RAF/AFCAS/23-E-121 E

December 2023

منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Продовольственная и сельскохозяйственная организация Объединенных Наций | Organización de las Naciones Unidas para la Agricultura y la Alimentación

AFRICAN COMMISSION ON AGRICULTURAL STATISTICS

Twenty-eighth Session

Pretoria, South Africa: 4 – 8 December 2023

AGENDA ITEM 12

PROGRESS AND NEW DEVELOPMENTS ON MEASURING SUSTAINABLE DEVELOPMENT GOAL (SDG) INDICATORS

Clara Aida Khalil
Dorian Kalamvrezos Navarro

FAO Office of the Chief Statistician

SUMMARY

As the custodian agency of 21 SDG Indicators and contributing agency to another five, one of FAO's top priorities is to improve the capacity of Member countries to measure and report Sustainable Development Goal (SDG) Indicators and monitor the progress made in the implementation of the 2030 Agenda.

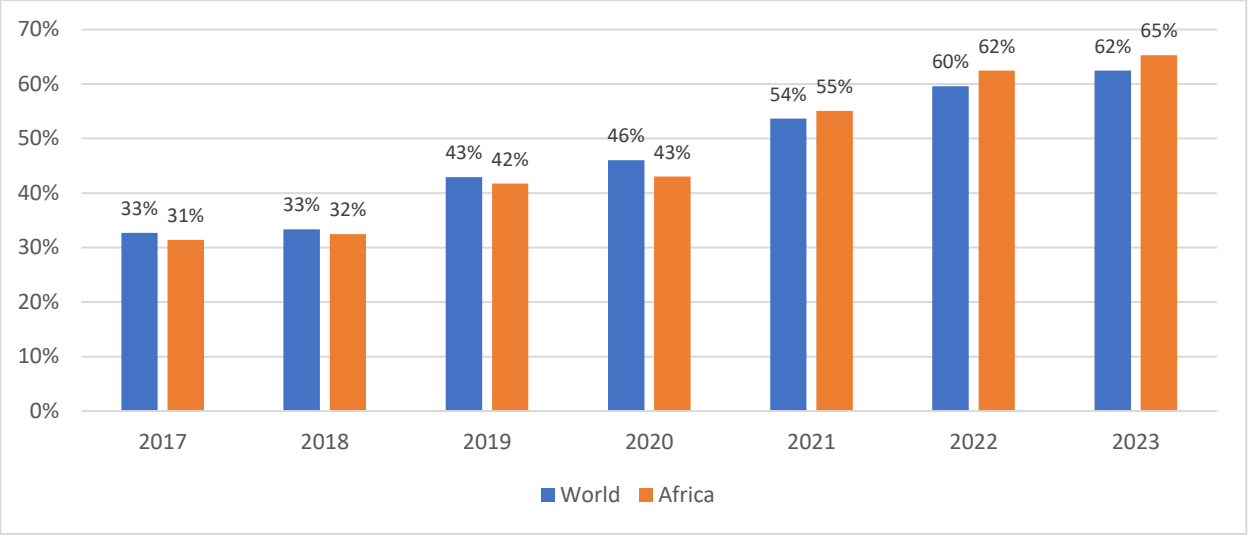
This paper traces the evolution of African countries' ability to report on the 21 SDG indicators under FAO custodianship, by assessing how the average reporting rate[1] in the region compares to the world average over time. Then, the document presents some of the main methodological developments and statistical tools produced by the FAO Office of the Chief Statistician since the 27th session, both to produce disaggregated SDG estimates and measure the progresses made towards the achievement of targets and goals in the Agenda. Finally, AFCAS members are invited to express their view on the adoption of such methods in the African region.

1. Recent developments in SDG reporting in Africa

The average reporting rate for Africa was below the aggregated value at world level until the year 2020, but since 2021 it has surpassed the world average (**Figure 1**). While this had already been highlighted by FAO to the preceding 27th AFCAS session, the positive pattern has not only continued until 2023, but African countries have also managed to increase their lead over the world average over the past two years. Thus, while the average reporting rate in Africa was three percentage points below the world average in 2020, the situation has gradually reversed since 2021, and now the opposite is true: the average country reporting rate in Africa is three percentage points ahead of the world average.

[1] Calculated on the basis of the criterion that a country is said to have "reported" a given indicator in a given year, if at least one data point for that indicator and country is available in at least one of the 5 preceding years.

Figure 1: Average country reporting rate on the 21 SDG indicators under FAO custodianship



The difference in the average country reporting rate in Africa in comparison to the world average is a function of the respective reporting rates for each of the 21 SDG indicators under FAO custodianship. **Figures 2.a** and **2.b** below depict the 2023 average reporting rate for each of the 21 SDG indicators in Africa and the world as a whole. As can be observed, the average reporting rate in Africa exceeds the world average for SDG indicators 2.1.1 (*prevalence of undernourishment*); 2.1.2 (*prevalence of food insecurity*); 2.3.1/2.3.2 (*productivity and incomes of small-scale food producers*); 2.5.1.b (*animal genetic resources conserved in gene banks*); 2.a.1 (*public expenditure in agriculture*); 2.c.1 (*food price volatility*); 5.a.2 (*protection of women's land rights*); 6.4.1/6.4.2 (*water use efficiency and water stress*); 14.7.1 (*sustainable fisheries contribution to GDP*); 15.2.1 (*sustainable forest management*) and 15.4.2 (*mountain health and degradation*). For several of these indicators, it should be noted that FAO plays an active role in calculating the final indicator value (e.g. 2.1.1, 2.3.1/2.3.2, 2.c.1, 5.a.2) or even in collecting primary data (e.g. 2.1.2 when it is based on data collected by non-official data providers on behalf of FAO).

By contrast, the average reporting rate for Africa falls short of the world average for SDG indicators 2.4.1 (*productive and sustainable agriculture*); 2.5.1.a (*plant genetic resources conserved in gene banks*); 2.5.2 (*risk status of livestock breeds*); 14.4.1 (*fish stocks sustainability*); and 14.6.1/14.b.1 (*international instruments combatting IUU fishing and promoting small-scale fisheries*). The average reporting rate for Africa and the world as a whole is equal at zero percent for SDG indicator 12.3.1 (*food losses; currently only reporting at regional level*), at 100 percent for SDG indicator 15.1.1 (*forest area*), and at 14 percent for SDG indicator 5.a.1 (*women's equal access to land*).

