



**United  
Nations**

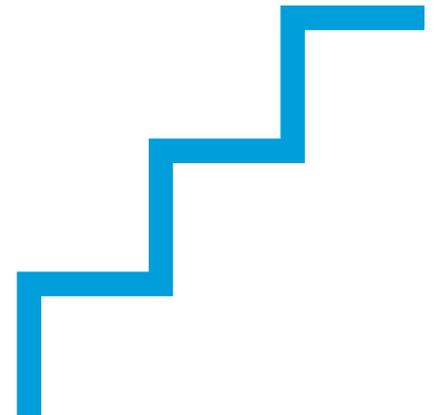
DESA  
Statistics Division

The Thematic Conference for Pacific SIDS - Managing a Statistical Organization in Times of Change

# Session 1: National Quality Assurance Framework for Novel Data Sources

Matthias Reister, [reister@un.org](mailto:reister@un.org)  
Chief, Development Data Section  
Statistics Division, Development Data and Outreach Branch  
United Nations Department of Economic and Social Affairs

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# 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, the institutional environment 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!

# Quality management systems for official statistics

1. Are all based on quality assurance frameworks
2. Are all based on the UN Fundamental Principles of Official Statistics (FPOS)
3. 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

# Quality management systems for official statistics

**Definition: A National Quality Assurance Framework (NQAF) is a coherent and holistic system for statistical quality management.**

1. It is a tool for all working in official statistics:
2. Its objective is to achieve quality improvements at the level of the statistical system, including management, coordination and institutional arrangements, processes and statistical outputs in order to meet user needs.
3. It sets a standard of quality and hereby assures trust in official statistics.

# International quality frameworks for statistics

-  [UN Fundamental Principles of Statistics \(1994, 2014\)](#)
-  [UN National Quality Assurance Framework \(NQAF 2013, 2019\)](#)
-  [European Statistics Code of Practice \(2005, 2011, 2017\)](#)
-  [African Charter on Statistics \(2009\)](#)
-  [Code of good practice in statistics for Latin America and the Caribbean \(2011, 2023\)](#)
-  [ASEAN Community Statistical System \(ASS\) Code of Practice \(2012\)](#)
-  [OECD Good Statistical Practice \(2015\)](#)

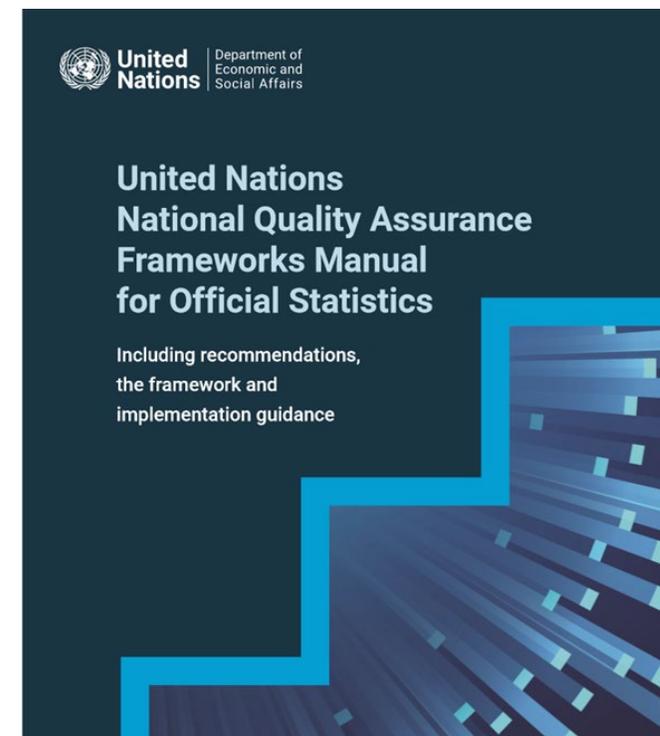
Basic principles are common

# What is the United Nations National Quality Assurance Framework (UN NQAF)?

1. UN NQAF is the generic United Nations (UN) national quality assurance framework which is contained in Chapter 3 and the Annex of the UN National Quality Assurance Frameworks Manual for Official Statistics (Manual) (available at: <https://unstats.un.org/unsd/methodology/dataquality/un-nqaf-manual/>).
2. The UN NQAF consists of principles, requirements and elements to be assured.
3. The UN NQAF does not aim to replace any of the existing statistical quality assurance frameworks and guidelines for official statistics. Countries and individual producers of official statistics that are already fully engaged in quality assurance and are following one of the existing quality frameworks may view the UN NQAF and the Manual only as an additional reference point that supports what they are already doing, and as a source of information on the application of quality assurance in different situations.

