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SUSTAINABLE
DEVELOPMENT
GOALS



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LEVERAGING
DATA & STATISTICS
FOR AGRIFOOD
SYSTEMS
TRANSFORMATION
IN AFRICA

AGENDA ITEM 12
PROGRESS AND NEW
DEVELOPMENTS ON
MEASURING SUSTAINABLE
DEVELOPMENT GOAL
INDICATORS
(SDG INDICATORS)



AFRICAN
COMMISSION ON
**AGRICULTURAL
STATISTICS**

Innovative Methods for Data Disaggregation of SDG Indicators with use cases from RAF and other Regions.



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Data Disaggregation and the SDG Monitoring Framework



Monitoring the implementation of the 2030 Agenda for Sustainable Development and its central pledge of leaving no-one behind has generated a tremendous increase in the **demand of disaggregated data and statistics**.



Overarching principle of data disaggregation: *"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."*



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.



FAO's work on Data Disaggregation

As **Custodian Agency** of 21 SDG Indicators and an active member of the **IAEG-SDG Working Group on Data Disaggregation** and the **Task Force on Small Area Estimation**, the FAO has done considerable work to support countries in the implementation of **indirect estimation techniques** to disaggregated SDG Indicators:

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|---|--|
|  <p>Guidelines on data disaggregation for SDG Indicators using survey data</p> | <p>Publications:</p> <ul style="list-style-type: none"> ▪ Guidelines on Data Disaggregation for SDG Indicators using survey data ▪ Technical Report on the Integration of two Independent Surveys for Data Disaggregation of SDG Indicator 2.1.2 ▪ Technical Report on the Integration of Survey and Geospatial Data for Data Disaggregation of SDG Indicators 2.3.1 and 2.3.2 ▪ Technical Report on the Integration of Survey and Census Data for Data Disaggregation of SDG Indicator 5.a.1 |
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Virtual Training on Data Disaggregation and SAE for the SDGs delivered to 10 countries



Focused technical assistance on Data Disaggregation and SAE being provided to several countries



Guidelines on Data Disaggregation

- The Office of the Chief Statistician published a set of **Guidelines on data disaggregation for SDG indicators based on survey data**, which were presented and discussed at the 27th session of AFCAS.
- They 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 (e.g. 2.1.1, 2.1.2, 2.3.1, 2.3.2, and 5.a.1.)
- The publication includes a case study of an indirect estimation method adopted to produce disaggregated estimates of **SDG indicator 2.1.2 (prevalence of food insecurity)**.



Guidelines on data disaggregation for SDG Indicators using survey data

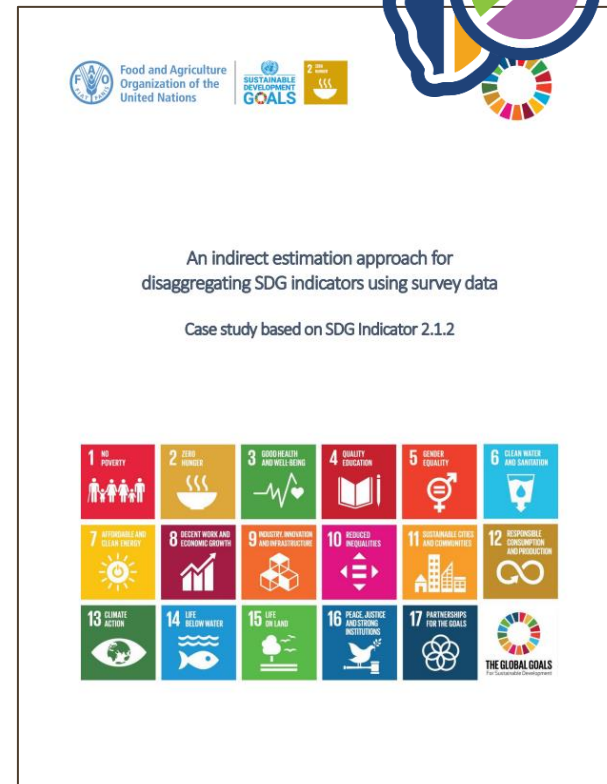


<https://www.fao.org/3/cb3253en/cb3253en.pdf>



Data disaggregation of SDG Indicator 2.1.2

- The case study and methodology presented in the guidelines has been further tested on microdata from **Guatemala, Malawi and South Africa**. The practical steps for the implementation of the model as well as the R routines are discussed in a dedicated **technical report**
- Now, the FAO is working at developing a SAE methodology to produce **food insecurity maps** at granular sub-national level, based on the integration of FIES microdata with auxiliary variables from **administrative registers** and **geospatial information systems**.
- The developed methodology 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).



<https://www.fao.org/3/cb867oen/cb867oen.pdf>



Data disaggregation of SDG Indicators 2.3.1 and 2.3.2

- OCS has also implemented a **case study** on data disaggregation and SAE focused on **SDG Indicators 2.3.1 and 2.3.2**.
- Experiment performed with microdata from the **Integrated Household Survey of Mali** and auxiliary information retrieved from multiple trustworthy **geospatial information systems**.
- The case study is extensively discussed and documented in a FAO **technical report**, and an article included in a special issue of the Statistical Journal of the IAOS.