Figure 2.a: Comparison of the average reporting rate in Africa and the world as a whole for SDG indicators under FAO custodianship, 2023 (*indicators 2.1.1 through to 5.a.2*)

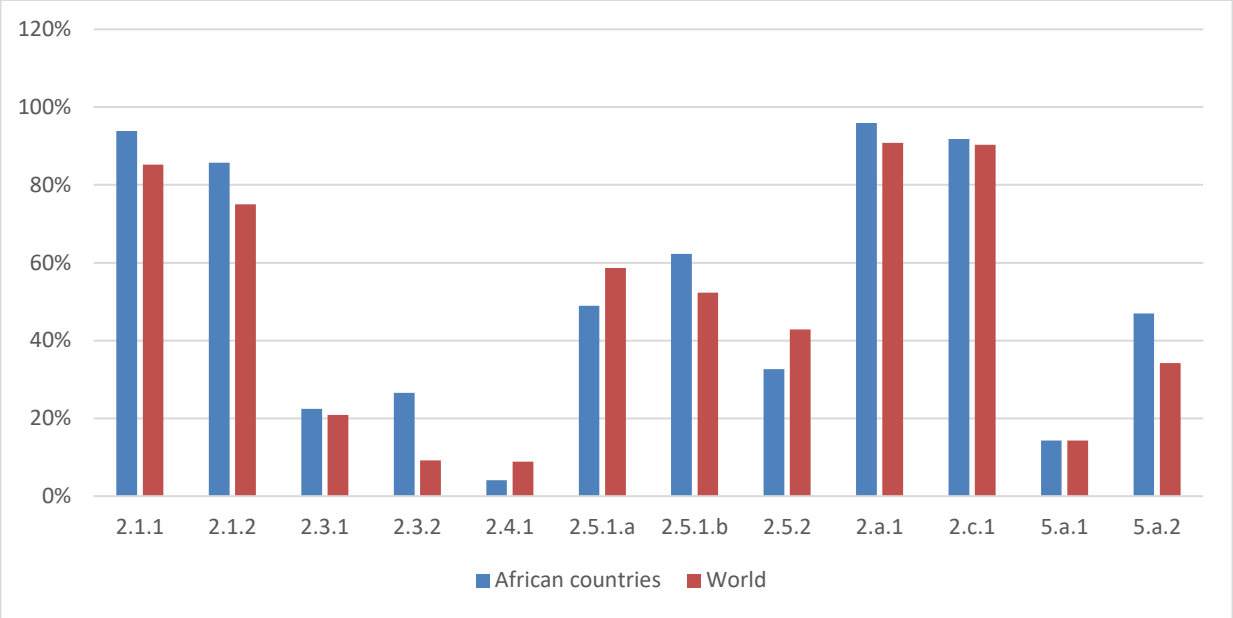
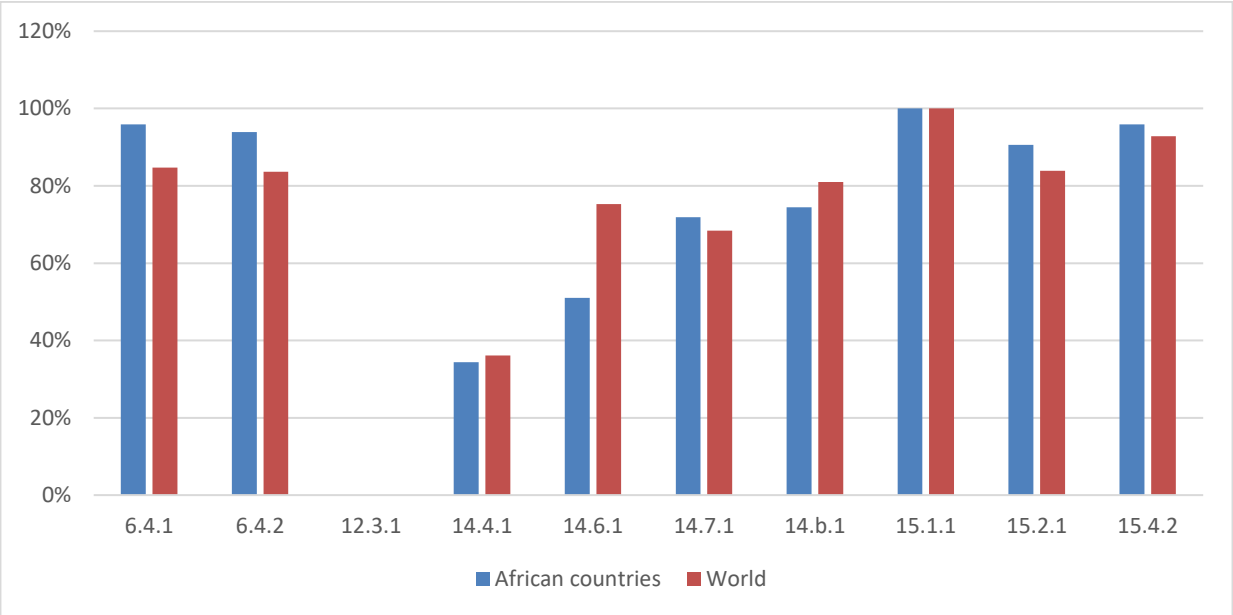


Figure 2.b: Comparison of the average reporting rate in Africa and the world as a whole for SDG indicators under FAO custodianship, 2023 (*indicators 6.4.1 through to 15.4.2*)



The indicator for which the average reporting rate in Africa lags further behind the world average is 14.6.1 (international instruments to combat IUU fishing) – at 51 percent and 75 percent respectively. This is a missed opportunity for African countries, bearing in mind that this indicator is based on a self-reporting of the implementation of international instruments combatting Illegal, Unreported and Unregulated fishing. The relevant information is provided by countries through FAO's biennial Code of Conduct on Responsible Fisheries questionnaire (which also provides the information for SDG indicator 14.b.1). Therefore, bearing in mind that this indicator does not depend on carrying out any type of statistical survey or similar operation but only a basic type of legal assessment as to whether the provisions of relevant international instruments have been incorporated and reflected in national

legal frameworks, this is a “low-hanging fruit” indicator which African countries could accelerate reporting on with little additional cost.

