



**The Fourth Scientific Advisory Committee (SAC)
Meeting of the Global Strategy to Improve
Agricultural and Rural Statistics**

Meeting Minutes

26-27th June 2015,
Mexico Room, FAO Headquarters

MEMBERS PRESENT

Michael Steiner (Chair)

Cristiano Ferraz (Vice-chair)

Edwin St. Catherine, Eva Laczka, VK Bhatia, Jacques Delincé, Backary Sacko

MEMBERS NOT PRESENT

Zhengyuan Zhu, Seghir Bouzaffour, Ray Chambers

DAY 1

Meeting opened with remarks by Global Office Coordinator, Christophe Duhamel

FAO's appreciation for the past SAC member's participation was expressed and the GO is grateful for the new members. Furthermore, it was emphasized that the SAC continues to play an important role to ensure the quality of GS outputs through expert comments and advice on technical papers. Mr Duhamel thanked the first SAC members (including outgoing members) for their effective support and contribution during the past 2 years. Mr. Duhamel also thanked the SAC members for attending the Mid-term conference a few days prior.

- It was highlighted that this is the Fourth SAC meeting and there are five new members. The new members include:
 - **Backary Sacko**, Chief Statistician, West African Economic and Monetary Union (UEMOA)
 - **Edwin St. Catherine**, Director of Statistics, Central Statistics Office - St. Lucia
 - **Eva Laczka**, Deputy President, Central Statistical Office - Hungary
 - **Zhengyuan Zhu**, Director of the Center for Survey Statistics and Methodology, Iowa State University
 - **Michael Steiner**, Senior Mathematical Statistician, USDA/NASS

N. Keita, Interim Coordinator of the GO gave a brief presentation on the Duties and Modus Operandi of the SAC

- Notably, the SAC have a key advisory role to ensure the highest quality of the results of the research activities. It also provides technical advice, analyses documents, validates results, and helps the GO in selecting the appropriate institutions and experts for specific research activities.
- The SAC is expected to meet 2 times per year for a maximum of 3 days, and works remotely to provide feedback on documents and comments and recommendations on the research programme.
- The SAC is made up of 10 members who are appointed for a 2-year term. Following the first 2 years of the initial members, 50% of membership was renewed and the new members are listed above.

N. Keita, Interim Coordinator of the GO gave an update on progress in the research component since last SAC

- Significant progress on the Concept Note on AGRIS has been made and it is anticipated that the AGRIS methodology will be tested in a few countries in 2015.
- New research themes have been started including gender disaggregated statistics, farm typologies, agro-environmental statistics, data reconciliation between surveys and census, horticulture statistics and forestry statistics.
- As of June 2015, the status of various publication is:
 - 5 technical reports published, 2 undergoing editing, and 6 more published by year's end

- 9 Guidelines/Handbooks have been published, 5 more by the end of 2015, and 3 Guidelines under the AMIS project
- 3 working papers are almost ready for publication.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- There needs to be a standardized system for determining which documents go through SAC, and which do not. It was decided that when a research reaches the step methodological proposals the corresponding technical report should automatically go through the SAC for validation. The same for Guidelines and Handbooks.
- Guidelines and Handbooks will be translated into French from the GO's budget. Negotiation needs to take place with regional partners for publication in other languages.
- Michael Steiner was elected as Chair of the SAC, and Cristiano Ferraz was elected as Vice-chair.

