



**United
Nations**

DESA
Statistics Division

**DA Tranche 14 Project: Concluding Session
Capacity Building Workshop for the Africa Region:
Data Ethics, Governance, and Quality in a Changing Data Ecosystem**

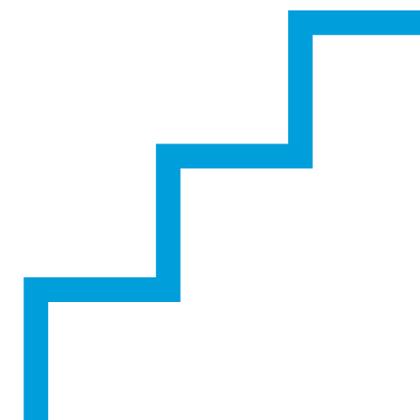
Session 4: Quality Assurance and Novel Data Sources

International Quality Assurance Frameworks and Tools

Nairobi, Kenya, 2-4 September 2025

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United Nations Department of Economic and Social Affairs**



What is quality in Statistics (Definition)

- Quality is the degree to which a set of inherent characteristics of an object fulfils requirements (see International Standards Organization, ISO 9000:2015).
- In the context of statistical organizations, the object is the statistical output or product, the process, or the whole statistical system
- A simple definition of quality is **"fit for use"** or **"fit for purpose"**.

What is quality in Statistics (Definition)

Notes:

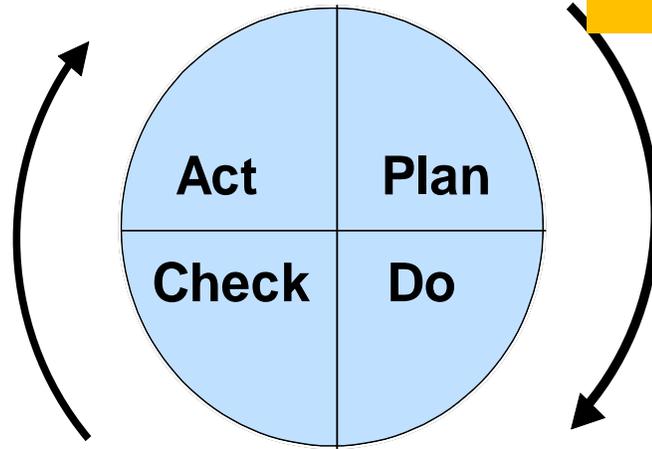
- It is the users' needs that define the quality.
- It is multi-dimensional. The dimensions of quality are interrelated and, there are trade-offs between some of them.
- Quality is crucial for the confidence in a statistical institution and its products.
- Quality is the responsibility of all!
- The essence of quality management is continues improvement

Cycle of continuous improvement

- While some countries have made significant progress by adopting National Quality Assurance Frameworks (NQAFs) to strengthen the quality and

- Monitor results
- Compare against goals
- Analyze variances

Offices (NSOs) remain constrained



- Identify problem/opportunity
- Analyze current processes
- Develop a plan

- Implement the plan
- Document the process
- Train employees

Quality management systems for official statistics

1. Are called quality assurance frameworks
2. **Definition:** A National Quality Assurance Framework (NQAF) is a coherent and **holistic** system for statistical quality management.
 - a. It is a tool for all working in official statistics
 - b. Its objective is to achieve quality improvements at the level of the statistical system, processes and statistical outputs in order to meet user needs.
 - c. It sets a standard of quality and hereby assures trust in official statistics.
3. Are all based on the UN Fundamental Principles of Official Statistics (FPOS)
4. What is specific about official statistics?
 1. Professional independence; impartiality; protection of privacy; access to all types of data requires high trust;
 2. This is reflected in laws, quality frameworks and ethical standards that go beyond the generic quality management systems

UN NQAF and regional quality frameworks

- The UN National Quality Assurance Framework (UN NQAF) provides a generic model for national statistical offices to adopt, develop and revisit their own quality framework
- The UN NQAF consists of principles, requirements and elements to be assured.
- UN NQAF's is applicable to all countries
- UN NQAF does not replace existing quality frameworks such as the ASEAN Community Statistical System Code of Practice and other regional systems

