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HARMONIZED AND SYNCHRONIZED AGRICULTURAL CENSUS IN MEMBER COUNTRIES OF REGIONAL ECONOMIC COMMUNITIES (THE CASE OF UEMOA)

1 Background

The West African Economic and Monetary Union (UEMOA) is a sub-regional organization whose mandate is to achieve economic integration of its member countries through the strengthening of economic competitiveness in an open and competitive market in a context of a harmonized legal framework. The Organization was established in 1994 by Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal and Togo. Guinea Bissau became a member since April 1997.

The last two decades were marked by a good number of harmonization projects within the UEMOA region. With respect to statistics, the completion of the harmonization project enabled the region to identify comparable indicators at the level of member countries within the course of time. As a result, the following statistical data: household consumer price index, statistics on employment, the informal sector, household expenditure as well as monetary poverty indicators constitute tangible components of an asymmetric information society within the UEMOA region.

In pursuance of its socio-economic integration vision, and as a leading sub-regional grouping in field of statistics harmonization, the UEMOA Commission identified agricultural statistics as the next in line to be harmonized.

2 THE STATE OF AFFAIRS OF AGRICULTURAL STATISTICS IN THE UEMOA REGION

Considering agricultural statistics from a wider view point; including decentralized services and sub-sectors, its state of affairs embodies: data availability, agricultural data requirements, data collection as well as availability of funding.

2.1 Availability of agricultural data in the UEMOA Region

In most UEMOA member countries, agricultural statistics are organized in statistical systems. They are generated by many agencies: both state owned or private of which the most active are the Ministries in charge of Agriculture, livestock and fisheries, the Ministries of Environment through their specialized departments or technical units, Observatories, National Statistics Institutes, association of agro-food processors and professional commercial organizations. . The process of generation data is wide and covers several areas: from crop to animal productions through to biodiversity. Statistical data generated by the above mentioned agencies could be grouped under several categories, namely:

- economic and socio-demographic data from agricultural households
- production (crops, animals, fish and forest products, water, environment, ...)
- surface areas
- farm inputs
- equipment
- labour
- infrastructure and rural services
- price
- external trade
- funding and taxes

2.2 Agricultural data requirements in the UEMOA Region

Out of the quantum and nature of data needed at the regional level, the national statistics agencies produce data covering only certain specific national areas. As a matter fact, aggregating regional data means summing up all statistical data readily available at national levels. Unfortunately, this is far from being the case for the UEMOA region since not every area is covered at country levels despite the satisfactory level of data gathering operations in member countries.

2.3 Data collection operations in the UEMOA Region

Statistical data operations in UEMOA member countries, resulting in the availability of categories of data mentioned above are diverse. This diversity is more often than not, linked to the source of funding and the methodology applied. The most important of these operations could be classified as follows:

- general Population and Housing Census (GPHC)
- general agricultural census (including, at times, stock, forestry, fisheries)
- agricultural markets surveys
- cotton production surveys
- price surveys
- livestock surveys
- general census on fisheries
- farm household living conditions surveys
- general business surveys

3 OVERVIEW OF THE GENERAL AGRICULTURAL AND LIVESTOCK CENSUS IN UEMOA COUNTRIES

An agricultural census is a wide range of statistical operations aimed at gathering periodic qualitative and quantitative data on agriculture. Better still, agricultural census is the exhaustive stocktaking of all agricultural holdings. However, it can cover a given geographical area, on the condition that the samples are representative enough so as to publish the findings for government decision-making purposes. Data collected mainly concerns the following: farm sizes, methods of farming, land use, size of cultivated and harvested areas, irrigation, number of livestock, labor and other factors of production. It is a capital-intensive operation that requires considerable technical capacity and resources. According to FAO's recommendation, this exercise must be carried out every 10 years.

The conduct of a synchronized coordinated and harmonized agricultural census in the UEMOA region is justified by the need to readily have in place data comparable over a period of time for the purpose of macro-economic policies monitoring and evaluation in member countries.