Field Test Protocol (FTP) for the Proposed Methods to Measure Post-Harvest Losses

Presentation was given by M. Kebe, Senior Statistical Consultant of the GO

Mr. Kebe began the presentation by clearly illustrating the difficulties in measuring losses during harvest. Furthermore, he discussed the objectives of the research, and the desired results. Moving on to the FTP, Mr. Kebe specified the sampling units (farm and warehouses), sampling methods, data collection tools, survey period, and special considerations.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- It should be considered that non-sampling errors may be larger than the the coefficient that is being estimated. Most studies do not include sampling errors, this study will provide an idea of the magnitude for sampling errors.
- Subjective measures such as farmer estimation, reliability scales, etc. should be tested and compared with more expensive objective measures.
- It will be important to retain a multi-disciplinary approach in this line of research.
- Alternative sampling procedures should be considered. For example, should points in the value chain be randomly sampled, or should measurement follow one specific sample through points in the value chain?
- Attention should be paid into how the methods tested can be integrated into an agricultural census and agricultural sample surveys programme.
- Why are only small and medium producers concerned for taking measurements? Large producers should be considered as well.

Field Test Protocol (FTP) for Improving the Use of Administrative Data

Presentation was given by E. Berg of Iowa State University

Ms. Berg began setting the scene by giving the definition of administrative data and motivating the need for field testing based on the findings from previous technical reports. She explained that the field testing will actually have two separate approaches: 1. Field tests, 2. Desktop Analysis. There will be interplay between the two approaches, but in summary the field tests will be a lot about assessing capacity within countries, and the existence and sources of administrative data. Furthermore, the field test will review data collection and management, documentation and archiving dissemination strategies, linkages between administrative data sources, and costs. An abstract framework has been developed to facilitate the desktop analysis including analysis of differences between definitions of variables, frequency and reference periods, target populations, coverage of frames and data collection, questionnaires and protocols, and sampling error and statistical models for integrating administrative data with other sources. Ms. Berg concluded with a list of next steps, and anticipated challenges in conducting the field test and desktop analysis.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- A comparison between self-reported data, and data coming from objective methods might be useful. If not at individual level, village/ward level would be interesting.
- The references to literature should be carefully considered. For some, it may be easier to start with other older literature developing simple linear models, while others may prefer to start with more recent literature using non-linear models.
- It could be that some of the methods in the desktop analysis are too complex for use in developing countries. This should be considered when providing proposing methods.
- It should be clear that administrative data should not be the preference to the sample surveys.
- The relevance and the advantages/disadvantages of administrative data to data from sample surveys should be clear.
- The scope of target variables should be crop and livestock.
- Is there the possibility of comparing administrative sources across time?
- The distinction between subjective and administrative must be clearly defined.

Technical Report 2: Gaps Analysis and Methodological Proposal for Measuring Crop, Area, and Yield under Mixed and Continuous Cropping

Presentation was given by Dr. Sud, Director of the Indian Agricultural Statistics Research Institute

Dr. Sud gave a presentation covering some of the challenges posed when estimating crop area and yield under complex settings. He then discussed some methods of apportioning crop area between different crops using both subjective methods (e.g. seeding rates) vs. objective methods (crop cutting). He discussed the 2 stage sampling approach and how the relationship between administrative data and objective measurements could be used to reduce sample sizes and costs.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- The domain approach to sampling may not be the most appropriate in countries where information about domains, and villages is limited (i.e. lack of current and up-to-date cadastral map). Accordingly, the household and area sampling techniques must be applied. .
- The focus of this line of research should focus on the difficult questions related to measurement. The field test should test measurement methods, not sampling methods. The results should show how these different measurements compare to one another and how different techniques can be leveraged to lower the cost of data collection.
- The document needs to provide clear instruction to statisticians in developing countries on how to decide what the most important mixtures are and how to measure them. The same is true for continuous crops.

Improving Methods for Measuring Food Consumption

Presentation was given by Alberto Zezza, Living Standards Measurement Study, World Bank

Mr. Zezza presented an overview of the work plan on improving methods of measuring food consumption and shared some preliminary results. Notably, the research will focus on 5 areas that are seen as the highest priorities: food away from home, length of food list, length of recall period, acquisition vs. food consumption, and household vs. individual. The work has commenced on the first two topics, and studies have been carried out in Peru and Indonesia. Preliminary results show that the inclusion/exclusion of food consumption away from the home changes the results of the analysis dramatically.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- The food industry is already doing some work in this domain, and their results should be integrated.
- The focus used to be on quantity of calories consumed, now the focus of much of the research on consumption is about the contents (instead of quantity) of food consumed. Accordingly, a multi-disciplinary team of economists, nutritionist, and statisticians is engaged in the research.
- Is there any attempt to measure food thrown waste? Is it even feasible?

