

Agenda

Day 1 – 10 January 2022

- 09:00-09:20 **Opening ceremony**
- 09:20-11:00 **Introduction to UN NQAF and its implementation**
- 11:00-12:00 **Country case studies of statistical quality management**
- 14:00-15:50 **China Statistical Quality Assurance Framework**
- 15:50-16:50 **Introduction to GSBPM and its implementation**

Day 2 – 11 January 2022

- 09:00-11:20 **UN NQAF implementation**
- 11:20-12:00 **Country case studies of statistical quality management**
- 14:00-16:00 **Introduction to GSBPM and its implementation, including country case studies**
- 16:00-16:50 **Country case studies of the use of GSBPM**
- 16:50-17:00 **Closing ceremony**

Core terms

A simple definition of quality is "fit for use" or "fit for purpose".
In the context of statistical organizations, the object of quality assurance is the statistical output or product, the process, the institutional environment or the whole statistical system.

Quality management framework provides a coherent and holistic system as a basis for quality management

United Nations National Quality Assurance Framework

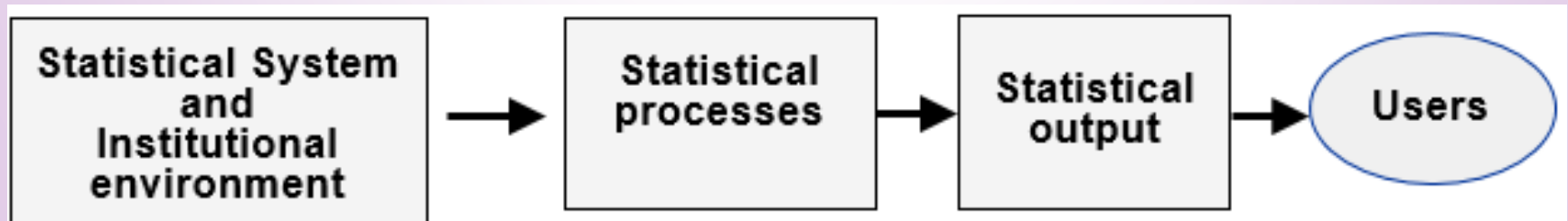
UN NQAF arranges its quality principles and associated requirements into four levels, ranging from the over-arching institutional and cross-institutional level through the statistical production processes to the outputs:

Level A: Managing the statistical system

Level B: Managing the institutional environment

Level C: Managing statistical processes

Level D: Managing statistical outputs



Tools for quality management

- Important activities and tools:
 - Quality indicators
 - Quality reports
 - User surveys
 - Process model: GSBPM
 - Self-assessments
 - Quality reviews
 - Continuous improvements



Manual - Chapter 4

- ❖ Methods and tools for statistical quality assessment comprise
 - quality indicators (both for products and processes)
 - quality reports
 - user surveys
 - self and external assessments
 - auditing (internal or external quality reviews), including peer reviews
 - labelling and certification.
- ❖ Metadata management
- ❖ Risk management

Self-assessments

- Comprehensive, systematic and regular reviews of an organisation's activities carried out by the organisation itself
- For official statistics, a self-assessment may cover the entire national system (NSS), only the national statistical office (NSO), a specific domain, data sources or statistics
- Purpose may vary, from learning to identifying improvement actions – normally not benchmarking

Self-assessment checklist



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

- Self-assessment checklist based on the UN Quality Assurance Framework contained in the Manual.
- For conducting regular and rigorous quality assessments with the objective to identify improvement actions.
- Also be used to provide an initial assessment for learning purposes or to introduce staff to quality assurance.
- Can be used to draft quality assurance framework.

