PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

2 ZERO  
HUNGER



### 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.

### Indicator 2.5.1.a:

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

Global Reporting Rate 2020 [reference period 2015–2019]: 50.5 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 2.5.1.a.





## APPROVAL PROCESS

The indicator as a whole was approved in November 2016 following a presentation of the methodology by FAO to the 4th session of the Interagency and Expert Group on SDG indicators (IAEG-SDG). The sub-indicator on plant genetic resources pre-existed the SDG framework and was already used as an Aichi Targets indicator as well as an indicator to monitor progress towards FAO's Second Global Plan of Action for Plant Genetic Resources for Food and Agriculture (2011).

## DEFINITION

"Accession": A sample of seeds, planting materials or plants which is conserved in a gene bank.

## METHODOLOGY

This sub-indicator is calculated as the total number of unique accessions of plant genetic resources, with actual or potential value for food and agriculture, secured in medium to long-term conservation facilities.

Figure 10: Number of accessions of plant genetic resources secured in conservation facilities under medium or long-term conditions (2000–2018)

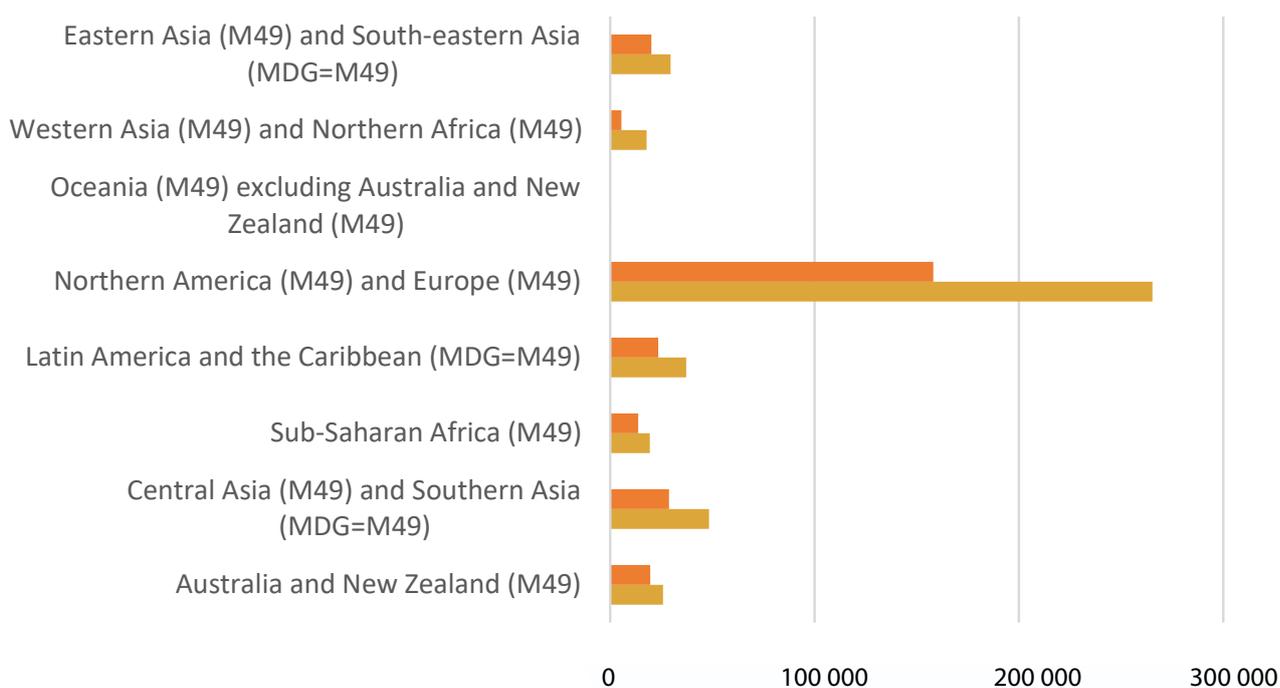


Figure 11: SDG indicator 2.5.1.a reporting rate (2010–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Accessions' listing reported by officially nominated National Focal Points to FAO's World Information and Early Warning System for plant genetic resources (WIEWS) database.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Many countries have not yet identified a national focal point for plant genetic resources.
- Even when a national focal point has been identified in the past, there are many cases where the person has changed position or retired, and replacement not communicated to FAO.
- Documentation of plant genetic resources is poorly standardized within and across national repositories.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting senior Ministry of Agriculture officials, genebank managers and cryoconservation experts.
- Guidelines for Developing a National Strategy for Plant Genetic Resources for Food and Agriculture (<http://www.fao.org/3/a-i4917e.pdf>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-05-01.pdf>).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.5.1.a [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/251a/en/>

FAO. WIEWS. World Information and Early Warning System on Plant Genetic Resources for Food and Agriculture [online]. Rome. <http://www.fao.org/wiews/data/ex-situ-sdg-251/overview/en>

FAO. CGRFA. Commission on Genetic Resources for Food and Agriculture [online]. Rome. <http://www.fao.org/nr/cgrfa/cgrfa-home/en/>

FAO. 2019. *The State of the World's Biodiversity for Food and Agriculture*, J. Bélanger & D. Pilling (eds.). FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome. 572 pp. (also available at: <http://www.fao.org/3/CA3129EN/CA3129EN.pdf>)



## SDG INDICATOR 2.5.1.b

# ANIMAL GENETIC RESOURCES FOR FOOD AND AGRICULTURE

2 ZERO  
HUNGER



### 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.

### Indicator 2.5.1.b:

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

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 2.5.1.b.





## APPROVAL PROCESS

The indicator as a whole was approved in November 2016 following a presentation of the proposed methodology by FAO to the 4th session of the Interagency and Expert Group on SDG indicators (IAEG-SDG). The sub-indicator on animal genetic resources pre-existed the SDG framework and was already used as an Aichi Targets indicator as well as an indicator to monitor progress towards FAO's 2007 Global Plan of Action for Animal Genetic Resources for Food and Agriculture.

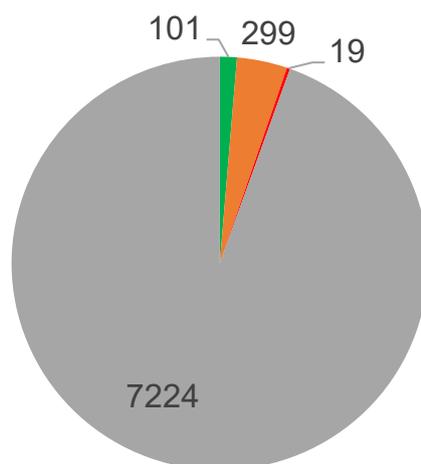
## DEFINITIONS

A local breed of a country consists of the mammalian and avian livestock belonging to a specific breed that is found only in the respective country. Populations with sufficient material stored means local breed populations with enough genetic material stored to reconstitute the breed in case of extinction.

## METHODOLOGY

This sub-indicator is calculated as the number of local breeds stored within a genebank collection with an amount of genetic material stored which is required to reconstitute the breed.

Figure 12: Number of local livestock breeds with material secured in medium- or long-term conservation facilities



- Breeds with sufficient material
- Breeds with some material
- Breeds with no material
- Breeds with no information

Figure 13: SDG indicator 2.5.1.b reporting rate (2015–2019) = 8.7 percent



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Local breed genetic material information reported by officially nominated National Focal Points to FAO's Domestic Animal Diversity Information System (DAD-IS).

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- When a national focal point has been identified in the past, there are many cases where the person has changed position or retired, and the replacement is not communicated to FAO.
- National Focal Points still lack awareness of their responsibility for reporting.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting senior Ministry of Agriculture officials, genebank managers, cryoconservation experts and livestock statisticians.
- Guidelines on surveying and monitoring the cryoconservation of animal genetic resources (<http://www.fao.org/3/ba0055e/ba0055e00.pdf>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-05-01.pdf>).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/index.php?categoryid=84>).



## REFERENCES

FAO. SDG Indicator 2.5.1.b [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/251b/en/>

FAO. DAD-IS Domestic Animal Diversity Information System [online]. Rome. <http://www.fao.org/dad-is/en/>

FAO. SDG 2.5.1.b and 2.5.2 Data Collection process [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. CGRFA. Commission on Genetic Resources for Food and Agriculture [online]. Rome. <http://www.fao.org/nr/cgrfa/cgrfa-home/en/>

FAO. 2019. *The State of the World's Biodiversity for Food and Agriculture*, J. Bélanger & D. Pilling (eds.). FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome. 572 pp. (also available at: <http://www.fao.org/3/CA3129EN/CA3129EN.pdf>)



## SDG INDICATOR 2.5.2

# PROPORTION OF LOCAL BREEDS CLASSIFIED AS BEING AT RISK OF EXTINCTION

2 ZERO HUNGER



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 39.3 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 2.5.2.





## APPROVAL PROCESS

The indicator as a whole was approved in March 2016 following a presentation of the proposed methodology by FAO to the Interagency and Expert Group on SDG indicators (IAEG-SDG). The sub-indicator on animal genetic resources pre-existed the SDG framework and was already used as an Aichi Targets indicator as well as an indicator to monitor progress towards FAO's 2007 Global Plan of Action for Animal Genetic Resources for Food and Agriculture.

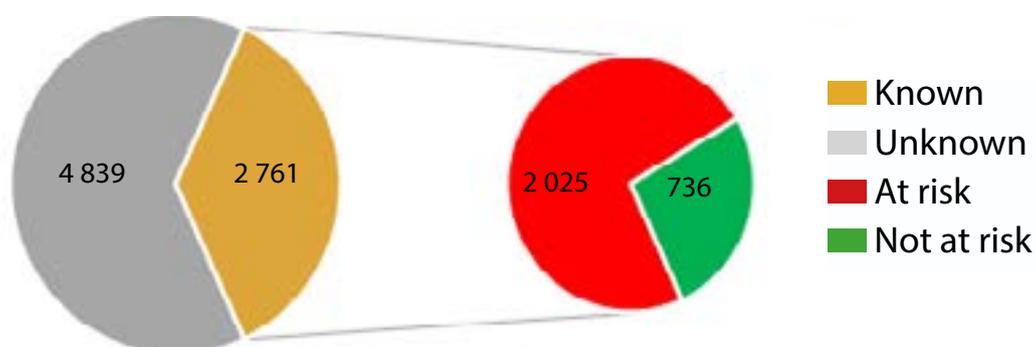
## DEFINITION

A local breed of a country consists of mammalian and avian livestock belonging to a specific breed that is found only in the respective country.

## METHODOLOGY

Measures the percentage of livestock local breeds (i.e. breeds occurring in only one country) classified as being at risk of extinction at a certain moment in time. The risk of extinction is calculated based on a number of parameters, but primarily to the number of animals belonging to a breed: the lower the number the higher the risk.

Figure 14: 73 percent of the local breeds around the world with known risk status are at risk of extinction



Risk status of local livestock breeds

Figure 15: SDG indicator 2.5.2 reporting rate (2010–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Livestock population surveys or censuses at breed level; complementary data from breeders associations.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- When a national focal point has been identified in the past, there are many cases where the person has changed position or retired, and replacement not communicated to FAO.
- Many countries do not regularly conduct livestock censuses at breed level due to the elevated costs associated.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting senior Ministry of Agriculture officials, animal genetic resource experts and livestock statisticians, particularly to support countries in undertaking livestock population surveys or censuses at breed level.
- Guidelines on surveying and monitoring the in vivo conservation of animal genetic resources (SDG indicator 2.5.2) (<http://www.fao.org/3/a-i3327e.pdf>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-05-02.pdf>).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/view.php?id=392>).



## REFERENCES

FAO. SDG Indicator 2.5.2 [online]. Rome. <https://www.fao.org/sustainable-development-goals/indicators/252/en/>

FAO. DAD-IS Domestic Animal Diversity Information System [online]. Rome. <http://www.fao.org/dad-is/en/>

FAO. SDG 2.5.1.b and 2.5.2 Data Collection process [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. CGRFA. Commission on Genetic Resources for Food and Agriculture [online]. Rome. <http://www.fao.org/nr/cgrfa/cgrfa-home/en/>

FAO. 2015. *The Second Global Assessment of Animal Genetic Resources*. Rome (also available at: <http://www.fao.org/3/a-i4787e.pdf>)

FAO. 2019. *The State of the World's Biodiversity for Food and Agriculture*, J. Bélanger & D. Pilling (eds.). FAO Commission on Genetic Resources for Food and Agriculture Assessments. Rome (also available at: <http://www.fao.org/3/CA3129EN/CA3129EN.pdf>)



## SDG INDICATOR 2.a.1

# AGRICULTURE ORIENTATION INDEX FOR GOVERNMENT EXPENDITURES

2 ZERO  
HUNGER



### 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.

Global Reporting Rate: 53 percent (with reference year to 2017).

