

**Strengthening Agriculture Statistics  
In Sierra Leone**

**Report on First GDDS Mission for Sierra Leone**

**Carried out in Conjunction**

**With**

**Statistics Sierra Leone**

**And**

**Ministry of Agriculture, Forestry and Food Security for  
Sierra Leone**

**Freetown, Sierra Leone**

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## ***List of Acronyms***

***ADP*** - Accelerated Data Program

***DACO*** - Development Assistance Coordination Office

***DDI*** - Data Documentation Initiative

***DFID*** - United Kingdom's Department for International Development

***FAO*** - Food and Agriculture Organization

***GDDS*** - General Data Dissemination System

***GDP*** - Gross Domestic Product

***IHSN*** - International Household Survey Network

***IMF*** - International Monetary Fund

***MAFFS*** - Ministry of Agriculture, Forestry and Food Security

***NADA*** - National Data Archive

***NGO*** - Non-Government Organization

***NSDS*** - National Strategy for the Development of Statistics in Sierra Leone

***NSS*** - National Statistics System

***PARIS21*** - Partnership in Statistics for Development in the 21st Century

***PEMSD*** - Planning, Evaluation, Monitoring and Statistics Division

***PRSP*** - Poverty Reduction Strategy

***SSL*** - Statistics Sierra Leone

***UNDP*** - United Nations Development Program

***UNICEF*** - United Nations Children's Fund

***VAM*** - Vulnerability Analysis and Mapping

***WB*** - World Bank

***WFP*** - World Food Program

***WHO*** - World Health Organization

## ***Executive Summary***

Statistics Sierra Leone (SSL) has the overall responsibility for statistics in Sierra Leone. SSL has recently completed the development of a National Statistics Development Strategy (NSDS) which contains a number of recommendations for strengthening agriculture statistics as well as other parts of the statistical system. The Planning, Evaluation, Monitoring and Statistics Division (PEMSD) of the Ministry of Agriculture, Forestry and Food Security (MAFFS) have been collecting agriculture statistics in the past and this approach will continue in the future. The main objective of this GDDS (General Data Dissemination System) mission was to carry out a general review of agriculture statistics with a view to providing recommendations for strengthening the system. In addition, a special attention was paid to the requirements of the national accounts for calculating agriculture's contribution to the Gross National Product. And finally, the state of SSL's household surveys was reviewed with the aim of determining the feasibility of using the International Household Survey Network's survey tool kit for documenting and archiving survey files.

During the period March 24 to April 4, 2008, meetings were held with members of SSL, PEMSD and key user groups such as the Food and Agriculture Organization (FAO), World Food Program (WFP), the Bank of Sierra Leone and the Rice and Agriculture Research Institutes. A wrap-up meeting was held on April 4.

The major findings and recommendations cover the following areas: Users need to have regularly published estimates of area, yield and production for each of the major crops (such as rice, maize and cassava) as well as the cash crops (such as cocoa and coffee) and specialty crops (such as spices). Livestock numbers should also be measured on a regular basis. Input statistics for items such as seeds and fertilizer are growing in importance and likely are the way in which Sierra Leone will reach food self sufficiency. A program of regular data dissemination should be implemented to provide a source of official statistics on agriculture. Most users asked that a common database for agriculture statistics be developed to provide "one stop" access to data. For a better estimation of agriculture's contribution to the GDP, better estimates of agriculture inputs and prices received by farmers are required.

While the statistical capacity of SSL has developed satisfactorily, PEMSD needs more capacity in the area of survey processing and analysis. An official delegation of responsibility from SSL to MAFFS should be put in place. The two agencies should work together on data management and preservation of data sets. The consultant has recommended that Sierra Leone be included as one of the countries using the International Household Survey Network/ Accelerated Data Program tools for managing and preserving data sets.

The next mission should focus on strengthening the analytical capacity of both SSL and PEMSD in the area of agriculture statistics. The third mission has yet to be defined.

# **Strengthening Agriculture Statistics in Sierra Leone**

## ***Preface: Background for the Mission***

The origins for this mission arise from the work of the World Bank (WB) and the International Monetary Fund (IMF) who have implemented a three-year project to support the more effective design, implementation, and monitoring of macroeconomic policy and poverty reduction strategies. One of the major strategies to achieve this is to help to strengthen the capacity of national statistical systems in participating countries. It is structured around the IMF's GDDS<sup>1</sup> and is financed by a grant from the United Kingdom's Department for International Development (DFID).

Sierra Leone, (both SSL and MAFFS) participated at the GDDS agriculture statistics launch seminar held in Maputo in March 2007. The aim of the agricultural statistics module is to assist the participating countries to improve the coverage and quality of different aspects of statistics on agriculture, food and fisheries. Each country identified its own priorities to develop a work program for data improvements that will be implemented over the life of the module.

This report concerns the outcome of the mission which involved a review of Sierra Leone agriculture statistics with an aim to recommending ways of strengthening the system.

## ***Preparations for the Mission***

Preparations for this mission consisted of making contact with the GDDS Agriculture coordinator, Mr. Ibrahim Sannoh in Statistics Sierra Leone (SSL) and his colleagues in the MAFFS. The initial proposed dates for the mission in September 2007 could not be accommodated by the consultant. Accordingly, the mission took place during the period March 24-April 4, immediately after the first GDDS mission to Mozambique.

The major documentation used to prepare for the work of this mission came in the form of a document entitled A National Strategy for the Development of Statistics in Sierra Leone (NSDS). Given that the NSDS included a section on agriculture statistics, it was evident that this would have an impact on the mission.

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<sup>1</sup> More information about the GDDS is available on the IMF's Data Standards Bulletin Board at <http://dsbb.imf.org/Applications/web/gdds/gddshome/>

Other preparations included a document review of strategic planning as it applies to statistics. In this context, the consultant came across the work of Prof. Ben Kiregyera who has done considerable work on Statistics in Africa, including statistics on agriculture. He presented a paper at a workshop in Pretoria, South Africa in 2001 on the subject of collecting agriculture data.<sup>2</sup> The consultant also prepared an overview presentation that was used to help launch the mission. Since Monday, March 24 was a holiday, only a short meeting with Mr. Sannoh was possible. It did, however, provide an opportunity to make arrangements for the next part of the mission.