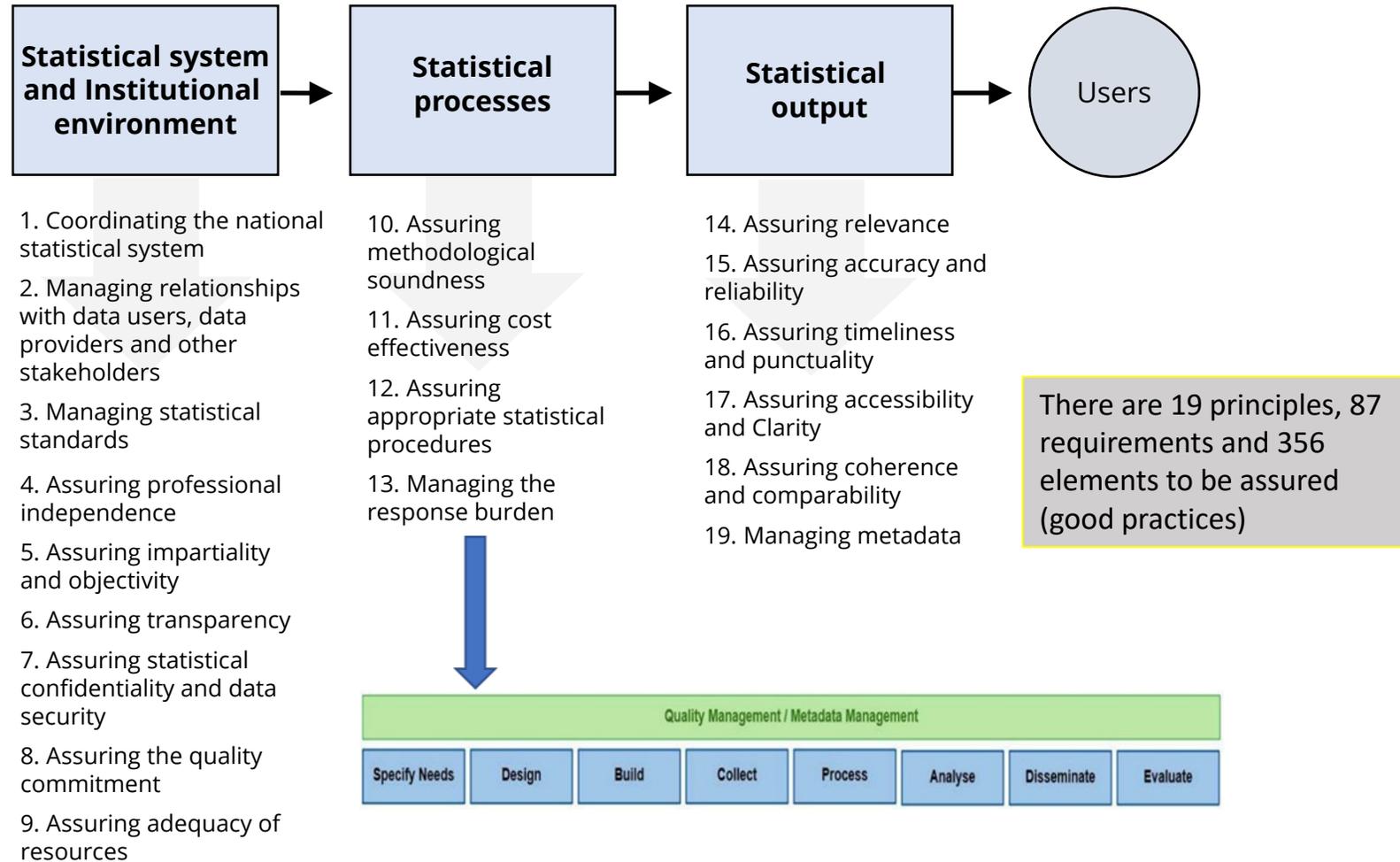
# UN NQAF is part of the “Manual”

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



Available at: <https://unstats.un.org/unsd/methodology/dataquality/un-nqaf-manual/>

# UN NQAF structure – logic



# UN NQAF structure – hierarchy of principles, requirements and elements to be assured

## 19 Principles (commitments that guide us in achieving our quality objectives)

A principle is implemented by complying with its requirements

## 87 Requirements (something that is needed to ensure implementation)

In general, compliance with a requirement depends on the compliance with the elements to be assured under this requirement

## 357 Elements to be assured

Possible activities, methods and tools to meet the requirement, reflecting a good practice. To be followed or assured as long as they are applicable.