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 2.a.1.





## APPROVAL PROCESS

The indicator was approved by the Interagency and Expert Group on SDG indicators (IAEG-SDG) at its 2nd session (October 2015). It pre-existed the SDG framework and consists of a simple ratio between two variables that are both based on long-standing international standards.

## DEFINITION

The Agriculture Orientation Index (AOI) for Government Expenditures is defined as the Agriculture Share of Government Expenditures (according to the Classification of the Functions of Government [COFOG]), divided by the Agriculture value added share of Gross Domestic Product (GDP), where Agriculture refers to the agriculture, forestry, fishing and hunting sector according to the International Standard Industrial Classification of All Economic Activities (ISIC 4).

## METHODOLOGY

Formula: Agriculture share of central government expenditure/Agriculture value added share of GDP.

Figure 16: The Agricultural Orientation Index, by SDG region

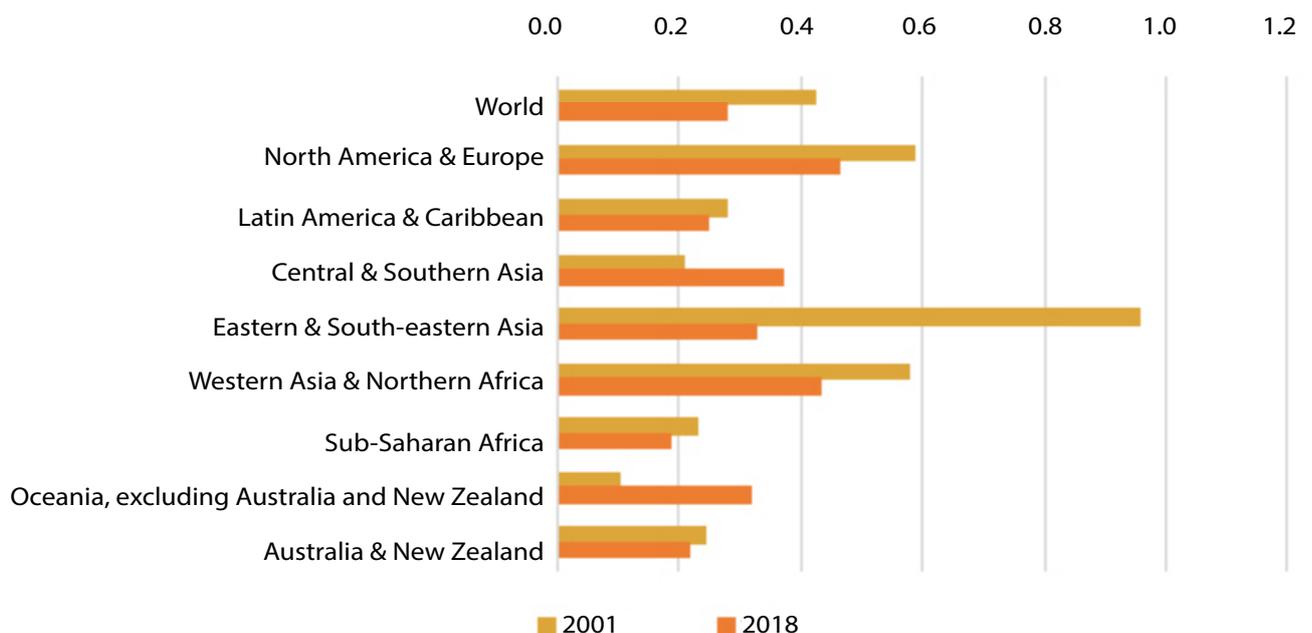


Figure 17: SDG indicator 2.a.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Agriculture Share of Government Expenditures is based on FAO's annual Government Expenditures in Agriculture (GEA) questionnaire. Comparable data can also be derived from International Monetary Fund (IMF) questionnaire on Government Finance Statistics (GFS) Expenditures database.

The agriculture value added share of GDP is collected from countries by the United Nations Statistical Division (UNSD) based on the System of National Accounts (SNA).

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Due to insufficient coordination across levels of government required to obtain detailed and timely expenditures data, most countries are not able to report on agriculture expenditures at provincial and municipal government level, leading to the indicator currently being calculated only based on central government level.
- Countries face difficulties in tracking agriculture expenditures across ministries, as these may involve not only the Ministry of Agriculture but several other Ministries as well.
- Inconsistency of classifications against COFOG, leading to different expenditure classifications between countries and within countries.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting government expenditure experts in Ministries of Finance, Agriculture, National Statistical Office or the Central Bank.
- Updated Guidelines for responding to the FAO questionnaire on GEA (<http://www.fao.org/3/a-bs494e.pdf>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-0A-01.pdf>).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/view.php?id=361&lang=en>).



## REFERENCES

FAO. SDG Indicator 2.a.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/2a1/en/>

FAO. FAOSTAT - Government Expenditure in Agriculture [online]. Rome. <http://www.fao.org/faostat/en/#data/IG>

FAO. Government Expenditure on Agricultural and Related Categories Data Collection process [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>



## SDG INDICATOR 2.c.1

# INDICATOR OF FOOD PRICE ANOMALIES (IFPA)

2 ZERO HUNGER



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 78.1 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 2.c.1.





## APPROVAL PROCESS

The indicator was approved in March 2017 following a presentation of the proposed methodology by FAO to the 5th Interagency and Expert Group on SDG indicators (IAEG-SDG). The indicator's methodology had been developed by FAO in 2013 and validated by academia and international organizations, and tested as part of FAO's regular food commodity price monitoring activities for more than 1 400 market/commodity pairings across 93 countries.

## DEFINITION

Measures the number of "Price Anomalies" that occur on a given food commodity price series over a given period of time, where "Price Anomaly" is defined as a Compound Growth Rate (CGR) that is greater than the historic mean CGR by one standard deviation or more.

## METHODOLOGY

The indicator measures food price anomalies for five staple cereal commodities (maize, rice, wheat, sorghum and millet) as well as officially reported general food price indices (food CPI). However, the indicator itself can be used by countries to also monitor any other food commodity that they consider critical and/or at risk of high price volatility.

Figure 18: Proportion of countries affected by high or moderately high general food prices in the period 2012-17, by region

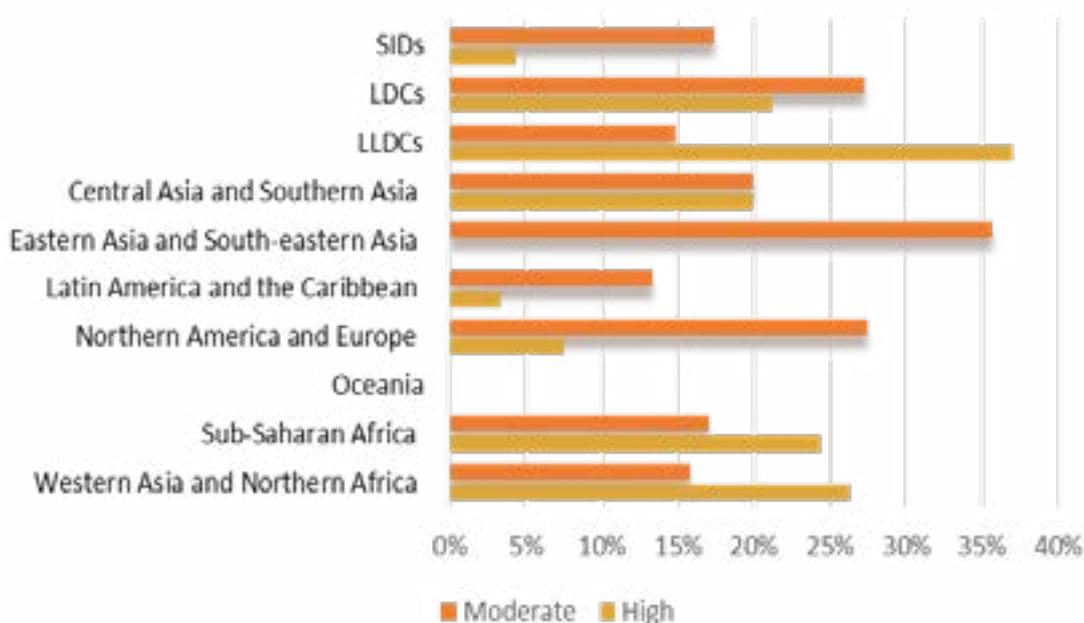


Figure 19: SDG indicator 2.c.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Commodity level price data are harvested from national market Information systems and national statistics agencies websites.

Food CPI data originates from the IMF, and UNSD for countries not covered by the IMF. The FAO Food CPI dataset consists of a complete and consistent set of time series from January 2000 onwards.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Difficulty to identify relevant, timely nationally representative official monthly food price series to allow calculation and reporting on a monthly basis.
- Calculation of the indicator requires an uninterrupted monthly price series of at least five years, which include the year being analyzed and the four preceding years to generate averages and standard deviations.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting official statisticians involved in monitoring food prices in the National Statistical Office and/or Ministry of Agriculture.
- Custom Excel sheet allowing countries to calculate the indicator themselves.
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-02-0C-01.pdf>).
- E-Learning course in English, French, Spanish and Russian (<https://elearning.fao.org/course/view.php?id=362&lang=en>).



## REFERENCES

FAO. SDG Indicator 2.c.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/2c1/en/>

FAO. GIEWS. Food Price Monitoring and Analysis Tool [online]. Rome. <http://www.fao.org/giews/food-prices/tool/public/#/home>

FAO. Food Price Monitoring and Analysis [online]. Rome. <http://www.fao.org/giews/food-prices/en/>

FAO. FAOSTAT – Consumer Price Indices [online]. Rome. <http://www.fao.org/faostat/en/#data/CP>

FAO. 2018. *The State of Agricultural Commodity Markets 2018. Agricultural trade, climate change and food security*. Rome. (also available at: <http://www.fao.org/3/I9542EN/i9542en.pdf>)



## SDG INDICATOR 5.a.1

# WOMEN'S OWNERSHIP OF AGRICULTURAL LAND

5 GENDER  
EQUALITY



### Target 5.a.1:

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.

### Indicator 5.a.1:

(a) Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; (b) Share of women among owners or rights-bearers of agricultural land, by type of tenure.

Global Reporting Rate 2020 [reference period 2015–2019]: 3.0 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 5.a.1.





## APPROVAL PROCESS

The indicator methodology was approved at the 5th Interagency and Expert Group on SDG indicators (IAEG-SDG) in March 2017, benefitting from the results of pilot tests in seven countries implemented by the Evidence and Data for Gender Equality (EDGE) project, a joint initiative of the United Nations Statistics Division and UN Women, in collaboration with the Asian Development Bank, FAO and the World Bank. The EDGE project produced a set of guidelines on asset ownership statistics from the gender perspective in December 2016, which underwent a broad consultation with National Statistical Offices between December 2016 and February 2017, and were hence welcomed by the UN Statistical Commission in March 2017.

## DEFINITION

“Agricultural population”: being engaged in agriculture as main or secondary job, over a long reference period (i.e., the past 12 months).

“Ownership or secure rights”: Reported ownership, documented ownership, right to sell, right to bequeath.

## METHODOLOGY

Part (a) measures the incidence of people with ownership or secure rights on agricultural land, disaggregated by sex, whereas part (b) focusses on the gender parity measuring the extent to which women are disadvantaged in ownership/ rights over agricultural land.

