EVALUATING THE QUALITY OF STATISTICS PRODUCED BY THE PHILIPPINE STATISTICS AUTHORITY USING THE UN NQAF ASSESSMENT TOOL

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Outline of Presentation

I. Introduction

II. The UN NQAF and its Assessment Tool

III. PSA Self-Assessment Results

IV. Ways Forward

I. Introduction

Quality Management Framework

Quality

- the degree to which a set of inherent characteristics of an object fulfils requirements *(International Standards Organization, ISO 9000:2015)*
- **"Fit for use" or "Fit for purpose"**
- **Customer delight**
- the concept of quality of statistical information is **multi-dimensional** and that there is no one single measure of quality.

I. Introduction

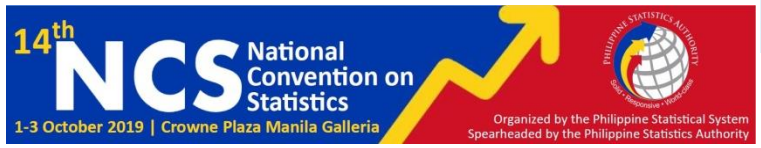
Quality Management Framework

For statistical products/outputs, the general definition is operationalized by **specifying a set of factors or dimensions** that characterize its quality:

- Relevance
- Accuracy and reliability
- Timeliness and punctuality
- Accessibility and clarity
- Coherence and comparability.

I. Introduction
Quality Management Framework

General quality frameworks	Statistical quality frameworks
There are various **general quality frameworks** applicable to any organization which are largely based on common definitions and principles, but their main focus and formalization vary.	**Statistical quality frameworks** are inspired by general quality frameworks and are consistent with **UNFPOS** which emphasizes independence, impartiality and protection of data on individuals.
•Total Quality Management •International Standard Organization •European Foundation for Quality Management •Six Sigma •Lean Six Sigma	•European Statistics Code of Practice •ASEAN Community Statistical System Code of Practice •IMF's Data Quality Assessment Framework •UN National Quality Assurance Framework



II. The UN NQAF and its Assessment Tool

The UN NQAF

- **2012** - the United Nations Statistical Commission (UNSC) adopted the generic UN NQAF template and guidelines

- **2017** - At its 48th session, the UNSC agreed to update the generic UN NQAF to address new challenges posed by an expanded data ecosystem and the 2030 Agenda for Sustainable Development.

- **2019** - In its 50th Session on 06 March, the UNSC adopted the UN National Quality Assurance Frameworks Manual for Official Statistics
    - provides a coherent and holistic system for statistical quality management which assures trust and quality of official statistics.

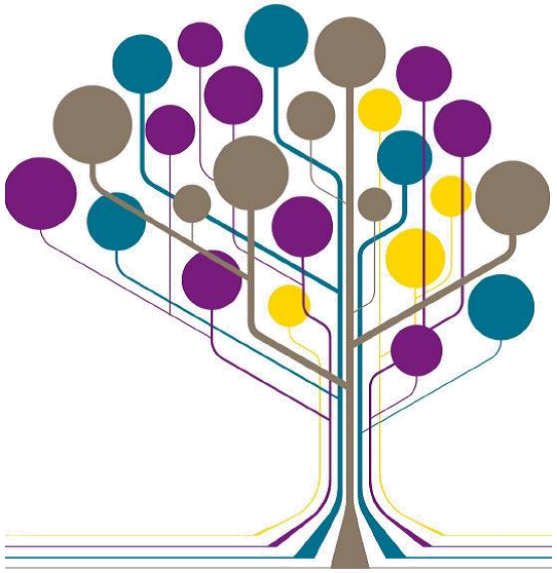
II. The UN NQAF and its Assessment Tool

National Quality Assurance Frameworks (NQAF)

- **structure** for implementing quality assurance activities within a country, with the main focus on the **national statistical system**

- **set of tools, guidelines, policies** that enables a national statistical system / national statistical office to **guarantee its users, trust and confidence on its statistical products**

