



<p style="text-align: center;"><b>Training Activities</b> <b>Global Strategy to improve agricultural and rural statistics</b></p>
<p style="text-align: center;"><b>Revised food balance sheet methodology and its compilation tool</b></p>
<p style="text-align: center;"><i>Users' guide – Training material</i> 2017</p>

## 1. Background and rationale

There is global recognition that statistically sound, reliable data on food and agriculture is required to understand the current situation of agriculture and food supplies within any given country, track progress against established development goals, and inform future policy decisions. Through the Global Strategy to Improve Agricultural and Rural Statistics (also known as “The Global Strategy”), efforts have been made to develop and promote the most cost-effective means by which countries can collect data on various aspects of food supply and utilization, with the end goal of providing a better foundation for policy decision-making.

One area of work of the Global Strategy led to an improved methodology to compile food balance sheets at the country level. A food balance sheet (FBS) can be defined as an analytical dataset that “presents a comprehensive picture of the pattern of a country’s food supply during a specified reference period.”<sup>1</sup> This is achieved in an accounting framework, wherein all potential sources of supply and utilization of a given food product are specified. The quantities allocated to all the sources of supply — amount of the food item produced, the amount of the food item that is imported and the amount of the item that is either added to or taken from stocks — must be equal to the quantities allocated to the sources of utilization, which can include exports, losses along the

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<sup>1</sup> For this definition and a more extended description of the motivation behind the development of food balance sheets, see the 2001 FAO food balance sheets handbook: “Food Balance Sheets: A Handbook”. Available at: [www.fao.org/docrep/003/X9892E/X9892E00.HTM](http://www.fao.org/docrep/003/X9892E/X9892E00.HTM).

supply chain, livestock feed, seed use, food available for tourists, industrial uses and food available for consumption by a country's residents. This balance is compiled for every food item (estimated on a primary commodity equivalent basis) consumed within a country, and then all of the primary commodity equivalent balances are combined into one overall food balance sheet. An estimate of per capita supply for each food item — in terms of quantity and, through the application of food conversion factors, in terms of caloric value, protein, and fat content — can then be derived by dividing by the country's population. These per capita estimates of caloric value for individual food products are then added up to arrive at the total daily per capita dietary energy supply of a country. Viewing domestic food supplies within this framework allows countries to examine the domestic food situation in a holistic way, aiding food supply analysis and facilitating food policy formulation.

To disseminate more widely this new methodology and strengthen the capacity of training and technical assistance providers to support national experts in compiling a food balance sheet, the Global Office of the Global Strategy, in partnership with the FAO Statistics Division, has developed generic training material that can be used for in-classroom training or as a basis for capacity-building activities. This users' guide describes the intended objectives, content and target audience of this training material. It provides recommendations on organizational aspects related to the organization of training on FBS. Examples of course content and a possible agenda are provided in the appendix. It can be used in conjunction with the *Guidelines for the Compilation of Food Balance Sheets* available on the Global strategy's website (<http://gsars.org/en/>).

## **2. Objectives of the training**

### **General objectives**

The generic training material was designed with the objective to produce the following results:

- Increase the knowledge and skills of FBS experts involved in the compilation of food balance sheets using the new proposed methodology, developed within the framework of the Global Strategy and in collaboration with the FAO Statistics Division;
- Assist FBS experts, trainers and practitioners involved in capacity-building activities on the compilation of FBS in the delivery of their training and technical activities;
- Improve the overall quality of the food balance sheets produced at the country level.

### **Learning outcomes**

The training material was developed with the objective that, by the end of the training, participants will be able to:

- Define the basic concepts and main uses related to FBS;

- Describe the entire process for compiling FBS, in particular, how to collect the necessary information, fill the supply and utilization account (SUA), standardize and aggregate the estimates and apply various balancing methods;
- Compile FBS and derive per capita estimates using the recommended and alternative approaches and the FBS compilation tool provided;
- Analyse FBS results and identify areas of improvement to increase the quality of the estimates; and
- Plan and implement effective training and technical assistance activities aiming at building the capacity of national statistical systems to compile FBS.

### **3. Course design and content**

Training activities will consist of a judicious mix of lectures, discussions, case study exercises and hands-on practice using the compilation tool provided.

The training will cover the following topics:

- Introduction to FBS (for example, history and the importance of FBS to monitor food security and the sustainable development goals, general definitions, main uses, difference between new and previous FBS methodology and fundamental principles of FBS construction);
- The FBS methodological framework (for example, basic identity and approaches, definition of FBS components, methods for linking SUA and FBS and recommended and alternative balancing mechanisms);
- Data for FBS compilation (for example, special considerations in terms of data comparability and quality, main data sources and alternatives, estimation and imputation methods for each FBS component);
- Detailed steps for the compilation of FBS (for example, creation of SUA tables, balancing SUA accounts for derived commodities, standardization and aggregation, balancing, nutrient supplies and calorie estimates, per capita estimates, troubleshooting of infeasible solutions and validation through working groups);
- Practical examples of a step-by-step construction of FBS;
- Presentation of the FBS compilation and hands-on practice;

If relevant, country's experience presentations on the compilation of a SUA table and FBS using the previous or the improved methodology could also be integrated in the training content.