Figure 20: Share of women and men in the adult agricultural population with ownership or secure rights over agricultural land

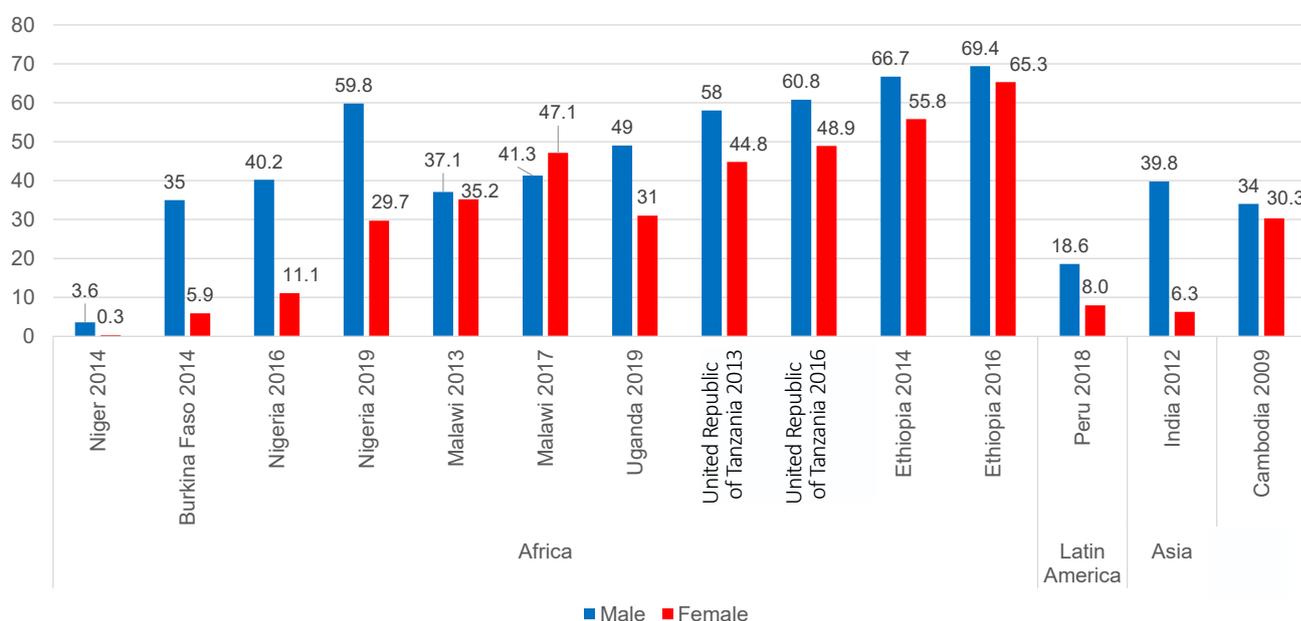


Figure 21: SDG indicator 5.a.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

The main data sources are either agricultural survey or national household survey (DHS, multiple indicator cluster surveys (MICS), LSMS, multipurpose, household budget survey, etc.). To produce the indicator, a module consisting of five questions should be incorporated in the survey.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Countries have not yet taken real ownership or are not yet keen to measure this indicator, despite the fact that it requires only a simple five-question module to be included in either an agricultural survey or national household survey.
- Countries may need to translate the module into a number of local languages and assess to what extent the questions could be culturally adapted to the local context without jeopardizing international comparability.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting decision-makers as well as technical experts.
- Joint data collection guidelines for SDG indicators 5.a.1 and 1.4.2 (FAO, UN-Habitat, and the World Bank) (<http://www.fao.org/3/ca4885en/CA4885EN.pdf>).
- [Metadata document \(https://unstats.un.org/sdgs/metadata/files/Metadata-05-0A-01.pdf\)](https://unstats.un.org/sdgs/metadata/files/Metadata-05-0A-01.pdf).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/view.php?id=363>).



## REFERENCES

FAO. SDG Indicator 5.a.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/5a1/en/>

FAO. Gender and Land Rights database [online]. Rome. <http://www.fao.org/gender-landrights-database/en/>

United Nations. The Evidence and Data for Gender Equality (EDGE) project [online]. <https://unstats.un.org/edge/>



## SDG INDICATOR 5.a.2

# WOMEN'S EQUAL RIGHTS TO AGRICULTURAL LAND

5 GENDER  
EQUALITY



### 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.

### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 8.0 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 5.a.2.





## APPROVAL PROCESS

This is a new indicator that was approved at the 6th Interagency and Expert Group on SDG indicators (IAEG-SDG) in November 2017, benefitting from the results of pilot tests in ten countries across different regions and legal systems, in which the relevant Ministry responsible for the indicator was involved. The methodology for Indicator 5.a.2 is consistent with relevant international instruments, primarily the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and related regional initiatives, as well as the Voluntary Guidelines on Responsible Governance of Tenure (VGGT). A minor methodological revision was approved in the context of the 2020 Comprehensive Review of the SDG indicator framework.

## DEFINITION

The indicator “measures” the level to which a country’s legal framework supports women’s land rights, by testing that framework against six proxies drawn from international law and internationally accepted good practices. Each country is scored based on the number of proxies found to be included in its legal framework:

1. mandatory joint registration, or economic incentives for joint registration of land;
2. spousal consent for land transactions;
3. equal rights to inherit for women and girls;
4. budgetary commitments to strengthen equal land rights for women;
5. where customary systems are in place, women’s land rights are protected;
6. mandatory quotas to increase the participation of women in land institutions.

Figure 22: Level of guarantees of women’s equal rights to land ownership and/or control in the national legal framework

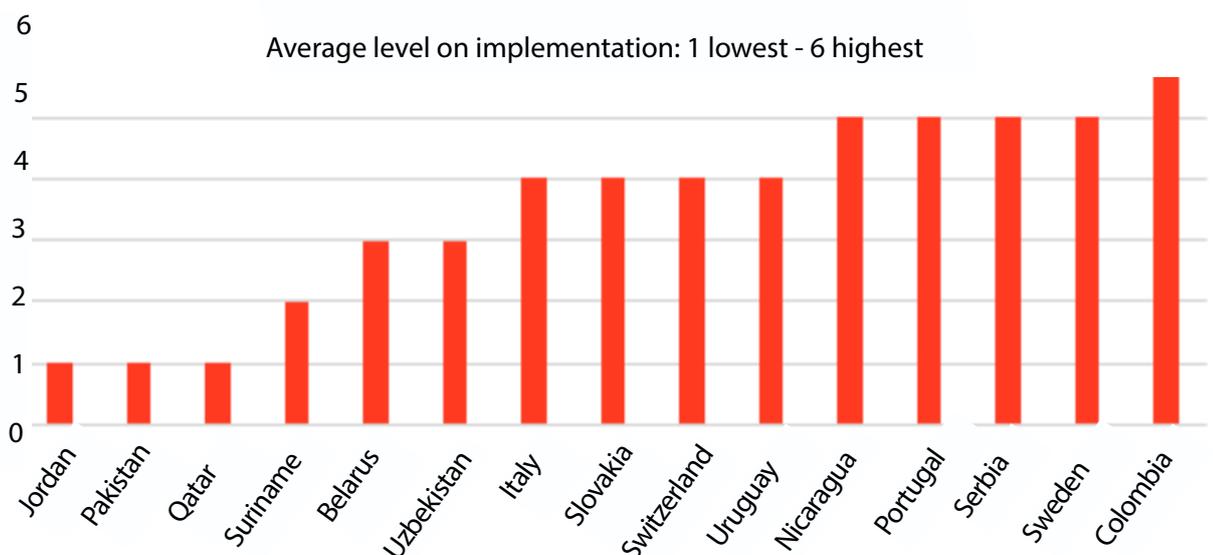


Figure 23: SDG indicator 5.a.2 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

A legal assessment of countries' relevant laws performed by an officially nominated national legal expert, following the methodological guidelines and using the questionnaire provided by FAO for this purpose.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Countries have not yet taken real ownership of this indicator. Only a few countries have identified a national institution and focal point that should oversee the necessary legal assessment of the national framework against the six proxy conditions. Of these, only an even smaller number of countries have carried out the assessment and reported to FAO.
- Engrained sensitivities and uncertainty in countries as to which Ministry should be responsible are added factors.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting decision-makers as well as technical experts.
- Detailed Guidelines on conducting the required assessment (<http://www.fao.org/3/I8785EN/i8785en.pdf>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-05-0A-02.pdf>).
- E-Learning course in English and soon in French and Spanish (<https://elearning.fao.org/course/view.php?id=364>).

## REFERENCES

FAO. SDG Indicator 5.a.2 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/5a2/en/>

FAO. The gender gap in land rights [online]. Rome. <http://www.fao.org/3/i8796EN/i8796en.pdf>

FAO. Legal Assessment Tool [online]. Rome. <http://www.fao.org/gender-landrights-database/legislation-assessment-tool/indicators/en/>

FAO. Gender and Land Rights database [online]. Rome. <http://www.fao.org/gender-landrights-database/en/>

FAO. Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security [online]. Rome. <http://www.fao.org/cfs/home/activities/vgot/en/>



## SDG INDICATOR 6.4.1

### CHANGE IN WATER-USE EFFICIENCY OVER TIME



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.

Global Reporting Rate (2008–2017): 26.0 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 6.4.1.





## APPROVAL PROCESS

The indicator methodology was presented for the first time by FAO to the 5th Interagency and Expert Group on SDG indicators (IAEG-SDG) (April 2017), benefitting from pilot tests in five countries. However, it was not approved on this occasion due to concerns by certain countries on the alignment with the System of Environmental-Economic Accounting (SEEA) classification. The methodology was revised accordingly and approved by the 6th IAEG-SDG in November 2017.

## METHODOLOGY

The sum of the output (value added) of each given major industrial sector (according to ISIC 4) divided by the volume of water used, weighted on the volume of water used, measured in USD/m<sup>3</sup>.

## DEFINITION

“Water use”: water that is directly abstracted or is received by an industry or households from another industry. Distinct from “water abstraction” or “water withdrawal”, which are defined as water removed from a river, lake, reservoir or aquifer.

Figure 24: Water use efficiency in the world (USD/m<sup>3</sup>)

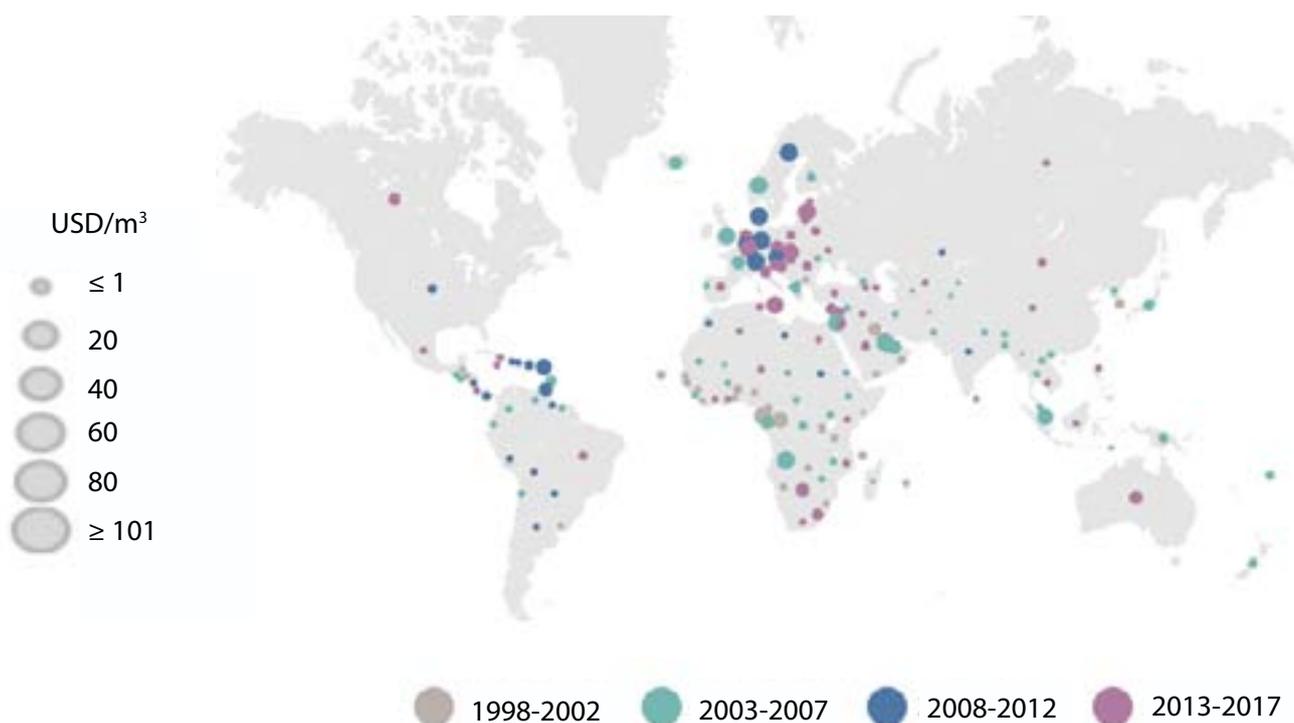


Figure 25: SDG indicator 6.4.1 reporting rate (2008–2017)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

- Gross value added of each sector = National Accounts (UNSD).
- Volume of water used by each sector = Administrative sources (relevant Ministry), to be reported to FAO through the AQUASTAT “Water and Agriculture” questionnaire.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Difficult to obtain up-to-date data: few countries actually publish water use data on a regular basis by sector.
- Data on the numerator (value added) and denominator (water use) may be from different years, thus requiring imputation to align the years.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops bringing together senior officials and hydrogeology experts of the Ministry of Agriculture, Environment or Water, as well as water statisticians in the National Statistical Office.
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-01.pdf>).
- Full Step-by-Step methodology (<http://www.fao.org/3/ca8484en/ca8484en.pdf>).
- E-Learning course in English (<https://elearning.fao.org/course/view.php?id=475>).



