United Nations | DESA Statistics Division

Session 5.3: Other topics

GSBPM implementation alongside NQAF implementation
Note on certification
Highlights - NQAF development and implementation

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Workshop on the Implementation of a National Quality Assurance Framework for Official Statistics in Countries of the Latin American and Caribbean Region

Bogota, Colombia, 22-24 November 2023

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
  - modernise statistical production processes
  - share methods and components

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 instrument	4.1 Create frame & select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Gather evaluation inputs
1.2 Consult & confirm needs	2.2 Design variable descriptions	3.2 Reuse or Build processing & 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 & explain outputs	7.3 Manage release of dissemination products	8.3 Agree on an action plan
1.4 Identify concepts	2.4 Design frame & sample	3.4 Configure workflows	4.4 Finalise collection	5.4 Edit & impute	6.4 Apply disclosure control	7.4 Promote dissemination products	
1.5 Check data availability	2.5 Design processing & analysis	3.5 Test production system		5.5 Derive new variables & units	6.5 Finalise outputs	7.5 Manage user support	
1.6 Prepare and submit business case	2.6 Design production systems & workflow	3.6 Test statistical business		5.6 Calculate weights			
		3.7 Finalise production system		5.7 Calculate aggregates			
				5.8 Finalise data files			

GSPBM Ver 5.1
January 2019

Slides by M. Guerrero

Structure of the Model

Process

Phases

Sub-processes

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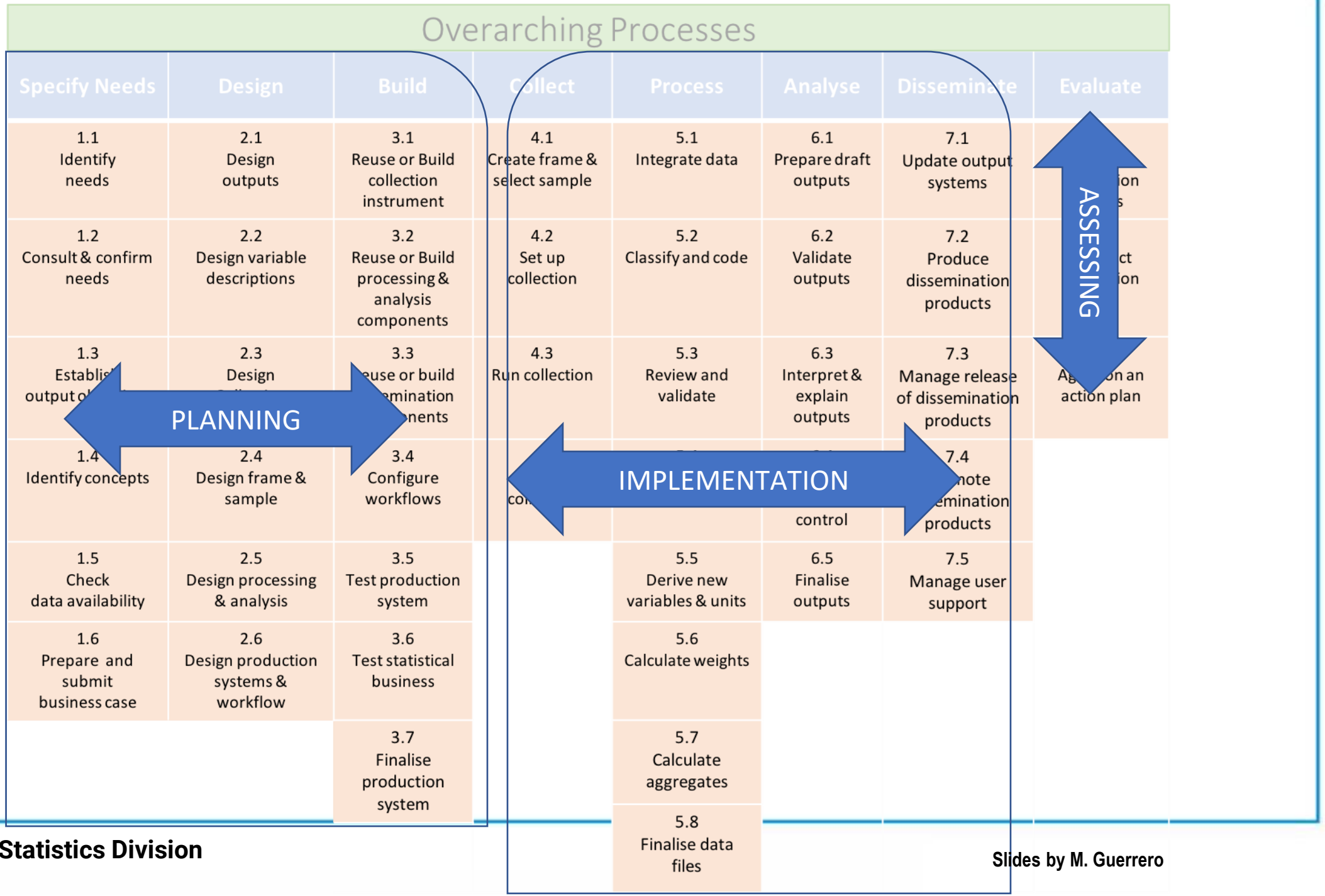
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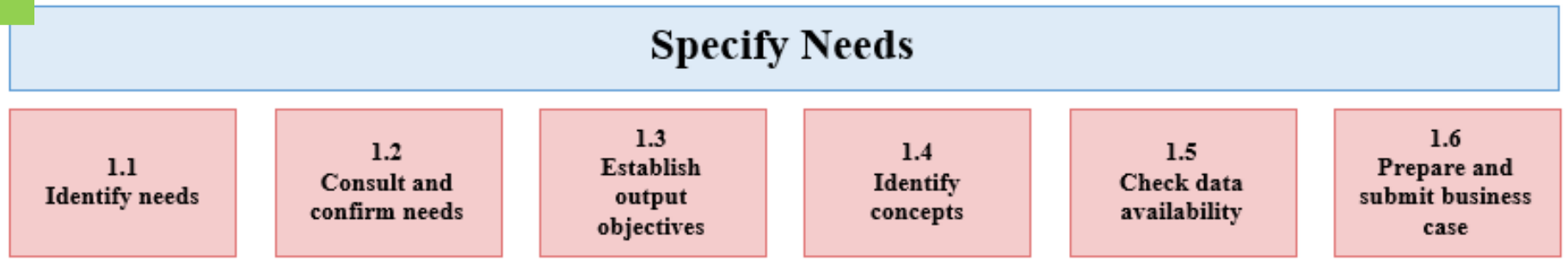
PLANNING
IMPLEMENTATION
ASSESSING