Travel preparation was handled by the American Express office. After spending a night in Dakar and waiting in the Dakar airport all day, the consultant arrived in Freetown. Thankfully the World Bank had arranged for a driver to provide travel to the hotel on the ferry. The Country Lodge Complex provided a comfortable and effective base as it had a good internet connection.

## ***Objectives of Mission***

As part of the GDDS for Agriculture launch meeting in Maputo in March 2007, the team from Sierra Leone identified the following major priorities:

- To develop a strategy for agricultural statistics, and
- To review existing data sets and assist with their analysis and dissemination

Consideration was given to switching the subject of the proposed third mission as the first mission. However, after an overview presentation on the objectives of GDDS and a discussion with the managers of SSL and MAFFS, it was decided that the mission should proceed as originally planned. The discussions with the Statistician General and the first meeting with managers (March 26, 2008) indicated that improving the statistics measuring the contribution by agriculture to the Sierra Leone Gross Domestic Product (GDP) should also be reviewed. The aim of this review was to recommend ways of improving these indicators. It was noted that the contribution of Sierra Leone agriculture to the Gross Domestic Product (GDP) was in the order of 45-47%. Given the magnitude of this contribution, it is important to ensure that this measure is as accurate as possible. The Statistician General also made reference to his request to the International Household Survey Network for support in implementing the NSDS. The consultant thus undertook to review the situation regarding data management and archiving as well as the other mission

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<sup>2</sup> Prof. Ben Kiregyera, *Some Technical Issues For Collecting Food and Agricultural Statistics Through Household Surveys*, Paper presented at a Workshop on Strengthening Food and Agricultural Statistics in Africa in Support of Food Security and Poverty Reduction Policies and Programmes, 22-26 November 2001, Pretoria, South Africa.  
Retrieved from <http://www.fao.org/es/ess/meetings/WorkShop01/Documents/SAW-01-3-3-E.pdf> on April 29, 2008

objectives identified above. Other objectives during this mission included the need to elaborate the requirements for missions 2 and 3.

### ***Terms of reference***

The terms of reference for this mission are shown in Appendix A. The main steps that were identified to carry out this mission are outlined below:

1. Identify the major goals and objectives of the agriculture statistics program and the role of agriculture statistics within SSL and the country.
2. Identify the major stakeholders and users of agriculture statistics.
3. Meet with some major stakeholders such as the Ministry of Agriculture to determine their statistical needs and priorities.
4. Develop an interview guide that SSL staff can use to further probe user needs in between missions 1 and 2 if necessary.
5. Review existing data sets and data collection activities
6. Review the institutional capacity and resources (human and other, in Headquarters and regions) available to plan and carryout the agriculture statistics program.
7. Review current involvement with international sponsors
8. Develop a broad outline of the agricultural indicators needed by users.
9. Develop an outline of the data design, implementation, collection and analysis activities necessary to meet the goals and objectives.
10. Summarize the needs and general approaches

In carrying out this mission, the consultant attempted to not duplicate the work that the staff of SSL and the international consultants had undertaken as part of the completion of the NSDS. The recommendations pertaining to agriculture were accepted as the starting point for this mission and were discussed with stakeholders in terms of their importance to their work. With respect to step 6, the main focus of the mission was on national activities (headquarters) rather than regional activities as time did not permit visits to district offices.

## ***Mission Activities and Findings***

### **Introduction and overall summary of Activities**

Week 1 of the mission was spent meeting with the staff of SSL and the MAFFS. The first contacts within SSL were with Mr. Sannoh, the GDDS coordinator and Prof. Lawrence Kamara, the Statistician General. A general meeting of senior staff from SSL and MAFFS was also held in order to clarify the terms of reference.

A daily journal including the names of people met and the nature of the discussions is included in Appendix B. Meetings were held with the Director, Deputy Director and senior managers within the Planning, Evaluation, Monitoring and Statistics Division (PEMSD). As PEMS D is responsible for agriculture statistics in SL, these were key contacts for this mission. The discussions at this meeting covered the entire range of subjects including an overview of the statistics program, methods used, stakeholders, coordination with SSL and the capacity to carry out statistical activities.

During week 2 of the mission, the GDDS coordinator arranged meetings with the Bank of Sierra Leone, The Food and Agriculture Organization (FAO), the World Food Program (WFP), the Agriculture Research Institute, and the Rice Institute. A first draft of the findings and recommendations was presented to main contacts on April 3. A wrap-up meeting with SSL and MAFFS staff was held on April 4 as was a final meeting with the Statistician General.

### **National Statistics Development Strategy (NSDS)**

Establishing National Statistics Development Strategies is a PARIS21 (Partnership in Statistics for Development in the 21st Century) initiative aimed at providing the “basis for effective and results-oriented strategic management of the NSS (National Statistics System)”<sup>3</sup>.

The NSDS in Sierra Leone was prepared by the NSDS team at Statistics Sierra Leone with the aid of an international consultant. The funding was provided via the World Bank’s Trust Fund for Statistical Capacity Building. The introduction to the consultation document stated:

*“It is the desire of the Government of Sierra Leone (GoSL) and the international funding agencies that all countries should have in place a National Strategy for*

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<sup>3</sup> See <http://www.paris21.org/pages/designing-nsds/presentation-events/>

*the Development of Statistics. This should serve as a foundation on which the National Statistical System can be developed, in line with the development agenda of the GoSL and in particular the government's Poverty Reduction Strategy (PRSP). The NSDS will serve as a guide for the implementation of the annual statistics work plan."*<sup>4</sup>

The plan is far-reaching and covers not only the major subject areas that comprise the National Statistics System (NSS) but also the human resources and management functions that are essential for a functional statistical system.

