



° Curricula & Syllabus for Agricultural and Rural Statistics in Africa

Tsukuba, Japan

2 – 4 September 2014

**Oumar SARR
Statistician
ACS/UNECA**

Outline

- CURRENT TRAINING IN STATISTICS IN AFRICA
- TYPE OF CURRICULA IN AGRICULTURAL STATISTICS
- BASELINE SYLLABUS

CURRENT TRAINING IN STATISTICS IN AFRICA

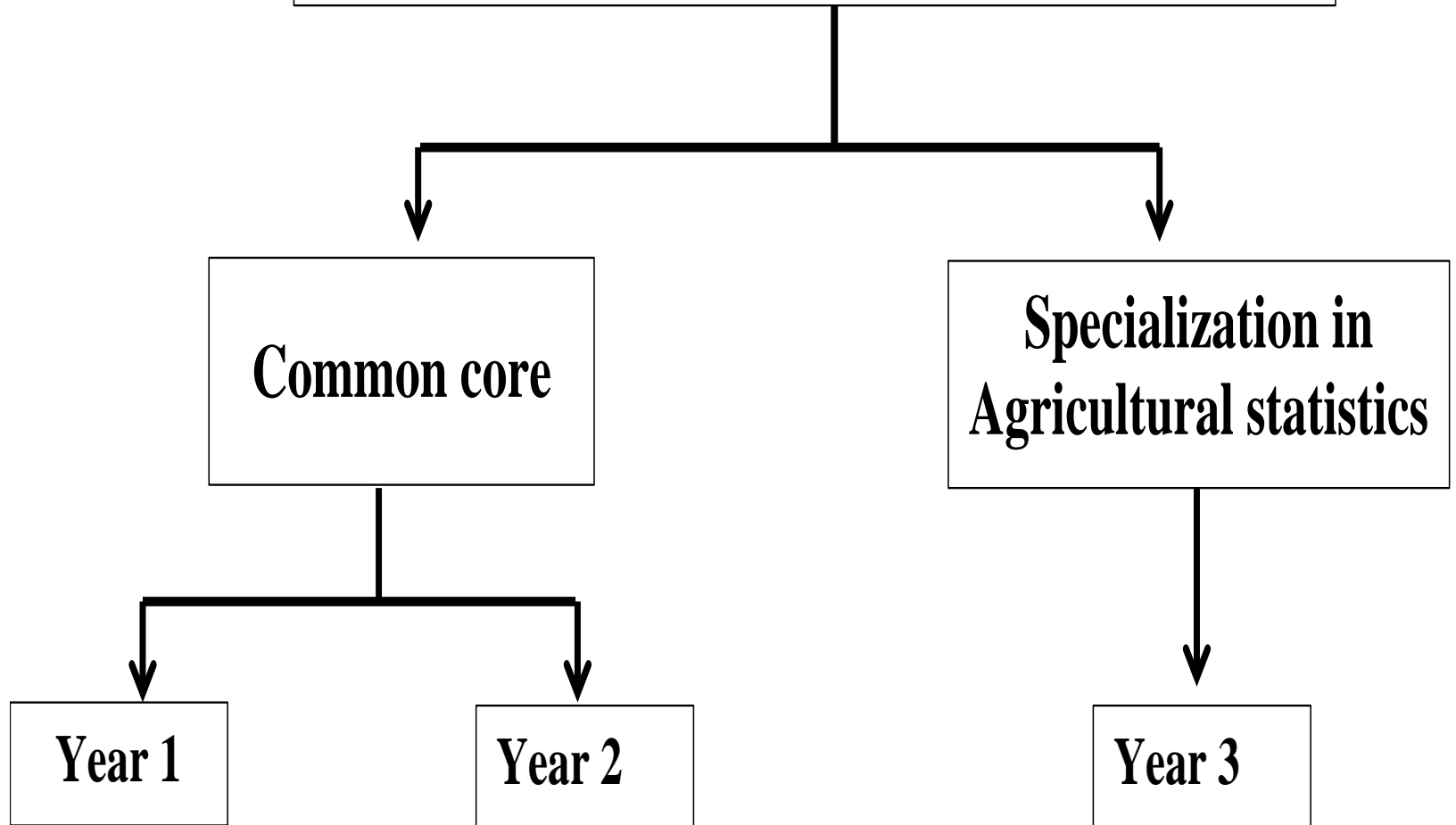
- Three main types of training programs
 - University training
 - Engineering training
 - Middle level professional training