- NSOs have constraints and suffer from a lack of resources. Accordingly, they have to make decisions and prioritize what kind of data to collect. Unfortunately, there is no optimal mix of instruments and this study just tries to improve one small area.

Guidelines for Enumerating Nomadic Livestock

Presentation was given by Dramane Backo, Consultant of the Global Office

Mr. Bako began by providing some definitions and explaining the differences between agro-pastoral, nomadic, and transhumant livestock. Accordingly, he showed data indicating where some data collection on nomadic and transhumant livestock had been collected in sub-Saharan Africa and other regions. For ground surveys, he gave a brief overview of potential points of enumeration, how to count animals, survey design and statistics, and indirect sampling method for dealing with sample surveys for Nomadic Livestock. Furthermore, some of the methods of aerial sample surveys, and corresponding tools were covered. In conclusion, Mr. Bako provided some general recommendations and presented a decision tree for choosing the best method of enumerating nomadic livestock for countries depending on their specific situation.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- The experiences of measuring nomadic livestock in northern European countries, and Russia may provide additional information to put in the guidelines.
- Perhaps administrative data, and electronic identification could be used to count animals farmed in these conditions?
- Double counting is likely a major issue. Also sedentary animal may go to and through enumeration points. How do the Guidelines account for this, and what is recommended?

DAY 2

Cost-Effectiveness of Remote Sensing for Agricultural Statistics in Developing and Emerging Economies

Presentation was given by Jacques Delincé, Senior Consultant of the Global Office

Mr. Delincé gave a thorough presentation on the above referenced including the application domains, which countries do what, the cost-efficiency literature, case studies, and the planned next steps. Notably, the application domains are land cover mapping, area frame construction, production of field documents, crop acreage estimation, crop yields forecasting, and international investments. In the what's next component of the presentation, Mr. Delincé gave a hint of the number of satellites that will be launched in the coming year, and the quality of imagery that they can provide.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- Very high resolution images may not be very cost-effective depending on the swath. This is why there is emphasis on uses such as stratification and area frame construction.
- This document needs to provide practical information for statisticians in developing countries. A statistician will need to know how remote sensing can help him/her improve their estimations mainly of crop area and yield. This document should contribute to a practical handbook that provide this type of basic information to statisticians. Accordingly, it could be useful to examine the capacity that exists in developing countries in national cartographic offices and NSOs.
- The use of remote sensing in conducting an agricultural census should be highlighted.
- In the future, drones could be a substitute for some satellite imagery, but face their own problems such as battery life, distance, and probability of loss.
- The target audience should be countries that either are not currently using remote sensing technology, or are using it a very limited capacity.

Geospatial Data for Agricultural Monitoring and Statistics

Presentation was given by Ilaria Rosati, Consultant and Remote Sensing Specialist to FAO

Ms. Rosati, provided an in-depth overview of the previous activities undertaken on this line of research on the literature review then clearly defined the purposes of the current work. Accordingly, she noted that the

purpose was to assess how geospatial technologies and information can help agricultural monitoring and statistics, as well as to assess what other types of geospatial technologies are needed. The report recommends the use of LCCS3 for land classification. Ms. Rosati continued to define the objectives of the field testing, the approach, and next steps. In conclusion, the proposed outline of the final report was shown.