EXAMPLE



This phase is *triggered* when

- a need for new statistics is identified, or
- feedback about current statistics initiates a review.

It includes all activities associated with

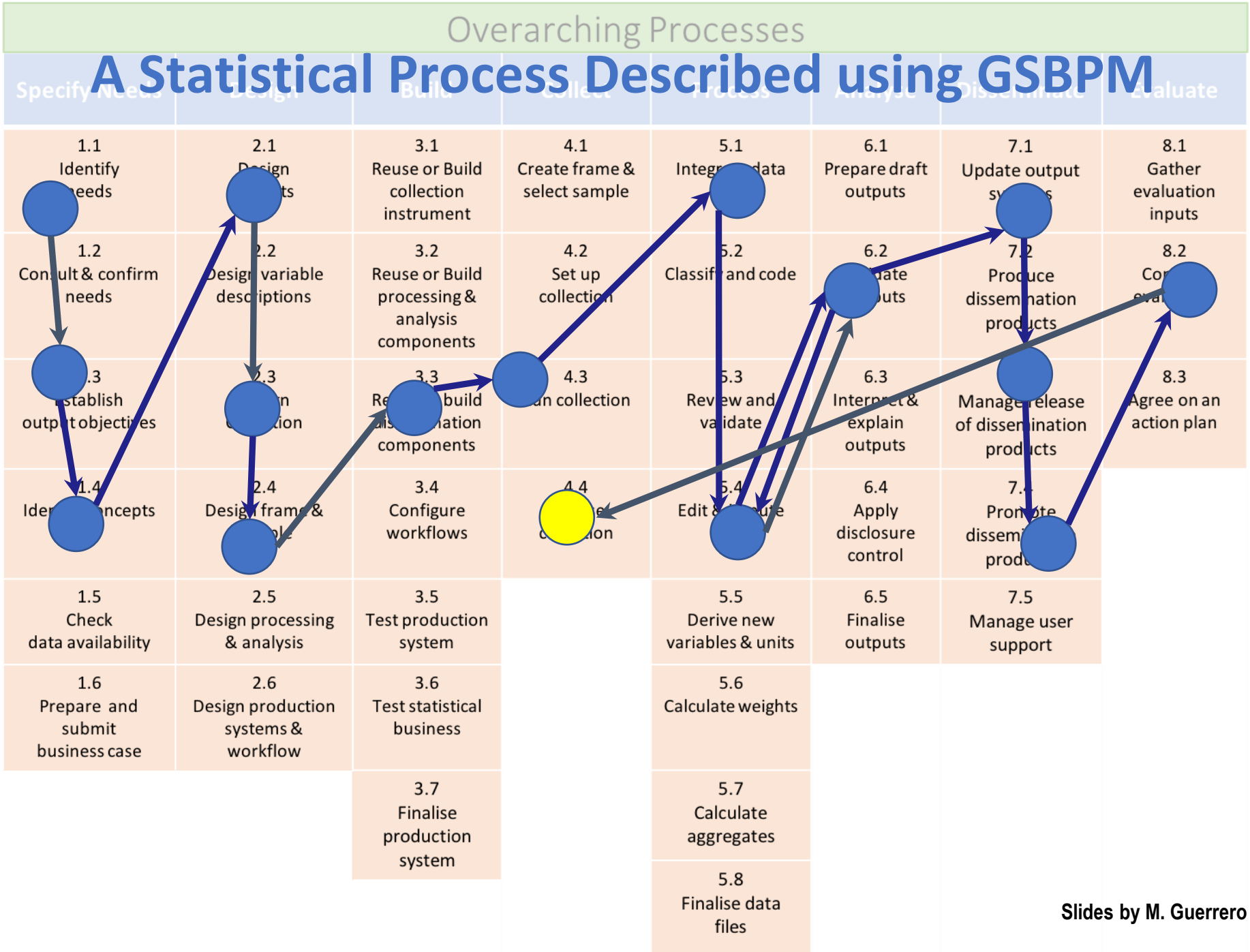
- Engaging *customers* to identify their detailed statistical needs
- Proposing high level solution options
- Preparing business cases to meet these needs.

