



Training Activities

Global Strategy to improve Agricultural and Rural Statistics

Livestock production and productivity

*Recommendations on the design of a sustainable system for livestock production and
productivity statistics*

Training Material – User Guide

2018

1. Background

To develop, monitor and evaluate the impact of its policies and investments, as well as monitor growth trends in the livestock sector, governments need accurate data on livestock production and productivity. However, the quality of livestock statistics is often weak in many countries, in particular developing ones, because both data collection systems and livestock statistics tend to be insufficiently prioritized.

Better estimates for livestock statistics can be obtained. However, countries need to put in place appropriate data collection systems, in which data are collected on a regular basis using robust and cost-effective methodologies. To assist countries in setting up these systems, the Global Strategy to improve Agricultural and Rural Statistics (GS) has created two lines of research:

- (i) Enumeration of Nomadic and Semi-Nomadic (Transhumant) Livestock, that resulted in the publication of guidelines on the topic in 2016;
- (ii) Methods for Estimating Livestock Production and Productivity, that tested statistical methods to estimate livestock products and productivity in Botswana, the United Republic of Tanzania and Indonesia, and resulted in the publication of working papers, technical reports and practical guidelines.

In addition, to facilitate the transfer of knowledge and the development of skills on the recommended techniques and methods to enumerate nomadic and semi-nomadic livestock and estimate livestock products and productivity, the GS has produced two sets of training material, which were used during the delivery of technical assistance at the country level in Botswana, Mali and Niger. Communications and advocacy material will also be disseminated by mid-2018.

This user guide describes the intended goals, content and target audience of the training material on the estimation of livestock production and productivity. It also outlines the structure of the training material and provides recommendations on organizational aspects.

It complements the documents that have already been published or will soon be available on this topic free of charge on the GS website (<http://gsars.org/en/tag/Livestock/>):

- *Improving Methods for Estimating Livestock Production and Productivity – Methodological Report* (available in English only)
- *Improving Methods for Estimating Livestock Production and Productivity – Fieldwork Report and Summary Data Analysis* (English only)
- *Improving Methods for Estimating Livestock Production and Productivity – Gaps Analysis Report* (English only)
- Guidelines on “Improving Methods for Estimating Livestock Production and Productivity” (available in English and French by mid-2018)
- An eight-page communications and advocacy brochure on livestock production and productivity (available in English and French by mid-2018)

2. Objectives of the training

The main objective of the training is to provide trainees with a strong knowledge background and to develop their skills on how to produce good-quality statistics on livestock and livestock products, for the ultimate purpose of fostering better policy decisions in all aspects related to livestock production and productivity statistics. Specifically, this training package will help the target audience to better conduct advocacy activities for livestock statistics, design studies

and surveys on livestock production and productivity, and perform data analysis and reporting.

The training material also contributes to the GS's goal of improving the capacity of national statistical systems to produce the minimum set of core data agreed upon in the area of agricultural and rural statistics.

3. Learning outcomes

By the end of the training, trainees are expected to be able to:

- Discuss and promote the relevance and needs of accurate livestock data for decision-making and policy development;
- Define the different concepts and definitions related to livestock production and productivity;
- List and provide guidance on the various data items and indicators that need to be compiled when conducting a survey on livestock;
- List the various data sources for livestock statistics;
- Apply sound statistical methods in designing livestock surveys and collecting data in the field;
- Calculate the relevant indicators for livestock statistics;
- Advocate for an integrated agricultural statistics system in which livestock statistics is a key component.

4. Course material

The course package includes:

- This user guide, which can be used as a course syllabus
- A set of four PowerPoint presentations on the following topics:
 - 1) Advocacy and scope of livestock production and productivity statistics
 - 2) Items and indicators

- 3) Data collection methods and survey design
 - 4) Fieldwork organization, cost of livestock surveys and integrated survey
- Two examples of questionnaires used to measure livestock production and productivity

5. Target audience

The course is designed for data producers and users interested in livestock statistics. The training should therefore be open to decision-makers, survey managers, trainers of field staff, data analysts, researchers, teaching staff and students at statistical or agronomy training centres. The core stakeholders are officers from national statistical systems, statistical departments of local governments and ministries of agriculture that are responsible for the production of livestock data, as well as teachers and students in agricultural statistics.