II. The UN NQAF and its Assessment Tool



Benefits

- provides a **generic model for the NSS** to **develop or revisit** their own national quality assurance framework.
- provides a **basis for creating and maintaining a quality culture** within the NSO/NSS
- offers a **mechanism for systematic monitoring and ongoing identification of risks and quality issues** in the NSO or across the NSS to develop timely corrective measures
- supports NSS coordination by providing **common guidance on quality assurance and reference material** for training
- gives **greater transparency to the processes** by which quality is assured and reinforces the credibility of data producers and the coordinating agency within the NSS.
- serves as a **common ground to promote dialogue on quality challenges and opportunities**

II. The UN NQAF and its Assessment Tool

UN NQAF MANUAL FOR OFFICIAL STATISTICS

Part	Chapter	Title
Introduction	Chapter 1	Contents and use of this Manual
Recommendations	Chapter 2	Core recommendations on quality assuarance for official statistics
UN NQAF	Chapter 3	The United Nations 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 assuarance for statistics compiled from different data sources
	Chapter 8	Quality assuarance 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

II. The UN NQAF and its Assessment Tool

Quality Dimensions

Relevance
- The extent to which the statistics satisfy the needs of the users.

Accuracy
- The closeness of estimates to the exact or true values that the statistics were intended to measure.

Reliability
- The closeness of the initial estimated value(s) to the subsequent estimated values.

Timeliness
- The length of time between the end of a reference period (or date) and dissemination of the statistics.

Punctuality
- The time lag between the release date and the target date by which the data or statistics should have been delivered.

Accessibility
- The ease and the conditions with which statistical information can be obtained.

Clarity
- The availability of appropriate documentation linked to the statistics and to the additional assistance which producers supply to users.

Coherence
- The adequacy to reliably combine statistics in different ways and for various uses.

Comparability
- The extent to which differences between statistics from different geographical areas, non-geographical domains, or over time, can be attributed to differences between the true values of the statistics.

II. The UN NQAF and its Assessment Tool

4 Levels

19 Principles

87 requirements

355 elements

LEVEL A: MANAGING THE STATISTICAL SYSTEM

Principle 1: Coordinating the national statistical system

Principle 2: Managing relationships with data users and data providers

Principle 3: Managing statistical standards

LEVEL B: MANAGING THE INSTITUTIONAL ENVIRONMENT

Principle 4: Assuring professional independence

Principle 5: ... impartiality and objectivity

Principle 6: ... transparency

Principle 7: ... statistical confidentiality and security

Principle 8: ... the quality commitment

Principle 9: ... adequacy of resources

LEVEL C: MANAGING STATISTICAL PROCESSES

Principle 10: ... methodological soundness

Principle 11: ... cost-effectiveness

Principle 12: ... soundness of implementations

Principle 13: Managing the respondent burden

LEVEL D: MANAGING STATISTICAL OUTPUTS

Principle 14: ... relevance

Principle 15: ... accuracy and reliability

Principle 16: ... timeliness and punctuality

Principle 17: ... accessibility and clarity

Principle 18: ... coherence and comparability

Principle 19: Managing metadata

II. The UN NQAF and its Assessment Tool

Level	Principle	Requirements	Elements
A –Managing the Statistical System	3	14	62
B –Managing the Institutional Environment	6	29	89
C –Managing Statistical Processes	4	20	107
D –Managing Statistical Outputs	6	24	97
TOTAL	**19**	**87**	**355**

II. The UN NQAF and its Assessment Tool Methodology

1. The assessment tool is in excel file. The list of elements identifies possible activities, methods and tools that can provide guidance and evidence for the implementation of the UN NQAF principles and requirements. It should be noted that not all elements from the list are equally needed or relevant. Each element is being scored as 1-implemented/met and 0-not implemented/met.

2. Degree of compliance in NQAF requirements were derived by assessing NQAF elements.
    - Full compliance: all elements were complied.
    - Partial compliance: at least 50% of elements were complied.
    - No compliance: less than 50% of elements were complied.

3. Compliance scores per principle and per level were computed based on the degree of compliance in NQAF requirements (expressed as percentage between 0-1). The score for a principle is calculated as the average score across all requirements under this principle with the following weights: full compliance (1), partial compliance (0.5) and non-compliance (0).