The NSDS contained the following recommendations for the production of agriculture statistics:

*"Agricultural Statistics*

*Agricultural Statistical Data will continue to be collected and analysed by the PEMSD [Planning Evaluation Monitoring and Statistics Division]. However, their capacity for the production, management and analysis of agriculture statistics has suffered during the past decades of economic deterioration and civil war. The Ministry will upgrade the capacity of the statistical unit with assistance from SSL by providing training, advice and practical assistance with processing, analysis and dissemination."*<sup>5</sup>

*"Joint plans between the Ministry and SSL for the period include:*

- *Further analysis of past surveys in 2008. Including the Sierra Leone Fishing Survey 2003/2004, some modules in the integrated survey on farm production, food security and Vulnerability and nutrition and The Agricultural Module in the Sierra Leone Integrated Household Survey (SLIHS)*
- *Assistance to the Ministry to conduct a new survey in 2008 of agricultural inputs and their cost of production. Both crops and livestock would be covered.*
- *Development of Forestry statistics in 2008 jointly with the Ministry.*
- *Development of Fishery Statistics in 2008*
- *New surveys in 2009 on agricultural outputs, employment and prices*

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<sup>4</sup> Statistics Sierra Leone, *A National Strategy for the Development of Statistics(NSDS) in Sierra Leone 2008-2012*, (Freetown, Sierra Leone, February 2008) p. ii

<sup>5</sup> *Ibid.* p. 44

- *Analysis in 2010 of rural incomes and rural development based within a national accounting framework*
- *Conduct a National Agricultural census in 2011*
- *Improve statistics on food security*
- *Meet the information needs of the newly established Land and Water Division of the Ministry”<sup>6</sup>*

These proposed initiatives were taken by the consultant as the starting point for during meetings with stakeholders. Some highlights of these discussions follow.

### **Statistics Sierra Leone**

The starting point for this mission was discussions with the staff of Statistics Sierra Leone (SSL). The 2002 Statistics Act established SSL as a central body to coordinate, collect, compile, analyze and disseminate high quality and objective official statistics.

*“The mission of the Statistics Sierra Leone is to coordinate, collect, compile, analyse and disseminate high quality and objective official statistics to assist informed decision-making, and discussion within the government, business and the media, as well as the wider national and international community. Our statistics will be relevant, have integrity and be easily accessible”<sup>7</sup>*

In the case of agriculture statistics, MAFFS will continue to have the responsibility for the collection and analysis of agriculture statistics. As indicated above, SSL will work with the PEMSD of MAFFS “to upgrade their statistical capacity by providing training, advice and practical assistance with processing, analysis and dissemination.” The work of the two organizations together (MAFFS and SSL) forms the National Statistics System.

In terms of infrastructure the SSL has shown that it is capable of planning and carrying out household surveys. They were in the process of conducting training for the 2008 Demographic and Health Survey while the consultant was in the country. As is the case in many other countries, SSL uses CPro for data capture and processing and SPSS for analysis. Mr. Conteh, Director of Data Processing provided a list of 38 surveys that were completed and available for archiving, an activity they intend to undertake in the future. Mr. Conteh was able to demonstrate a CD-ROM

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<sup>6</sup> *Ibid*, p. 45

<sup>7</sup> *Ibid*, p. iii

that they built using the IHSN survey tool kit. The next steps for SSL with regard to data management and data archiving would be to train a group of staff to use the tool kit and to implement the IHSN web server.

SSL is mainly a producer of statistics but is also a user of agriculture statistics to compile the estimates of Sierra Leone's GDP. It is estimated that approximately 45-47% of Sierra Leone's GDP is attributed to agriculture. The consultant met with Mr. Gegbe from the National Accounts in order to better understand their data needs. The main requirements are:

- annual estimates of crops and livestock production
- farm gate (or as close as possible) prices for produce
- the value of purchased farm input/cost data
- foreign trade statistics (especially for livestock)

### **Ministry of Agriculture Forestry and Food Security (MAFFS)**

The consultant met with the Mr. Shariff, Director of PEMSD, Mr. Foday Musa, Deputy Director of PEMSD, Mr. Ibrahim Turay, Senior Monitoring and Evaluation Officer, Mr. Charles Bangura, Senior Monitoring and Evaluation Officer and Mr. Aiah Thorlie, Senior Planning Officer. The discussion touched a number of areas pertaining the production and use of statistics. The main focus of MAFFS is food security for the population. This is the main purpose for which data are collected. The major stakeholders for agriculture statistics include, but are not limited to, the following users:

- The Bank of Sierra Leone
- Ministry of Finance
- Ministry of Trade
- Ministry of Development and Economic Planning
- Ministry of Local Government and Community Planning
- Local Councils
- World Food Program (WFP)
- Food and Agriculture Organization (FAO)
- United Nations International Children's Fund (UNICEF)
- The World Health Organization (WHO)
- United Nations Development Program (UNDP)
- Non-government Organizations (NGOs)
- Researchers including research institutes and universities

The main surveys conducted by MAFFS are the Food Security, Farm Production, Health and Nutrition Surveys. These are used to produce a study entitled Vulnerability Analysis and Mapping (VAM). The first survey was conducted in 2003, a second in 2005 and the last was in 2007. The results for the 2007 have not been

released as yet. (The 2007 survey had a reduced content). MAFFS agriculture surveys are managed as projects if there is support from sponsors. The 2005 VAM initiative was carried out by the Government of Sierra Leone with support from the WFP, UNDP, UNICEF, WHO and the FAO. UNICEF published the final report. MAFFS also produces market information which can be found at <http://www.tradenet.biz/>. This includes prices for a number of commodities.

## **The Food and Agriculture Organization (FAO)**

Meetings were held at the Sierra Leone office of FAO with Mr. Aloysius Lahai, assistant FAO representative (and briefly with Mr. Gamal Ahmed, FAO representative). FAO is heavily involved in helping SL develop its agriculture and food sector. This includes some 23 programs aimed at food security, sector strategies, poverty reduction and development of the capacity of the agriculture sector either through technical cooperation, trust funds or joint programs with the GoSL.<sup>8</sup> Much of the work in the last number of years has been focused in food security which has been driven by the vision expressed by the GoSL when the President stated that “No Sierra Leonean should go to bed hungry” by the year 2007.