Application Notes:

- The GSPBM is a “matrix” of sub-processes through which there are many paths--

1. Phases are sequential, but for some processes not all phases are essential
2. Sub-processes within a phase do not necessarily have to be followed sequentially
3. Sub-processes within and across phases may have an iterative order or a loop.

A Statistical Process Described using GSBPM



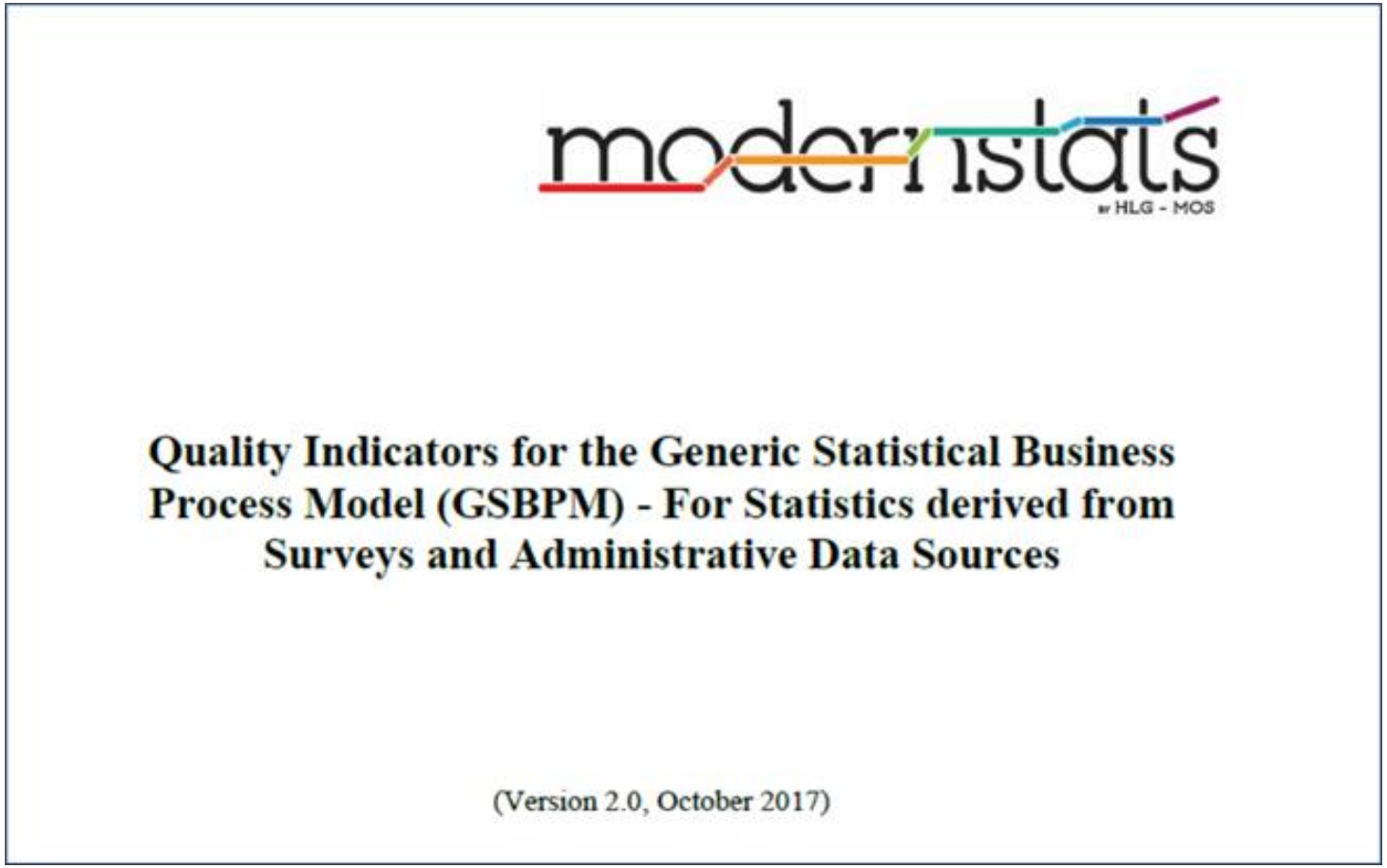
Slides by M. Guerrero

Quality and the GSBPM

- Quality management is defined in the GSBPM as an overarching process that includes quality assessment and control mechanisms.
- **The improvement in quality of statistical products requires the improvement of statistical processes. The GSBPM describes and defines the set of business processes needed to produce official statistics, and thereby provides a framework for process quality documentation, assessment and improvement.**
  - **Documentation:** The GSBPM provides a structure for organizing and storing documentation within an organization, promoting standardization and the identification of good practices.
  - **Process quality management:** The GSBPM provides a mechanism to compare, benchmark and standardize processes within and between organization.

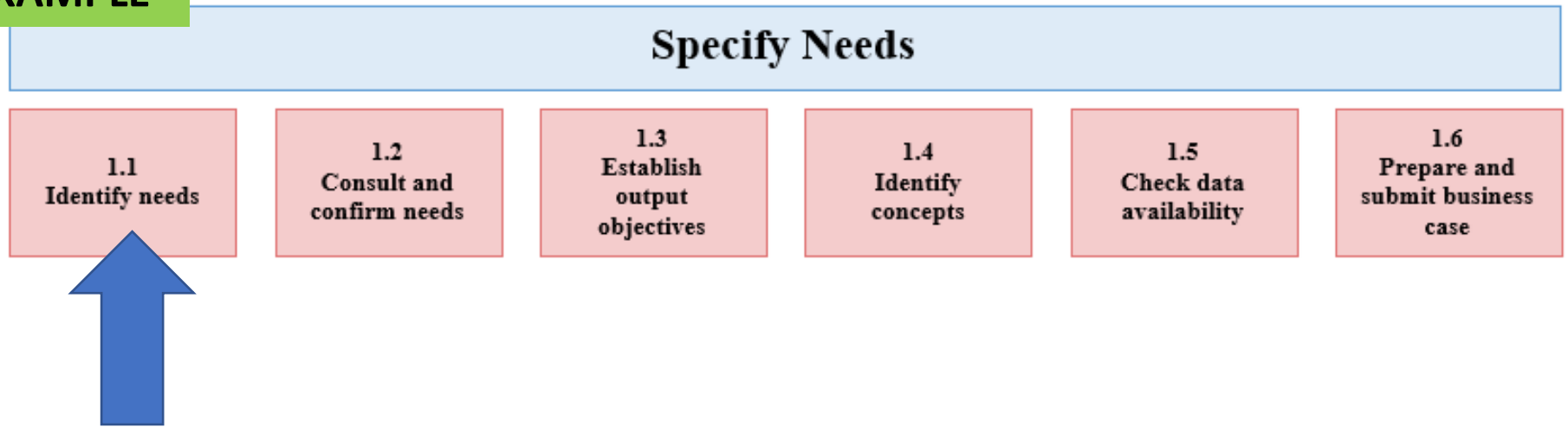
GSBPM quality indicators

- Developed by UNECE task team
- Generic quality indicators for each GSBPM sub-process
- Allows process-oriented approach to quality management
- Rationalises quality work within an NSO
- Consistent with existing frameworks such as UN NQAF and ESS Code of Practice



https://statswiki.unece.org/display/GSBPM/Quality+Indicators

EXAMPLE



Quality Dimension	Indicator
Relevance	• To what extent have stakeholders been identified and included in discussions about statistical needs? • To what extent has relevant supporting documentation been gathered?

Applies to …

- All *activities* undertaken by producers of official statistics which result in data outputs that can be mapped to GSBPM
- All *data source and for all* statistical *domains*
- *National* and *international* statistical organisations

References

- See Generic Statistical Business Process Model (GSBPM), (Version 5.1, January 2019)at https://statswiki.unece.org/display/GSBPM/Generic+Statistical+Business+Process+Model
- 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

Note on certification

Praxis: Labelling as “official statistics”

- Labelling: the attachment of a label to statistics or to a producer of statistics (labelling) requires a procedure to guarantee that the message is appropriate and true. A label such as “official statistics” would need to be accompanied by an explanation regarding its interpretation.
- Some NSOs label certain outputs as “official statistics” following an evaluation mechanism conducted by an independent entity within the NSO or NSS. Some of these processes are described as a type of certification.
- However, in many countries, all statistics produced and disseminated by a member of the NSS is considered “official statistics”.