TYPE OF CURRICULA IN AGRICULTURAL STATISTICS

- **Curriculum A: Higher professional :**
To train experts in statistics combining scientific discipline and practical skills for the purpose of resolving practical problems;

Curriculum A :

**Higher professional / Ingénieur de conception
ou Ingénieur d'Etat**

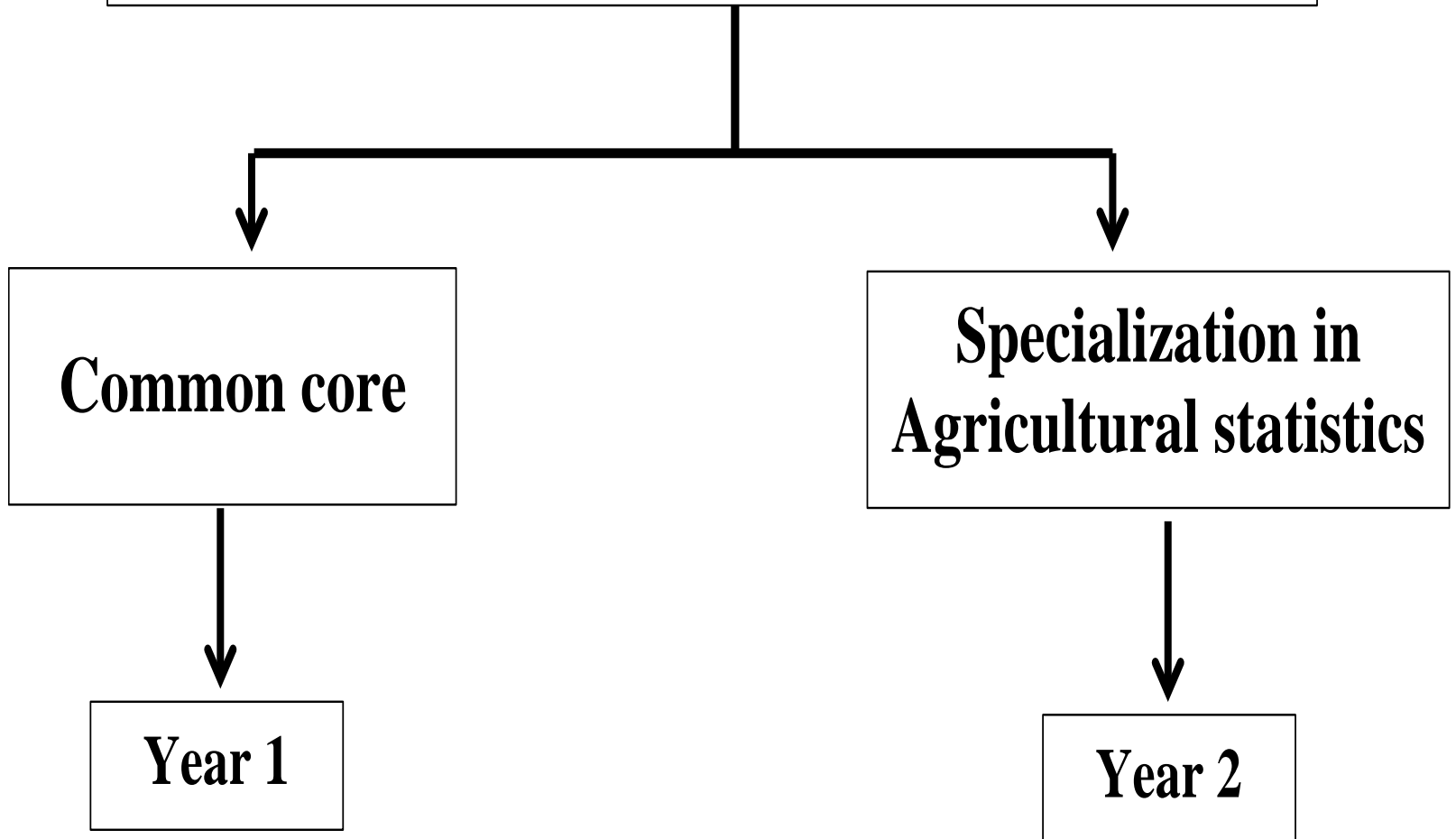


TYPE OF CURRICULA IN AGRICULTURAL STATISTICS

- **Curriculum B: Professional Qualifications:** To train experts and senior researchers with a good command of analytical/processing tools and statistical modeling (Varies according to the academic traditions of each institution);

Curriculum B :