## REFERENCES

FAO. SDG Indicator 6.4.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/641/en/>

FAO. Capacity development programmes and services for statistics. [online]. Rome. <http://www.fao.org/statistics/statistical-capacity-development/en/>

Rossi, A., Biancalani, R. & Chocholata, L. 2019. *Change in water-use efficiency over time (SDG indicator 6.4.1): Analysis and interpretation of preliminary results in key regions and countries*. Rome, FAO. (also available at: <http://www.fao.org/publications/card/en/c/CA5400EN/>)

FAO. 2018. *Progress on water use efficiency - Global baseline for SDG 6 Indicator 6.4.1 2018*. Rome. FAO/UN-Water. 56 pp. (also available at: <http://www.fao.org/3/CA1588EN/ca1588en.pdf>)

FAO. AQUASTAT. [online]. Rome. <http://www.fao.org/nr/water/aquastat/main/index.stm>

FAO. AQUASTAT Data Collection process [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>



## SDG INDICATOR 6.4.2

# 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 64.3 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 6.4.2.





## APPROVAL PROCESS

The Interagency and Expert Group on SDG indicators (IAEG-SDG) approved the indicator methodology at its 2nd session in October 2015, bearing in mind that the core of the methodology was already being used as official MDG indicator 7.5 in the period 2000-2015 (with only a minor change in the introduction of Environmental Flow Requirements).

## METHODOLOGY

Ratio between total freshwater withdrawn by all major sectors and total renewable freshwater resources, after taking into account environmental water requirements. Main sectors follow ISIC 4 standards.

## DEFINITION

“Water use”: water that is directly abstracted or is received by an industry or households from another industry. Distinct from “water abstraction” or “water withdrawal”, which are defined as water removed from a river, lake, reservoir or aquifer.

Figure 26: Level of water Stress (2017)

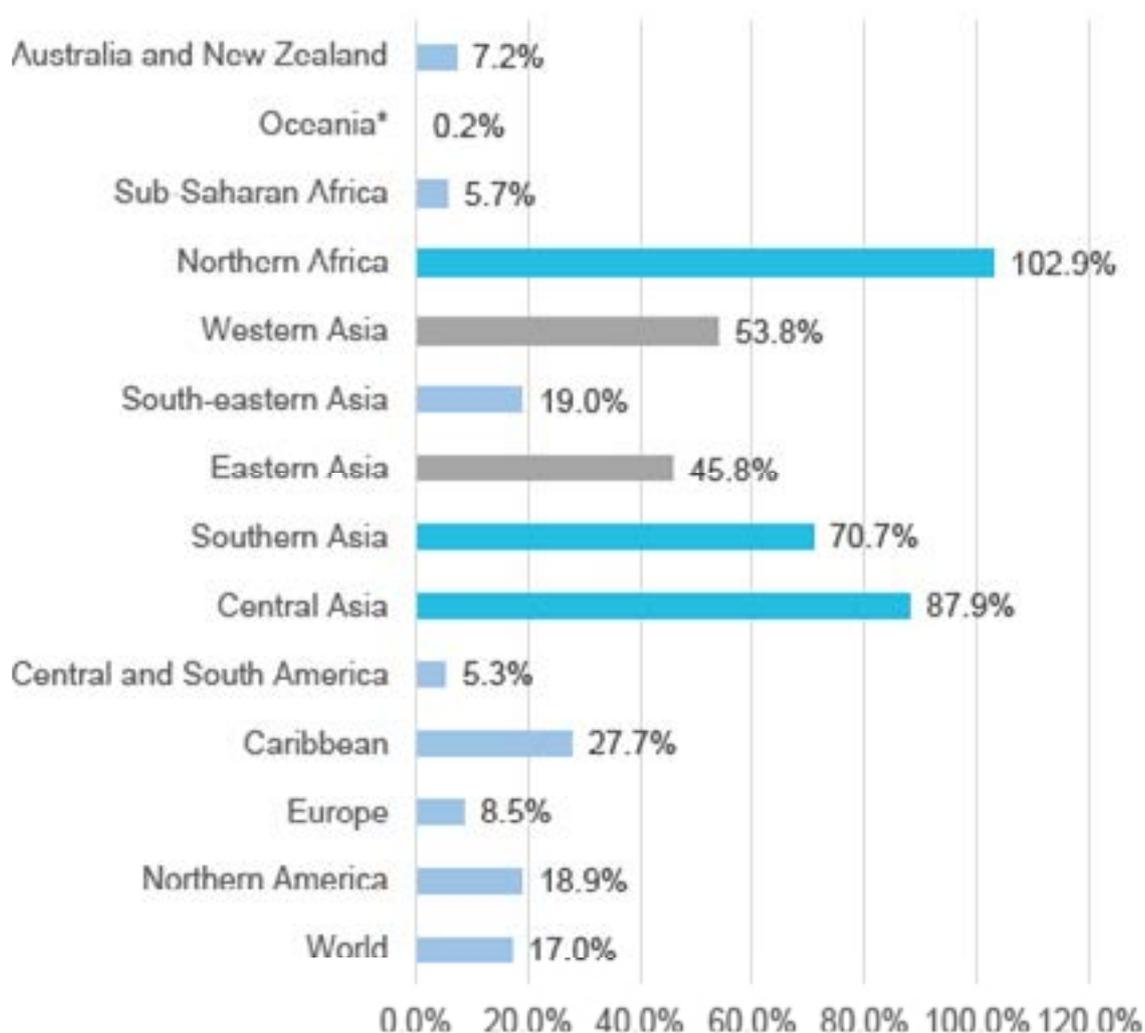


Figure 27: SDG indicator 6.4.2 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Volume of water used by each sector = Administrative sources (relevant Ministry), to be reported to FAO through the AQUASTAT “Water and Agriculture” questionnaire.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Difficult to obtain up-to-date data: few countries actually publish water use data on a regular basis.
- Cost of accurate assessment of the basic parameters, including internal and external freshwater resources, freshwater withdrawn.
- Countries not yet familiar with calculating the new element of environmental flow requirements.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops bringing together senior officials and hydrogeology experts of the Ministry of Agriculture, Environment or Water, as well as water statisticians in the National Statistical Office.
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-06-04-02.pdf>).
- Full Step-by-Step methodology (<http://www.fao.org/3/ca8483en/ca8483en.pdf>) as well as Guidelines for calculating environmental flow requirements ([https://www.unwater.org/app/uploads/2019/01/SDG6\\_EF\\_LOW2.pdf](https://www.unwater.org/app/uploads/2019/01/SDG6_EF_LOW2.pdf)).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/view.php?id=365&lang=en>).



## REFERENCES

FAO. SDG Indicator 6.4.2 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/642/en/>

FAO. Capacity development programmes and services for statistics [online]. Rome. <http://www.fao.org/statistics/statistical-capacity-development/en/>

FAO. 2018. *Progress on level of water stress - Global baseline for SDG 6 Indicator 6.4.2 2018*. Rome. FAO/UN-Water. 58 pp. (also available at: <http://www.fao.org/3/CA1592EN/ca1592en.pdf>)

FAO. AQUASTAT [online]. Rome. <http://www.fao.org/nr/water/aquastat/main/index.stm>

FAO. AQUASTAT Data Collection process [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Remote sensing for water productivity – WAPOR [online]. Rome. <http://www.fao.org/in-action/remote-sensing-for-water-productivity/en/>



## SDG INDICATOR 12.3.1.a

### FOOD LOSS INDEX



#### 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.

Sub-Indicator 12.3.1.a - Food Loss Index.

Global Reporting Rate 2020 [reference period 2015–2019]: 0.0 percent.

Tier II = Internationally agreed methodology and global reporting rate below 50 percent.

FAO is the custodian agency for SDG indicator 12.3.1.a.



## APPROVAL PROCESS

A first draft methodology was presented to the 6th Interagency and Expert Group on SDG indicators (IAEG-SDG) (November 2017), but not approved due to the concerns by certain countries of the lack of sufficient testing. The methodology was hence approved by the IAEG-SDG at its 8th session (November 2018), benefitting from pilot tests in three countries and the publication of guidelines for the collection of relevant data for different groups of agricultural commodities.

## METHODOLOGY

It measures the percentage of food losses of ten commodities on the entire value chain starting from production up to but not including the retail/consumption level and compares them to a base period. According to the operational definition of food losses used (see below), losses are assessed only in terms of quantity (and not quality).

Sub-indicator 12.3.1.b on food waste, by contrast, under the custodianship of the United Nations Environment Programme (UNEP), covers the retail and consumption levels.

## DEFINITION

Crop and livestock product losses cover all quantity losses along the supply chain for all utilizations (food, feed, seed, industrial, other), up to but not including the retail/consumption level.

Figure 28: Percentage of food loss from post-harvest to distribution, by region (2016)

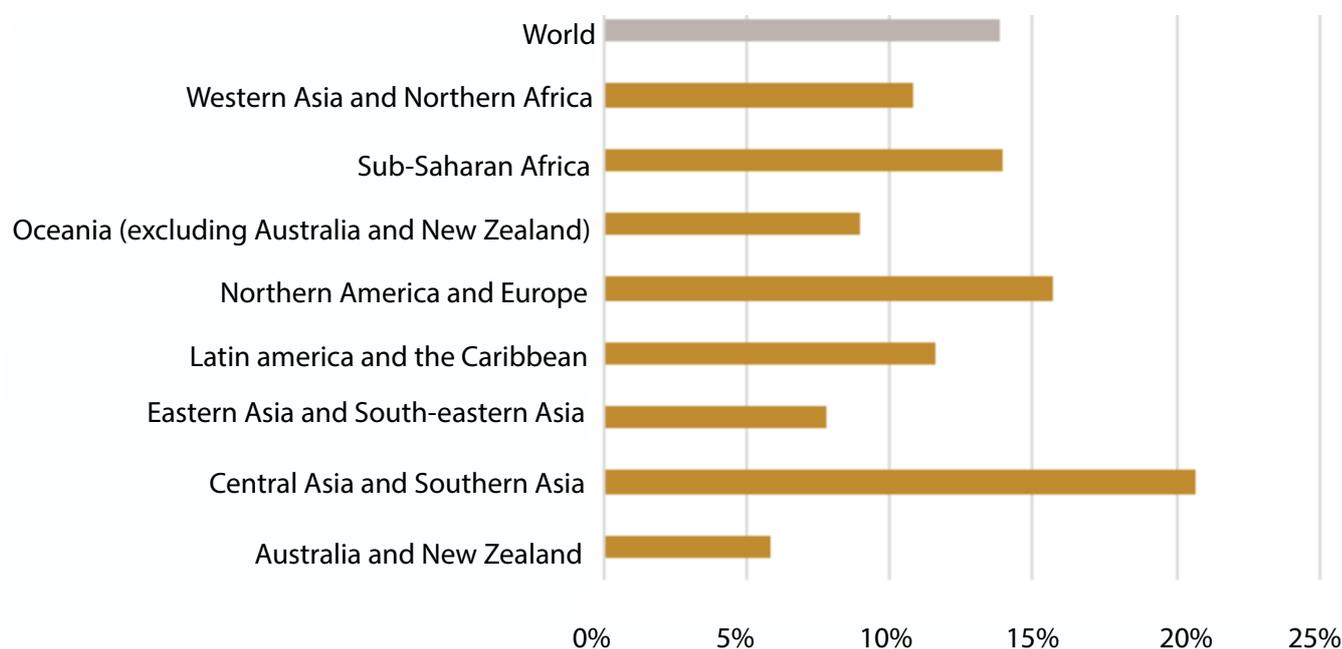


Figure 29: SDG indicator 12.3.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

