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2012 Report

Malawi Study Tour on Agricultural Statistics to Ghana and Mozambique

Ministry of Agriculture and Food Security
Department of Agricultural Planning Services

MALAWI
Strategy Support Program

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
IFPRI

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The International Food Policy Research Institute (IFPRI), established in 1975, provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition. The Institute conducts research, communicates results, optimizes partnerships, and builds capacity to ensure sustainable food production, promote healthy food systems, improve markets and trade, transform agriculture, build resilience, and strengthen institutions and governance. Gender is considered in all of the Institute's work. IFPRI collaborates with partners around the world, including development implementers, public institutions, the private sector, and farmers' organizations. IFPRI is a member of the CGIAR Consortium.

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Preamble

Malawi's medium term goals as articulated in the Malawi Growth and Development Strategy (MGDS) are wealth creation and poverty reduction through sustainable economic growth. This requires transforming the country from a predominantly importing and consuming to a manufacturing and exporting one. The Government of Malawi (GoM) has implemented several sector-wide development strategies in support of these policy goals. Key among these is the Agricultural Sector-Wide Approach (ASWAp), a strategic development and investment plan for the agricultural sector which began in 2010. The ASWAp document articulates Malawi's ambition to transform, modernize and diversify its agricultural sector with a view to raise agricultural productivity, improve food and nutrition security, and increase agricultural incomes of rural people. The ASWAp is in line with the New Partnership for Africa's Development (NEPAD) Comprehensive Africa Agriculture Development Program (CAADP).

Formulating and implementing an effective development strategy such as the ASWAp is a complex task requiring long-term commitment from stakeholders. Building the country's long-term capacity in generating and utilizing the data and knowledge there is need to design, implement and refine Malawi's development strategies to ensure sustainable success in achieving the ASWAp goals.

In view of this the Statistics Unit (SU) of the Planning Department of the Ministry of Agriculture and Food Security (MoAFS) implemented the *Support to Agricultural Statistics* or "***AgStatsupport***" between June 2012 and September 2013 to build the basis for a well-coordinated and integrated agricultural statistical system within the broader National Statistical System (NSS) of the country. The *AgStat support* was implemented in collaboration with the International Food Policy Research Institute's (IFPRI) Malawi Strategy Support Program (MaSSP), and the National Statistical Office (NSO) with financial support from United States Agency for International Development (USAID). The *AgStat support* has two main outputs as follows:

i. Establishment of an Agricultural Statistics Forum (ASF) that harnesses the buy-in and support of all key stakeholders including agricultural statistics; and

ii. Development of an Agriculture Strategic Master Plan (SMP) for the country to guide investments and future activities of the agriculture statistics subsector. This was developed in close collaboration with technical support from the Food and Agricultural Organization (FAO)

This series is an output of the *AgStat support* and comprises several reports based on core activities that were carried out separately but which are ultimately interlinked and will culminate in the development of the SMP. These include:

1. Inventory of Agricultural Statistics Stakeholders in Malawi
2. Strategic Master Plan (SMP) Inception Report
3. **AgStat Study Tour report**
4. Agricultural Market Information System (AMIS) assessment
5. Agricultural Production Estimates Survey (APES) information flows assessment (Under Embargo until September 2017)
6. Pilot of field based data entry for the Agricultural Production Estimates Survey (APES) (Under Embargo until September 2017)
7. A Strategic Master Plan of the Agriculture Statistics subsector in Malawi

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Executive Summary

The Ministry of Agriculture and Food Security, through the International Food Policy Research Institute (IFPRI), solicited funds from the United States Agency for International Development (USAID) to support the strengthening of agricultural statistics in a bid to support the monitoring and evaluation of the Agricultural Sector Wide Approach (ASWAp) and other agricultural projects, such as the Farm Input Subsidy Programme. Among the components spelled out in the project is the strengthening of agricultural statistics. The Ministry used part of the funds to undertake a study tour to Mozambique and Ghana to learn lessons on how to improve agricultural statistics in Malawi.

The overall objective of the study tour was to build the capacity of the main institutions responsible for generating national agricultural statistics. This was achieved by learning how the two countries are developing and modernising their agricultural statistics in line with their National Statistical Systems (NSS) and the global strategy for the development of agricultural statistics which is spearheaded by the Food and Agriculture Organization of the United Nations (FAO).

Prior to the trips, a checklist was developed, which guided the teams in collecting relevant information. A series of meetings conducted with a number of institutions in each country to gather information included, among others, the processing of the development of the strategic master plan, early warning system data processing and analysis, country experiences in conducting agricultural surveys, experiences of data users, and the role of FAO as a Facilitating Agency. In addition, field visits were conducted to learn how agricultural statistics are generated or used at local levels.

