

Integrated Framework for the Development of Agricultural Statistics in Uganda

J.B. Magezi-Apuuli

BACKGROUND:

Importance of the agricultural sector in the economy:

Agriculture is the dominant sector of Uganda's economy. It contributes about 40% of the total GDP, over 90% to total exports, provides 80% of employment, and, about 85% of the population live in rural areas of the country where they derive their livelihood mainly from agriculture.

Government programmes for poverty eradication:

In light of the importance of the agricultural sector, in 1996 the Government made poverty eradication the overarching development goal. To this end, a Poverty Eradication Action Plan (PEAP) was formulated and it has prioritized the agricultural sector as key in poverty eradication. Further, the Government is implementing the Plan for Modernization of Agriculture (PMA) in order to transform the smallholder farmers from subsistence farmers into commercial farmers.

Use of agricultural data:

The critical role of availability of: comprehensive, reliable, consistent and timely agricultural data to the development of the agricultural sector cannot be over-emphasized. It is important that credible data are available to: inform and underpin the planning processes; compile national accounts; inform public policy analysis, debate and advice; monitor sector performance; monitor and evaluate the impact of policies and programmes; and, inform decision-making processes.

Users of agricultural data:

Agricultural data are required by a wide spectrum of stakeholders who include: policy, decision-makers and analysts in Government to underpin major Government initiatives; the private sector (investors and traders) and the public at large to assess opportunities, risks and prospects in the sector; NGO's; academia for research and teaching purposes; the donor community to assess requirements for assistance and/or participation in development initiatives; and, the wider public for a variety of purposes.

The agricultural statistics system in Uganda:

In spite of the critical importance of good agricultural statistics to the development of the agricultural sector, the national agricultural statistics system is not able to adequately respond to data needs. The system is decentralized and with many players. The main ones include: the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF); parastatal bodies; Uganda Bureau of Statistics; Department of Meteorology; Ministry of Health; and, Ministry of Local Government.

The system was never fully developed. It started from a humble beginning with the establishment of an Agricultural Reporting Service (ARS) in the ministry responsible for agriculture. Various officials like District Agricultural Officers, District Veterinary Officers and District Fisheries Officers provided estimates on production of crops, livestock and fisheries respectively. Estimates were not good mainly because of methodological problems. By the beginning of 1960s the need for benchmark data on the structure and organization of the agricultural sector was apparent. With the assistance from FAO and the then Department of Technical Cooperation of United Kingdom, the 1963/65 Census of Agriculture was conducted. This was followed by another one conducted during 1990/91. Follow-up annual agricultural sample surveys aimed at providing inter-censal estimates could not be sustained due to lack of financial resources and other requisite logistical support.

An assessment of the agricultural statistics system in Uganda:

Within the framework of the FAO/World Bank Agricultural Statistics Assistance in Uganda, a Data Needs Assessment Study was carried out in August 1999, a Stakeholders Workshop was held in October 1999 and an integrated Framework for the Development of Agricultural Statistics was designed in March 2000.

During the Data Needs Assessment Study very important findings were made including: existence of many uncoordinated data producers; a fragile, vulnerable, unsustainable system unable to meet the needs of data users; existence of unharmonized or inconsistent data; absence of a one-stop-center; and, existence of many data gaps.

These findings were followed by holding of a Stakeholders' Workshop which brought together major stakeholders and aimed at achieving not only consensus but also synergies, cost-efficiency and ownership.

Based on both the Data Needs Assessment Study and the recommendations of the Stakeholders Workshop, the Framework was designed.

THE INTEGRATED FRAMEWORK FOR THE DEVELOPMENT OF AGRICULTURAL STATISTICS IN UGANDA (Simply the Framework):

THE NATIONAL STATISTICAL SYSTEM (NSS):

The development of the Framework coincided with the development of the wider NSS. As part of the reform and restructuring programme, the Government took a strategic decision to transform the Department of Statistics in the Ministry of Finance, Planning and Economic Development into a semi-autonomous Uganda Bureau of Statistics “*as the principal data collecting and disseminating agency responsible for coordinating, monitoring and supervising the National Statistics System.*”

OBJECTIVE OF THE FRAMEWORK:

It aims to underpin the development process of the agricultural sector by improving the flow of integrated consistent, accurate and timely agricultural data and information as a source base for analysis, policy formulation, planning, decision making, monitoring and evaluation of the performance of the agricultural sector. Hence, the Framework constitutes a Government policy and strategy document.

Secondly, the Framework was designed to provide a description of the:

- Priority data requirements of users;
- Most appropriate methods and means of collecting data; and
- Related organisational and institutional arrangements for data production.