Currently, the primary main data source for the index are loss quantities estimated in the Food Balance Sheets as collected by FAO through its Annual Production Questionnaires to the countries. However, as countries usually report only on a limited number of commodities through Food Balance Sheets, FAO advocates for a survey-based and nationally representative collection of data on the top two commodities for each of the main commodity groups, with a frequency of three to five years. A mix of data sources (e.g. surveys and industry data), data collection and data estimation methods (e.g. model-based estimates) can be used for cost-efficiency.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- The required data collection and compilation effort. A comprehensive survey programme will need to be implemented combining different methods and tools to measure food losses at: a) The various stages of the food supply chain (farm, transport, storage, processing, packaging and wholesale); The main commodity groups: (cereals & pulses; fruits & vegetables; meat & animal products; fish & fish products; roots, tubers & oil-bearing crops).
- The selection of the critical loss point may be different across products and countries, and require a comprehensive value chain analysis.
- Loss data may be scattered in various agencies or units. The collection and compilation of available loss data along the value chain requires well organized national coordination mechanisms.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Technical assistance and regional and country-level workshops to assist officials from the National Statistical Offices to compute the indicator and develop a comprehensive survey programme for key commodities at all critical stages of the value chain.
- Regional and country-level capacity development workshops targeting decision-makers as well as technical experts.
- Metadata document (<http://www.fao.org/3/CA2593EN/ca2593en.pdf>) and Methodological paper on SDG sub-indicator 12.3.1.a (<http://www.fao.org/3/CA2640EN/ca2640en.pdf>).
- Data collection Guidelines for all major food groups (<http://www.fao.org/3/ca6396en/ca6396en.pdf>).
- E-Learning course under development.

## REFERENCES

FAO. SDG Indicator 12.3.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/1231/en/>

FAO. Capacity development programmes and services for statistics [Food Balance Sheets] [online]. Rome. <http://www.fao.org/statistics/statistical-capacity-development/en>

FAO. Food Loss and Waste Database. [online]. Rome. <http://www.fao.org/food-loss-and-food-waste/flw-data/en/>

FAO. The State of Food and Agriculture (SOFA) 2019: Moving forward on food loss and waste reduction [online]. Rome <http://www.fao.org/publications/sofa/en/>

FAO. Community of Practice on Food Loss and Waste Reduction [online]. Rome. <http://www.fao.org/food-loss-reduction/en/>

FAO. SAVE FOOD: Global Initiative on Food Loss and Waste Reduction [online]. Rome. <http://www.fao.org/save-food/en/>

FAO. FAOSTAT, food and agriculture related data. [online]. Rome. <http://www.fao.org/faostat/en/#data>

Global Strategy for Agriculture and Rural Statistics (GSARS) <http://gsars.org/en/>



## SDG INDICATOR 14.4.1

# PROPORTION OF FISH STOCKS WITHIN BIOLOGICALLY SUSTAINABLE LEVELS



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: Not applicable.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 14.4.1.





## APPROVAL PROCESS

The Interagency and Expert Group on SDG indicators (IAEG-SDG) approved the indicator methodology at its 2nd session in October 2015. The indicator was already used for global monitoring as an official MDG indicator (indicator 7.4).

## DEFINITION

Maximum sustainable yield (MSY) is defined as the greatest amount of catch that can be harvested continuously from a stock under constant and current environmental conditions (e.g., habitat, water conditions, species composition and interactions, and anything that could affect birth, growth, or death rates of the stock) without affecting the long-term productivity of the stock.

## METHODOLOGY

Measures the percentage of the assessed stocks within biologically sustainable levels. 'Within biologically sustainable levels' means the abundance of the fish stock that is at or higher than the level that can produce the maximum sustainable yield (MSY). Given the highly migratory nature of many fish stocks, the indicator has hitherto been monitored only at global and regional level. However, beginning in 2019, FAO has launched a new effort to collect national level data from countries on fish stocks that are found only within one country's Exclusive Economic Zone (EEZ).

Figure 30: Proportion of fish stocks across the world within biologically sustainable levels (1974-2017)

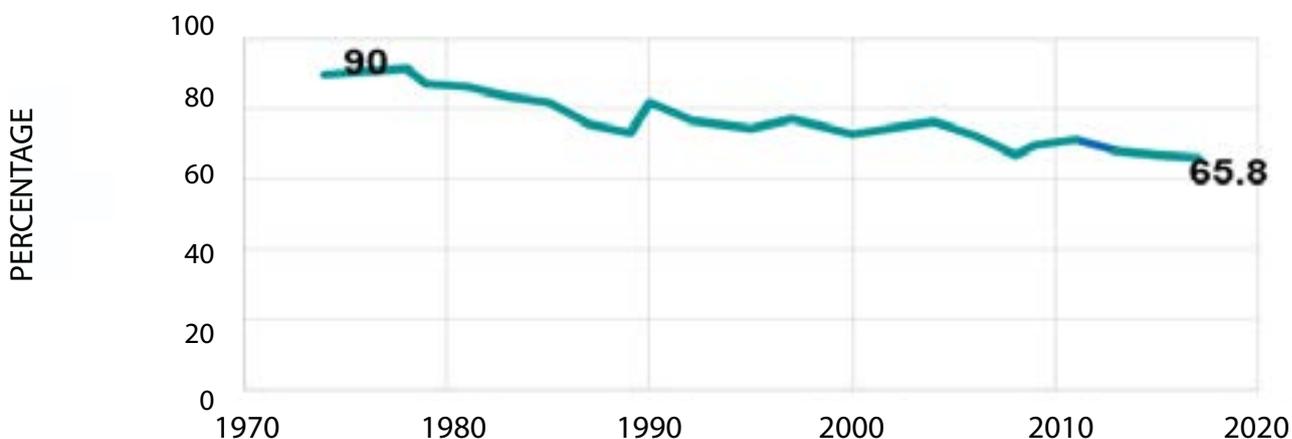


Figure 31: SDG indicator 14.4.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

The indicator requires the development of a reference list of stocks, and for the stocks included completion of a stock assessment that uses fish catch statistics, fishing effort data, biological information and surrogate biomass measures.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Few countries have the capacity to conduct a proper fish stock assessment, which uses fish catch statistics, fishing effort data, biological information and surrogate biomass measures and then fits all this data into a population dynamics model to determine whether fish stocks have abundance at or above the level associated with the maximum sustainable yield.
- Fishing effort data, in particular, are not regularly reported by countries.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops to build country capacity in fish stock assessment and improve data collection on fish catch and fishing effort.
- Revised metadata document with guidance on country-level reporting (<https://unstats.un.org/sdgs/metadata/files/Metadata-14-04-01.pdf>).
- E-Learning course in English and soon in French and Spanish, with additional guidance on country-level reporting (<https://elearning.fao.org/course/view.php?id=502>).



## REFERENCES

FAO. SDG Indicator 14.4.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/1441/en/>

FAO. Data Collection processes for Fisheries [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Code of Conduct for Responsible Fisheries [online]. Rome. <http://www.fao.org/iuu-fishing/international-framework/code-of-conduct-for-responsible-fisheries/en/>

FAO. 2018. *The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals*. Rome (also available at: <http://www.fao.org/3/I9540EN/i9540en.pdf>)



## SDG INDICATOR 14.6.1

# COMBATTING ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 56.0 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 14.6.1.





## APPROVAL PROCESS

The indicator was approved by the Interagency and Expert Group on SDG indicators (IAEG-SDG) at its 7th session (April 2018). The indicator benefitted from the first round of the renewed Code of Conduct on Responsible Fisheries (CCRF) questionnaire (February-March 2018), that included a new module to collect information on the implementation status of all five relevant international instruments.

## METHODOLOGY

The indicator is based upon responses by States to respective sections of the CCRF questionnaire covering the implementation of five key instruments used to combat IUU fishing (14.6.1). The responses will be converted using an algorithm to obtain a score for the indicator, with each instrument having a different weighting:

- 1982 United Nations Convention on the Law of the Sea (10 percent).
- 1995 United Nations Fish Stocks Agreement (10 percent).
- 2001 International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) (30 percent).
- 2009 FAO Agreement on Port State Measures (30 percent).
- 1993 FAO Compliance Agreement, and FAO Voluntary Guidelines for Flag State Performance (20 percent)

The score for each country ranges from 0 to 1, based on which each country is categorized into five levels of implementation, ranging from 1 (lowest) to 5 (highest).

**Figure 32: Average level of implementation of international instruments to combat IUU fishing in 2018**

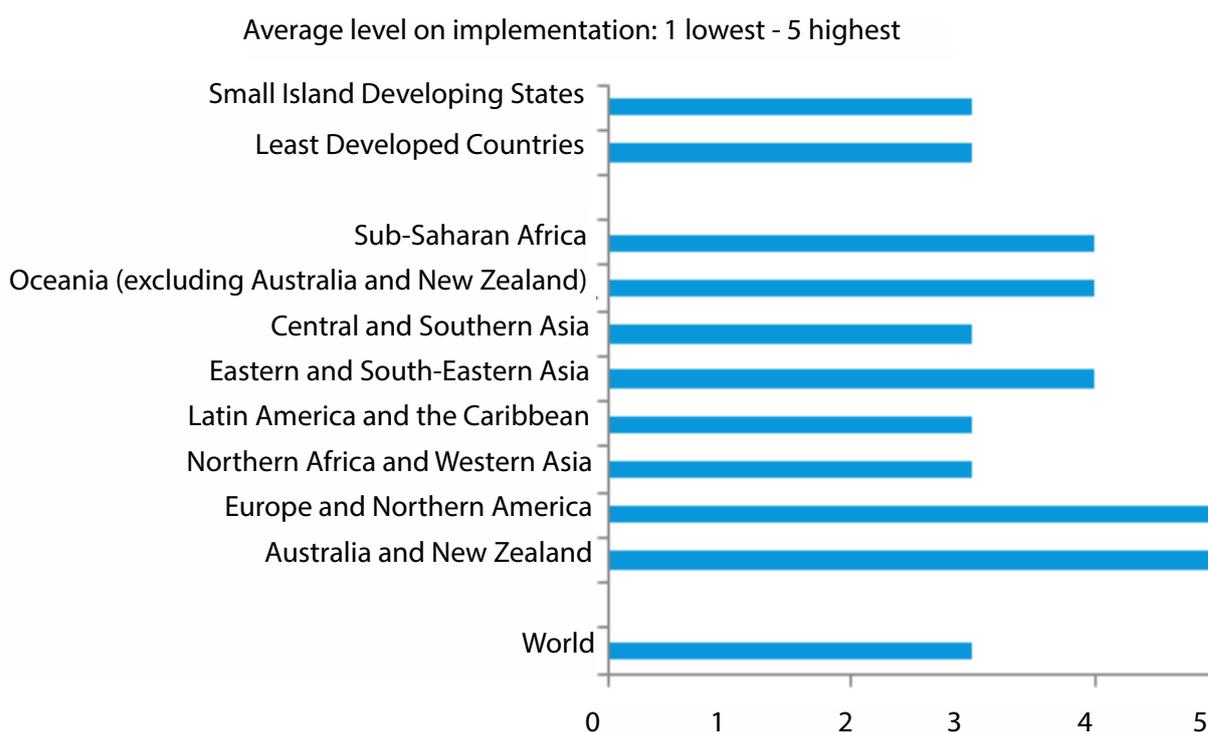
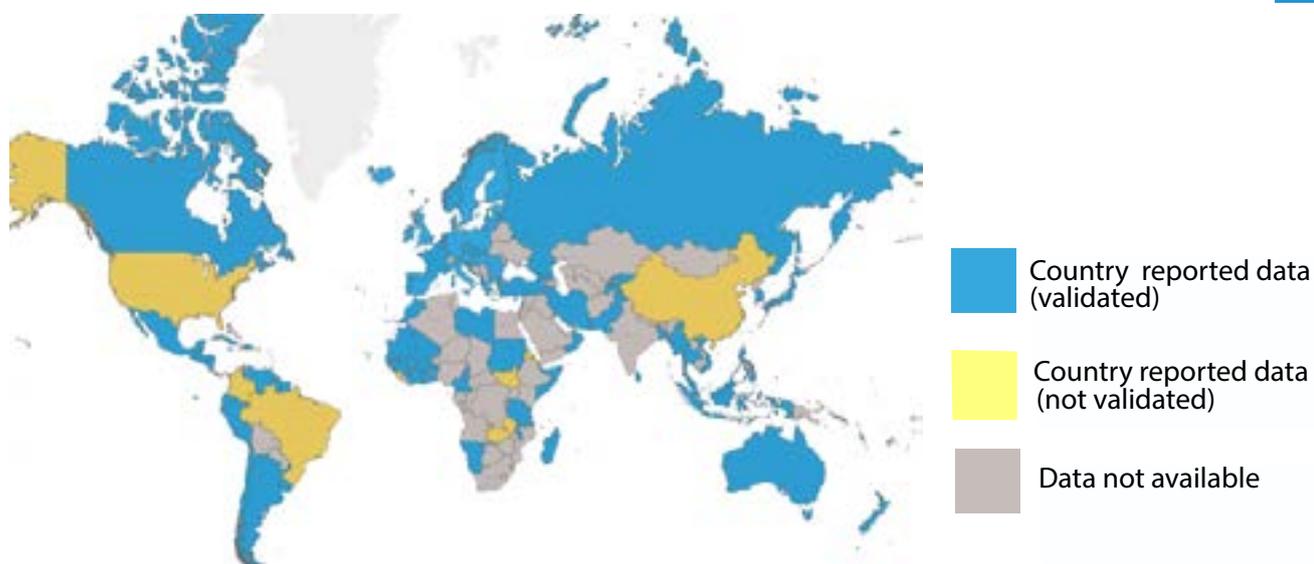


