SDG 2.4.1
Proportion of agricultural area under productive and sustainable agriculture

Training Workshop on Agriculture, Nutrition, and Land Holding and Use to Support the Sustainable Development Goals (SDGs) 2030 in the Arab Region

Amman, Jordan July 1–5, 2018

Neli Georgieva, Statistics Division, FAO
**GOAL:** 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

**Global indicator 2.4.1:** Proportion of agricultural area under productive and sustainable agriculture
<table>
<thead>
<tr>
<th>Year</th>
<th>SDG process</th>
<th>Indicator 2.4.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>2nd meeting of IAEG-SDG</td>
<td>Disagreement on the definition of sustainable agriculture</td>
</tr>
<tr>
<td>2016</td>
<td>March: 47th UN-SC endorses 231 indicators</td>
<td>2.4.1: Percentage of agricultural area under productive and sustainable agriculture (Tier III)</td>
</tr>
<tr>
<td></td>
<td>Literature review: existing ag. sustain. frameworks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>December: Technical expert meeting (FAO) – First draft</td>
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</tr>
<tr>
<td>2017</td>
<td>February 2017: Presentation at GS-SAC</td>
<td>Refining the methodology</td>
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<tr>
<td></td>
<td>April: Expert Group Meeting (FAO) – Draft detailed methodology</td>
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<tr>
<td></td>
<td>September: Global consultation (online) – NSOs in charge of agriculture</td>
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<tr>
<td></td>
<td>November: 6th meeting of IAEG-SDG</td>
<td>Methodology for Indicator 2.4.1 submitted for Tier upgrade</td>
</tr>
<tr>
<td></td>
<td>Nov-Jan: Desk testing in selected countries</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>April: Technical meeting – learning from country testing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jan-May: Preparation of revised methodology</td>
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</tbody>
</table>
Characteristics of Indicator 2.4.1

Indicator 2.4.1 is defined as the “Proportion of agricultural area under productive and sustainable agriculture”, which is expressed by the following formula:

\[
SDG2.4.1 = \frac{\text{Area under productive and sustainable agriculture}}{\text{Agricultural land area}}
\]

- It reflects the multiple dimensions of sustainability
- It captures the main issues as they are expressed in the SDG target 2.4: resilience, productivity, ecosystem maintenance, adaptation to climate change and extreme events, and soils
- It is measured at farm level
- It allows measurement of progress towards more productive and sustainable agriculture
Steps to develop the indicator

1. Determining the scope
2. Determining the dimensions to be covered (sustainability)
3. Choosing the scale
4. Selecting the data collection instrument(s).
5. Selecting the themes to be covered, choosing a sub-indicator for each theme.
6. Developing the criteria to assess sustainability performance for each sub-indicator
7. Deciding the periodicity of monitoring the indicator
8. Developing modality of reporting the indicator
Scope

Included within the scope

• Crop and livestock production systems
  – Non-food crops and livestock (example crops such as tobacco, cotton, and livestock raised for non-food products like sheep for wool).
  – Crops grown for fodder or for energy purposes.
• Agro-forestry (trees on the farm).
• Aquaculture, to the extent that it takes place within the agricultural area. For example, rice-fish and similar systems.
• Both intensive and extensive production systems (including subsistence agriculture).

Excluded from the scope

• State and common land used commonly by several agriculture holdings.
• Production from gardens and backyards.
• Production from hobby farms.
• Land used exclusively for aquaculture.
• Forest and other wooded lands.
• Food harvested from the wild.
Criteria for the choice of themes and sub-indicators

- Policy relevance
- Universality
- International comparability
- Measurability
- Cost effectiveness
- Minimum cross-correlation
Sub-indicators

- **Impact/outcome** indicators that record what the state or change in state of factors and associated flows of benefits or costs.

- **Awareness** indicators record the level of awareness and knowledge in relation with a given sustainability issue.

- **Behavior** indicators capture the attitude of a given stakeholder in relation with a given sustainability issue.

- **Practice** indicators that record the type of agricultural practices and processes that a farm is undertaking.

- **Perception** indicators that record views of various stakeholders about different aspects of sustainability.
## Sub-indicators

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

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

- Criteria established by thematic experts, will be fine tuned in light of results of the proposed tests
- Helps measure progress
Reporting the indicator

Dashboard (proposed):

- The farm and its associated area are assessed for each theme/sub-indicator separately against its respective sustainability criteria.