Technical report:

<https://www.fao.org/3/cc3944en/cc3944en.pdf>

Article: <https://content.iospress.com/articles/statistical-journal-of-the-iaos/sji220046>

Integrating surveys with geospatial data through small area estimation to disaggregate SDG indicators: A practical application on SDG Indicator 2.3.1

Article type: Research Article

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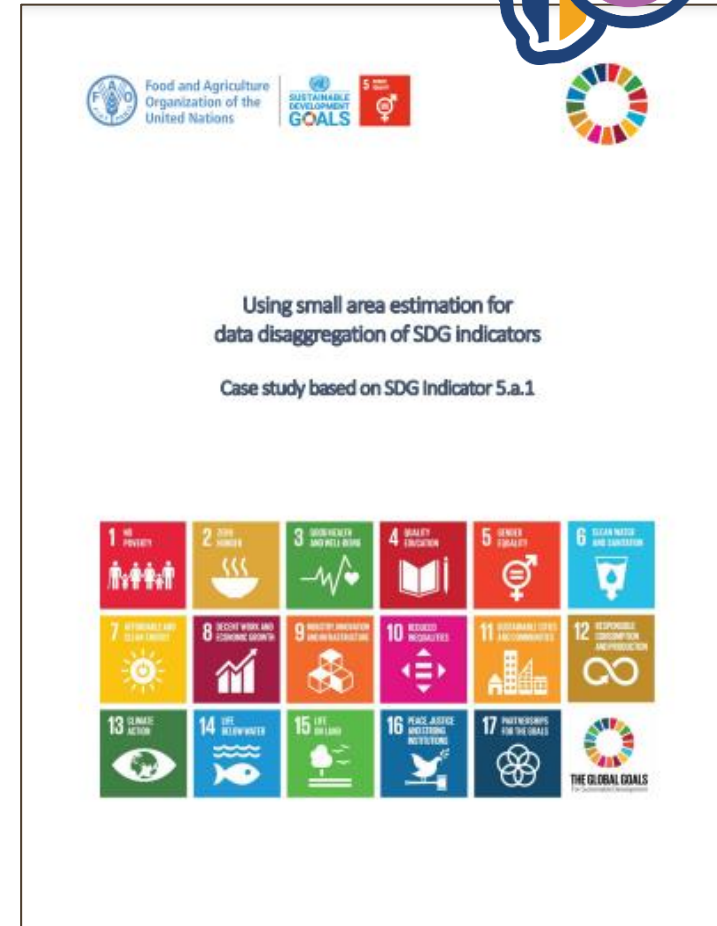
Integrating surveys with geospatial data through small area estimation to disaggregate SDG indicators at subnational level
Case study on SDG Indicators 2.3.1 and 2.3.2





Data disaggregation of SDG Indicator 5.a.1

- The FAO implemented a **practical case study based on SAE techniques** to disaggregate **SDG indicator 5.a.1** (*Women's ownership of agricultural land*) by sex and at granular sub-national level.
- The experiment was implemented using microdata from the **Ugandan National Panel Survey** and the **2014 Population and Housing Census**.
- Its results and procedures are summarized in a **technical report** published in 2022.
- This methodology has been discussed at the 2023 **World Data Forum**.



<https://www.fao.org/3/cb8998en/cb8998en.pdf>



Virtual Trainings on SAE

- 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.
- Trainings organized with 10 countries in [Africa](#), [Asia](#), [Europe and Central Asia](#) (Armenia, Benin, Botswana, Georgia, Indonesia, Kyrgyzstan, Mali, Moldova, Nepal, and South Africa).

The expected outcomes of the FAO-SDG Data Disaggregation training programme are as follows:

1. Clarify the importance of data disaggregation in the context of the SDG monitoring framework.
2. Discuss the key issues with data disaggregation for SDG indicators that primarily rely on survey data, and provide examples of methodological and practical solutions.
3. Discuss fundamental unit and area level small area estimation (SAE) models as well as the major SAE approaches that are currently available.
4. Using practical solutions based on SDG indicators under FAO custodianship, demonstrate how to use specific R packages to put SAE methods into practice.
5. Determine the invited institutions' requirements for technical assistance in order to carry out upcoming targeted activities on SAE for SDGs or other national priority indicators.

Trainings Brochure: <https://www.fao.org/documents/card/en/c/cc5311en>





Conclusions and Next Steps

- The production of high-quality disaggregated estimates of SDG Indicators can offer extremely valuable information for designing policies and monitoring development outcomes.
- 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.

Questions and Invitations to AFCAS Members

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

Thank you for your attention!

For more information, please visit:
<https://www.fao.org/food-agriculture-statistics/resources/events/afcas/en/>

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