Figure 3: Comparison of the 2023 average country reporting rate for the 21 SDG indicators under FAO custodian across African sub-regions

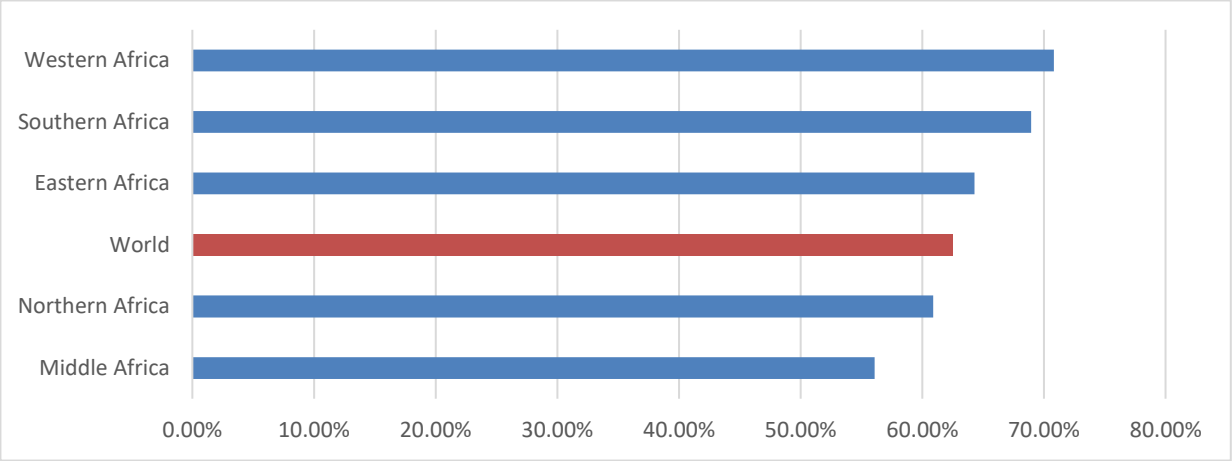
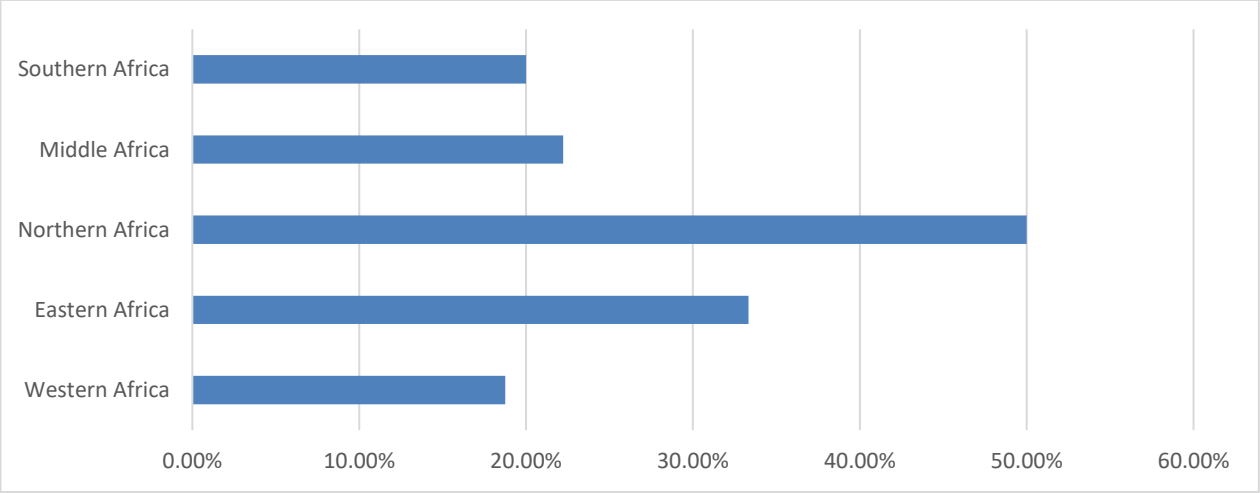


Figure 3 compares the latest average country reporting rate on the 21 SDG indicators under FAO custodianship across the five African sub-regions. Western, Southern and Eastern Africa register reporting rates above the world average, with Western Africa achieving a rate over 70 percent and thus achieving a lead of around 8 percentage points over the world average. By contrast, Northern Africa is behind the world average by about 2 percentage points, whereas the reporting rate of Middle Africa is the lowest at 56 percent. Two key conclusions derive from these findings: the first is that Middle Africa risks being left behind and be unable to reap the benefits from greater data availability in the food and agriculture-related SDG indicators – which can act as a key accelerator in the transformation of agrifood systems with a view to ending hunger and malnutrition. Therefore, a greater effort must be made by donors, the international community and FAO to invest in statistical capacity development interventions in this subregion, even if for practical, historical or other reasons they have tended to invest relatively more in other subregions.

Figure 4: Proportion of countries with national statistical plans that are fully funded, 2022 (SDG indicator 17.18.2)



The second conclusion that can be gleaned from the subregion comparison is that the reporting rate of Northern Africa is too low by comparison to the statistical capacities of the region. In 2022, GDP per capita in North Africa was almost the double compared to the African average. In addition, the relatively high statistical capacity in Northern Africa is corroborated by SDG indicator 17.18.2, on the number of countries with a fully funded national statistical plan. As can be seen in **Figure 4** above, the proportion of countries in Northern Africa with a fully funded national statistical plan dwarfs that of other subregions. A tentative conclusion that emerges is that North African countries have been slow in adopting the food and agriculture-related SDG indicators under FAO custodianship and may have

perhaps prioritized other SDG indicators or other national indicators in the food and agriculture domain that are not comparable to the official SDG indicators.

