



# UGANDA BUREAU OF STATISTICS



THE REPUBLIC OF UGANDA

## STATISTICAL QUALITY ASSESSMENT & CERTIFICATION FRAMEWORK ((SQACF)-Uganda

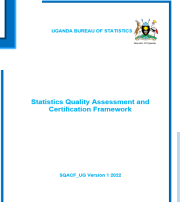
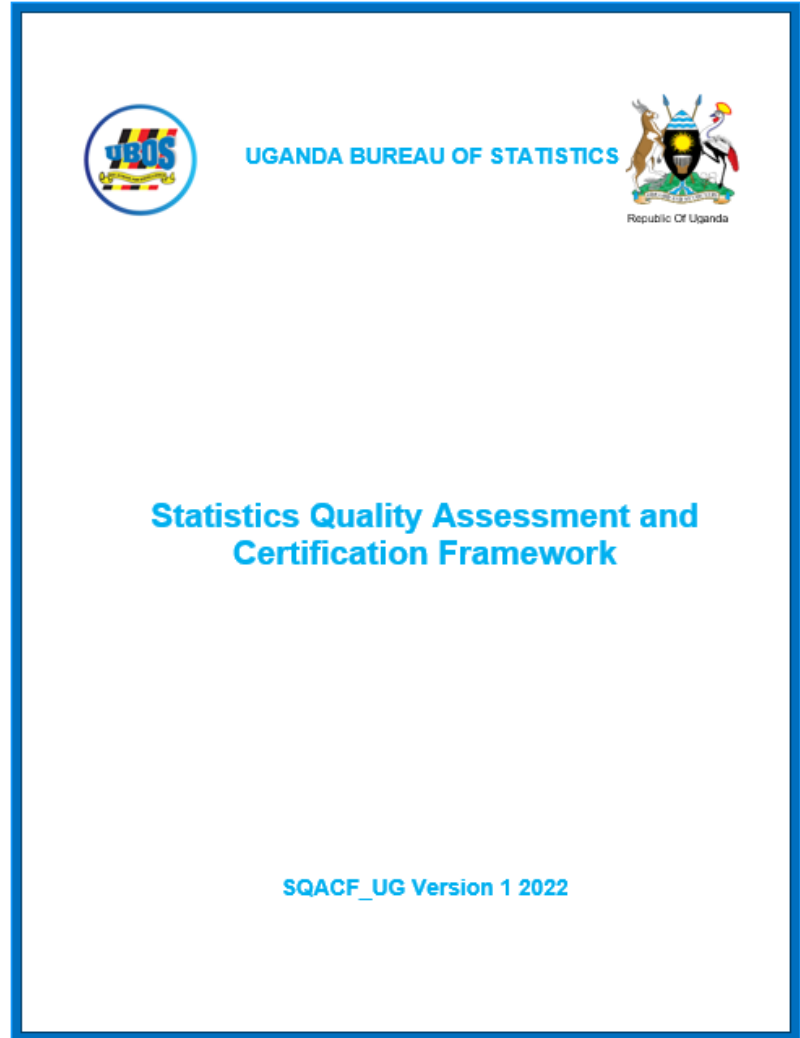
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At the UNSD Regional Workshop on the National Quality Assurance Framework, Addis Ababa  
6<sup>th</sup> December, 2022



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# Outline

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- Statistical Audit and compliance to standards
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# Introduction



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- ❖ The Uganda Bureau of Statistics (UBOS) is a semi-autonomous body established by an Act of Parliament (1998) to promote the production of **quality official statistics** and ensure the development and maintenance of the National Statistical System (NSS).
- ❖ To execute her mandate of promoting standardization in the collection, processing and publication of statistics
- ❖ UBOS developed and shall support the implementation of the Statistical Quality Assessment & Certification Framework (**SQACF**)



# Introduction



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- ❖ The **SQACF** is a set of procedures and instructions that facilitate assessment of quality compliance for all statistical products in the NSS
- ❖ The SQACF was developed by UBOS in consultation with key stakeholders in the National Statistical System
- ❖ The SQACF was conceived at the design of the Plan for National Statistical Development (PNSD 1) in 2012



# Purpose of the SQACF



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The **SQACF** provides a coherent and holistic system for statistical quality assessment and certification that builds trust in the quality of official statistics.