- The sustainable agricultural area under each sub-indicators are then reported as percentage of total agricultural area.

- All themes/sub-indicators are reported at a national level in a dashboard.
## Pros & Cons of Dashboard

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improve focus - allows quick evaluation of the results across selected themes/sub-indicators</td>
<td>• Lack of simplicity – no single number to express sustainability</td>
</tr>
<tr>
<td>• Policy relevant – provide actionable information and clarity about the main issues of unsustainability of the country</td>
<td>• Progress over time for a country, comparison across countries and its ranking will be challenging unless done at the theme/sub-indicator level</td>
</tr>
<tr>
<td>• Flexible – present the possibility to combine data from different sources</td>
<td>• Demand careful readability to understand the sustainability status</td>
</tr>
</tbody>
</table>
Reporting through a dashboard

Example of results for country X in year Y

Note: This dashboard is only a simulation and is not from real data
Preferred instrument for data collection

• Preferred instrument for data collection is a farm survey questionnaire
• Aligned with efforts supported by FAO to develop farm surveys as the most relevant instrument for agricultural data (see AGRIS)
• 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
• Can be complemented with contextual information from other data sources
• Suggested periodicity: 3 years
Sampling strategy and stratification

- Two-stage sampling design: PSU are enumeration areas (districts); SSU are agricultural holdings (Household/non household sector holdings)
- Production systems: crop/livestock/mixed
- Irrigated/non irrigated
- Organic/non organic
## Use of alternative data sources

<table>
<thead>
<tr>
<th>No.</th>
<th>Sub-indicators</th>
<th>Admin data</th>
<th>Ag/livestock census</th>
<th>Ag surveys</th>
<th>Env. monitoring systems</th>
<th>GIS/remote sensing</th>
<th>Household surveys</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Farm output value per hectare</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Net farm income</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Risk mitigation mechanisms</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4</td>
<td>Prevalence of soil degradation</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>5</td>
<td>Variation in water availability</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>6</td>
<td>Management of fertilizers</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Management of pesticides</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>8</td>
<td>Use of biodiversity-supportive practices</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note: Environmental monitoring systems include soil sampling, river flows records, and groundwater abstraction records. GIS/RS includes models.
Conditions for using alternative data sources

• Respects the stratification (farm type, agricultural areas, etc.)
• Captures the same phenomenon as the proposed farm survey
• At least same quality as the farm survey
• Compliant with international/national standards and classifications systems internationally comparable
• Data available at the same level of territorial disaggregation as the farm survey
• Reference year and periodicity homogenous across the sub-indicators
Steps to calculate the 11 sub-indicators

1. Classify the sustainable (not sustainable) farms and its associated agricultural area, as per established criteria for each sub-indicator.

2. Once farms and its agricultural area have been classified for a given sub-indicator, calculate the total agricultural area according to its sustainability status.

3. Each sub-indicator is finally derived by calculating the proportion of agricultural area by sustainability status (i.e. desirable, acceptable and unsustainable) in total agricultural area.
1. Farm output value per hectare

**Theme:** Land Productivity  
**Coverage:** All farm types  
**Reference period:** last calendar year  

**Description:** The sub-indicator measures the total agricultural area associated with farms whose output value (crops and livestock) per hectare is greater than two-thirds of the output value that corresponds to the 90\(^{th}\) percentile of the distribution. The indicator is calculated according to a three-steps approach:

**Step 1:** calculate the farm output value per hectare as per below formula:

\[
\text{Farm output value per hectare} = \frac{\text{Farm output value (LCU)}}{\text{Farm agricultural land area (hectare)}}
\]

**Farm output value:** measured in Local Currency Unit (LCU) as the total volume of agricultural output —quantity of produced commodities (crop and livestock) at farm level— multiplied by the relative prices. Computed according to the International Standard Industrial Classification (ISIC, rev. 4) and it comprises:

1. Crop activities; and  
2. Livestock activities.

**Farm agricultural land area:** is defined as the area of land used for agriculture within the farm. It excludes common land areas, unless they are managed exclusively by the farm.
1. Farm output value per hectare (cont’d)

Step 2: classify the agricultural area under the farm according to the following sustainability criteria:

- Green (desirable): Sub-indicator value is ≥ 2/3 of the corresponding 90th percentile
- Yellow (acceptable): Sub-indicator value is ≥ 1/3 and < 2/3 of the corresponding 90th percentile
- Red (unsustainable): Sub-indicator value is < 1/3 of the corresponding 90th percentile