FAO requires comprehensive information on agriculture production, consumption, trade, prices and resources. Data in inputs such as seeds and fertilizer are strategic components for increasing food production. Important strategies are underway for fertilizer where the supplying of fertilizer to farmers is being moved from the GoSL to private companies.

FAO was consulted as part of the NSDS exercise. In addition to noting information gaps, their major desire is to have a common database which would provide a ‘single roof’ for all information on Sierra Leone agriculture. Currently, the most commonly used source of information on Sierra Leone is The Sierra Leone Encyclopedia<sup>9</sup>. This encyclopedia is a core project of the Sierra Leone Information System positioned under the Development Assistance Coordination Office (DACO). This is joint project between GoSL and the UNDP. The first version was developed in 2001 and it is now in its 6<sup>th</sup> edition.

## **The Bank of Sierra Leone [Meeting with Mr. Mohamed Saccoh]**

*The Mission of the Bank of Sierra Leone is to formulate and implement monetary and supervisory policies to foster a sound economic and financial environment. To this end, the Bank aims at building and maintaining a strong*

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<sup>8</sup> See <https://extranet.fao.org/fpmis/FPMISReportServlet.jsp>

<sup>9</sup> See <http://www.daco-sl.org/encyclopedia/>

*and efficient organisation with highly motivated professional employees working in the best interest of Sierra Leone.<sup>10</sup>*

To monitor and evolve the financial situation of the country, the Bank needs regular, accurate and timely information on the Sierra Leone economy including agriculture which accounts for a major proportion of the economy. They use a number of different types of data including agriculture production information from PEMSD and national accounts information from SSL. They pay particular attention to cash crops such as cocoa and coffee as these are export crops and have an impact of the balance of payments and on the SL currency.

The Bank was consulted during the NSDS exercise. They felt that statistics for food crops such as rice, cassava and maize were acceptable but they needed more information on spice crops such as ginger and peppers as well as new emerging crops such as cashews. In addition, they require information on farm inputs such as fertilizer and seeds. They feel that the true measure of the contribution of agriculture to the gross domestic product is a big question mark.

### **The World Food Program [Meeting with Lansana Woneh]**

The main focus of the World Food Program (WFP) is to save lives during food and other emergencies, improve nutrition and quality of life, and to support and encourage development. Quite naturally, the WFP's need for information on food production is quite high. They are heavily involved in the collection and analysis of agriculture survey data and have been sponsors of the VAM surveys. In addition, they captured, processed and analyzed the 2007 study and processed and analyzed the 2005 survey. A draft report for 2007 has been distributed for comment. They are working with MAFFS on a pilot project involving 60 'sentinel' sites in order to get advance information on food production. [Sentinel surveillance systems involve a limited number of selected reporting sites (communities), from which the information collected may be extended to the general population.]<sup>11</sup>

They stressed the importance of survey and information coordination. They feel that all stakeholders should be able to sit around a table to agree on the need for indicators and agree on how gaps can be filled.

The WFP wants more indicators and time series. They see the need for a national Agriculture and Food Security Database. In fact, they plan to bring in a staff member from Dakar to begin working on this project.

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<sup>10</sup> See <http://www.bankofsierraleone-centralbank.org/>

<sup>11</sup> This definition is taken from a Public Health context. See <http://www.phac-aspc.gc.ca/c-eninternet/necessity-importance-eng.php>. The same principles apply to agriculture where a number of sites are monitored to provide early-warning information about crop conditions.

## **The Rice Research Station (RRS) [Meeting with Dr. Jalloh and Dr. Taylor]**

The GoSL is in the process of creating a National Agriculture Research Coordinating Council and will put all research stations under one umbrella. The Rice Research Institute has quite a long history going back to the days when it functioned as a Western African research institute and later became a Sierra Leone National Institute

*“The present mandate of RRS is to conduct research into the constraints affecting rice production in all ecologies as well as sorghum, millet, yam, potato and vegetables and to conduct investigations into Farming Systems Research in the North-western, North-central, Northern and Western Area Agricultural regions. It is located in the Rokupr, Northern province and is funded by the Government of Sierra Leone. It conducts both on-station and on-farm research and demonstration and also multiplies improved seeds for farmers.”<sup>12</sup>*

The focus of the RRS is very much plant genetics and trying to increase rice production back to historic levels. At one time, SL was fairly much self-sufficient in rice production. It is important for them to monitor yields and production. The following research summary illustrates the reasons why these indicators are so important.

In a series of field trials, they were able to demonstrate the importance of sound crop management. They conducted tests with farmers where they had three different series of trials. In series 1, the farmers were allowed to plant rice and manage the crop in their usual way. In series 2, the farmers planted the rice and were told by the scientists when they should weed the crops. In series 3, they were told when to weed the crops and were also told to use fertilizer.

The yields in series 2 were 50-90% higher than those for series 1. The yields for series 3 were 90-150% higher. The scientists felt that SL could become self-sufficient in rice with more extension outreach to farmers. This also underlines the importance of yield data and establishing a fertilizer program. In a year when rice prices are nearly \$1000 per tonne, farmers could get a good return from the use of fertilizer.

The rice researchers were also keen on establishing a database for agriculture. However, they saw a need that went beyond statistics on the sector (production, official statistics for area and production of different crops, research reports) to also include information on qualified research personnel.

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<sup>12</sup> See [http://www.hridir.org/countries/sierra\\_leone/PROVCOUN/INSTITUTES/rice\\_research\\_station\\_rrs/index.htm](http://www.hridir.org/countries/sierra_leone/PROVCOUN/INSTITUTES/rice_research_station_rrs/index.htm)

## **The Institute of Agriculture Research [Meeting with Professor Edward Rhodes, Chief Executive of the National Research Co-coordinating Council]**

Professor Rhodes stressed the importance of having proper measurement of areas and yields. Input measurement would help determine how much fertilizer is needed. He is suspicious about the quality of areas and yields presently available.

The research community sees better varieties of crop seed, extension and better management as the key to food security. To monitor this, they would like to have statistics on the adoption of new technology.

