Food and Agriculture Organization
of the United Nations

Session I SDG Indicator 2.4.1 -

Proportion of agricultural area under productive and sustainable agriculture

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IMPORTANCE OF AGRICULTURE

Over the coming decades, agriculture will face unprecedented pressures

- 30 percent increase in the global population - projected to grow from 7 to 9 billion in 2050 (United Nations, 2013a)
- Changing dietary patterns towards richer diets. Globally, food production will need to increase by 40-60% by 2050, and double in developing countries
- Degradation and depletion of the natural land and water resource base upon which agriculture systems depend

The path to meet such challenge:

- Expand and accelerate the transition towards sustainable food and agriculture, to ensure food security, provide economic and social opportunities, while protecting ecosystems and natural resources.

GOAL 2: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE

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*

Indicator 2.4.1 (Tier II): Proportion of agricultural area under productive and sustainable agriculture

TOWARDS A DEFINITION OF SUSTAINABLE AGRICULTURE

- Agriculture sustainability must involve economic, social and environmental factors

- Sustainable agriculture needs to be: i) economically viable; ii) environmentally friendly; and iii) socially responsible. The integrated economic, environmental, and social principles are incorporated into a “triple bottom line” of profit, people and the planet

- Sustainability in the context of 2.4.1. aims at capturing capture these three dimensions on the farm, as a whole rather than on a specific agricultural product or activity

SDG 2.4.1 MILESTONES

Year	Month	SDG process for Indicator 2.4.1
2015	October	2nd meeting of IAEG-SDG: define sustainable agriculture and ways to measure it
2016	**March**	**47th UN-SC endorsed SDG 2.4.1 as: 'Proportion of agricultural area under productive and sustainable agriculture' (Tier III)**
	March-Dec	Literature review: building on exiting frameworks
	December	Technical expert meeting (FAO) – First draft methodology
2017	**February**	**First proposal submitted– refinement of the methodology**
	April	Multi-stakeholder Expert Group Meeting at FAO: Drafting detailed methodology
	September	**First Global consultation** (online) with NSOs
	Oct-Jan	Desk tests (Kyrgyz Republic, Bangladesh, Rwanda, Ecuador, Belgium)
	November	**6th meeting of IAEG-SDG. Requested finalizing country pilot**

SDG 2.4.1 MILESTONES

Year	Month	SDG process for Indicator 2.4.1
2018	**Jan-May**	**Preparation of revised methodology**
	April	Technical workshop on learning from country desk tests
	May	**Second online consultation -** Webinar with IAEG-SDG members.
	May-Oct	Country cognitive tests in Mexico, Kenya and Bangladesh
	Oct	Presented to FAO Committee on Agriculture
	Nov	**8th meeting of IAEG-SDG – Upgraded as Tier II**
2019	**Jan-Sep**	**Extended tests completed in Bangladesh**
	Apr- June	**Data collection strategy and capacity development plan submitted to UNSD**
	Jun - Dec	Capacity development efforts
	Nov	**FAO Data collection questionnaire sent to countries**
2020	Jan- July	Data is collected, validated and then reported at the global level
2020-2030		**Repeat annual data collection, analysis and dissemination cycle**

INDICATOR'S FORMULA

$$2.4.1. = \frac{Area\ under\ productive\ and\ sustainable\ agriculture}{Agricultural\ land\ area}$$

Where:

- The **denominator,** *agricultural land area* follows FAO terminology of cropland plus permanent meadows and pastures. Country data are compiled internationally via a questionnaire by FAO

- The **numerator** captures the three dimensions of sustainable agriculture: environmental, economic and social

SDG 2.4.1 SCOPE

Within scope:

- Intensive and extensive crop and livestock systems
- Subsistence agriculture
- Common land exclusively used and managed by the farm holding
- Food and non-food crops and livestock products
- Fodder and bioenergy crops
- Aquaculture as a secondary activity, e.g. rice-fish and similar systems
- Agro-forestry

Out of scope:

- Common land not exclusively used by agriculture holding
- Nomadic pastoralism
- Production from gardens, backyards and hobby farms
- Food harvested from the wild
- Holding focused exclusively on aquaculture and/or agro-forestry
- Forest and other wooded lands