All sessions can be followed by all types of actors. However, the first session on advocacy targets decision-makers especially.

6. Course content

The content of the proposed training consists of a judicious mix of lectures, group discussions and country examples. It is organized around six training sessions (listed below). The proposed training content can be modified to integrate additional knowledge-sharing activities on country practices and methods. At the end of each session, it is recommended to discuss the content covered and let the participants discuss how the concepts, definitions, proposed methods and collection tools apply to their own country's realities and data needs. The discussions should also take into account current practices at the country level and discuss their adequacy and any possible improvement based on the training content.

Session 1: Advocacy and scope of livestock production and productivity statistics

The goal of this module is to discuss the importance of livestock statistics within countries and the requirements for producing better statistics in this domain. It also discusses the scope of livestock statistics in the GS context.

Outline of the session:

- a) Introduction
- b) Scope of animal production activities and livestock statistics
- c) Contribution of livestock to poverty reduction and development
- d) Livestock statistics in policy agendas

Session 2: Items and indicators

This session presents the main indicators that should be compiled when conducting livestock studies and the different items to be collected in the field. It also briefly discusses the data sources for each indicator and presents some practical considerations to recall when compiling data.

Outline of the session:

- a) Introduction
- b) Livestock stocks
- c) Meat production
- d) Milk production
- e) Egg production
- f) Animal health
- g) Feed availability
- h) Watering practices

Session 3: Data collection methods and survey design

This session tackles an important component of livestock statistics. It discusses, in detail, the different ways to obtain data on livestock statistics. The main goal of the session is to build the capacity of technical staff involved in survey design and data collection operations. It discusses the best approaches to adopt when collecting data with livestock keepers and the various estimation methods that can contribute to the calculation of more accurate statistics.

Outline of the session:

- a) Introduction
- b) Main data sources
- c) Data collection methods
- d) Survey design and implementation

Session 4: Fieldwork organization, cost of livestock surveys and integrated survey

The main objective of this session is to present the possible approaches towards reducing the cost of livestock surveys. It presents the best practices related to fieldwork organization and the budget components to take into account when designing livestock surveys. It also discusses the integration of livestock-data gathering into an integrated agricultural survey, as this is considered a cost-effective way to collect data on agriculture in general and on livestock in particular.

Outline of the session:

- a) Introduction
- b) Fieldwork organization
- c) Cost of livestock surveys
- d) Integrated surveys

7. Course design and delivery

Delivery mode

The course should be delivered using a combination of the following:

- Lectures on specific technical topics;
- Analyses of country experiences and field-test results;
- Discussions on questionnaires produced for other countries;
- Practical discussions on the livestock-related activities taking place in the country (milk production, meat production, egg production, grazing system, etc.)

To enhance learning, it is important to ensure interaction between the trainers and trainees and among the trainees themselves. For this reason, questions, interventions and peer-to-peer discussions are encouraged and expected to be part of the training.

Some country examples have been included in the training material. However, trainers are invited to select and emphasize those case studies and country examples that are particularly relevant to participants' needs, as practical examples for demonstration and discussion of the various aspects of livestock statistics. In the Guidelines, examples of indicator calculation are given and the results of some field tests conducted in Botswana, the United Republic of Tanzania and Indonesia are provided. Questionnaires are also given in the annex to the Guidelines (the AGRIS questionnaire Livestock Module and the questionnaire prepared for the technical assistance activities in Botswana).

The participants should familiarize themselves with a number of documents prior to and during the training. These documents can be found on the GS website (<http://gsars.org/en/resource-center/>) and are listed below in section 8. Furthermore, trainees should be encouraged to develop their knowledge and skills in other topics of agricultural statistics through the wealth of resources, training material and guidelines available on the Global Strategy website (www.gsars.org).

Finally, at the end of the training, participants should be given an evaluation sheet on which they can give feedback on the course and identify the areas where further training could be provided.

Length of the training

The training material has been designed to support a course of three to four days, depending on whether questionnaires are discussed and detailed examples are given. However, it is flexible enough to allow for a shorter course.