A key lesson learned from the study tour is the process of developing a master plan for the agriculture statistics sector. As learned from the countries, a master plan is a strategic document oriented for development of an agricultural statistical system with a long-term perspective linked with the National Strategy for the Development of Statistics (NSDS) or National Statistical System (NSS), as is called in Malawi. The master plan is aimed at coordination of synergies among the different institutions, so as to eliminate duplication of activities and consequently use resources efficiently. The process of formulating the master plan involved defining the problem; conducting data needs assessment; developing strengths, weaknesses, opportunities, and threats (SWOT) analysis; and defining the vision, mission, and strategic objectives. It also involved designing the road map with clear work plans and budgets.

The study tour findings also show that Mozambique uses field based-data entry for all the agricultural surveys and censuses. In this approach, data are entered in the field and then sent electronically to the headquarters for data processing and analysis. Mini laptops are used for data entry. In Ghana, the Agriculture Statistics Data Bank is maintained in the Ministry of Food and Agriculture. With the assistance of IFPRI's Ghana Strategy Support Program, the country has started entering the data into a central "drop box" in Accra, straight from the districts via the Internet. Although the system uses customized database software, data for Agricultural Market Information Systems (AMIS) are still transmitted using mobile phones.

Electronic data transfer systems as leaned from the two countries has proven to be helpful, in terms of reduced time for data processing and and timely dissemination of statistical data.

List of Acronyms

AfDB	African Development Bank
AMIS	Agricultural Market Information System
ASF	Agricultural Statistics Forum
ASWAp	Agricultural Sector-Wide Approach
EA	Enumeration Area
EPA	Extension Planning Area
FAO	Food and Agricultural Organization of the United Nations
GPS	Global positioning system
GSS	Ghana Statistical System
HLSS	Living Standards Survey for households
ICT	Information and communication technology
IFPRI	International Food Policy Research Institute
IT	information technology
MGDS	Malawi Growth and Development Strategy
MoA	Ministry of Agriculture (Mozambique)
MoAFS	Ministry of Agriculture and Food Security (Malawi)
MoFA	Ministry of Food and Agriculture (Ghana)
NASCC	National Agricultural Statistical Coordination Committee
NASS	National Agricultural Statistics Strategy
NSO	National Statistical Office
NSS	National Statistical System
SMP	Strategic Master Plan
SRID	Statistics Research and Information Directorate
SWOT	Strengths, weakness, opportunities, and threats
TWG	Technical Working Group
USAID	United States Agency for International Development
YSP	Yield subplot

1. Introduction

The Ministry of Agriculture and Food Security (MoAFS), through the International Food Policy Research Institute (IFPRI), solicited funds from the United States Agency for International Development (USAID) to support the strengthening of agricultural statistics. The objective of improving agricultural statistics in the country is to support the monitoring and evaluation of the Agricultural Sector-Wide Approach (ASWAp) and other agricultural projects, such as the Farm Input Subsidy Programme. Among the components spelled out in the project is the strengthening of agricultural statistics. MoAFS used part of the funds to undertake a study tour to Mozambique and Ghana to learn lessons for improving agricultural statistics in Malawi.

The overall objective of the study tour was to build the capacity of the main institutions responsible for generating national agricultural statistics. This was achieved by learning how the two countries are developing and modernizing their agricultural statistics in line with their National Statistical Systems (NSS) and the Global Strategy to Improve Agricultural and Rural Statistics, which is spearheaded by the Food and Agricultural Organization of the United Nations (FAO).

Specifically, the study tour focussed on learning about:

- The policies and strategic plans that the countries are developing and/or following as an input into the development of a Strategic Master Plan (SMP) for Agricultural Statistics.
- The linkage of agricultural statistics to NSS as a platform for lobbying policymakers and obtaining financial support from government and donors.
- The linkage of agricultural statistics to international initiatives, such as the FAO Global Strategy.
- Initiatives and developments for transforming data collection, transfer, and management activities to electronic, computerized, and Web-based systems.
- Agricultural management information systems (databases) being used by other countries.
- The methodology, data transfer, and management of the Agricultural Market Information System (AMIS).
- Methodologies for estimating, transferring, and managing crop production data.
- Implementation modalities of the National Census for Agriculture (National Sample Survey of Agriculture).
- Dissemination methods and how data users access and use agricultural statistics.

Ghana and Mozambique were chosen because both countries have developed SMPs for their agricultural statistics. In addition, Mozambique was selected for its implementation of field-based data entry. Ghana, on the other hand, has a very active Agricultural Statistics Forum (ASF) and has embarked on a program of enhancing the administrative and information technology (IT) capabilities of field operations in the collection of agricultural statistics.