Praxis: Certification by an external body

- Certification is an activity that assesses whether a **product**, **service**, **process**, **system** or **organization** complies with requirements defined by an internationally recognized standard or other formal criteria.
- It is conducted by an **external independent certification body** which can be located at the national or international level. The result of a successful certification is that the certification body, such as ISO, **awards a certificate** to the organization. The ISO standards are general and can apply to any organization.
- **Certification to ISO stand**ards is an advanced method and tool of **process quality management**. It requires documentation, quality reports, quality indicators, self-assessments and audits. There are significant benefits, but also costs, associated with certification.
- **ISO standards supplement but are not alternatives** to frameworks such as the UN NQAF, which are specifically developed for statistical agencies.
- There are **examples** of national statistical offices that have been ISO 9001 certified: For example, the State Statistical Committee of Azerbaijan, Statistics Lithuania, Statistics Netherlands and the Statistical Office of Slovakia, Committee of Statistics Kazakhstan.

Compare: Labelling vs. certification

- Both are close and **terms are sometimes used interchangeable**
  - Certification can be described as special type of labelling.
  - The labelling of outputs as “official statistics” is sometimes described as a type of certification.
- However, **there is a difference**
  - Certification by ISO 9001 assesses the quality management system of an organization based on a strict process
  - Labelling is used for statistical outputs and may or may not follow a strict mechanism .

New praxis? - Certification by the NSO

- The NSO may develop special procedures for the assessment / certification of **statistical agencies** or **outputs**.

- The UK Office of Statistics Regulations and Statistics South Africa have established strict schemes for assessing compliance with their quality standard that amount to certification

  - These schemes require independence and significant resources!!

Example: Kenya National Bureau of Statistics - The CGD Quality Criteria

- KNBS is considering alternative sources of data in closing data gaps and official reporting especially on the Sustainable Development Goals(SDGs).
- The **KeSQAF** outlines the **Quality Criteria for validating Citizen Generated Data (CGD)** as an alternative source of data to fill existing data gaps
- The document is the product of extensive consultation and engagement with CSOs and forms the fist key steps in using their data for official reporting, especially on the SDGs.

For the CGD data to qualify as **fit for official reporting**, it must meet a minimum threshold **against 8 quality dimensions with a score given to each dimension**

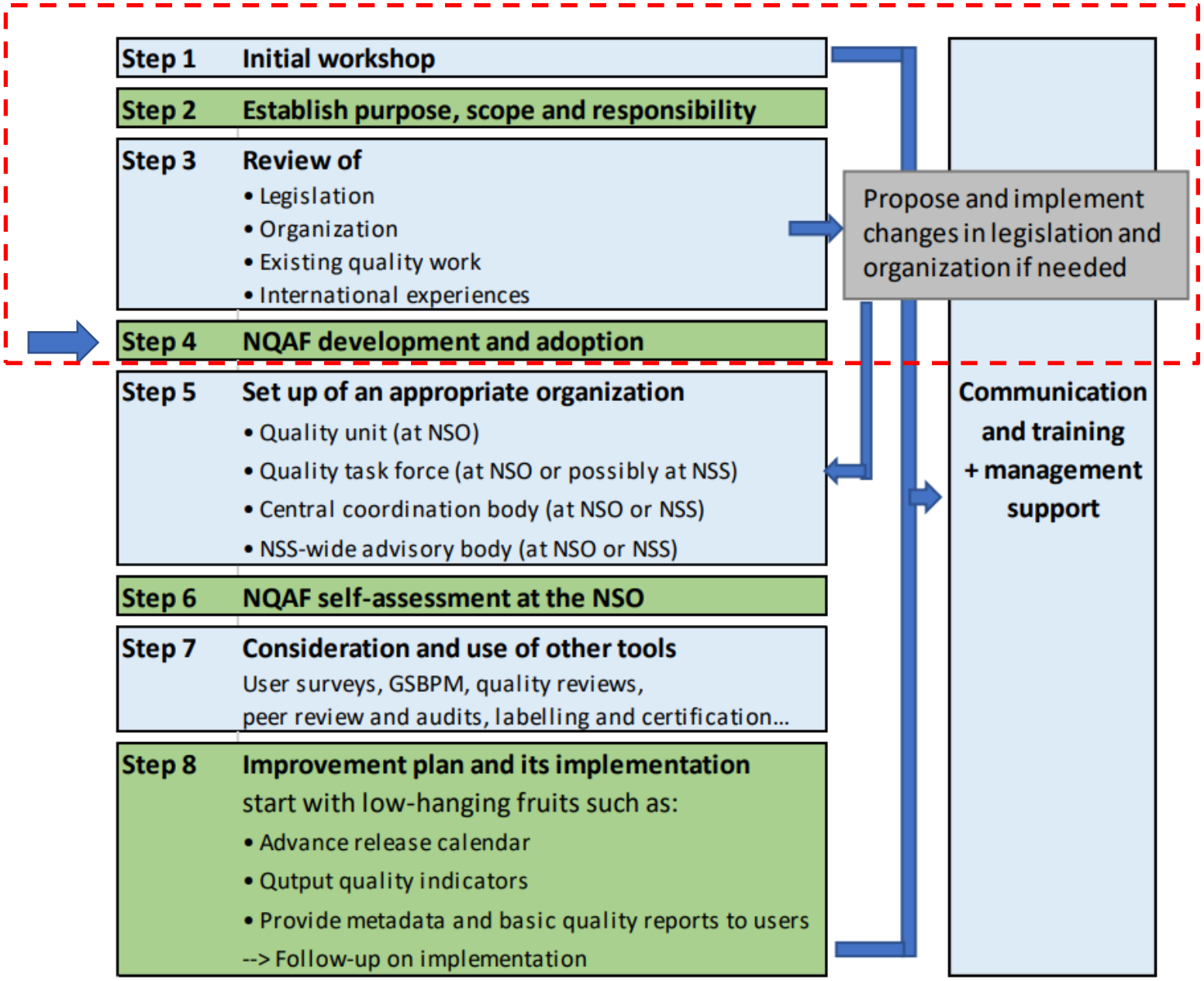
i. Need
ii. Interpretability and clarity
iii. Credibility
iv. Relevance
v. Timeliness
vi. Accessibility
vii. Methodological soundness
viii. Accuracy