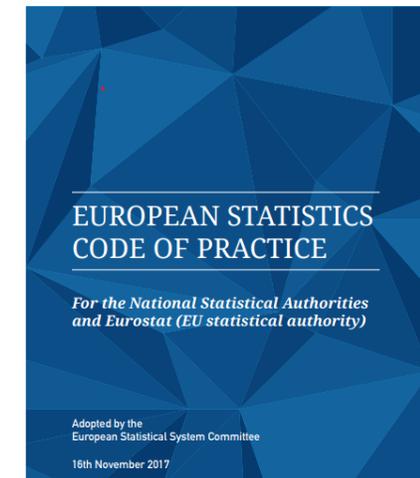
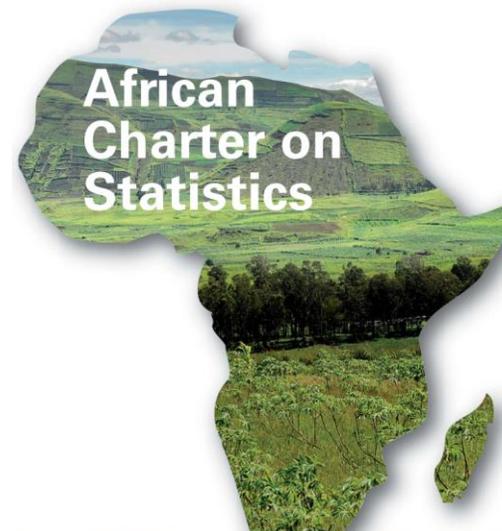


ASEAN COMMUNITY
STATISTICAL SYSTEM
(ACSS) CODE OF PRACTICE



**CODE OF GOOD PRACTICE
IN STATISTICS FOR
LATIN AMERICA
AND THE CARIBBEAN**

(November 2011)



UN NQAF: a coherent and holistic system for statistical quality management

- UN NQAF arranges its quality principles and associated requirements into four levels, ranging from the over-arching institutional and cross-institutional level through the statistical production processes to the outputs:
 - Level A: Managing the statistical system
 - Level B: Managing the institutional environment
 - Level C: Managing statistical processes
 - Level D: Managing statistical outputs

Quality assurance implementation guidance and tools

At the level of the statistical organization

- ➔ The *Manual* (2019)
- ➔ The UN NQAF self-assessment checklist (2019)
- ➔ The Roadmap for NQAF development and implementation (2023)
- Module for Quality Assurance when using Administrative and Other Data Sources to produce Official Statistics (2025)
- ➔ Maturity Model on Quality Culture in Official Statistics (2025)

Other tools

- Generic Statistical Business Process Model (GSBPM)
 - Quality indicators, Quality reports, Metadata standards, Assessments and audits (see ESS Guidelines on quality reporting)
- ➔ Next step: Define GSBPM overarching process of quality management + Integrate tools

Quality assurance implementation guidance and tools

At level
of
individu
al
outputs



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Other tools



- Generic Statistical Business Process Model (GSBPM)



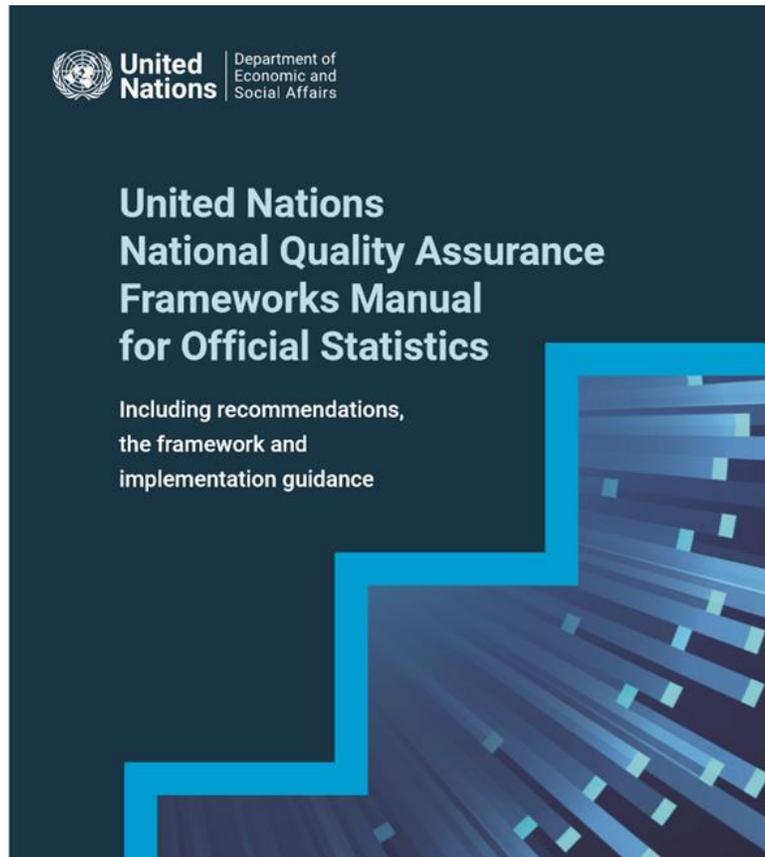
- Quality indicators, Quality reports, Metadata standards, Assessments and audits (see ESS Guidelines on quality reporting)