2. Process/Method

Prior to the trips, a checklist was developed to guide the teams in collecting the required information. A series of meetings were conducted with a number of institutions in each country to gather information. Information collected pertained to a variety of items, including the processes of developing of an SMP and an early warning system; data processing and analysis; country experiences in conducting agricultural surveys; experiences of data users; and FAO's role as a facilitating agency. In addition, field visits were conducted to learn how agricultural statistics are generated or used at lower levels.

In each country, the teams visited institutions that are either generators or users of agricultural statistics, including:

- Ministries of Agriculture (MoA);
- Central Statistics Office;
- Early warning for food security organizations;
- Major users of agricultural statistics, such as universities and research institutions;
- District-level agricultural office, plus a field visit; and
- FAO Sub-regional Office (Mozambique team only).

3. Findings

3.1 STRATEGIC MASTER PLAN FOR AGRICULTURAL STATISTICS

An SMP is oriented toward developing an agricultural statistical system with a long-term perspective that is linked with a National Strategy for the Development of Statistics (NSDS) or an NSS.

The Mozambique SMP covers a period of 10 years and is linked to national policies and strategies addressing poverty reduction, agricultural development, and food security. The SMP is used to facilitate coordination among different stakeholders and institutions involved, to eliminate duplication of activities and consequently ensure the efficient utilization of resources. The process of formulating the SMP involved defining the problem; conducting a data needs assessment and a strengths, weaknesses, opportunities, and threats (SWOT) analysis; defining the vision, mission, and strategic objectives; and designing a road map with clear work plans and budgets.

Ghana's Ministry of Food & Agriculture (MoFA) developed the National Agricultural Statistics Strategy (NASS) in collaboration with Ghana Statistical Service (GSS). With the support of a consultant, an assessment questionnaire was produced to collect the necessary information for developing the strategy. However, implementation of the NASS has been delayed, as it is awaiting ratification of a World Bank loan and grant facility of US$23 million by Ghana's Cabinet and Parliament.

3.2 EARLY WARNING SYSTEM

In Mozambique, the early warning system started in 1987 as a project supported by FAO. The project was then handed over to the government in 1995. Early Warning System is a unit in the Department of Early Warning and Production of the Ministry of Agriculture (MoA). The department's core function is to monitor agricultural seasons and provide advice to farmers, through extension workers, on crops to plant in accordance with the forecasted rainfall. The unit also provides information on the estimates of crop production. Early warning data are collected by the extension workers in the districts, sent to the province for electronic entry, and then sent electronically to the Ministry of Agriculture headquarters for analysis. The crop estimate data are augmented by rainfall data to consolidate food availability forecasts from the MoA.

3.3 DATA MANAGEMENT, ANALYSIS, AND STORAGE

The study tour findings show that Mozambique uses field-based data entry for all the agricultural surveys and censuses. In this approach, data are entered in the field using mini laptops, and then sent electronically to the headquarters for processing and analysis. Unlike Malawi's MoAFS, whereby data collectors are duty stationed in the Extension Planning Areas (EPAs), Mozambique uses mobile teams for data collection. Each team comprises three enumerators, one supervisor, a data entry clerk, and a driver. Once the data are entered and checked by the supervisor, they are sent by e-mail to the headquarters. Each questionnaire is entered twice by the same data clerk as a means of ensuring accuracy.

Historically, the system started in 2002 as a pilot with two provinces. Data for pilot provinces were also re-entered at the headquarters and were compared to the data entered in the field for consistency checks. In 2003, the coverage was increased to 50 percent of the provinces, and in 2005 the whole country was covered after the approach proved to be satisfactory.

The Census and Survey Processing data entry program was designed by Chile. MoA officers were trained for one month in the first year and two weeks in

the second year of implementation. The program is designed in such a way that errors are detected immediately during data entry, hence reducing the time for data cleaning. Data are exported to Statistical Package for Social Sciences software for analysis. The same approach is used for Agricultural Census with the only difference being that data is entered directly into mini laptops during household interviews.

In Ghana, the Agricultural Statistics Data Bank is maintained by MoFA. With the assistance of IFPRI's Ghana Strategy Support Program, the country has started entering the data into a central "drop box" in Accra straight from the districts via the Internet. The system uses customized database software; however, AMIS data are still transmitted using phones, as is also the case in Malawi.