Step 2. Classify sustainable farms: an example (Uganda, 2012)

<table>
<thead>
<tr>
<th>Percentiles</th>
<th>Farm output value per hectare (in local currency unit, per year)</th>
<th>Farm output value per hectare (in US$, per year)</th>
<th>Established thresholds for sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>7345.03</td>
<td>2.93</td>
<td></td>
</tr>
<tr>
<td>5%</td>
<td>41324.95</td>
<td>16.50</td>
<td></td>
</tr>
<tr>
<td>10%</td>
<td>77094.88</td>
<td>30.79</td>
<td></td>
</tr>
<tr>
<td>25%</td>
<td>178632.40</td>
<td>71.34</td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td>409729.40</td>
<td>163.63</td>
<td></td>
</tr>
<tr>
<td>75%</td>
<td>822155.00</td>
<td>328.34</td>
<td>2/3 of the 90th percentile</td>
</tr>
<tr>
<td>90%</td>
<td>1454734.00</td>
<td>580.96</td>
<td>1/3 of the 90th percentile</td>
</tr>
<tr>
<td>95%</td>
<td>2158741.00</td>
<td>862.12</td>
<td></td>
</tr>
<tr>
<td>99%</td>
<td>3510956.00</td>
<td>1402.14</td>
<td></td>
</tr>
</tbody>
</table>
1. Farm output value per hectare (cont’d)

**Step 2.** classify sustainable farms: an example (Uganda, 2012, cont’d):

![Bar chart showing sustainability status](chart.png)

- **Desirable**: 37%
- **Acceptable**: 18%
- **Unsustainable**: 43%

**Step 3:** finally, calculate the proportion of sustainable agricultural area by sustainability status.
2. Net Farm Income (NFI)

**Dimension:** Economic

**Theme:** Profitability

**Coverage:** All farms types

**Reference period:** last three calendar years

**Description:** The sub-indicator measures the total agricultural areas associated with farm that have been consistently profitable over a 3-year period, as per farmers’ self-declaration of profitability.

This sub-indicator is calculated according to a three-step approach.
2. Net Farm Income (NFI)

Step 1: calculate net farm income:

If the required information is available, it is recommended to use the following formula:

\[ NFI = CR + Y_k - OE - Dep + \Delta Inv \]

Where:

- **NFI** = Total Net Farm Income
- **CR** = Total farm cash receipts including direct program payments
- **\( Y_k \)** = Income in kind
- **OE** = Total operating expenses after rebates (including costs of labour)
- **Dep** = Depreciation
- **\( \Delta Inv \)** = Value of inventory change.

If the required data items to calculate net farm income are not available, a second simplified option (short questionnaire) is also offered, based on farmer’s declaration (self-reported answer) of the agricultural holding’s profitability over the last three calendar years.
2. Net Farm Income (cont’d)

**Step 2:** classify farms according to the following sustainability criteria:
- **Green (desirable):** above zero for past 3 consecutive years
- **Yellow (acceptable):** above zero for at least 1 of the past 3 consecutive years
- **Red (unsustainable):** below zero for all of the past consecutive years

**Step 3:** calculate the proportion of agricultural area by sustainability status,

![% distribution of total agricultural area by sustainability status over three consecutive years (Uganda, 2012)](chart)
3. Risk mitigation mechanisms (RMM)

**Dimension:** Economic

**Theme:** Resilience

**Coverage:** All farms types

**Reference period:** last calendar year

**Description:** This sub-indicator measures the total agricultural area that are associated with farms meeting the three following mitigation mechanisms: 1) access to credit, 2) access to insurance and 3) on farm diversification.

**Data items required deriving sustainable farms:**

1. Farm holding access to or availed financial instrument:
   - Insurance (Yes/No)
   - Credit (formal, informal) (Yes/No)

2. List of other on-farm activities apart from crops and livestock (as per ISIC, rev. 4)

3. Gross margin for the enlisted on-farm activities: more than 33% of the gross margin of all on farm activities
3. Risk mitigation mechanisms (cont’d)

A two-step approach is used to calculate this sub-indicator

**Step 1.** Classify sustainable farms according to the following sustainability criteria:

- **Green (desirable):** Adoption of at least two of the above-listed mitigation mechanisms.
- **Yellow (acceptable):** Adoption of at least one of the above-listed mitigation mechanisms.
- **Red (unsustainable):** Absence of all of the above listed mitigation mechanisms.