## Specifically, the SQACF will support;

- Self-assessment by producers of statistics;
- Review of the statistical processes and outputs;
- Assessment of the output by the users of statistics based on the quality declaration by the agent producing the statistic
- Assessment of the statistical output by International organizations based on the quality declaration by the producing agent



# Benefits of the SQACF



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- ❑ It offers a mechanism for systematic monitoring and identification of risks and quality issues across the NSS. It therefore supports quality improvements and their maintenance over time;
- ❑ It supports the NSS coordination by providing common guidance on quality assurance and reference materials for training;
- ❑ It gives greater transparency to the processes by which quality is assured and reinforced by the coordinating agency (UBOS) within the NSS;
- ❑ It serves as a common ground to promote dialogue on quality challenges and opportunities at the national, regional and international levels;
- ❑ It provides a basis for creating and maintaining a culture of quality within the NSS.



# Scope and Coverage



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The SQACF shall be used to assess and certify the quality of statistical processes, products and outputs from;

*It covers Statistics produced by data producers in the National Statistical System*

- Administrative data,
- Surveys and censuses
- Data from non-traditional data sources such as
  - **Big Data** and
  - **Citizens Generated Data.**

The SQACF is structured into six main sections.

## Section one

- Covers the introduction in which the purpose, the scope and the four quality levels are presented

## Section two

- Discusses the eight (8) statistical Quality dimensions including the prerequisite for quality, (*Institutional environment Assessment*).

## Section Three

- Presents the context and the quality assurance cycle for the SQACF in the NSS.

## Section Four

- Discusses the Statistical Audit and compliance to standards measures by data producers in the NSS

## Section Five

- Provides for the certification processes including the statistical auditing procedures

## Section Six

- Sets out the implementation modalities that will be followed during implementation. **Appendices** and other relevant materials are provided in the last section of this publication.





# Statistical Quality Dimensions



1. Relevance	7. Methodological soundness
2. Accuracy	8. Integrity
3. Timeliness	9. Institutional Environment
4. Accessibility	
5. Interpretability	
6. Comparability and Coherence	



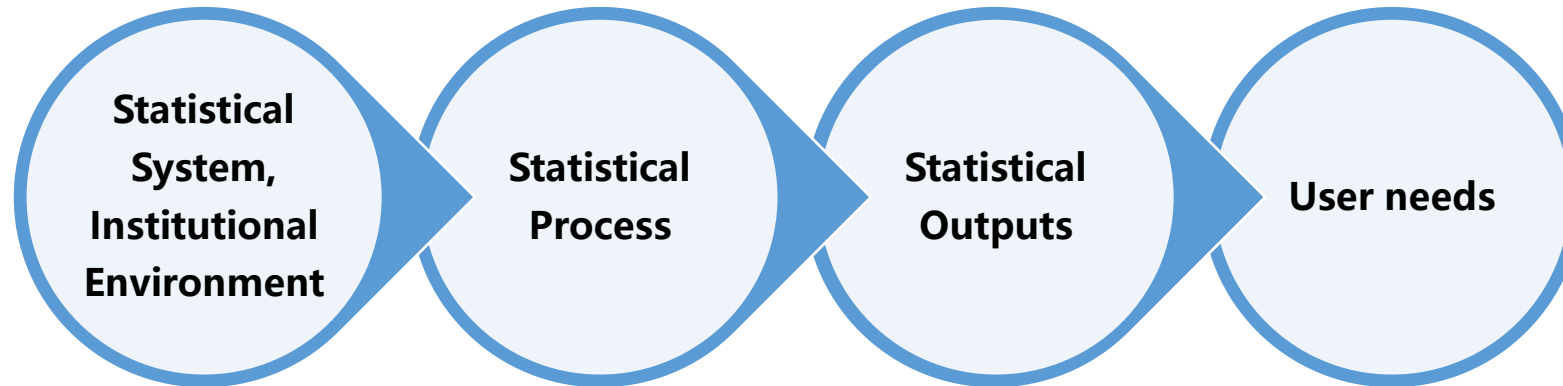
# Process of Statistical Quality Assessment



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An important part of the overall quality management system of a statistical organization.