- **Next step:** Define GSBPM overarching process of quality management + Integrate tools

The Manual

Part	Chapter	Title
Introduction	Chapter 1	Contents and use of this Manual
Recommendations	Chapter 2	Recommendations on quality assurance for official statistics
UN NQAF	Chapter 3	The UN National Quality Assurance Framework: principles and requirements
Implementation	Chapter 4	Assessment tools and risk management
	Chapter 5	Development and implementation of a national quality assurance framework
	Chapter 6	Implementation of quality assurance within the national statistical system
	Chapter 7	Quality assurance for statistics compiled from different data sources
	Chapter 8	Quality assurance for SDG indicator data and statistics
References	Chapter 9	Quality assurance in the global statistical system
UN NQAF Annex	Annex A	Detailed Checklist of elements to be assured



See <https://unstats.un.org/unsd/methodology/dataquality/>

Self-assessment checklist

Self-assessment checklist based on the UN Quality Assurance Framework contained in the Manual

Purpose:

1. For conducting regular and rigorous quality assessment with the objective to identify improvement actions
2. Also be used to provide an initial assessment for learning purposes or to introduce staff to quality assurance
3. Can be used to draft quality assurance framework



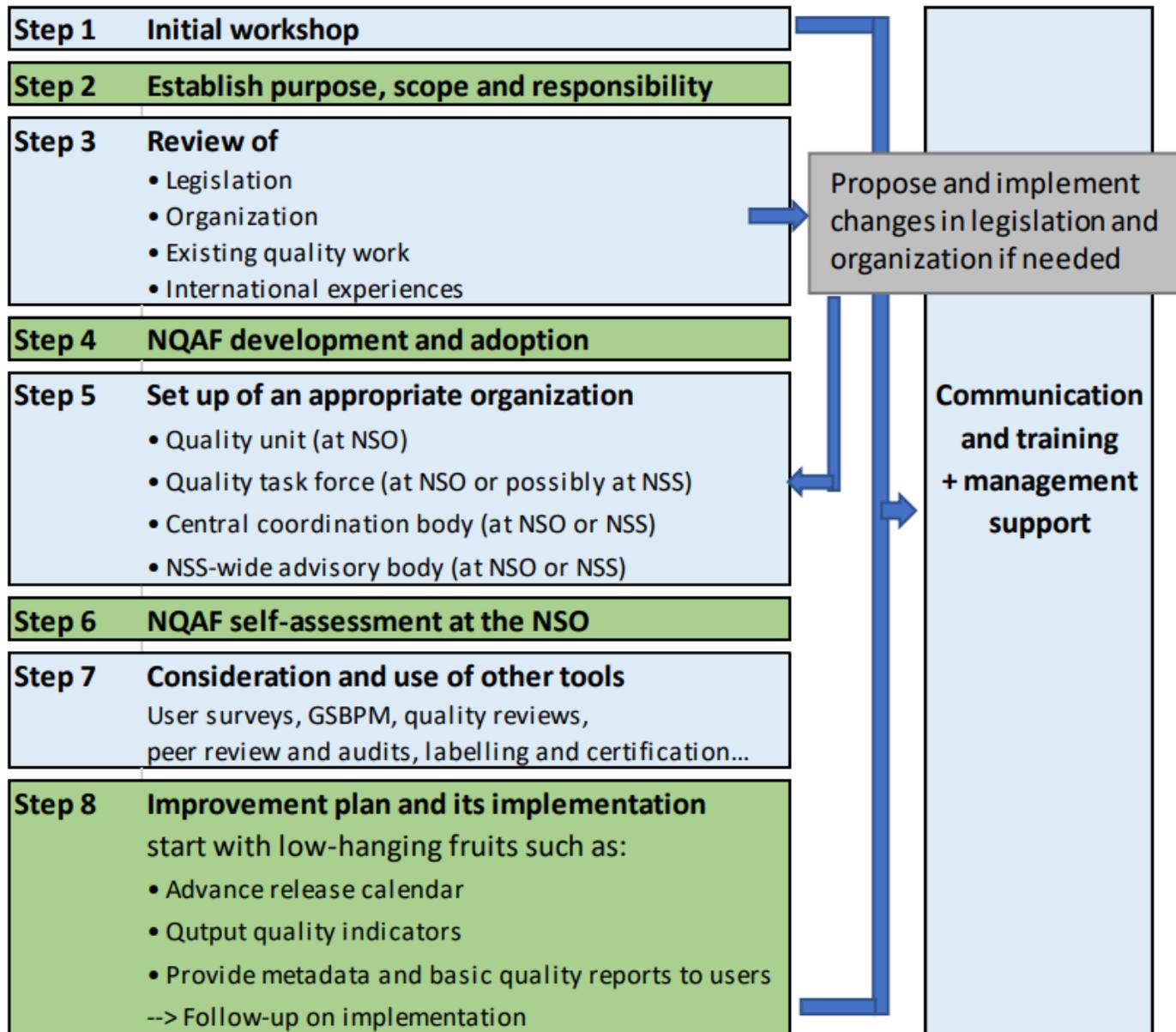
19 Principles
87 Requirements
356 Elements to be assured (good practices)