https://unstats.un.org/unsd/methodology/dataquality/meetings/nqafws-addis-2022/

Highlights - NQAF development and implementation

Bogota, Colombia, 22-24 November 2023

A Roadmap for the Development and implementation of NQAF



Important milestones

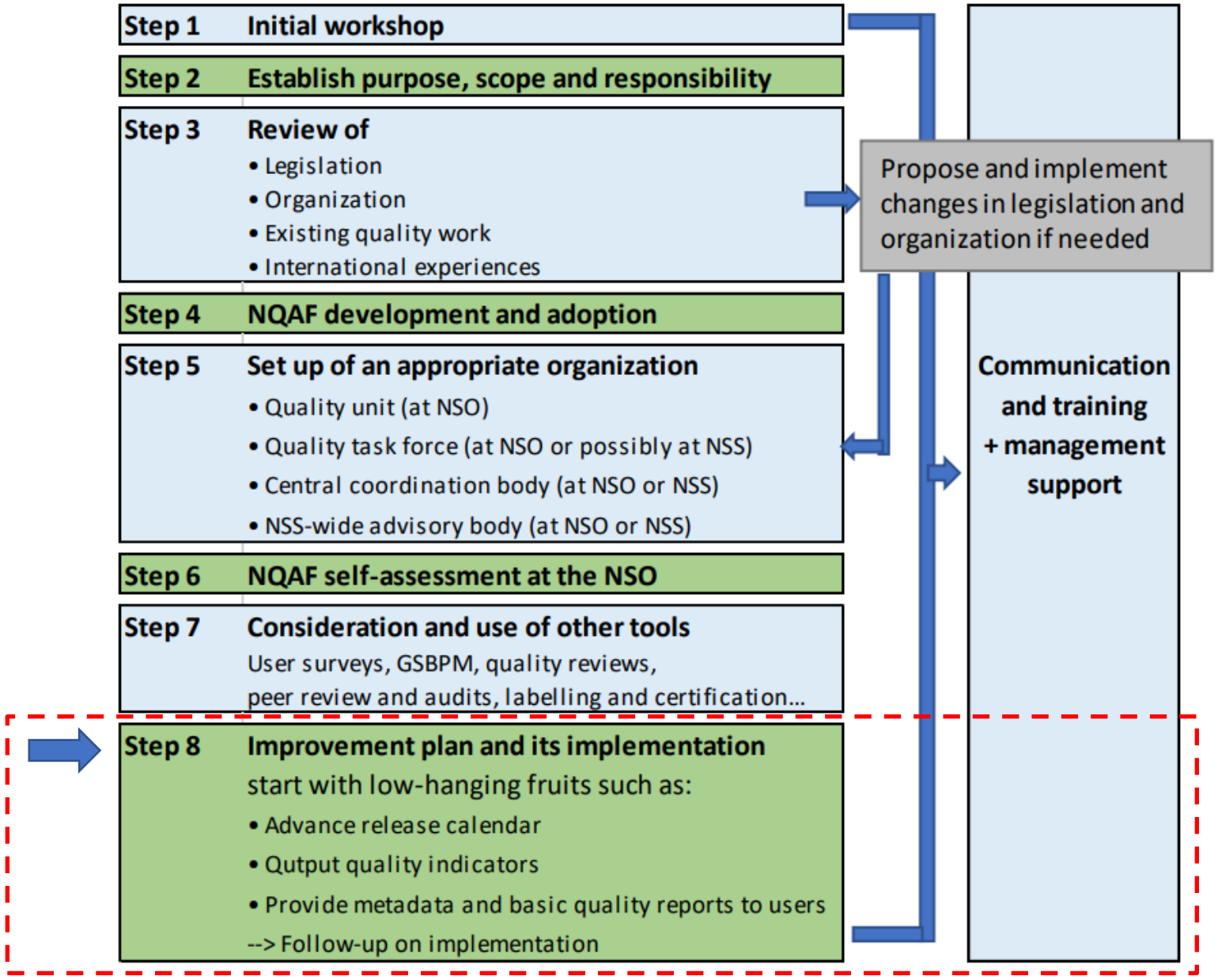
See also Chapter 5 and 6 of the Manual

Step 4. NQAF development and adoption

The quality unit (or quality team) at the NSO or the agency responsible for the coordination of the NSS, supported by other members of the national statistical system, will need to undertake the following actions, depending on national circumstances and as appropriate:

- **Seek high-level commitment and establish good communication** about the work and plans both within the NSO and NSS if applicable, to ensure support by all employees.