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
- The subjective element is acknowledged. But several independent scorings may be done
- The total score for the 4 levels may be calculated (equal weights)
- UN has published instructions and a roadmap for NQAF implementation

NQAF scoring system

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

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.	click		
			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.	click		
			1,3 There is a mechanism for considering statistics produced outside the national statistical system, and if appropriate, for these statistics to become official.	click		
			1,4 There is a national plan or program for the development and production of official statistics.	click		

NQAF scoring system - Example

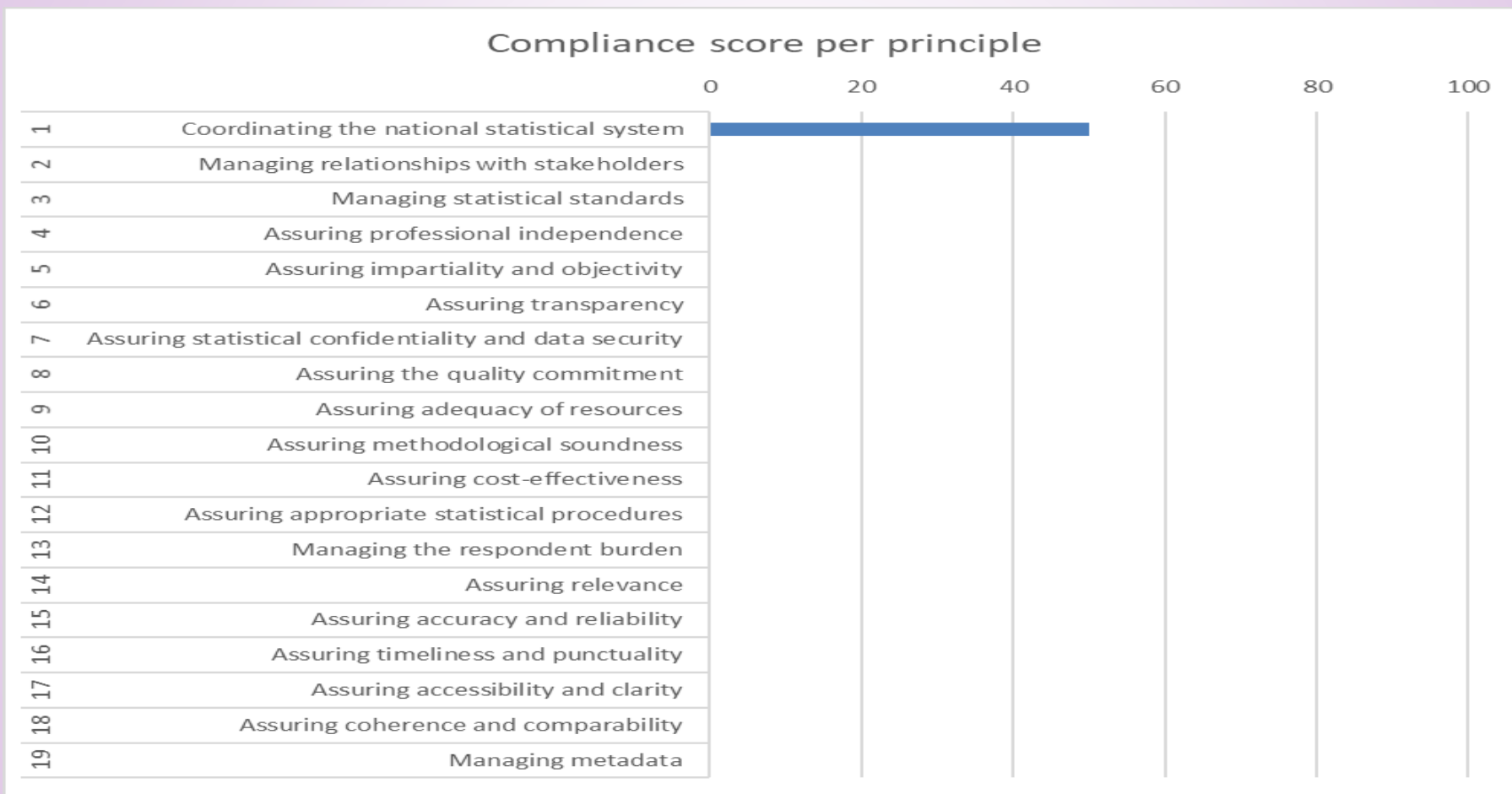
<https://unstats.un.org/unsd/methodology/dataquality/tools/>