**Professional Qualifications/ Ingénieur de travaux ou
d'application**

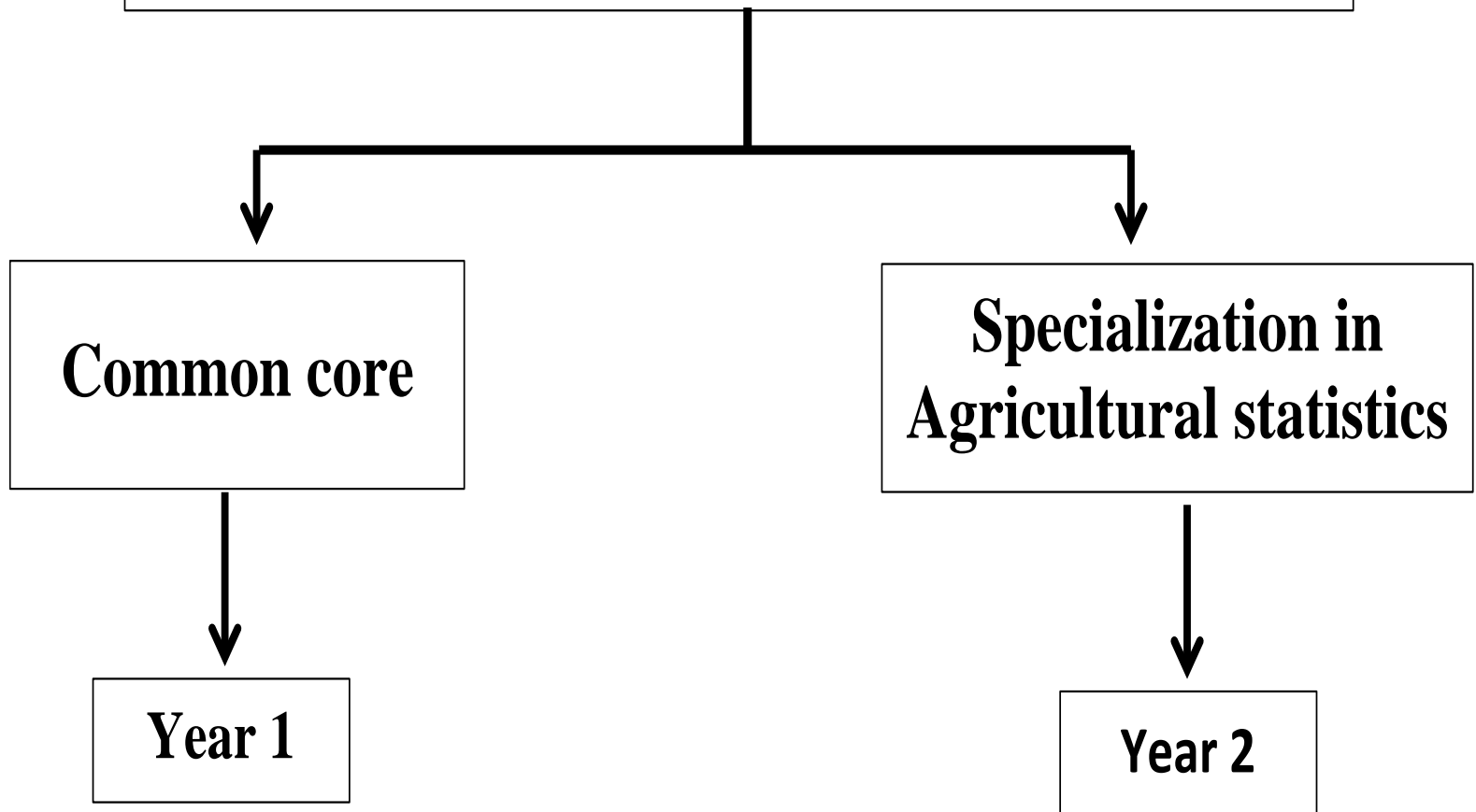


TYPE OF CURRICULA IN AGRICULTURAL STATISTICS

- **Curriculum C: Technical**
Qualifications: To train technicians who are able to assist statisticians and collaborate with experts in other disciplines.

Curriculum C :

Technical Qualifications/Techniciens supérieurs



TYPE OF CURRICULA IN AGRICULTURAL STATISTICS

- Agricultural statisticians are primarily statisticians. That is why the training of agricultural statisticians must have two components for each of the three curricula:
 - **Part 1: Common core (basic course in statistics),**
 - **Part 2: Specialization in agricultural statistics (Agricultural Statistics).**

TYPE OF CURRICULA IN AGRICULTURAL STATISTICS

- **How do institutions of statistics accommodate courses for agricultural statisticians?**
- Two options for each type of curricula:
 - **Parallel branch:** Create a parallel branch of studies in agricultural statistics to operate side by side with current regular courses in statistics
 - **Advantage:** Orientation towards agricultural statistics starts at the beginning of the course;
 - **Disadvantage:** Duplication of all basic courses in statistics.

TYPE OF CURRICULA IN AGRICULTURAL STATISTICS

- **How do institutions of statistics accommodate courses for agricultural statisticians?**
- **Two options for each type of curricula:**
 - **Specialization in agricultural statistics in the final year:**
 - **Advantage:** Basic common core courses in statistics with all the other students (savings in terms of resources: teaching staff, teaching materials) and
