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
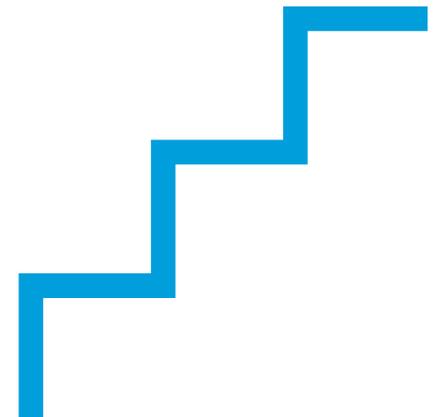
Session 5: Business Architecture and Statistical Processes

Generic Statistical Business Process Model (GSBPM)

Nairobi, Kenya, 2-4 September 2025

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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 individual outputs

❑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)

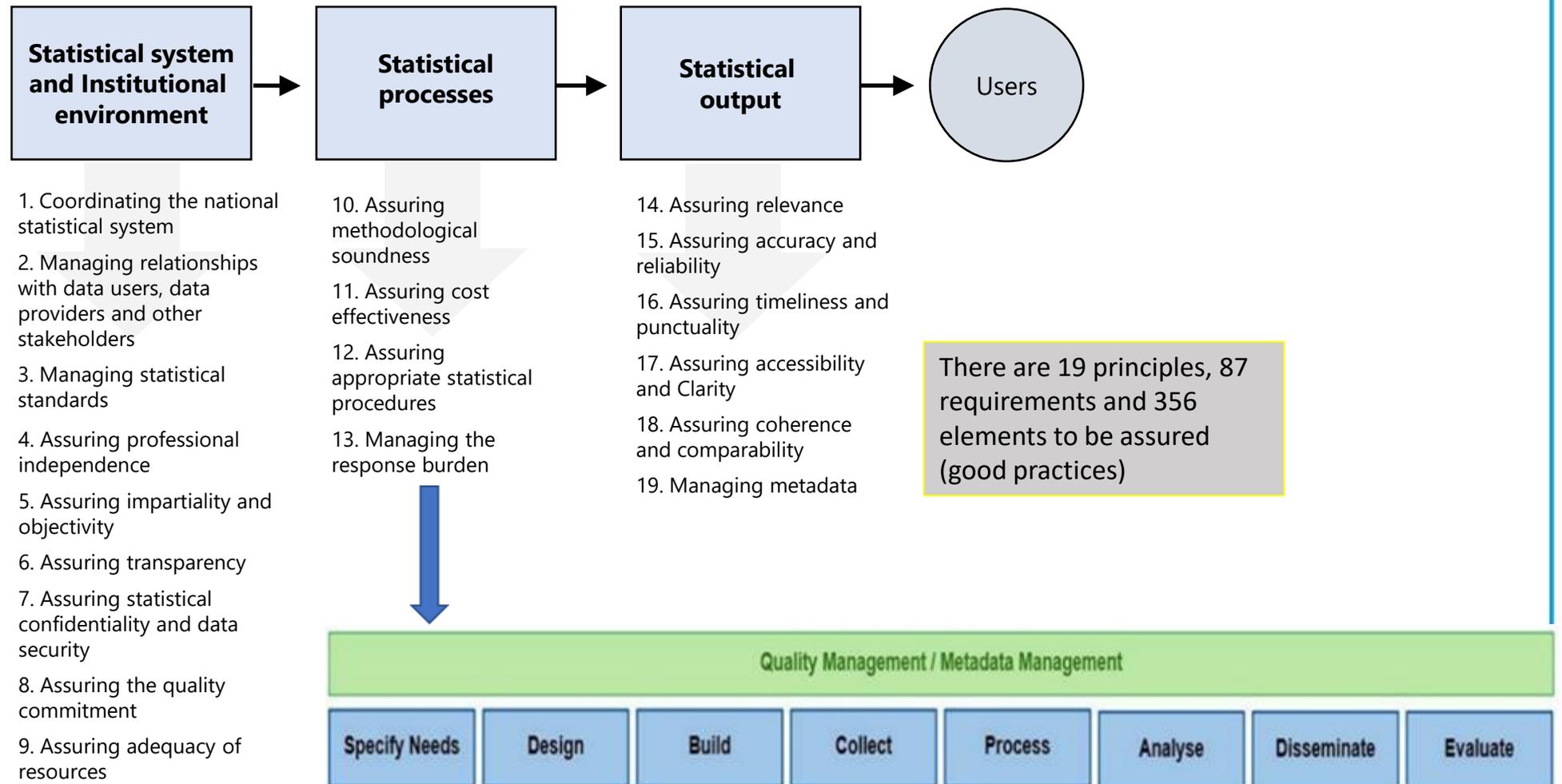❑ Maturity Model on Quality Culture in Official Statistics (2025)