# Module for Quality Assurance when using Administrative and Other Data Sources (Draft)

- **Part 1:** Conceptual approach to assure quality when using administrative and other data sources
- **Part 2:** Checklist of ten critical requirements
- **Annex 1:** Sub-module for input data validation
- **Annex 2:** Glossary of working definition of relevant terms

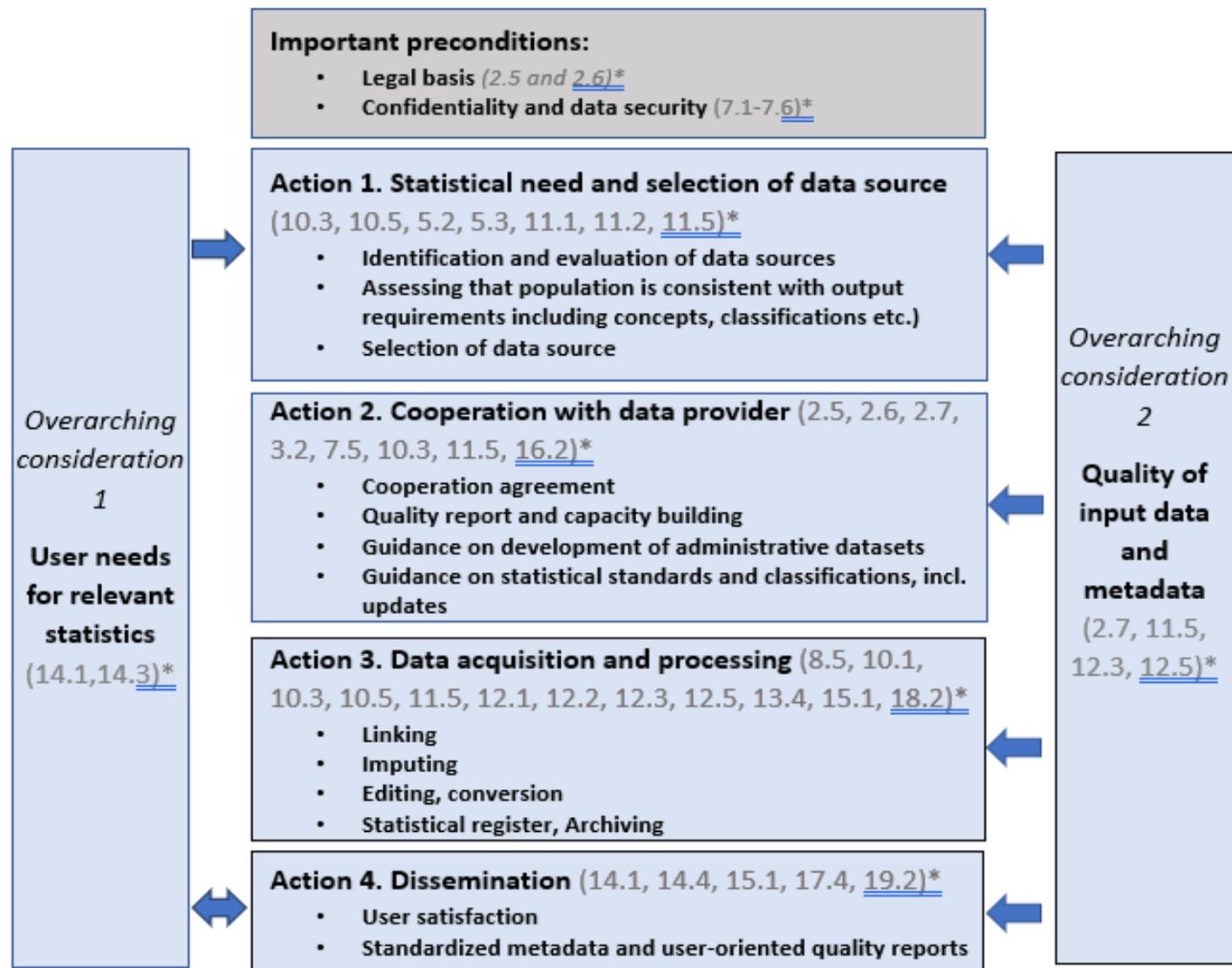
Available at: [https://unstats.un.org/unsd/methodology/dataquality/nqaf\\_gc\\_2024/](https://unstats.un.org/unsd/methodology/dataquality/nqaf_gc_2024/)