ASSUMPTIONS MADE IN DESIGNING OF THE FRAMEWORK:

- (a) Agricultural statistics was used in a wider sense to include statistics on crops, livestock, **forestry**, fisheries and **rural economy**.
- (b) Available resources (including human resources) are scarce and, therefore, should be used in the most efficient manner possible.
- (c) Work done hitherto to constitute a starting point in the implementation of the Framework.
- (d) Ensuring of a consensus among critical Government institutions.
- (e) Donors and international organisations to find the Framework a more attractive and useful vehicle for channelling resources and support to ensure a sustainable agricultural statistics in Uganda.
- (f) Government to be committed to the implementation of the Framework.

MAIN FEATURES OF THE FRAMEWORK:

(a) User-oriented:

Data users to play a pro-active role in the development and implementation of the Framework. Data users' requirements were identified and formed the basis for the formulation of the Framework. Further, the main focus of the system is the provision of data and information to inform the poverty monitoring process in the country.

(b) Wide Subject Coverage:

Data to be collected will cover a wide spectrum of subjects. This means that that the variables to be covered will be of a diverse nature to include those ones conventionally covered in agricultural statistics as well as those regarded as extremely crucial such sustainable agriculture indicators on rural development and economic sustainability indicators such as use and protection of forests, water, and other natural resources.

For the variables not traditionally covered in agricultural statistics, the Bureau recognises the comparative advantage enjoyed by other agencies and will therefore play a coordinating role in ensuring that the required data on forests, water and other natural resources are collected, processed and disseminated to users to guide policy formulation as well as monitoring projects and programmes on rural development.

(c) Flexibility and Pragmatism:

The Framework is flexible enough and provides possibilities with regard to the sequence and frequency of different kinds of subjects, the degree of detail with which data is obtained and the geographical coverage.

(d) Long-term Perspective:

The Framework recognises the fact that developing a robust and sustainable system requires a gradual sustained and long-term process. Hence, a need to have resources that are spread over a long period of time to allow for the learning process to take place and for the absorption capacity to build up.

(e) Partnership:

The approach is for Government to play a main and central role while donors' support is to supplement Government efforts in provision of financial support.

(f) Integrated Approach:

The components and activities in the Framework will be coordinated and prioritised in such a way so as to:

- Prevent duplication which often leads to inconsistent data;
- Achieve cost-effectiveness in utilisation of scarce resources;
- Avoid working at cross purpose; and
- Generally, produce higher quality data.

(g) Benefits of Continuity:

The Framework provides continuity in data production by ensuring innovative and experimentation, detailed investigation of complex topics and studies leading to refinement of concepts, methodologies definitions, questionnaires and tabulations. Further, it facilitates accumulation of experience which can be ploughed back in order to improve the data quality.

(h) Focus on Institutional Capacity Building:

The Framework aims to build a robust self-sustaining and enduring agricultural statistics system by:

- Creating a rationalised institutional framework;
- Creating a critical mass of skilled personnel; and
- Providing necessary resources, equipment and accessories to facilitate data production.

COMPONENTS OF THE FRAMEWORK:

The Framework has nine (9) major inter-linked components. The diagram below shows both the components and their respective sub-components:

Component	Sub-Component
1 Data Management	1.1 Analysis and harmonisation of existing data 1.2 Establishment of agricultural database
2 Institutional Capacity Building	2.1 Resources (personnel & funds) 2.2 Training programmes 2.3 Creation of survey infrastructure 2.4 Development of appropriate methodology 2.5 Application of new technologies
3 Census Programme	3.1 Population & Housing Census 3.2 Census of Agriculture 3.3 Livestock Census
4 Annual Agricultural Surveys	4.1 Annual Agricultural Survey
5 Household Surveys	5.1 Labour force surveys 5.2 Informal sector survey 5.3 Food consumption and nutrition survey 5.4 Household budget survey 5.5 Cost of production survey
6 Village Registration System/Agricultural Reporting Service	6.1 Village Registration System/Agricultural Reporting Service 6.2 District level statistics
7 Early Warning System	7.0 Early Warning System
8 Development of Fisheries Statistics	8.1 Frame survey 8.2 Catch Assessment Survey
9 Forestry Statistics	9.0 Forestry statistics

STATUS OF IMPLEMENTATION OF THE FRAMEWORK:

With a grant of US\$ 1.8m from the Royal Government of Norway, the Government of the Republic of Uganda/the UBOS have been implementing the “**Support to Strengthen Agricultural Statistics Project**” (SSASP) since May, 2002. Under SSASP, the following have been carried out:

1. Data Management:

A start on collection of **meta data** from the various agricultural data producing agencies was made. The aim of this exercise is to document: the methodologies used in data collection; concepts and definitions used; medium (i.e. hard copy, soft copy or both) in which the data exist, etc.