Principle	Requirement	Elements to be assured	Compliance	Specify strengths, weaknesses, other comments
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.	click	Partial compliance	Law establishes responsibilities but not members
	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.	click	Full compliance	NSO
	1,3 There is a mechanism for considering statistics produced outside the national statistical system, and if appropriate, for these statistics to become official.	click	Not assessed	
	1,4 There is a national plan or program for the development and production of official statistics.	click	No compliance	

Partial compliance = 0.5
Full compliance = 1
Not assessed
No compliance = 0

Total score for 1:
 $((0,5 + 1 + 0)/3) * 100 = 50$

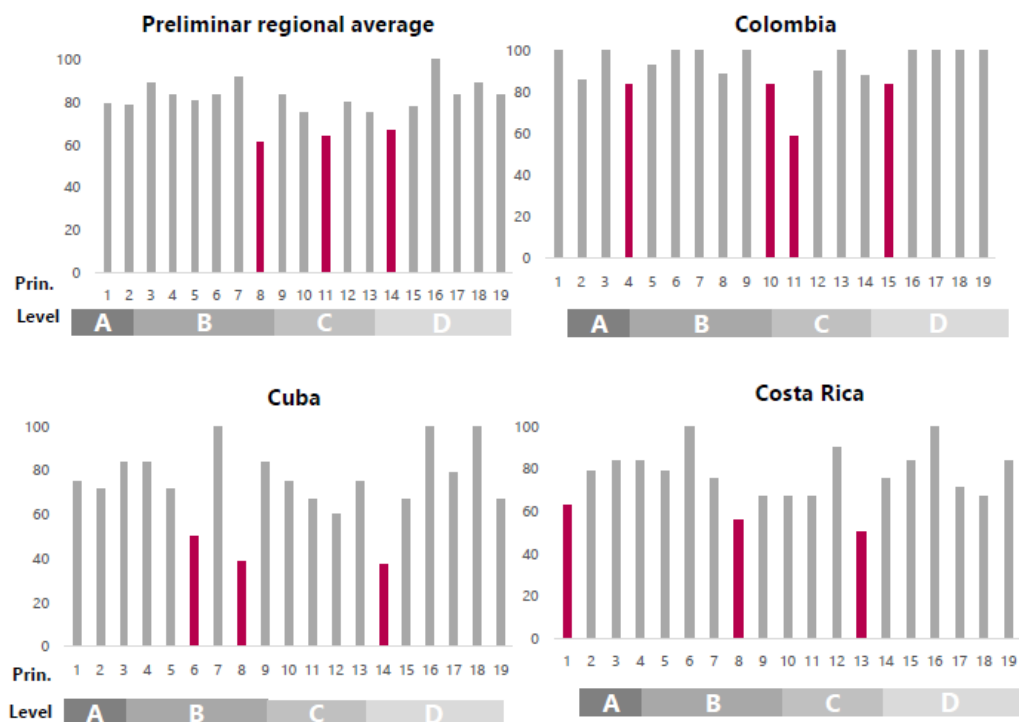
Example: Assessment result



Example of self-assessments in a region

D INFORMACIÓN PARA TODOS

5. Self- assessment questionnaire



Level	Principle
A) Statistical system management	1. NSS Coordination
	2. Relationship management
	3. Standards management
B) Institutional environment management	4. Professional independence
	5. Objectivity
	6. Transparency
	7. Confidentiality
	8. Commitment to quality
	9. Adequacy of resources
C) Statistical process management	10. Methodological solidity
	11. Cost-effectiveness
	12. Appropriate procedures
	13. Respondent burden management
D) Statistical results management	14. Relevance
	15. Accuracy and reliability
	16. Timeliness and punctuality
	17. Accessibility and clarity
	18. Consistency and comparability
	19. Metadata management