Other tools

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❑ 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

Integration of quality management and GSBPM

1. **Quality management is currently only defined as an overarching process in GSBPM.**

2. **However: The improvement of the quality of statistical outputs requires the improvement of the statistical process.**

3. **Quality assurance must be embedded throughout the phases and sub-processes of the GSBPM –> further guidance is currently being developed**

UN NQAF structure – logic

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┌─────────────────┐     ┌─────────────┐     ┌─────────────┐        ╭────────╮
│ Statistical     │     │ Statistical │     │ Statistical │        │ Users  │
│ system and      │ ──> │ processes   │ ──> │ output      │ ──>    │        │
│ Institutional   │     │             │     │             │        ╰────────╯
│ environment     │     │             │     │             │
└─────────────────┘     └─────────────┘     └─────────────┘
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1. Coordinating the national statistical system

2. Managing relationships with data users, data providers and other stakeholders

3. Managing statistical standards

4. Assuring professional independence

5. Assuring impartiality and objectivity

6. Assuring transparency

7. Assuring statistical confidentiality and data security

8. Assuring the quality commitment

9. Assuring adequacy of resources

10. Assuring methodological soundness

11. Assuring cost effectiveness

12. Assuring appropriate statistical procedures

13. Managing the response burden

14. Assuring relevance

15. Assuring accuracy and reliability

16. Assuring timeliness and punctuality

17. Assuring accessibility and Clarity

18. Assuring coherence and comparability

19. Managing metadata

There are 19 principles, 87 requirements and 356 elements to be assured (good practices)

Quality Management / Metadata Management

| Specify Needs | Design | Build | Collect | Process | Analyse | Disseminate | Evaluate |

Purpose and use of NQAF

Purpose

1. 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.

2. It sets a standard of quality and hereby assures trust in official statistics.

Typical use:

- Self-assessment
  - See checklist: https://unstats.un.org/unsd/methodology/dataquality/tools/
- Quality reviews – including process (GSBPM)
- Improvement plan

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What is the GSBPM?

- Flexible model that *describes* and *defines* the *set of business processes* needed to *produce official statistics*

- *Standard framework* and *harmonised terminology* help statistical organisations

What is the GSBPM?

- **GSBPM Phases Covered**:

  1. Specify Needs
  2. Design
  3. Build
  4. Collect
  5. Process
  6. Analyze
  7. Disseminate
  8. Evaluate

Overarching Processes							
Specify needs	**Design**	**Build**	**Collect**	**Process**	**Analyse**	**Disseminate**	**Evaluate**
1.1 Identify needs	2.1 Design outputs	3.1 Reuse or build collection instruments	4.1 Create frame and select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Gather evaluation inputs
1.2 Consult and confirm needs	2.2 Design variable descriptions	3.2 Reuse or build processing and analysis components	4.2 Set up collection	5.2 Classify and code	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Conduct evaluation
1.3 Establish output objectives	2.3 Design collection	3.3 Reuse or build dissemination components	4.3 Run collection	5.3 Review and validate	6.3 Interpret and explain outputs	7.3 Manage release of dissemination products	8.3 Agree an action plan
1.4 Identify concepts	2.4 Design frame and sample	3.4 Configure workflows	4.4 Finalise collection	5.4 Edit and impute	6.4 Apply disclosure control	7.4 Promote dissemination products	
1.5 Check data availability	2.5 Design processing and analysis	3.5 Test production systems		5.5 Derive new variables and units	6.5 Finalise outputs	7.5 Manage user support	
1.6 Prepare and submit business case	2.6 Design production systems and workflow	3.6 Test statistical business process		5.6 Calculate weights			
		3.7 Finalise production systems		5.7 Calculate aggregates			
				5.8 Finalise data files			

Purpose and use of GSBPM

Originally the aim was to provide a basis for statistical organisations to agree on a standard terminology on statistical metadata systems and processes. Use has been extended. Main areas of use:

o [ ] Documentation and metadata

o [ ] Communication

o [ ] Standardisation of processes, statistical methods, and software tools

o [ ] Sharing of statistical methods and software tools

o [ ] Linking of statistical standards to GSBPM phases and sub-processes to support their implementation

o [ ] Used as a framework for process quality assessment and improvement

o [ ] Monitoring of statistical processes

o [ ] Measuring costs, measuring system performance, and benchmarking

o [ ] Modernisation of statistical processes and the statistical office

o [ ] Design of training frameworks and plans

o [ ] Informing changes to the organisational structure of the statistical office

o [ ] Other

Example: Sub-process 1.1 and 1.2

- **1.1 Identify Needs**: This sub-process includes the initial investigation and identification of what statistics are needed and what is needed of the statistics. It may be triggered by a new information request.