As a matter of fact, General Agricultural and Livestock Census (GAL Census) in the UEMOA region is a general agricultural census simultaneously conducted in all the eight UEMOA member countries; done in a synchronized and coordinated manner. The general purpose of this exercise is to produce series of reliable and enough disaggregated data, in order to respond to the following needs: planning, evaluation of developmental projects, food security management, improvement of the national accounting system, monitoring of poverty alleviation programs, MDG's as well as PRSP.

Furthermore, the UEMOA region is made up of eight countries of which five (Benin, Togo, Côte d'Ivoire, Guinea Bissau and Senegal) are located along the cost of the Atlantic Ocean and three (Burkina Faso, Mali and Niger) are in the Sahel.

The agricultural sector is understood in this context as all sectors where crop, animal and fish productions are done.

3.1 Advantages, disadvantages and conditions of success of a synchronized, coordinated and harmonized agricultural census in the UEMOA region

Table 3.1 Advantages, disadvantages and conditions of success of a synchronized, coordinated and harmonized agricultural census in the UEMOA region

Advantages	Disadvantages	Conditions of success
<ul style="list-style-type: none"> • Better comparability of data • Tools, data collection and harmonization of processing methodology • Reduction of double counting (in terms of cross border influx of livestock etc) • Pooling of resources (human and materials) for the census 	<ul style="list-style-type: none"> • The risk of disorganizing already fragile national statistics systems. • Simultaneously monitoring these exercises could be intensive both financially and from the organizational view point 	<ul style="list-style-type: none"> • The existence of adequate institutional and legal frameworks for the sustainability of the census • Common funding without any major governmental tradeoffs • Training of officers in charge of the implementation in member countries by international experts.

Advantages	Disadvantages	Conditions of success
<ul style="list-style-type: none"> • Better capacity building activities • Positive inter-country competition and emulation • Regular and easy record update of the regional data system • Common reference framework for regional projects • The possibility of having a common and a well thought through funding support • Coordination for external funding mobilization from Technical and Financial Partners (TFP), regional institutions and governments • Recoveries adjusted, based on common data from past and future surveys 		<ul style="list-style-type: none"> • Ensure that statistics systems in the respective countries are of an appreciable standard • Take into account the various farming calendar in the various member countries • Ensure the sustainability of agricultural statistics system • Involvement of political authorities at the highest levels • Associate international organizations such as the FAO and the AfDB • Optimize the census calendar in order for every country to include its farming calendar • Build the capacities of the UEMOA statistics centre

3.2 Modalities and implementation plan of a synchronized, harmonized and simultaneous agricultural census in the UEMOA region

Agricultural census is a vital statistical operation. It is a capital-intensive exercise that requires considerable technical and financial capacities. The simultaneity and synchronization of the operation come to add on more challenges to the already difficult task. As a result, conducting such exercise needs an appropriate modalities and an adequate organizational structure.

3.2.1 Modalities and implementation plan of agricultural census within the UEMOA

The UEMOA GAL Census shall be conducted based on the recommendations of the world agricultural and livestock census program 2020 of the FAO. The UEMOA GAL Census takes into account crop and animal production. Horticulture and aquaculture could be added. It is conducted based on the modular approach that provides for a core module, as well as complementary and thematic modules; following which a permanent survey system is instituted. This makes it possible to have up-to-date data available during intercensal periods.

Many agriculture related themes came to light in recent times; hence the need for additional attention without ever burdening the already tough task of agricultural census; since the new issues to be addressed are too detailed to be covered in the census. These new issues could be taken into account in intercensal surveys other than the census.

The core module shall be administered on the field in all the eight countries in an exhaustive stock taking of all agricultural holdings therein. It shall be specific for all countries. It shall be made of same headings based on same speculations. The core modules shall be accompanied by a questionnaire on community data. Complementary modules shall be administered through a survey on the basis of samples taken from the core modules.

The headings and speculations shall be identified according to data required to be collected and the importance of speculation in the UEMOA sub-region.