□ The Assessments focus on:





# Process of Statistical Quality Assessment



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- ❑ The statistics under review must comply with the criteria of the UN Fundamental Principles of Statistics
- ❑ Upon meeting the above criteria, quality assessment of statistics shall be undertaken as follows;
  - i. Institutional Environment Assessment for statistics (Module 1),
  - ii. Production Processes and Output Quality (Module 2), which covers the nine phases of the statistical value Chain
  - iii. Auditing (Module 3)



# Process of Statistical Quality Assessment



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## Description of the four quality levels

Quality Dimension		Description			
		Assessment levels for a statistical output			
Key Components	Standards & Indicator	Quality Statistics (Fit for Use) Level 4	Acceptable Statistics (Moderate) Level 3	Questionable Statistics Level 2	Poor Statistics Level 1
As specified in the SQACF for each quality dimension	Specific to the component in line with the IMF DQAF & UN NQAF	All quality criteria of the 8 dimensions met	Quality Criteria is met to a large extent	Criteria are met. However, significant gaps exist	Quality Criteria is not met at all
Quality Score levels		100%	75% - 99%	50% - 74%	<49%
		Average score	Average score	Average score	Average score
		score level of 4.0, <b>3.5-4.0</b>	level of 3.0 – 3.9, <b>3.0-3.4</b>	level of 2.0 – 2.9	Level of 1.0 – 1.9

### Level 4:

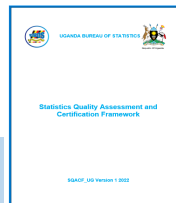
Fit for use

### Level 3

Fit for use despite limitations

### Level 1 & 2

Not fit for use.  
Process developing with many deficiencies





# Context for the SQACF



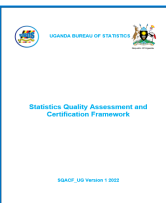
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## □ The Quality Assessment and Certification Cycle for Official Statistics



### Quality Statistics

- Institutional Environment
- Relevancy
- Accuracy
- Timeliness
- Accessibility
- Interpretability
- Comparability
- Coherence
- Methodological Soundness
- Integrity





# Context for the SQACF



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## □ Scope of the Statistical Quality Assessment and Certification Framework

Statistical Quality Assessment and Certification Framework (SQACF) will cover all aspects that underline production of statistical outputs and information disseminated in the MDAs/ HLGs under the PNSD III

### The Institutional Environment

•Key quality components of an Institutional Environment include, Legal Arrangements, Standards and Policies, Statistical Confidentiality and Privacy, Measures to oblige responses, Mandate for data sharing and coordination, Adequacy of resources, Measures to ensure efficient use of resources, Quality Commitment and Professional Independence.

### The Production Processes of a statistical output

The quality assessment will be conducted using the self-Assessment tool.  
The production process module 2 covers the entire **Statistical production cycle**.

### Statistical Output/products

•This can be a dataset or an indicator (statistic/parameter) or a statistical report covering Information on several statistical matters. The quality assessment of a statistical output will be also conducted using module 2 tools

### Product Quality

The assessment is conducted using Module 3 tools. Product quality realization guarantees efficient management operations, effective performance of data and information systems, processes and related outputs





# Context for the SQACF



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## Quality Reporting

Quality reporting involves the preparation and dissemination of reports conveying information about the quality of a statistical product or survey on a regular or irregular basis

### Statistical Processes

- Sample Surveys
- Censuses
- Statistical Processes Using Administrative Source(s)
- Statistical Processes Involving Multiple Data Sources
- Price and Other Economic Index Processes
- Statistical Compilations

### Content Descriptions for Quality Reporting

Quality report should include quality description on the following:

- User satisfaction concerning relevance
- sampling and non-sampling (measurement, data processing) errors, concerning Accuracy
- key production dates concerning timeliness and punctuality
- Forms for dissemination, availability of metadata and documentation, concerning accessibility and clarity
- Coherence with other sources.