The Roadmap



Roadmap for NQAF development and implementation

<https://unstats.un.org/unsd/methodology/dataquality/roadmap/>



A Roadmap for the Development and implementation of NQAF



UN National Quality Assurance Framework – Are We Equipped for New Data Sources?

- The UN-NQAF applies to all data and statistics regardless of the source, but the challenges to obtain compliance can be different depending on the data source.
- UN Expert Group developed a module that complements existing generic national quality assurance frameworks (NQAF) to provide more specific and detailed guidance when using administrative and other data sources to produce official statistics.
- Synthesizes existing country practices and available guidelines

Module for Quality Assurance when using Administrative and Other Data Sources

- Part 1: Conceptual approach to assure quality when using administrative and other data sources
- Part 2: List of ten critical requirements

- Annex 1: Sub-module for input data validation
- Annex 2: Glossary of working definition of relevant terms
- Annex 3: Relevant UN NQAF requirements
- Annex 4: Mapping of the Module's ten critical requirements to the conceptual approach and relevant UN NQAF requirements
- Annex 5: Link between GSBPM and the 10 critical requirements



Available at: <https://unstats.un.org/unsd/methodology/dataquality/aos>

Introduction of the Module

- **Target audience**: Statistical agencies that want to use admin and other data sources to produce official statistics
- **Purpose**: This module complements existing generic national quality assurance frameworks (NQAF) and provides more specific and detailed guidance when using administrative and other data sources to produce official statistics.
- **Conceptual approach and list of 10 critical requirements**
 - The **conceptual approach provides an overall structure and understanding** for using administrative and other data sources for producing official statistics.
 - The list of ten critical requirements **provides a concrete tool and practical guidance** for using an administrative and other data source.