3.4 EXPERIENCES IN AGRICULTURAL SURVEYS AND RELATIONSHIPS BETWEEN MINISTRIES OF AGRICULTURE AND THE CENTRAL STATISTICAL OFFICES

3.4.1 Ghana

In Ghana, the major survey conducted by the MoFA's Statistics Research and Information Directorate (SRID) is the Multi-Round Annual Crop and Livestock Survey. The survey is similar to the Agricultural Production Estimates Survey conducted by Malawi's MoAFS.

The statistical sampling of the survey conducted in Ghana's 170 districts uses the standard procedures stipulated by FAO, randomly sampling 10 households per Enumeration Area (EA) using a programmable calculator. The household questionnaire is designed to collect information ranging from holding sizes, to production, yield, sales, and prices obtained by farmers. Land area is measured using a global positioning system (GPS) device, in place of the previously used chain and compass. Yield is assessed using a yield subplot (YSP), which is also identified randomly using a programmable calculator. Production is extrapolated from the YSP using a raising factor. Ghana developed well-laid-out training manuals for both enumerators and supervisors.

Although the survey does not estimate sampling errors for the crop survey, the programmable calculator and the database software do not accept a certain level of error, which is more or less a check on nonsampling errors. Due to financial constraints, the sample size was also reduced without verifying sampling errors, thus casting doubt on the reliability of the survey.

As is the case in Malawi, Ghana's crop and livestock survey is conducted by extension staff. This has the potential to create a conflict of interest, as the extension staff essentially assesses its own work. With the support of IFPRI's Ghana Strategy Support Program, the country is currently piloting a new methodology that is being piloted in 20 of Ghana's 170 districts, with 40 EAs selected per district.

The GSS in close collaboration with MoFA is planning to conduct an agriculture census. However, they are faced with funding constraints. The last agriculture census was conducted in the 1970s. Malawi conducted an agriculture census in 2006–7, and the questionnaires used in that census have been sent to counterparts in Ghana for reference.

The Ghana Statistical Service (GSS) and MoFA have a very good working relationship. They work collaboratively on all agricultural statistics issues, and resolve discrepancies in GSS and MoFA data amicably. For example, the results of the Ghana Living Standards Survey for households (HLSS) revealed that MoFA data for root and tuber production, especially cassava, were very high. MoFA was double counting cassava production for the tubers that remain unharvested for more than one year. MoFA changed its methodology taking into account this source of error. Malawi,

especially MoAFS, can learn from this development to ensure that official statistics produced by the National Statistical Office (NSO) and MoAFS are not in conflict. The Agriculture Statistics master plan should clearly articulate this. Ghana has adopted a strategy whereby GSS has to approve all statistical methodologies of SRID to ensure that they are sound. GSS analyzes data to detect outliers that may be sources of error and subsequently advises MoFA of potential errors in data. GSS also carries out independent supervision of MoFA surveys to cross check implementation of the survey.

3.4.2 Mozambique

As in Ghana, the Mozambique MoA works closely with the National Statistics Institute (NSI), MoA develops the methodology and questionnaires, which NSI approves before their implementation. This step ensures harmonization of the methodologies and data quality. MoA takes the lead in training enumerators, sampling, data collection, and analysis.

Sampling for the biannual agriculture surveys builds on the national agriculture census, from which a sample is drawn. Key sampling issues include survey stratification—for example, clearly defining smallholder, medium-scale, and large-scale farmer characteristics. In the agriculture survey, all large- and medium-scale farmers in the selected EAs are interviewed, and 6,000 smallholder farmers (1 percent) are interviewed. Fields are measured using a GPS device and compass. In data collection, three different types of questionnaires (large-scale farmers, small- and medium-scale farmers, and community questionnaires) are used.

In Mozambique the AMIS was established in order to overcome hardships associated with marketing of agricultural commodities by producers, and of monitoring agricultural commodity prices (food basket cost). The objective of AMIS is to promote agricultural trade and to monitor food security. Data are collected weekly by enumerators in the districts with high potential for producing the country's main agricultural commodities, such as maize, cassava, beans, groundnuts, cooking oil, sugar, wheat, and rice. In total, 25 commodities are covered. Data are collected every Monday; are sent to a central office for data entry on Tuesdays; and are cleaned, processed, and published in bulletins every Wednesday. The data and market price information are also disseminated through weekly radio and television programs that disseminate market price information.

Ghana also conducts AMIS surveys twice a week using market enumerators.