**Step 2.** The proportion of agricultural area by sustainability status can be calculated as follows:

\[
RMM = \frac{\text{Agricultural area of farms with risk mitigation mechanisms}}{\text{total agricultural area}}
\]
4. Prevalence of soil degradation (PSD)

**Dimension:** Environmental

**Theme:** Soil health

**Coverage:** All farms types

**Reference period:** last three calendar years

**Description:** The sub-indicator measures the sustainability status of agricultural areas on the basis of agriculture activities that may affect soil health. Four main threats are used to identify farms that have been affected by soil degradation (as identified below).

**Data items required for deriving the sub-indicator:**

1. List of soil degradation threats experienced on the agricultural holding
   - Erosion
   - Reduction of fertility
   - Waterlogging
   - Salinization

2. Total area of the holding affected by threats related to soil degradation
4. Prevalence of soil degradation (cont’d)

A two-step approach is used to calculate this sub-indicator

Step 1. Classify the sustainability status of the farm according to the following sustainability criteria:

- Green (desirable): The combined area affected by any of the four selected threats to soil health is negligible (less than 10% of the total agriculture area of the farm).
- Yellow (acceptable): The combined area affected by any of the four selected threats to soil health is between 10% and 50% of the total agriculture area of the farm.
- Red (unsustainable): The combined area affected by any of the four selected threats to soil health is above 50% of the total agriculture area of the farm.

Step 2. Calculate the proportion of agricultural area by sustainability status according to the above-identified criteria.

\[
PSD = \frac{\text{Agricultural area of farms whose area affected by threats is above 50\%}}{\text{total agricultural area}}
\]
5. Variation in water availability (VWA)

**Dimension:** Environmental

**Theme:** Water use

**Coverage:** All farm types

**Reference period:** last three calendar years

**Description:** The sub-indicator captures the proportion of agricultural areas -- by sustainability status -- as associated with farms that contributes to unsustainable patterns of water use, the latter defined as:

- Use of water to irrigate crops on at least 10% of agricultural area; and
- Reduction in water availability over time; and (or)
- Inefficient functioning of organizations in charge of water allocation
5. Variation in water availability (cont’d)

This sub-indicator is calculated by a two-step approach as follows.

**Step 1.** Classify farms by sustainability status according to the following **sustainability criteria**.

- **Green (desirable):** does not use water for irrigating crops on more than 10% of the agriculture area of the farm, or water availability remains stable over the years.
- **Yellow (acceptable):** uses water to irrigate crops on at least 10% of the agriculture area of the farm, does not know whether water availability remains stable over the years, or experiences reduction on water availability over the years, but there is an organisation that effectively allocates water among users.
- **Red (unsustainable):** in all other cases.

**Step 2.** Calculate the proportion of agricultural area by sustainability status according to the above-identified criteria.

\[
VWA = \frac{\text{agricultural area of farms that have experienced a variation in water availability as per identified criteria}}{\text{Total agricultural area}}
\]
6. Management of fertilizers

**Dimension:** Environmental

**Theme:** Fertilizer risk

**Coverage:** All farm types

Reference period: last calendar year

**Description:** The sub-indicator captures agricultural areas by sustainability status, with the latter classified according to the management of fertilizer by farms.

**Data items required for deriving the sub-indicator:**

1. Organic certification for the holding (Yes/No)
2. Name of certification body and registration number/code
3. Area under certified organic crop
4. Use of synthetic or mineral fertilizer by the agricultural holding (Yes/No)
5. Level of awareness about environmental risks associated with the excessive use or misuse of fertilizer (Yes/No)
6. Specific measures taken to mitigate the environmental risks associated with the excessive use or misuse of fertilizer (Yes/No)
6. Management of fertilizers (cont’d)

The sub-indicator is calculated according to a two-step approach:

**Step 1.** Farms classification by sustainability status is done according to the following **sustainability criteria**:

- **Green** (desirable): The farm has organic certification (does not use synthetic or mineral fertilizers) or uses synthetic or mineral fertilizers and takes specific measures to mitigate environmental risks (more than four from the list above)
- **Yellow** (acceptable): farmer uses synthetic or mineral fertilizers and takes at least one measure from the above list to mitigate environmental risks
- **Red** (unsustainable): farmer uses synthetic or mineral fertilizer and does not take any of the above specific measures to mitigate environmental risks associated with their use.