- **1.2 Consult and Confirm Needs**: This sub-process focuses on consulting with the internal and external stakeholders and confirming in detail the needs for the statistics

Statistical Product - Consumer price index (monthly) of Armenia

- **1.1 Identify Needs**: CPI is considered the only indicator describing inflation in the Republic of Armenia…

- **1.2 Consult and Confirm Needs**: Consumer price observations and index calculations are carried out according to Annual Statistical Program of Armstat, which is approved every year by the State Council on Statistics of RA and within the frameworks of the Five-year Statistical Program…

Specify needs

| 1.1 Identify needs |
| 1.2 Consult and confirm needs |
| 1.3 Establish output objectives |
| 1.4 Identify concepts |
| 1.5 Check data availability |
| 1.6 Prepare and submit business case |

What does the implementation of GSBPM mean?

- Using GSBPM for some benefit?

- Promotion of GSBPM throughout the organization?

- Use of quality indicators linked to GSBPM?

- Full implementation entailing at least the following:
    - Use of common language throughout the organization,
    - Documentation of all processes,
    - Use as a tool for quality reviews and standardization.

→ **Develop the link between quality assurance and the use of GSBPM**

1. Specify the GSBPM overarching process of quality management at the level of the organization

2. Develop a set of GSBPM quality indicators (integrate quality assurance into the GSBPM) – covering 1) process as a whole, 2) quality of the sub-processes and 3) GSBPM Phase 8 Evaluate

   → **Prospect of a universal tool for quality assurance at the level of individual statistical outputs**

3. Develop guidelines to use GSBPM to support NQAF implementation (integrate GSBPM in quality assurance)

Possible important quantitative GSBPM quality indicators

INPUT		GSBPM phase
Compliance rates for concepts, definitions, standards		1.4, 2.2
Data input quality (many indicators)		1.5, 4.1, 5.1
Response rates		4.3
PROCESS		
Reporting burden and response time		2.3, 3.1
Costs		2.6, 3.6, 4.4, 8.2
Archiving		3.7, 4.4
Sampling details		4.1
HR and infrastructure (many indicators)		4.2
Linkage rates and errors (several indicators)	5.1	
Editing, imputation rate, revisions	5.4	
Metadata update		7.1
OUTPUT		
Ratio of statistical products that are disseminated with quality statements		7.2
Rate of available statistics		7.2
Several indicators for how statistics cover user needs	2.1,7,2	
Timeliness and punctuality		7.3
Metadata dissemination	6.5, 7.4	

Develop guidelines to use GSBPM to support NQAF implementation

References to GSBPM in UN NQAF as a starting point

Under the following UN NQAF principles and requirements GSBPM is mentioned as a useful tool that should be used for process management including monitoring, risk analyses, standardization and documentation:

Principle 8: Assuring commitment to quality

Requirement 8.7: Statistical products and processes undergo periodic reviews.

Requirement 8.8: Risk analyses addressing the quality of important statistical products and processes are performed.

Good practice: It refers to GSBPM for managing the quality of production stages

Develop guidelines to use GSBPM to support NQAF implementation

Principle 11: Assuring cost-effectiveness

- **Requirement 11.6**: The statistical agencies define, promote and implement integrated and standardized production systems.

Good practice: The statistical business architecture is based on standards such as GSBPM and GAMSO

Principle 12: Assuring appropriate statistical procedures

- **Requirement 12.2:** Statistical processes are well established and regularly monitored and revised as required.
- **Requirement 12.5:** Metadata and documentation of methods and different statistical processes are managed throughout the processes and shared as appropriate.