3.5 ROLE OF FAO AS A FACILITATING AGENCY

During its visit to the FAO regional office, the Mozambique delegation noted that FAO was the major facilitating agency in the development of the master plan for agricultural statistics following a request from the Mozambican Government. The role of FAO included:

- Providing technical support during the problem assessment phase by using international and local consultants identified and contracted jointly with MoA. The international consultants are on sustained effort for about one year, with six-week interval visits to ensure capacity building of the MoA and local consultants. They facilitate retreats and workshops to ensure wider participation and involvement of stakeholders in the in-depth discussion of the reports for the Master Plan in various stages.
- Mobilizing resources from various partners to support the development and implementation of the master plan.
- Engaging in and monitoring the timely implementation of the agreed actions and delivery

of results by governments, taking into account priority issues from the development partners.

- Advocating that governments clarify issues and provide technical advice and direction throughout the process.

FAO believes the master plan is a strategic framework for harmonizing donor investment in building capacity for developing, applying, and disseminating agricultural statistics and enabling synergies among implementers. FAO recommendations for the use of agricultural statistics included a modular approach and the need for strategic linkages with central statistical offices.

In Mozambique, FAO will continue to facilitate other processes while MoA takes the leading role for the development and implementation of the master plan. A validation seminar and endorsement of the master plan are the key outstanding processes. FAO will continue providing technical support and local consultants will be engaged to develop technical reports in various thematic areas, such as livestock, crops, and fisheries.

3.6 EXPERIENCES FROM DATA USERS

The Mozambique team visited the Faculty of Agronomy at the University of Eduardo Mondlane. The faculty is involved in training government staff in data analysis. The aim of the visit was to learn how academicians, research institutions, and consultancy firms use agricultural statistical information. The team learned that statistical data (such as agricultural surveys and census data) are widely used as part of academic training, postgraduate research, academic articles, and theses.

During its meeting with the Ministry of Industry and Trade, the team learned that food security in Mozambique relies on local produce from rural areas. However, because the country faces shortages in key commodities—mainly rice, wheat, and potatoes—imports those commodities to make up for the deficit. The Ministry of Industry and Trade considers the data from agricultural surveys to be of high quality, because MoA follows a consultative process in which key stakeholders (especially users) are involved in identifying information needs and developing questionnaires. This process allows dialogue and thus creates trust for the data produced.

The Ministry of Industry and Trade also uses data from other sources, such us early warning systems and banks. The collected data include estimates on production volumes of the crops from the smallholder farmers; data from medium-scale farmers and companies; data on market issues, in terms of inputs and outputs; data from other sources, such as the NSI; microeconomic data from Mozambique's central bank; and price data from major cities to analyze price trends and respond with speed on emergencies.

3.7 FIELD VISITS

3.7.1 Abokobi District, Ghana

The Ghana team made a field trip to Abokobi district in Ga, Greater Accra, to learn how agricultural statistics are implemented on the ground. Abokobi is one of the 20 districts selected to pilot the new crop and livestock survey developed by IFPRI's Ghana Strategy Support Program. The officials described in detail how the survey is conducted.

The district first conducts a community sensitization, using a vehicle and megaphone, or what they term gong meetings (people are called to the meetings by a gong). The district then lists all of the selected EAs, which are selected using a programmable calculator, and 12 households per EA: 10 from each EA plus 2 for

replacement. The enumerators then do a community interview from which they collect the general characteristics of the farming dynamics in the district. The survey team then proceeds to measure gardens using GPS. Production is assessed using the YSPs, which are also identified using a programmable calculator to randomly locate the bearing of the entry point as well as the point to lay the YSP. Minor crops may not be captured among the sampled households; hence, a subjective method is used to estimate their production. On the other hand, the district supervisors collect data for estates.

Once the information is entered into the computer at the district, it is automatically saved in a drop box in Accra. Meanwhile, all the data are analyzed at the headquarters. The district director does not have access to the drop box. However, once errors are identified using the software's built-in checking mechanisms; they are communicated back to the districts for follow-up and corrections. Currently, efforts are underway to allow data to be analyzed at the district level.

With the funding from IFPRI's Ghana Strategy Support Program, the enumerators are given motorbikes, fuel, and some money for labor for laying the YSPs. However, in many cases, funding is delayed, which in turn has created delays in the data collection process.

3.7.2 Gaza Province, Mozambique

The team visited Gaza Province to learn about the use and generation of agricultural statistics at the provincial level. The province is actively involved in the collection of two types of data: (1) the agriculture census and annual surveys of agriculture, and (2) administrative data. Conducted every 10 years, the agriculture census is a valuable source of information for policy formulation, as it gives a picture of the present and provides insights into the future.

The administrative data are used for monitoring the progress of the agriculture season. The monitoring is conducted through general reports produced by directorates at the provincial level, and also through detailed reports produced by the subject matter specialists at the district level, such as livestock, forestry, and extension specialists. The economics directorate then checks and harmonizes the data from these different sources.