III. PSA Self-Assessment Results

Compliance per Requirement - Principles 1, 2 and 3

Principle		Requirement		Degree of Compliance		
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.		Partial compliance	
		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.	Full compliance		
		1.3	There is a mechanism for considering statistics produced outside the national statistical system, and if appropriate, for these statistics to become official.	Full compliance		
		1.4	There is a national plan or program for the development and production of official statistics.	Full compliance		
2	Managing relationships with data users, data providers and other stakeholders	2.1	Stakeholders are identified and consulted regarding their interests, needs and obligations.	Full compliance		
		2.2	The statistical agencies have a strategy and institutional arrangements to engage with their users.	Full compliance		
		2.3	The statistical agencies continuously maintain and develop cooperation with funding agencies, academic institutions and international statistical organizations, as appropriate.	Full compliance		
		2.4	The national statistical office and, if appropriate, other statistical agencies have the legal authority or some other formal provision to collect data for the development, production and dissemination of official statistics.	Full compliance		
		2.5	The national statistical office and, if appropriate, other statistical agencies have the legal authority or some other formal provision to obtain administrative data and adequate access to these data from other government agencies for statistical purposes.		Partial compliance	
		2.6	The national statistical office and, if appropriate, other statistical agencies have the legal authority or some other formal provision and related agreements to access and use data (including “big data”) maintained by private corporations or other non-governmental organizations for statistical purposes on a regular basis, including for testing and experimentation.			No compliance
		2.7	The national statistical office cooperates with and provides support and guidance to data providers.		Partial compliance	
3	Managing statistical standards	3.1	The statistical agencies cooperate in the development and implementation of international, regional and national statistical standards.	Full compliance		
		3.2	The national statistical office provides support and guidance to all data providers and producers of official statistics in the implementation of statistical standards.	Full compliance		
		3.3	Divergences from the international, regional or national statistical standards are kept to a minimum, documented and explained to all stakeholders.	Full compliance		

III. PSA Self-Assessment Results

Compliance per Requirement – Principles 4, 5 and 6

Principle		Requirement		Degree of Compliance		
4	Assuring professional independence	4.1	A law or other formal provision explicitly declares that statistical agencies are obligated to develop, produce and disseminate statistics without interference from other government agencies or policy, regulatory or administrative departments and bodies, including from within the statistical agencies, private sector or any other persons or entities.	Full compliance		
		4.2	The appointment of the heads of the national statistical office, and other statistical agencies where appropriate, is based on professional criteria and follow transparent procedures. Reasons for dismissal cannot include reasons affecting professional independence. The heads of the statistical agencies are of the highest professional caliber.	Full compliance		
		4.3	The head of the national statistical office and other statistical agencies where appropriate has sole responsibility over the decisions on statistical methods, standards and procedures, and on the content and timing of statistical releases.	Full compliance		
5	Assuring impartiality and objectivity	5.1	There is a law or formal provision in force, which is publicly available, and which specifies that statistical agencies should develop, produce and disseminate statistics following professional standards and treat all users in the same way.	Full compliance		
		5.2	The statistical agencies implement a declaration or code of conduct or ethics which governs statistical practices, and compliance with it is followed up.			No compliance
		5.3	Data sources and methodologies are chosen on an objective basis.	Full compliance		
		5.4	Statistical releases are clearly distinguished from political/policy statements.	Full compliance		
		5.5	Statistical release dates and times are pre-announced.	Full compliance		
		5.6	In the case that errors are detected, they are corrected as soon as possible, and users are informed about how they affected the released statistics.	Full compliance		
		5.7	The statistical agencies comment publicly on statistical issues, misinterpretation and misuse of official statistics, as appropriate.		Partial compliance	
6	Assuring transparency	6.1	The terms and conditions for producing and disseminating official statistics are available to the public.		Partial compliance	
		6.2	The terms and conditions for the governance and management of statistical agencies are available to the public.	Full compliance		