## 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 user needs, the quality of input data, and metadata.



\* 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: Ten critical requirement

- 1. The use of administrative and other data sources must meet a set of preconditions and take user needs into consideration.** Suggested practices:
  - a) There is legal access to the data.
  - b) ...
- 2. New data sources, data providers as well as the use of multiple data sources are proactively explored.** Suggested practices:
- 3. There is basic information about the data provider and general information about the data source.** Suggested practices:
- 4. The data provider and data source are assessed for their risks.** Suggested practices:
- 5. There are cooperation agreements with the data providers and there is ongoing cooperation, as applicable.** Suggested practices:

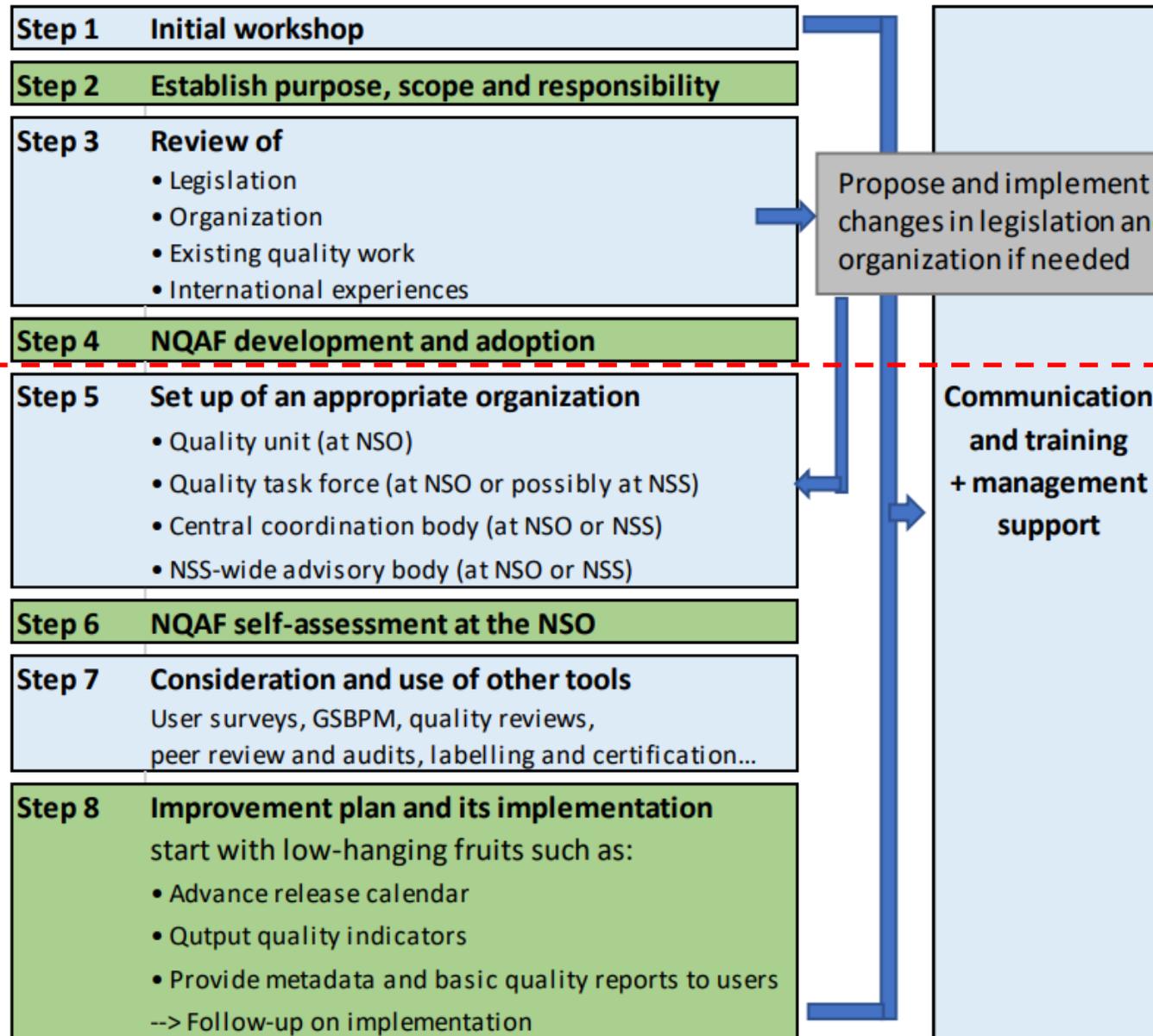