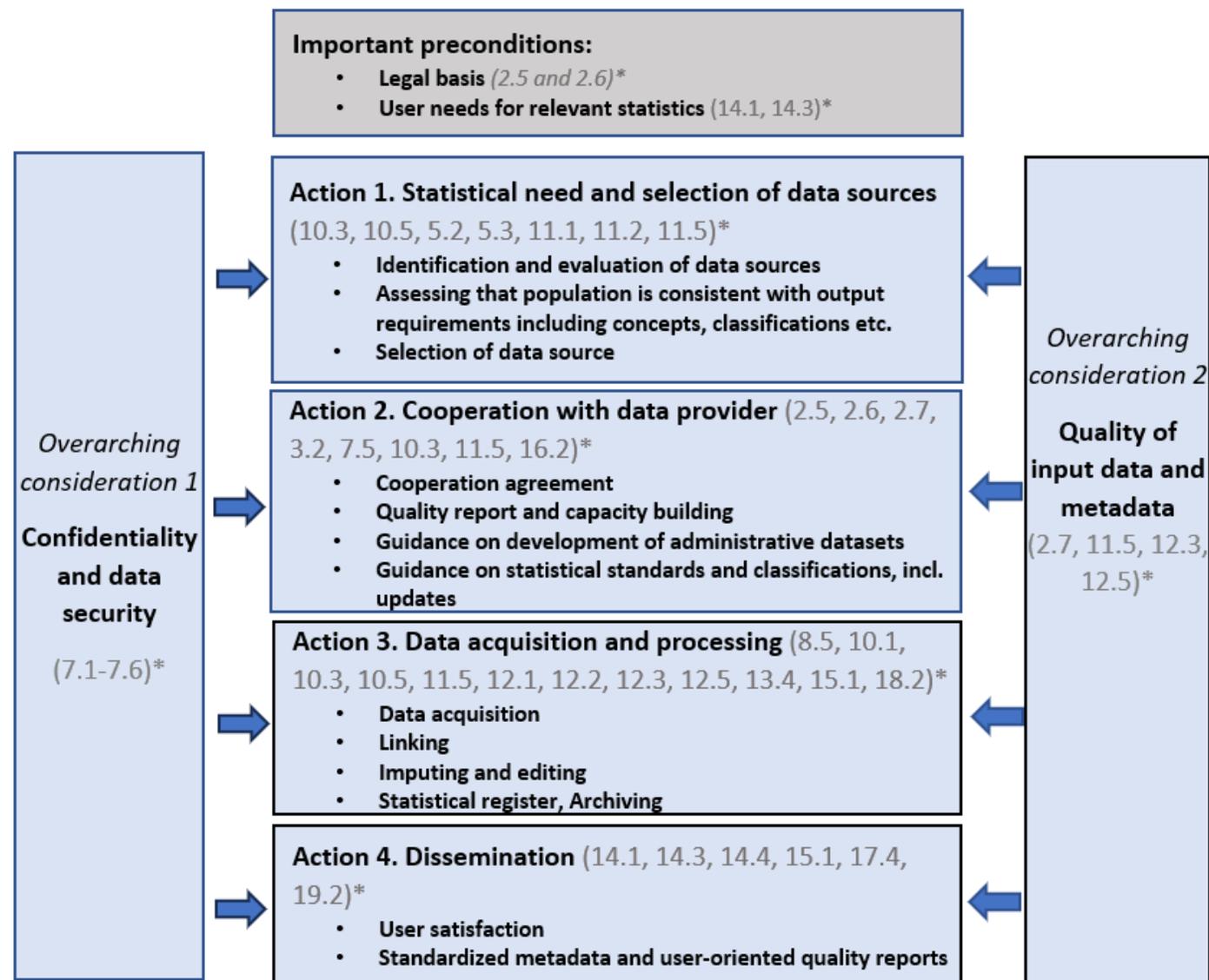
Part 1: Conceptual approach identifying relevant actions and aspects to be considered:

- The **four actions** can be understood as activities or steps that typically need to take place when using administrative and other data sources.

- The **four actions** can follow each other or can be undertaken individually, depending on the specific circumstances.

- The **two overarching considerations** reflect aspects that must be considered during the four actions and concern confidentiality and data security, the quality of input data, and metadata.

Figure 1: Assuring the quality of official statistics when using administrative and other data sources – a conceptual approach identifying relevant actions and aspects to be considered.



* The numbers in brackets indicate the link to relevant UN NQAF requirements or principles. The relevant UN requirements are listed in Annex 3.

Part 2: List of ten critical requirements

1. Part 2 presents a **list of ten critical requirements** that **provide specific and detailed guidance** for assuring quality when using administrative and other data sources to produce official statistics.
2. **The list is complementary to the use of NQAF and is not a substitute for it.** The checklist contains requirements not addressed or not sufficiently reflected in NQAFs .
3. The ten requirements are considered critical as without them, the quality of official statistics when using administrative and other data sources may not be sufficiently assured.
4. The ten critical requirements are underpinned by a set of **suggested (or “best”) practices** that have been identified in a thorough review of a large set of country practices and guidance materials. These **suggested practices are often more detailed** than the elements to be assured under the UN NQAF requirements as UN NQAF is generic, while this checklist is specific for its purpose.