The information is disseminated first to the various directors at provincial level, then to the technicians at MoA for their input, and finally to other stakeholders.

4. Lessons Learned

4.1 STRATEGIC MASTER PLAN (SMP) FOR AGRICULTURAL STATISTICS

1. The SMP process should actively involve and engage all key stakeholders from data producers to data users. High-level officials, such as Ministers, should also be informed of the process. Key stakeholders and high-level officials should be Involved and informed from the onset of the process.
2. There is need to have a champion to advocate and lobby for the SMP among policymakers and donors. This should ideally be a member of parliament or any other person who is well respected and of high integrity.
3. The Partnership in Statistics for Development in the 21st Century (PARIS21) and FAO should be involved in the SMP development process, as they have the expertise and experience, and can provide technical support. Many other countries have involved these partners. The key issue with this collaboration is to ensure that the process is driven actively by the country-level agricultural statistics agenda, with FAO and PARIS21 providing technical input toward this agenda.
4. Most important is the ownership and active involvement of the national officials in designing, formulating, and implementing the SMP.

4.2 EARLY WARNING SYSTEM

Early dissemination of early warning results helps the government to make recommendations on what crops the farmers should plant.

4.3 DATA PROCESSING AND ANALYSIS

Field-based data entry facilitates the timely release of agricultural statistics, and reduces data entry and data transfer errors, thus reducing the time and other resources required for data cleaning.

4.4 EXPERIENCES FROM DATA USERS

1. Agricultural data have been used as the main source of data to write papers for influencing government policy. As key users of agricultural data, academicians have been involved in formulating the SMP for Agricultural Statistics.
2. The SMP will integrate two tools—i.e., the Early Warning System and the Agricultural Survey—to avoid conflicting information.
3. Political will is needed for replacing inaccurate figures in order to have harmonized data.

4.5 DATA PRODUCERS OF AGRICULTURAL STATISTICS

Effective institutional arrangements and coordination between NSO and MoAFS in agricultural surveys are critical for quality data availability. Coordination in conducting the agricultural surveys is needed between the MoAFS planning department and NSO.

4.6 MINISTRY OF AGRICULTURE AND FOOD SECURITY AND FACILITATING AGENCY (FAO)

1. FAO and MoAFS should work closely together, with a clear dividing line indicating that MoAFS is providing leadership to the whole process while FAO is providing technical support. This delineation should ensure and demonstrate that the SMP is a government program. Processes, such as recruiting the consultants, will need to be transparent, and the government should have an input.
2. FAO needs to act aggressively and strategically to engage various donors for resource mobilization to support the SMP's implementation. In addition, FAO needs to engage adequately with the government to ensure delivery of results.
3. Any international consultants who are hired should work closely with local consultants, to ensure sustained national capacity building. The contracting arrangements with consultants should be on a long-term basis, with breaks in between to allow reflection and discussion of the process by the stakeholders.

5. Challenges

In Mozambique, there have been concerns about data quality (especially livestock data), and conflicting data sources and numbers, especially data from the agricultural surveys and early warning systems. Data quality in terms of relevant key variables has an impact on healthy policy debate. It has also been difficult for researchers and students to access agriculture data because of the costs. There is also need for the data producers to clearly stipulate to the data users how to properly use the data (data dissemination guidelines).

Conducting the agricultural survey is very expensive. Hence, there was need to do some research on how to get similar information through local studies, such as improved early warning systems. There is need for local authority to validate data and a local review board on agriculture research.

From the Ministry of Industry and Trade it was noted that:

- Collecting data is costly.
- Information from informal trade is lacking.
- The required data are sometimes not available for timely decisions.
- Data are not reliable in certain instances. For example, the customs department focuses on collecting data on trade in monetary values, as trade data on quantities of commodities are often distorted. In addition, other sources do not use proper methodologies for capturing data.
- Survey results are not timely.
- Political interference occurs because politicians rely on early warning system data to mobilize resources and funds. Often these data are inflated, as compared to the official figures. This discrepancy creates conflicts between data generators.
- Delays in data collection lead to delays in data dissemination. As a result, the untimely data cannot be used in the directorate's planning process, which takes place prior to the release of the data.
- Information technology is lacking, with no Internet connection in some districts. Sending data in real time is therefore difficult. Many data collectors have to travel to the headquarters to deliver the information, creating delays in data processing, entry, and dissemination.

In Ghana the major challenges are:

- Financial and human resources are constrained.
- GSS does not have enough personnel in the districts.
- Equipment is inadequate—e.g., half of the programmable calculators bought in 2005 are faulty.
- The number of districts continues to increase, yet no new officers are recruited.