Figure 33: SDG indicator 14.6.1 reporting rate (2016)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

The indicator is based on a common, long-standing data reporting mechanism, consisting of the biennial questionnaire on the Code of Conduct on Responsible Fisheries (CCRF). The questionnaire has been sent to all FAO member states since 1995. In 2017, a new module was introduced in the questionnaire to collect information on the implementation status of all five relevant international instruments and produce the indicator baseline.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Landlocked countries often assume that this indicator is not relevant to them, although this is not necessarily always true.
- The primary CCRF questionnaire respondent does not always coordinate appropriately with the competent persons for each of the relevant sections of the questionnaire.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting decision-makers as well as technical experts in relevant line Ministries at the forefront of activities designed to combat IUU fishing.
- Online CCRF questionnaire includes many help functions, pop-ups and a glossary (<http://www.fao.org/fishery/topic/166326/en>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-14-06-01.pdf>).

## REFERENCES

FAO. SDG Indicator 14.6.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/1461/en/>

FAO. Data Collection processes for Fisheries [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Agreement on Port State Measures (PSMA) [online]. Rome. <http://www.fao.org/port-state-measures/en/>

FAO. 2018. *The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals*. Rome (also available at: <http://www.fao.org/3/I9540EN/i9540en.pdf>)



## SDG INDICATOR 14.7.1

# SUSTAINABLE FISHERIES AS A PERCENTAGE OF GDP



Target 14.7:

By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

Global Reporting Rate 2020 [reference period 2015–2019]: 54.1 per cent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 per cent.

FAO is the custodian agency for SDG indicator 14.7.1.





## APPROVAL PROCESS

The last SDG indicator under FAO custodianship to be reclassified from Tier III (April 2019). The delay was mainly due to the fact that the indicator started off as an “orphan” indicator. The Interagency and Expert Group on SDG indicators (IAEG-SDG) accepted the proposed methodology given that all three main parameters are based on long-standing international standards.

## DEFINITION

The “sustainability multiplier”, which is a component of the indicator and by which the value added of marine capture fisheries is adjusted, is based on an assessment of fish stock sustainability within FAO Fishing Areas, adjusted by the proportion of the quantity of marine capture for each respective fishing area in which the country performs fishing activities.

## METHODOLOGY

Sustainable fisheries as a percentage (%) of GDP = sustainability multiplier × value Added marine capture fisheries proxy where:

$$\text{Value added of marine capture Fisheries proxy (\%)} = \text{GDP from Fisheries and Aquaculture} \times \frac{\text{Quantity of Marine capture Fisheries}}{\text{Total Quantity of Fish}}$$

Figure 34: Sustainable fisheries as a percentage of GDP

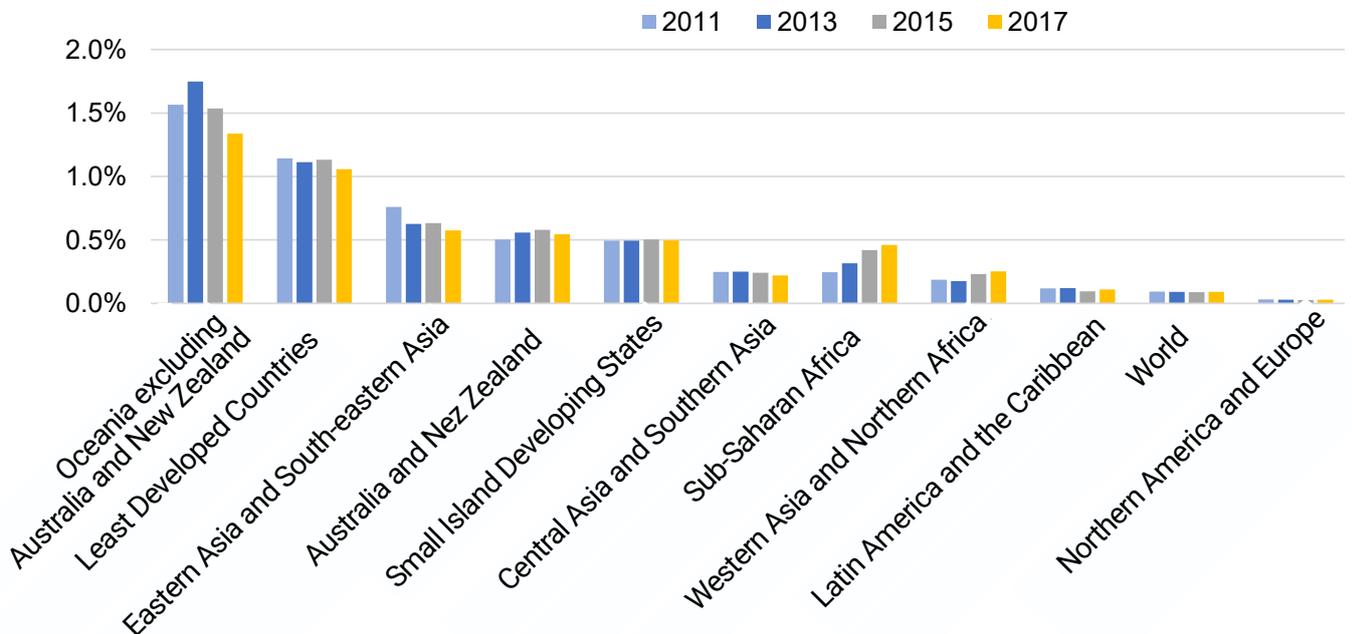


Figure 35: SDG indicator 14.7.1 reporting rate (2011–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

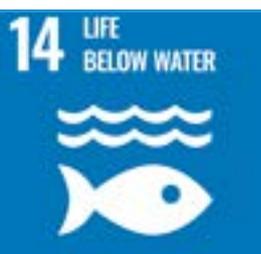
- GDP and Value Added information are collected through national accounts, whereas the sustainability multiplier is currently based on the regional value of SDG indicator 14.4.1, weighted according to the country's share of fish catch across Major Fishing Areas.
- Nationally reported statistics are taken as the first component of this indicator, and are used to estimate fisheries and aquaculture as a percentage of GDP. This is then transformed using FAO published catch data, itself a combination of nationally reported data and estimates, and FAO published stock status to estimate the final figure for sustainable fisheries as a percentage of GDP.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- The vast majority of countries report only aggregated data for value added for the fisheries and aquaculture sector, requiring FAO to separate the value added for marine capture fisheries from the aggregate "fisheries and aquaculture" by using volume as a proxy for value.
- Few countries are reporting national figures for fish stock sustainability, leading FAO, for the time being, being reliant on regional aggregates, which are relatively less precise.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting officers in the National Statistical Office and/or Fisheries Ministry to help compute the indicator.
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-14-07-01.pdf>).



## REFERENCES

FAO. SDG Indicator 14.7.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/1471/en/>

FAO. Data Collection processes for Fisheries [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Code of Conduct for Responsible Fisheries [online]. Rome. <http://www.fao.org/iuu-fishing/international-framework/code-of-conduct-for-responsible-fisheries/en/>

FAO. 2018. *The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals*. Rome (also available at: <http://www.fao.org/3/I9540EN/i9540en.pdf>)



## SDG INDICATOR 14.b.1

### PROMOTING SMALL-SCALE FISHERIES



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

Global Reporting Rate 2020 [reference period 2015–2019]: 61.1 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 14.b.1.





## APPROVAL PROCESS

The indicator was approved by the Interagency and Expert Group on SDG indicators (IAEG-SDG) at its 7th session (April 2018). The indicator benefitted from the first round of the renewed CCRF questionnaire (February-March 2018), that included an expanded section to collect the information on the implementation status of each of the three main variables needed for the calculation.

## METHODOLOGY

The indicator is based on responses by States to respective sections of the CCRF questionnaire covering the implementation of three key measures focusing on actual efforts of promoting and facilitating access rights to small scale fisheries (14.b.1). The responses will be converted using an algorithm to obtain a score for the indicator, with each measures having a different weighting:

- Existence of Instruments that specifically target or address the small-scale fisheries sector (40 percent).
- On-going Specific Initiatives to implement the FAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries (SSF) (30 percent).
- Mechanisms for small-scale fishers and fish workers to contribute to decision-making processes (30 percent).

The score for each country ranges from 0 to 1, based on which each country is categorized into five levels of implementation, ranging from 1 (lowest) to 5 (highest).

**Figure 36: Degree of implementation of instruments for access to resources and markets for small-scale fisheries in 2018**

