**Brief introduction of the organisation**

The Food and Agriculture Organization (FAO) is a specialized agency of the United Nations that leads international efforts to defeat hunger.

FAO’s goal is to achieve food security for all and make sure that people around the world have access to enough high-quality food to lead active and healthy lives. With over 195 members, the Organization works in over 130 countries worldwide.

FAO is the custodian UN agency of 21 SDG Indicators across 6 Goals and is a contributing agency for a further 5. In this capacity, the Organization is supporting countries’ efforts in monitoring the 2030 Sustainable Development Agenda. FAO has a dedicated [webpage](https://www.fao.org/sustainable-development-goals/news/e-learningcourses/en/) on the SDGs, where interested users can find out more about the work of the Organization on Indicators under its custodianship.

**SAE work within the organisation**

Since 2015, FAO – through an active engagement with the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) – has progressively ensured the successful methodological development of all indicators under its custodianship, which are now all classified either in TIER I or TIER II. In addition, the Organization has coordinated a broad range of capacity development activities in support of SDG monitoring, including global, regional and national training workshops. Besides training, the FAO elearning Academy has produced a series of multilingual learning material to support national statisticians and other government officers in their data collection, analysis and reporting of SDG indicators and therefore, help all stakeholders better understand progress made in achieving the SDGs. The collection consists of 16 e-learning courses covering 18 SDG Indicators with digital badge certification (FAO, 2023a).

The methodological work undertaken by FAO also focuses on data disaggregation and small area estimation (SAE) for SDG Indicators. In this respect, the Organization has released a publication to provide [Guidelines on data disaggregation using survey data](https://www.fao.org/sustainable-development-goals/news/detail-news/en/c/1539866/). The guidelines offer a comprehensive overview of survey methods and tools that member countries can adopt for the production of direct and indirect disaggregated estimates of SDG indicators using household and/or agricultural surveys as the main supporting data source. The publication addresses the main limitations posed by most surveys, either having samples that are not large enough to guarantee reliable direct estimates for all sub-populations of interest, or that do not cover all possible disaggregation domains.

The Guidelines start with the presentation of the main statistical challenges posed by data disaggregation in the context of the implementation of the 2030 Agenda for Sustainable Development. Subsequently, technical solutions to define sampling strategies for direct domain estimation and methods relying on the use of auxiliary information are discussed. Pros and cons of each approach are extensively discussed along with their context of applicability. Moreover, methods for measuring sampling accuracy are provided. The estimation and dissemination of quality indicators assessing estimates accuracy represents a fundamental step in the production of disaggregated estimates and has the potential of increasing the transparency of NSOs and consequently the public confidence in official statistics. In addition, direct estimates presenting large sampling errors are an indication of the need to either resort to SAE techniques or revisit the sampling design.

A large section of the guidelines is dedicated to present an indirect approach for producing disaggregated estimates relying on the integrated use of two independent surveys. This method allows integrating a small survey, measuring a target variable with a small measurement error, and a more extensive survey, collecting variables of general use, at least one of which is highly correlated with the target variable (proxy variable). The guidelines end with a chapter providing an overview of small area estimation (SAE) techniques, as one of the possible approaches to produce indirect disaggregated estimates. Being SAE methods based on model assumptions, the publication also discusses the tools for the validation and interpretation of obtained results.

Starting from methods presented in the guidelines, FAO has released three additional practical publications discussing the application of SAE techniques to produce disaggregated estimates of SDG indicator 2.1.2, on the prevalence of moderate and severe food insecurity in the population based on the Food Insecurity Experience Scale (FIES) (FAO, 2022a), indicators 2.3.1 and 2.3.2, on labour productivity and agricultural income of small-scale food producers (Khalil, C.A & di Candia, Stefano, 2023), and 5.a.1, on women's ownership and secure rights over agricultural land (FAO, 2022b).

FAO has also developed a comprehensive set of training material on data disaggregation and small area estimation that is been used to deliver several virtual trainings on the topic. Exercises presented during the training replicate the implementation of the case studies presented in the three technical reports mentioned above.

**Main references and resources:**


FAO, 2022a. An indirect estimation approach for disaggregating SDG indicators using survey data. Case study based on SDG indicator 2.1.2.


Khalil, C.A & di Candia, Stefano. 2023. 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, FAO.

Virtual Training on Data Disaggregation and Small Area Estimation for SDG Indicators (22-25 November 2022)
Future work on SAE

The Guidelines and training material on data disaggregation and small area estimation are being used to deliver trainings and provide technical support to several countries in various regions of the world.

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