## Part 2: Ten critical requirement

6. **The data provider assures the quality of its data and produces a quality report (or quality declaration) in cooperation with the statistical agency, as applicable.** Suggested practices:
7. **The quality of the input data is systematically evaluated by the statistical agency.** Suggested practices:
8. **There is comprehensive metadata about the input data.** Suggested practices:
9. **Processing of input data at the statistical agency follows standards, guidelines, and best practices.** Suggested practices:
10. **The dissemination of statistical outputs meets the needs of users.** Suggested practices:



# Roadmap for NQAF implementation

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



## A Roadmap for the Development and implementation of a National Quality Assurance Framework

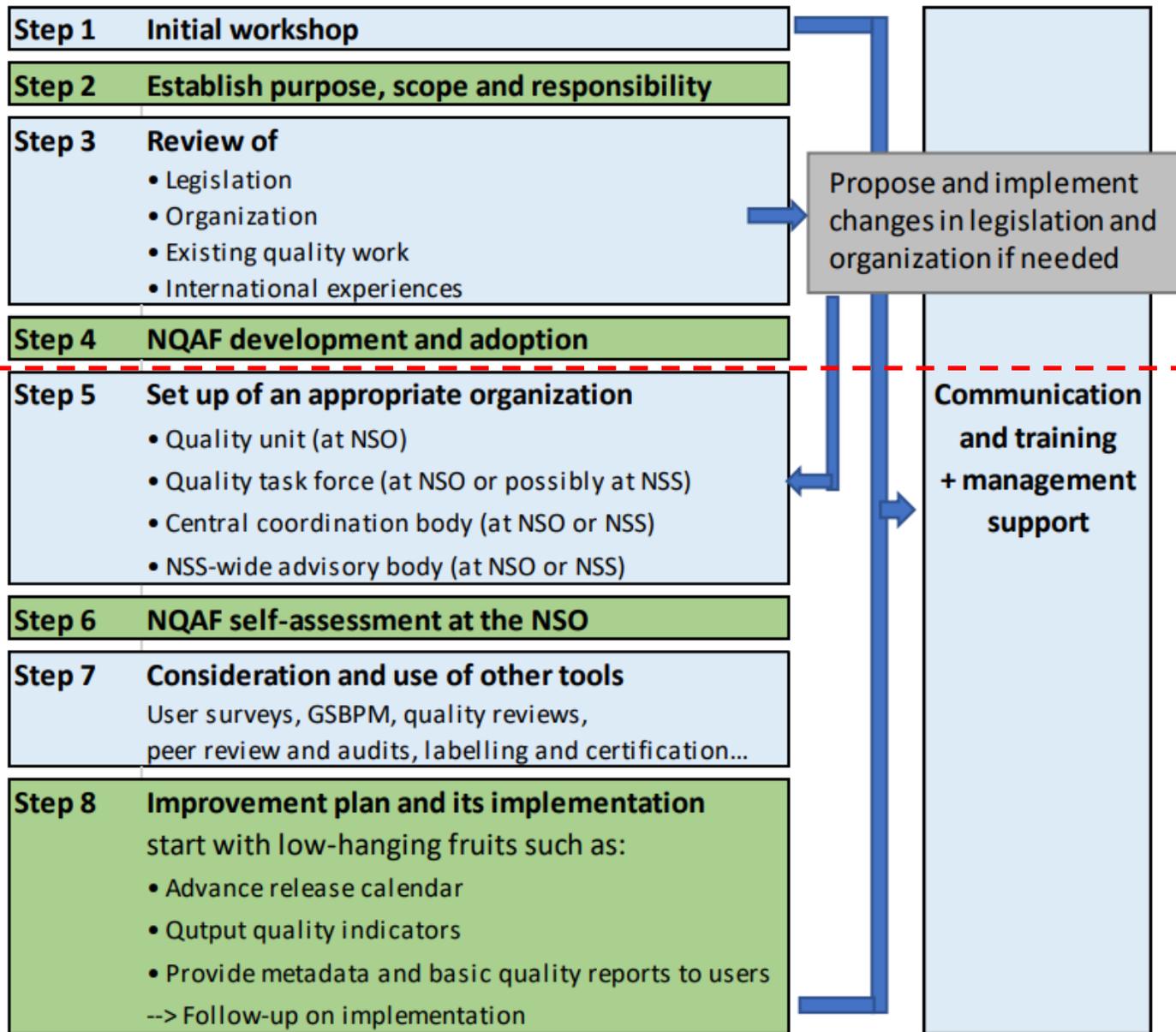
See also  
Chapter 5 and 6  
of the Manual