### **4. Course design and delivery**

#### **Delivery mode**

The course should be organized through the combination of:

- Lectures on the theoretical aspects of the FBS compilation;
- Hands-on exercises and case studies (individual or in small groups)
- Practice using the compilation tool, ideally filled beforehand with real national data.

Given the level of the technical nature of the topic, it is important to ensure continuous interaction between the trainees and trainers. For this reason, most of this training should be delivered face-to-face with the trainers physically present. The face-to-face training can be followed or preceded by online lectures or readings and be oriented to delve deeper into certain topics related to the compilation of SUA tables and FBS.

### **Length of the training**

It will depend on the specific objectives determined with the recipient organizations and the background of the trainees. From experience, for participants who are directly involved in the compilation of SUA and FBS, a five-day training, including a mix of hands-on exercises (individual or in small groups) and lectures every day, has proven to be a good format.

### **Recommended number of trainers and participants**

Because of the hands-on nature of this training, it is advisable to keep the number of participants between 20 and 40. Past trainings on FBS have also shown that a group of about 25 participants is appropriate: it is small enough to ensure interaction among trainees and with the trainers and organize exercises and applications, and large enough to include most of the stakeholders and to allow mutually beneficial exchanges.

It is recommended to plan for a team of trainers (one trainer per 8 to 10 participants) as it is better to assign one trainer per group during the exercises and practice time. It is also recommended to have at least one trainer with significant knowledge and experience in FBS compilation using the compilation tool provided by the Global Strategy and FAO and one trainer with good subject-matter knowledge/expertise on the data requirements and their potential sources when filling SUA tables and compiling FBS.

## 5. Course material

The proposed material for the course is composed of the following:

- A set of 17 PowerPoint presentations covering the following topics:
  - Session 0a – Introduction of the FAO food security statistics framework and a discussion of the importance of FBS in the monitoring of the Sustainable Development Goals.
  - Session 0b – The differences between FBS and the household surveys approaches in monitoring food security
  - Session 1 – Introduction to FBS (general definitions, main uses and limits, difference between new and previous FBS methodology and fundamental principles of FBS construction)
  - Session 2 – The FBS methodological framework (basic identity and approaches, definition of FBS components and additional variables, differences between SUA and FBS and methods to link them, commodity trees, and recommended and alternative balancing mechanisms);
  - Session 3.0 – Data for FBS compilation (special considerations in terms of data comparability and quality, main data sources and alternatives, data search and assessment)
  - Sessions 3.1-3.12 – Presentation of FBS components (data sources, and, estimation and imputation methods for each FBS component);
- An exercise presented in the form of a case study to practice:
  - Creating and filling SUA tables
  - Balancing SUA accounts for derived commodities
  - Standardizing and Aggregating the SUA accounts
  - Balancing FBS
  - Calculating the nutrient supplies and calorie estimates and per capita estimates
- A users guide for the exercise
- A series of practical simulations to perform using the FBS compilation tool (available on request)
- A tutorial for the FBS compilation tool (available on request)

If relevant, country's experience presentations on the compilation of SUA tables and FBS using the previous or the improved methodology could also be prepared and integrated in the training content.

The supporting material to be reviewed by the participants in addition to the training material is composed of the following:

- *Guidelines for the Compilation of Food Balance Sheets* (to be available in French and English in 2017)

- An eight-page brochure on the compilation of FBS(to be available in French and English in 2017)

Finally, the participants should be given an evaluation sheet at the end of the training to give feedback on the course and identify areas for the provision of further training.

## **6. Target audience**

This training material is designed to train managers and technical staff of national statistical offices, ministries of agriculture and other institutions (in particular, those dealing with food safety issues) in charge of or involved in the compilation of supply and use tables and FBS.

The training material can also be used for following:

- To train trainers and experts involved in the delivery of capacity-building activities on the compilation of SUA and FBS using the revised methodology and newly developed tool;
- To introduce the concept and methodology of FBS to students of agricultural statistics and statisticians/data analysts not specialized in agricultural or food security statistics.

## **7. Main references**

**Global Strategy to improve agricultural and rural statistics**, forthcoming. *Brochure on the compilation of food balance sheets*. Rome, FAO. 8 pp.

\_\_\_\_\_ forthcoming. *Guidelines for the Compilation of Food Balance Sheets*. Rome, FAO.