Number of trainers and requirements

Given the nature of the training material, one trainer is enough to conduct the training. However, for better results, the trainer should have broad experience in general agricultural

data collection activities such as surveys and censuses, good knowledge of data collection methods related to livestock statistics (including nomadic and semi-nomadic, or transhumant, livestock), sound understanding of the livestock rearing system in the country (or countries), and possess data dissemination and reporting skills.

Number of trainees

The number of trainees depends on the training's objectives and targeted audience. It also depends on the resources available for the training and its venue. Generally, to achieve the objectives of in-classroom training conducted in such a format, it is advisable to accept a maximum of 15 to 25 participants. Indeed, this group size is small enough to ensure adequate interaction among trainees and with the trainer, and also to organize group discussions. In addition, it is sufficiently large to include all stakeholders involved in the production and use of livestock statistics and, therefore, allow for mutually beneficial exchanges.

8. References

Global Strategy to improve Agricultural and Rural Statistics. Forthcoming, 2018. *Guidelines on Methods for Estimating Livestock Production and Productivity*. GSARS Guidelines: Rome.

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2016. *Improving Methods for Estimating Livestock Production and Productivity – Gap Analysis Report*. Working Paper No. 12. GSARS Working Paper: Rome. Available at: <http://gsars.org/en/improving-methods-for-estimating-livestock-production-and-productivity/>

2016. *Guidelines for the Enumeration of Nomadic and Semi-Nomadic (Transhumant) Livestock*. GSARS guidelines: Rome. Available at: <http://gsars.org/en/guidelines-for-the-enumeration-of-nomadic-and-semi-nomadic-transhumant-livestock/>

2016. *Improving Methods for Estimating Livestock Production and Productivity – Literature Review*. Technical Report no. 11. Global Strategy Technical Report: Rome. Available at: <http://gsars.org/en/improving-methods-for-estimating-livestock-production-and-productivity-literature-review/>

Annex

Example of a four-day training agenda

Time	Topics
Day 1	
08 h 00 – 09 h 00	Registration
09h 00- 10 h 30	Opening Session/Photo session - Welcome remarks - Opening remarks - Orientation: workshop objectives, structure and expected results - Introductions (participants, resource person and support team, if any) Group photo
10 h 30 – 11 h 00	Coffee break
11 h 00 – 12 h 30	Session 1: Advocacy and scope Discussions on the situation of livestock data in the country
12 h 30 – 14 h 00	Lunch break
14 h 00 – 15 h 30	Session 2: Items and Indicators (Livestock stocks) Discussions
15 h 30 – 16 h 00	Coffee break
16 h 00 – 16 h 45	Discussions on the outcome of the day
16 h 45	End
Day 2	
09h 00- 10 h 30	Session 2: Items and Indicators (Meat production) Discussions on slaughtering system in the country (slaughter houses, data available, etc.)
10 h 30 – 11 h 00	Coffee break
11 h 00 – 12 h 30	Session 2: Items and Indicators (Milk production and egg production) Discussions on seasonality, practices etc.
12 h 30 – 14 h 00	Lunch break
14 h 00 – 15 h 30	Session 2: Items and Indicators (Animal health, feed availability and watering practices) Discussions on veterinary system in the country, the system to assess biomass in the country, different types of water points etc.
15 h 30 – 16 h 00	Coffee break
16 h 00 – 16h 45	Discussions on the outcome of the day
16h 45	End
Day 3	

Time	Topics
09h 00- 10 h 30	Session 3: Data collection methods and survey design Discussions on data sources and different type of enterprises in the country
10 h 30 – 11 h 00	Coffee break
11 h 00 – 12 h 30	Session 3: Data collection methods and survey design Discussions
12 h 30 – 14 h 00	Lunch break
14 h 00 – 15 h 30	Session 4 : Fieldwork organization, cost and integrated survey Discussions
15 h 30 – 16 h 00	Coffee break
16 h 00 – 16h 45	Discussions on the outcome of the day
16h 45	End
Day 4	
09h 00- 10 h 30	- Presentation of examples of livestock questionnaires: example of AGRIS - Discussions
10 h 30 – 11 h 00	Coffee break
11 h 00 – 12 h 30	- Presentation of examples of livestock questionnaires: example of Botswana - Discussions
12 h 30 – 14 h 00	Lunch break
14 h 00 – 15 h 30	Summary of the workshop and conclusions Evaluation
15 h 30 – 16 h 00	Coffee break and end