Part 2: List of ten critical requirements

1. The use of administrative and other data sources must be based on legal and actual access, ensure confidentiality and take user needs into consideration.
2. New data sources, data providers as well as the use of multiple data sources are proactively explored to produce or improve existing statistics or develop new statistics.
3. There is basic information about the data provider and general information about the data source.
4. The data provider and data source are assessed for their risks.

Part 2: List of ten critical requirements

5. There are cooperation agreements with the data providers, and there is ongoing cooperation, as applicable.
6. The data provider assures the quality of its data, and a quality report (or quality declaration) is produced in cooperation with the statistical agency, as applicable.

Part 2: List of ten critical requirements

- 7. The quality of the input data is systematically evaluated by the statistical agency (see Sub-module for input data validation Annex 1).**
- 8. There is comprehensive metadata about the input data.**
- 9. Processing of input data at the statistical agency follows standards, guidelines, and best practices.**
- 10. The special characteristics of administrative and other data sources are considered when disseminating statistical outputs.**

Part 2: List of ten critical requirements

1. The use of administrative and other data sources must be based on legal and actual access, ensure confidentiality and take user needs into consideration.
2. New data sources, data providers as well as the use of multiple data sources to produce or improve existing statistics or develop new statistics.
3. There is basic information about the data provider and general information about the data source.
4. The data provider and data source are assessed for their risks.
5. There are cooperation agreements with the data providers, and there is ongoing communication as applicable.
6. The data provider assures the quality of its data, and a quality report (or quality declaration) is produced in cooperation with the statistical agency, as applicable.
7. The quality of the input data is systematically evaluated by the statistical agency.
8. There is comprehensive metadata about the input data.
9. Processing of input data at the statistical agency follows standards, guidelines, and best practices.
10. The special characteristics of administrative and other data sources are considered when disseminating statistical outputs.

The Basics & prep.

The Data Provider

At the Stat. Agency

The AOS Assessment Checklist of the “Module”

1. The purpose is to **identify areas of improvement when using administrative and other data sources for producing official statistics.**
2. This checklist corresponds **one-to-one** to the list of **ten critical requirements and suggested practices.**
3. This **checklist assesses individual statistics mainly produced from a single administrative or other data source (AOS).** If multiple data sources are used, their individual impact must be explained.
4. The assessment checklist distinguishes suggested practices which are **“essential”** (15) and **“additional/advanced”** (40) to simplify the assessment and concentrate on main points. This designation can be adjusted by users.

The AOS Assessment Checklist of the “Module”