**Appendix:** An example of agenda for a five-day workshop on the revised Food Balance Sheet Methodology and its compilation tool

Day 1	
<b>8:30 – 9 :30</b>	<ul style="list-style-type: none"> <li>• <b>Participants’ registration</b></li> <li>• <b>Opening remarks</b></li> </ul>
<b>9:30 - 10:15</b>	<ul style="list-style-type: none"> <li>• <b>Session 0a – Introduction of the FAO food security statistics framework and discussion on the importance of food balance sheets (FBS) in the monitoring of the Sustainable Development Goals</b></li> <li>• <b>Session 0b – The differences between FBS and the household surveys approaches in monitoring food security</b></li> </ul>
<b>10:15-10:45</b>	Coffee break and group photo
<b>10:45-12:30</b>	<ul style="list-style-type: none"> <li>• <b>Session 1: Introduction to FBS</b></li> <li>• <b>Session 2: FBS methodological framework</b></li> </ul>
<b>12:30-14:00</b>	<b>Lunch Break</b>
<b>14:00-15:30</b>	<ul style="list-style-type: none"> <li>• <b>Session 2: FBS methodological framework (cont.)</b></li> <li>• <b>Session 3.0: Data for FBS compilation – Overview, data assessment and other preliminary considerations</b></li> </ul>
<b>15:30-15:50</b>	Coffee Break
<b>15:50-17:00</b>	<ul style="list-style-type: none"> <li>• <b>Session 3.1: FBS component – Production</b></li> <li>• <b>Session 3.2: FBS component – Trade (imports and exports)</b></li> <li>• <b>Session 3.3: FBS component – Stocks and stock changes</b></li> <li>• <b>Session 3.4: FBS component – Food availability</b></li> <li>• <b>Session 3.5: FBS component – Food processing</b></li> </ul>

## Day 2

<b>8:45 – 10:15</b>	<ul style="list-style-type: none"><li>• <b>Session 3.6: FBS component – Tourist food</b></li><li>• <b>Session 3.7: FBS component – Feed</b></li><li>• <b>Session 3.8: FBS component – Seed</b></li></ul>
10:15-10-45	Coffee Break
<b>10-45-12:30</b>	<ul style="list-style-type: none"><li>• <b>Session 3.9: FBS component – Loss</b></li><li>• <b>Session 3.10: FBS component – Industrial Use</b></li><li>• <b>Session 3.11: FBS component – Residual and other uses</b></li><li>• <b>Session 3.12: FBS component – Additional parameters</b></li><li>• <b>Conclusions and Q &amp; A period</b></li></ul>
12:30-14:00	<b>Lunch Break</b>
<b>14:00-15:30</b>	<ul style="list-style-type: none"><li>• <b>Session 4: Approach to constructing FBS – Putting it all together – Practical example</b></li></ul>
15:30-15:50	Coffee Break
<b>15:50-17:00</b>	<ul style="list-style-type: none"><li>• <b>Session 4: Approach to constructing FBS – Putting it all together – Practical example (cont.)</b></li></ul>



### Day 3

<b>8:45-10:15</b>	<ul style="list-style-type: none"><li>• <b>Session 4: Approach to constructing FBS – Putting it all together – Practical example (cont.)</b></li></ul>
10:15-10:45	Coffee Break
<b>10:45-12:30</b>	<ul style="list-style-type: none"><li>• <b>Session 4: Approach to constructing FBS – Putting it all together – Practical example (cont.)</b></li><li>• <b>Conclusions and Q &amp; A period</b></li></ul>
12:30-14:00	<b>Lunch break</b>
<b>14:00-15:30</b>	<ul style="list-style-type: none"><li>• <b>The FAO FBS compilation tool for the revised methodology</b></li></ul>
15:30-15:50	Coffee break
<b>15:50-17:00</b>	<ul style="list-style-type: none"><li>• <b>The FAO FBS compilation tool for the revised methodology (cont.)</b></li></ul>

Day 4	
8:45-10:15	<ul style="list-style-type: none"> <li>• The FAO FBS compilation tool for the revised methodology (cont.)</li> </ul>
10:15-10-45	Coffee break
10-45-12:30	<ul style="list-style-type: none"> <li>• The FAO FBS compilation tool for the revised methodology (cont.)</li> </ul>
12:30-14:00	Lunch break
14:00-15:30	<ul style="list-style-type: none"> <li>• The FAO FBS compilation tool for the revised methodology (cont.)</li> </ul>
15:30-15:50	Coffee break
15:50-17:00	<ul style="list-style-type: none"> <li>• The FAO' FBS compilation tool for the revised methodology (cont.)</li> </ul>

Day 5	
8:45-10:15	<ul style="list-style-type: none"> <li>• The FAO FBS compilation tool for the revised methodology (cont.)</li> </ul>
10:15-10-45	Coffee Break
10-45-12:30	<ul style="list-style-type: none"> <li>• The FAO FBS compilation tool for the revised methodology (cont.)</li> </ul>
12:30-14:00	Lunch break
14:00-15:30	<ul style="list-style-type: none"> <li>• The FAO FBS compilation tool for the revised methodology (cont.)</li> </ul>
15:30-15:50	Coffee break
15:50-17:00	<ul style="list-style-type: none"> <li>• Final Q &amp; A period</li> <li>• Conclusion and closing remarks</li> </ul>