 - **Disadvantage:** Possible dropping out of some students before the final year of specialization in Agricultural Statistics.

Baseline Syllabus

- **Development of syllabus related to agricultural statistics:**
 - **Module 1:** Agricultural Data Processing;
 - **Module 2:** Agricultural Sample Surveys and Censuses;
 - **Module 3:** Sampling Design for Agricultural Surveys;
 - **Module 4:** Economic Accounts for Agriculture;
 - **Module 5:** Supplementary Topics
 - **Module 6:** Managing Agricultural Statistics Systems
 - **Module 7:** Research

Module 1: Agricultural Data Processing

Elements	Sub-elements
1.1 Basic concepts	1.1.1 Production units
	1.1.2 Crop production statistics
	1.1.3 Statistics on Livestock
	1.1.4 Statistics on fisheries and aquaculture
	1.1.5 Forest Statistics and agro forestry
	1.1.6 Environmental Statistics
	1.1.7 Nomenclatures
1.2 Methodology of agricultural census	1.2.1 Methodology of agricultural censuses and surveys
	1.2.2 Methodology of surveys
	1.2.3 Use of new technologies
1.3 Data Sources	1.3.1 Administrative data
	1.3.2 Census and survey Data
1.4 Data collection	1.3.1 Awareness raising
	1.3.2 Data collection phases
	1.3.3 Summary and control

Module 2: Agricultural Sample Surveys and Censuses

Elements	Sub-elements
2.1 Review of Sampling plans for agricultural surveys in some country examples	
2.2 Inclusion of new information needs	
2.3 Development of a master sampling frame and use of new technologies	
2.4 Description and structure of a sample design	
2.5 Sampling Errors	