Source: Juan Daniel Ortego, DANE, UN Statistical Commission 2021

Elements to be assured support the NQAF scoring system

8	Assuring the quality commitment	8,1	There is a quality policy or a statement of the statistical agency's commitment to quality, which is publicly available.	click		
		8,2	The statistical agencies promote a culture of continuous improvement.	click		
		8,3	There is a specific body responsible for the quality management or the coordination of quality management within the statistical agency, and it receives necessary support to fulfil this role.	click		
		8,4	The national statistical system staff receives training on quality management.	click		
		8,5	Guidelines for implementing quality management are defined and made available to the public.	click		
		8,6	Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.	click		
		8,7	Statistical products and processes undergo periodic reviews.	click		
		8,8	Risk analyses addressing the quality of important statistical products and processes are performed.	click		



8,6	Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.	<p>Quality reports which are serving both producer and user perspectives are prepared, published as appropriate, and updated regularly.</p> <p>Quality indicators are defined, measured and monitored for following up and improvements. Examples of quality indicators: References in media, hits on website, results from user satisfaction surveys (relevance); Standard deviations and other measures of accuracy, response rates (accuracy); Number and size of revisions (reliability); The length of time between the end of a reference period and dissemination of the statistics. (timeliness); Rate of statistics published when announced (punctuality); Respondent burden.</p>
-----	--	---

Examples of Quality indicators.

Report from Statistics Norway to the Ministry of Finance

	2019	2020	Goal 2021
Errors corrected	59	-	-
Serious errors	0	0	0
Timeliness Weeks			
Monthly statistics	3,7	3,5	< 3,7
Quarterly statistics	7,6	7,3	< 7,6
Annual statistics	32,5	29,9	< 32,5
Punctuality Number of statistics published according to plan 3 months ahead. Percent			
	97	97	> 97
Response rate Percent. Mandatory surveys			
	96	94	> 96
Other surveys	58	56	> 58
Response burden businesses. Manyear			
	73	69	< 73

Elements to be assured support the NQAF scoring system

8	Assuring the quality commitment	8,1	There is a quality policy or a statement of the statistical agency's commitment to quality, which is publicly available.	click		
		8,2	The statistical agencies promote a culture of continuous improvement.	click		
		8,3	There is a specific body responsible for the quality management or the coordination of quality management within the statistical agency, and it receives necessary support to fulfil this role.	click		
		8,4	The national statistical system staff receives training on quality management.	click		
		8,5	Guidelines for implementing quality management are defined and made available to the public.	click		
		8,6	Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.	click		
		8,7	Statistical products and processes undergo periodic reviews.	click		
		8,8	Risk analyses addressing the quality of important statistical products and processes are performed.	click		

8,7	Statistical products and processes undergo periodic reviews.	Periodic quality reviews of key products and processes to assess adherence to internal guidelines and international standards are performed.				
		Reviewing teams where both internal and external experts can participate are set up.				
		The statistical agency's internal reviewers are trained in auditing methods and tools.				
		Improvement actions arising from the result of quality reviews are defined and scheduled for implementation.				
		Top management is informed of the results of reviews to follow up improvement actions.				
		Benchmarking of key statistical processes with other statistical agencies are carried out to identify good practices.				
		Procedures are in place to monitor and manage the quality of different stages of the statistical production according to the Generic Statistical Business Process Model (GSBPM).				
		Trade-offs within quality are systematically examined (e.g. trade-offs between accuracy, timeliness and costs).				
		External experts (also from international organizations) conduct quality reviews, such as reviews of key statistical domains (for example International Monetary Fund's Reports on the Observance of Standards and Codes (ROSCs)) or other reviews such as peer reviews, external audits, and rolling reviews.				