2. Innovative methods for data disaggregation of SDG Indicators with use cases from RAF and other Regions

In addition to reporting SDG Indicators at the national level, with the adoption of the global SDG indicator framework, member states have endorsed an overarching principle of data disaggregation stating that *"SDG Indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics"*[2].

The production of high-quality disaggregated estimates of SDG indicators imposes significant challenges to national statistical systems, both in terms of data requirements and operational complexity. With this in mind, at its forty-seventh session, the UNSC requested the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) to form a working group on data disaggregation, with the objective of strengthening national capacities and develop the necessary statistical standards and tools to produce disaggregated data. This led to – among other results – the identification of a minimum set of core disaggregation dimensions for each SDG indicator, and the preparation of a comprehensive compilation of categories and dimensions for present and future data disaggregation of SDG indicators[3]. In addition, the working group on data disaggregation established a task force on small area estimation (SAE) with the goal of developing tools and case studies to facilitate the implementation of SAE approaches for disaggregating SDG indicators[4] based on survey data.

In this framework, the FAO Office of the Chief Statistician - as leading member of the working group on data disaggregation and the task force on SAE- has conducted extensive methodological work on data disaggregation that resulted in the production of several resources for Member countries.

First, the FAO Office of the Chief Statistician published a set of data disaggregation guidelines for SDG indicators based on survey data, which were presented and discussed at the 27th session of AFCAS. The Guidelines (FAO, 2021) provide statistical methods and software tools to address data disaggregation of all SDG Indicators under FAO custodianship having sample surveys as their primary data source. Examples of such indicators are Indicators 2.1.1, 2.1.2, 2.3.1, 2.3.2, and 5.a.1. The publication also includes a case study of an indirect estimation method adopted to produce disaggregated estimates of SDG indicator 2.1.2 (prevalence of food insecurity). In 2022, the methodology presented in the case study has been refined and tested on microdata from Guatemala, Malawi and South Africa, in order to produce a Technical Report presenting the practical steps and the statistical software to implement the discussed methods (FAO, 2022a).

Additional data disaggregation activities on SDG Indicator 2.1.2 have been implemented in 2023 with the governments of Chile, Colombia, and Dominican Republic in the context of a technical cooperation project initiated by the FAO Regional Office for Latin America and the Caribbean. The project was intended to provide technical support to three countries in the region for the production of food insecurity maps based on the application of SAE techniques on SDG Indicator 2.1.2. Activities implemented in the context of this project allowed refining a methodology to map food insecurity at granular sub-national level that could be replicated in virtually all countries with minimum modifications provided that: 1) the country implements a representative survey collecting microdata to estimate SDG indicator 2.1.2 at the national level; 2) suitable sources of auxiliary variables to be used for the implementation of small area estimation techniques are available (e.g. a recent census, administrative registers, geospatial information systems).

[2] Report of the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (E/CN.3/2017/2)

[3] All resources and tools produced by the working group on data disaggregation can be accessed at the present link: https://unstats.un.org/sdgs/iaeg-sdgs/disaggregation/

[4] The Task Force on Small Area Estimation has recently developed and published a WIKI Toolkit on SAE methods, which provides information and guidelines on the production of disaggregated SDG estimates through SAE. The Toolkit is a living resources subject to continuous updates. It can be accessed at the present link: https://unstats.un.org/wiki/display/SAE4SDG/SAE4SDG

The FAO Office of the Chief Statistician has also implemented a case study on data disaggregation and SAE focused on SDG Indicators 2.3.1 and 2.3.2. The experiment was performed with microdata from the Integrated Household Survey of Mali and auxiliary information retrieved from multiple trustworthy geospatial information systems. This case study is extensively discussed and documented in a FAO technical report (FAO 2023a), and an article included in a special issue of the Statistical Journal of the IAOS (Khalil et al, 2022). Approaches documented in the above-mentioned publications are now being implemented in the context of Technical Cooperation Project in Brazil and Ecuador. The same type of technical assistance could also be provided to AFCAS Members expressing their interest in producing subnational estimates of indicators monitoring target 2.3.

Still on SDG Indicators 2.3.1 and 2.3.2, since the last session of AFCAS, several technical assistance and capacity development activities were organized in the African region. For example, following a virtual training on the two indicators with a module on data disaggregation delivered to 12 AFCAS members[5], Burkina Faso, Botswana, Ethiopia, Lesotho, and Mali received technical assistance for the production of aggregate and disaggregated 2.3 estimates using their official data sources.

Concerning Goal 5, in 2021, FAO Office of the Chief Statistician developed a practical case study based on SAE techniques to disaggregate SDG indicator 5.a.1 by sex and at granular sub-national level. This experiment was implemented using microdata from the Ugandan National Panel Survey and its results, along with the practical steps and software for its replication, have been summarized in a technical report that was published during the first trimester of 2022 (FAO, 2022b).

All the above-mentioned activities and case studies allowed FAO to build the necessary experience to produce a comprehensive set of training materials on data disaggregation and SAE for SDG Indicators based on survey data. This material, which was reviewed by several SAE experts from the academia and national statistical offices, has been used to deliver three virtual trainings to 10 countries in Africa, Asia, Europe and Central Asia (Armenia, Benin, Botswana, Georgia, Indonesia, Kyrgyzstan, Mali, Moldova, Nepal, and South Africa).

3. Enhanced tools and methods for SDG progress assessment at the national, regional and global level

The statistical methodology developed by FAO to measure the current status and trend of SDG indicators was discussed during the 27th session of AFCAS, where the FAO Chief Statistician recommended Member countries to adopt standard and harmonized approaches for assessing the progress made towards the achievement of the SDGs. This methodology has remained substantially stable during the biennium and has been systematically adopted for the production of the FAO annual SDG Progress Reports.