Please complete this part first

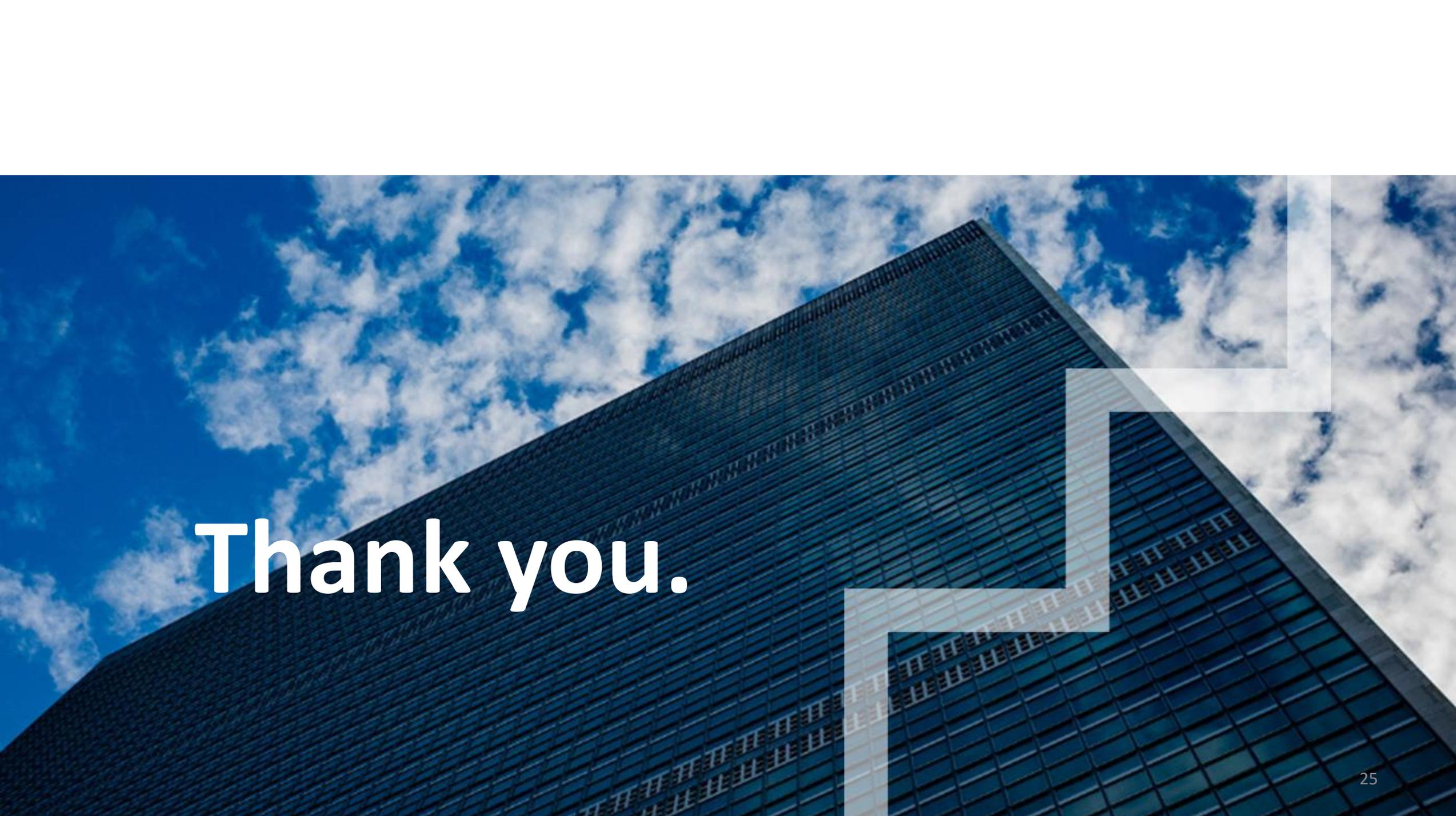
Statistical output:		[Please complete / enter name]			Overall scores			
Data source:		[Please complete / enter name]			Total [55]	Essential (good >=80)	Additional (good >=50)	
Ten Critical requirements		Suggested practices	Instruction (please assess at least all essential (basic) practices [15])	Assessment: Full, partial, no compliance* (use drop down options in the cell)	Assesment: Describe your practices and possible improvement actions (possible input to quality report and improvement plan)	0%	0%	0%
1. The use of administrative and other data sources must be based on legal and actual access, ensure confidentiality and take user needs into consideration. This critical requirement summarizes the preconditions of data access and user needs, and consideration of confidentiality and data security that are well reflected in UN NQAF and other commonly used quality assurance frameworks but require special attention when using administrative and other data sources. Efforts to ensure confidentiality and data security must consider that the data from administrative and other data sources is often very sensitive and access to it highly restricted. This critical requirement is reflected in the Important preconditions and Overarching Consideration 1 of the conceptual approach shown in Figure 1.	1.a.	There is legal access to the data.[1]	Additional / advanced		Describe your practices here			
	1.b.	There is actual access to the data.	Additional / advanced					
	1.c.	The data source complies with existing laws and regulations (including the consent of data owners, where applicable) and its data can legally be used for producing official statistics.	Essential					
	1.d.	Confidentiality of personal data and business information and data security are assured through appropriate means such as written instructions and guidelines based on best practices, staff training, and regular audits.	Essential					
	1.e.	User needs are considered, and the statistical need is clearly identified.	Essential					
2. New data sources, data providers as well as the use of multiple data sources are proactively explored to produce or improve existing statistics or develop new statistics.	2.a.	There are policies, guidelines, and practical procedures for exploring and testing the potential of new data sources for producing or improving existing statistics and the development of new statistics; this extends to the possible use of multiple data sources through data integration.[2]	Additional / advanced					

Two categories:

- Essential
- Additional/ advanced

Complete your Assessment here:

- Full Compliance
- Partial Compliance
- No Compliance



Thank you.