The UEMOA GAL Census is a large-scale statistical survey. Therefore, mobilization and securing funding must be completed before the start of operations. In so doing, a resource mobilization and fund securing strategy must be developed and adopted. This strategy must take into account mechanisms and possibilities of mobilizing resources internally, procedure of development partners, and mechanisms of mobilizing funds from national budgets.

The recruitment and training of personnel in charge of managerial roles, data collection and processing roles, technical and administrative support staff are preliminary steps. A regional approach must be adopted in the recruitment process in order to leverage on the regional human resources in the exercise. One must equally take into account the availability and aptitude of respondents. In line with this, a communication and sensitization strategy and plan must be developed and disseminated in all member countries with a specific deadline.

3.2.2 Agricultural census organizational plan in the UEMOA region

The good conduct of the GAL Census within UEMOA calls for an adequate organizational structure based on the following:

- involvement of political authorities at a high level in all UEMOA member countries;
- tools and efficient decision making and consultation mechanisms;
- an effective coordination of the operation.

The engagement of authorities must be done at a high level with appropriate institutional arrangements. Furthermore, putting in place an all-together legal arsenal is indispensable and must be championed by the UEMOA Commission through community directives on how the UEMOA GAL Census must be organised.

The FAO (RAF) and the UEMOA statistics center through an international technical and operational coordination team shall propose tools and consultation mechanisms. Some of these mechanisms include: development of questionnaires, manuals, nomenclatures and other documents as well as adequate capacity building program by organizing consultative meetings, workshops and training programs, appropriate monitoring and control mechanisms of the operations. The regional technical team shall be composed of the Statistics Centers of the FAO, CILSS, and the AfDB. At national levels, countries shall be in charge of the GAL Census. Consequently, the sensitization of the target group, administration of questionnaires, data processing and tabulation shall be conducted under the supervision of the implementation and steering committees (national steering committees, national technical committees, the central office, regional committees, etc.). The law establishing the country level agricultural census shall define the composition of such team.

The following bodies shall be put in place to see to the conduct of the GAL Census:

- a steering committee: The Regional Statistics Committee shall double as the office of the steering committee to be joined by the FAO and the AfDB;
- a technical committee made up of national experts (2 persons per country) and the regional technical coordination team (the UEMOA Statistics Center, FAO, CILLS AfDB regional statisticians); these organs are responsible for the preparation, implementation and operational and technical monitoring of the census.

The Secretariat for meetings is provided by the UEMOA Statistics Center assisted by the FAO (RAF) and regional technical coordination team.

3.3 Methodological Approach

The proposed methodology provides that the census be conducted in accordance with the recommended FAO modular approach in the framework of the World Agricultural Program 2010. This approach is adopted to help countries to respond to the demand of data users by providing a wider range of data; while at the same time, cut down on the operational cost¹.

It involves:

- a core census module based on an exhaustive stock taking leading to key structures and restricted sub-headings, essential for developing national policies for international comparison to constitute basis for survey and for the analysis of disaggregated data by geographical areas or other criteria. The core module is analogue to traditional agricultural census, but it contains range of restricted sub-headings.
- one or many complementary census modules brought out by surveys to be conducted simultaneously or immediately after the core module to provide more structured and detailed data or data not necessary at small administrative units levels.
- thematic modules especially more in-depth study on the specific aspects (horticultural survey, productivity survey for irrigated crops, cost of production, etc.)

3.3.1 Core module

The core module is an exhaustive counting of households and is composed of a restricted number of sub-headings (16 as proposed by the FAO). This core module is founded on exhaustive and detailed mapping and constitutes a crucial component for the continuity of the program. In addition to providing detailed and structured data and agricultural statistics of reference through the putting in place of permanent agricultural and food security statistics.

Since the census is conducted every ten years, it is appropriate to take into account less evolving trends. It is for this reason that attention is given to statistical data such as the basic structure of agricultural holdings such as farm sizes, land use, cultivable lands, the number of livestock, fishing and aquaculture, as well as the use of farm machineries. Data that change from year to

*An integrated agricultural census system - World Agricultural Census Program 2010- Rome 2007.*¹

year such as production and productivity data or price are generally not taken into account.