- **Analyse and document the instruments, tools, and practices** for statistical quality management that are currently being used.
- **Adapt NQAF** to national legislation, organization, existing quality work, and other national conditions and intended scope of usage.
- ***Establish a timeframe for the development and implementation of NQAF***. Starting from scratch, development or establishment of an NQAF may be undertaken over a period of a minimum of one year, including review, revision, and approval.
- NSO, or if applicable, a higher coordination or governance body formally adopts the NQAF.

A Roadmap for the Development and implementation of NQAF



See also Chapter 5 and 6 of the Manual

Step 8. Improvement plan – overview of the process

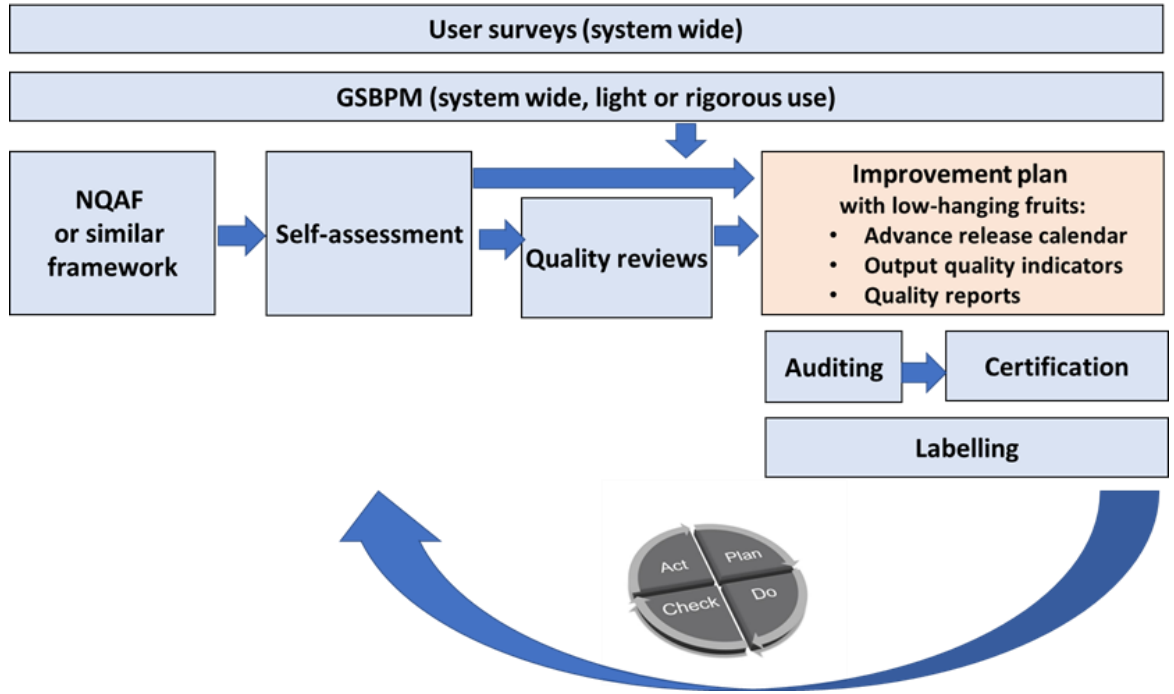
1. Develop an improvement plan based on self-assessments, possible reviews and audits.