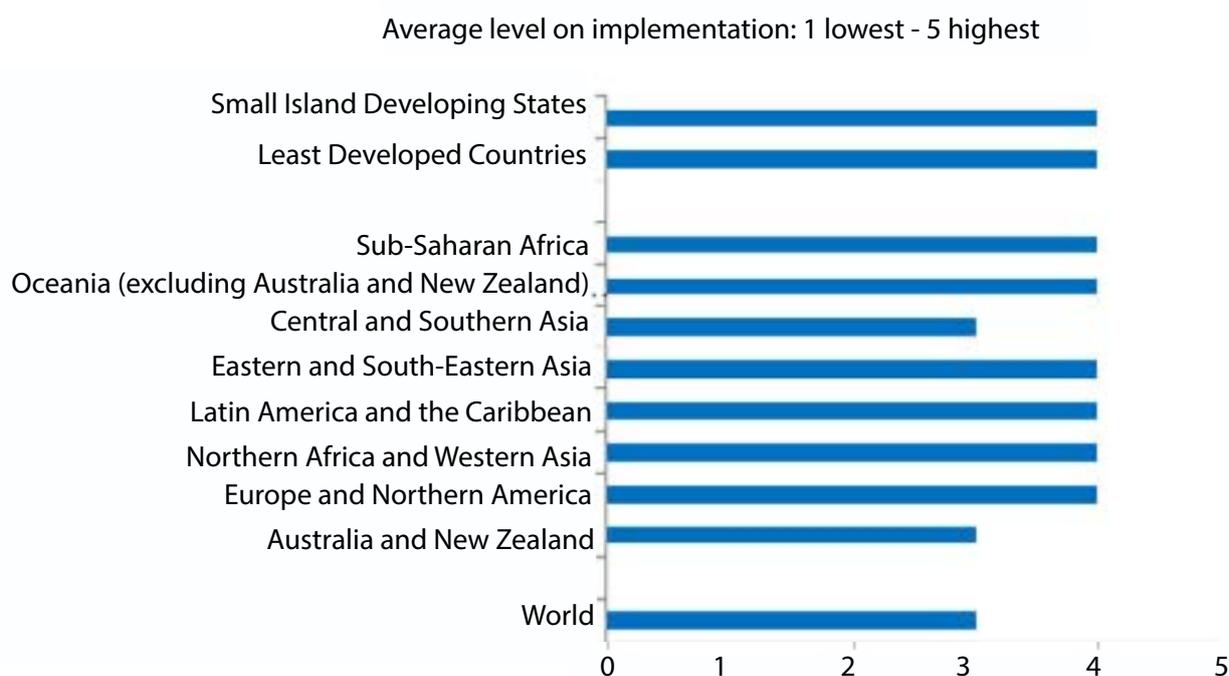
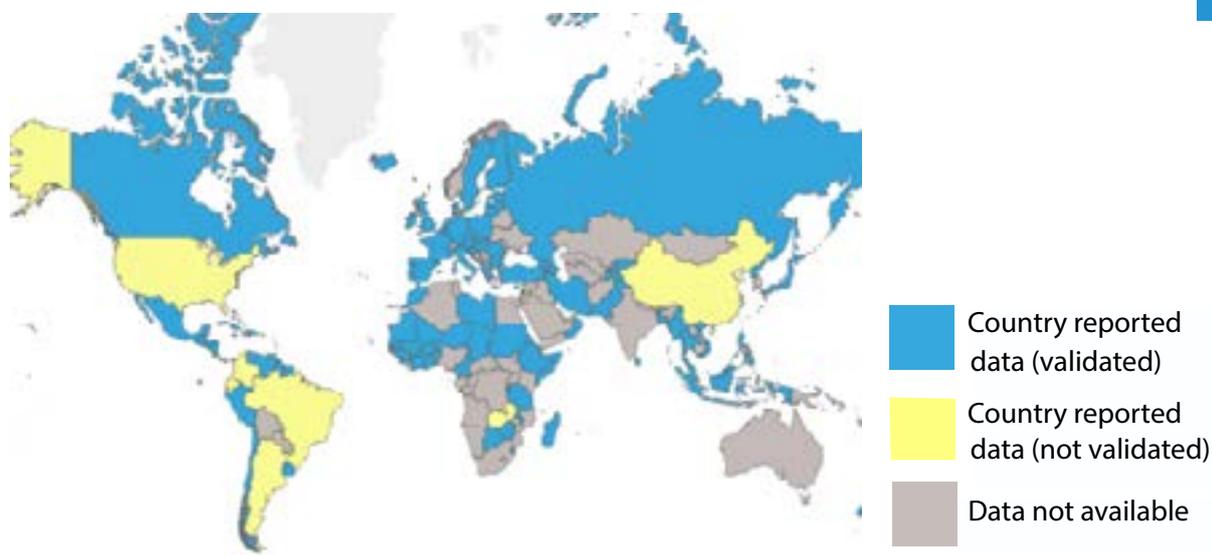


Figure 37: SDG indicator 14.b.1 reporting rate (2016)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

The indicator is based on a common, long-standing data reporting mechanism, consisting of the biennial questionnaire on the Code of Conduct on Responsible Fisheries (CCRF). The questionnaire is sent to all FAO member states since 1995. In 2016, a new module was introduced in the questionnaire to collect information on the implementation status of all three variables and produce the indicator baseline.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Landlocked countries often assume that this indicator is not relevant to them, although this is not necessarily always true.
- The primary CCRF questionnaire respondent does not always coordinate appropriately with the competent persons for each of the relevant sections of the questionnaire.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops targeting decision-makers as well as officials in relevant line Ministries involved in small-scale fisheries management.
- Online CCRF questionnaire includes many help functions, pop-ups and a glossary (<http://www.fao.org/fishery/topic/166326/en>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-14-0b-01.pdf>).
- E-Learning course available in all six UN languages (<https://elearning.fao.org/course/view.php?id=348&lang=en>).



## REFERENCES

FAO. SDG Indicator 14.b.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/14b1/en/>

FAO. Data Collection processes for Fisheries [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication [online]. Rome. <http://www.fao.org/voluntary-guidelines-small-scale-fisheries/en/>

FAO. The SSF Guidelines and the Sustainable Development Goals [online]. Rome. <http://www.fao.org/voluntary-guidelines-small-scale-fisheries/news-and-events/detail/en/c/1235924/>

FAO. Code of Conduct for Responsible Fisheries [online]. Rome. <http://www.fao.org/iuu-fishing/international-framework/code-of-conduct-for-responsible-fisheries/en/>

FAO. 2018. *The State of World Fisheries and Aquaculture 2018 - Meeting the sustainable development goals*. Rome (also available at: <http://www.fao.org/3/I9540EN/i9540en.pdf>)



## SDG INDICATOR 15.1.1

# FOREST AREA AS A PROPORTION OF TOTAL LAND AREA



### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 100 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 15.1.1.





## APPROVAL PROCESS

This indicator was approved directly by the Interagency and Expert Group on SDG indicators (IAEG-SDG) at its 2nd session in October 2015 as an extension of the official indicator used for the MDGs in the period 2000-2015 (MDG indicator 7.1).

## METHODOLOGY

This indicator measures the proportion of forest area over total land area.

## DEFINITION

"Forests": 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.

Figure 38: Forest area as proportion of total land area

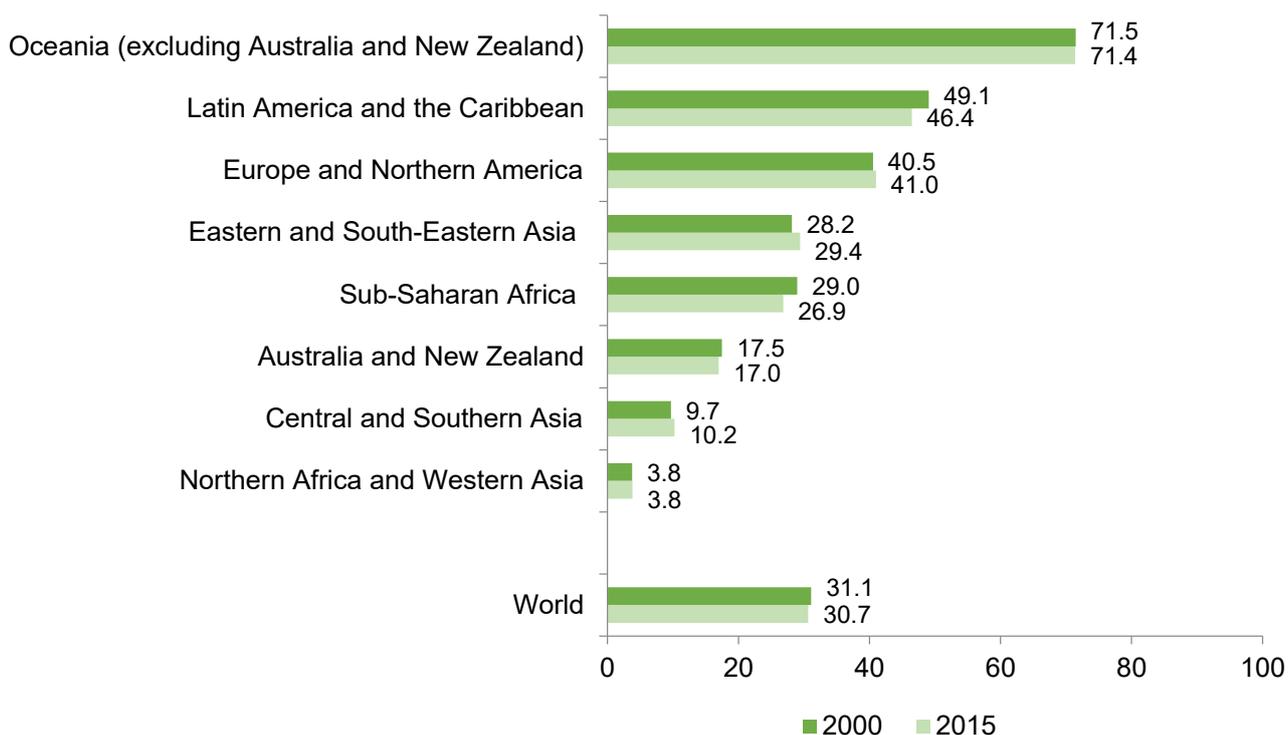
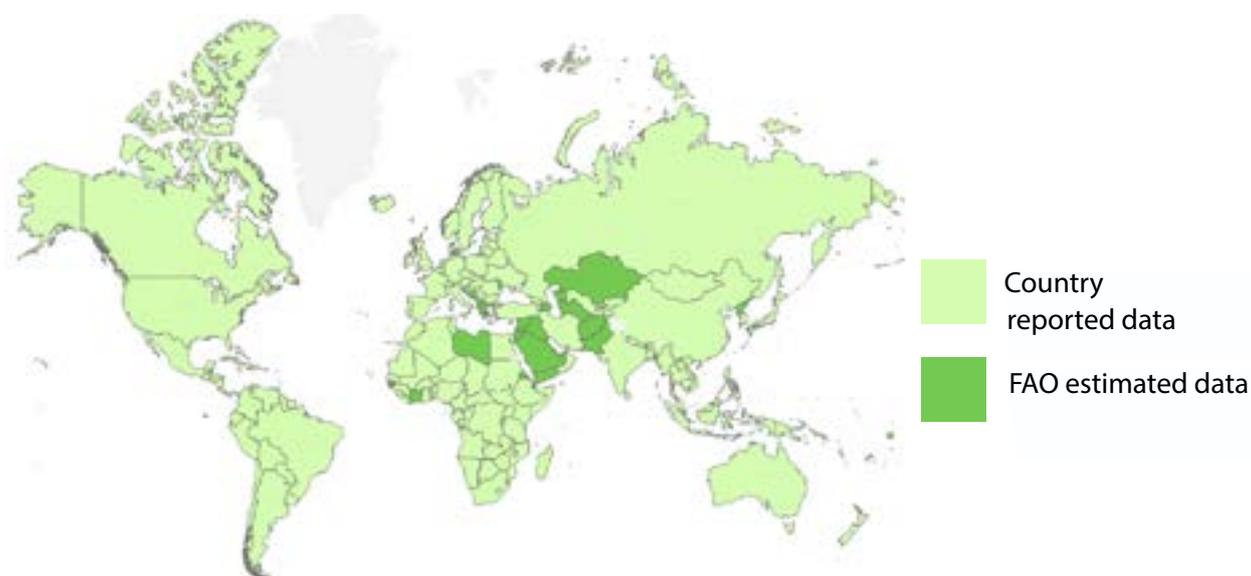


Figure 39: SDG indicator 15.1.1 (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

FAO's Global Forest Resources Assessment (FRA).

All data are provided to FAO by officially nominated national focal points in the form of a country report following a standard format, which includes the original data and reference sources and descriptions of how these have been used to estimate the forest area for different points in time.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Lack of reliable up-to-date data as the assessment of forest area is carried out at infrequent intervals in many countries.
- At times, differences in methodologies and/or definitions over time make it difficult to compare the results of different assessments within a given country/territory.
- Lack of sufficient allocation of needed resources to support the national correspondents.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and national technical assistance workshops for forestry experts in the Ministry of Agriculture or Forestry, as well as forest statisticians in the National Statistical Office.
- New online portal for data entry, analysis, review and reporting to FRA (<http://www.fao.org/forest-resources-assessment/en/>).
- Access to latest freely available satellite data and derivative products as well as a range of complementary digital tools harnessing the latest technologies: Open Foris ([www.openforis.org](http://www.openforis.org)) and SEPAL platform (<https://sepal.io/>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-15-01-01.pdf>).
- E-Learning course in English, French and Spanish (<https://elearning.fao.org/course/view.php?id=446>).



## REFERENCES

FAO. SDG Indicator 15.1.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/1511/en/>

FAO. Data Collection processes for Forestry [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Global Forest Resources Assessment | Desk Reference 2015 [online]. Rome. <http://www.fao.org/forest-resources-assessment/en/>

FAO. Land area | FAOSTAT [online]. Rome. <http://www.fao.org/faostat/en/#data/RL>

FAO. 2018. *The State of the World's Forests 2018 - Forest pathways to sustainable development*. Rome. (also available at: <http://www.fao.org/3/i9535en/i9535en.pdf>)

FAO. Global Forest Resources Assessments (FRA). [online]. Rome. <http://www.fao.org/forest-resources-assessment/en>

FAO. 2017. *Keeping an eye on SDG 15: Working with countries to measure indicators for forests and mountains*. Rome (also available at: <http://www.fao.org/3/a-i7334e.pdf>)



## SDG INDICATOR 15.2.1

# 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 69.2 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 15.2.1.