The objectives of the core module are to generally provide:

- data on the structure of agriculture in order to present detailed crossed tabulations of agricultural holdings;
- reference data for up to date agricultural statistics;
- sampling frame for agricultural surveys;

Major expected results:

- key data on the structure of farms are available (the number and size of farms, land use, methods of farming, the number of livestock, the use of farm machineries, and the number of farmers engaged in every type of cropping, animal husbandry, fishing etc.);
- reference data for up to date agricultural statistics is available;
- basis sampling frames for an agricultural survey are available (variables to determine the sampling frame must be included in the core module)

Community Data

Certain types of administrative data are of interest; hence, must be covered in the agricultural census, especially for the purposes of decentralized planning, identification of poor villages, planning of developmental programs at targeted local government levels, and the targeting of communities for rescue operations in the event of natural disasters. Data collection operation from communities could be useful to examine infrastructure and services available for the farmers. Data indicating that a community is prone to natural disaster would be of interest and could be used to analyze the situation.

A community survey could cover data linked to agriculture, which may not be collected, from farmers; such as the surface area of communal lands. Often, community data complements those collected from farmers. For instance, community data on the existence of farmer associations could complement data on the level of farmer participation in these groupings.

Statistical Unit

The statistical unit of a national agricultural census is the farm that has a one-to-one relation with a farm household. New concepts of under exploitation and under utilization are introduced to better measure the role that each member of the household plays in the management of farms especially women.

The concept of aquaculture was also introduced as a unit of aquaculture output, in aquaculture census.

With respect to community survey, the statistical unit is the community (village, set of smaller villages or a suburb in a city). A definition of a community could be adopted in a consensual manner.

An adaptation of the farm holding concept could be developed by participating countries and validated by the FAO.

3.3.2 Complementary module

The complementary modules shall cover both traditional methods of farming and modern farming. Traditional farming shall be covered by a survey, whereas modern farming would be covered by a total counting.

The scope of application of the various complementary modules identified in the national agricultural census program is the same as those defined above at the core module level.

In the framework of a coordinated agricultural census, it would be interesting that countries agree on the definition of modern farming.

3.4 Cost and funding strategy of the UEMOA GAL Census

For a country, agricultural census is a capital-intensive operation. The UEMOA GAL Census, which covers all the eight member countries, is no exception. This session outlines cost estimates and funding strategy.

3.4.1 Cost estimation for the conduct of the UEMOA GAL Census

The cost of the project is estimated based on the agricultural census of some countries. The overall cost is estimated around 52 824 344 000 CFA Francs.

The sub-headings below were taken into account in the cost estimate:

i) International Technical Support Personnel namely: the FAO technical service (headquarters and Regional Office for Africa) administrative support personnel, consultants both locals and internationals

ii) Coordinating personnel and field officers. This subheading takes into account the technical steering committee, the national coordinator and his assistants, superiors, supervisors, census agents; survey agents, recording agents and supporting agents;

iii) Official travels: this involves the traveling of international consultants and technical support service missions by FAO workers;

iv) Contracts and communication: these are services of international agencies specialized in the following areas: census mapping, mobile telephony, communication; reproduction and dissemination of findings for the various RGAC, connection, accommodation and Internet access;

v) Materials and equipment this includes vehicles, maintenance costs of motors, materials and IT equipment (servers, notebooks and office computers);

vi) General operation costs and miscellaneous rents and leases; maintenance and repairs of equipment and materials, fuel, per diem for supervision missions; office suppliers, etc.;

production of technical documents; dissemination of activity reports and results, etc., Insurance, post office services, diplomatic bags, DHL, Fax and telephone, video conferences;

vii) Training: capacity building for local personnel in the area of design, implementation of statistics operations and data processing, on-the-field training, training abroad, participating in AFCAS meetings.

viii) Operational service support and final report: these are budgeted to cover the project implementation cost (the service of personnel, procurement, etc.) and the cost of terminal report.