With 2023 marking the mid-point of the 2030 Agenda, the UN Statistics Division as well as custodian agencies have been urged to find ways of performing current status and trend assessments not only at the level of individual indicators, but also for targets and goals as a whole. In this respect, although an agreement on an UN-wide harmonized approach for such a Goal-level assessment has not been reached yet, FAO has proposed a simple method that has been used for the first time this year for a comprehensive assessment of Goal 2. The selected procedure is articulated in the three steps summarized below:

- **Step 1:** The trend and the current status assessments are implemented for all indicators with data available under a given target.
- **Step 2:** The estimated progress values are inserted into a scoring function that linearly normalizes the values of the current status and trend on a continuous scale from 0 to 4.
- **Step 3:** For targets monitored by more than one indicator, the single measures are averaged into target-level scores. Finally, the scores for all targets under a given goal are summarized through arithmetic mean, yielding an overall Goal-level assessment.

[5] The recordings of the training, along with the relevant supporting material, are available on FAO website: https://www.fao.org/sustainable-development-goals-data-portal/SDGevents/events-detail/virtual-training-on-sdg-indicators-2.3.1-and-2.3.2-african-countries/en

Step 1

The trend and current status assessment at indicator level is performed according to the system-wide methodology adopted for the Global SDG Progress Chart and the FAO SDG Progress Report. The full documentation of the approach is provided in the Technical Annex of the FAO Progress Report (FAO, 2023b) and is summarized in **Figure 5** below for easy reference.

Figure 5: Current status and trend assessment at the indicator level

Trend assessment for indicators with a numerical target: Ratio between the actual growth since the baseline year and the growth that would be required to achieve the target by 2030.

$$CR_i = \frac{CAGR_{A_i}}{CAGR_{R_i}} = \frac{\left(\frac{x_{it}}{x_{it_0}}\right)^{\frac{1}{t-t_0}} - 1}{\left(\frac{x_i^*}{x_{it_0}}\right)^{\frac{1}{2030-t_0}} - 1}$$

Trend assessment for indicators without a numerical target: Actual growth since the baseline year.

$$CAGR_{A_i} = \left(\frac{x_{it}}{x_{it_0}}\right)^{\frac{1}{t-t_0}} - 1$$

Current status assessment for indicators with a numerical target: Normalized distance to the target based on latest available data

$$d_{it} = \begin{cases} \frac{x_i^* - x_{it}}{x_i^* - x_t^{(w)}} & \text{Desired direction = increase over time} \\ \frac{x_{it} - x_i^*}{x_t^{(w)} - x_i^*} & \text{Desired direction = decrease over time} \end{cases}$$

Current status assessment for indicators without a numerical target: **Quintile** distribution computed on country values. World and regions treated as "average countries" and assigned to the corresponding quintile

Step 2

The main challenge encountered in the production of progress assessments at target and goal level stems from the fact that individual indicators under given targets and goals often measure very different phenomena that are usually expressed with different units of measure. Hence, the current status and trend measures produced at the indicator level need to be standardized on a unique assessment scale. To do so, the assessment values obtained with approaches reported in **Figure 5** are linearly rescaled into a range from 0 to 4 adopting a min/max approach, as described in the following paragraphs.

Linearization of current status and trend assessments for indicators with a numerical target

The current status and the trend of SDG Indicators monitoring targets with a fixed numerical yardstick are respectively assessed with the normalized distance from the target and the compound ratio (CR).

Table 1: Distance thresholds and categories and corresponding linearized scores[6]

Level distance	Colour	Assessment category	Score
$d_{it} \leq 0$	Dark green	Target already met (+++)	4
$0 < d_{it} \leq 0.05$	Green	Close to the target (++)	[3–4)
$0.05 < d_{it} \leq 0.10$	Yellow	Moderate distance to the target (+)	[2–3)
$0.10 < d_{it} \leq 0.25$	Orange	Far from the target (-)	[1–2)
$d_{it} > 0.25$	Red	Very far from the target (--)	[0–1)

[6] It should be noted that the boundaries of the distance intervals reported in the first column of Table 1 are indicator specific. In particular, the table presents the intervals used for assessing the trends of Indicators 2.1.1 and 2.1.2 as an example.

In order to obtain a current status score ranging from 0 to 4, the normalized distance from the target d_{it} is linearized adopting the following min/max expression:

$$D_{Score} = \frac{-(max_s - min_s)}{(max_{dist} - min_{dist})} * (d_{it} - min_{dist}) + max_s$$

where:

- min_{dist} and max_{dist} are respectively the minimum and the maximum values of d_{it} delimiting the corresponding assessment interval (**Table 1**). For example, for $d_{it} = 0.06$, $min_{dist} = 0.05$ and $max_{dist} = 0.10$[7].
- min_s and max_s are respectively the minimum and the maximum value of the score delimiting the corresponding assessment interval for the distance. For example, for $d_{it} = 0.06$, $min_s = 2$ and $max_s = 3$, which results in a $D_{Score} = 2.8$

Similarly, in order to obtain a trend score ranging from 0 to 4, the CR is linearized adopting the following expression:

$$CR_{Score} = \frac{(max_s - min_s)}{(max_{CR} - min_{CR})} * (CR - min_{CR}) + min_s$$

where:

- min_{CR} and max_{CR} are respectively the minimum and the maximum values of the CR delimiting the corresponding assessment interval (**Table 2**). For example, for a CR equal to 0.6, $min_{CR} = 0.1$ and $max_{CR} = 0.95$[8].
- min_s and max_s are respectively the minimum and the maximum value of the score delimiting the corresponding assessment interval for the CR. For example, for a CR equal to 0.6, $min_s = 2$ and $max_s = 3$, which results in a $CR_{Score} = 2.6$.

Table 2: CR thresholds and categories and corresponding linearized scores[9]

Level or ratio CR	Colour	Assessment category	Score
$x_{i,t} = x_i^*$	Dark green	Target already met (TAM)	4
$CR \geq 0.95$	Green	On-track to achieve the target (>>)	[3–4)
$0.10 < CR < 0.95$	Yellow	On-path, but too slow to achieve the target (>)	(2–3)
$-0.10 \leq CR \leq 0.10$	Orange	No improvement (stagnation) since baseline (=)	[1–2]
$CR < -0.10$	Red	Deterioration/movement away from the target (<<)	[0–1)

Linearization of current status and trend assessments for indicators without a numerical target

The current status and trend of SDG Indicators monitoring targets without a fixed numerical yardstick are respectively assessed with the compound annual growth rate ($CAGR$) and the quintile distribution. After determining the quintiles on country-level values of a given indicator, the regional and global aggregates are associated to the corresponding quintiles according to their values. The linearization of

[7] Given that d_{it} can potentially take any value in the real scale, in the dark green class (target already met) min_{dist} is operationally set equal to 0. Analogously, in the red class (very far from the target) max_{dist} is operationally set equal to 0.50 for the absolute distance and 0.80 for the normalized distance.