2. Catch low-hanging fruits: Experiences show that there are some low-hanging fruits with quick/visible pay-off. These show ongoing commitment and can be relatively easily implemented not only at the NSO but other producers of official statistics. These are:

1. Establish an advance release calendar
2. Establish and publish some output quality indicators
3. Provide metadata and quality reports for users.

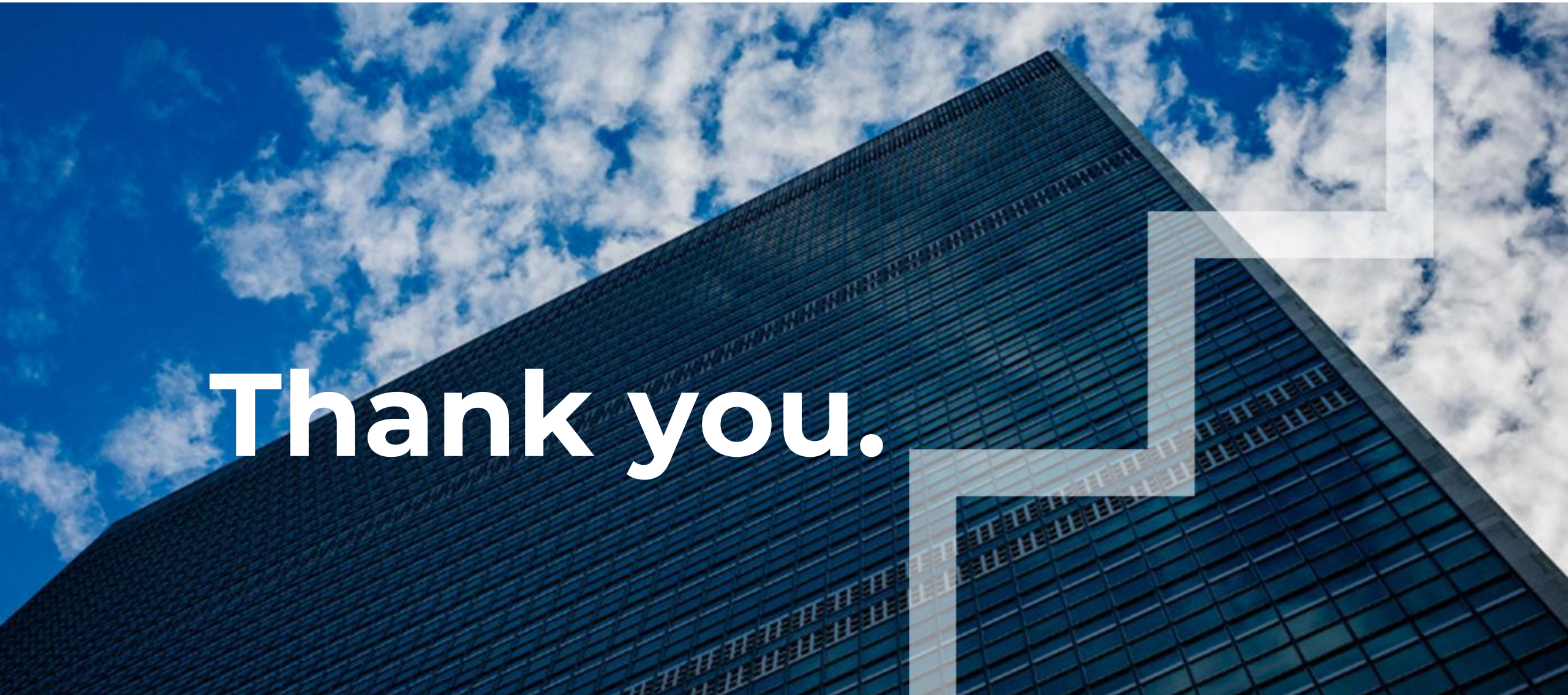
Step 8. Improvement plan – overview of the process

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). Figure 2 shows how quality assurance should follow the PDCA-cycle, by following up on the improvement plans and possibly repeat the self-assessment and reviews.



Important considerations

- Objective and approach:
  - The objective of quality assurance is to achieve quality improvements in order to meet user needs.
  - Quality assessments aim to identify weaknesses and opportunities for improvement at the level of the statistical system, including management, coordination and institutional arrangements, processes and statistical outputs. Assessments constitute an important element of the “Plan-Do-Check-Act” cycle made popular by W. Edwards Deming, guiding all changes for continuous improvement.
- Resources:
  - The process of establishing and implementing the NQAF and other tools for quality management will typically be driven by a **quality unit with at least 2 – 3 employees** and support from management on all levels. The quality unit may be organized within or together with a larger methodology unit.
  - **The coordination role for the NSS and statistical agencies outside the NSO will require at least 1 – 2 extra employees**. A quality task force can support the work of the quality unit.


Thank you.