**Step 2:** farm classification by sustainability status (desirable, acceptable and unsustainable) allows calculating the corresponding proportion of agricultural area (by sustainability status of the farm)
7. Management of pesticides

**Dimension:** Environmental  
**Theme:** Pesticides  
**Coverage:** All farm types  
**Reference period:** last calendar year

**Description:** the sub-indicator captures the proportion of agricultural areas by sustainability status, the latter identified on the basis of information on the use of pesticides on the farms, farmer’s awareness of the risks associated to pesticides and the type of measure(s) taken to mitigate the associated risks. The following data items are required to classify farms by their sustainability status:

1. Organic certification for the holding (Yes/No)  
2. Name of certification body and registration number/code  
3. Area under certified organic crops  
4. Use of pesticides by the agricultural holding (Yes/No)  
5. Use of highly hazardous pesticides by the agricultural (Yes/No)  
6. Level of awareness of the environmental and health risks  
7. Holding’s adherence to an Integrated Pest Management (IPM) program (Yes/No)  
8. Measures taken to protect people from health-related risks (list of measures)  
9. Measures taken to avoid environment-related risks associated with pesticides (list of measures)
7. Management of pesticides (cont’d)

The sub-indicator is calculated according to a two-step approach:

**Step 1.** Farms classification by sustainability status is done according to the following **sustainability criteria**:

- **Green (desirable):** The farm has organic certification or does not use pesticides, uses only low risk pesticides, and adheres to all three health-related measures and at least three of the environment-related measures (including adherence to label recommendation).

- **Yellow (acceptable):** Farmer uses only low-risk pesticides and takes some measures to mitigate environmental and health risks (at least two from each of the lists above, including adherence to label recommendations).

- **Red (unsustainable):** Farmer uses highly hazardous pesticides or uses low-risk pesticides but does not take specific measures to mitigate environmental or health risks associated with their use.

**Step 2:** Farm classification by sustainability status (desirable, acceptable and unsustainable) allows calculating the corresponding proportion of agricultural area (by sustainability status of the farm).
8. Use of biodiversity-supportive practices (UBSP)

**Dimension:** Environmental

**Theme:** Biodiversity

**Reference period:** last three calendar year

**Coverage:** All farm types

**Description:**
This sub-indicator measures agricultural area by sustainability status according to the farm’s level of adoption of biodiversity-supportive practices. The following data item, i.e. biodiversity-supportive practices, are required for this sub-indicator.

1. Leaves at least 10% of the holding agricultural area for natural or diverse vegetation.
2. Does not use synthetic pesticides or mineral or chemical fertilizers, does not purchase more than 50% of the feed for livestock and does not use antimicrobials as growth promoters.
3. At least two of the following must contribute to the farm production: crop/pasture; trees or tree products; livestock or animal products; fish.
4. Practices crop or crop/pasture rotation involving at least 3 crops on at least 80% of the farm area.
5. The area under a single continuous commodity is not larger than 2 hectares.
6. Total holding’s agricultural area planted to hybrid crops is less than 25%.
7. At least 50% of each animal species’ population consists of locally adapted breeds or breeds at risk of extinction.
8. Natural pastures or grassland (no use of mineral or chemical fertilizer and no pesticides).
8. Use of biodiversity-supportive practices (cont’d)

**Step 1.** The following criteria are used to classify farms by sustainability status

- **Green (desirable):** The agricultural holding meets at least five of the above criteria
- **Yellow (acceptable):** The agricultural holding meets between two and four of the above criteria
- **Red (unsustainable):** The agricultural holding meets less than two of the above criteria

**Step 2.** The proportion of agricultural area (by sustainability status of the farm) is calculated as follows:

\[
\text{UBSP} = \frac{\text{Agricultural area corresponding to farms that adopt at least five (out of eight) biodiversity – supportive practices}}{\text{Total agricultural area}}
\]
9. Wage rate in agriculture

**Dimension:** Social

**Theme:** Decent employment

**Coverage:** Not applicable to farms that employ only family labour.

**Reference period:** last calendar year

**Description:** The sub-indicator measures the proportion of agricultural area by sustainability status. The sustainability status is classified on the basis of the daily wage rate (in local currency units) paid by the farm to unskilled agricultural worker, once benchmarked against the national or agriculture sector minimum wage rate.