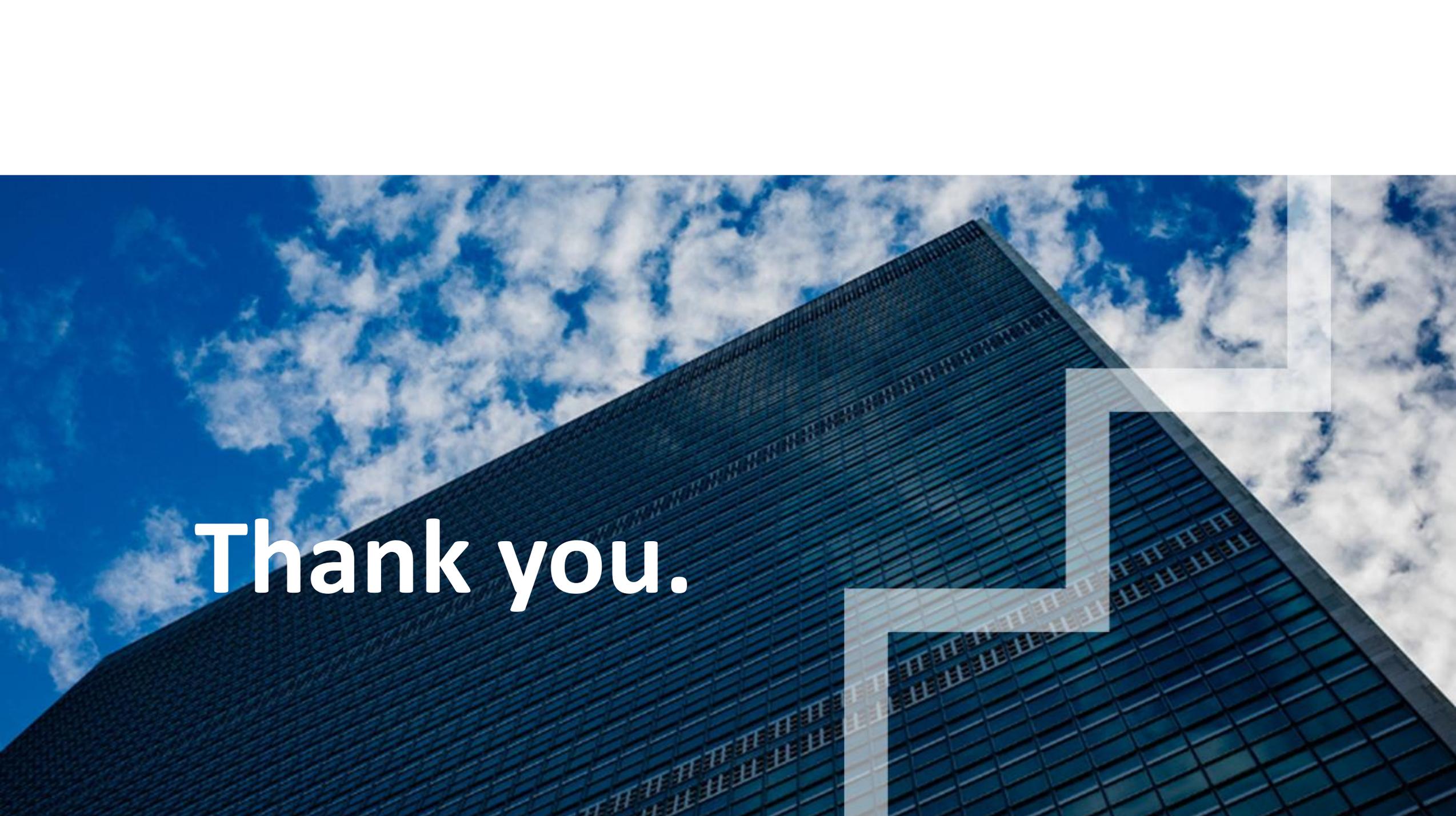**Good practice:** Documentation and metadata should follow the GSBPM

Develop guidelines to use GSBPM to support NQAF implementation

Next step is to collect more country practices:

❑ June 2025 seminar: Colombia, Italy, Mongolia, Norway, Türkiye

❑ This workshop..

❑ Country survey on the use of GSBPM in September 2025

References

- See Generic Statistical Business Process Model (GSBPM), (Version 5.2, May 2025) at https://unece.org/statistics/documents/2025/07/standards/generic-statistical-business-process-model-gsbpm-version-52

- See examples: https://www.armstat.am/en/?nid=373

- See UNECE presentation by Steven Vale of November 2022, available at https://www.sesric.org/event-detail.php?id=2690

- See UNECE presentation by Steven Vale of January 2022, available at https://unstats.un.org/unsd/methodology/dataquality/meetings/Workshop-on-the-implementation-of-NQAF-and-GSBPM

Thank you.