STEPS TO DEVELOP THE INDICATOR

1) Determining the scope: **Crops and livestock**
2) Dimensions to be covered: **Economic, Social and Environmental**
3) Choosing the scale: **Agriculture/farm holding**
4) Selecting the data collection instrument(s): **Farm survey**
5) Selecting the themes to be covered **within a dimension (e.g. land productivity, biodiversity, decent employment): Total 11 themes**
6) Choosing a sub-indicator **to measure performance of given theme. 11 sub-indicators (3 Economic, 3 social and 5 environment)**
7) Developing the criteria to assess sustainability performance for each sub-indicator to **classify the farms green, yellow and red**
8) Deciding the periodicity of monitoring the indicator: **3 Years**
9) Developing modality of reporting the indicator: **Dashboard and aggregate indicator**

CRITERIA AND PRINCIPLES

- **Relevance**: the indicator must be relevant to the aspect its is trying to capture, is easily understood and the results easily interpreted by policy makers
- **Universality**: the indicator must be relevant for all countries both developing and developed.
- **International comparability**: In order to ensure global reporting. Comparability, however, does not necessarily mean the use of absolute standards. For instance, agricultural wages may be compared with the national minimum wage rate, even if they may vary from one country to another.
- **Measurability**: Measurement must be easy, simple to perform in order to support a regular monitoring exercise. To the extent possible, alternative measures have been proposed to maintain indicators that are considered relevant while offering feasible measurement solutions.
- **Cost effectiveness**: cost effectiveness is related to measurability. The cost associated with indicator measurement have systematically been considered in relation with the accuracy and reliability of the results obtained through different measurement options.
- **Minimum cross-correlation between sub-indicators**. High cross-correlation would imply that two or more sub-indicators capture the same sustainability issue.

SDG 2.4.1 INDICATOR'S FRAMEWORK

Dimension	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 risk	Management of fertilizers
	7. Pesticide risk	Management of pesticides
	8. Biodiversity	Use of agro-biodiversity-supportive practices
Social	9. Decent employment	Wage rate in agriculture
	10. Food security	Food Insecurity Experience Scale
	11. Land tenure	Secure tenure rights to land

ASSESSING SDG 2.4.1 SUSTAINABILITY LEVELS

Thresholds: A cutoff point, reference value, benchmark, target or baseline value or range for each sub-indicators. Conceptualized and proposed relevant thresholds for each sub-indicator that are absolute and/or relative.

Traffic light approach:

1. **Green:** 'desirable'
2. **Yellow:** 'acceptable'
3. **Red:** 'unsustainable'

- Criteria established by thematic experts, and have been fine-tuned in light of results of the tests conducted in selected countries
- Helps measure progress

CALCULATION STEPS OF 2.4.1 SUB-INDICATORS

1. Classification of the farm and agricultural area it manages as sustainable (green), acceptable (yellow) and unsustainable (red) for each sub-indicator using the respective sustainability criteria.

2. At the national level, adding up the agricultural areas of the farms by sustainability status.

3. For each sub-indicator, calculate the proportion of agricultural area by sustainability status as a percentage of total agricultural area of the country.

SDG 2.4.1 DATA COLLECTION INSTRUMENT

- Data collection instrument is a farm survey questionnaire. This is aligned with FAO efforts to develop farm surveys as the most relevant instrument for agricultural data collection

- Survey questionnaire designed as a module that contain the minimum set of questions needed to assess 2.4.1. These questions can be integrated into existing farm surveys

- The farm survey findings can be complemented with contextual information from other data sources

SDG 2.4.1 PERIODICITY

- Recommended periodicity of reporting is every 3-years
- SDG Indicator 2.4.1 measures progress towards more productive and sustainable agriculture. For many sub-indicators, it is likely that changes will be limited from one year to another
- The 3-year periodicity will enable countries to have three data points on the indicator before 2030, assuming that they begin reporting in the early 2021

THANK YOU

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TYPE OF SUB-INDICATORS SELECTED

- **Impact/outcome** indicators that record what the state or change in state of factors and associated flows of benefits or costs.
- **Practice** indicators that record the type of agricultural practices and processes that a farm is undertaking.
- **Awareness** indicators record the level of awareness and knowledge in relation with a give sustainability issue.
- **Behavior** indicators capture the attitude of a given stakeholder in relation with a given sustainability issue.
- **Perception** indicators that record views of various stakeholders about different aspects of sustainability