Table 3.2: Cost estimate for major budget categories of the UEMOA GAL Census (in millions of CFA Francs)

Categories	Total
i - Internal technical support personnel	2 539 047
ii- National coordination personnel and field officers	16 766 554
iii- Official travels	1 098 297
iv-Contracts and communication	4 257 747
v -Materials and equipments	13 579 339
vi-General operational costs	8 905 142
vii- Training	2 859 019
viii- Operational support services and terminal report	2 819 196
TOTAL	52 824 344

3.4.2 Financing Plan

A statistical census is more of a political act than technical. Funding such an exercise could be done in several ways:

1. in practice, the financing of any census exercise is the responsibility of the countries in question. Each country could bear the cost at country levels. However, the member countries could put in place a common fund base on community solidarity. The support of every country shall, in that instance, be on pro rata basis of its GDP in the Union.
2. The financing could partly be done by the UEMOA Commission and member countries.

Rolling stocks and fungible material as well as international expertise shall be the responsibility of the Commission and personnel cost taken by member countries.

In the two scenarios above, there is the risk that activities may not take place, in the countries, at the same time.

3. The UEMOA Commission could take the overall cost. Contributions shall be withheld at the BCEAO through community directives. Statistical tax at the TEC is equally another alternative for funding the census.

The UEMOA Commission and/or member countries could request for funding from the following organizations: the African Development Bank, The European Union, the UNDP, the FAO, the German Cooperation (GIZ), Islamic Development Bank, the World Bank, the Danish Cooperation, the French Development Agency, the Swedish Cooperation. With respect to the European Union, the request could be addressed to the EU Delegation in Ouagadougou for regional projects such as the UEMOA GAL Census or to the Brussels office by the UEMOA commission and to the offices of country representatives in the framework of country indicative programs.

4. CONCLUSION AND RECOMMENDATIONS

It is obvious that agriculture is at the center of economies in UEMOA member countries with significant contributions to their GDP's. It equally plays a key role among the active population of member countries.

However, the importance of this sector, in national agricultural statistical systems, is not given its due place. This is due to the fact that there is a gap between data available and the needs expressed by the users. This is as a result of not having in place proper agricultural development policies; talk less of poor economic and social development policies at large.

The conduct of the UEMOA GAL Census is the first step towards the establishment of a reliable agricultural statistics database and the enhancement of statistics information system in general; especially in the area of agriculture. Findings would inform the UEMOA Commission and national governments to redefine and better pilot their agricultural and food security policies based on real-time statistical data on agriculture, livestock and fishing in the UEMOA region. It would also contribute to developing better poverty alleviation and food security policies in member countries.

Recommendations

- Put in place, as early as possible, the regional technical team for the project to see to the coordination of the remaining works;
- Develop an advocacy and fund mobilization document;
- Identify and harmonize the base module subheadings for all UEMOA member countries. To do this, a committee must be put in place;
- Identify subheadings and the number of complementary modules per country according to well-defined criteria. The administration of the complementary modules should be done immediately after the base module. This work could be referred to the committee to be put in place;
- Elaborate all technical documents namely: i) the census protocol. This is a technical document which outlines details on the methodology, questionnaires, the practical organisation on the field, the logistics, quality control, partners, the personnel to be recruited, detailed timeframe of the census, detailed budget, etc. In practice, a census protocol is prepared by the project team; ii) transition tables for the concept and the terminologies locally used in the various countries, mappings, questionnaires (sample units and complementary modules), manuals for census agents, supervisors, codifiers, record agents; specification documents and tabulation;
- Organize awareness campaigns. These campaigns shall project the criteria and methods to be followed in the administration of questionnaires;

- Take into account the difference between farming calendars of coastal and Sahelian countries;
- Strengthen cooperation between countries in order to ensure mutuality in the use of technical and material resources.