III. PSA Self-Assessment Results

Compliance per Requirement – Principles 7, 8 and 9

Principle		Requirement		Degree of Compliance		
7	Assuring statistical confidentiality and data security	7.1	Statistical confidentiality is guaranteed by law.	Full compliance		
		7.2	Appropriate standards, guidelines, practices and procedures are in place to ensure statistical confidentiality.		Partial compliance	
		7.3	Strict protocols to safeguard data confidentiality apply to users with access to microdata for research or statistical purposes.		Partial compliance	
		7.4	Penalties are prescribed for any willful breaches of statistical confidentiality.	Full compliance		
		7.5	Security and integrity of data and their transmission is guaranteed by appropriate policies and practices.		Partial compliance	
		7.6	The identification risk of individual respondents is assessed and managed.			No compliance
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.	Full compliance		
		8.2	The statistical agencies promote a culture of continuous improvement.		Partial compliance	
		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.			No compliance
		8.4	The national statistical system staff receives training on quality management.			No compliance
		8.5	Guidelines for implementing quality management are defined and made available to the public.		Partial compliance	
		8.6	Indicators on statistical output quality are regularly measured, monitored, published and followed up to improve statistical products and processes.		Partial compliance	
		8.7	Statistical products and processes undergo periodic reviews.		Partial compliance	
		8.8	Risk analyses addressing the quality of important statistical products and processes are performed.		Partial compliance	
9	Assuring adequacy of resources	9.1	Financial, human and technological resources are sufficient to implement the statistical work and development program.	Full compliance		
		9.2	Planning and management principles are aimed at the optimal use of available resources.	Full compliance		
		9.3	The statistical agencies' use of resources is reviewed.		Partial compliance	

III. PSA Self-Assessment Results

Compliance per Requirement – Principles 10, 11 and 12

Principle		Requirement		Degree of Compliance		
10	Assuring methodological soundness	10.1	The methodologies applied by the statistical agencies are consistent with international standards, guidelines and good practices and are regularly reviewed and revised as needed.	Full compliance		
		10.2	The statistical agencies recruit qualified staff and have regular programs to enhance their methodological skills.	Full compliance		
		10.3	Statistical agencies are to choose the data source with regard to accuracy and reliability, timeliness, costs, the burden on respondents and other necessary considerations.		Partial compliance	
		10.4	The registers and the frames for surveys are frequently evaluated and adjusted.	Full compliance		
		10.5	The statistical agencies cooperate with the scientific community to improve methods and promote innovation in development, production and dissemination of statistics.		Partial compliance	
11	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.		Partial compliance	
		11.2	Procedures exist to assess and justify demands for new statistics against their cost.	Full compliance		
		11.3	Procedures exist to assess the continuing need for all statistics, to see if any can be discontinued to free up resources.		Partial compliance	
		11.4	Modern information and communication technologies are applied to improve the performance of statistical processes.	Full compliance		
		11.5	Proactive efforts are made to improve the statistical potential of administrative data and other data sources.			No compliance
		11.6	The statistical agencies define, promote and implement integrated and standardized production systems.	Full compliance		
12	Assuring appropriate statistical procedures	12.1	Statistical processes are tested before implementation.		Partial compliance	
		12.2	Statistical processes are well established and regularly monitored and revised as required.	Full compliance		
		12.3	Procedures are in place to effectively use administrative and other data sources for statistical purposes.		Partial compliance	
		12.4	Revisions of statistics follow standard and transparent procedures.		Partial compliance	
		12.5	Metadata and documentation of methods and different statistical processes are managed throughout the processes and shared, as appropriate.		Partial compliance	

III. PSA Self-Assessment Results

Compliance per Requirement – Principles 13, 14, 15 and 16

Principle		Requirement		Degree of Compliance		
13	Managing the respondent burden	13.1	The range and detail of requested information is limited to what is necessary.		Partial compliance	
		13.2	Mechanisms are in place to promote the value and use of statistics to respondents.	Full compliance		
		13.3	Sound methods including IT solutions are used in surveys to reduce or distribute respondent burden.	Full compliance		
		13.4	Data sharing, data linkage and use of administrative and other data sources are promoted to minimize respondent burden.			No compliance
14	Assuring relevance	14.1	Procedures are in place to identify users and their needs and to consult them about the content of the statistical work program.	Full compliance		
		14.2	Users' needs and requirements are balanced, prioritized and reflected in the work program.	Full compliance		
		14.3	Statistics based on new and existing data sources are being developed in response to society's emerging information needs.		Partial compliance	
		14.4	User satisfaction is regularly measured and systematically followed up.			No compliance
15	Assuring accuracy and reliability	15.1	Source data, integrated data, intermediate results and statistical outputs are regularly assessed and validated.	Full compliance		
		15.2	Sampling errors are measured, evaluated and documented. Non-sampling errors are described and, when possible, estimated.		Partial compliance	
		15.3	Studies and analyses of revisions are carried out and used to improve data sources, statistical processes and outputs.	Full compliance		
16	Assuring timeliness and punctuality	16.1	Timeliness of the statistical agency's statistics comply with international standards or other relevant timeliness targets.	Full compliance		
		16.2	The relationship with data providers is managed with respect to timeliness and punctuality needs.	Full compliance		
		16.3	Preliminary results can be released when their accuracy and reliability is acceptable.	Full compliance		
		16.4	Punctuality is measured and monitored according to planned release dates, such as those set in a release calendar.	Full compliance		