6. Way Forward

Based on the findings from the study tour, the following recommendations were made:

- The Government of Malawi (GoM) should create an agricultural statistics department or division within MoAFS. The department/division should be headed at a very high level within MoAFS, thereby allowing it to influence decisionmaking.
- NSO should recruit more statisticians to be based in the districts.
- The agricultural crop estimates survey should be coordinated by the MoAFS Statistics Unit, as the survey is part of the unit's mandate.
- While GoM has taken major steps in supporting statistics in general, there is need for garnering political support for strengthening agricultural statistics. Other countries have demonstrated that political buy-in is a major step to achieving this goal.
- GoM should take advantage of the Global Strategy initiative and solicit funds from the project through FAO, the African Development Bank (AfDB), and the United Nations Economic Commission for Africa.
- GoM should develop strong exit strategies to avoid system collapse once donor project funding closes.
- The working relationship between MoAFS and NSO needs to be strengthened to avoid conflicting official statistics. NSO's role as the overall technical hub of statistics needs to be enhanced, with NSO being be an autonomous body and independently supervising MoAFS surveys.
- Entering data straight to a central server from the districts must be encouraged. This will reduce manipulation of data and data entry errors accumulated through the aggregation process to the national level.
- There is need to introduce the use of information technology in data transfer and processing. As learned in Mozambique, field-based data entry and electronic data transfer help to ensure the timely release of data and information and reduce the amount of resources required for data cleaning.
- There is need to review the definition of farm families. Both countries visited use the definition of farm households.

ANNEX 1. Study Tour Team Composition

Composition of Teams for the Study Tour		
Name of Officer	Institution	Designation
Ghana Team		
E.K. Mphande	Ministry of Agriculture and Food Security	Acting Director of Agricultural Planning Services
B. Ngauma	Ministry of Agriculture and Food Security	Deputy Director of Crop Development
M. Kanyuka	National Statistical Office	Deputy Commissioner of Statistics
I. Chirwa	Ministry of Agriculture and Food Security	Principal Statistician
Mozambique Team		
E. Mwanaleza	Ministry of Agriculture and Food Security	Statistician
B. Banda	National Statistical Office	Principal Statistician
M. Malumelo	Donor Coordination on Agriculture and Food Security	Donor Coordinator on Agriculture and Food Security
E. Chamgwera	Agricultural Commodity Exchange	Trade Facilitation Manager

ANNEX 2. Checklist for FAO Africa Regional Office

- What is the stage of implementation of the global strategy for agricultural statistics?
- How can GoM get assistance in implementing the global strategy at the national level?
- Since the training component of the global strategy is led by the United Nations Economic Commission for Africa, the FAO research component, and the AfDB technical assistance component and governance mechanism, does a country need to write three proposals to the three institutions to get assistance on the three areas?
- How will the global strategy embrace the Paris Declaration on Aid Effectiveness—namely, ownership, alignment, harmonization, managing for results, and mutual accountability?
- How will sustainability issues be tackled?
- Since the global strategy advocates for a National Agricultural Statistical Coordination Committee (NASCC) chaired by a data user, usually a high-level policymaker from MoAFS, how will FAO assist in sustaining this mechanism in countries where an NASCC already exists?
- Given that FAO and many development partners have provided substantial technical assistance to developing countries, why are we addressing the same problems that were identified in the 1990s?
- GoM is planning to develop a Sector Strategic Plan for Agricultural Statistics. Can GoM obtain technical assistance from FAO to assist in the plan's development?
- How will the global strategy assist in improving information and communication technology (ICT) needs and development of agricultural statistics?
- Get contacts of the Global Strategy Implementation Office at FAO headquarters.