Module 3: Sampling Design for Agricultural Surveys

Elements	Sub-elements
3. Traitement des données agricoles et analyse	
3.1 Current Practices in Agricultural Data Processing	
3.2 Data Archiving	
3.3 Analysis techniques (multivariate, small area estimation, spatial data, etc.)	
3.4 Statistical Software Packages	
3.5 Data management systems ; data security	

Module 4: Economic Accounts for Agriculture

Elements	Sub-elements
4.1 : Basic concepts and elements for the development of the economic accounts of agriculture (EAA)	
4.2 Basic unit; the output concept in agriculture, Evaluation of production and pricing systems	
4.3 Composition and evaluation of intermediate consumption	
4.4 Determination of items under the operating account and the treatment of EAA subsidies	
4.5 Composition and Evaluation of gross fixed capital formation (GFCF) of the agricultural sector	
4.6 Business income and Capital account	
4.7 Values, volumes, prices and measurement of economic growth in agriculture	
4.8 Statistical sources and data used in the production of EAA	
4.9 System of Environmental Economic Accounting (SEEA)	
4.10 Water Accounts	

Module 5: Supplementary Topics

Elements	Sub-elements
5.1 Food Security	
5.2 Rural development and rural statistics (indicators)	
5.3 Early warning systems	
5.4 Gender statistics	
5.5 Agri environmental Indicators	

Module 6: Managing Agricultural Statistics Systems

Elements	Sub-elements
6.1 Ethics	
6.2 Description of agricultural statistics systems	
6.3 Surveys planning and budget	
6.4 Dissemination and communication with decision-makers and users	

Module 7: Research

Elements

Sub-elements

7.1 Design and analysis of experiments

Synthesis of Curricula in Agricultural statistics

Topics	Curriculum A	Curriculum B	Curriculum C
Methodology of Agricultural Census and Surveys			
1.1 Basic concepts	X	X	X
1.2 Methodology of agricultural census	X	X	
1.3 Data Sources	X	X	X
1.4 Data collection	X	X	X
2. Sample Design Applied to Agricultural Surveys			
2.1 Review of Sampling plans for agricultural surveys in some country examples	X	X	
2.2 Inclusion of new information needs	X	X	
2.3 Development of a master sampling frame and use of new technologies	X	X	
2.4 Description and structure of a sample design	X	X	
2.5 Sampling Errors	X	X	

Topics	Curriculum A	Curriculum B	Curriculum C
3. Agricultural Data Processing			
3.1 Current Practices in Agricultural Data Processing	X	X	X
3.2 Data Archiving		X	X
3.3 Analysis techniques (multivariate, small area estimation, spatial data, etc.)	X	X	
3.4 Statistical Software Packages	X	X	X
3.5 Data management systems ; data security	X	X	
4. Economic Accounts of Agriculture (EAA)			
4.1 : Basic concepts and elements for the development of the economic accounts of agriculture (EAA)	X	X	
4.2 Basic unit; the output concept in agriculture, Evaluation of production and pricing systems	X	X	
4.3 Composition and evaluation of intermediate consumption	X	X	
4.4 Determination of items under the operating account and the treatment of EAA subsidies	X	X	
4.5 Composition and Evaluation of gross fixed capital formation (GFCF) of the agricultural sector	X	X	
4.6 Business income and Capital account	X	X	
4.7 Values, volumes, prices and measurement of economic growth in agriculture	X	X	
4.8 Statistical sources and data used in the production of EAA	X	X	
4.9 System of Environmental Economic Accounting (SEEA)	X	X	
4.10 Water Accounts			

Topics	Curriculum A	Curriculum B	Curriculum C
5. Supplementary Topics			
5.1 Food Security	X	X	
5.2 Rural development and rural statistics (indicators)	X	X	
5.3 Early warning systems	X	X	
5.4 Gender statistics	X	X	
5.5 Agri environmental Indicators	X	X	
6. Managing Agricultural Statistics Systems			
6.1 Ethics	X	X	X
6.2 Description of agricultural statistics systems	X	X	X
6.3 Surveys planning and budget	X	X	
6.4 Dissemination and communication with decision-makers and users	X	X	
7. Research			
7.1 Design and analysis of experiments	X	X	

THANKS