## APPROVAL PROCESS

The indicator was approved in November 2016 following a presentation of the methodology by FAO to the 4th session of the Interagency and Expert Group on SDG indicators (IAEG-SDG). The five constituent sub-indicators were already regularly collected from countries by FAO's quinquennial Global Forest Resources Assessment (FRA).

## METHODOLOGY

The indicator proxies for countries' progress towards sustainable forest management by means of five sub-indicators: 1) Forest area annual net change rate (percent); 2) Above-ground Biomass stock in forest, per hectare (tonnes per hectare); 3) Proportion of forest area located within legally established protected areas (percent); 4) Proportion of forest area under a long term forest management plan (percent); 5) Forest area under an independently verified forest management certification scheme (thousands of hectares).

## DEFINITION

"Forests": 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, of more than 10 percent, or trees able to reach these thresholds in situ.

TABLE 3: DASHBOARD FOR SDG INDICATOR 15.2.1  
PROGRESS TOWARD SUSTAINABLE FOREST MANAGEMENT PER SDG REGION  
(2010-2015)

SDG Region	Forest area annual net change rate *	Above-ground biomass stock in forest (t/ha)	Forest area within legally protected areas	Forest area with forest management plan	Forest area certified
World	Yellow	Yellow	Green	Green	Red
Central and Southern Asia	Green	Red	Yellow	Green	Green
Eastern and South-Eastern Asia	Green	Red	Green	Green	Green
Northern Africa and Western Asia	Red	Green	Green	Green	Green
Sub-Saharan Africa	Yellow	Yellow	Green	Green	Red
Europe and Northern America	Green	Green	Yellow	Yellow	Green
Latin America and the Caribbean	Yellow	Green	Green	Green	Yellow
Oceania	Green	Yellow	Green	Green	Red
LLDCs	Red	Yellow	Red	Green	Yellow
LDCs	Yellow	Yellow	Green	Green	Green
SIDs	Green	Yellow	Green	Green	Red

Green Positive change

Yellow No/small change

Red Negative change

NOTE (\*): Calculated using compound interest formula.

Figure 40: SDG indicator 15.2.1 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

FAO's Global Forest Resources Assessment (FRA), which hitherto collects data on all five sub-indicators every five years (with the exception of the sub-indicator on the proportion of forest area under a long-term management plan, which was not collected in 2015).

All data are provided to FAO by officially nominated national focal points in the form of a country report following a standard format, which includes the original data and reference sources and descriptions of how these have been used to estimate the forest area for different points in time.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Lack of reliable up-to-date data as the assessment of forest area is carried out at infrequent intervals in many countries.
- At times, differences in methodologies and/or definitions over time make it difficult to compare the results of different assessments within a given country/territory.
- Lack of sufficient allocation of needed resources to support the national correspondents.
- Lack of data from countries for some 15.2.1 sub-indicators (forest with management plans, forest in protected areas).

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and national technical assistance workshops for forestry experts in the Ministry of Agriculture or Forestry, as well as forest statisticians in the National Statistical Office.
- New online portal for data entry, analysis, review and reporting to FRA (<http://www.fao.org/forest-resources-assessment/en/>).
- Access to latest freely available satellite data and derivative products as well as a range of complementary digital tools harnessing the latest technologies: Open Foris ([www.openforis.org](http://www.openforis.org)) and SEPAL platform (<https://sepal.io/>).
- Metadata document (<https://unstats.un.org/sdgs/metadata/files/Metadata-15-02-01.pdf>).



## REFERENCES

FAO. SDG Indicator 15.2.1 [online]. Rome. <http://www.fao.org/sustainable-development-goals/indicators/1521/en/>

FAO. Data Collection processes for Forestry [online]. Rome. <http://www.fao.org/statistics/data-collection/en/>

FAO. Global Forest Resources Assessment | Desk Reference 2015 [online]. Rome. <http://www.fao.org/forest-resources-assessment/en/>

FAO. Land area | FAOSTAT [online]. Rome. <http://www.fao.org/faostat/en/#data/RL>

FAO. 2018. *The State of the World's Forests 2018 - Forest pathways to sustainable development*. Rome. (also available at: <http://www.fao.org/3/i9535EN/i9535en.pdf>)

FAO. Global Forest Resources Assessments (FRA). [online]. Rome. <http://www.fao.org/forest-resources-assessment/en>

FAO. 2017. *Keeping an eye on SDG 15: Working with countries to measure indicators for forests and mountains*. Rome (also available at: <http://www.fao.org/3/a-i7334e.pdf>)



## SDG INDICATOR 15.4.2

### MOUNTAIN GREEN COVER INDEX



#### 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.

Global Reporting Rate 2020 [reference period 2015–2019]: 100 percent.

Tier I = Internationally agreed methodology and global reporting rate equal to or higher than 50 percent.

FAO is the custodian agency for SDG indicator 15.4.2.





## APPROVAL PROCESS

The indicator was approved by the Interagency and Expert Group on SDG indicators (IAEG-SDG) at its 2nd session in October 2015. Despite being a new indicator, the IAEG-SDG considered the methodology sound and non-controversial, given that it relies on remote sensing satellite technology.

## METHODOLOGY

Measures the changes of the green vegetation in mountain areas based on the six IPCC land cover types, i.e. forest, grassland, shrubland, cropland, otherland, wetland, and settlement, as well as across six mountain elevation classes (based on UNEP-World Conservation Monitoring Centre (WCMC – Kapos et al). Achieved by overlaying Kapos zone layer on the land cover map in Q-GIS software and using a zonal histogram function to calculate the distribution of pixels within each land cover class for each Kapos zone.

Figure 41: Mountain Green Cover Index, 2018

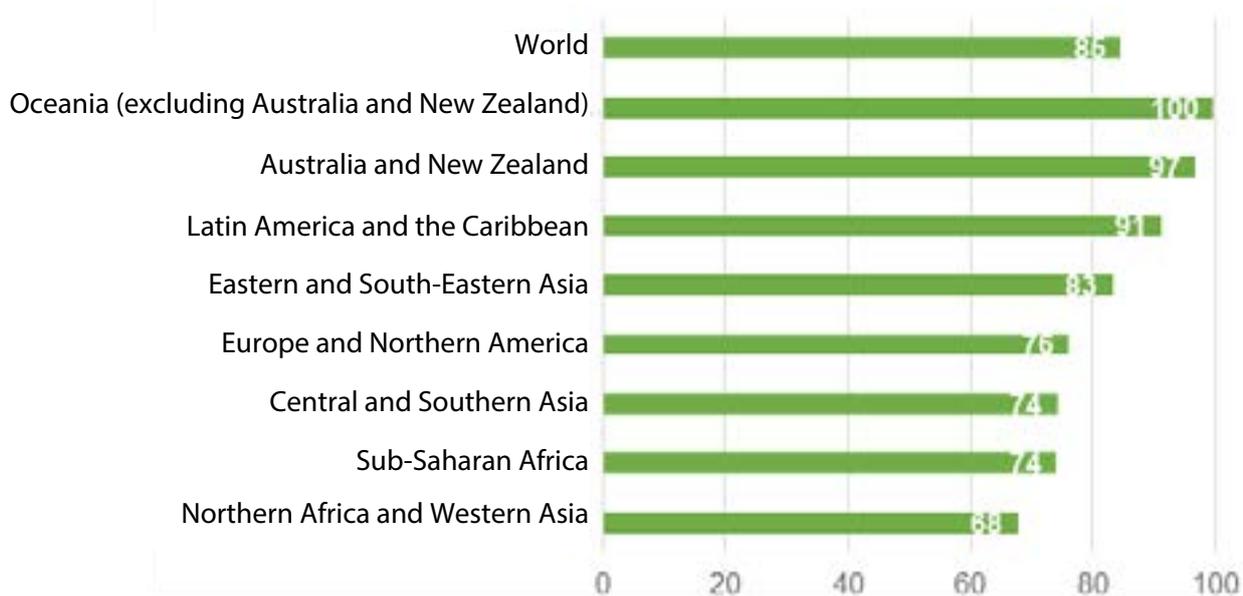


Figure 42: SDG indicator 15.4.2 reporting rate (2015–2019)



Source: FAO, May 2020. Map conforms to UN World map, May 2020.

## DATA SOURCES

FAO has calculated the indicator using the European Space Agency Climate Change Initiative (ESA CCI) Land Cover products, which have been produced using a combination of RS data such as the 300 m MERIS, 1 km SPOT –VEGETATION, 1 km PROBA –V and 1 km AVHRR. The CCI product consists in a series of annual Land Cover maps at 300 m resolution spanning from 1992 to 2018. However, the data source is not prescriptive, provided that countries adhere to the methodology.

## MAIN CONSTRAINTS FOR COUNTRY REPORTING

- Most countries are unfamiliar with the required remote sensing technology and applications for this indicator.
- It is not always clear which institution in each country should take responsibility for this indicator.
- Some countries are content with FAO continuing to calculate the indicator on their behalf using global satellite data and applications.

## MAIN TOOLS AND INITIATIVES FOR TECHNICAL SUPPORT

- Regional and country-level technical assistance workshops to help in-country remote sensing experts calculate the indicator by combining land-cover data and landscape elevation according to the relevant classifications.
- Revised (more detailed) metadata (<https://unstats.un.org/sdgs/metadata/files/Metadata-15-04-02.pdf>) and complementary guidance documents to allow countries to follow the methodology step by step and calculate the indicator themselves are currently being prepared.



## REFERENCES

FAO. SDG Indicator 15.4.2 [online]. Rome <http://www.fao.org/sustainable-development-goals/indicators/1542/en/>

FAO. Data Collection processes for Forestry [online]. Rome <http://www.fao.org/statistics/data-collection/en/>

FAO. Collect Earth [online]. Rome <http://www.openforis.org/tools/collect-earth.html>

FAO. Monitoring progress on mountains in the SDGs [online]. Rome <http://www.fao.org/mountain-partnership/our-work/advocacy/2030-agenda-for-sustainable-development/mountain-green-cover-index/en/>

FAO. 2017. *Keeping an eye on SDG 15: Working with countries to measure indicators for forests and mountains*. Rome (also available at: <http://www.fao.org/3/a-i7334e.pdf>)

## FOR MORE INFORMATION

Sustainable Development Goals <http://www.fao.org/sustainable-development-goals/en/>

FAO SDG Indicators Portal <http://www.fao.org/sustainable-development-goals/indicators/en/>

FAO capacity development programmes and services for statistics <http://www.fao.org/statistics/statistical-capacity-development/en/>

SDG Progress Digital Report (2019) <http://www.fao.org/sdg-progress-report/en/#sdg-2>

Report of IAEG on SDGs Indicators <https://unstats.un.org/unsd/statcom/51st-session/documents/2020-2-SDG-IAEG-E.pdf>

Report of the Food and Agriculture Organization of the United Nations on new developments in agricultural and rural statistics <https://unstats.un.org/unsd/statcom/51st-session/documents/2020-13-AgriculturalStats-E.pdf>

FREE e-learning courses on the SDG indicators under FAO custodianship <https://elearning.fao.org/course/index.php?categoryid=84>

Watch this video to learn more about the monitoring process [https://www.youtube.com/watch?time\\_continue=2&v=CiaUQ1N08P0](https://www.youtube.com/watch?time_continue=2&v=CiaUQ1N08P0)

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For more information, contact us at: [SDG-Indicators@fao.org](mailto:SDG-Indicators@fao.org)



# Factsheets on the 21 SDG indicators under FAO custodianship

## A highlight of the main indicators with the greatest gaps in country reporting

Primarily directed towards national stakeholders, this publication complements FAO's digital SDG progress report and other material on SDG indicators available through FAO's SDG indicators portal. It provides a snapshot of the main characteristics of each of the 21 SDG indicators under FAO custodianship in a compact and agile format. For each of these indicators, a concise factsheet provides the latest information on data availability and country coverage; the methodology for compiling the indicator and the process followed for establishing it as an international standard; a description of data sources and the main constraints faced by countries in reporting the indicators; and a list of the main tools, resources and initiatives developed by FAO for providing technical support to countries.

By providing all these pieces of information in one compact factsheet for each indicator, it is hoped that this publication will provide a useful aid to national stakeholders to tackle the main constraints faced in reporting SDG indicators, thus raising the global reporting rate and ultimately contributing to furthering the achievement of the food and agriculture-related SDG targets.



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