ANNEX 3. Checklist for Data Suppliers

- Does the country have a master plan for the development of agricultural statistics? If no, what plans are followed in the development of agricultural statistics? If yes, what are the components of the plan?
- How was the drafting process organized?
- How easy or difficult is it to operationalize the strategy?
  - Financial
  - Technical
  - Field-level implementation
  - Amount of political will and support
- What mistakes and other lessons have been learned since the SMP's launch?
- Is the SMP linked to the global strategy for the development of agricultural statistics?
- How linked are agricultural statistics to national statistical systems (MoAFS, the Central Statistical Office, and NSS)?
- If an ASF and technical working groups (TWGs) are formed, how will they operate?
- How instrumental are the ASF and TWGs to the development of agricultural statistics?
- Does building the capacity of agricultural statistics receive political support from authorities? If yes, in what form?
- Does building the capacity of agricultural statistics receive financial support from GoM and the donor community?
- Is the financial support for agricultural statistics adequate?
- Are data captured, transferred, stored, and disseminated using electronic, computerized or Internet-based systems? If yes, what systems (software and hardware) are used, what are their advantages over manual systems, how practical and cost-effective are they, and what are their sources of funding? If funding is from donors, how sustainable are the systems once the donors discontinue funding? (Exit strategies employed.)
- Does GoM have adequate expertise for maintaining the systems? if not, how are they maintained?
- For systems that require the backup of service providers, who provides them and at what cost?
- Is GoM capable of paying subscription fees to service providers without the use of donor funds?
- Do staff members get regular training on the ICT systems being used? If yes, who funds these training needs?
- What are the challenges with the system?
- What is the agricultural statistics dissemination policy?
- Does GoM have an agricultural management information systems database? If yes, in what software are they stored and disseminated? What type of training is required for these systems? Who offers the training?
- What challenges are faced in maintaining the data bank?
- What methodologies does GoM use for collecting, transferring, storing, and disseminating AMIS data? What challenges do you experience with applying these methodologies?
- What methodologies do you use for collecting, capturing, transferring, storing, and disseminating crop production estimates? What challenges do you experience in these efforts?
- What methodologies do you use for collecting, capturing, transferring, storing, and disseminating agriculture census data? What challenges do you experience in these efforts?
- Do you have a Web site for disseminating data? If yes, what is your Web address? What challenges do you face in disseminating data?

In addition to these questions, the team should collect any literature available that may not be available from their website

ANNEX 4. Checklist for Agricultural Statistics Users

- Do you use agricultural statistics?
- If yes, what data do you mainly use?
- What do you use the data for?
- Who are the main providers of agricultural statistics?
- How do you access the data?
- If you access data electronically, what software and/or hardware do you use?
- Are the data that you use released in a timely manner?
- Are the agriculture statistics that you receive reliable and accurate?
- Do you like the way you access the data? If so, why?
- What challenges do you face in accessing agricultural statistics?
- Are you involved in the development of agricultural statistics? If so, how are you involved?
- What are the biggest hindrances to the development of agricultural statistics in Africa?
- What recommendations do you suggest for improving the generation, management, and dissemination of agricultural statistics?

In addition to these questions, the team should collect any relevant literature that may not be available that may not be available online.

ANNEX 5. Program for Mozambique Team

Time	Activity	Venue
12 August–Arrival to Maputo		
13 August, DAY 1		
10h30-11h00	Welcome meeting. Presentation and discussion of the Program	MINAG-DE
12h30-13h0	Courtesy meeting with National Director-DE	MINAG-DE
14h30-16h00	Meeting at INE • NSS (SEN) and Agricultural Statistics • Master Plan on AgrStatistics • Mozambican Experience in Agricultural Census • Courtesy meeting with Vice-President of INE	INE (Camilo Amade, Domingos Diogo, Azarias Nhanzimo, VPINE/E, Dr.Levene)
DAY 2		
8h30-9h30	Experience of Mozambique in Conducting agricultural surveys: Achievement and challenges	(Mate, Diogo, Ellen, AMiguel, Mazivila, Fumo, Lopes, Camisa)
9h30-10h30	Data needs: How the supply is meeting the data needs of the key users: Challenges, *from the Partner perspective*	Dr Rafael Uaiene, MSU
11h00-12h30	Data needs: How the supply is meeting the data needs of the key users: Challenges in data for agricultural marketing and food balanceshit	Ministry of Industry and Trade: Director Victorino and Muianga
14h00-15h00	Data needs: How the supply is meeting the data needs of the key users: Challenges	DE (Eulalia, Dir.lucia, Angela, Acubar, Alage, Anina)
15h30-16h30	Meeting at FAO: Experience on supporting agricultural Statistics in Mozambique	FAO
DAY 3		
8h30-10h00	Experience from the senior data analyst and users: How are they satisfied?	UEM, Agronomy (E.Tostão, Cunguara, Paulo Mole)
10h15-11h00	Agricultural statistics in Mozambique from the donor perspective	EU
11h30-12h30	The experience of Early Warning for food security in Mozambique	DNSA
14h00-15h00	The Market information System	SIMA
15h30	Trip to Gaza	
DAY 4		
7h30-10h00	Visit rice production-Chokwe	Chokwe
11h30-12h30	The use of statistical data at Province	DPA-Gaza
DAY 5		
9h00-9h30	Meeting with the Director DE & Mr. Camilo (INE)	DE
10h00- 10h30	Courtesy meeting with the PS at MINAG	MINAG
Free time		
DAY 6–Return to Malawi		

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