# Context for the SQACF



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## Quality Profiling

- ❖ Quality profiling is a systematic and routine documentation of the quality of statistical production processes, outputs and products.
- ❖ Quality Profiling should provide user-oriented summaries of the main quality features of indicators and eases their use and analysis into a Standard Quality Report (SQR).
- ❖ Quality profiling is very key especially where administrative data and related indicators are being used to inform quality assessment.
- ❖ The assessment of quality of administrative data is mainly based on the meta data available.





# Statistical Audit and Compliance to Standards



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To ensure compliance, statistical auditing will be undertaken following the statistical quality self-assessments base on the agreed standards. The outcome will be used as a basis for certification of Official Statistics. The SQACF will be the standard against which statistics in the NSS will be audited and certified.

## □ General Process of Statistical Audit





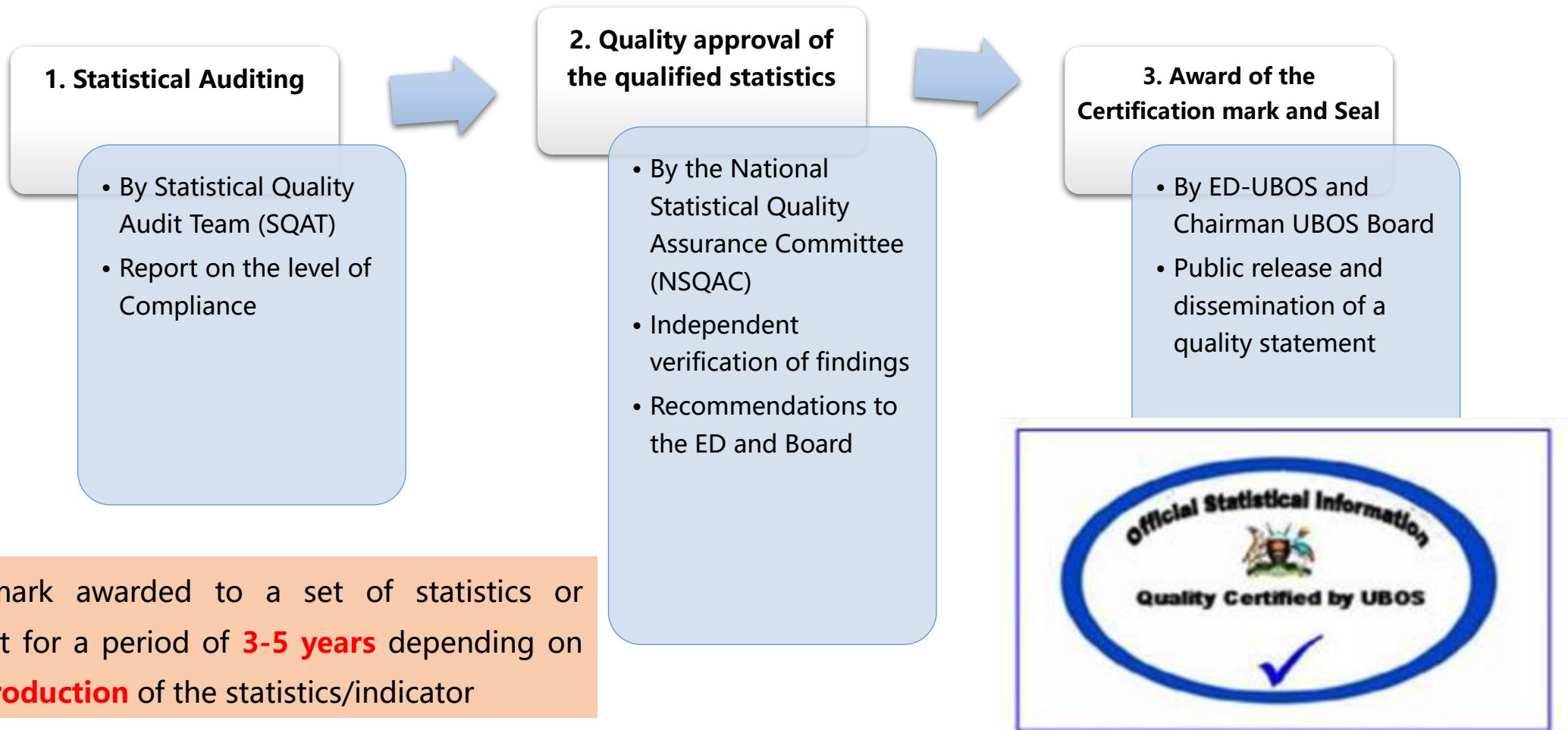
# Certification of Official Statistics



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**Certification** is a formal procedure through which an accredited or authorized person or agency assesses and verifies the attributes, characteristics, quality, qualifications or status of individuals or organizations, goods, or services, procedures or processes, events or situations in accordance with established requirements or standards, and attest in writing by issuing a certificate

- In line with the principles and protocols of the UN Fundamental Principles of Official Statistics, all statistics produced in the NSS shall be subjected to regular quality assessments based on the SQACF.
- Statistics presented for certification will be required to fulfil the basic criteria for official statistics.





# Implementation of the SQACF



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- ❑ The SQACF shall be applicable to all data producers in the NSS
- ❑ Implementation will be highly participatory and consultative
- ❑ Training in relevant statistical methodologies and guidelines shall be conducted
- ❑ Regular sensitization at various levels, quality training, user engagements, quality assessments, statistical auditing and certification of official statistics shall be conducted.
- ❑ UBOS shall develop relevant instruments to effectively implement the SQACF
- ❑ These Instruments cover the following levels