2. Institutional Capacity Building:

The following have been achieved with varying degrees:

(a) Resources

The following have been procured: four vehicles; four desktop PCs; two printers; two laptops; twenty motor-cycles; one LCD projector; one fax machine; and, one scanner.

(b) The Agricultural Statistics Section (ASS) in the UBOS is currently manned by two statisticians. They are very few and during the conducting of the Pilot Census of Agricultural (PCA), three additional statisticians had to come from the Directorate of District Statistics to assist especially during fieldwork supervision. With the support of the donor for SSASP, the Bureau/Government of Uganda, efforts are at an advanced stage to recruit two statisticians for two years to support the two officers already in the section.

(c) Training Programmes

The only training that was carried out was on-job mainly because the staff was too thin on the ground to permit any medium-term to long-term training. However, the staff of the ASS will be trained within the overall Bureau's training programme.

(d) Develop Appropriate Methodologies

During the PCA, different methodologies for the collection of data on: area under crops; and crop production were experimented. The design was such that it permitted collection of data which could form a basis for empirical evidence on which to choose those methods that would promise: cost-effectiveness, accuracy and sustainability. Use of Global Positioning System (GPS) equipment was recommended for area measurement.

3. Census Programme:

Under this, an Agricultural Module was **piggy-backed** onto the Population and Housing Census (PHC) 2002, to provide appropriate sampling frames for

future agricultural censuses and surveys. Following data capture and cleaning, tables were generated and a report prepared which was disseminated on 29th September 2004. Data from the PHC agricultural Module were used as sampling frames in drawing samples for the pilot Permanent Agricultural Statistics System (PASS) being conducted.

During the first season, a PCA was conducted in preparation for a Uganda Census of Agriculture and Livestock (UCAL) slated for 2004/05 subject to availability of funding. Debate is still on as to whether to collect livestock data in a UCAL or in a separate sample census of livestock or on a complete enumeration basis. ADB has indicated willingness to fund a Livestock Census /Livestock Inventory

4. Annual Agricultural Surveys:

Discussions are underway with the management of the Uganda National Household Survey Programme to make Annual Agricultural Survey a core module.

5. Village Registration System (VRS)/Agricultural Reporting Service (ARS):

During the conducting of the PCA, discussions were held with various district officials on the possibility of re-establishing the ARS's modified if need be. The issue of the VRS was also discussed. It became apparent from all the ten districts in which the PCA was conducted that neither the ARS nor the VRS could function sustainably. First and foremost, the financial resources required would be so overwhelming that Government and partners would not be able to provide. Secondly, the data generated would be so voluminous that processing it would require a lot of time leading to long delays in dissemination of reports (results) to users.

In light of this, a proposal on a PASS was prepared and discussed by the stakeholders. It was extensively cleared by the National Agricultural Statistics Technical Committee for piloting it in five districts.

Important features of the PCA include:

- A few key variables on which to collect data; information will provide crop forecast, crop production, livestock numbers and prices.
- An adequate sample size of EA's to enable generation of reliable estimates at district level.
- Selection of about 15 holdings/EA for enumeration.
- Estimates will be provided twice every agricultural year, i.e., once every agricultural season, from a sample of small and medium scale holdings. These will be supplemented by data obtained from a complete enumeration of all Private Large scale and Institutional Farms.

- Scanning of completed questionnaires is being piloted alongside the conventional method to have a robust basis for comparison in order to adopt the approach that is cost-effective, ensures timely data processing and is sustainable.

6. Early Warning System:

A consultant on Early Warning System was engaged in June, 2003. He prepared a report which was handed to MAAIF. A response is being awaited before another step can be taken.

7-8 Development of Fisheries and Forestry Statistics:

The Bureau consulted the Departments of Fisheries and Forestry which are responsible for fisheries and forestry statistics respectively before preparing a document titled “***Development of Food and Agricultural Statistics.***” This document was submitted to Government for funding.

CONCLUDING REMARK

The Framework which is a policy and strategy document for the rebuilding of the national agricultural statistics system ensures that this is being done in a holistic manner to: ensure cost-effective use of scarce resources, avoid duplication of efforts and working at cross purpose, fill data gaps and ensure sustainability of the system.

The Framework for the Development of Agricultural Statistics in Uganda is being implemented in a wider Framework for the Development of the Uganda National Statistical System. A very important aspect to be addressed in the implementation of the Framework will be a great need to coordinate collection of data on:

- ❖ Sustainable agricultural indicators with emphasis on rural development;
- ❖ Economic sustainability indicators; and,
- ❖ Environmental sustainability indicators.

The National Agricultural Statistics Technical Committee (NASTC) shall ensure that all the aspects of the Framework are addressed to the extent possible.