[8] Similarly to the distance, the CR can take any value in the real scale. Hence, in the light green class (indicator value on track to achieve the target) max_{CR} is operationally set equal to 1.50. Analogously, in the red class (indicator value indicating deterioration from the target), min_{CR} is operationally set equal to –0.5.

[9] As for the distance, the boundaries of the CR intervals reported in the first column of Table 2 are indicator specific. In particular, the table presents the intervals used for assessing the trends of Indicators 2.1.1 and 2.1.2 as an example

these two complementary measures of progress in absence of a numerical target requires considering also the normative direction of indicators.

For indicators with an increasing normative direction, the quintiles are normalized adopting the following expression:

$$Q_{Score} = \frac{(max_s - min_s)}{(max_Q - min_Q)} * (x_Q - min_Q) + min_s$$

where:

- min_Q and max_Q are respectively the minimum and the maximum values of x_{it} delimiting the corresponding assessment interval (**Table 3**).
- min_s and max_s are respectively the minimum and the maximum value of the score delimiting the corresponding assessment interval for the quintile's distribution.

Table 3: Quintiles and categories and corresponding linearized scores with increasing normative direction

Quintile	Colour	Assessment category	Score
$q_{80\%} < x_{it} \leq q_{100\%}$	Dark green	Fifth quintile	4
$q_{60\%} < x_{it} \leq q_{80\%}$	Green	Fourth quintile	(3–4]
$q_{40\%} < x_{it} \leq q_{60\%}$	Yellow	Third quintile	(2–3]
$q_{20\%} < x_{it} \leq q_{40\%}$	Orange	Second quintile	(1–2]
$q_{0\%} \leq x_{it} \leq q_{20\%}$	Red	First quintile	[0–1]

Analogously, the expression for indicators with a decreasing normative direction is:

$$Q_{Score} = \frac{-(max_s - min_s)}{(max_Q - min_Q)} * (x_Q - min_Q) + max_s$$

Table 4: Quintiles and categories and corresponding linearized scores with decreasing normative direction

Quintile	Colour	Assessment category	Score
$q_{0\%} \leq x_{it} \leq q_{20\%}$	Dark green	First quintile	4
$q_{20\%} < x_{it} \leq q_{40\%}$	Green	Second quintile	[3–4)
$q_{40\%} < x_{it} \leq q_{60\%}$	Yellow	Third quintile	[2–3)
$q_{60\%} < x_{it} \leq q_{80\%}$	Orange	Fourth quintile	[1–2)
$q_{80\%} < x_{it} \leq q_{100\%}$	Red	Fifth quintile	[0–1)

For what concerns the linearization of the trend, for indicators with an increasing normative direction, the $CAGR$ is rescaled on a range from 0 to 4 adopting the following expression:

$$CAGR_{a\,Score} = \frac{(max_s - min_s)}{(max_{CAGR_a} - min_{CAGR_a})} * (CAGR_a - min_{CAGR}) + min_s$$

where:

- min_{CAGR_a} and max_{CAGR_a} are respectively the minimum and the maximum values of the $CAGR_a$ delimiting the corresponding assessment interval. For example, for a $CAGR_a$ equal to 0.009, $min_{CAGR_a} = 0.005$ and $max_{CAGR_a} = 0.01$[10].

[10] Also the $CAGR_a$ can potentially take any real value. Hence, in the light green class (improvement since the baseline year) max_{CAGR_a} is operationally set equal to 0.05. Analogously, in the red class (deterioration since baseline year) min_{CAGR_a} is operationally set equal to -0.05.

- min_s and max_s are respectively the minimum and the maximum value of the score delimiting the corresponding assessment interval for the $CAGR_a$. For example, for a $CAGR_a$ equal to 0.009, $min_s = 2$ and $max_s = 3$.

Table 5: CAGR thresholds and categories and corresponding linearized scores in correspondence of an increasing normative direction

Levels of actual growth rate	Colour	Assessment category	Score
$CAGR_a > 0.01$	Green	Improvement since baseline-year (>>)	[3–4]
$0.005 < CAGR_a \leq 0.01$	Yellow	Slight improvement since baseline-year (>)	(2–3]
$-0.01 \leq CAGR_a \leq 0.005$	Orange	Slight deterioration or No improvement since baseline-year (< or =)	[1–2]
$CAGR_a < -0.01$	Red	Deterioration since baseline-year (<<)	[0–1)

With indicators having a decreasing normative direction (Table A.3.3), the min/max approach is implemented adopting a slightly different expression:

$$CAGR_{a\ Score} = \frac{-(max_s - min_s)}{(max_{CAGR_a} - min_{CAGR_a})} * (CAGR_a - min_{CAGR}) + max_s$$

Table 6: CAGR thresholds and categories and corresponding linearized scores in correspondence of a decreasing normative direction

Levels of actual growth rate	Colour	Assessment category	Score
$CAGR_a < -0.01$	Green	Improvement since baseline-year (>>)	[3–4]
$-0.01 \leq CAGR_a < -0.005$	Yellow	Slight improvement since baseline-year (>)	(2–3]
$-0.005 \leq CAGR_a \leq 0.01$	Orange	Slight deterioration or No improvement since baseline-year (< or =)	[1–2]
$CAGR_a > 0.01$	Red	Deterioration since baseline-year (<<)	[0–1)

Step 3

For targets monitored by one indicator only, the scores obtained with methods implemented under the second step of the procedure can be used to perform the target-level assessment. On the other hand, for targets monitored by more than one indicator, the scores are averaged into a target-level score. The goal level assessment is then performed by computing the arithmetic mean of the target scores, provided that the assessment for at least the 50% of targets under the considered Goal is available. After computing the target and Goal level current status and trend scores, these are categorized in the five classes reported in **Table 7** and **Table 8** below to formalize the assessment.