Reviews and auditing

- External (to the producer)
- Based on self-assessment
- The objective of reviews are improvement actions
- Audit follows strict rules and are also used for benchmarking and certification

Example: Internal quality reviews in Statistics Norway based on the European Statistics Code of Practice



Elements to be assured support the NQAF scoring system

1 1	Assuring cost-effectiveness	11,1	Costs of producing all individual statistics are measured and analyzed, and mechanisms are in place to assure cost-effectiveness of statistical activities or processes.	click		
		11,2	Procedures exist to assess and justify demands for new statistics against their cost.	click		
		11,3	Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued to free up resources.	click		
		11,4	Modern information and communication technologies are applied to improve the performance of statistical processes.	click		
		11,5	Proactive efforts are made to improve the statistical potential of administrative data and other data sources.	click		
		11,6	The statistical agencies define, promote and implement integrated and standardized production systems.	click		



11,5	Proactive efforts are made to improve the statistical potential of administrative data and other data sources.	Statistical agencies provide input in the legislative process to obtain and maintain access to administrative and other data sources for statistical purposes, if needed.
		Appropriate arrangements (e.g. service level agreements or national legislation) with owners or holders of administrative data and other data collections are made and updated as needed, specifying the access to and flow of data and metadata, and other relevant aspects.
		An assessment of possible administrative data sources is carried out prior to launching any new survey.
		Data-linking and integration methods are pro-actively pursued while ensuring data security and privacy.
		Quality reports for administrative and other data used for official statistics are established by the responsible statistical agency in cooperation with the data owners or holders.

Example: Quality reports for administrative registers

- In Norway about 100 reports linked to agreements with 28 owners of registers
- Follow quality criteria:
 - Technical checks
 - Accuracy
 - Completeness
 - Time
 - Integrability

11.05.2016
Kvalitetsrapport for Det sentrale folkeregisteret (DSF)

Formål/bakgrunn
Folkeregisterets formål og rolle i samfunnet har utviklet seg over tid. Det foreligger ingen formålsbestemmelse verken i lov eller forskrift i dag. Folkeregisteret er regulert ved lov om folkeregistrering 16. januar 1970 nr. 1. Regelverket beskriver blant annet hvem som skal være ansvarlig for registeret, hvilke opplysningstyper som skal registreres og regulerer i tillegg nærmere hvordan enkelte opplysningstyper skal forstås, for eksempel hvor i landet en person bor.

Oppdatering
Nyregistrering (fødsler) kommer fra jordmø/lege eller fra mor når foreldre registrerer sykkelus uten jordmør til stede. Den enkelte person eller dens foresatte sender inn melding om flytting eller navneendring til folkeregisteret. Offentlige myndigheter plikt til å sende endringsmeldinger.

Samarbeid
Det er løpende samarbeid mellom SSB og Skattedirektoratet. Det er etablert et brukerforum for DSF og medvirker i moderniseringsprosjektet. Det er tatt initiativ til en tverretattlig arbeidsgruppe mellom SKD, Kartverket og SSB med forslag om oppsett av arbeidsgruppe. Det er sendt brev til lederforandring i etatene. Samarbeid mellom SSB og Kartverket er nødvendig å ha på plass for konvertering av nytt folkeregister.

1. Kontaktperson hos SSB
Kontaktperson hos SSB: [navn]

2. Generelle kvalitetsindikatorer
Kvalitetsindikatorer henviser til Kvalitetsindikatorer for inndata SSB (sb.no lenke)

Problemer med:	
1. Lesbarhet	
1.2 Samsvar i fildeklarasjonen	
1.3 Konverterbarhet	

Enhetene i registeret er person. Fødselsnummer/D-nummer er identifikasjonsskøkel.

