

# Appropriate Survey Methods for Different Country Profiles --- Key Challenges, Gaps and Remaining Methodological Issues

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“ . . . providing timely, accurate, and useful statistics in service to U.S. agriculture.”



# Challenge of Monitoring Agriculture for Market Management and Food Security

- **Daunting**

United Nations Global Strategy to Improve Agricultural and Rural Statistics --- about agricultural statistics

*“the quantity and quality of data coming from national official sources has been on a steady decline since the 1980’s, particularly in Africa”*

# Types of Agricultural Statistics

## Crops and Livestock:

- Production and supplies of food and fiber
- Prices paid and received by farmers
- Farm labor and wages
- Farm income and finances
- Chemical use
- Demographics of producers

## Additional Data Needed:

Forestry, Fisheries, Land Use, Water Use



# Challenges in Producing Agricultural Statistics

- **Limited staff and capacity of the units responsible for collection, compilation, analysis and dissemination of agricultural statistics**
- **Lack of adequate technical tools, statistical methodology and survey framework to support data production efforts**
- **Lack of institutional coordination**
- **Insufficient funding allocated for agricultural statistics from national budgets and development partners**
- **Lack of capacity to analyze data in a policy perspective**

# Challenges in Producing Agricultural Statistics

## **Lack of trained statistical staff:**

- Countries lack financial resources to recruit and retain qualified staff
- Lack of expertise with modern technology
- Agricultural statistics collected outside of the National Statistical System with little oversight by the National Statistical Office
- Lack of expertise in analytical methods

# Challenges in Producing Agricultural Statistics

- **Measurement Problems**
  - Inaccurate self reporting
  - Non-standard units to measure production
  - Nomadic livestock
  - Out-dated methodology in many areas

# Challenges in Producing Agricultural Statistics

## Large number of farms (agricultural holdings)

- At least 570,000,000 farms world wide
- More than 500,000,000 family farms
- More than 475,000,000 with < 2 hectares
- More than 410,000,000 with < 1 hectare
- Average farm sizes have decreased and the total number of farms increased from 1960 to 2000

# Challenges in Producing Agricultural Statistics

- **Difficult to measure crop production**
  - Small crop fields
  - Irregular shaped crop fields
  - Crop fields on hills
  - Mixed cropping
  - Continuous cropping



# Challenges in Producing Agricultural Statistics

- **Low standards for agricultural data collection**
  - Widespread use of local experts or extension officers to collect data --- arbitrary and subjective
  - Widespread ---
  - \*\*\* of 44 countries in Sub-Saharan Africa
    - only 2 countries have high standards in data collection
    - 21 countries have low standards in data collection

# Selecting the Survey Method

- **Population Issues**
- **Sampling Issues**
- **Question Issues**
- **Content Issues**
- **Bias Issues**
- **Administrative Issues**

# Sample

- **List**
- **Area**
- **List & Area**
- **Multiple Lists**

# Data Collection

- **Traditional Methods**

- Mail

- Personal interview with paper questionnaire

- Telephone (with paper questionnaire, or computer assisted telephone interview --- CATI)

- **Digital Revolution – technology**

- \* Global Positioning Systems (GPS)

- \* Satellite imagery

- \* Computer Assisted Personal Interviewing (CAPI)

- \* Use of mobile phones and other devices for data collection

- \* Online



# Methodology

- **Methodological improvements**

Statistical research in many areas conducted under the UN Global Strategy to Improve Agricultural and Rural Statistics

- **Areas of Research**

- \* Administrative Data
- \* Crop Measurements
- \* Master Sample Frame
- \* Cost-Effectiveness of Remote Sensing
- \* Post harvest loss
- \* Nomadic livestock



# Technology --- Opportunity & Challenge

- Advancements in technology offer many opportunities for efficient and cost-effective ways to capture data
- Requires much attention on developing methodology on use of technology, to avoid inefficient allocation of resources and poor results
- Capacity building and institutional strengthening, along with methodological improvements will ultimately lead to better monitoring of agriculture for market management and food security



# Seventh International Conference on Agricultural Statistics ICAS VII

- **Modernization of Agricultural Statistics in Support of the Sustainable Development Agenda**
  - ICAS VII will be held in Rome 26 – 28 October, 2016  
Organized by the Italian National Institute of Statistics and the Food and Agriculture Organization of the UN (FAO)
  - Seminar on Methodology for Agricultural Censuses and Surveys 24 & 25 October --- organized by USDA

<http://icas2016.istat.it>