# Step 1: Initial workshop

Conduct an initial workshop, typically by the NSO or the agency responsible for the coordination of the NSS; the workshop is usually conducted by an initial quality team as determined or established by management.

- **Introduce NQAF to senior and middle management** at NSO and other statistical agencies (as applicable) and the staff directly responsible for supporting the work on quality.
- **Cover the basics:** quality concept, quality management, quality management in statistics and quality management frameworks for official statistics, UN NQAF, the [Manual](#) and tools.

Note: **High-level commitment** and **basic staff resources** in terms of time commitment are absolute prerequisites for the introduction of an NQAF.



**A Roadmap for the Development and implementation of a National Quality Assurance Framework**

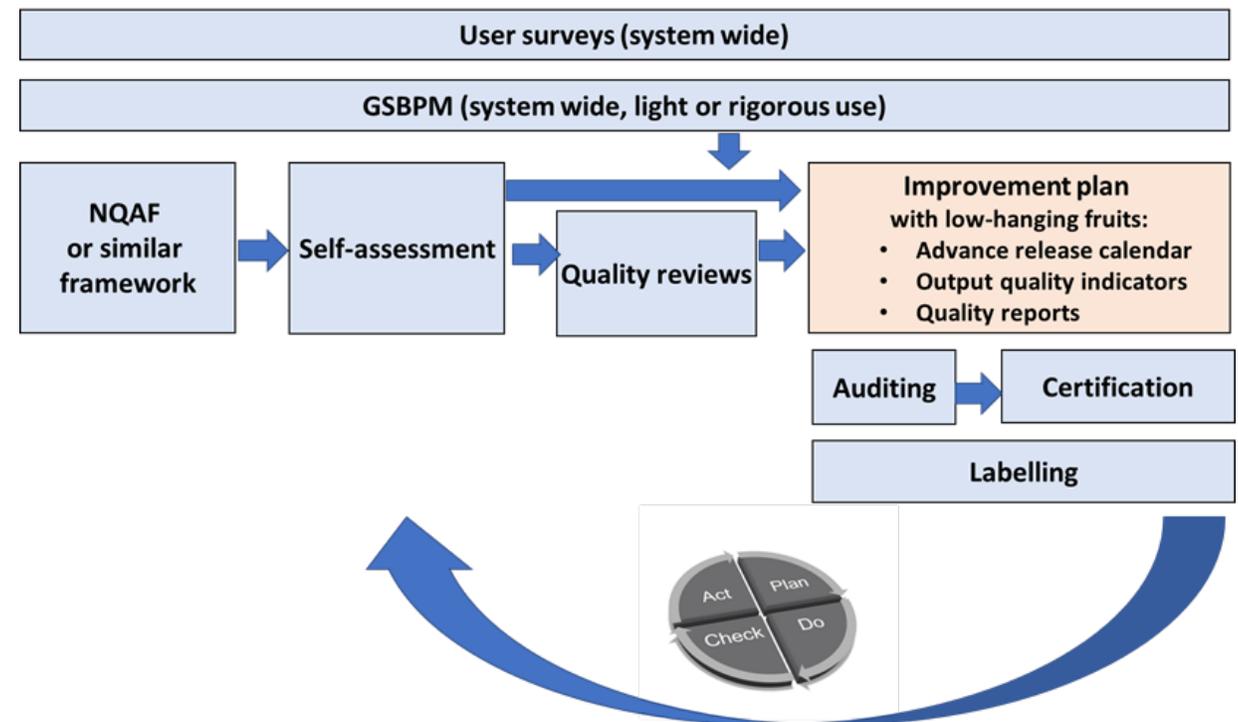
**See also  
Chapter 5 and 6  
of the Manual**