### ***Findings and Recommendations***

These recommendations build on the plans outlined in the NSDS. Taken together, the NSDS recommendations and the recommendations from this mission form the underpinning for a strategic plan for agriculture statistics. Following are the consultant's main findings and recommendations.

#### **Mandate**

The responsibility for the overall coordination of agriculture statistics (and other statistics as well) lies with Statistics Sierra Leone (SSL). This responsibility will be discharged by working with the Ministry of Agriculture, Forestry and Food Safety (MAFFS). Thus agriculture statistics will continue to be collected and analyzed by the Planning Evaluation Monitoring and Statistics Division (PEMSD), in the Ministry of Agriculture.

**Recommendation:** As soon as is feasible, the two agencies should come to an agreement as to the modus operandi for this relationship so that planning of important proposed surveys can take place. A formal delegation agreement should be considered.

#### **Agriculture Statistics Program**

Like many Sierra Leone institutions, MAFFS has been in the process of rebuilding its activities and infrastructure since the end of the war in 2002. Regular surveys of agriculture were suspended in the early 1990's and are slowly being re-established with the help of sponsor organizations. Three surveys have been conducted (2003, 2005, and 2007). In 2005, The Food Vulnerability, Food Production, Health and Nutrition Survey was conducted and the results were published in March 2006. The

results for 2007 have yet to be released. The 2007 survey did not include nutrition and anthropometric measurements. It did however include additional questions about livestock. The focus of these studies is on food security which is a very important objective for the country. Regular published estimates of major crop production and utilization are not available or at least were not visible to the consultant. Nevertheless, the Bank of Sierra Leone has been able to obtain crop and livestock production from PEMSD and publish them in their annual report. This appears to be done by informal means.

The 2005 VAM report states that:

*“Prior to the outbreak of civil war in 1991, Sierra Leone had one of the best agricultural and food security data bases on the African continent with consistent time series on production, yield, food consumption, input use etc. These databases....annual surveys...specialized surveys.....topics such as nutrition, food consumption.....farm and non-farm income”*<sup>13</sup>

This raises the question of what would be required to bring Sierra Leone back to this situation?

The approaches used in the past are in line with internationally recognized approaches to producing agriculture statistics. In a paper presented in Pretoria, Prof. Ben Kiregyera pointed to the importance of having an agricultural reporting system, agricultural censuses, and agricultural surveys. These surveys taken together form the necessary basis for an agriculture statistics system.

**Recommendation:** It is recommended that the stakeholders of agriculture statistics in Sierra Leone strive to establish regular surveys on agricultural production, farm inputs, food consumption and food sufficiency using the current Food and Agriculture Organization guidelines for agriculture statistics.<sup>14</sup>

## **Statistical Capacity-SSL**

SSL has been successfully building a professional statistical agency for the past several years and possesses important infrastructure and tools for conducting household surveys. Paramount among these is the sampling frame derived from the 2004 Census of Population and Housing. SSL’s capacity for designing surveys, processing, analyzing and disseminating data and statistics seems well-established. They are well positioned to provide technical support to Ministries both by

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<sup>13</sup> Government of Sierra Leone, March 2006, *VAM-Vulnerability analysis and Mapping, results of the 2005 Food Security, Farm Production, Health and Nutrition Survey*, p.5.

<sup>14</sup> See <http://www.fao.org/es/ess/census/>

assigning staff to the ministries and by having ministry staff work within SSL to experience statistical work and receive training.

**Recommendation:** It is recommended that the plan to provide expertise to Ministries include advice on methodology (sample design etc.), training and the assignment of staff to ministries. Ministry staff should also be invited to work in SSL in order to gain experience in the statistical procedures.

### **Statistical Capacity-MAFFS:**

The Planning, Evaluation, Monitoring and Statistics Division (PEMSD) from MAFFS has conducted 3 surveys on food vulnerability and production. (2003, 2005, 2007). The consultant reviewed the 2005 survey (published) and an early draft of the 2007 report. PEMSD worked with various partners,<sup>15</sup> and particularly the World Food Program, to complete these surveys. The survey frame and sample design were obtained from SSL (2005) or the WFP (2007). Data collection was carried out using MAFFS staff who are based in the districts and knowledgeable about agriculture. The data capture was carried out by MAFFS (2007) using capture screens built by WFP. The WFP office in Dakar processed the data and the analysis was carried out by the WFP office in Freetown.

**Recommendation:** In order to develop a sustainable agriculture statistics system, the main statistical player, PEMSD from MAFFS, should be encouraged to develop the capacity to carry out the entire survey process, especially the analysis. Data capture and processing can be outsourced if necessary but the analysis function is essential to achieving a full return on the investment in the survey. The only way that this can be accomplished is to increase the analytic capabilities in PEMSD. For example, it is important to be able to support ad hoc queries using the data after official dissemination has taken place. It must be stressed that analysis should go further than the dissemination of official statistics to include in-depth studies. It should be noted that the SSL has up-to-date survey processing capabilities which could serve to support MAFFS. SSL may also be able to help train existing PEMSD staff to acquire the skills necessary to perform this work.

### **Official Statistics and Dissemination:**

One of the roles of organizations that produce statistics is to produce and publish a set of official statistics. In the case of agriculture for Sierra Leone, this task falls to the MAFFS. Defining official statistics on agriculture production is essential so that users may know that they are the main source of these data.

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<sup>15</sup> Partners include: WFP, UNDP, UNICEF, WHO and FAO

**Recommendation:** Regular estimates should be produced from all surveys where possible. Present plans to establish a website to supplement paper publishing should go ahead. The production of an annual yearbook should be considered. (If regular estimates were available, they would also likely be carried as part of the Sierra Leone Encyclopedia.) The sources of the estimates should be clearly stated, especially for data that are projected in-between survey years. This would indicate which data are survey based and which are estimated (or projected). The importance of having official statistics is paralleled by the need to have a complete national collection of publications. The National Documentation Centre at MAFFS should play this role as should a SSL reference room/library along with other libraries. In the absence of a website, users need to know where to go to get official information and publications.