CONCLUSIONS AND RECOMMENDATIONS FROM DISCUSSIONS

- The topic of land cover is very clearly defined in the research, however how these methods will lead to better statistics on production and area are less clear.
- As imagery that surpasses more the price of 1 USD per square kilometre is likely inaccessible to developing countries, testing imagery at this price is not useful.
- The document references FAO methods many times, and Global Strategy products should be emphasized as well.
- Why not include Bing as a potential source of geospatial information since the Global Strategy is financed by the Gates Foundation, and Bing is Microsoft product.
- Asia is included in the field tests, but satellites used a lot by Asian countries are not covered.
- The main purpose of the field test is to compare what can be achieved using satellite imagery of varying resolutions. Furthermore, this research should guide countries in how to manage satellite imagery, interpret it, and extract as much information as possible.

Next Steps: GS's research program and activities planned for 2015/2016

Presentation was given by N. Keita

Mr. Keita's presentation begin by reminding the SAC members that the objective of the GS's research is to develop cost-effective methods for improving statistics which will serve as inputs into guidelines and training materials. He showed a diagram illustrating how the methods developed within the research component will be implemented into Guidelines and training material. Further, Mr. Keita discussed how the focus of the research programme is changing from frameworks, frame building and sampling issues to data collection methods (measurement) in specific areas and data analysis/dissemination. He then provided a list of upcoming publications, and research themes that will be covered in 2015/2016. Finally, Mr. Keita concluded by posing some specific points for discussion with the SAC members (below).

Main requests for comments, and the responses of the SAC:

- **Comments for research activities in 2015/2016**
 - There needs to be a systematic way of connecting, and cross-referencing research activities.
 - More field testing of the research methodologies needs to take place in Latin America.
- **Approach and modalities of implementation proposed. Specific advice on peer review process of intermediary reports from Research Partners**
 - There should be a defined strategy on how to distribute and advocate the use of these reports by countries.
 - There should be some sort of executive summary of these reports available for managers in countries. Christophe Duhamel specified that providing something similar to executive summaries targeted for country office management is already in the GO's work plan.
 - There are many countries that don't have any involved with the GS. There needs to be a strategy for engaging those countries.

At the end of the meeting, after consultation of members, the papers presented were allocated with a minimum of 2 papers for each member to provide written comments by July 15th, 2015. Finally, the newly recruited Research Coordinator, Flavio Bolliger was introduced and it was discussed that the next SAC meeting will take place in early 2016.

The SAC thanked Naman Keita for work as Research Coordinator and expressed hope for his continued involvement.

Annex A: Table for SAC comments

Technical paper to be reviewed	Author/presenter	SAC members to review
1. <i>Improving Methods for Measuring Post Harvest Losses: Revised methodological options, and protocols for field-testing the proposed methodologies</i>	<i>M. Kebe, Senior Consultant</i>	<i>Bakary Sacko Jacques Delince Edwin Saint Catherine Vijay Bhatia Cristiano Ferraz Zhu, Zhengyuan</i>
2. <i>Improving the Use of Admin Data: Field Test Protocol for In-Country Testing: Initial Proposals</i>	<i>E. Berg, Iowa State University</i>	<i>Eva Laczka Jacques Delince Edwin Saint Catherine</i>
3. <i>Gap Analysis and Proposed Methodologies for Estimation of Crop Area and Crop Yield under Mixed and Continuous Cropping</i>	<i>Dr. Sud, Indian Agricultural Statistics Research Institute</i>	<i>Bakary Sacko Jacques Delince Cristiano Ferraz Michael Steiner</i>
4. <i>Draft guidelines on enumerating nomadic livestock</i>	<i>D. Bako, Senior Consultant</i>	<i>Bakary Sacko Jacques Delince Vijay Bhatia</i>
5. <i>Cost Effectiveness of Remote Sensing for Agricultural Statistics In Developing and Transition countries</i>	<i>J.Delince, Senior Consultant</i>	<i>Eva Laczka Jacques Delince Zhu, Zhengyuan</i>
6. <i>The “land” information for Agricultural Statistics: Part 1 – Preliminary Considerations</i>	<i>Ilaria Rosati NRL-FAO</i>	<i>Jacques Delince Michael Steiner Zhu, Zhengyuan</i>