Ingen kjente problemer med:

- 2.1 Identifiserbarhet
- 2.2 Inkonsistente enheter
- 2.3 Mistenkelige enheter (omtales under punkt 3)

Nøyaktighet

Variable

Problemområde: 2.4 Målefeil

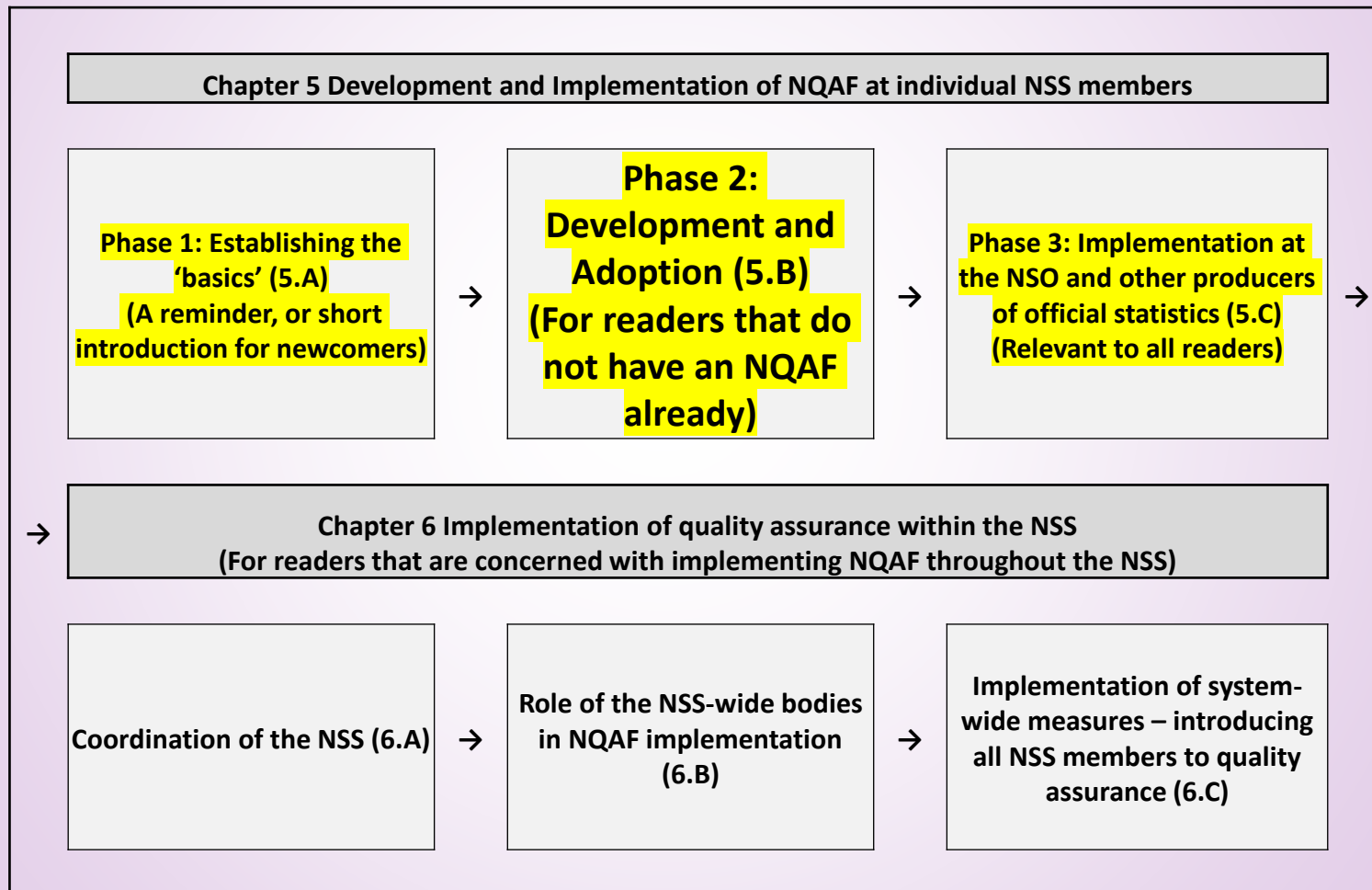
- Ugyldige/feil bolignummer forekommer.
- Bruk av matrikeladresser (Gnr/Bnr) mens det finnes gate/veiadresse: 2 642 bosatte