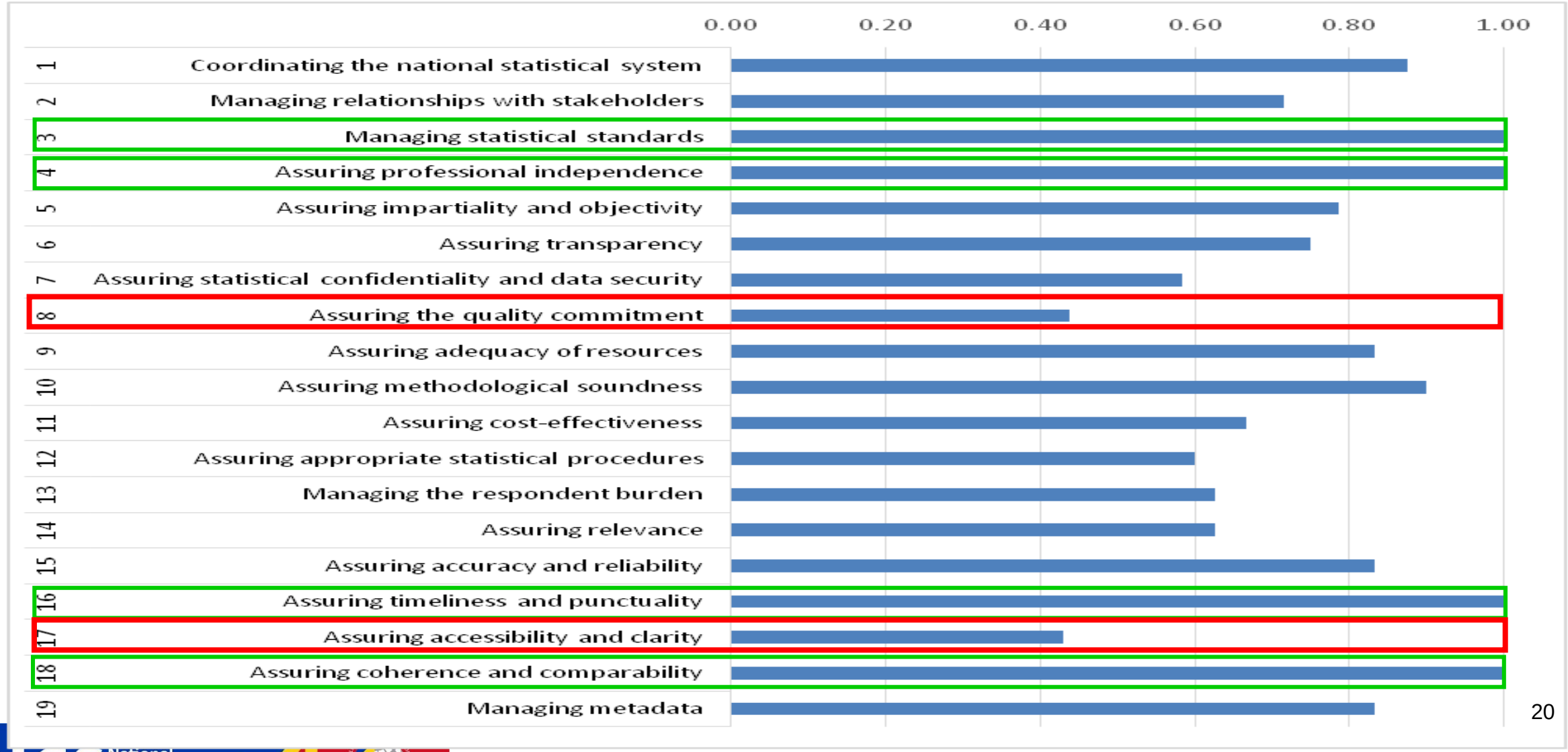
III. PSA Self-Assessment Results

Compliance per Requirement – Principles 17, 18 and 19

Principle		Requirement		Degree of Compliance		
17	Assuring accessibility and clarity	17.1	Statistics are presented in a form that facilitates proper interpretation and meaningful		Partial compliance	
		17.2	A data dissemination strategy and policy exist and is made public.		Partial compliance	
		17.3	Modern information and communication technology is used for facilitating easy access to		Partial compliance	
		17.4	Access to microdata is allowed for research purposes, subject to specific rules and protocols on statistical confidentiality that are posted on the statistical agency's website.		Partial compliance	
		17.5	Mechanisms are in place to promote statistical literacy.		Partial compliance	
		17.6	The statistical agencies have a dedicated focal point that provides support and responds to inquiries from users in a timely manner.		Partial compliance	
		17.7	Users are kept informed about the quality of statistical outputs.			No compliance
18	Assuring coherence and comparability	18.1	International, regional and national standards are used with regard to definitions, units, variables and classifications.	Full compliance		
		18.2	Procedures or guidelines are in place to ensure and monitor internal, intra-sectoral and cross-sectoral coherence and consistency.	Full compliance		
		18.3	Statistics are kept comparable over a reasonable period of time and between geographical areas.	Full compliance		
19	Managing metadata	19.1	The metadata management system of the statistical agency is well defined and documented.	Full compliance		
		19.2	Metadata are documented, archived and disseminated according to internationally accepted standards.		Partial compliance	
		19.3	Staff training and development programs are in place on metadata management and related information and documentation systems.	Full compliance		

