



Food and Agriculture Organization  
of the United Nations

# LIVESTOCK PRODUCTION AND PRODUCTIVITY

Session 4:

Field work organization, Cost and  
Integrated survey

# Objectives of the presentation

- Discuss the most efficient way to organize the field work
- Present the different elements that should take into account when preparing budgets
- Discuss the goal of agriculture integrated surveys for better use of resources

# Outline

- 1) Field work organization**
- 2) Cost of livestock surveys**
- 3) Agriculture integrated surveys**



# Field work organization

# 1. Field work organization

## Training of data collection staff

- For the most part, training activities can be expected to be carried out **in locations where the trainees live**, but time constraints or other considerations may require centralised training to which trainees must travel
- Very important to consider during the training:
  - the purpose of data collection
  - the nature of its application and form of its output
  - the nature of the variables for which data is being collected
  - the means by which information is to be obtained

# 1. Field work organization

## Training of data collection staff

- Training content must also include:
  - Sensitivity to language, education level and culture of respondents, and the specification of strategies to accommodate these
  - An understanding of the logistics of the data collection activity and the daily demands of work
  - Specification and development of skills for roles in, and interfaces with, quality control procedures and assessments
  - Specification and development of skills for roles in, and interfaces with, data entry and data cleaning.



## Cost of livestock surveys

## 2. Cost of livestock surveys

- Costs of data collection depend on physical and financial quantities
- **Physical quantities** relate to numbers of survey staff (primarily enumerators), the ways in which field work is supervised, and the delivery of training to the enumerators and supervisors.
- These numbers in turn depend on:
  - the sampling and survey strategies employed
  - the physical distances between survey accommodation and the data collection points
  - the intensity of survey activities (primarily their number, duration and nature)



## 2. Cost of livestock surveys

- It is suggested that costs per interview, per year or per enumerator are useful for ex post analysis of large scale programmes, but not relevant for ex ante design of data collection
- It should be noted that the duration of the data collection also depends on the basic assumptions about requirements and capacities

## 2. Cost of livestock surveys

- Basic assumptions for cost calculations

<b>Scale of data collection and training activities</b>					
Sample size	350 respondents				
Interviews/day/2 enumerators	7 interviews per day				
Communal event size	80 in communal data collection for one day				
Training duration	2 days				
Data entry duration	3 days				
<b>Staffing</b>	Enumerators	Supervisors	Extension officers or others	Drivers	Cars
Training	6	2			
Survey	6	2	2	2	2
Data entry	3	2			
Communal data collection	6	2	3	2	2
<b>Derived measures</b>					
Length of interview	1.14 hours				
Days to conduct survey	4.2 days				
Days to conduct communal events	4.4 days				

## 2. Cost of livestock surveys

- Data collection costs per survey day: from the field test conducted (350 households, team of 6 enumerators and 7 questionnaires per day)

	Tanzania	Botswana	Indonesia	Average
<b>Training costs</b>	USD/survey day	USD/survey day	USD/survey day	USD/survey day
Trainers' time	53	11	32	32
Trainees' time	118	15	48	61
Meals	18	77	14	36
Accommodation	326	288	283	299
Transport	9	38	14	20
Facilities	219	96	35	117
Equipment	219	96	35	117
Stationery	219	96	35	117
<b>Total training costs</b>	<b>1,181</b>	<b>717</b>	<b>497</b>	<b>799</b>
<b>Survey costs</b>				
<b>Personnel</b>				
Supervisors	110	23	67	67
Enumerators	247	31	100	126
Extension officers and local officials per diems	82	18	44	48
Drivers	73	23	44	47
<b>Logistic costs</b>				
Fuel	44	40	37	40
Car R&M	110	144	144	133
Phone cards	31	24	24	26
Meals	219	960	177	452
Accommodation	1,020	900	883	934
<b>Data entry</b>				
Enumerators	89	11	36	45
Supervisors	79	10	48	46
<b>Total survey costs</b>	<b>2,102</b>	<b>2,184</b>	<b>1,605</b>	<b>1,964</b>
<b>Total cost of training and survey</b>	<b>3,283</b>	<b>2,901</b>	<b>2,102</b>	<b>2,762</b>
	<b>Tanzania</b>	<b>Botswana</b>	<b>Indonesia</b>	<b>Average</b>
<b>Communal data collection</b>	USD/day	USD/day	USD/day	USD/day
Supervisors	110	23	67	67
Enumerators	247	31	100	126
Extension officers and local officials per diems	123	27	66	72
Drivers	73	23	44	47
Car R&M	104	137	137	126
Fuel	11	40	37	29
Meals	365	960	294	540
Accommodation	850	600	589	680
Transport	183	800	294	426
Other costs	183	400	400	328
<b>Total cost of communal data collection</b>	<b>2,248</b>	<b>3,041</b>	<b>2,030</b>	<b>2,440</b>

## 2. Cost of livestock surveys

- Opportunities for reducing data collection costs:
  - Use of local enumerators
  - Reduced length of overall data collection activities, and other planning so as to avoid staff accommodation and food expenses during down time (e.g. on weekends and public holidays)
  - Use of alternative technologies
  - Reductions in sample size
  - Changed structure and spatial arrangement of samples so as to minimize transport and other logistic costs and save enumerator time
  - Changes to questions and questionnaires so as to generate more data per unit of survey staff time
  - Changes to nature of enumerator activities so as to reduce training and supervision costs
  - Use of existing data (such as sales figures held by buyers, or accounts of animal numbers held by animal health authorities)
  - Use of farmers as enumerators



# Agriculture integrated surveys

# 3. Agriculture integrated survey

- In many countries, agricultural surveys are conducted on an ad-hoc basis without an overall statistical programme or strategy or links to a master sampling frame
  - difficult to integrate data from various surveys for further analysis
- **In the absence of structural data for the entire agricultural sector** that provides the basis for analysing the characteristics of farms
  - the division of the production of crop and livestock data leaves no opportunity to compare and measure the impact of an action within or between agricultural sub-sectors

# 3. Agriculture integrated survey

- The Global Strategy to Improve Rural and Agricultural Statistics suggests that an integrated statistical system can resolve many of these problems by reducing the duplication of effort, preventing the release of conflicting statistics, and ensuring the best use of resources
- **Methods, concepts, and classifications** can be standardized and allow for more systematic data collection across sources

# 3. Agriculture integrated survey

- This integration will be accomplished by
  - the development of a master sampling frame for agriculture including livestock
  - its use within a coordinated data collection program to produce timely and accurate data
  - a strategy for effective data dissemination that ensures accessibility



# 3. Agriculture integrated survey

- Example of AGRIS

	Years	1	2	3	4	5	6	7	8	9	10
Core Module	Agricultural holding (AH) Roster	?	?	?	?	?	?	?	?	?	?
	Crop + livestock production	?	?	?	?	?	?	?	?	?	?
	Other key variables	?	?	?	?	?	?	?	?	?	?
Rot. Module 1	Economy	?		?		?		?		?	
Rot. Module 2	Labour		?				?				
Rot. Module 3	Production Methods and the Environment				?				?		
Rot. Module 4	Machinery, Equipment and Assets	?				?					

# Reference

Upcoming Publication (2018)

**Global Strategy to improve Agricultural and rural Statistics (2018). *Guidelines on methods for Estimating Livestock Production and Productivity***

Available online : <http://gsars.org/>

Thank You