Table 7: Assessment categories for current status scores

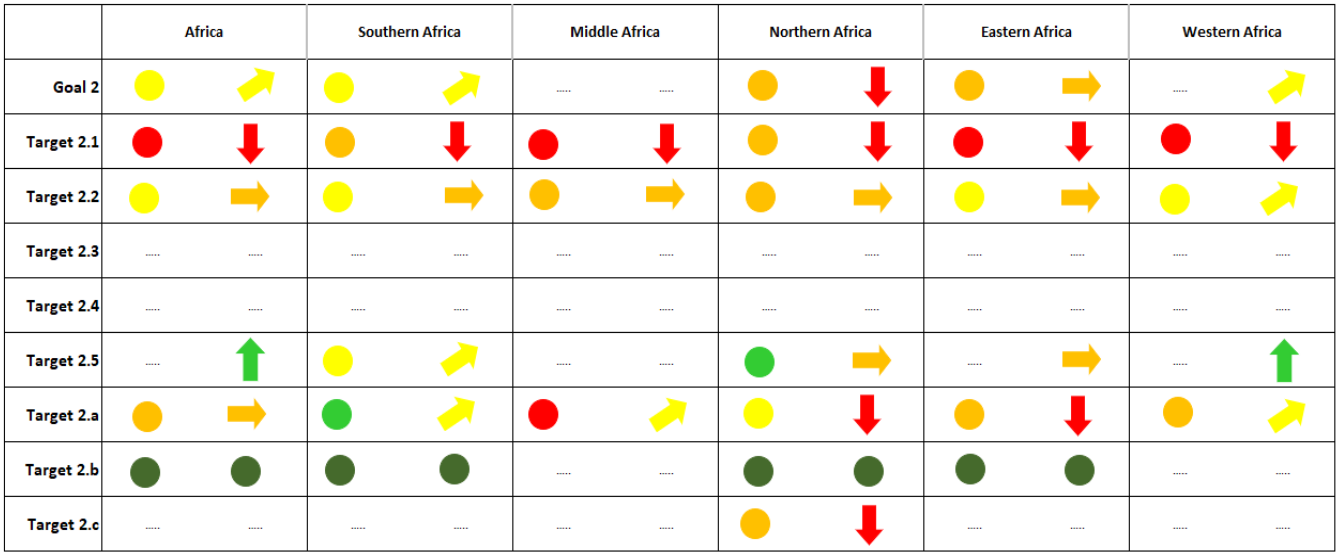
Score current status	Interpretation for goal level and for targets with numerical yardstick	Interpretation for targets without numerical yardstick	
4	Goal/target achieved	Best performers	
[3–4)	Close to achieving the goal/target	Above-median performers	
[2–3)	Moderate distance to achieving the goal/target	Median performers	
[1–2)	Far from achieving the goal/target	Below-median performers	
[0–1)	Very far from achieving the goal/target	Worst performers	

Table 8: Assessment categories for trend scores

Score trend	Interpretation for goal level and for targets with numerical yardstick	Interpretation for targets without numerical yardstick	
4	Goal/target achieved	Improvement	
[3–4)	Improvement towards the goal/target	Improvement	
[2–3)	Slight improvement towards the goal/target	Slight improvement	
[1–2)	No improvement towards the goal/target	No improvement	
[0–1)	Deterioration away from the goal/target	Deterioration	

By applying the methodology as described above, it is possible to assess the progress toward SDG 2 for Africa as a whole and its constituent sub-regions. As can be seen in the Figure 6 below, Africa shows a "moderate distance" from SDG 2, while also having registered "slight improvement toward" the Goal since 2015. The worst performance in all sub-regions is observed with respect to target 2.1, which prescribes to end hunger by 2030. In particular, all sub-regions display a "deterioration" from the target, and they all are either far or very far from achieving it.

Figure 6: Goal and target level assessment of progress on SDG 2 in Africa



FAO is aware of the methodological complexities of conducting a progress assessment for all SDG indicators, which is a pre-requisite for a systematic Goal-level assessment based on the approach

proposed here. It has therefore developed a dedicated Shiny app[11] which can automatically produce a progress assessment based on the official or customized SDG indicator datasets, provided that a few minimum parameters are specified for a given indicator (baseline and latest year; existence of a numerical target; desired direction). For the time being, the app allows performing the assessment for all SDG indicators under FAO custodianship, for all targets under Goal 2, and for this Goal as a whole. This can be a valuable complementary tool for countries wishing to develop more data-driven and statistically sound Voluntary National Reviews (VNRs) for future HLPFs. In addition, the FAO Office of the Chief Statistician is currently working at a new version of the app to automatize the assessment of all indicators, targets, and Goals in Global Monitoring Framework.

4. Summary of key capacity development interventions through which FAO has supported countries in Africa in producing relevant SDG indicators

The preceding two sections have highlighted gaps in data availability, which tend to be more pronounced for certain food and agriculture-related SDG indicators than others; and more pronounced in certain African sub-regions compared to others. Even more scarce is the availability of data that is disaggregated by relevant dimensions, such as sex, age, geographical location etc. It is therefore clear that all countries need to make an extra effort to increase the availability of SDG-related data, including at the appropriate level of disaggregation. In this spirit, the UN Secretary General has recently called on the international statistical community to "commit to raising the percentage of available data on the SDG targets to 90% in each country by 2027", whereas the High Level Political Forum's (HLPF) 2023 Political Declaration similarly called for "increasing the availability of SDG data and closing SDG data gaps at all levels".