III. PSA Self-Assessment Results

Compliance per Principle



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III. PSA Self-Assessment Results

Compliance per Level

Level		Score
A	Managing the statistical system	**0.86**
B	Managing the institutional environment	**0.73**
C	Managing statistical processes	**0.70**
D	Managing statistical outputs	**0.79**
Overall score		**0.76**

III. PSA Self-Assessment Results

Limitations of the methodology and some considerations:

- Self-assessment done by Standards Service (SS) staff
- Assessment done based on the available resources which may be limited
- There are activities which are not implemented yet in the PSS to include:
  - Access to privately-held data (i.e. data owned by the private sectors and CSOs) not yet in the RA 10625 provisions
  - Most of the requirements and elements of Principle 8 are anchored to the NQAF. These elements are our considerations in the development of the Philippine Statistical Quality Assurance Framework (PSQAF).
  - Quality assessment mechanism for administrative data and other data sources is not yet established (e.g. M-HARR).

IV. Ways Forward

- Improvement of evaluation and monitoring mechanism
  - The assessment should be done by all units and services of the PSA.
  - Frequency of evaluation and monitoring should be established (e.g. before updating the PSDP).

- Improvement on the scoring criteria for requirements

- Localization of terms/concepts used
  e.g. NSO -> PSA
  NSS -> PSS
  innovation laboratory?

IV. Ways Forward

- Organization of a Statistical Quality Assurance Team (SQAF) Team within the PSA
- Orientation and Workshop on UN NQAF for PSA and PSS
- Pilot implementation of UN NQAF Assessment tool to other government agencies
- Development of the Philippine Statistical Quality Assurance Framework (PSQAF)

Thank You!

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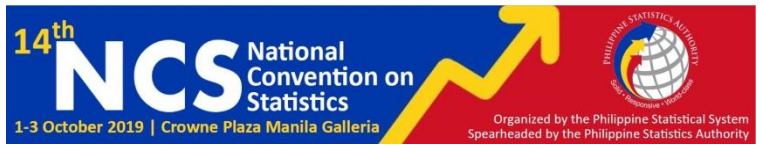
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