Important milestones

24 June 2024, Nadi, Fiji

# Step 8. Improvement plan – overview of the process

3. Follow-up: Improvement plans should be regularly followed up and monitored, and regularly revised, in line with the PDCA-cycle ([Plan-Do-Check-Act](#)). The figure shows how quality assurance should follow the PDCA-cycle, by following up on the improvement plans and possibly repeat the self-assessment and reviews.



# Self-assessment checklist

Available at: <https://unstats.un.org/UNSDWebsite/data-quality/check-list>

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)

# Self-assessment checklist: web-version

<https://unstats.un.org/UNSDWebsite/data-quality/check-list>



Department of Economic and Social Affairs  
Statistics

Home Resources Meetings and events About

UNSD > Quality Assurance > CheckList

Checklist

[Download Excel version](#)

[Introduction](#) [Questionnaire](#) [Elements to be assured](#) [Summary](#)

## Introduction

### Purpose of conducting a self-assessment

1. Self-assessments are comprehensive, systematic and regular reviews of an organization's activities carried out by the organization itself (see [Manual](#), paras. 4.16 and 4.17). They can be conducted for different purposes and with different scope. For official statistics, a self-assessment may cover the entire national statistical system (NSS), only the national statistical office (NSO), other statistical agencies, a specific statistical domain, a specific data source or specific statistics.

### Purpose of this self-assessment checklist and conduct of the self-assessment

2. This present checklist is primarily meant to be used for an assessment of the NSS from the point of view of the coordinating body (typically the national statistical office) at the institutional level and primarily for internal purposes.

3. The purpose of the self-assessment is the identification of areas of strength and weakness (and risks), and subsequently, the identification of possible improvement actions. It should then be followed-up by the development and implementation of an improvement plan. The self-assessment checklist can also help in monitoring progress. The self-assessment is not an audit and its purpose is not the comparison of the final score with others, while acknowledging that scoring can have positive and motivating effects and helps to keep track of the progress made. To achieve the purpose of the self-assessment, it is strongly encouraged to make use of the column that allows to specify strengths and weaknesses, or to record other comments.

Note: The self-assessment can also utilize a "maturity" model as propagated by ISO 9004:2018, distinguishing different levels of achievement. This checklist does not incorporate such maturity model. However, users of this checklist may identify different levels of achievement and improvement actions for themselves, according to their specific circumstances.

4. The self-assessment should be done by a group of staff from the different levels of management and should involve subject matter experts from across the statistical agency with adequate experience and training in order to mitigate the risk of being overly subjective and positive, and dis-attached from the actual situation and to help in creating a common understanding; documentation/metadata and independent verification of the evidence are other measures that can help to address the risk of subjectivity.

5. This self-assessment checklist is meant for conducting regular and rigorous quality assessments with the objective to identify improvement actions. However, it can also be used to provide an initial assessment (as part of a scoping exercise) for learning purposes to introduce staff of the NSO and NSS to quality assurance.

### The checklist is based on the UN National Quality Assurance Framework

6. This self-assessment checklist has been developed by the Expert Group on National Quality Assurance Frameworks (EG-NQAF) and uses as reference the United Nations National Quality Assurance Framework (UN NQAF) contained in the new United Nations National Quality Assurance Frameworks Manual for Official Statistics (Manual), Chapter 3 and Annex A. UN NQAF aims at assuring quality at four levels, ranging from the over-arching institutional and cross-institutional level through the statistical production processes to the outputs (see [Manual](#), paras. 3.1 – 3.6). UN NQAF consists of 19 principles and 87 underlying requirements. It is geared towards the NSO as the coordinator of the NSS and some principles are not relevant or less relevant for other statistical agencies.

