Processing food consumption data from household consumption and expenditure surveys (HCES)

(e-Learning course)

15 June to 24 July 2026

Guideline

I. OVERVIEW OF THE COURSE

Household consumption and expenditure surveys (HCES) have been typically undertaken to compile information for important macroeconomic indicators, such as consumer price indices, and to provide input into national accounts. With time, the use of HCES has been extended to welfare and poverty analysis, and more recently to food security and nutrition analysis. The food data collected in HCES provides core information for these types of analyses. However, the data is comprehensive and complex to process; users, based on their needs or interests, often tend to follow different approaches when preparing the data for analysis. When data from the same survey is processed independently for different uses, it quite often leads to inconsistent results. Such practice is inefficient and costly.

Recognizing the importance of having a standard approach to preparing HCES data for analysis, the United Nations Committee of Experts in Food Security, Agricultural and Rural Statistics (UN-CEAG) developed unified guidelines on how to prepare food consumption data from HCES for "all uses" including for the compilation of information on poverty, economy and food security. The Guidelines provide countries with standard methods for processing food data from HCES, to increase efficiency, quality and consistency when the data is further used for national accounts, consumer price indices, poverty and food security analyses. These are the foundation for this e-learning course.

This e-learning course is designed to support the implementation of these guidelines. It introduces participants to the standardized 11-step framework for processing HCES food data and provides practical tools and examples to improve consistency, quality, and efficiency. Further details on course content follow below.

II. TARGET PARTICIPANTS

The target audience are staff from national statistical office, as well as other agencies in the country, that are involved in the design of, and collection and analysis of data from HCES. Staff working on issues related to food security and food consumption in line ministries such as agriculture and health are also encouraged to join the course.

III. LEARNING OUTCOMES

By the end of the course, participants will be expected to:

- Describe the role and importance of HCES in food security, poverty, and economic statistics
- Apply the standardized 11-step framework for processing food consumption data
- Identify appropriate methods for HCES data cleaning, data transformation, aggregation, and interpretation

IV. COURSE DESIGN AND CONTENT

Each module consists of slides with explanations. After all modules have been completed, participants will be required to complete a course project and a final test that will cover all modules. The modules are expected to take a maximum of 5 hours to complete. Participants are also expected to attend regularly scheduled live webinars. The webinars will provide an overview of the course topics and allow for participants to ask questions; more details will be provided at the beginning of the course. Furthermore, participants are encouraged to actively participate in the online forum of the course. In total, the course is expected to take a maximum of 20 hours. Topics for discussion will be posted on a regular basis, and participants are invited to share their views/comments/questions.

Instructions, pedagogical resources and webinars are in English.

Outline

Module	Coverage
1. Introduction	• The UN-CEAG 2024 Guidelines for food data processing • Food data collection and questionnaire designs • Methods for data cleaning
2. **Creating the working files**	• Step 1: Gathering input and auxiliary data • Step 2: Cleaning data: DOS-editing • Step 3: Adjusting and merging datafiles
3. **Inconsistency checks and imputation**	• Step 4: Cleaning data: Food items and unit of measurement level • Step 5: Imputing monetary value
4. **Transformation from original quantities to dietary energy**	• Step 6: Converting food quantities to grams • Step 7: Editing after converting to grams • Step 8: Calculating dietary energy • Step 9: Imputing dietary energy for remaining food items
5. Aggregation and documentation	• Step 10: Aggregating and macro editing • Step 11: Preparing documentation and sharing data

V. EVALUATION

Participants must receive a grade of 70% or higher on the final assessment to get a certificate. The final grade will be comprised of a test. More details on the final assessment will be provided at the beginning of the course.

VI. SOURCE MATERIAL

This course draws upon various sources, including international statistical standards and case studies from national statistical offices.