To this end, FAO has provided countries with an increasingly comprehensive array of capacity development opportunities. For example, in 2023, technical assistance was provided to Burundi on SDG indicator 2.4.1 on sustainable agriculture, including the organization of a pilot survey and validation workshop. Capacity development and technical assistance activities were also supported for SDG indicators 2.3.1/2.3.2 (productivity and incomes of small-scale food producers) and 5.a.1 (women's access to land) in Zambia, Gambia and Eswatini. Further, in 2023 FAO organized a Regional workshop on the Monitoring and Reporting of SDG indicators 6.4.1 and 6.4.2 (water use efficiency and water stress for SIDS and LDCs in Africa, which saw the participation of Cabo Verde, Comoros, Sao Tomé and Principe, Madagascar and Mauritania. An upcoming workshop, also on SDG indicators 6.4.1 and 6.4.2 (14 December 2023) focusing on the North Africa and Middle East region, will see the participation of the following African countries: Algeria, Egypt, Mauritania, Morocco and Tunisia. With regards, to SDG indicator 5.a.2, on the degree of legal protection afforded to women's land rights, a regional webinar on this indicator was organized by UEMOA and FAO in July 2023. Among the outcomes of this workshops was the recruitment of a national legal expert in Guinea Bissau to support the process of reporting the indicator to FAO.

In addition to the aforementioned ongoing or completed activities, there are a number of prospective initiative to be undertaken over the course of the following year. One such activity is a capacity building webinar on SDG indicators 2.1.1 on the prevalence of hunger and 2.1.2 on the prevalence of food insecurity, organized for the benefit of about forty participants from beneficiary countries including Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal, Togo, Guinea and Chad. This will be complemented by a regional workshop for data processing and calculation of SDG indicators 2.1.1 and 2.1.2; the preparation of ten in-depth analytical notes (one per beneficiary country) on SDG indicators 2.1.1 and 2.1.2; the organization of 10 national results dissemination workshops (one workshop per country).

Furthermore, technical assistance will be provided for calculating SDG indicators 2.3.1 and 2.3.2 for Burkina Faso and Mali, while support will also be provided to Malawi for on SDG indicator 12.3.1.a on food losses for cleaning of the data set, the elaboration of output tables and descriptive statistics, as well as a training on the estimation of key food loss indicators and the compilation of the indicator, followed by the preparation of a final results report and its publication. In the area of geospatial information and its usage to generate supporting input data for SDG indicator 2.3.1, 2.3.2 and 2.4.1,

[11] The current version of the Shiny App can be accessed at the following link: https://foodandagricultureorganization.shinyapps.io/SDG_progress_assessment/

a project team is planned to be established in Cameroon, with the objectives of reviewing the current data collection and crop classification assessment and current crop acreage statistics generation methods; generate new crop yield estimates statistics for the main crops, organize relevant training for relevant national entities, and use the derived data for official SDG reporting.

Finally, it should be recalled that as an additional complementary capacity development resource, In addition, FAO offers through its online e-learning Academy countries a comprehensive set of 16 e-learning courses on the SDG indicators under FAO custodianship (available in 47 additional language versions), which currently counts over 36,000 learners, of which one tenth have also earned the recently introduced “digital badge”.

5. Conclusions and recommendations

Overall, the average reporting rate in Africa for the 21 SDG indicators under FAO custodianship modestly exceeds the world average, with the African reporting rate starting slightly behind the global rate in 2017 but managing to overtake it in 2021. There are gaps in the reporting of specific SDG indicators that explain such differences, whereas there are also notable differences in the relative performance of the five main subregions in Africa in terms of reporting. Both Northern and Middle African countries are lagging behind the world average, and the appropriate efforts should be made in each case in order to address this situation.

In addition to reporting Indicators at the national level, the production of high-quality disaggregated estimates of SDG Indicators can offer extremely valuable information for policy making and monitoring. In this respect, the FAO Office of the Chief Statistician has conducted extensive methodological work on data disaggregation techniques for SDG indicators based on survey data and is well positioned to support AFCAS members with technical assistance and capacity development initiatives.

Finally, with 2023 marking the mid-point of the 2030 Agenda, the assessment of SDG progress at indicator, target and goal level is now particularly relevant. In this respect, the FAO Office of the Chief Statistician has recently expanded the progress assessment approach discussed at the 27th Session of AFCAS, to include methods for the evaluation of the current status and trend both at target and Goal levels. In order to facilitate the implementation of such methods, and encourage Member countries to adopt harmonized approaches, FAO has recently launched a first version of Shiny application freely available to all AFCAS Members.

6. Questions and invitations to AFCAS Member Countries

AFCAS members are invited to take note of the latest updates on measuring SDG indicators and express their views and recommendations to FAO on:

-
- The methods proposed by the FAO to produce disaggregated estimates of SDG Indicators and role that FAO can play to support countries in their implementation.
- The relevance of the progress assessment methodology proposed and adopted by FAO for SDG monitoring at the national level and for the preparation of countries’ Voluntary National Reviews.

Their specific capacity development needs on SDG progress assessment, data disaggregation, and for the computation of the 21 SDG Indicators under FAO custodianship.

7. References

FAO. 2021. Guidelines on data disaggregation for SDG Indicators using survey data. Rome. https://www.fao.org/documents/card/en/c/cb3253en/

FAO. 2022a. An indirect estimation approach for disaggregating SDG indicators using survey data - Case study based on SDG Indicator 2.1.2. Rome. https://www.fao.org/documents/card/en/c/cb8670en/

FAO. 2022b. Using small area estimation for data disaggregation of SDG indicators – Case study based on SDG Indicator 5.a.1. Rome. https://www.fao.org/documents/card/en/c/cb8998en/

FAO. 2023 a. Integrating surveys with geospatial data through small area estimation to disaggregate SDG indicators at subnational level – Case study on SDG Indicators 2.3.1 and 2.3.2. Rome. https://www.fao.org/documents/card/en/c/cc3944en

FAO. 2023b. Tracking progress on food and agriculture-related SDG indicators 2023. Rome. https://www.fao.org/documents/card/en/c/cc7088en

Khalil, CA, Di Candia, S, Falorsi, PD, Gennari, P. 2022. Integrating Surveys with Geospatial Data through Small Area Estimation to Disaggregate SDG Indicators: A Practical Application on SDG Indicator 2.3.1. Statistical Journal of the IAOS, vol. 38, no. 3, pp. 879-891, 2022. https://content.iospress.com/articles/statistical-journal-of-the-iaos/sji220046#fn1