Labelling and certification

- Based on evaluations and reviews
- Labelling applies to institutions and/or statistics
- Used for definition and marking of official statistics (higher quality than other statistics, i.e. experimental statistics)
- Certification normally applies to an organization, normally according to generic quality management systems such as ISO

Implementation steps

Manual - Chapter 5 and 6





Institutional arrangements for the development and adoption of NQAF

- Assumes that the NSO is leading the development of NQAF for the entire NSS although specific arrangements in countries may vary.
- The necessary institutional arrangements for the development of NQAF may encompass the following:
 - a. High-level commitment
 - b. Establishment of a quality unit at the NSO responsible for quality assurance
 - c. Establishment of a quality task force (or working group). The head of the NSO would establish a quality task force which is given the responsibility to develop a NQAF
 - d. NSS-wide governance body
 - e. NSS-wide advisory body:
 - f. Establishment of a legal framework for quality assurance



Activities for the development and adoption of NQAF

- Development of NQAF may be undertaken over a period of a minimum of one year, including review, revision and approval.
- The process may include the following :
 - a. Establishment of a timetable for development and implementation.
 - b. Review and analysis of national circumstances and practices.
 - c. Identify Uses and users of NQAF and NQAF implementation plan.
 - d. Compilation, review and analysis of materials available at the international level.
 - e. Decision on the reference framework for NQAF.
 - f. First draft of NQAF and its contents.
 - g. Quality requirements, elements to be assured and indicators.
 - h. Consultation and review process of the draft NQAF.
 - i. Finalization and adoption.
 - j. Communication and dissemination.



1. Institutional arrangements for the implementation

Quality management must be institutionalized. The following best practices can be identified:

- Quality unit at the NSO. Major statistics producers may establish their own internal quality units
- Internal quality task force at the NSO consisting of representatives from each division to support NQAF implementation throughout the NSO
- Quality assurance managers or focal point in the various statistical domains responsible for establishing the quality assurance plan and leading quality activities in their statistical domain
- NSS-wide governance body and NSS-wide advisory body to guide and support the implementation of the NQAF at the NSO.



2. Training of staff and conducting a self-assessment

- *Training of staff.* Quality managers and focal points and managers of statistical products need to gain a thorough understanding of the basic concepts, objectives and tools of quality assurance, and the country's NQAF.
- *Conducting a self-assessment as starting point.* When an NQAF has been adopted, a workshop with managers and experts from throughout the NSO or other statistical agencies can conduct a first self-assessment based on the NQAF.



3. External and internal communication

- *Declaration of quality*: NSO may explicitly communicate its commitment to high quality and continuous improvement to its stakeholders in the form of a declaration on quality which should be promoted internally and externally to all stakeholders.
- *Promotional activities*: may include quality seminars, quality campaigns or an annual quality week and external quality reports.