A three-step approach is applied to derive this sub-indicator
9. Wage rate in agriculture (cont’d)

Step 1. Calculate the daily wage rate in agriculture paid by the farm to unskilled workers according to the following formula:

\[
1) \text{wage rate in agriculture} = \frac{\text{total annual compensation (unskilled workers)}}{\text{total annual hours worked (unskilled workers)}} \times 8
\]

To calculate the daily wage rate in agriculture the following data items are required:

1. Unskilled workers hired on the agricultural holding (Yes/No)
   - Unskilled workers as defined according to the International Standard Classification of Occupation (ISCO, ‘08)
   - Unskilled workers are workers performing basic and routinely tasks in the agricultural sector (elementary occupation group, 09, as per ISCO).

2. Average pay in-cash and/or in-kind for a hired unskilled worker per day (of 8 hours)

3. Minimum agricultural sector wage rate (if available) or minimum national wage rate
9. Wage rate in agriculture (cont’d)

Step 2. Once the daily wage rate has been calculated, classify farms by sustainability status, as per below criteria:

• **Green (desirable):** if the holding has fair labour certification or if the wage rate paid to unskilled labour is above the minimum national wage rate or minimum agricultural sector wage rate (if available).

• **Yellow (acceptable):** if the wage rate paid to unskilled labour is equals to the minimum national wage rate or minimum agricultural sector wage rate (if available).

• **Red (unsustainable):** if the wage rate paid to unskilled labour is below the minimum national wage rate or minimum agricultural sector wage rate (if available).
9. Wage rate in agriculture (cont’d)

An example (Ivory Coast, 2008):

- Ivory Coast minimum wage is 36,607 CFA franc per month, corresponding to 1,600 CFA franc per day (assuming 22 working days per month).

Step 3. Calculate the proportion of agricultural area by sustainability status. It is important to notice that the final sub-indicator only accounts for total agricultural area associated with farm employing paid labour.
10. Food Insecurity Experience Scale (FIES)

**Dimension:** Social

**Theme:** Food security

**Coverage:** Only household farms

**Reference period:** last calendar year

**Description:** The sub-indicator on Food Insecurity Experience Scale (FIES) is a measure of the severity of food insecurity experienced by individuals or households. The proportion of sustainable (non-sustainable) agricultural area by this indicator is calculated by accounting for the area associated with household farms that do not experience (experience) food insecurity.

A three step-approach is applied to calculate this sub-indicator.
10. Food Insecurity Experience Scale (cont’d)

**Step 1.** Calculate the FIES indicator according to the methodology used to compute the [SDG indicator 2.1.2](#) on the severity of food insecurity.

**Step 2.** Classify household farms by sustainability status according to the following criteria (level on FIES scale):

- Green (desirable): Mild food insecurity
- Yellow (acceptable): Moderate food insecurity
- Red (unsustainable): Severe food insecurity

**Step 3.** Calculate the proportion of agricultural area by sustainability status of the household farm. It is important to notice that the final sub-indicator only accounts for the agricultural area associated with household farms.
11. Secure tenure rights to land

**Dimension:** Social

**Theme:** Land tenure

**Coverage:** All farms types

**Reference period:** last calendar year

**Description:** The sub-indicator measures the proportion of agricultural area by sustainability status, the latter defined with reference to ownership or secure rights over use of agricultural land areas used by the farm.

The sub-indicator is constructed according to a two-step approach.
11. Secure tenure rights to land (cont’d)

Step 1.a Calculate the proportion of farms having secure rights to land on the basis of data items required to construct SDG indicator 5.a.1 (a): “percentage of people with ownership or secure rights over agricultural land (out of total agricultural population)

Step 1.b. Classify farms by sustainability status according to the following criteria (level of security of access to land):

- Green (desirable): has a formal document with the name of the holder/holding on it, or has the right to sell any of the parcel of the holding, or has the right to bequeath any of the parcel of the holding
- Yellow (acceptable): has a formal document even if the name of the holder/holding is not on it
- Red (unsustainable): no positive responses to any of the 4 questions above

Step 2. Once farms have been classified according to their sustainability status (sustainable, acceptable and unsustainable), calculate the proportion of agricultural area by sustainability status.
Next steps

- Light pilot in selected countries
- Fine tuning questionnaire
- Finalizing documentation
  - Methodological note
  - Farm survey questionnaire
  - Enumerator’s manual
- Submission to IAEG-SDG
- Preparation of training material
- Rolling out in countries
Thank You

FOR MORE INFORMATION:

ARBAB KHAN (ARBAB.KHAN@FAO.ORG)