  - ✓ 1. Institutional Environment Assessment
  - ✓ 2. Self-assessment
  - ✓ 3. Auditing



# Implementation of the SQACF...



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## □ Stages of Implementation

### 1. Produce the SQACF

- Copies of the SQACF in both hard/Soft
- Uganda Standards for Statistics submitted availed

### 2. Conduct meetings to disseminate the SQACF

- Meeting Reports

### 3. Design Procedures for application of the SQACF

- Draw a Statistical Quality Assessment Programme,
- Documented procedure for Statistical Auditing and compliance
- Provide an assessment structure for the NSS
- Certification Mechanisms for official Statistics in the NSS

### 4. Implementing the SQACF in selected MDAs/LGs/UBOS/CS Os

- Revised Quality Tools for Pilot Assessments
- Preliminary NSS Quality tool
- Assessment report

### 5. Roll out the SQACF in the NSS for adoption and use

- Avail the SQACF to the different Stakeholder
- Documented Procedures for application of the SQACF & Quality Tools for auditing Compliance
- Statistical Quality Self-Assessment Checklist, quality guides, training manuals and
- MDA Self Assessments conducted, Self-Assessment
- Formalization of Assessment teams in the NSS to undertake

### 6. Assessment of the effectiveness of the SQACF

- Process monitoring & Evaluation Reports
- Established Statistical Auditing structures and Implementation Programme in the NSS
- Statistical Audit Guidelines, Manuals, Auditing procedures, audit team
- Official Documentation on audit reviewer meetings, audit exercises and audit criteria for implementation of audits in MDAs and LGs
- Documented recommendations for certification
- Compliance to quality requirements
- Compiled audit tools & audit reports submitted to UBOS (Executive Director)



# Recommendations

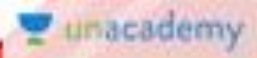


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- ❖ Consider widening the band for Quality statistics from 4.0 to (3.5-4.0) where all dimensions of quality are met). This is not realistic on the African continent
- ❖ Highlight digitization issues in the Quality framework in reference to the new emerging data ecosystem.
- ❖ Fast Track the Finalization of the National Data Quality Policy to aid the implementation of the SQACF
- ❖ More advocacy on the importance of quality statistics is required at all levels especially the Top Senior Executives to create awareness and appreciation of the importance of quality statistics



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Thank you





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