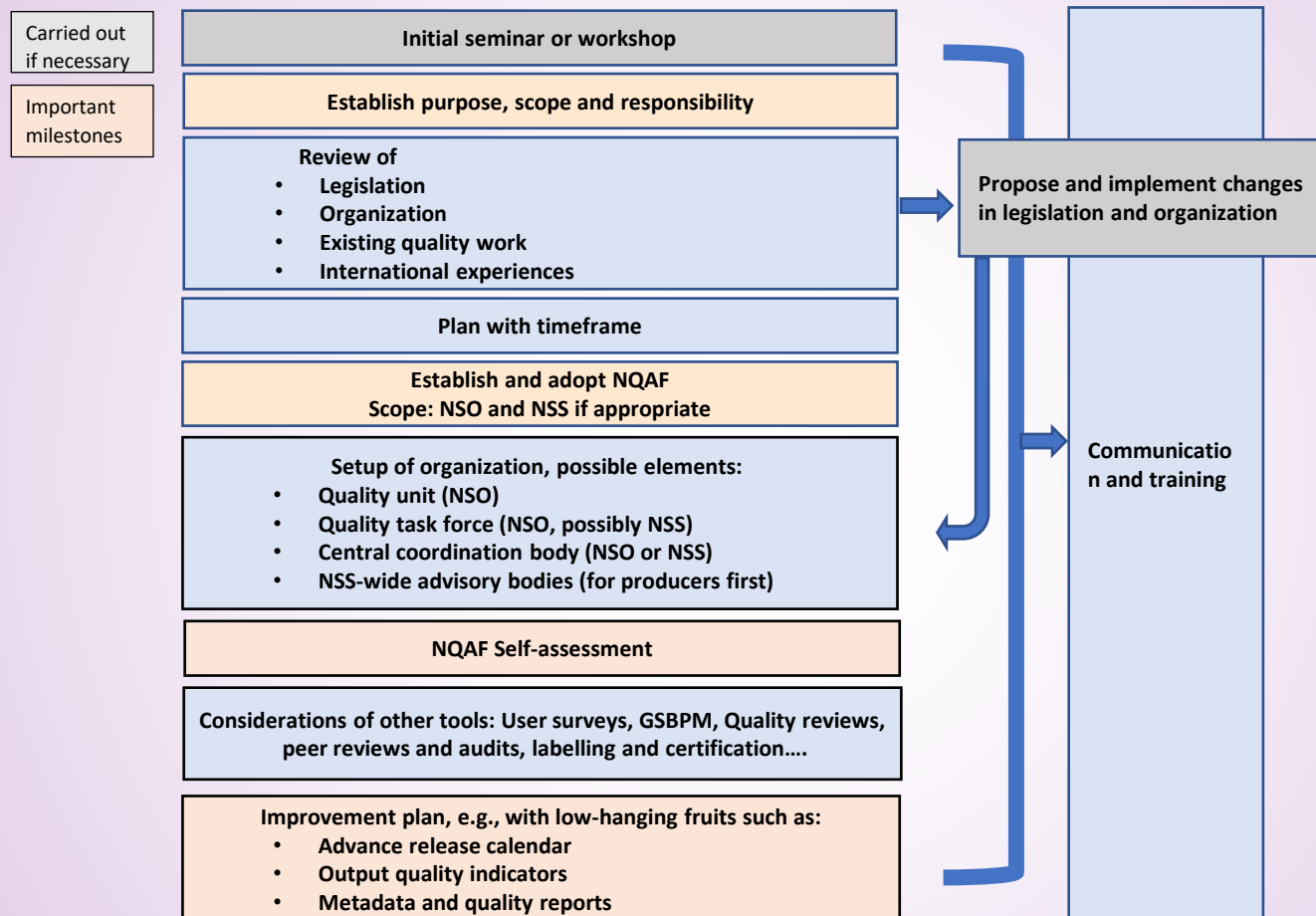
6. Decide on methods and tools for quality assessment that are to be used /

- All methods and tools for quality management and assessment, such as quality indicators, quality reports, quality assessments and audits, among other things, as specified in chapter 4, should be considered.

7. Integrate the implementation steps into the National Strategy for the Development of Statistics (NSDS) and the multi-year statistics plan

- Overarching activities that impact quality such as development and update of NSDS, legal and institutional reform, participation in international activities such in IMF's dissemination standards;

A Roadmap for the Development and implementation of NQAF (currently under development)



Adoption and eventually implementation assumes high-level commitment.

Thank You



Visit as at <https://unstats.un.org/unsd/methodology/dataquality>