## **National Accounts**

Given the size of the contribution of agriculture to the Sierra Leone GDP, it would be beneficial to put more emphasis on the estimates that go into the accounts. The current methodology uses both survey and non-survey (MAFFS estimates) data. There are four main areas that need attention:

- Regular estimates of major crops and livestock data officially published every year, whether these are based on actual surveys or projections (so long as users know which is which).
- Estimates for special (cash) crops and tree crops (e.g., spices, coffee, cocoa, nuts). While these do not represent large land areas, they are high value and are important, not just for the GDP, but also for the Balance of Payments calculation prepared by the Bank Sierra Leone.
- Data on the cost of farm inputs are essential to estimate the net value of agriculture production.
- It is noted that the prices used for output valuation (for the GDP) are based on the CPI which may be quite different from farm gate prices.

**Recommendations:** SSL should ensure that MAFFS is aware of the detailed calculations that are required to calculate the GDP so that every opportunity is taken to provide the necessary data. A regular (semi-annual or quarterly) meeting between SSL and PEMSD would serve to ensure that both parties are aware of GDP requirements and the latest developments in agriculture. It is important to ensure that the National Accounts are using the same data (supplied by PEMSD) as the Bank of Sierra Leone. The need for cost data underlines the importance of undertaking a cost survey as proposed in the NSDS. There are some cost questions on the 2007 Food Vulnerability, Food Production Survey (which are not part of the draft report) which SSL should ask PEMSD (WFP?) to tabulate with an aim to update the cost models being used by the National Accounts. If a cost survey cannot be launched in a timely manner, then cost questions should be asked on other surveys, e.g., the next VAM survey. The absence of minor crops in the current biennial survey

underlines the importance of conducting a Census of Agriculture in 2011. Rather than using prices from the CPI, consideration should be given to using market price information collected by PEMSD as these prices are closer to those received by farmers than the CPI. (Are these two activities currently linked?). Special crops will have to be measured using special surveys (i.e., they cannot be measured by a general purpose survey).

## **Common Database**

The need for a common database of agriculture information was the one need expressed by each of the stakeholders interviewed by the consultant. Users want/need a “one-stop-source” for all information about agriculture. However, it would appear that this extends beyond statistics to other information and it may be the case that more than one database is required. (One for statistics and one for technical and research information on agriculture; MAFFS also wish to establish a human recourse...and the list goes on!). This raises an important question for SSL. Should the strategy be to develop a statistical database for each discipline (agriculture, health, education, economic data etc.) or one for all statistics housed at SSL but to which the other partners have publishing privileges? The discussions on this subject did not go far enough to outline the full content of this (these) info base(s). It is good to see that the NSDS document also identified this as a high priority. It should be noted that the WFP have indicated that they will be bringing in an expert from their Dakar office to start working on this project.

**Recommendation:** It is clear that the development of a common database(s) is a high priority for agriculture in Sierra Leone. In view of the fact that the WFP appears ready to start this project, the terms of reference for any future GDDS mission will have to clearly identify the objectives and the role that such a mission will play in the development of a database, especially if it is to include more than just statistics.

## **Data Management**

Important surveys (2003, 2005, 2007) have been conducted. They contain a large number of variables from which much more information than is being published can be drawn. It is conceivable that in 10 years time, researchers may want to access some of these data sets again. As well, MAFFS may wish to share these datasets with key stakeholders; this means that the datasets must be documented beyond what is required by those who are very knowledgeable about the survey and to deal with changes in proprietary formats such as SPSS. It was noted that the SSL has 38 surveys that it would like to archive.

**Recommendation:** It is recommended that SSL continue to pursue support from the Accelerated Data Program (ADP)/International Household Survey Network (IHSN) to obtain the DDI (Data Documentation Initiative) tool kit and web based archive tool (a request has been made by the Statistician General). This web tool could be used as a repository, not only for data sets but also for published reports, for documents, tables and as a gateway to other databases. It is recommended that this initiative be undertaken by SSL as it is not feasible to have more than one “central server”. However, SSL could grant ministries publishing privileges to the database for other ministries. Access could be open to all except where access privileges are required (for access to confidential data sets). The consultant will undertake to discuss the SSL request with the IHSN/PARIS21 group that is rolling out the IHSN tools via the Accelerated Data Program (ADP).

## **NSDS Initiatives**

The list of initiatives on pages 44-46 of the final NSDS report are extremely important for establishing a stronger baseline for agriculture statistics. Regular production and inventory data as well as inputs and the costs of production are required. Input costs are important for the national accounts, for targeting farm extension services, and for developing sector plans. Probably the most important undertaking is the proposed census of agriculture in 2011.

**Recommendation:** It is recommended that plans and protocols be put in place to begin planning these surveys and censuses as required.

## **Planning and coordination**

There clearly are a number of initiatives that need to be undertaken to return Sierra Leone to a state of having regular estimates of agricultural production and food security. Since everything cannot be done at once, there is a need to establish priorities, plan activities and review results.

**Recommendation:** It is recommended that a senior technical services coordinating committee consisting of representatives from all stakeholder groups be established to set priorities and coordinate the activities. This group should consist of representatives from MAFFS program divisions, (e.g., crops, livestock) SSL, the research stations (rice and others), the Bank of Sierra Leone, FAO, WFP, other international agencies if desired or as necessary the university research community and NGO's. Such a group could meet twice a year, should co-chaired by the Statistician General and the Deputy Minister of Agriculture and be given secretariat support by the Director of PEMSD. The minutes from this group should be available on the MAFFS and SSL web site.

## ***Next Steps***

With the development of the NSDS and the completion of this mission, much of the “integrated strategy for agriculture statistics” is in place. This raises the question for other GDDS missions and what their focus should be. The following needs were observed by the consultant and are submitted for the consideration of SSL and MAFFS.

### **Improve analytic capacities within MAFFS and within SSL**

One of the objectives of GDDS is to build statistical capacity rather than simply doing the analysis. MAFFS has virtually no capacity to analyze surveys and needs training and support. See page 17. In the case of SSL, they have trained analysts but are in short supply.