Looking for instructions about 'How to complete the checklist'? [Click Here](#)

Please provide your feedback on the use of this checklist so that the instructions and checklist can be further improved as needed. If you wish, you can also share the results of the self-assessment performed in your organization with the Expert Group on National Quality Assurance Frameworks. Please use the following contact information to provide your feedback, raise any questions or to share the results of your assessments: [statistics@un.org](mailto:statistics@un.org) with subject line "Data quality" and with copy to [reister@un.org](mailto:reister@un.org).

[Start Assessment](#)

# Self-assessment checklist instructions

- **Scoring:**
  - **Full compliance** **1**
  - **Partial compliance** **0,5**
  - **No compliance** **0**
  - **Not assessed** **Does not affect average score**
- **The purpose is improvements, hence specification of strengths, weaknesses and other comments are important**
- **Elements to be assured are mainly meant for references, to facilitate scoring**
- **But it is possible to score the detailed elements as help**
- **Objectivity is often a challenge in self-assessments. But several independent scorings may be done**
- **The total score for the 4 levels is calculated (equal weights)**
- **See: Self-assessment checklist has instructions**

# NQAF scoring system

Assessment of compliance with the United Nations National Quality Assurance Framework (2019)						
<p>Instructions: Assess the degree of compliance for each of the requirement and describe strengths/weaknesses, include other comments.            For each of the requirements you can refer to the detailed list of elements to be assured (please, use the link next to the requirement).            All requirements are applicable. The only case where "not assessed" can be used, is if there is a not enough information. In this case a special note is displayed in the summary of the assessment saying that the assessment is not fully complete.</p>						
Degree of compliance:		Full compliance				
		Partial compliance				
		No compliance				
		Not assessed				
				Assessment		
Level	Principle	Requirement	Elements to be assured	Compliance	Specify strengths, weaknesses, other comments	
A	Managing the statistical system	1 Coordinating the national statistical system	1,1 A statistical law establishes the responsibilities of the members of the national statistical system including its coordination. Its members are identified in a legal or formal provision.	<a href="#">click</a>		
			1,2 There are a body and mechanisms for the coordination of the national statistical system for activities at the local, national, regional and international level.	<a href="#">click</a>		
			1,3 There is a mechanism for considering statistics produced outside the national statistical system, and if appropriate, for these statistics to become official.	<a href="#">click</a>		
			1,4 There is a national plan or program for the development and production of official statistics.	<a href="#">click</a>		

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

# Country self-assessment checklist results

Level		Principle		Score C1	Score C2	Score C3	Score C4	Score C5	Score C6	Score C7	Score C8	Score C9	Overall Average
A	Managing the statistical system	1	Coordinating the national statistical system	50	100	75	38	75	25	88	38	67	62
		2	Managing relationships with stakeholders	64	64	79	57	93	93	64	64	79	73
		3	Managing statistical standards	50	100	83	0	67	100	50	100	83	70
B	Managing the institutional environment	4	Assuring professional independence	100	83	83	33	100	100	83	50	83	80
		5	Assuring impartiality and objectivity	93	93	79	21	93	86	86	79	92	80
		6	Assuring transparency	100	100	100	0	100	100	75	50	100	81
		7	Assuring statistical confidentiality and data security	100	100	75	42	100	100	83	50	88	82
		8	Assuring the quality commitment	42	75	63	13	50	56	81	63	57	55
		9	Assuring adequacy of resources	67	67	67	33	83	67	83	50	75	66
C	Managing statistical processes	10	Assuring methodological soundness	100	70	70	30	80	100	70	80	80	76
		11	Assuring cost-effectiveness	58	50	58	25	58	67	75	42	50	54
		12	Assuring appropriate statistical procedures	80	80	90	60	70	80	80	80	60	76
		13	Managing the respondent burden	75	50	50	13	63	88	75	88	88	65
D	Managing statistical outputs	14	Assuring relevance	63	75	75	38	38	63	63	100	88	67
		15	Assuring accuracy and reliability	67	67	83	33	67	50	50	83	67	63
		16	Assuring timeliness and punctuality	88	75	100	50	38	100	75	100	75	78
		17	Assuring accessibility and clarity	71	79	71	36	79	86	79	86	86	75
		18	Assuring coherence and comparability	100	83	67	83	100	67	67	100	100	85
		19	Managing metadata	100	83	83	17	100	17	100	0	67	63
OVERALL SCORE				77	79	76	33	76	76	75	68	78	71



**Thank you.**