### **Develop a dissemination strategy complete with metadata approaches**

Data are being gathered but they are not as visible in the public domain as they could be. Tables (headers, stubs and technical notes) for an agricultural yearbook need to be defined.

### **Creation of an agriculture database**

Many of the users expressed the need for a database. However, this need was not defined in specific terms. The impression that the consultant got was that a statistical database was the top priority. This also assumes that regular estimates of inventories and production will be made. This project needs a framework with priorities that are more precisely defined.

### **Next mission**

Discussions with SSL and MAFFS staff led to the conclusion that the next GDDS mission should focus on providing analysis training for SSL and MAFFS staff. One idea that was discussed involved taking one of the agriculture surveys and working through the analysis of it using SPSS. This could be carried out using SSL’s training facilities and would take place in July. This assumes that appropriate staff can be identified for training and who will be given this responsibility.

## ***Appendix A: Terms of Reference***

### **Background**

With financial support from the Department for International Development (DFID) of the United Kingdom, the World Bank is implementing a project to assist 21 Anglophone Africa countries to participate in the General Data Dissemination System (GDDS). Participating countries are being assisted to participate in the GDDS through two separate, but linked projects both financed by DFID. The IMF is providing project management and technical support in the area of economic and financial statistics. The World Bank is providing technical support in the area of socio-demographic statistics. Both projects run concurrently until March 2009.

### **Technical Assistance**

Technical assistance is being provided through the World Bank to help countries implement plans for improvement in population, health, agriculture, labor market, justice and security, management of statistical systems, GIS and small area statistics. The GDDS framework developed by the IMF provides the framework for the detailed elaboration of long-term statistical development strategies. Participating countries have already expressed their requests for technical assistance and both the IMF and the World Bank have developed their assistance strategies.

**Sierra Leone** was one of the countries which asked for technical assistance in the field of Agriculture Statistics.

### **Background**

**Sierra Leone** attended the GDDS 2 Module launch workshop on Agriculture statistics in **Maputo in March 2007** where they drew up their Country Work Plan regarding the deliverance of three technical assistance missions covering three country-identified priorities. These priorities are part of the Work Plan Structure Doc. The purpose of the work plan structure doc. is to act as a living document for the duration of the technical assistance and to serve as an information base from which the TOR for every mission can be drawn up. To this end, this TOR for the first mission to Sierra Leone has been drawn up from the work plan.

SSL's general objective regarding the topic is have GDDS assistance in developing an integrated strategy for the development of Agricultural Statistics and to provide an assessment of existing data sets.

### **Purpose of the assignment**

The purpose of the assignment is to complete the first technical assistance mission to look at the scope and nature.

The country has identified the following priorities:

**Table: Overview of the three chosen priorities per country.**

	Sierra Leone	Remarks.
Priority 1	To establish an integrated strategy for the development of Agricultural Statistics	Priority 1 could be split into two. The first portion would deal with the identification of user needs and possible responses. See below
Priority 2	To establish an integrated strategy for the development of Agricultural Statistics	The second portion would deal with the plan of action to implement the integrated strategy
Priority 3	To review existing data sets	The timing and scope of this mission will be determined during mission 1.

## **Detailed Terms of Reference for GDDS 2 Missions for Agriculture Statistics to Sierra Leone**

### **Introduction**

Sierra Leone has requested assistance from the GDDS project for three projects aimed at improving their agriculture statistics. More specifically they have requested missions to provide advice and support in the following areas:

1. To establish an integrated strategy for the development of agricultural statistics
2. To review existing data sets (part of this will be done as part of the mission 1)

This work will be divided into three technical missions. The first priority will be divided into two phases as outlined below.

The consultant will be asked to provide assistance to Statistics Sierra Leone (SSL) using the following outline as a guide:

The consultant will discuss the following matters and report on that.

#### Mission 1: Developing an integrated strategic plan for agriculture statistics

1. Identify the major goals and objectives of the agriculture statistics program and the role of agriculture statistics within SSL and the country.
2. Identify the major stakeholders and users of agriculture statistics.
3. Meet with some major stakeholders such as the ministry of agriculture to determine their statistical needs and priorities.
4. Develop an interview guide that SSL staff can use to further probe user needs in between missions 1 and 2 if necessary.
5. Review existing data sets and data collection activities
6. Review the institutional capacity and resources (human and other, in HQ and regions) available to plan and carryout agriculture statistics program.
7. Review current involvement with international sponsors
8. Develop a broad outline of the agricultural indicators needed by users.
9. Develop an outline of the data design, implementation, collection and analysis activities necessary to meet the goals and objectives.
10. Summarize the needs and general approaches

#### Mission 2: Continuation of the development of an integrated strategic plan for agriculture statistics

1. Develop a more detailed plan establishing a set of indicators to meet user needs.  
This will involve a review of
  - a. benchmarks,
  - b. possible sampling frames,
  - c. sample designs
  - d. questionnaires,
  - e. collection techniques,
  - f. processing,
  - g. analysis and
  - h. dissemination

#### Mission 3: Conclusion of the development an integrated strategic plan for agriculture statistics and review of existing data sets

1. Mission 3 will focus on the existing statistical data sets and a review of dissemination activities
2. Conclude the development of the strategic plan.

This mission will cover off the pre-set priorities in varying degrees.

- o Priority 1: 100%
- o Priority 2: to be decided during the mission
- o Priority 3: to be decided during the mission

The total consultant time for the mission is days divided as follow:

- o 10 days actual mission time
- o 2 day consultant preparation time
- o 1 day additional report writing time.

**Following are the objectives and planned activities by priority for the mission:**

### Priority 1

- Objectives
  - To establish an integrated strategy for the development of Agricultural Statistics- determining user needs and objectives
- Activities
  - Assessment of user needs and objectives
  - Discuss timing and scope of mission 2 and 3
  - Draft a mission report for the country file covering the topics discussed

### Priority 2

- Objectives
  - To establish an integrated strategy for the development of Agricultural Statistics- determining approaches to meeting the needs
- Activities
  - Developing strategies to meet user needs and objectives
  - Draft a mission report for the country file covering the topics discussed

### Priority 3

- Objectives
  - To review existing data sets and develop a database for agriculture statistics
- Activities
  - Review of existing data sets
  - Developing a prototype database for agriculture statistics
  - Draft a mission report for the country file covering the topics discussed
  -

### Skill requirements

The consultant would need agriculture survey experience and skills within the African context and need to read and write English fluently. Mission 3 will require an expert in the design and implementation of output databases

### Deliverables

The deliverables is listed by priority:

#### Deliverables for Priority 1

- Preparation of a profile of user needs and priorities.
- Preparing a mission report

#### Deliverables for Priority 2 and 3:

- Recommendations for scope and nature of subsequent missions to Sierra Leone for agriculture statistics
- Reporting on the topics discussed.

A concluding Mission Report as well as Mission Evaluation forms will form part of the final deliverable.

**Duration** The total consultant time for mission 1 is 13 working days with 10 days mission time and 3 days preparation and reporting time.

### Timing

Mission 1 to be completed during the latter part of November 2007

### Annexes:

Country Work Plan

Country \_\_\_Sierra Leone\_\_\_\_\_

Priority \_\_\_1\_\_\_\_\_

Topic \_\_\_Integrated strategy for Agriculture Statistics: Identification of user needs\_\_\_

1. Problem to be addressed:

*Developing an integrated strategy for the development of agriculture statistics: identification user needs and priorities*

2. Strategic objective:  
*To produce better agriculture statistics and thus better support policy and program decision-making*
3. Activities required:  
*Identify the needs of major users of agriculture statistics*
4. Input required from international sources:  
*Technical assistance mission from knowledgeable expert*
5. Own preparation required:  
*Review the functions and objectives of agriculture statistics systems in an African context.*
6. Output planned:  
*Report outlining the needs of major users of agriculture statistics in Sierra Leone*
7. Changes anticipated:  
*Statistical needs of major users will be identified and statistics will be used to support decision-making*
8. Linkages with other activities  
*This activity feeds into mission 2*
9. Other donors supporting this topic  
*None*
10. Timing  
*TBD*

=====

Country Work Plan  
Country \_\_ Sierra Leone \_\_\_\_\_  
Priority \_\_ 2 \_\_\_\_\_  
Topic \_\_ Integrated strategy for Agriculture Statistics: Identification of approaches to meeting user needs \_\_\_\_\_

1. Problem to be addressed:  
*Developing an integrated strategy for the development of agriculture statistics: identification user needs and priorities*
2. Strategic objective:  
*To produce better agriculture statistics and thus better support policy and program decision-making*
3. Activities required:  
*Developing a strategy for producing statistics to meet the needs of users.*
4. Input required from international sources:  
*Technical assistance mission from knowledgeable expert*
5. Own preparation required:  
*Review of plan developed during mission 1 and prepare to lead a strategic planning session*
6. Output planned:

*An integrated plan for agriculture statistics*

7. Changes anticipated:  
*Greater use will be made of agriculture statistics by decision-makers*
8. Linkages with other activities  
*This mission depends on the output from mission 1*
9. Other donors supporting this topic  
*None*
10. Timing  
*To be determined*

Country Work Plan

Country Sierra Leone

Priority 3

Topic Dissemination and publishing database

1. Problem to be addressed:  
*Improving the dissemination and use of agricultural statistics*
2. Strategic objective:  
*To improve the use of agriculture statistics for policy and program purposes*
3. Activities required:  
*Identification of new data dissemination products and approaches to documenting surveys and censuses.*
4. Input required from international sources:  
*Technical assistance mission from knowledgeable expert*
5. Own preparation required:  
*Review approaches to developing dissemination databases*
6. Output planned:  
*Database in place and data published for access by users*
7. Changes anticipated:  
*Better use is made of agriculture statistics*
8. Linkages with other activities  
*Related to the objectives of mission 1-meeting the needs of users*
9. Other donors supporting this topic  
*None*
10. Timing  
*To be determined*

Allocation of the time:

**Table: Sierra Leone**

	Topic	T1	T2	T3	Share
P1	Determining the needs and objectives of users	100			33
P2	Developing an integrated strategy for producing ag. statistics		100		33
P3	Developing a dissemination database for agricultural statistics			100	33
Share		100	100	100	100
Timing		tdb	tbd	tbd	

## ***Appendix B: Meetings and Daily Journal***

**Introduction:** This is not a full diary as the names of persons met and the subjects discussed are in the main body the report.

### **Monday March 24, 2008**

Easter Monday was a holiday in Sierra Leone, so I had only a brief meeting with Mr. Sannoh. As I had arrived quite late the night before, I used the time to recuperate and prepared a presentation to the managers of SSL and MAFFS.

### **Tuesday March 25, 2008**

Went to the SSL offices and started meeting key staff. Met with Prof. Lawrence Kamara to discuss the mission. Meeting with Mr. Sannoh to discuss outline of the mission. Arranged meeting for the next day.

### **Wednesday March 26, 2008**

Met with key managers from SSL and PEMSD. Made presentation on GDDS and discussed options for the mission. Decision was made to continue along the lines that had been established a year ago during the Maputo meeting. Met with National Accounts statistician and with the director of data processing.

### **Thursday March 27, 2008**

Meetings with the senior managers from PEMSD. Discussed surveys and programs. Got an overview of the work of PEMSD.

### **Friday March 28, 2008**

Further meetings with PEMSD staff. Prepared for meetings with key stakeholders.

### **Monday March 31, 2008**

Meeting with Agriculture in the morning and Mr. Sannoh in the afternoon. Discussed progress to date. Prepared for meetings with key stakeholders.

**Tuesday April 1, 2008**

Meetings with FAO and the World Food program

**Wednesday April 2, 2008**

Meetings with Bank of Sierra Leone, Rice Researchers, and Agriculture Research head.

**Thursday April 3, 2008**

Prepared draft findings and conclusions report and delivered to PEMSD and SSL.  
Made revisions and sent out second version.  
Prepared Power Point presentation for the wrap up meeting.

**Friday April 4, 2008**

Made presentation on findings and recommendations. Discussed the scope of the next mission. Briefed Statistician General on the mission.